Appendix L-1

Noise Impact Analysis Report



Meridian D-1 Gateway Aviation Center

NOISE IMPACT ANALYSIS

MARCH JOINT POWERS AUTHORITY

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LIST OF ABBREVIATED TERMS

(1) Reference

ADT Average Daily Traffic

ANSI American National Standards Institute

Calveno California Vehicle Noise

CEQA California Environmental Quality Act

CFR Code of Federal Regulations

CNEL Community Noise Equivalent Level

dBA A-weighted decibels

EPA Environmental Protection Agency
FHWA Federal Highway Administration
FTA Federal Transit Administration

Hz Hertz

INCE Institute of Noise Control Engineering

 $\begin{array}{lll} L_{eq} & & \text{Equivalent continuous (average) sound level} \\ L_{max} & & \text{Maximum level measured over the time interval} \\ L_{min} & & \text{Minimum level measured over the time interval} \\ MARB/IPA & & \text{March Air Reserve Base/Inland Port Airport} \end{array}$

MJPA March Joint Powers Authority

mph Miles per hour

OPR Office of Planning and Research

PPV Peak Particle Velocity

Project Meridian D-1 Gateway Aviation Center
REMEL Reference Energy Mean Emission Level

RMS Root-mean-square VdB Vibration Decibels



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EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this noise study to determine the potential noise impacts and the necessary noise mitigation measures, if any, for the proposed Meridian D-1 Gateway Aviation Center development ("Project"). The Project site is in the southeastern portion of the March Air Reserve Base, west of Heacock Street and south of Krameria Avenue in the March Joint Powers Authority (March JPA) jurisdiction. The Project is proposed to consist of construction of a 180,800 square foot industrial warehouse with 9 at-grade (ground level) loading doors and 31 dock-high door positions.

This Noise Impact Analysis has been prepared to focus solely on the transportation truck-related operations at the Project site. It is our understanding that a separate aircraft-related noise study is being prepared for the Project. Therefore, no analysis of aircraft-related operational activity (e.g., aircraft overflights, taxiing, or ground support equipment) is included in this report.

The results of this Meridian D-1 Gateway Aviation Center Noise Impact Analysis are summarized below based on the significance criteria in Section 4 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Guidelines (1). Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA. All impacts are considered less than significant without mitigation.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analusia	Report Significan		ce Findings	
Analysis	Section	Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Less Than Significant	-	
Operational Noise	9	Less Than Significant	-	
Construction Noise		Less Than Significant	-	
Construction Vibration	10	Less Than Significant	-	
Nighttime Concrete Pour		Less Than Significant	-	



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1 INTRODUCTION

This noise analysis has been completed to determine the noise impacts associated with the development of the proposed Meridian D-1 Gateway Aviation Center ("Project"). This noise study briefly describes the proposed Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for traffic noise analysis, and evaluates the future exterior noise environment. In addition, this study includes an analysis of the potential Project-related long-term operational and short-term construction noise impacts.

1.1 SITE LOCATION

The proposed Project site is in the southeastern portion of the March Air Reserve Base, west of Heacock Street and south of Krameria Avenue in the March Joint Powers Authority (March JPA) jurisdiction as shown on Exhibit 1-A.

1.2 PROJECT OVERVIEW

The proposed Project consists of two components: Air Cargo Center Component and the Off-Site Component. The Air Cargo Center Component would be constructed within approximately 34-acres under the March JPA's jurisdiction of the overall 46-acre site. The Off-Site Component would be constructed within approximately 12-acres and would include taxiway construction/realignment, storm drain extensions, and access roadway construction within the March Air Reserve Base (March ARB).

The Air Cargo Center Component of the Project includes the development of a gateway air freight cargo center, which consists of construction of a 180,800 square foot cargo building with 9 atgrade (ground level) loading doors, 31 dock-high door positions, and 37 trailer storage positions. The cargo building would contain approximately 9,000 square feet of office space. The cargo building would be constructed to a maximum height of 45-feet. The Project would also construct a tarmac and parking apron sized to accommodate commercial cargo airplanes, allowing for aircraft to access 4 proposed parking gates along the northern side of the cargo building (see Exhibit 1-B). The tarmac/parking apron would be paved to meet Federal Aviation Administration (FAA) standards. The construction of a new taxilane (Taxilane J) would provide aircraft access to the existing Taxiway A within March ARB. In addition, the existing Taxiway G is proposed to be expanded with the construction of a parking apron adjacent to the western boundary of the cargo building, within the March JPA and would allow for aircraft to access 3 proposed aircraft parking gates along the western side of the cargo building. The proposed tarmac expansion, Taxilane J, and parking aprons would be sized to accommodate commercial cargo airplanes and would be paved to meet FAA standards. Parking aprons would connect with existing Taxiways A and G, which would be used by aircraft to access the March Inland Port Airport runway. Construction and development activities within the public right-of-way along Heacock Street would include construction of a 225-foot right-turn pocket into the project site along the southbound side of Heacock Street, and installation of a traffic signal at the existing access roadway (Access Road).



The Off-site Component of the Project would include construction of Project features on land owned by March ARB. Development occurring on March ARB would require easements from the United States Air Force within 5 work areas as identified below:

- Work Area 1: Construction of a 50-foot-wide perimeter patrol road running along the northern
 and northwestern boundaries of the Project site that would connect with the existing patrol road
 on the eastern and western ends of the constructed patrol road; replacement of an existing chainlink fence with a security fence.
- Work Area 2: Construction of a headwall and inlet apron for a storm drain culvert; extension of a dual 36-inch-diameter storm drain backbone via jack and bore under Taxiway A to replace the existing silt-filled culvert; connection of the culvert to the storm drain extension.
- Work Area 3: Reconfiguration of the Taxiway A to Taxilane J transition to allow for aircraft access to the proposed cargo building. Portions of Taxiway A would be demolished and reconstructed to allow for the taxiway to connect with the proposed Taxilane J within the proposed Project.
- Work Area 4: Removal of an existing inverted culvert apron outlet; cleaning of the existing 36-inch-diameter culvert; extension of the existing single 36-inch diameter storm drain under Taxiway A via jack and bore to connect the culvert.
- Wort Area 5: Reconstruction and realignment of the intersection of Taxiway A and taxiway G. This
 would result in widened entryway for aircraft to turn from Taxiway A to Taxiway G, and to
 accommodate aircraft access to the aircraft parking stations along the western boundary of the
 cargo building.

The on-site Project-related noise sources are expected to include: loading dock activity, entry gate and truck movements, roof-top air conditioning, and trash enclosure activity. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. This report assumes the Project will operate 24-hours daily for seven days per week.



Poppystone Dr J Q Electra Ct Robie Ct Fitz St March Air Reserve Base St Thomas Ave Alessandr ₩ Polaris D Site Cardinal A

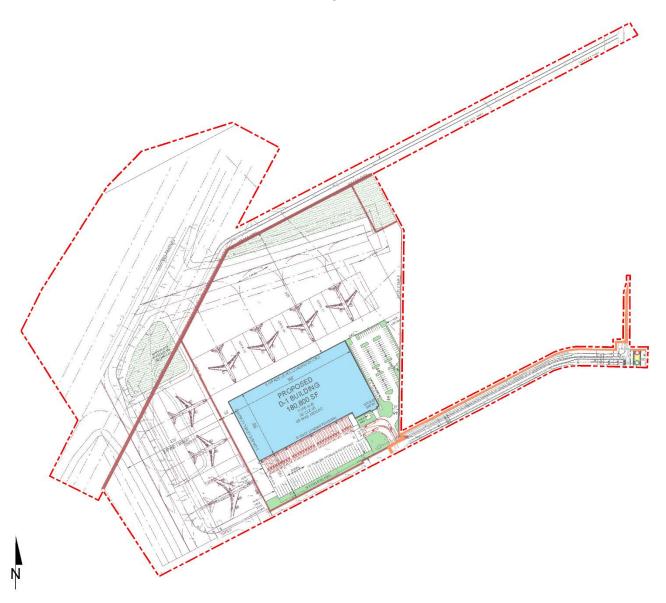
EXHIBIT 1-A: LOCATION MAP





Sources: Esri, HERE, Garmin, Intermap, Nance St. increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS

EXHIBIT 1-B: SITE PLAN





2 FUNDAMENTALS

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140		
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	VERY NOISY	
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80	VERT HOIST	
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	LOOD	INTERFERENCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	CLEED
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		SLEEP DISTURBANCE
QUIET SUBURBAN NIGHTTIME	LIBRARY	30		
QUIET RURAL NIGHTTIME	BEDROOM AT NIGHT, CONCERT HALL (BACKGROUND)	20	FAINT	
	BROADCAST/RECORDING STUDIO	10	VERY FAINT	NO EFFECT
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAINT	

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. (2) 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 1,000 feet, which can cause serious discomfort. (3) 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 used metric is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in Aweighted 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 Day-Night Noise level (Ldn) or Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The Ldn or 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_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m. for CNEL, and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. for Ldn and CNEL. These additions are made to account for the noise sensitive time periods during the evening and night hours when noise can become more intrusive. Ldn or CNEL do not represent the actual sound level heard at any time, but rather represents the total sound exposure. The March JPA 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. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver 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 receiver, 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 receiver 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. (4)

2.3.3 ATMOSPHERIC EFFECTS

Receivers located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (2)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. 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 residents. 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 Federal Highway Administration (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 receiver by controlling the noise source, transmission path, receiver, or all three. This concept is known as the source-path-receiver 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 receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.



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. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen 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 may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments (7 pp. 8-6). Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. 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. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)

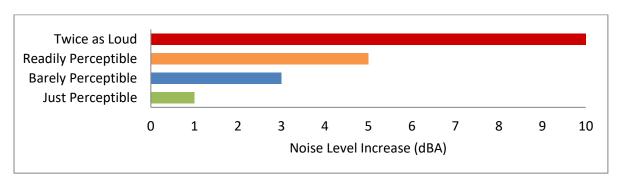


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Impact Assessment Manual* (8), 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 (VdB) serves to reduce the range of numbers used to describe human response to vibration. 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 and/or activities.

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.



Velocity **Typical Sources Human/Structural Response** Level* (50 ft from source) 100 Threshold, minor cosmetic damage Blasting from construction projects fragile buildings Bulldozers and other heavy tracked construction equipment Difficulty with tasks such as 90 reading a VDT screen Commuter rail, upper range Residential annoyance, infrequent 80 Rapid transit, upper range events (e.g. commuter rail) Commuter rail, typical Residential annoyance, frequent Bus or truck over bump events (e.g. rapid transit) Rapid transit, typical Limit for vibration sensitive equipment. Approx. threshold for Bus or truck, typical human perception of vibration 60 Typical background vibration 50

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

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

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



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 FEDERAL REGULATIONS

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 of the Code of Federal Regulations, Part 205, Subpart B. (9) The federal truck pass-by noise standard is 80 dBA at 50 feet from the vehicle pathway centerline, under specified test procedures. These controls are implemented through regulatory controls on truck manufacturers. There are no comparable standards for vibration, which tend to be specific to the roadway surface, the vehicle load, and other factors.

In 1972, the Noise Control Act (42 U.S.C. Section 4901 et seq.) was passed by Congress to promote noise environments in support of public health and welfare. It also established the U.S. Environmental Protection Agency (USEPA) Office of Noise Abatement and Control to coordinate federal noise control activities. The USEPA established guidelines for noise levels that would be considered safe for community exposure without the risk of adverse health or welfare effects. The USEPA found that to prevent hearing loss over the lifetime of a receiver, the yearly average Leq should not exceed 70 dBA, and the Ldn should not exceed 55 dBA in outdoor activity areas or 45 dBA indoors to prevent interference and annoyance. However, in 1982, the USEPA phased out the office's funding as part of a shift in federal noise control policy to transfer the primary responsibility of regulating noise to state and local governments.

3.2 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 (OPR). (10) The purpose of the Noise Element is to *limit the exposure* of the community to excessive noise levels. OPR identifies suggested land use noise compatibility levels as part of its General Plan Guidelines as shown on Exhibit 3-A. These suggested guidelines provide planners with a tool to gauge the compatibility of land uses relative to existing and future noise levels. The guidelines identify normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable noise levels for various land uses.



The land use compatibility guidelines are intended to be an advisory resource when considering changes in land use and policies, such as zoning modifications. The Project industrial land use is considered *normally acceptable* unmitigated exterior noise levels of less than 75 dBA CNEL. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a Project be analyzed, including environmental noise impacts.

Community Noise Exposure Ldn or CNEL, dB Land Use Category 55 Residential - Low Density Single Family, Duplex, Mobile Homes Residential -Multi. Family Transient Lodging -Motels, Hotels Schools, Libraries, Churches, Hospitals, **Nursing Homes** Auditoriums, Concert Halls, Amphitheaters Sports Arena, Outdoor Spectator Sports Playgrounds. Neighborhood Parks Golf Courses, Riding Stables, Water Recreation, Cemeteries Office Buildings, Business Commercial and Professional Industrial, Manufacturing, Utilities, Agriculture

EXHIBIT 3-A: LAND USE NOISE COMPATIBILITY CRITERIA

INTERPRETATION:

Normally Acceptable

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

Conditionally Acceptable

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

Normally Unacceptable

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

Clearly Unacceptable

New construction or development should generally not be undertaken.

Source: OPR General Plan Guidelines, Appendix D: Noise Element Guidelines, Figure 2.



3.3 STATE OF CALIFORNIA GREEN BUILDING STANDARDS CODE

The State of California's Green Building Standards Code contains mandatory measures for non-residential building construction in Section 5.507 on Environmental Comfort. (11) 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 Leq for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1.1).

3.4 March JPA Noise/Air Quality Element

The March JPA General Plan Noise/Air Quality Element identifies several goals and policies to protect and enhance the quality of life for those who live and work in the March JPA jurisdiction. (12) The Noise Element provides policy guidance which addresses the generation, mitigation, avoidance, and the control of excessive noise. The March JPA General Plan includes the following goals in the Noise/Air Quality Element:

- 1 Ensure that land uses are protected from excessive and unwanted noise.
- 2 Minimize incompatible noise level exposures throughout the Planning Area, and where possible, mitigate the effect of noise incompatibilities to provide a safe and healthy environment.
- Work toward the reduction of noise impacts from vehicular traffic, and aviation and rail operations.

The noise policies specified in the March JPA Noise/Air Quality Element provide the guidelines necessary to satisfy these goals. The policies are provided below:

- Policy 1.1 Establish acceptable limits of noise for various land uses throughout the March JPA Planning Area. Future development that could increase ambient noise levels shall be required to mitigate the anticipated noise increase, to the extent possible.
- Policy 1.2 Noise sensitive uses (such as schools, libraries, hospitals, medical facilities, residential uses, etc.) shall be discouraged in areas where noise levels exceed acceptable limits.
- Policy 1.3 Encourage good acoustical design in new construction.
- Policy 1.4 Provide buffer areas between noise sources and other developments, where practical.
- Policy 2.1 Avoid placing noise sensitive land uses in proximity to areas devoted to noise generating facilities such as areas of aviation related activities, industrial parks, transportation facilities, and other noise generating land uses.
- Policy 2.2 Noise generating facilities shall be located in areas with compatible noise generating land uses (i.e., airport noise contour areas) to minimize land use incompatibilities, noise abatement and mitigation measures needed.



- Policy 2.3 Noise sensitive land uses shall not be located in areas influenced by noise generating land uses, in particular the noise contours associated with the joint use airfield, unless appropriate mitigation is utilized.
- Policy 2.4 March JPA shall evaluate noise sensitivity and noise generation when considering land use Projects and transportation improvement Projects, and where appropriate mitigation measures shall be employed.
- Policy 2.5 March JPA shall utilize and comply with the CALTRANS standards for noise compatibility for aviation generated noise to proposed land use development.
- Policy 3.1 Include mitigating measures such as landscaping, berming and site orientation, in the design of Projects located near noise generating sources such as arterial roadways.
- Policy 3.2 Coordinate with adjacent cities and county agencies for noise abatement.
- Policy 3.3 Adhere to the adopted AICUZ and Comprehensive Land Use Plan standards and promote the use of newer and quieter aircraft and support equipment.
- Policy 3.4 Where appropriate, noise mitigation measures shall be incorporated in the design and approval of development on property located adjacent to aviation and rail facilities.
- Policy 3.5 Where appropriate, development in areas adjacent to freeways, arterial streets, and other noise source shall be designed to reduce the potential for noise impacts.
- Policy 3.6 Regulate the use of local streets by trucks, trailers, and construction vehicles, to the extent possible.
- Policy 3.7 Limit trucking operations to appropriate routes, times and speeds.
- Policy 3.8 Appropriate muffling systems for construction equipment and operations shall be required, as necessary.
- Policy 3.9 March JPA shall encourage and facilitate the use of mass transit services and alternative transportation systems to minimize dependence of the automobile within the Planning Area, thereby minimizing the level of noise generated by surface transportation.

3.5 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the Meridian D-1 Gateway Aviation Center Project, stationary-source (operational) noise such as the expected loading dock activity, entry gate and truck movements, roof-top air conditioning, and trash enclosure activity are typically evaluated against standards established under a jurisdiction's Municipal Code. Although the Project site is located within the March JPA, noise-sensitive receivers potentially impacted by operational noise activities are also located in the City of Moreno Valley. Therefore, to accurately describe the potential Project-related operational noise level contributions, this analysis presents the appropriate operational noise standards for both jurisdictions. The March JPA and the City of Moreno Valley operational noise level standards are shown on Table 3-1.

3.5.1 MARCH JPA OPERATIONAL NOISE STANDARDS

The March JPA Development Code, Chapter 9.10 *Performance Standards*, Section 9.10.140 identifies the exterior stationary-source noise level standards for commercial and industrial land uses. Based on Section 9.10.140 of the Development Code, the exterior noise level shall not exceed 55 dBA L_{eq} at any time. (14) The March JPA Development Code is included in Appendix 3.1.



3.5.2 CITY OF MORENO VALLEY OPERATIONAL NOISE STANDARDS

The City of Moreno Valley Municipal Code, Chapter 11.80 *Noise Regulation*, provides performance standards and noise control guidelines for determining and mitigating nontransportation or stationary-source noise impacts from operations at private properties. The City of Moreno Valley Municipal Code defines *Maximum Sound Levels* (in dB(A)) for Source Land Uses in Table 11.80.030-2 for *Residential* and *Commercial* land uses. As defined by the Municipal Code, Section 11.80.020 *Definitions, Commercial* land use *means all uses of land not otherwise classified as residential*, and *Residential* land use *means all uses of land primarily for dwelling units, as well as hospitals, schools, colleges and universities, and places of religious assembly.* (15) For the purpose of this analysis, the Meridian D-1 Gateway Aviation Center Project is considered *Commercial* land use since it is not classified as residential. Based on this standard, the operational noise level limits for commercial land use, from Table 11.80.030-2, of 65 dBA Leq during the daytime (8:00 a.m. to 10:00 p.m.) hours and 60 dBA Leq during the nighttime (10:01 p.m. to 7:59 a.m.) hours shall apply to the operational noise source activities from the Project.

Further, Section 11.80.030(C) *Prohibited Acts, Nonimpulsive Sound Decibel Limits,* states: *No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimpulsive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on a privately owned property... (15) Therefore, at a distance of 200 feet from the property line, the Project's operational noise levels shall not exceed the 65 dBA Leq daytime and 60 dBA Leq nighttime noise level standards for commercial land uses, as shown on Table 3-1.*

TABLE 3-1: OPERATIONAL NOISE STANDARDS

Jurisdiction	Land use	Noise Level Standards (dBA	
Julisuiction	Lanu use	Daytime	Nighttime
March JPA ²	Commercial & Industrial	55	
Moreno Valley ³	Commercial	65 60	

¹L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given period. "Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

3.6 CONSTRUCTION NOISE STANDARDS

To analyze noise impacts originating from the construction of the Project, noise from construction activities is typically limited to the hours of operation established under a jurisdiction's Code. To accurately describe the potential Project-related construction noise level contributions to the existing noise environment, this analysis presents the appropriate



² March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

³ City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation, Table 11.80.030-2 Maximum Sound Levels (in dB(A)) for Source Land Uses when measured at 200 feet from the property line of the source land use (Appendix 3.2).

construction noise standards for each jurisdiction adjacent to the Project site including the March JPA and City of Moreno Valley. However, the permitted hours of construction for the March JPA are the only applicable hour restrictions for the Project since the construction activity will be within the March JPA jurisdiction.

3.6.1 March JPA Construction Noise Standards

The March JPA Development Code, Section 9.10.140, states that *outdoor construction and* grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing or demolition work within 500 feet of the property line of a residential use, shall be prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday and between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a Federal Holiday. The March JPA Development Code does not identify a specific noise level standard for construction activity. The March JPA Development Code construction noise standards are shown on Table 3-2 and included in Appendix 3.1.

3.6.2 CITY OF MORENO VALLEY CONSTRUCTION NOISE STANDARDS

The Municipal Code noise standards for construction are described below for the City of Moreno Valley to determine the potential noise impacts at the nearest sensitive receiver locations. As a subset of its stationary-source noise regulations, the City Municipal Code establishes permitted hours of construction activity. More specifically, Municipal Code Section 11.80.030(D)(7), Construction and Demolition, provides the following:

No person shall operate, or cause operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee.

Therefore, based on the Section 11.80.030(D)(7) construction regulations, a construction-related noise disturbance occurs if Project construction activity occurs outside of the permitted hours. However, for this analysis, the stationary-source noise level limits of 65 dBA L_{eq} during the daytime hours and 60 dBA L_{eq} during the nighttime hours are used as appropriate thresholds for the nearest sensitive land uses (e.g. residential homes) in the Project study area. The City of Moreno Valley construction noise standards are shown on Table 3-2 and included in Appendix 3.2.



TABLE 3-2: CONSTRUCTION NOISE STANDARDS

Jurisdiction	Permitted Hours of Construction Activity		tion Noise Level ard (dBA L _{eq}) ¹	
	Construction Activity	Daytime Nighttime		
March JPA ²	7:00 a.m. to 7:00 p.m.	n/a		
Moreno Valley ³	General Activity: 7:00 a.m. to 8:00 p.m. on any day. Grading is limited to 7:00 a.m. to 7:00 p.m. Monday to Friday, excluding holidays; 8:00 a.m. to 4:00 p.m. on Saturdays.	65	60 ⁴	

 $^{^{1}}$ "Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

3.7 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. (8) To analyze vibration impacts originating from the operation and construction of the Meridian D-1 Gateway Aviation Center, vibration-generating activities are appropriately evaluated against standards established under a City's Municipal Code, if such standards exist. However, the March JPA and City of Moreno Valley do not identify specific vibration level limits. Therefore, for analysis purposes, the Caltrans *Transportation and Construction Vibration Guidance Manual*, (16 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).



² March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.040 (Appendix 3.1).

³ City of Moreno Valley Municipal Code, Section 11.80.030(D)(7) and 8.21.050(O) as shown in Appendix 3.2.

⁴ Any nighttime construction activity requires an exemption from the City of Moreno Valley Municipal Code as indicated in Section 11.80.030(E)(8) for a special event permit (Section 11.80.040). The special event permit application shall be submitted to the City of Moreno Valley Planning Department for approval and meet the requirements of Municipal Code Section 11.80.040.

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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1) 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 CEQA Guidelines and the March JPA and Moreno Valley General Plans 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 CEQA Significance Criteria A.

The closest airport which would require additional noise analysis under CEQA Significance Criteria C is the March Air Reserve Base/Inland Port Airport (MARB/IPA) which is located just north of the Project site. As previously stated in the Executive Summary, this noise study does not include an analysis of aircraft-related noise levels to address CEQA Significance Criteria C since a separate noise analysis is being prepared to address aircraft-related noise levels.

4.1 Noise Level Increases

Noise level increases resulting from the Project are evaluated based on the Appendix G CEQA Guidelines 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. (17) 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.

4.1.1 Noise-Sensitive Receivers

The Federal Interagency Committee on Noise (FICON) (18) 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 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 noise study recognizes that there is no single noise increase that renders the noise impact significant, based on a 2008 California Court of Appeal ruling in Gray v. County of Madera, 167 Cal.App.4th 1099. (17) 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, for this analysis, 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 exceeded, since it likely contributes to an existing noise exposure exceedance.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (19 p. 2_48).

4.1.2 Non-Noise-Sensitive Receivers

The OPR land use/noise compatibility standards were used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. As previously shown on Exhibit 3-A, the *normally acceptable* exterior noise level for non-noise-sensitive land use is 70 dBA CNEL. To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *barely perceptible* 3 dBA criteria is used. When the without Project noise levels are greater than the *normally acceptable* 70 dBA CNEL land use compatibility criteria, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level criteria is already exceeded. The noise level increases used to determine significant impacts for non-noise-sensitive land uses is generally consistent with the FICON noise level increase thresholds for noise-sensitive land uses but instead rely on the OPR land use/noise compatibility standards *normally acceptable* 70 dBA CNEL exterior noise level criteria.



4.2 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.

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

			0 1111 (1)	Significance Criteria	
Analysis	Land Use	Jurisdiction	Condition(s)	Daytime	Nighttime
		If ambient is < 6		≥ 5 dBA CNEL Project increase	
te	Noise- Sensitive ¹	All	If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL P	Project increase
Off-Site	Sensitive		If ambient is > 65 dBA CNEL ≥ 1.5 dBA CNEL Project		Project increase
Non-Noise-		All	If ambient is < 70 dBA CNEL	≥ 5 dBA CNEL P	Project increase
	Sensitive ²	All	If ambient is > 70 dBA CNEL	dBA CNEL ≥ 3 dBA CNEL Project	
		March JPA ³	Noise Level Threshold	Services Services	
Operational	Noise-	Moreno Valley	Exterior Noise Standards ⁴		
era.	Sensitive		If ambient is < 60 dBA L _{eq} If ambient is 60 - 65 dBA L _{eq}	≥ 5 dBA CNEL Project increase	
Ор		All ¹		≥ 3 dBA CNEL Project increase	
			If ambient is > 65 dBA L _{eq}	≥ 1.5 dBA CNEL	Project increase
Construction	Noise-	All	Permitted hours betwe	rs between 7:00 a.m. to 7:00 p.m. ⁵	
Constr	Sensitive	All	Vibration Level Threshold ⁶	0.3 PPV	(in/sec)

¹ FICON, 1992.



² OPR land use/noise compatibility standards.

³ March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

 $^{^4}$ City of Moreno Valley Municipal Code, Chapter 11.80 Noise Regulation (Appendix 3.2).

⁵ March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.030 (Appendix 3.1).

 $^{^{\}rm 6}$ Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

[&]quot;Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at four locations in the Project study area. The receiver locations were selected to describe and document the existing noise environment within the Project study area. Exhibit 5-A provides the boundaries of the Project study area and the noise level measurement locations. To fully describe the existing noise conditions, noise level measurements were collected by Urban Crossroads, Inc. on Wednesday, May 20, 2020. Appendix 5.1 includes study area photos.

5.1 Measurement Procedure and Criteria

To describe the existing noise environment, the hourly noise levels were measured during typical weekday conditions over a 24-hour period. By collecting individual hourly noise level measurements, it is possible to describe the daytime and nighttime hourly noise levels and calculate the 24-hour CNEL. The long-term noise readings were recorded using Piccolo Type 2 integrating sound level meter and dataloggers. The Piccolo sound level meters were calibrated using a Larson-Davis calibrator, Model CAL 150. All noise meters were programmed in "slow" mode to record noise levels in "A" weighted form. The sound level meters and microphones were equipped with a windscreen during all measurements. All noise level measurement equipment satisfies the American National Standards Institute (ANSI) standard specifications for sound level meters ANSI S1.4-2014/IEC 61672-1:2013. (20)

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 surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every 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. (2) 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. (8)

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. (8) 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 nearest 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 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 (8:00 a.m. to 10:00 p.m.) and nighttime (10:01 p.m. to 7:59 a.m.) noise levels at each noise level measurement location.

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

Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²		CNEL
		Daytime	Nighttime	
L1	Located north of the Project site on Iris Avenue near existing single-family residential homes at 24307 Carman Lane.	65.6	62.6	69.7
L2	Located east of the Project site on Indian Street near existing single-family residential home at 16537 Libra Lane.	60.9	58.7	65.9
L3	Located east of the Project site on Indian Street near existing single-family residential home at 16855 Baltic Court.	58.5	53.9	61.7
L4	Located east of the Project site on Heacock Street near F&D Distribution Center.	68.6	67.8	74.4

 $^{^{\}rm 1}\,\mbox{See}$ Exhibit 5-A for the noise level measurement locations.

Table 5-1 provides the (energy average) noise levels used to describe the daytime and nighttime ambient conditions. These daytime and nighttime energy average noise levels represent the average of all hourly noise levels observed during these time periods expressed as a single number. Appendix 5.2 provides summary worksheets of the noise levels for each hour as well as the minimum, maximum, L₁, L₂, L₅, L₈, L₂₅, L₅₀, L₉₀, L₉₅, and L₉₉ 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 surface streets. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations.



² Energy (logarithmic) average levels. The long-term 24-hour measurement worksheets are included in Appendix 5.2.

[&]quot;Daytime" = 8:00 a.m. to 10:00 p.m.; "Nighttime" = 10:01 p.m. to 7:59 a.m.

REVERE PL WILDWOOD ST CONCORD WAY ST THOMAS AVE FIJI DR CARMAN LN IRIS AVE GOYA AVE MarchAll? ReserveBase KRAMERIA AVE H I III ANGELLA WAY SUPERIOR AVE Site CARDINAL AVE MARIPOSA AVE **LEGEND:** Measurement Locations

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 expected roadway noise level increases from vehicular traffic were calculated by Urban Crossroads, Inc. using a computer program that replicates the Federal Highway Administration (FHWA) Traffic Noise Prediction Model- FHWA-RD-77-108. (21) 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. (22) 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. Research conducted by Caltrans 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. (23)

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 nine study area roadway segments, the distance from the centerline to adjacent receiving land use based on the functional roadway classifications per the City of Moreno Valley, and City of Perris General Plan Circulation Elements, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 and obtained from the *Meridian D-1 Gateway Aviation Center Traffic Analysis* prepared by Urban Crossroads, Inc., for the following traffic scenarios:

- Existing
- Existing plus Project (E+P) (Non-Peak) Conditions
- E+P (Peak) Conditions
- Opening Year Cumulative (OYC) (2026) Without Project Conditions
- OYC (2026) With Project (Non-Peak) Conditions
- OYC (2026) With Project (Peak) Conditions
- Horizon Year (HY) (2045) Without Project, Without Heacock Street Extension Conditions
- HY (2045) With Project (Non-Peak), Without Heacock Street Extension Conditions
- HY (2045) With Project (Peak), Without Heacock Street Extension Conditions
- HY (2045) Without Project, With Heacock Street Extension Conditions
- HY (2045) With Project (Non-Peak), With Heacock Street Extension Conditions
- HY (2045) With Project (Peak), With Heacock Street Extension Conditions



Consistent with *Meridian D-1 Gateway Aviation Center Traffic Analysis* prepared by Urban Crossroads, Inc. (24), the off-site traffic noise analysis maintains a peak hour to average daily traffic (peak-to-daily) relationship of approximately 8.08%.

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Receiving Land Use ¹	Distance from Centerline to Receiving Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Heacock St.	n/o Gentian Av.	Sensitive	50'	50
2	Heacock St.	s/o Iris Av.	Non-Sensitive	50'	50
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	50'	50
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	50'	50
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	44'	45
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	55'	50
7	Cactus Av.	e/o Heacock St.	Sensitive	44'	40
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	64'	45
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	64'	45

 $^{^{}m 1}$ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² Distance to adjacent land use is based upon the right-of-way distances for each functional roadway classification provided in the General Plan Circulation Elements.

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

							Avera	ge Daily T	raffic Volu	mes ¹				
			Existing 2020		Opening Year Cumulative 2026		Horizon Heacock	Year 204 Street Ex	•	Horizon Year 2045 with Heacock Street Extension				
ID	Roadway	Segment	Without Project	With Project (Non- Peak)	With Project (Peak)	Without Project	With Project (Non- Peak)	With Project (Peak)	Without Project	With Project (Non- Peak)	With Project (Peak)	Without Project	With Project (Non- Peak)	With Project (Peak)
1	Heacock St.	n/o Gentian Av.	23,451	23,851	24,040	30,518	30,918	31,106	33,022	33,422	33,611	33,022	33,422	33,611
2	Heacock St.	s/o Iris Av.	14,212	14,712	14,948	28,359	28,859	29,095	28,473	28,973	29,209	28,473	28,973	29,209
3	Heacock St.	s/o Cardinal Av.	15,260	15,986	16,330	29,218	29,944	30,288	31,784	32,510	32,854	31,784	32,510	32,854
4	Heacock St.	s/o Nandina Av.	0	0	0	0	0	0	0	0	0	14,626	14,626	14,626
5	Indian Av.	s/o Nandina Av.	10,148	10,774	11,071	30,195	30,821	31,119	32,978	33,604	33,901	27,978	28,604	28,901
6	Cactus Av.	w/o Heacock St.	38,888	39,088	39,182	54,347	54,547	54,641	58,874	59,074	59,168	58,874	59,074	59,168
7	Cactus Av.	e/o Heacock St.	23,388	23,518	23,580	36,831	36,961	37,022	39,968	40,098	40,159	39,968	40,098	40,159
8	Harley Knox Bl.	e/o Patterson Av.	17,290	17,866	18,140	31,409	31,985	32,258	34,146	34,722	34,995	34,146	34,722	34,995
9	Harley Knox Bl.	e/o Indian Av.	8,896	8,896	8,896	15,031	15,031	15,031	16,326	16,326	16,326	16,647	16,647	16,647

¹ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.



To quantify the off-site noise levels, the Project-related truck trips were added to the heavy truck category in the FHWA noise prediction model. The addition of the Project-related truck trips increases the percentage of heavy trucks in the vehicle mix. This approach recognizes that the FHWA noise prediction model is significantly influenced by the number of heavy trucks in the vehicle mix. Due to the added Project truck trips, the change in Project traffic volumes and the distributions of trucks on the study area road segments, the percentage of autos, medium trucks and heavy trucks will vary for each of the traffic scenarios. This explains why the existing and future traffic volumes and vehicle mixes vary between seemingly identical study area roadway segments.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The daily Project truck trip-ends were assigned to the individual off-site study area roadway segments based on the Project truck trip distribution percentages documented in the *Traffic Analysis*. Using the Project truck trips in combination with the Project trip distribution, Urban Crossroads, Inc. calculated the number of additional Project truck trips and vehicle mix percentages for each of the study area roadway segments. Table 6-4 shows the traffic flow by vehicle type (vehicle mix) used for all 'without Project' traffic scenarios, and Tables 6-5 to 6-12 show the vehicle mixes used for the 'with Project' traffic scenarios.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

		Total of		
Vehicle Type	Daytime	Evening	Nighttime	Time of Day Splits
Autos	77.50%	12.90%	9.60%	100.00%
Medium Trucks	84.80%	4.90%	10.30%	100.00%
Heavy Trucks	86.50%	2.70%	10.80%	100.00%

¹ County of Riverside Office of Industrial Hygiene. Values rounded to the nearest one hundredth.

TABLE 6-4: EXISTING WITHOUT PROJECT VEHICLE MIX

Classification		Total % Traffic Flow		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	86.23%	2.67%	11.10%	100.00%

Based on an existing vehicle count taken at Patterson Avenue and Harley Knox Boulevard (Gateway Aviation Traffic Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest one-hundredth.



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

TABLE 6-5: EXISTING WITH (NON-PEAK) PROJECT VEHICLE MIX

		Segment	With Project ¹				
ID	Roadway		Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.07%	1.90%	11.02%	100.00%	
2	Heacock St.	s/o Iris Av.	87.30%	1.87%	10.83%	100.00%	
3	Heacock St.	s/o Cardinal Av.	85.72%	2.02%	12.25%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	85.06%	2.08%	12.86%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.92%	1.93%	11.15%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.93%	1.93%	11.15%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	85.73%	2.03%	12.24%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

¹ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.

TABLE 6-6: EXISTING WITH (PEAK) PROJECT VEHICLE MIX

			With Project ¹					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
1	Heacock St.	n/o Gentian Av.	87.18%	1.89%	10.94%	100.00%		
2	Heacock St.	s/o Iris Av.	87.50%	1.84%	10.66%	100.00%		
3	Heacock St.	s/o Cardinal Av.	85.22%	2.06%	12.72%	100.00%		
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%		
5	Indian Av.	s/o Nandina Av.	84.26%	2.14%	13.59%	100.00%		
6	Cactus Av.	w/o Heacock St.	86.95%	1.92%	11.13%	100.00%		
7	Cactus Av.	e/o Heacock St.	86.96%	1.92%	11.12%	100.00%		
8	Harley Knox Bl.	e/o Patterson Av.	85.22%	2.07%	12.71%	100.00%		
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%		

 $^{^{\}rm 1}$ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $^{^{\}rm 2}\,\text{Total}$ of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-7: OYC WITH (NON-PEAK) PROJECT VEHICLE MIX

			With Project ¹				
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.02%	1.91%	11.06%	100.00%	
2	Heacock St.	s/o Iris Av.	87.08%	1.90%	11.02%	100.00%	
3	Heacock St.	s/o Cardinal Av.	86.25%	1.98%	11.77%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	86.23%	1.99%	11.79%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	86.23%	1.99%	11.78%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

¹ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.

TABLE 6-8: OYC WITH (PEAK) PROJECT VEHICLE MIX

			With Project ¹				
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.10%	1.90%	11.00%	100.00%	
2	Heacock St.	s/o Iris Av.	87.19%	1.89%	10.93%	100.00%	
3	Heacock St.	s/o Cardinal Av.	85.97%	2.00%	12.03%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	85.93%	2.01%	12.06%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.92%	1.93%	11.15%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.92%	1.93%	11.15%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	85.94%	2.01%	12.05%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

 $^{^{\}rm 1}$ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-9: HY WITH (NON-PEAK) PROJECT VEHICLE MIX W/O HEACOCK STREET EXT.

		Segment	With Project ¹				
ID	Roadway		Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.01%	1.91%	11.08%	100.00%	
2	Heacock St.	s/o Iris Av.	87.08%	1.90%	11.02%	100.00%	
3	Heacock St.	s/o Cardinal Av.	86.30%	1.98%	11.72%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	86.28%	1.98%	11.74%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	86.28%	1.98%	11.74%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

¹ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.

TABLE 6-10: HY WITH (PEAK) PROJECT VEHICLE MIX W/O HEACOCK STREET EXT.

		Segment	With Project ¹				
ID	Roadway		Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.08%	1.90%	11.01%	100.00%	
2	Heacock St.	s/o Iris Av.	87.19%	1.89%	10.93%	100.00%	
3	Heacock St.	s/o Cardinal Av.	86.04%	2.00%	11.96%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	86.01%	2.00%	11.99%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.92%	1.93%	11.15%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.92%	1.93%	11.16%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	86.01%	2.01%	11.99%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

 $^{^{\}rm 1}$ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

 $^{^{\}rm 2}$ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

TABLE 6-11: HY WITH (NON-PEAK) PROJECT VEHICLE MIX WITH HEACOCK STREET EXT.

		Segment	With Project ¹				
ID	Roadway		Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.01%	1.91%	11.08%	100.00%	
2	Heacock St.	s/o Iris Av.	87.08%	1.90%	11.02%	100.00%	
3	Heacock St.	s/o Cardinal Av.	86.30%	1.98%	11.72%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	86.18%	1.99%	11.83%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.90%	1.93%	11.17%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	86.28%	1.98%	11.74%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

¹ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.

TABLE 6-12: HY WITH (PEAK) PROJECT VEHICLE MIX WITH HEACOCK STREET EXT.

			With Project ¹				
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²	
1	Heacock St.	n/o Gentian Av.	87.08%	1.90%	11.01%	100.00%	
2	Heacock St.	s/o Iris Av.	87.19%	1.89%	10.93%	100.00%	
3	Heacock St.	s/o Cardinal Av.	86.04%	2.00%	11.96%	100.00%	
4	Heacock St.	s/o Nandina Av.	86.85%	1.94%	11.21%	100.00%	
5	Indian Av.	s/o Nandina Av.	85.86%	2.02%	12.12%	100.00%	
6	Cactus Av.	w/o Heacock St.	86.92%	1.93%	11.15%	100.00%	
7	Cactus Av.	e/o Heacock St.	86.92%	1.93%	11.16%	100.00%	
8	Harley Knox Bl.	e/o Patterson Av.	86.01%	2.01%	11.99%	100.00%	
9	Harley Knox Bl.	e/o Indian Av.	86.85%	1.94%	11.21%	100.00%	

 $^{^{\}rm 1}$ Meridian D-1 Gateway Aviation Traffic Analysis, Urban Crossroads, Inc., May 2022.



² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

² Total of vehicle mix percentage values rounded to the nearest one-hundredth.

7 OFF-SITE OPERATIONAL TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the operation of the proposed Project, noise contours were developed based on the *Meridian D-1 Gateway Aviation Center Traffic Analysis*. (24) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. 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 CNEL 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 7-12 present a summary of the exterior dBA CNEL traffic noise levels without barrier attenuation. Roadway segments are analyzed from the 'without Project' to the 'with Project' conditions in each of the following timeframes:

- Existing
- Existing plus Project (E+P) (Non-Peak) Conditions
- E+P (Peak) Conditions
- Opening Year Cumulative (OYC) (2026) Without Project Conditions
- OYC (2026) With Project (Non-Peak) Conditions
- OYC (2026) With Project (Peak) Conditions
- Horizon Year (HY) (2045) Without Project, Without Heacock Street Extension Conditions
- HY (2045) With Project (Non-Peak), Without Heacock Street Extension Conditions
- HY (2045) With Project (Peak), Without Heacock Street Extension Conditions
- HY (2045) Without Project, With Heacock Street Extension Conditions
- HY (2045) With Project (Non-Peak), With Heacock Street Extension Conditions
- HY (2045) With Project (Peak), With Heacock Street Extension Conditions

Appendix 7.1 includes a summary of the dBA CNEL traffic noise level contours for each of the traffic scenarios.



TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	77.3	152	328	708	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	75.1	109	235	507	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	75.4	114	247	531	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	73.4	74	160	344	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	79.9	250	539	1162	
7	Cactus Av.	e/o Heacock St.	Sensitive	76.8	125	270	581	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	74.3	124	267	575	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	71.4	79	171	369	

 $^{^{1}}$ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-2: EXISTING WITH (NON-PEAK) PROJECT CONTOURS

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	77.3	153	329	709	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	75.1	110	236	509	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	75.9	124	266	574	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	74.1	83	179	385	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	79.9	251	540	1163	
7	Cactus Av.	e/o Heacock St.	Sensitive	76.8	125	270	582	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	74.7	133	286	615	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	71.4	79	171	369	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-3: EXISTING WITH (PEAK) PROJECT CONTOURS

	Road		Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID		Segment			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	77.3	153	330	710	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	75.1	110	237	510	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	76.1	128	275	593	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	74.4	87	188	404	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	79.9	251	540	1163	
7	Cactus Av.	e/o Heacock St.	Sensitive	76.8	125	270	582	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	74.9	137	294	634	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	71.4	79	171	369	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-4: OYC WITHOUT PROJECT CONTOURS

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.4	182	391	843	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	173	373	803	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.2	177	380	819	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.1	153	330	712	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.3	313	674	1452	
7	Cactus Av.	e/o Heacock St.	Sensitive	78.8	170	365	787	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	76.9	184	397	855	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	73.7	113	243	523	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-5: OYC WITH (NON-PEAK) PROJECT CONTOURS

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.4	182	392	845	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	173	374	805	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.5	184	396	854	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.4	160	344	741	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.3	313	675	1453	
7	Cactus Av.	e/o Heacock St.	Sensitive	78.8	170	365	787	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.1	191	413	889	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	73.7	113	243	523	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-6: OYC WITH (PEAK) PROJECT CONTOURS

	Road Segme		Receiving	CNEL at	Distance to Contour from Centerline (Feet)		
ID		Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Heacock St.	n/o Gentian Av.	Sensitive	78.4	182	393	846
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	174	374	806
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	187	404	870
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.5	163	350	755
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.3	313	675	1454
7	Cactus Av.	e/o Heacock St.	Sensitive	78.8	170	366	788
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	195	420	905
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	73.7	113	243	523

 $^{^{}m 1}$ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-7: HY WITHOUT PROJECT CONTOURS W/O HEACOCK STREET EXT.

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	192	413	889	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	173	374	805	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	187	402	867	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.5	163	350	755	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	711	1532	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	831	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	195	420	904	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.0	119	257	553	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-8: HY WITH (NON-PEAK) PROJECT CONTOURS W/O HEACOCK STREET EXT.

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.8	192	413	890	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	174	375	807	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.8	194	418	900	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.8	169	364	783	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	711	1533	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	831	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.5	202	435	937	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.0	119	257	553	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-9: HY WITH (PEAK) PROJECT CONTOURS W/O HEACOCK STREET EXT.

	Road	Segment	Receiving	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.8	192	414	891	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	174	375	808	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.9	197	425	916	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	33.6	n/a	n/a	n/a	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.9	172	370	797	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	712	1533	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	832	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.6	205	442	952	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.0	119	257	553	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-10: HY WITHOUT PROJECT CONTOURS WITH HEACOCK STREET EXT.

	Road	Segment	Receiving Land Use ¹	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID					70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	192	413	889	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	173	374	805	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	187	402	867	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	75.2	111	240	516	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	77.8	146	314	677	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	711	1532	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	831	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	195	420	904	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.1	121	260	560	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

[&]quot;n/a"= Heacock Street Extension not yet built.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

TABLE 7-11: HY WITH (NON-PEAK) PROJECT CONTOURS WITH HEACOCK STREET EXT.

	Road	Segment	Receiving	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.8	192	413	890	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	174	375	807	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.8	194	418	900	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	75.2	111	240	516	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.1	152	328	706	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	711	1533	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	831	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.5	202	435	937	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.1	121	260	560	

¹ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.

TABLE 7-12: HY WITH (PEAK) PROJECT CONTOURS WITH HEACOCK STREET EXT.

	Road	Segment	Receiving	CNEL at Receiving Land Use (dBA) ²	Distance to Contour from Centerline (Feet)			
ID			Land Use ¹		70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.8	192	414	891	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	174	375	808	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.9	197	425	916	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	75.2	111	240	516	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.2	155	334	721	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	330	712	1533	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	179	386	832	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.6	205	442	952	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.1	121	260	560	

 $^{^{1}}$ Based on a review of existing aerial imagery. Noise sensitive uses limited to existing residential land uses.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

 $^{^2}$ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving adjacent land use.

[&]quot;RW" = Location of the respective noise contour falls within the right-of-way of the road.

7.2 EXISTING WITH PROJECT (NON-PEAK) TRAFFIC NOISE INCREASE

An analysis of Existing traffic noise levels plus traffic (Non-Peak) noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the traffic scenarios identified in the *Meridian D-1 Gateway Aviation Center Traffic Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing with Project condition traffic noise level increases. The long-range conditions under Opening Year Cumulative 2026 and Horizon Year 2045 scenarios represent the expected cumulative conditions without and with Project traffic, and are therefore, used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments.

Table 7-1 shows the Existing without Project noise levels. The Existing without Project exterior noise levels are expected to range from 71.4 to 79.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows that the Existing with Project (Non-Peak) conditions traffic noise levels will also range from 71.4 to 79.9 dBA CNEL. Table 7-13 shows that the Project off-site traffic noise level will experience a noise level increase ranging from 0.0 to 0.7 dBA CNEL on the study area roadway segments.

7.3 EXISTING WITH PROJECT (PEAK) TRAFFIC NOISE INCREASE

An analysis of Existing traffic noise levels plus traffic (Peak) noise generated by the proposed Project has been included in this report for informational purposes and to fully analyze all the traffic scenarios identified in the *Meridian D-1 Gateway Aviation Center Traffic Analysis* prepared by Urban Crossroads, Inc. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Therefore, no mitigation measures are considered to reduce the Existing with Project condition traffic noise level increases. The long-range conditions under Opening Year Cumulative 2026 and Horizon Year 2045 scenarios represent the expected cumulative conditions without and with Project traffic, and are therefore, used to determine the significance of the Project off-site traffic noise level increases on the study area roadway segments.

Table 7-1 shows the Existing without Project noise levels. The Existing without Project exterior noise levels are expected to range from 71.4 to 79.9 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-3 shows that the Existing with Project (Peak) conditions traffic noise levels will also range from 71.4 to 79.9 dBA CNEL. Table 7-14 shows that the Project off-site traffic noise level will experience a noise level increase ranging from 0.0 to 1.0 dBA CNEL on the study area roadway segments.

7.4 OYC WITH PROJECT (NON-PEAK) TRAFFIC NOISE INCREASE

Table 7-4 presents the Opening Year Cumulative 2026 without Project conditions CNEL noise levels. The Opening Year Cumulative 2026 without Project exterior noise levels are expected to range from 73.7 to 81.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-5 shows the Opening Year Cumulative 2026 with Project



(Non-Peak) conditions will range from 73.7 to 81.3 dBA CNEL. Table 7-15 shows that the Project off-site traffic noise level increase ranging from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.5 OYC WITH PROJECT (PEAK) TRAFFIC NOISE INCREASE

Table 7-4 presents the Opening Year Cumulative 2026 without Project conditions CNEL noise levels. The Opening Year Cumulative 2026 without Project exterior noise levels are expected to range from 73.7 to 81.3 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Opening Year Cumulative 2026 with Project (Peak) conditions will range from 73.7 to 81.3 dBA CNEL. Table 7-16 shows that the Project offsite traffic noise level increase ranging from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.6 HY WITH PROJECT W/O HEACOCK STREET EXT. (NON-PEAK) TRAFFIC NOISE INCREASE

Table 7-7 presents the Horizon Year 2045 without Project conditions without Heacock Street Extension CNEL noise levels. The Horizon Year 2045 without Project exterior noise levels are expected to range from 74.0 to 81.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-8 shows the Horizon Year 2045 with Project (Non-Peak) conditions without Heacock Street Conditions will range from 74.0 to 81.7 dBA CNEL. Table 7-17 shows that the Project off-site traffic noise level increase ranging from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.7 HY WITH PROJECT W/O HEACOCK STREET EXT. (PEAK) TRAFFIC NOISE INCREASE

Table 7-7 presents the Horizon Year 2045 without Project conditions without Heacock Street Extension CNEL noise levels. The Horizon Year 2045 without Project exterior noise levels are expected to range from 74.0 to 81.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-9 shows the Horizon Year 2045 with Project (Peak) conditions without Heacock Street Conditions will range from 74.0 to 81.7 dBA CNEL. Table 7-18 shows that the Project off-site traffic noise level increase ranging from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.



7.8 HY WITH PROJECT WITH HEACOCK STREET EXT. (NON-PEAK) TRAFFIC NOISE INCREASE

Table 7-10 presents the Horizon Year 2045 without Project conditions with Heacock Street Extension CNEL noise levels. The Horizon Year 2045 without Project exterior noise levels are expected to range from 74.1 to 81.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-11 shows the Horizon Year 2045 with Project (Non-Peak) conditions with Heacock Street Conditions will range from 74.1 to 81.7 dBA CNEL. Table 7-19 shows that the Project off-site traffic noise level increase ranging from 0.0 to 0.3 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.

7.9 HY WITH PROJECT WITH HEACOCK STREET EXT. (PEAK) TRAFFIC NOISE INCREASE

Table 7-10 presents the Horizon Year 2045 without Project conditions with Heacock Street Extension CNEL noise levels. The Horizon Year 2045 without Project exterior noise levels are expected to range from 74.1 to 81.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography.

Table 7-12 shows the Horizon Year 2045 with Project (Peak) conditions with Heacock Street Conditions will range from 74.1 to 81.7 dBA CNEL. Table 7-20 shows that the Project off-site traffic noise level increase ranging from 0.0 to 0.4 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to unmitigated Project-related traffic noise levels.



TABLE 7-13: EXISTING PROJECT (NON-PEAK) TRAFFIC NOISE INCREASES

ID	Road	Sagment			EL at Received of the second s	•	Threshold ²		
טו	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?	
1	Heacock St.	n/o Gentian Av.	Sensitive	77.3	77.3	0.0	1.5	No	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	75.1	75.1	0.0	3.0	No	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	75.4	75.9	0.5	3.0	No	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	73.4	74.1	0.7	3.0	No	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	79.9	79.9	0.0	3.0	No	
7	Cactus Av.	e/o Heacock St.	Sensitive	76.8	76.8	0.0	1.5	No	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	74.3	74.7	0.4	3.0	No	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	71.4	71.4	0.0	3.0	No	

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-14: EXISTING PROJECT (PEAK) TRAFFIC NOISE INCREASES

ID	Road	Samuel	Receiving Land Use ¹		EL at Receiv	·	Threshold ²	
ID	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?
1	Heacock St.	n/o Gentian Av.	Sensitive	77.3	77.3	0.0	1.5	No
2	Heacock St.	s/o Iris Av.	Non-Sensitive	75.1	75.1	0.0	3.0	No
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	75.4	76.1	0.7	3.0	No
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	73.4	74.4	1.0	3.0	No
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	79.9	79.9	0.0	3.0	No
7	Cactus Av.	e/o Heacock St.	Sensitive	76.8	76.8	0.0	1.5	No
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	74.3	74.9	0.6	3.0	No
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	71.4	71.4	0.0	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-15: OYC PROJECT (NON-PEAK) TRAFFIC NOISE INCREASES

ID	Road	Sagment	Receiving		EL at Receiv	_	Threshold ²		
טו	ROAU	Segment	Land Use ¹	Without Project	With Project	Project Addition	Limit	Exceeded?	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.4	78.4	0.0	1.5	No	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.2	78.5	0.3	3.0	No	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.1	78.4	0.3	3.0	No	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.3	81.3	0.0	3.0	No	
7	Cactus Av.	e/o Heacock St.	Sensitive	78.8	78.8	0.0	1.5	No	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	76.9	77.1	0.2	3.0	No	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	73.7	73.7	0.0	3.0	No	

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-16: OYC PROJECT (PEAK) TRAFFIC NOISE INCREASES

15	Road	Samuel			EL at Receiv	·	Threshold ²		
ID	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.4	78.4	0.0	1.5	No	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.2	78.6	0.4	3.0	No	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.1	78.5	0.4	3.0	No	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.3	81.3	0.0	3.0	No	
7	Cactus Av.	e/o Heacock St.	Sensitive	78.8	78.8	0.0	1.5	No	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	76.9	77.3	0.4	3.0	No	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	73.7	73.7	0.0	3.0	No	

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-17: HY W/O HEACOCK STREET EXT. (NON-PEAK) PROJECT TRAFFIC NOISE INCREASES

ID	Road	Sagment	Receiving Land Use ¹		EL at Receiv	·	Threshold ²	
ID	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	78.8	0.1	1.5	No
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	78.8	0.2	3.0	No
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.5	78.8	0.3	3.0	No
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	81.7	0.0	3.0	No
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	79.1	0.0	1.5	No
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	77.5	0.2	3.0	No
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.0	74.0	0.0	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-18: HY W/O HEACOCK STREET EXT. (PEAK) PROJECT TRAFFIC NOISE INCREASES

ID	Road	Sagment	Receiving Land Use ¹		EL at Receiv	·	Threshold ²	
ID	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	78.8	0.1	1.5	No
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	78.9	0.3	3.0	No
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	n/a	n/a	n/a	n/a	No
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	78.5	78.9	0.4	3.0	No
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	81.7	0.0	3.0	No
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	79.1	0.0	1.5	No
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	77.6	0.3	3.0	No
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.0	74.0	0.0	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

[&]quot;n/a"= Heacock Street Extension not yet built.

TABLE 7-19: HY WITH HEACOCK STREET EXT. (NON-PEAK) PROJECT TRAFFIC NOISE INCREASES

15	Road	Samuel			EL at Receiv	·	Threshold ²		
ID	Road	Segment		Without Project	With Project	Project Addition	Limit	Exceeded?	
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	78.8	0.1	1.5	No	
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No	
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	78.8	0.2	3.0	No	
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	75.2	75.2	0.0	3.0	No	
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	77.8	78.1	0.3	3.0	No	
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	81.7	0.0	3.0	No	
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	79.1	0.0	1.5	No	
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	77.5	0.2	3.0	No	
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.1	74.1	0.0	3.0	No	

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

TABLE 7-20: HY WITH HEACOCK STREET EXT. (PEAK) PROJECT TRAFFIC NOISE INCREASES

ID	Road	Sagment	Receiving		EL at Received of the second s	_	Threshold ²	
טו	Road	Segment	Land Use ¹	Without Project	With Project	Project Addition	Limit	Exceeded?
1	Heacock St.	n/o Gentian Av.	Sensitive	78.7	78.8	0.1	1.5	No
2	Heacock St.	s/o Iris Av.	Non-Sensitive	78.1	78.1	0.0	3.0	No
3	Heacock St.	s/o Cardinal Av.	Non-Sensitive	78.6	78.9	0.3	3.0	No
4	Heacock St.	s/o Nandina Av.	Non-Sensitive	75.2	75.2	0.0	3.0	No
5	Indian Av.	s/o Nandina Av.	Non-Sensitive	77.8	78.2	0.4	3.0	No
6	Cactus Av.	w/o Heacock St.	Non-Sensitive	81.7	81.7	0.0	3.0	No
7	Cactus Av.	e/o Heacock St.	Sensitive	79.1	79.1	0.0	1.5	No
8	Harley Knox Bl.	e/o Patterson Av.	Non-Sensitive	77.3	77.6	0.3	3.0	No
9	Harley Knox Bl.	e/o Indian Av.	Non-Sensitive	74.1	74.1	0.0	3.0	No

¹ The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the receiving land use.



² Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?

8 SENSITIVE RECEIVER LOCATIONS

To assess the potential for long-term operational and short-term construction noise impacts, the following sensitive receiver locations, as shown on Exhibit 8-A, were identified as representative locations for analysis. Sensitive receivers are generally defined as locations where people reside or where the presence of unwanted sound could otherwise adversely affect the use of the land. Noise-sensitive land uses are generally considered to include schools, hospitals, single-family dwellings, mobile home parks, churches, libraries, and recreation areas. Moderately noise-sensitive land uses typically include multi-family dwellings, hotels, motels, dormitories, out-patient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

To describe the potential off-site Project noise levels, four receiver locations in the vicinity of the Project site were identified. All distances are measured from the Project site boundary to the outdoor living areas (e.g., private backyards) or at the building façade, whichever is closer to the Project site. The selection of receiver locations is based on FHWA guidelines and is consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Other sensitive land uses in the Project study area that are located at greater distances than those identified in this noise study will experience lower noise levels than those presented in this report due to the additional attenuation from distance and the shielding of intervening structures. Distance is measured in a straight line from the Project boundary to each receiver location.

- R1: Location R1 represents the existing noise sensitive residence at 24307 Carman Lane, approximately 3,140 feet northeast of the Project site. R1 is placed at the private outdoor living area (backyard) facing the Project site behind an existing 6' foot high wall. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents La Iglesia Misionera Cristiana at 16220 Indian Street, approximately 3,166 feet northeast of the Project site. Receiver R2 is placed at the residential building façade because there are no private outdoor living areas (backyards) facing the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing noise sensitive residence at 16537 Libra Lane, approximately 2,777 feet east of the Project site. R3 is placed at the private outdoor living area (backyard) facing the Project site behind an existing 6' foot high wall. A 24-hour noise measurement near this location, L2, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing noise sensitive residence at 16855 Baltic Court, approximately 2,730 feet southeast of the Project site. R4 is placed at the private outdoor living area (backyard) facing the Project site behind an existing 6' foot high wall. A 24-

hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.

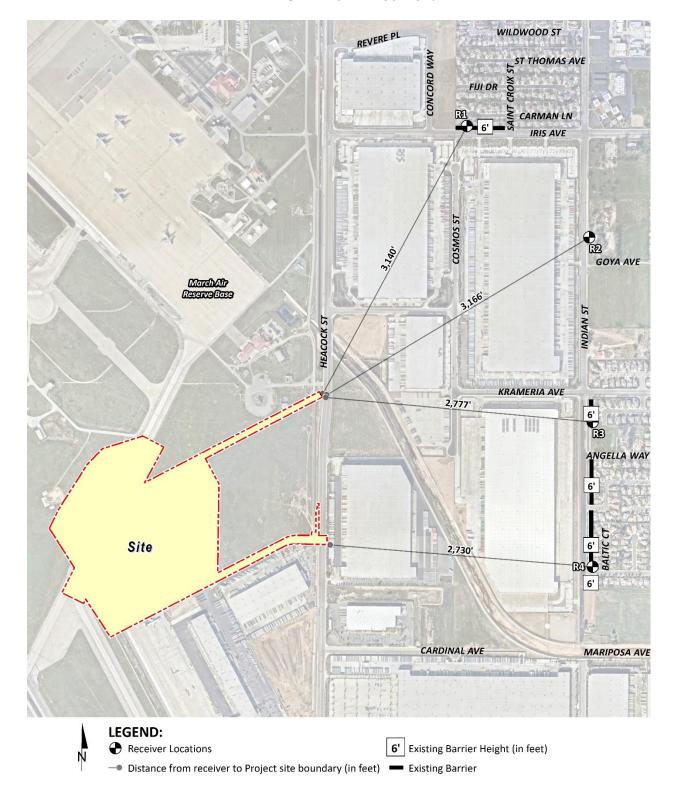


EXHIBIT 8-A: RECEIVER LOCATIONS

9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearest receiver locations, identified in Section 8, resulting from the operation of the proposed Meridian D-1 Gateway Aviation Center Project. Exhibit 9-A identifies the noise source locations used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

This operational noise analysis is intended to describe noise level impacts associated with the expected typical of daytime and nighttime activities at the Project site. To present the potential worst-case noise conditions, this analysis assumes the Project would be operational 24 hours per day, seven days per week. Consistent with similar warehouse uses, the Project business operations would primarily be conducted within the enclosed buildings, except for traffic movement, parking, as well as loading and unloading of trucks at designated loading bays. The on-site Project-related noise sources are expected to include: loading dock activity, entry gate and truck movements, roof-top air conditioning, and trash enclosure activity.

This Noise Impact Analysis has been prepared to focus solely on the transportation truck-related operations at the Project site. It is our understanding that a separate aircraft-related noise study is being prepared for the Project. Therefore, no analysis of aircraft-related operational activity (e.g., aircraft overflights, taxiing, or ground support equipment) is included in this report.

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, entry gate and truck movements, roof-top air conditioning, and trash enclosure activity all operating continuously. These sources of noise activity will likely vary throughout the day.

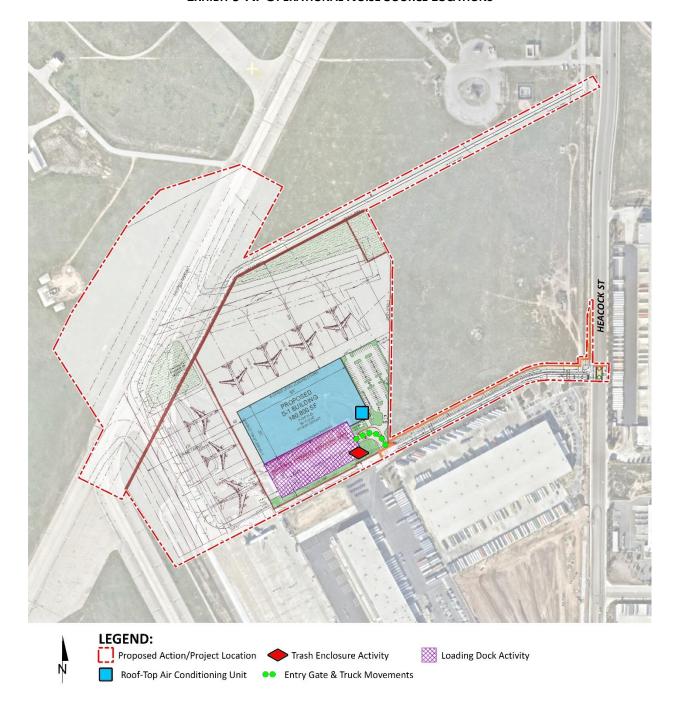


EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Naisa Caussal	Noise Source	Min./Hour ²		Reference Noise	Sound Power
Noise Source ¹	Height (Feet)	Day	Night	Level (dBA L _{eq}) @ 50 Feet	Level (dBA)³
Loading Dock Activity	8'	60	60	65.7	111.5
Entry Gate & Truck Movements	8'	_4	_4	58.0	89.7
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Trash Enclosure Activity	5'	5	5	57.3	89.0

¹ As measured by Urban Crossroads, Inc.

9.2.1 MEASUREMENT PROCEDURES

The reference noise level measurements presented in this section were collected using a Larson Davis LxT Type 1 precisions sound level meter (serial number 01146). The LxT sound level meter was calibrated using a Larson-Davis calibrator, Model CAL 200, was programmed in "slow" mode to record noise levels in "A" weighted form and was located at approximately five feet above the ground elevation for each measurement. 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. (20)

9.2.2 LOADING DOCK ACTIVITY

To describe the loading dock activities, a reference noise level measurement was collected to represent the truck activities. The reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA L_{eq} at a uniform distance of 50 feet. Specifically, the reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.2.3 Entry Gate & Truck Movements

An entry gate and truck movements reference noise level measurement were taken over a 15-minute period and represents multiple noise sources producing a reference noise level of 58.0 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for the rattling and squeaking during normal opening and closing operations, the gate closure

² Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site.

[&]quot;Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

⁴ Entry Gate & Truck Movements are calculate based on the number of events by time of day (See Table 9-2).

equipment, truck engines idling outside the entry gate, truck movements through the entry gate, and background truck court activities and forklift backup alarm noise.

Consistent with the *Gateway Aviation Traffic Analysis*, the Project is expected to generate a total of approximately 1,276 trip-ends per day (actual vehicles) and includes 276 truck trip-ends per day. (24) This noise study relies on the actual Project trips (as opposed to the passenger car equivalents) to accurately account for the effect of individual truck trips on the study area roadway network. Using the estimated number of truck trips in combination with time-of-day vehicle splits, the number of entry gate and truck movements by driveway location were calculated. As shown on Table 9-2, this information is then used to calculate the entry gate and truck movements operational noise source activity based on the number of events by time of day.

TABLE 9-2: ENTRY GATE & TRUCK MOVEMENTS BY LOCATION

Entry Gate	Total	Trip	Dist. ³		Time of	Day Vehicl	e Splits ⁵	Truc	k Moveme	ents ⁶
& Truck Movement Location ¹	Project Truck Trips ²	In	Out	Truck Trips by Location ⁴	Day	Evening	Night	Day	Evening	Night
Driveway 1	276	100%	100%	276	86.50%	2.70%	10.80%	239	7	30

¹ Driveway location as shown on Exhibit 9-A.

9.2.4 ROOF-TOP AIR CONDITIONING UNITS

The noise level measurements describe a single mechanical roof-top air conditioning unit. The reference noise level represents a Lennox SCA120 series 10-ton model packaged air conditioning unit. At the uniform reference distance of 50 feet, the reference noise levels are 57.2 dBA L_{eq}. Based on the typical operating conditions observed over a four-day measurement period, the roof-top air conditioning units are estimated to operate for and average 39 minutes per hour during the daytime hours, and 28 minutes per hour during the nighttime hours. These operating conditions reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F. For this noise analysis, the air conditioning units are expected to be located on the roof of the Project buildings.

9.2.5 Trash Enclosure Activity

The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The trash enclosure activity noise levels include two metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, trash dropping into the metal dumpster, and background parking lot vehicle movements. Noise associated with trash enclosure activities is conservatively expected to occur for 10 minutes per hour.

² Total Project truck trips according to Table 4-3 of the Gateway Aviation Traffic Analysis.

³ Project truck trip distribution according to Exhibit 4-1 of the Gateway Aviation Traffic Analysis.

⁴ Calculated trip trucks per location represents the product of the total (inbound and outbound) project truck trips by and the trip distribution.

⁵ Heavy truck time of day vehicle splits as shown on Table 6-3.

⁶ Calculated time of day entry gate and truck movements by location.

9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels.

Using the ISO 9613 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source. Consistent with the ISO 9613 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g. L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish as a result of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment.

The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.0 was used in the CadnaA noise analysis to account for hard site conditions. Appendix 9.1 includes the detailed noise model inputs used to estimate the Project operational noise levels presented in this section.

9.4 Project Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, entry gate and truck movements, roof-top air conditioning, and trash enclosure activity, Urban Crossroads, Inc. calculated the operational source noise levels that are expected to be generated at the Project site and the Project-related noise level increases that would be experienced at each of the sensitive receiver locations. Tables 9-3 shows the Project operational noise levels during the daytime hours of 8:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 25.0 to 36.9 dBA Leq.

TABLE 9-3: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Source ¹	Operational	Noise Levels by	Receiver Locati	on (dBA Leq)
Noise Source-	R1	R2	R3	R4
Loading Dock Activity	23.9	35.9	36.0	36.8
Entry Gate & Truck Movements	17.8	22.7	20.3	21.0
Roof-Top Air Conditioning Units	6.6	11.5	8.7	9.3
Trash Enclosure Activity	4.8	9.8	7.3	8.1
Total (All Noise Sources)	25.0	36.1	36.1	36.9

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

Table 9-4 shows the Project operational noise levels during the nighttime hours of 10:01 p.m. to 7:59 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 24.1 to 36.8 dBA L_{eq}. The differences between the daytime and nighttime noise levels are largely related to the duration of noise activity (Table 9-1).

TABLE 9-4: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

Noise Coursel	Operational	Operational Noise Levels by Receiver Location (dBA Leq)						
Noise Source ¹	R1	R2	R3	R4				
Loading Dock Activity	23.9	35.9	36.0	36.8				
Entry Gate & Truck Movements	8.7	13.7	11.3	12.0				
Roof-Top Air Conditioning Units	5.6	10.5	7.8	8.4				
Trash Enclosure Activity	3.8	8.8	6.3	7.2				
Total (All Noise Sources)	24.1	35.9	36.0	36.8				

¹ See Exhibit 9-A for the noise source locations. CadnaA noise model calculations are included in Appendix 9.1.

9.5 Project Operational Noise Level Compliance

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the March JPA and Moreno Valley exterior noise level standards at the nearest noise-sensitive receiver locations. Table 9-5 shows the operational noise levels associated with Meridian D-1 Gateway Aviation Center Project will satisfy the City of Moreno Valley 65 dBA $L_{\rm eq}$ daytime and 60 dBA $L_{\rm eq}$ nighttime exterior noise level standards at all the nearest receiver locations and will satisfy the March JPA 55 dBA $L_{\rm eq}$ daytime and nighttime exterior noise level standards at all the nearest receiver locations.

TABLE 9-5: OPERATIONAL NOISE LEVEL COMPLIANCE

Receiver Location ¹	Project Operational Noise Levels (dBA Leq) ²		•			Noise Level Standards Exceeded? ⁴	
Location	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime	
R1	25.0	24.1	55	55	No	No	
R2	36.1	35.9	55	55	No	No	
R3	36.1	36.0	55	55	No	No	
R4	36.9	36.8	55	55	No	No	

¹ See Exhibit 8-A for the receiver locations.

9.6 Project Operational Noise Level Increases

To describe the Project operational noise level increases, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearest receiver locations potentially impacted by Project operational noise sources. Since the units used to measure noise, decibels (dB), are logarithmic units, the Project-operational and existing ambient noise levels cannot be combined using standard arithmetic equations. (2) Instead, they must be logarithmically added using the following base equation:

$$SPL_{Total} = 10log_{10}[10^{SPL1/10} + 10^{SPL2/10} + ... 10^{SPLn/10}]$$

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. As indicated on Tables 9-6 and 9-7, the Project is not expected to generate a measurable daytime and nighttime operational noise level increase dBA L_{eq} at the nearest receiver locations. Project-related operational noise level increases will not exceed the operational noise level increase significance criteria presented in Table 4-1. Therefore, the incremental Project operational noise level increase is considered *less than significant* at all receiver locations.

² Proposed Project operational noise levels as shown on Tables 9-3 and 9-4.

³ March Joint Powers Authority, Development Code, Chapter 9.10 Performance Standards, Section 9.10.140 (Appendix 3.1).

⁴ Do the estimated Project operational noise source activities exceed the noise level standards?

[&]quot;Daytime" = 8:00 a.m. - 10:00 p.m.; "Nighttime" = 10:01 p.m. - 7:59 a.m.

TABLE 9-6: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	25.0	L1	65.6	65.6	0.0	1.5	No
R2	36.1	L2	60.9	60.9	0.0	3.0	No
R3	36.1	L2	60.9	60.9	0.0	3.0	No
R4	36.9	L3	58.5	58.5	0.0	5.0	No

¹ See Exhibit 8-A for the receiver locations.



² Total Project daytime operational noise levels as shown on Table 9-3.

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

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

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.

TABLE 9-7: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	24.1	L1	62.6	62.6	0.0	3.0	No
R2	35.9	L2	58.7	58.7	0.0	5.0	No
R3	36.0	L2	58.7	58.7	0.0	5.0	No
R4	36.8	L3	53.9	54.0	0.1	5.0	No

¹ See Exhibit 8-A for the receiver locations.



² Total Project nighttime operational noise levels as shown on Table 9-4.

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

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

⁵ Represents the combined ambient conditions plus the Project activities.

⁶ The noise level increase expected with the addition of the proposed Project activities.

⁷ Significance increase criteria as shown on Table 4-1.



10 CONSTRUCTION IMPACTS

This section analyzes potential impacts resulting from the short-term construction activities associated with the development of the Project. Exhibit 10-A shows the construction noise source locations in relation to the nearest sensitive receiver locations previously described in Section 8.

To prevent high levels of construction noise from impacting noise-sensitive land uses, the March JPA Development Code Chapter 9.10 Performance Standards, Section 9.10.040 limits construction to between 7:00 a.m. until 7:00 p.m. only, and the Moreno Valley Municipal Code Section 11.80.030(D)(7) limits general construction activities to between 7:00 a.m. and 8:00 p.m. In addition, Section 8.21.050(O) of the Moreno Valley Municipal Code limits grading operations to the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday, excluding holidays, and 8:00 a.m. to 4:00 p.m. on Saturdays or as approved by the City Engineer.

10.1 Construction Noise Levels

The FTA *Transit Noise and Vibration Impact Assessment Manual* recognizes that construction projects are accomplished in several different stages and outlines the procedures for assessing noise impacts during construction. Each stage has a specific equipment mix, depending on the work to be completed during that stage. As a result of the equipment mix, each stage has its own noise characteristics; some stages have higher continuous noise levels than others, and some have higher impact noise levels than others. The Project construction activities are expected to occur in the following stages:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

10.2 Construction Reference Noise Levels

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (25) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.



REVERE PL CONCORD WA ST THOMAS AVE FIJI DR CARMAN LN IRIS AVE GOYA AVE MarchAlr ReserveBase KRAMERIA AVE 2,777 ANGELLA WAY 2,730' CARDINAL AVE MARIPOSA AVE **LEGEND:** Limits of Construction 6' Existing Barrier Height (in feet) Receiver Locations Existing Barrier Distance from receiver to Project site boundary (in feet)

EXHIBIT 10-A: Typical Construction Noise Source Locations



Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for general construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming they operate at the same time. As shown on Table 10-2, the highest construction noise levels are expected to range from 32.0 to 42.4 dBA Leq at the nearby receiver locations. Appendix 10.1 includes the detailed CadnaA construction noise model inputs.

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

Construction Stage	Reference Construction Activity	Reference Noise Level @ 50 Feet (dBA L _{eq}) ¹	Combined Noise Level (dBA L _{eq}) ²	Combined Sound Power Level (PWL) ³	
au.	Crawler Tractors	78			
Site Preparation	Hauling Trucks	72	80	112	
rreparation	Rubber Tired Dozers	75			
	Graders	81			
Grading	Excavators	77	83	115	
	Compactors	76			
	Cranes	73			
Building Construction	Tractors	80	81	113	
Construction	Welders	70			
	Pavers	74			
Paving	Paving Equipment	82	83	115	
	Rollers	73			
	Cranes	73			
Architectural Coating	Air Compressors	74	77	109	
	Generator Sets	70			

¹ FHWA Roadway Construction Noise Model (RCNM).



² Represents the combined noise level for all equipment assuming they operate at the same time consistent with FTA Transit Noise and Vibration Impact Assessment guidance.

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calibrated using the CadnaA noise model at the reference distance to the noise source.

TABLE 10-2: CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY

	Construction Noise Levels (dBA L _{eq})					
Receiver Location ¹	Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Levels ²
R1	35.0	38.0	36.0	38.0	32.0	38.0
R2	39.4	42.4	40.4	42.4	36.4	42.4
R3	36.4	39.4	37.4	39.4	33.4	39.4
R4	36.6	39.6	37.6	39.6	33.6	39.6

¹ Noise receiver locations are shown on Exhibit 10-A.

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the nearest receiver locations will satisfy the Moreno Valley daytime 65 dBA L_{eq} significance threshold during Project construction activities as shown on Table 10-3. Therefore, the noise impacts due to Project construction noise is considered *less than significant* at all receiver locations.

TABLE 10-3: TYPICAL CONSTRUCTION NOISE LEVEL COMPLIANCE

	Cons	Construction Noise Levels (dBA Leq)				
Receiver Location ¹	Highest Construction Noise Levels ² Threshold ³		Threshold Exceeded? ⁴			
R1	38.0	65	No			
R2	42.4	65	No			
R3	39.4	65	No			
R4	39.6	65	No			

¹ Noise receiver locations are shown on Exhibit 10-A.

10.5 NIGHTTIME CONCRETE POUR NOISE ANALYSIS

It is our understanding that nighttime concrete pouring activities will occur as a part of Project building construction activities. Nighttime concrete pouring activities are often used to support reduced concrete mixer truck transit times and lower air temperatures than during the daytime hours and are generally limited to the actual building area as shown on Exhibit 10-B. Since the nighttime concrete pours may take place outside the permitted March JPA Development Code Chapter 9.10 Performance Standards, Section 9.10.040, the Project Applicant would be required to obtain authorization for nighttime work from the March JPA.



² Construction noise level calculations based on distance from the construction activity, which is measured from the Project site boundary to the nearest receiver locations. CadnaA construction noise model inputs are included in Appendix 10.1.

² Highest construction noise level calculations based on distance from the construction noise source activity to the nearest receiver locations as shown on Table 10-2.

³ Construction noise level thresholds as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the construction noise level threshold?

REVERE PL CONCORD WA THOMAS AVE FIJI DR CARMAN LN IRIS AVE HEACOCK ST GOYA AVE MarchAlr ReserveBase KRAMERIA AVE ANGELLA WAY 4,244 Site 3,937 CARDINAL AVE MARIPOSA AVE **LEGEND:** Limits of Construction Distance from receiver to construction activity (in feet) Nighttime Concrete Pour (Building Area) 6' Existing Barrier Height (in feet) Receiver Locations Existing Barrier

EXHIBIT 10-B: NIGHTTIME CONCRETE POUR NOISE SOURCE AND RECEIVER LOCATIONS



Table 10-4 shows the concrete pour activities (paving) noise will range from 37.6 to 42.4 dBA L_{eq} . at the nearest sensitive receiver locations. Based on the results of this analysis, all nearest noise receiver locations will experience *less than significant* impacts due to the Project related nighttime concrete pour activities. Appendix 10.2 includes the CadnaA nighttime concrete pour noise model inputs.

TABLE 10-4: NIGHTTIME CONCRETE POUR NOISE LEVEL COMPLIANCE

	Construction Noise Levels (dBA L _{eq})				
Receiver Location ¹	Concrete Pour Activity ²	Nighttime Threshold ³	Threshold Exceeded? ⁴		
R1	37.6	60	No		
R2	42.4	60	No		
R3	39.6	60	No		
R4	40.1	60	No		

¹ Noise receiver locations are shown on Exhibit 10-B.

10.6 Typical Construction Vibration Impacts

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized on Table 10-5. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential for human response (annoyance) and building damage using the following vibration assessment methods defined by the FTA. To describe the vibration impacts the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$

TABLE 10-5: VIBRATION SOURCE LEVELS FOR CONSTRUCTION EQUIPMENT

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

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual



 $^{^2}$ Nighttime concrete pour construction noise level calculations based on distance from the building pad to nearby receiver locations.

³ Exterior noise level standards as shown on Table 4-1.

⁴ Do the estimated Project construction noise levels exceed the nighttime construction noise level threshold?

Table 10-6 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 2,730 to 3,166 feet from Project construction activities, construction vibration velocity levels are estimated at 0.000 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the noise sensitive receiver locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations 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.

TABLE 10-6: CONSTRUCTION VIBRATION LEVELS

	Distance to Const.		Typical Construction Vibration Levels PPV (in/sec) ³					Thresholds
Receiver ¹	Activity (Feet) ²	Small bulldozer	Jackhammer	Loaded Trucks	Large bulldozer	Highest Vibration Level	PPV (in/sec) ⁴	Exceeded? ⁵
R1	3,140'	0.000	0.000	0.000	0.000	0.000	0.3	No
R2	3,166'	0.000	0.000	0.000	0.000	0.000	0.3	No
R3	2,777'	0.000	0.000	0.000	0.000	0.000	0.3	No
R4	2,730'	0.000	0.000	0.000	0.000	0.000	0.3	No

¹ Receiver locations are shown on Exhibit 10-A.



² Distance from receiver location to Project construction boundary (Project site boundary).

³ Based on the Vibration Source Levels of Construction Equipment (Table 10-5).

⁴ Caltrans Transportation and Construction Vibration Guidance Manual, April 2020, Table 19, p. 38.

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

[&]quot;PPV" = Peak Particle Velocity



11 REFERENCES

- 1. **State of California.** *California Environmental Quality Act, Appendix G.* 2018.
- 2. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA: s.n., September 2013.
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- 9. U.S. Government Publishing Office. Code of Federal Regulations, Title 40, Part 205, Subpart B.
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- 14. Development Code, Chapter 9.10 Performance Standards.
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- 22. California Department of Transportation Environmental Program, Office of Environmental Engineering. Use of California Vehicle Noise Reference Energy Mean Emission Levels (Calveno REMELs) in FHWA Highway Traffic Noise Prediction. September 1995. TAN 95-03.



- 23. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
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12 CERTIFICATION

The contents of this noise study report represent an accurate depiction of the noise environment and impacts associated with the proposed Meridian D-1 Gateway Aviation Center Project. The information contained in this noise study report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at (949) 584-3148.

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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





APPENDIX 3.1:

MARCH JPA DEVELOPMENT CODE





Sections:

9.10.130

9.10.140

9.10.150

9.10.160

9.10.170

CHAPTER 9.10

PERFORMANCE STANDARDS

9.10.010	Purpose and Intent
9.10.020	Applicability
9.10.030	Exemptions
9.10.040	Administration
9.10.050	Air Quality
9.10.060	Electrical or Electronic Interference
9.10.070	Fire and Explosive Hazards
9.10.080	Liquid and Solid Wastes
9.10.090	Radioactive Wastes
9.10.100	Heat and Cold
9.10.110	Light and Glare
9.10.120	Maintenance of Open Areas

Mechanical and Electrical Equipment

Outdoor Storage, Trash Areas, and Service Areas

Section 9.10.010 Purpose and Intent

Vibration

Odors

Noise and Sound

The purpose and intent of this Chapter is to explicitly describe the location, configuration, design, amenities, operation, and other standards for proposed development projects that may impact the surrounding neighborhood. The performance standards set maximum tolerance limits on certain adverse effects created by any use or development of land.

Section 9.10.020 Applicability

Applicability

These performance standards shall apply to all land uses, in all districts, unless specifically stated otherwise in this Title. All uses shall be subject to these performance standards, the General Development Standards of Chapter 9.08, the Specific Use Development Standards of Chapter 9.09, the requirements of the underlying district, and all other requirements of this Title.

Section 9.10.030 Exemptions

Exemptions

The following uses or activities are exempt from the provisions of this Chapter.

- 1. Emergency equipment, vehicles, devices, and activities.
- 2. Temporary construction, maintenance, or demolition activities between the hours of 7:00 a.m. and 7:00 p.m.

Section 9.10.040 Administration

The standards of this Chapter shall be enforced by the department or agency having enforcement authority over the subject matter. Upon discovery of any potential violation of these standards, the appropriate department or agency shall investigate and initiate corrective action as deemed necessary.

Section 9.10.050 Air Quality

No operation or activity otherwise permitted under this Title shall cause the emission of any smoke, fly ash, dust, fumes, vapors, gases or other forms of air pollution which exceeds the requirements of the South Coast Air Quality Management District or the requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.060 Electrical or Electronic Interference

No operation or activity otherwise permitted under this Title shall cause any source of electrical or electronic disturbance that adversely affects persons or the operation of equipment on other property and is not in conformance with the regulations of the Federal Communication Commission.

Section 9.10.070 Fire and Explosive Hazards

An operation or activity otherwise permitted under this Title involving the storage of flammable or explosive materials shall be provided with adequate safety devices against the hazard of fire and explosion and adequate fire-fighting and fire suppression equipment and devices in accordance with the requirements of the Uniform Fire Code. Open fire burning of waste material is prohibited. Closed system incineration of waste material, where such activity is otherwise permitted under this Title and is required for research, medical or similar uses, may be permitted subject to the requirements of the California Department of Health and South Coast Air Quality Management District or other requirements of any Air Quality Plan or General Plan Air Quality Element adopted by the March JPA.

Section 9.10.080 Liquid and Solid Wastes

No operation or action otherwise permitted under this Title shall discharge at any point into any public street, public sewer, private sewage disposal system, stream, body of water or into the ground, any materials which can contaminate any water supply, interfere with bacterial processes in sewage treatment, or otherwise cause the emission of dangerous or offensive elements, except in accordance with standards approved by the California Department of Public Health or other governmental agency having jurisdiction over liquid and solid waste.

Section 9.10.090 Radioactive Wastes

No operation or activities otherwise permitted under this Title shall be permitted which result at any time in the release or emission of any fissionable or radioactive materials into the atmosphere, the ground, groundwater or sewage systems except as provided by and in accordance with State law. Any such operation or activity which handles, tests, transports, stores or in any way uses fissionable or radioactive material shall prepare a study addressing the probability of the release of such material and implement all recommendations identified by the study.

Section 9.10.100 Heat and Cold

No operation or activity otherwise permitted under this Title shall emit heat or cold which would cause a temperature increase or decrease on any adjacent property in excess of 10 degrees Fahrenheit, whether the change is in the air, on the ground, or in any structure, or in any body of water.

Section 9.10.110 Light and Glare

No operation, activity, sign, or lighting fixture shall create illumination which exceeds 0.5 foot-candles minimum maintained on any adjacent property, whether the illumination is direct or indirect light from the source. All lighting shall be designed to project downward and shall not create glare on adjacent properties.

Section 9.10.120 Maintenance of Open Areas

Except as otherwise provided in this Title, all open areas shall be landscaped, surfaced, or treated and maintained permanently in a dust-free, weed-free condition.

Section 9.10.130 Mechanical and Electrical Equipment

All mechanical and electrical equipment, including air conditioners, antennas, pumps, transformers, and heating and ventilating equipment shall be located, operated and screened in a manner that does not disturb adjacent uses and activities. In addition, all central building electrical controlling equipment and switching facilities shall be located within the building for all commercial, industrial and business facilities.

Section 9.10.140 Noise and Sound

Unless otherwise specified in Chapter 9.08, General Development Standards, or Chapter 9.09, Specific Use Development Standards, all commercial and industrial uses shall be operated so that noise created by any loudspeaker, bells, gongs, buzzers, or other noise attention or attracting devices shall not exceed 55 dBA at any one time beyond the boundaries of the property. Sounds emitting from any of the aforementioned devices, including or live or recorded music, shall cease between the hours of 10:00 p.m. and 7:00 a.m. if the sound therefrom creates a noise disturbance across the property line of a residential use.

Additionally, outdoor construction and grading activities, including the operation of any tools or equipment associated with construction, drilling, repair, alteration, grading/grubbing or demolition work within 500 feet of the property line of a residential use, shall be prohibited between the hours of 7:00 p.m. and 7:00 a.m. Monday through Friday and between 5:00 p.m. and 8:00 a.m. on Saturdays or at any time on Sunday or a Federal Holiday.

The following activities are exempt from the provisions of this Section:

- 1. Emergency Work. This Section does not apply to the emission of sound for the purpose of alerting persons to the existence of an emergency or in the performance of emergency work if the work is necessary to address immediate public health and safety related issues as deemed necessary by the March JPA Building Official or Engineer.
- 2. Federal or State Highway/Freeway Projects or preempted activities. This Section does not apply to roadwork on federal or state highways or any other activity the noise level of which is regulated by state or federal law.
- 3. Right-of-way construction. This Section does not prohibit work performed within the rights-of-way when it is deemed by the March JPA Engineer that such work will create traffic congestion and/or

hazardous or unsafe conditions.

4. Public health, welfare and safety activities. This Section does not apply to construction maintenance and repair operations conducted by public agencies and/or utility companies or their contractors which are deemed necessary to serve the best interests of the public and to protect the public health, welfare and safety, including but not limited to, trash collection, street sweeping, debris and limb removal, removal of downed wires, restoring electrical service, repairing traffic signals, unplugging sewers or storm drains, vacuuming catch basins, repairing of damaged poles, removal of abandoned vehicles, repairing of water hydrants and mains, gas lines, oil lines, sewers, storm drains, roads, sidewalks, etc.

Section 9.10.150 Odors

No operation or activity shall be permitted which emits odorous gases or other odorous matter in such quantities as to be dangerous, injurious, noxious, or otherwise objectionable to a level that is detectable with or without the aid of instruments at or beyond the lot line of the property containing said operation or activity.

Section 9.10.160 Outdoor Storage, Trash Areas, and Service Areas

All storage areas for storage of maintenance equipment or vehicles or refuse, and all collection areas and service areas, shall be enclosed or effectively screened from public view with a fence, wall, landscaping, berming or a combination thereof. Doors to trash enclosures shall be closed at all times except when the enclosure is being accessed for refuse disposal or pick-up. The screening requirements of Section 9.08.150 are also referenced and not intended to be superseded hereby.

Section 9.10.170 Vibration

No vibration shall be permitted which can be felt at or beyond the property line.



APPENDIX 3.2:

CITY OF MORENO VALLEY MUNICIPAL CODE





Chapter 11.80 NOISE REGULATION

11.80.010 Legislative findings.

It is found and declared that:

- A. Excessive sound within the limits of the city is a condition which has existed for some time, and the amount and intensity of such sound is increasing.
- B. Such excessive sound is a detriment to the public health, safety, and welfare and quality of life of the residents of the city.
- C. The necessity in the public interest 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, safety, welfare and quality of life of the city and its inhabitants. (Ord. 740 § 1.2, 2007)

11.80.020 **Definitions**.

For purposes of this chapter, certain words and phrases used herein are defined as follows:

"A-weighted sound level" means the sound pressure level in decibels as measured with a sound level meter using the A-weighting network. The unit of measurement is the dB(A).

"Commercial" means all uses of land not otherwise classified as residential, as defined in this section.

"Construction" means any site preparation, and/or any assembly, erection, repair, or alteration, excluding demolition, of any structure, or improvements to real property.

"Continuous airborne sound" means sound that is measured by the slow-response setting of a meter manufactured to the specifications of ANSI Section 1.4-1983 (R2006) "Specification for Sound Level Meters," or its successor.

"Daytime" means eight a.m. to ten p.m. the same day.

"Decibel" (dB) means a unit for measuring the amplitude of sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of the sound measured to the reference pressure, which is twenty (20) microPascals (twenty (20) microNewtons per square meter.)

"Demolition" means any dismantling, intentional destruction or removal of structures or other improvements to real property.

"Disturb" means to interrupt, interfere with, or hinder the enjoyment of peace or quiet or the normal listening activities or the sleep, rest or mental concentration of the hearer.

"Emergency" means any occurrence or set of circumstances involving actual or imminent physical trauma or significant property damage which necessitates immediate action. Economic loss alone shall not constitute an emergency. It shall be the burden of an alleged violator to prove an "emergency."

"Emergency work" means any work made necessary to restore property to a safe condition following an emergency, or to protect persons or property threatened by an imminent emergency, to the extent such work is, in fact, necessary to protect persons or property from exposure to imminent danger or damage.

"Frequency" means the number of complete oscillation cycles per unit of time.

"Impulsive sound" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay. Examples of sources of impulsive sound include explosions, drop forge impacts, and discharge of firearms.

"Nighttime" means 10:01 p.m. to 7:59 a.m. the following day.

"Noise disturbance" means any sound which:

1. Disturbs a reasonable person of normal sensitivities;

- 2. Exceeds the sound level limits set forth in this chapter; or
- 3. Is plainly audible as defined in this section. Where no specific distance is set forth for the determination of audibility, references to noise disturbance shall be deemed to mean plainly audible at a distance of two hundred (200) feet from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property.

"Person" means any person, person's firm, association, copartnership, joint venture, corporation, or any entity public or private in nature.

"Plainly audible" means that the sound or noise produced or reproduced by any particular source, can be clearly distinguished from ambient noise by a person using his/her normal hearing faculties.

"Public right-of-way" means any street, avenue, boulevard, sidewalk, bike path or alley, or similar place normally accessible to the public which is owned or controlled by a governmental entity.

"Public space" means any park, recreational or community facility, or lot which contains at least one building that is open to the general public during its hours of operation.

"Residential" means all uses of land primarily for dwelling units, as well as hospitals, schools, colleges and universities, and places of religious assembly.

"Sound" means an oscillation in pressure, particle displacement, particle velocity or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium capable of producing an auditory impression. The description of sound may include any characteristic of such sound, including duration, intensity and frequency.

"Sound level" means the weighted sound pressure level as measured in dB(A) by a sound level meter and as specified in American National Standards Institute (ANSI) specifications for sound-level meters (ANSI Section 1.4-1971 (R1976)). If the frequency weighting employed is not indicated, the A-weighting shall apply.

"Sound level meter" means an instrument, demonstrably capable of accurately measuring sound levels as defined above.

All technical definitions not defined above shall be in accordance with applicable publications and standards of the American National Standards Institute (ANSI). (Ord. 740 § 1.2, 2007)

11.80.030 Prohibited acts.

- A. General Prohibition. It is unlawful and a violation of this chapter to maintain, make, cause, or allow the making of any sound that causes a noise disturbance, as defined in Section <u>11.80.020</u>.
 - B. Sound causing permanent hearing loss.
- 1. Sound level limits. Based on statistics from the Center for Disease Control and Prevention and the National Institute for Occupational Safety and Health, Table 1 and Table 1-A specify sound level limits which, if exceeded, will have a high probability of producing permanent hearing loss in anyone in the area where the sound levels are being exceeded. No sound shall be permitted within the city which exceeds the parameters set forth in Tables 11.80.030-1 and 11.80.030-1-A of this chapter:

Table 11.80.030-1 MAXIMUM CONTINUOUS SOUND LEVELS*

Duration per Day	
Continuous Hours	Sound level [db(A)]
8	90
6	92
4	95
3	97

2	100
1.5	102
1	105
0.5	110
0.25	115

* When the daily sound exposure is composed of two or more periods of sound exposure at different levels, the combined effect of all such periods shall constitute a violation of this section if the sum of the percent of allowed period of sound exposure at each level exceeds 100 percent

Table 11.80.030-1A MAXIMUM IMPULSIVE SOUND LEVELS

Number of Repetitions per	Sound level	
24-Hour Period	[dB(A)]	
1	145	
10	135	
100	125	

- 2. Exemptions. No violation shall exist if the only persons exposed to sound levels in excess of those listed in Tables 11.80.030-1 and 11.80.030-1A are exposed as a result of:
 - a. Trespass;
 - b. Invitation upon private property by the person causing or permitting the sound; or
 - c. Employment by the person or a contractor of the person causing or permitting the sound.
- C. Nonimpulsive Sound Decibel Limits. No person shall maintain, create, operate or cause to be operated on private property any source of sound in such a manner as to create any nonimplusive sound which exceeds the limits set forth for the source land use category (as defined in Section 11.80.020) in Table 11.80.030-2 when measured at a distance of two hundred (200) feet or more from the real property line of the source of the sound, if the sound occurs on privately owned property, or from the source of the sound, if the sound occurs on public right-of-way, public space or other publicly owned property. Any source of sound in violation of this subsection shall be deemed prima facie to be a noise disturbance.

Table 11.80.030-2 MAXIMUM SOUND LEVELS (IN dB(A)) FOR SOURCE LAND USES

Residential		Commercial	
Daytime	Nighttime	Daytime	Nighttime
60	55	65	60

- D. Specific Prohibitions. In addition to the general prohibitions set out in subsection A of this section, and unless otherwise exempted by this chapter, the following specific acts, or the causing or permitting thereof, are regulated as follows:
- 1. Motor Vehicles. No person shall operate or cause to be operated a public or private motor vehicle, or combination of vehicles towed by a motor vehicle, that creates a sound exceeding the sound level limits in Table 11.80.030-2 when the vehicle(s) are not otherwise subject to noise regulations provided for by the California Vehicle Code.

- 2. Radios, Televisions, Electronic Audio Equipment, Musical Instruments or Similar Devices from a Stationary Source. No person shall operate, play or permit the operation or playing of any radio, tape player, television, electronic audio equipment, musical instrument, sound amplifier or other mechanical or electronic sound making device that produces, reproduces or amplifies sound in such a manner as to create a noise disturbance. However, this subsection shall not apply to any use or activity exempted in subsection E of this section and any use or activity for which a special permit has been issued pursuant to Section <u>11.80.040</u>.
- 3. Radios, Electronic Audio Equipment, or Similar Devices from a Mobile Source Such as a Motor Vehicle. Sound amplification or reproduction equipment on or in a motor vehicle is subject to regulation in accordance with the California Vehicle Code when upon the public right-of-way. When upon public space or publicly owned property other than the public right-of-way or upon private property open to the public, sound amplification or reproduction equipment shall not be operated in such a manner that it is plainly audible at a distance of fifty (50) feet in any direction from the vehicle.
- 4. Portable, Hand-Held Music or Sound Amplification or Reproduction Equipment. Such equipment shall not be operated on a public right-of-way, public space or other publicly owned property in such a manner as to be plainly audible at a distance of fifty (50) feet in any direction from the operator.
 - 5. Loudspeakers and Public Address Systems.
- a. Except as permitted by Section <u>11.80.040</u>, no person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any commercial purpose:
 - 1. Which produces, reproduces or amplifies sound in such a manner as to create a noise disturbance; or
 - 2. During nighttime hours on a public right-of-way, public space or other publicly owned property.
- b. No person shall operate, or permit the operation of, any loudspeaker, public address system or similar device, for any noncommercial purpose, during nighttime hours in such a manner as to create a noise disturbance.
- 6. Animals. No person shall own, possess or harbor an animal or bird that howls, barks, meows, squawks, or makes other sounds that:
 - a. Create a noise disturbance;
- b. Are of frequent or continued duration for ten (10) or more consecutive minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound; or
- c. Are intermittent for a period of thirty (30) or more minutes and are plainly audible at a distance of fifty (50) feet from the real property line of the source of the sound.
- 7. Construction and Demolition. No person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration or demolition work between the hours of eight p.m. and seven a.m. the following day such that the sound there from creates a noise disturbance, except for emergency work by public service utilities or for other work approved by the city manager or designee. This section shall not apply to the use of power tools as provided in subsection (D)(9) of this section.
- 8. Emergency Signaling Devices. No person shall intentionally sound or permit the sounding outdoors of any fire, burglar or civil defense alarm, siren or whistle, or similar stationary emergency signaling device, except for emergency purposes or for testing as follows:
- a. Testing of a stationary emergency signaling device shall not occur between seven p.m. and seven a.m. the following day;
- b. Testing of a stationary emergency signaling device shall use only the minimum cycle test time, in no case to exceed sixty (60) seconds;
- c. Testing of a complete emergency signaling system, including the functioning of the signaling device and the personnel response to the signaling device, shall not occur more than once in each calendar month. Such testing shall only occur only on weekdays between seven a.m. and seven p.m. and shall be exempt from the time limit specified in subsection (D)(8)(2) of this section.
- 9. Power Tools. No person shall operate or permit the operation of any mechanically, electrically or gasoline motor-driven tool during nighttime hours so as to cause a noise disturbance across a residential real property boundary.
- 10. Pumps, Air Conditioners, Air-Handling Equipment and Other Continuously Operating Equipment. Notwithstanding the general prohibitions of subsection a of this section, no person shall operate or permit the operation of any pump, air

conditioning, air-handling or other continuously operating motorized equipment in a state of disrepair or in a manner which otherwise creates a noise disturbance distinguishable from normal operating sounds.

- E. Exemptions. The following uses and activities shall be exempt from the sound level regulations except the maximum sound levels provided in Tables 11.80.030-1 and 11.80.030-1A:
- 1. Sounds resulting from any authorized emergency vehicle when responding to an emergency call or acting in time of an emergency.
 - 2. Sounds resulting from emergency work as defined in Section 11.80.020
- 3. Any aircraft operated in conformity with, or pursuant to, federal law, federal air regulations and air traffic control instruction used pursuant to and within the duly adopted federal air regulations; and any aircraft operating under technical difficulties in any kind of distress, under emergency orders of air traffic control, or being operated pursuant to and subsequent to the declaration of an emergency under federal air regulations.
- 4. All sounds coming from the normal operations of interstate motor and rail carriers, to the extent that local regulation of sound levels of such vehicles has been preempted by the Noise Control Act of 1972 (42 U.S.C. § 4901 et seq.) or other applicable federal laws or regulations
 - 5. Sounds from the operation of motor vehicles, to the extent they are regulated by the California Vehicle Code.
- 6. Any constitutionally protected noncommercial speech or expression conducted within or upon a any public right-of-way, public space or other publicly owned property constituting an open or a designated public forum in compliance with any applicable reasonable time, place and manner restrictions on such speech or expression or otherwise pursuant to legal authority.
- 7. Sounds produced at otherwise lawful and permitted city-sponsored events, organized sporting events, school assemblies, school playground activities, by permitted fireworks, and by permitted parades on public right-of-way, public space or other publicly owned property.
- 8. An event for which a temporary use permit or special event permit has been issued under other provisions of this code, where the provisions of Section 11.80.040 are met, the permit granted expressly grants an exemption from specific standards contained in this chapter, and the permittee and all persons under the permittee's reasonable control actually comply with all conditions of such permit. Violation of any condition of such a permit related to sound or sound equipment shall be a violation of this chapter and punishable as such.
- F. Nothing in this chapter shall be construed to limit, modify or repeal any other regulation elsewhere in this code relating to the regulation of noise sources, nor shall any such other regulation be read to permit the emission of noise in violation of any provision of this chapter. (Ord. 740 § 1.2, 2007)

11.80.040 Special provisions for temporary use and special event permits.

The exemption by permit set forth in Section <u>11.80.030(E)(8)</u> shall be subject to the following requirements and conditions:

- A. The permit application shall include the name, address and telephone number of the permit applicant; the date, hours and location for which the permit is requested; and the nature of the event or activity. It shall also specify the types of sounds and/or sound equipment to be permitted, the proposed duration of such sound, the specific standards from which the sound is to be exempted, and the reasons for each requested exemption.
- B. The permit shall be issued provided the proposed activity meets the requirements of this section and the issuing official determines that the sound to be emitted at the event as proposed would not be detrimental to the public health, safety or welfare, that the event cannot reasonably achieve its legitimate aims and purposes without the exemption and that the sound levels proposed will not unreasonably damage the peace and quiet enjoyment of the lawful users of surrounding properties, nor constitute a public nuisance.
- C. The official issuing the permit may prescribe any reasonable conditions or requirements he/she deems necessary to minimize noise disturbances upon the community or the surrounding neighborhood, and/or to protect the health, safety or welfare of the public, including participants in the permitted event, including use of mufflers, screens or other sound-attenuating devices.
 - D. Any permit granted must be in writing and shall contain all conditions upon which the permit shall be effective.

- E. No more than six events requiring a sound limit exemption may be held at any particular location upon privately owned or controlled property per calendar year, provided further that the number of events shall not exceed the number permitted under the regulations for the type of permit issued. For purposes of this subsection, "location" means a legal parcel of real property or a complete shopping or commercial center or mall sharing common parking and access even if comprised of multiple legal parcels.
- F. The exemption from sound limits under such permit shall not exceed maximum period of four hours in one twenty-four (24) hour day.
- G. The permit will only be granted for hours between nine a.m. and ten p.m. on all days other than Friday and Saturday; and, on Friday and Saturday, between the hours of nine a.m. and one a.m. of the following day, except in the following circumstances:
- 1. A permit may be granted for hours between nine a.m. on New Year's Eve and one a.m. the following day (New Year's Day).
- 2. A permit may be granted for hours between nine a.m. and two a.m. the following day if there are no residences, hospitals, or nursing homes within a 0.5 mile radius of the property where the function is taking place.
- H. Functions for which the permits are issued shall be limited to a continuous airborne sound level not to exceed seventy (70) dB(A), as measured two hundred (200) feet from the real property boundary of the source property if on private property, or from the source if on public right-of-way, public space or other publicly owned property. (Ord. 740 § 1.2, 2007)

11.80.050 Measurement or assessment of sound.

A. Measurement With Sound Meter.

- 1. The measurement of sound shall be made with a sound level meter meeting the standards prescribed by ANSI Section 1.4-1983 (R2006). The instruments shall be maintained in calibration and good working order. A calibration check shall be made of the system at the time of any sound level measurement. Measurements recorded shall be taken so as to provide a proper representation of the source of the sound. The microphone during measurement shall be positioned so as not to create any unnatural enhancement or diminution of the measured sound. A windscreen for the microphone shall be used at all times. However, a violation of this chapter may occur without the occasion of the measurements being made as otherwise provided.
 - 2. The slow meter response of the sound level meter shall be used in order to best determine the average amplitude.
- 3. The measurement shall be made at any point on the property into which the sound is being transmitted and shall be made at least three feet away from any ground, wall, floor, ceiling, roof and other plane surface.
- 4. In case of multiple occupancy of a property, the measurement may be made at any point inside the premises to which any complainant has right of legal private occupancy; provided that the measurement shall not be made within three feet of any ground, wall, floor, ceiling, roof or other plane surface.
- 5. All measurements of sound provided for in this chapter will be made by qualified officials of the city who are designated by the city manager or designee to operate the apparatus used to make the measurements.
- B. Assessment Without Sound Level Meter. Any police officer, code enforcement officer, or other official designated by the city manager or designee who hears a noise or sound that is plainly audible, as defined in Section 11.80.020, in violation of this chapter, may enforce this chapter and shall assess the noise or sound according to the following standards:
- 1. The primary means of detection shall be by means of the official's normal hearing faculties, not artificially enhanced.
- 2. The official shall first attempt to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates so that the official can readily identify the offending source of the sound or noise and the distance involved. If the official is unable to have a direct line of sight and hearing to the vehicle or real property from which the sound or noise emanates, then the official shall confirm the source of the sound or noise by approaching the suspected vehicle or real property until the official is able to obtain a direct line of sight and hearing, and confirm the source of the sound or noise that was heard at the place of the original assessment of the sound or noise.

Moreno Valley Municipal Code

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<u>Title 8 BUILDINGS AND CONSTRUCTION</u>
<u>Chapter 8.21 GRADING REGULATIONS</u>

8.21.050 Grading permit requirements.

A. Application for Permit.

- 1. The application for a grading permit shall be made on a form as provided by the city engineer. All required discretionary approvals under the zoning ordinance and municipal code must be obtained prior to issuance of a grading permit.
- 2. No grading permit for a development project subject to approval by the planning commission, city council or administrative approval process shall be issued until such commission, council or administrative process has approved the grading concept as part of the discretionary approval process. Any application for a grading permit which effects environmentally sensitive areas shall contain information showing that the proposed grading will be accomplished without significant harm to the environment or appropriate environmental mitigation measures that have been identified within an environmental impact report for the proposed site have been complied with.
 - B. Responsibility of Land Owners.
- 1. It is unlawful for any persons owning, leasing, occupying or having charge of any real property in the city to stockpile, deposit, or allow the placement, construction or deposition of earth material on any real property in excess of fifty (50) cubic yards without first obtaining a grading permit as hereinafter described (unless exempt as noted in Section 8.21.020(A)(1) through (11), exceptions). Processing of said earth material must result in a relative compaction of at least ninety (90) percent of the maximum density compaction of the surrounding material, unless otherwise provided for as part of an approved grading plan.
- 2. Clearing, brushing and grubbing of vegetation done in preparation of land development shall not be undertaken until all discretionary approvals for the land development project have been issued and a grading permit for the project has been obtained. For the purposes of this section, land development shall be defined as any use of real property for which discretionary approval is required as further defined in the this code.
- 3. A grading permit issued by the city engineer is required prior to any grading or clearing and grubbing operations on:
 - a. Previously undisturbed land; or
 - b. Land covered by native vegetation; or
- c. Land which has not been used for agricultural purposes for three years immediately prior to the initiation of a grading operation for the purpose of conducting agricultural activities.

A grading permit may be issued by the city engineer, prior to discretionary approval, if the city engineer, in cooperation with the planning official, determines that the grading and/or agricultural operation will not cause significant damage to any environmentally sensitive areas nor cause the elimination of any significant wildlife habitat for riparian area.

- 4. This section shall not regulate routine landscape maintenance, the removal of dead or diseased trees or shrubs or the removal of vegetation upon the order of the fire marshal for the elimination of a potential fire hazard.
 - C. Types of Grading Permits.
- 1. Either a mass grading permit, borrow site permit, rough grading permit, preliminary grading permit, precise grading permit or a stockpile permit all as defined in Section <u>8.21.040</u> of this chapter may be issued for grading work upon completion of a proper application and approval by the city engineer.
- 2. Building permits may be issued for a site graded under an approved grading plan and valid grading permit upon completion and approval of rough grade and geotechnical inspection as specified in Section 8.21.170 of this chapter. Building permits for construction of model homes may be issued for the model home sites only, prior to completion of rough grading for the site, provided that rough grading has been completed and approved as noted for the model home sites.

- 3. Building permits shall not be issued for a site graded under a preliminary grading permit until a new precise grading plan has been approved and a permit has been issued and the provisions as noted above have been satisfied.
 - D. Stockpile Permits.
- 1. A temporary stockpile permit is subject to conditions which may include, but are not limited to, the following items: a stockpile plan prepared by a registered civil engineer, an erosion control plan prepared by a registered civil engineer, fencing, hydroseeding or other maintenance requirements. Other conditions may be established, even after the permit has been issued, in the interest of public health, safety or welfare, and shall be as determined by the city engineer.
- 2. An indeterminate stockpile permit may be issued for soil that is to be used for the future development of the stockpile site where there is no current project, or for storage of soil for current or future sale, or for some other purpose as stated by the property owner. Requests for indeterminate stockpile permits will be reviewed on a case-by-case basis. Such requests may be considered to be the establishment of a business and may require review by other city department or divisions and shall be subject to all of the conditions of approval for such projects. An indeterminate stockpile permit is subject to all of the same requirements as a temporary stockpile permit.
- E. Grading Permit Application. A grading permit application shall consist of the following items and forms completed and signed by the applicant or his/her representative, unless otherwise specified by the city engineer:
 - 1. Application form;
 - 2. Four sets of grading plans;
 - 3. Two copies of a preliminary soils report (see subsection (M)(1) of this section);
 - 4. Two copies of a preliminary geology report if applicable (see subsection (M)(2) of this section);
 - 5. Two sets of erosion control plans;
 - 6. Payment of the grading plan check and inspection fees.

The city engineer will inspect the project site as necessary and determine whether additional reports or other data are required prior to issuance of a grading permit. The city engineer will notify the applicant of his or her determination.

- F. Grading Plan Clearances. The city engineer shall notify the applicant when clearance is required for the project from other departments or divisions within the city as well as clearance required from other agencies. All required clearances from other departments, divisions or outside agencies shall be the responsibility of and obtained by the applicant prior to issuance of the grading permit. The city engineer will not notify the applicant for South Coast Air Quality District (SCAQMD) required clearances and permits.
 - G. Data to Accompany Application.
- 1. A grading plan, approved and signed by a California registered civil engineer, soils engineer and engineering geologist shall accompany each application for a grading permit, unless waived by the city engineer. The grading plans shall be prepared on twenty-four (24) inch by thirty-six (36) inch Mylar film with a standard city title block, and shall be drawn in ink. The plans shall show the original and designed finish contours, spot elevations, building pads, public improvements, slope ratios, proposed drainage facilities, protective fencing, retaining walls and any structures or buildings on adjacent properties within fifteen (15) feet of the common property lines.
- 2. Unless waived by the city engineer, each application for a grading permit shall be accompanied by supporting data consisting of a soils engineering report, engineering geology report, and the grading plans and specifications. All such plans shall be drawn to engineering scales as approved by the city engineer. The title sheet of the plan set shall contain the names, addresses and phone numbers of the site owner, the civil engineer responsible for the plans preparation, the project soil engineer and engineering geologist, including registration numbers. The title sheet shall also contain a locality sketch of the project site.
- 3. A statement of quantities shall be furnished, giving the estimated cubic yards of excavation, embankment, fill, and shrinkage or swell factor. Also, types of ditches and down drains, lineal feet and sizes of various types of pipe, the amount of rock to be used for rip-rap or slope protection, the lineal feet of fencing and any other pertinent information useful in determining the extent of the proposed work.
- 4. The grading plans shall show scaled sections of all stabilization fills, buttress fills, keyways and benching for fill placement.

- H. Grading Plan Check. All grading plans submitted to the city will be checked for conformance with the provisions of this chapter, conditions of approval, the city of Moreno Valley Municipal Code, applicable specific plans, other city ordinances, rules and regulations, all applicable federal and state requirements, 2010 California Code of Regulations Title 24, Chapter 11 accessibility requirements, city technical requirements and plan requirements, and any other applicable requirements for the development.
- I. Mass Grading Plans, Rough Grading Plans, Stockpile Plans, Borrow Site Plans and Preliminary Grading Plans. The plans shall include, but not be limited to, the following information.
 - 1. Vicinity map of the site;
- 2. Property limits clearly labeled or otherwise identified, accurate contours of existing ground and details of terrain, and area of drainage a minimum of fifteen (15) feet beyond the property limits (spot elevations may be used on flatland sites);
 - 3. Prominent existing or natural terrain features;
- 4. Limiting dimensions, elevations of finish contours to be achieved by the grading, proposed drainage devices, and related construction;
- 5. Details (plan and section) of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with, or as part of the proposed work, together with a map showing the drainage area and estimated runoff from the area served by the drains;
- 6. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings of structures on land of adjacent owners which may be affected by the proposed grading operations;
- 7. If the grading project includes the movement of earth material to or from the site in an amount considered substantial by the city engineer, the permittee shall submit a haul route for review and approval by the public works department, land development division. The city engineer may prescribe as a condition of the grading permit and submitted haul route, alternate routes or special requirement in consideration on the possible impact on the adjacent community environment or effect on the public right-of-way itself;
- 8. Additional plans, drawings, calculations, environmental impact information, or other reports and information required by the city engineer.
- J. Precise Grading Plans. The plans shall include of the information required in subsection I of this section plus the footprint or allowable building area of all proposed structures (including appurtenances), setback distances between structures and top or toe of slopes, setback distances between structures and property lines, detailed finish grade and finish floor elevations, flow lines for lot drainage including spot elevations for the drainage swales, details for building footings and side yard swale relationship (including extra height of or deepened footings), and all proposed PCC flatwork and PCC/AC driveways.
- K. Grading Plan Correction Sheet. A grading plan standards and correction sheet which is used as the basis for plan checking, is available from the Public Works Department, Land Development Division which identifies the items typically required on grading plans depending on site conditions.
- L. Geotechnical Reports. A soil engineering and engineering geology report shall be required for all grading projects unless otherwise waived by the city engineer. The reports shall include information useful to the site and any additional information required by the city engineer. Recommendations included in the reports and approved by the city engineer, shall be incorporated into the grading plans and specifications. The building official may require a soil report of additional information related to the building structure in accordance with the California <u>Code of Regulations</u> Title 24 (IBC).
- M. Geotechnical Report Standards. Two copies of each geotechnical report required in subsection L of this section, shall be submitted as part of the application for a grading permit. Each report shall contain information applicable to the project as shall be prepared in accordance with generally accepted geotechnical engineering practice. Recommendations contained in the approved reports shall be incorporated into the grading plans and specifications and shall become conditions of the grading permit.
- 1. Preliminary Soil Report. Soil engineering reports shall be required for all residential subdivisions, commercial or industrial development projects, multi-residential projects, and similar developments for which a grading permit is required. Soil reports shall also be required for grading or building permits on single lot projects when specified by the city engineer or building official. The preliminary (initial) soil engineering report shall include information and data regarding the nature, distribution, and physical and chemical properties of existing soils, conclusions as to the adequacy

of the site for the proposed grading, recommendations for general and corrective grading procedures, foundation and pavement design criteria, and shall provide other recommendations, as necessary, for the project grading and development.

- 2. Preliminary Engineering Geology Report. Engineering geologic reports shall be required for all developments on hillside sites where geologic conditions are considered to have a substantial effect on existing and/or future site stability. This requirement may be extended to other sites as required by the city engineer. The preliminary (initial) engineering geology report shall include a comprehensive description of the site topography and geology including, where necessary, a geologic map; and opinion as to the adequacy of the proposed development from an engineering geologic standpoint; and opinion as to the extent that known or as reasonably should be known instability on adjacent properties may adversely effect the project; a description of the field investigation and findings; conclusions regarding the effect of geologic conditions on the proposed project; and specific recommendations for plan modification, corrective grading and/or special techniques and systems to facilitate a safe and stable development; and shall provide other recommendations as necessary for the project grading and development. The preliminary engineering geology report may be combined with the soil engineering report.
- 3. Seismicity Report. A seismicity report as determined by the city engineer, may be required as a condition for issuance of a grading permit and/or building permit for all residential subdivisions, and for commercial or industrial developments, and shall be required as a condition of development for all essential facilities (as defined in the California Building Code) or as determined by the city engineer, building official or planning official. Additionally, sites containing earthquake-sensitive earth materials and/or sites that are located on or near potentially active or active faults are required to submit a seismicity report as a condition for issuance of a grading permit. The report shall be prepared by an engineering geologist, geophysicist, or a civil engineer with expertise in earthquake technology and its application to buildings or other civil engineering works. The scope of the report shall be commensurate with the proposed development and shall reflect the latest available and accepted technological recommendations related to seismicity. The seismicity report may be combined with the soil and engineering geology reports.
- N. Import and Export of Earth Material. Where an excess of five thousand (5,000) cubic yards of earth material for a project site is moved on public roadways to or from the project site as part of the grading operations, all of the following requirements shall apply:
- 1. Either water of dust preventative spray material (or both) shall be consistently applied for prevention of dust resulting from the loading or transportation of earth to or from the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way, used for transporting materials, in a condition free of dust, earth, or debris attributed to the grading operations.
- 2. Loading and transporting of earth materials to or from the site must be accomplished within the limitations established in subsection O of this section.
 - 3. Access roads to the site shall be only at points designated on the approved grading plans.
- 4. At a minimum, the first fifty (50) feet of access road adjacent to the intersection with the public roadway shall have a grade not to exceed five percent. There must be a three hundred (300) foot clear, unobstructed sight distance to the intersection from both the public roadway and the access road. If the five percent grade or three hundred (300) foot sight distance requirements can not be obtained due to site constraints, then flagman shall be posted at the access road and shall remain for the entire duration of material transportation operations.
- 5. A stop sign conforming to the requirements of the California <u>Vehicle Code</u> shall be posted at the exit of the access road to the public roadway.
- 6. Advanced warning signs along with traffic control and safety devices shall be reviewed and approved by the city engineer and shall be posted on the public roadway in the vicinity of the access intersection as required by the current State of California Department of Transportation "Manual of Traffic Control—Warning Signs, Lights and Devices for Use in Performance of Work Upon Highways." The size, shape, color, number, spacing, and other details of all such signs and devices shall conform to the standards contained therein and in the current state of California Department of Transportation "Traffic Manual." The advanced warning signs and other devices shall be covered or removed when the access intersection is not in use.
- O. Time of Grading Operations. Grading and equipment operations shall only be completed between the hours of seven a.m. to seven p.m. Monday through Friday, excluding holidays and from eight a.m. to four p.m. on Saturday. The city engineer may, however, permit grading or equipment operations before or after the allowable hours of operation if he

or she determines that such operations are not detrimental to the health, safety, or welfare of residents or the general public. Permitted hours of operations may be shortened by the city engineer's finding of a previously unforeseen effect on the health, safety, or welfare of the surrounding community.

- P. Responsibility of Permittee. It shall be the responsibility of the permittee to be knowledgeable of the conditions and/or restrictions of the grading permit as outlined in applicable sections of this chapter, and as contained on the approved grading plans and in the approved geotechnical report(s). It shall also be the responsibility of the permittee to be knowledgeable with the obvious and accessible location on the site, and with a copy of the grading plans bearing the stamp or signature of approval by the city engineer. The applicant will be responsible for obtaining all clearances and permits, if any, directly from the South Coast Air Quality Management District (SCAQMD) prior to beginning grading.
- Q. Haul Routes. Where excavation of embankment material is imported or exported from one grading site to another, over public streets, whether or not either site is otherwise subject to grading permit requirements, the city engineer may specify the route to be used in transportation of the materials on public streets.
- 1. Deviation from the designated haul route shall constitute a violation of the condition of the permit issued under this chapter. When the city engineer does specify a route, he or she shall do so in writing on the permit document, and shall immediately notify the traffic division of the public works department as well as the traffic division of the city police department, that said haul route has been specified and approved.
- 2. The city engineer may further specify load limits where, in his or her opinion, the standard load capacity of vehicles used in such hauling would cause excessive damage to streets on the designated route. Any grading or hauling contractor or project site owner/permittee, moving earth materials in violation of the chapter, shall be financially responsible for any damage to the public streets caused by the hauling vehicles, and shall pay to the city of Moreno Valley the cost, as determined by the city engineer, of repairing such damage, or shall repair the damage in question to the satisfaction of the city engineer.
- 3. At least twenty-four (24) hours before hauling is to commence, the applicant shall be required to notify the city of Moreno Valley public works department, traffic division, and land development division as well as the city police department, traffic division. The permit may specify other necessary conditions or restrictions, where the use of public streets would disrupt the normal traffic activities or cause a public inconvenience.
- R. Debris on Public Streets. <u>Vehicle Code</u> Section 23112(b) forbids the placing, dumping or depositing of dirt and rocks on public streets or any portion of the public right-of-way. All vehicles engaged in hauling materials under the provisions of this chapter, shall refrain from depositing dirt or debris on public streets by any means, including but not limited to, spillage from the bed of a truck or other vehicle and debris collected on the wheels of the haul vehicle. The city engineer may require a cash deposit to insure the clean-up of public streets.
- S. Clean-Up. The permittee conducting any earth-moving operation under this chapter which requires vehicles to haul earth materials, including but not limited to, earth, mud, rock or other materials, on any public streets shall be responsible for the complete removal of such materials if spilled, dumped or deposited on a public street within twenty-four (24) hours of noted spill, dumping or deposition. If the permittee fails to remove such spillage, dumping or deposited material within the noted time frame, and it is necessary for the city to complete the removal, the permittee and/or property owner from where the material was removed from or deposited to, shall be liable to pay the city the full cost of such removal work. A cash deposit may be required to insure cleanup of public streets.
- T. Dust Control. The contractor or permittee conducting any earth-moving or grading operation under this chapter shall be responsible for controlling dust at all times. The owner, contractor and permittee shall be responsible for implementing any and all Best Management Practices (BMPs) for all grading and earth-moving operations in accordance with the National Pollutant Discharge Elimination System (NPDES) and as required by South Coast Air Quality Management District (SCAQMD).
- U. Protection of Adjoining Property. Each adjacent owner is entitled to the lateral and subjacent support which his/her land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for purposes of construction or improvement, under the following conditions:
- 1. Any owner of land or lessee intending to permit or to make an excavation greater than ten (10) feet in depth within fifty (50) feet of his or her property line(s) shall give reasonable notice to the owner or owners of land abutting the property line(s) affected by such excavation, stating the depth for which such excavation is intended to be made and when the excavation will begin.

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APPENDIX 5.1:

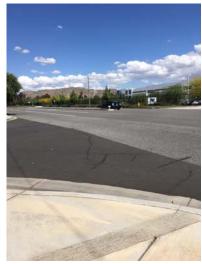
STUDY AREA PHOTOS



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JN:13447 Study Area Photos



L1_E 33, 53' 18.270000", 117, 14' 15.180000"



L1_S 33, 53' 18.230000", 117, 14' 15.400000"



L2_E 33, 52' 50.980000", 117, 14' 5.120000"



L1_N 33, 53' 18.000000", 117, 14' 13.060000"



33, 53' 18.280000", 117, 14' 15.400000"



12_N 33, 52' 51.000000", 117, 14' 5.120000"

JN:13447 Study Area Photos



33, 52' 51.000000", 117, 14' 5.100000"



33, 52' 51.010000", 117, 14' 5.100000"



L3_E 33, 52' 34.370000", 117, 14' 4.960000"



L3_N 33, 52' 34.820000", 117, 14' 5.430000"



L3_S 33, 52' 34.370000", 117, 14' 4.880000"



L3_W 33, 52' 34.370000", 117, 14' 4.960000"

JN:13447 Study Area Photos



L4_E 33, 52' 58.580000", 117, 14' 28.880000"



L4_S 33, 53' 0.760000", 117, 14' 36.300000"



L4_N 33, 52' 58.560000", 117, 14' 28.880000"



L4_W 33, 53' 0.820000", 117, 14' 36.300000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS



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Date: Wednesday, May 20, 2020 Project: Meridian Park D-1

Location: L1 - Located north of the Project site on Iris Avenue near existing single-family residential homes at 24307 Carman

Meter: Piccolo II

JN: 13447 Analyst: P. Mara

Lane.

						Lane.	Hourly L ea	dBA Readings	(unadjuste	d)							
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85.0 80.0																	
R 80.0 75.0 70.0 65.0 60.0	i + - +																
5 70.0	3 🚞																
<u>_</u> 60.0				65.8		∞i <mark>4</mark>	<u>စ်</u> —	69.0	- <u>0</u>		i — rū	4.6	8.4	— <mark>∞</mark>	<u>r.</u> 9	2 7	
≟ 55.0	59.6	4. 8.	6.0	65	79	64 64 64 64 64 64 64 64 64 64 64 64 64 6	2	<u>65</u>	<mark>65</mark>		g 72	99	9	64	63.6	63.	8.0
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= 40.0																	
	0	1 2	3	4 5	6	7 8	9	10 11	12	13 1	4 15	16	17	18	19 20	21 22	23
	ŭ		J	. 3	· ·	, 0	J	Hour Be		10 1				10	13 20		-5
Timeframe	Hour	L _{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L509	%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	59.6	71.6	51.4	71.1	70.2	66.8	63.7	56.7	53.		52.1	51.9	51.6		10.0	69.6
	1	59.4	71.1	52.0	70.5	69.6	66.1	63.5	57.5	54		52.5	52.4	52.1		10.0	69.4
	2	57.8	69.7	49.2	69.2	68.2	65.0	62.6	55.1	51.		49.8	49.6	49.3	57.8	10.0	67.8
Night	3	60.9	72.4	49.7	71.9	71.0	67.9	66.1	59.4	53.	9	50.6	50.3	49.9	60.9	10.0	70.9
Nigitt	4	63.1	74.4	48.2	73.9	73.0	70.5	68.7	61.6	54.	7	49.3	48.8	48.3	63.1	10.0	73.1
	5	65.8	77.0	49.9	76.4	75.5	73.3	71.5	64.5	58.		51.4	50.6	50.1		10.0	75.8
	6	64.2	74.9	47.4	74.5	73.6	71.2	69.7	63.8	58.0		49.1	48.3	47.6		10.0	74.2
	7	64.8	75.3	45.1	74.8	74.0	71.9	70.4	64.4	57.		47.0	46.0	45.3		10.0	74.8
	8	64.4	74.6	46.1	74.2	73.5	71.7	70.2	63.9	56.		47.9	46.8	46.2		0.0	64.4
	9	64.9	75.8	47.4	75.3	74.4	72.3	70.6	64.2	57.		49.2	48.4	47.6		0.0	64.9
	10	69.0	82.1 77.5	48.7	81.8	80.9	76.8	72.7	64.8	58.		51.2	50.0	48.9		0.0	69.0
	11 12	65.5 65.0	77.7	47.8 46.5	76.9 76.9	75.9 75.6	72.8 71.9	70.5 69.9	63.9 62.5	57. 56.		49.5 49.9	48.7 47.7	48.1 46.7		0.0 0.0	65.5 65.0
Day	13	63.8	77.7	47.2	73.7	73.6	71.9	69.4	63.5	58.		50.0	48.3	47.4		0.0	63.8
Day	14	65.4	77.0	48.7	76.6	75.7	70.7	70.4	63.8	58.		50.9	49.9	49.1		0.0	65.4
	15	64.5	76.6	48.5	76.1	75.1	71.6	69.0	63.2	57.		50.4	49.5	48.7		0.0	64.5
	16	66.4	78.1	50.3	77.6	76.6	73.7	71.9	64.2	59.		52.7	51.5	50.5		0.0	66.4
	17	68.4	81.8	50.1	81.2	80.0	75.3	71.7	65.2	60.		52.7	51.4	50.3	68.4	0.0	68.4
	18	64.8	75.5	48.9	75.0	74.2	72.0	70.1	64.3	58.	7	51.5	50.3	49.1	64.8	0.0	64.8
	19	64.7	76.7	48.1	76.0	74.9	71.9	70.0	63.3	57.		50.2	49.2	48.3	64.7	5.0	69.7
Evening	20	63.6	76.4	50.4	75.9	74.4	70.3	67.7	61.4	56.		51.6	51.1	50.6		5.0	68.6
	21	62.2	73.6	50.1	73.2	72.3	69.6	67.5	60.3	55.4		51.2	50.8	50.3		5.0	67.2
Night	22	63.2	75.7	49.8	75.1	74.0	70.6	68.0	60.2	54		50.9	50.4	50.0		10.0	73.2
	23	60.8	73.5	50.5	73.0	71.9	68.3	65.0	57.3	53.		51.1	50.9	50.7		10.0	70.8
Timeframe	Hour	63.8	74.1	46.1	L1%	L2%	L5% 70.7	L8% 69.0	L25 % 62.5	L50 9		47 .9	L95% 46.8	L99%		L _{eq} (dBA)	
Day	Min Max	63.8 69.0	82.1	50.3	73.7 81.8	72.9 80.9	76.7 76.8	72.7	65.2	60.		52.7	51.5	46.2 50.5	24-110111	Daytime	Nighttime
Energy	Average	66.0		erage:	76.8	75.9	70.8	70.6	64.0	58.		50.5	49.3	48.4		CE C	62.6
	Min	62.2	73.6	48.1	73.2	72.3	69.6	67.5	60.3	55.4		50.2	49.2	48.3	n/i n	65.6	62.6
Evening	Max	64.7	76.7	50.4	76.0	74.9	71.9	70.0	63.3	57.		51.6	51.1	50.6		Hour CNEL (d	IBA)
Energy	Average	63.6		erage:	75.0	73.8	70.6	68.4	61.7	56.		51.0	50.3	49.7			
Night	Min	57.8	69.7	47.4	69.2	68.2	65.0	62.6	55.1	51.	7	49.1	48.3	47.6		69.7	
	Max	65.8	77.0	52.0	76.4	75.5	73.3	71.5	64.5	58.		52.5	52.4	52.1		03./	
Energy A	Average	62.6	Av	erage:	73.1	72.1	69.2	66.9	60.0	55.	1	50.4	49.9	49.5			



Date: Wednesday, May 20, 2020

L2 - Located east of the Project site on Indian Street near

Meter: Piccolo II

JN: 13447 existing single-family residential home at 16537 Libra Lane. Project: Meridian Park D-1 Analyst: P. Mara Hourly L_{ea} dBA Readings (unadjusted) 80.0 75.0 (dBA) 70.0 65.0 60.0 Hourly 155.0 55.0 45.0 45.0 40.0 63. 63. 9 9 61 59. 59 35.0 3 4 5 6 7 8 9 10 13 18 19 20 21 22 23 0 1 2 11 12 14 15 17 16 **Hour Beginning Timeframe** L_{eq} L max L min L1% L2% L5% L8% L25% L50% L90% L95% L99% Adj. Adj. L ea Hour L_{eq} 65.9 65.3 61.3 0 59.1 56.5 63.6 58.6 58.1 57.2 57.1 56.7 59.1 10.0 69.1 66.2 1 57.3 66.2 52.8 65.9 65.3 63.3 61.5 55.8 55.0 53.6 53.5 53.4 57.3 10.0 67.3 2 54.6 65.4 41.9 64.8 64.4 62.6 61.0 50.8 45.8 42.5 42.2 42.0 54.6 10.0 64.6 3 59.6 71.9 45.5 71.6 70.9 67.9 65.5 69.6 53.7 49.9 46.3 45.9 45.6 59.6 10.0 Night 57.8 67.5 47.3 67.1 66.5 64.6 63.0 57.4 54.0 48.5 47.9 47.4 57.8 10.0 67.8 5 70.0 48.3 69.8 70.2 60.2 69.4 68.1 65.7 59.4 54.3 49.8 49.1 48.4 60.2 10.0 6 58.8 69.2 47.3 68.9 68.3 66.2 63.8 57.8 53.9 48.5 47.9 47.4 58.8 10.0 68.8 58.7 70.1 44.4 69.7 68.9 66.5 64.5 57.0 51.2 46.1 45.2 44.6 58.7 10.0 68.7 8 59.5 71.1 45.3 70.6 70.1 67.5 57.1 51.9 46.1 45.4 59.5 59.5 64.6 46.8 0.0 57.2 9 57.2 68.1 45.1 67.5 66.9 64.7 62.6 50.9 57.2 55.6 46.4 45.8 45.3 0.0 10 60.4 71.2 47.3 70.7 69.9 67.6 65.9 59.1 54.8 49.4 48.5 47.6 60.4 0.0 60.4 11 59.4 70.1 47.1 69.4 68.9 67.0 65.1 57.7 48.9 48.0 47.3 0.0 59.4 54.1 59.4 12 46.5 61.4 71.0 70.5 70.0 68.4 67.1 62.1 55.1 48.0 47.3 46.6 61.4 0.0 61.4 Day 13 58.1 69.4 45.9 68.9 68.2 66.0 63.2 56.4 52.0 47.2 46.6 46.0 58.1 0.0 58.1 14 59.4 69.8 46.7 69.4 68.8 66.7 47.8 46.9 59.4 64.8 58.4 54.6 48.5 59.4 0.0 15 60.5 71.6 48.2 71.1 70.5 67.9 66.3 57.9 54.0 49.6 49.0 48.4 60.5 0.0 60.5 16 48.9 72.6 61.4 73.1 72.0 69.0 66.1 59.1 55.3 50.9 49.8 49.1 61.4 0.0 61.4 17 63.0 74.9 50.6 74.5 73.4 70.6 68.0 60.1 56.6 52.2 51.4 50.8 63.0 0.0 63.0 18 63.4 74.8 50.2 74.4 73.7 71.5 69.6 60.2 55.9 51.7 50.4 0.0 63.4 51.1 63.4 19 76.3 75.3 5.0 64.1 76.9 51.3 71.6 68.4 60.2 56.9 52.9 52.3 51.5 64.1 69.1 **Evening** 20 58.9 67.3 49.8 66.9 63.9 66.6 65.6 64.1 59.0 55.5 51.3 50.7 50.1 58.9 5.0 21 59.0 70.4 47.9 69.9 69.3 49.1 48.6 48.1 59.0 5.0 64.0 66.7 64.3 56.5 52.6 22 69.9 10.0 58.8 46.0 69.5 69.1 67.3 64.8 53.7 50.4 46.9 46.5 46.2 58.8 68.8 Night 23 59.4 72.3 42.6 71.7 71.4 67.5 65.0 52.0 46.2 43.3 43.0 42.7 59.4 10.0 69.4 L_{eq} (dBA) L2% L25% L50% L90% L95% L99% **Timeframe** Hour L1% L5% L8% 68.1 67.5 66.9 64.7 62.6 55.6 50.9 46.4 45.8 45.3 Min 57.2 45.1 24-Hour Daytime **Nighttime** Day Max 63.4 74.9 50.6 74.5 73.7 71.5 69.6 62.1 56.6 52.2 51.4 50.8 60.7 70.9 70.2 67.9 65.7 58.5 54.1 49.1 48.3 47.6 **Energy Average** Average 60.1 60.9 58.7 58.9 48.1 66.9 66.6 65.6 64.1 56.5 52.6 49.1 48.6 Min 67.3 47.9 **Evening** 24-Hour CNEL (dBA) Max 64.1 76.9 51.3 76.3 75.3 71.6 68.4 60.2 56.9 52.9 52.3 51.5 55.0 51.1 50.5 49.9 61.4 Average: 71.0 70.4 68.0 65.6 58.6 **Energy Average** 54.6 65.4 64.8 64.4 62.6 61.0 50.8 45.8 42.5 42.2 42.0 Min 41.9 65.9 Night 60.2 72.3 56.5 71.7 71.4 68.1 65.7 59.4 58.1 56.7 Max 57.2 57.1



63.6

55.6

51.9

48.3

47.8

47.4

Average:

68.5

67.9

65.8

58.7

Energy Average

Date: Wednesday, May 20, 2020

L3 - Located east of the Project site on Indian Street near

Meter: Piccolo II

JN: 13447

existing single-family residential home at 16855 Baltic Court. Project: Meridian Park D-1 Analyst: P. Mara Hourly L_{ea} dBA Readings (unadjusted) 80.0 75.0 80.0 75.0 70.0 65.0 Hourly 155.0 55.0 45.0 45.0 40.0 63. 8 6 61 9 60. S 58 56. 26 56. 55. 35.0 4 5 6 7 8 9 10 13 20 21 22 23 0 1 2 3 11 12 14 15 16 17 18 19 **Hour Beginning Timeframe** L_{eq} L max L min L1% L2% L5% L8% L25% L50% L90% L95% L99% Adj. Adj. L ea Hour L_{eq} 53.3 48.9 57.6 42.6 57.3 56.8 55.0 49.0 45.3 43.2 43.0 42.8 48.9 10.0 58.9 0 1 46.0 55.4 42.3 55.1 54.5 51.3 48.7 44.8 43.7 42.7 42.6 42.4 46.0 10.0 56.0 2 44.2 50.0 42.2 49.6 48.9 47.2 54.2 46.1 44.2 43.4 42.6 42.5 42.3 44.2 10.0 3 51.5 61.9 44.2 61.7 61.1 58.1 56.3 49.8 46.7 44.7 44.6 44.3 51.5 10.0 61.5 Night 53.4 63.8 45.6 63.4 62.9 60.6 58.4 51.3 47.6 46.1 46.0 45.7 53.4 10.0 63.4 5 52.5 63.2 45.9 62.9 62.3 62.5 59.8 57.2 49.7 47.8 46.4 46.2 46.0 52.5 10.0 6 56.8 69.8 44.6 69.5 68.9 64.7 61.0 49.2 46.6 45.2 45.0 44.7 56.8 10.0 66.8 56.1 68.9 42.2 68.7 67.9 64.5 60.8 49.5 44.4 42.7 42.5 42.3 56.1 10.0 66.1 8 63.9 77.7 42.5 77.0 76.1 73.0 67.8 49.5 44.7 43.1 42.8 42.6 63.9 63.9 0.0 9 56.9 69.1 43.4 68.6 68.0 66.1 62.3 44.0 56.9 51.0 46.7 43.8 43.5 56.9 0.0 10 56.8 66.7 45.3 66.4 65.8 63.6 61.4 57.1 52.4 47.0 46.2 45.5 56.8 0.0 56.8 11 56.0 66.8 66.3 65.4 62.3 60.3 56.1 51.8 45.5 44.8 56.0 0.0 56.0 44.6 46.1 12 61.8 70.5 44.7 70.1 69.3 67.2 66.2 62.7 58.9 49.0 46.0 44.9 61.8 0.0 61.8 Day 13 52.0 62.5 44.0 62.1 61.6 58.8 56.5 50.6 47.9 44.7 44.5 44.1 52.0 0.0 52.0 14 56.7 68.8 45.2 68.1 67.1 63.7 61.3 50.7 56.7 56.7 54.6 46.7 46.2 45.4 0.0 15 73.0 60.4 73.6 45.8 72.0 68.2 65.3 54.4 50.9 47.0 46.6 46.1 60.4 0.0 60.4 16 66.5 55.5 46.5 65.7 64.7 61.7 59.5 55.1 51.7 47.5 47.0 46.6 55.5 0.0 55.5 17 58.8 71.2 48.1 70.6 69.6 66.0 63.1 56.0 52.6 49.3 48.8 48.2 58.8 0.0 58.8 18 63.0 74.9 48.4 74.7 74.3 71.7 69.0 56.0 51.7 49.3 49.0 48.6 63.0 0.0 63.0 19 50.1 70.3 54.6 51.2 50.7 50.2 5.0 60.1 71.0 69.4 66.5 64.9 59.8 60.1 65.1 **Evening** 20 56.0 65.2 48.9 64.5 63.9 60.1 49.6 61.9 56.1 53.0 50.1 49.1 56.0 5.0 61.0 21 50.4 58.8 45.8 58.6 58.3 49.8 45.9 5.0 55.4 56.6 55.0 47.7 46.2 46.1 22 10.0 58.6 71.8 45.2 71.2 70.6 66.7 63.3 50.5 47.3 45.6 45.4 45.3 58.6 68.6 Night 23 52.2 64.2 42.8 63.8 63.1 59.7 56.9 49.0 44.8 43.3 43.1 43.0 52.2 10.0 62.2 L_{eq} (dBA) L2% L25% L50% L90% L95% L99% **Timeframe** Hour L1% L5% L8% 52.0 62.5 62.1 61.6 58.8 56.5 49.5 44.7 43.1 42.8 42.6 Min 42.5 24-Hour Daytime **Nighttime** Day Max 63.9 77.7 48.4 77.0 76.1 73.0 69.0 62.7 58.9 49.3 49.0 48.6 59.6 69.3 68.5 65.7 63.0 54.8 50.9 46.7 46.0 45.5 **Energy Average** Average 57.7 58.5 53.9 50.4 58.3 45.9 58.6 56.6 55.0 49.8 47.7 46.2 46.1 Min 58.8 45.8 **Evening** 24-Hour CNEL (dBA) Max 60.1 71.0 50.1 70.3 69.4 66.5 64.9 59.8 54.6 51.2 50.7 50.2 57.1 55.2 51.8 49.2 Average: 64.5 63.8 61.7 60.0 48.8 48.4 **Energy Average** 44.2 50.0 42.2 49.6 48.9 47.2 46.1 44.2 43.4 42.6 42.5 42.3 Min 61.7 Night 58.6 71.8 45.9 71.2 70.6 66.7 63.3 47.8 46.4 46.2 46.0 Max 51.3



Average:

62.3

61.7

58.8

56.2

48.7

45.8

44.3

44.1

43.9

53.9

Energy Average

L4 - Located east of the Project site on Heacock Street near Date: Wednesday, May 20, 2020 JN: 13447 Meter: Piccolo II F&D Distribution Center. Project: Meridian Park D-1 Analyst: P. Mara Hourly L eq dBA Readings (unadjusted) 80.0 75.0 80.0 75.0 70.0 65.0 66.0 68.5 69 69 Hourly 155.0 55.0 45.0 45.0 40.0 40.0 35.0 2 3 4 5 6 7 8 9 10 11 12 13 15 18 19 20 21 22 23 0 1 14 16 17 **Hour Beginning** Timeframe L1% L2% Adj. L _{eq} Hour L_{eq} L_{max} L min L5% L8% L25% L50% L90% L95% L99% L_{eq} Adj. 50.2 78.1 77.4 74.7 72.2 52.2 10.0 0 66.9 78.8 64.8 58.5 51.2 50.4 76.9 66.9 1 64.9 76.6 47.8 76.1 75.1 72.3 70.3 63.1 56.0 48.9 48.4 47.9 64.9 10.0 74.9 2 66.2 77.6 52.3 77.3 76.5 73.5 76.2 71.3 64.7 58.9 52.9 52.6 52.4 66.2 10.0 3 69.1 80.7 51.3 80.1 79.2 76.3 74.2 10.0 79.1 67.7 62.4 53.3 52.1 51.5 69.1 Night 68.7 78.6 54.2 78.1 77.3 75.0 73.6 69.4 63.9 56.6 55.3 54.4 68.7 10.0 78.7 5 70.6 80.8 56.4 80.3 79.4 77.2 75.5 70.8 66.2 58.9 57.7 56.6 70.6 10.0 80.6 77.8 6 68.3 78.3 53.6 77.0 74.8 73.3 68.4 63.9 55.9 54.9 53.9 68.3 10.0 78.3 69.0 78.5 54.4 78.1 77.3 75.3 74.2 69.4 64.5 57.1 55.8 54.6 69.0 10.0 79.0 78.7 77.3 8 68.1 52.2 78.1 75.1 73.6 67.8 62.6 54.9 53.5 52.4 68.1 0.0 68.1 9 77.9 68.1 78.4 52.8 77.2 74.8 73.1 68.0 55.6 54.4 68.1 0.0 68.1 63.1 53.1 10 68.4 80.1 53.8 79.5 78.3 74.9 72.8 67.8 63.3 56.0 54.9 54.0 68.4 0.0 68.4 11 67.6 78.2 54.2 77.8 77.0 74.4 72.4 67.2 62.6 56.2 55.3 54.5 67.6 0.0 67.6 12 83.6 52.8 83.3 82.5 80.4 78.2 70.3 56.2 54.5 72.4 65.5 53.4 72.4 0.0 72.4 Day 13 68.0 78.7 52.0 78.2 77.3 74.7 73.0 67.5 63.1 55.5 53.4 52.2 68.0 0.0 68.0 14 68.6 78.8 53.8 78.3 77.5 75.0 73.4 68.8 54.9 54.0 68.6 0.0 68.6 64.4 56.2 15 79.2 53.1 78.8 78.0 75.4 73.2 68.5 68.3 63.7 55.7 54.5 53.4 68.5 0.0 68.5 16 79.5 78.9 69.4 55.1 78.1 75.8 74.2 69.7 65.4 57.6 56.4 55.3 69.4 0.0 69.4 17 69.5 81.4 54.8 80.7 79.6 76.3 74.2 68.3 64.0 57.1 56.1 55.1 69.5 0.0 69.5 18 67.6 77.8 54.2 77.3 76.4 73.9 72.4 67.9 63.3 56.1 55.2 54.4 67.6 0.0 67.6

	19	66.3	77.0	52.2	76.5	75.7	72.7	71.0	66.1	61.5	54.2	53.2	52.4	66.3	5.0	71.3
Evening	20	66.7	78.3	51.9	77.8	76.9	74.1	71.6	65.1	60.0	53.7	52.8	52.1	66.7	5.0	71.7
	21	67.1	78.9	51.5	78.4	77.5	74.5	72.2	65.2	59.8	52.9	52.1	51.6	67.1	5.0	72.1
Night	22	65.8	76.8	51.6	76.3	75.5	72.4	70.6	65.3	60.1	53.2	52.5	51.7	65.8	10.0	75.8
Nigitt	23	65.0	76.8	48.5	76.3	75.5	72.5	70.3	62.7	57.7	50.0	49.2	48.7	65.0	10.0	75.0
Timeframe	Hour	L_{eq}	L max	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%		L_{eq} (dBA)	
Dav	Min	67.6	77.8	52.0	77.3	76.4	73.9	72.4	67.2	62.6	54.9	53.4	52.2	24-Hour	Daytime	Nighttime
Day	Max	72.4	83.6	55.1	83.3	82.5	80.4	78.2	70.3	65.5	57.6	56.4	55.3	24-H0ui	Duytiiie	Nighttime
Energy	Average	69.0	Ave	rage:	79.0	78.1	75.5	73.7	68.3	63.7	56.1	54.8	53.8	68.3	68.6	67.8
Evening	Min	66.3	77.0	51.5	76.5	75.7	72.7	71.0	65.1	59.8	52.9	52.1	51.6	00.5	00.0	07.8
Evering	Max	67.1	78.9	52.2	78.4	77.5	74.5	72.2	66.1	61.5	54.2	53.2	52.4	24-1	Hour CNEL (d	IBA)
				_												
Energy	Average	66.7		rage:	77.6	76.7	73.8	71.6	65.5	60.5	53.6	52.7	52.0		-	
<u> </u>	Average Min	66.7 64.9			77.6 76.1	76.7 75.1	73.8 72.3	71.6 70.3	65.5 62.7	60.5 56.0	53.6 48.9	52.7 48.4	52.0 47.9		7//	
Energy Night			Ave	rage:				_				_			74.4	
Night	Min	64.9	76.6 80.8	rage: 47.8	76.1	75.1	72.3	70.3	62.7	56.0	48.9	48.4	47.9		74.4	



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS



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	FH	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION MO	DDEL			
Road Nar	rio: Existing W ne: Heacock S ent: n/o Gentia	t.					Name: lumber:		ay Aviation	1	
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Con				L INPUT	s	
• •					Site Con	aitions	(Hara =				
Average Daily		23,451 vehicle	es					Autos:			
	r Percentage:	8.08%				dium Tr					
	Hour Volume:	1,895 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
	ehicle Speed:	50 mph			Vehicle i	Mix					
Near/Far La	ane Distance:	48 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-V		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
** '	ist. to Barrier:	50.0 feet		H	Noise So	ouroo E	lovetion	an /in fi	not)		
Centerline Dist.	to Observer:	50.0 feet		H.	voise 30	Auto		.000	eei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.000			
Observer Height	(Above Pad):	5.0 feet				ry Truck		.004	Grade Ad	li vatena nt	
P	Pad Elevation:	0.0 feet			пеан	ry Truck	s. o	.004	Grade Au	justinent	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in i	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 degre	es		Heav	y Truck	s: 43	.966			
FHWA Noise Mod	lel Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:				0.7	1	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-15.26		0.7	4	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-9.07		0.7	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois			barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leg E	vening	Leq	Night		Ldn	C	NEL
Autos:		9.5	68.6		66.8		60.		69.		70.0
Medium Trucks:	-		64.7		58.3		56.	-	65.	_	65.5
Heavy Trucks:		5.8	75.4		66.3		67.	-	75.	-	76.0
Vehicle Noise:	7	7.1	76.5		69.9		68.	.7	77.	1	77.3
Centerline Distan	ce to Noise C	ontour (in feet)					,		,	
			L	70 (dBA	65	dBA		60 dBA		dBA
			Ldn:		148		320	-	688		1,483
		C	NEL:		153		330)	712		1,534

	FHW	/A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION M	ODEL			
	c: Existing Wit e: Heacock St. t: s/o Iris Av.							Gatew 13445	ay Aviation	n	
	PECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily T	raffic (Adt):	14,212 vehicle	:S					Autos:	15		
Peak Hour F	Percentage:	8.08%				dium Tri					
Peak Ho	our Volume:	1,148 vehicles	6		He	avy Truc	cks (3+	Axles).	15		
	icle Speed:	50 mph		ŀ	Vehicle I	Mix					
Near/Far Lan	e Distance:	48 feet		ŀ		icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	6 12.9%	9.6%	86.23%
Ran	rier Height:	0.0 feet			Me	edium Ti	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-Wa		0.0			F	Heavy Ti	rucks:	86.5%	6 2.7%	10.8%	11.10%
Centerline Dist	t. to Barrier:	50.0 feet		ŀ	Noise So	ource El	evatio	ns (in f	eet)		
Centerline Dist. to	o Observer:	50.0 feet		ŀ		Auto		0.000	,		
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Truck		2.297			
Observer Height (A	Above Pad):	5.0 feet				y Truck		3.004	Grade Ad	liustment	0.0
Pa	d Elevation:	0.0 feet		Ļ						,	
	d Elevation:	0.0 feet		L	Lane Eq				feet)		
R	load Grade:	0.0%				Auto:		1.147			
	Left View:	-90.0 degree				m Truck		3.947			
	Right View:	90.0 degree	:S		Heav	y Truck	s: 4:	3.966			
FHWA Noise Mode	l Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fre		Barrier At		m Atten
Autos:	70.20	-2.34		0.7		-1.20		-4.65		000	0.000
Medium Trucks:	81.00	-17.44		0.7		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-11.24		0.7	-	-1.20		-5.43	0.	000	0.000
Unmitigated Noise							A 17 1- 4		1 -1-		VIE1
VehicleType I	Leq Peak Houl		66.4	Leq E	vening 64.6		Night 58	-	Ldn 67.		VEL 67.8
Medium Trucks:	63.	•	00.4 82.5		56.2		54		63.		63.3
Heavy Trucks:	73.	-	73.2		64.1		65		73.		73.9
Vehicle Noise:	74.		74.3		67.7		66		74.		75.
Centerline Distance	e to Noise Co	ntour (in feet)									
				70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		106		22	9	493	3	1,062
		CI	IEL:		110		23	7	510	1	1.099

	FH	WA-RD-77-108	HIGHW	AY NO	JISE PF	EDICTIC	M MO	DEL			
	: Heacock S					Project N Job Nu			ay Aviatior	1	
SITE S	PECIFIC II	NPUT DATA				NC	DISE N	/ODE	L INPUT	s	
Highway Data				Si	ite Con	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily T	raffic (Adt):	15,260 vehicl	es					Autos:	15		
Peak Hour F	Percentage:	8.08%			Med	dium Truc	ks (2 A	(xles	15		
Peak Ho	ur Volume:	1,233 vehicle	s		Hea	avy Truck	s (3+ A	(xles	15		
Veh	icle Speed:	50 mph		1/4	ehicle N	Niv					
Near/Far Lan	e Distance:	48 feet		-		cleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	. ,
Rarr	ier Height:	0.0 feet			Ме	edium Tru	cks:	84.8%	4.9%	10.3%	2.67
Barrier Type (0-Wa	-	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.8%	11.10
Centerline Dist	to Barrier:	50.0 feet		N	nisa Sn	urce Ele	vation	e (in fa	not)		
Centerline Dist. to	Observer:	50.0 feet		/**	0,36 00	Autos:		000	,		
Barrier Distance to	Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (A	bove Pad):	5.0 feet				y Trucks:		004	Grade Ad	liustmen	t· 0.0
Pad	d Elevation:	0.0 feet			i icav	y Trucks.	0.1	504	0,000,10	jaotimon	0.0
Road	d Elevation:	0.0 feet		Lá	ane Equ	ıivalent E	Distand	ce (in i	feet)		
R	oad Grade:	0.0%				Autos:					
	Left View:	-90.0 degre	es			n Trucks:					
	Right View:	90.0 degre	es		Heav	y Trucks:	43.	966			
FHWA Noise Model	Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Distai		Finite		Fresn	_	Barrier Att		rm Atter
Autos:	70.20			0.71		-1.20		-4.65		000	0.00
Medium Trucks:	81.00			0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.73		-1.20		-5.43	0.	000	0.00
Unmitigated Noise								,			
	.eq Peak Ho			eq Eve		Leq N			Ldn		NEL
Autos:	-	7.7	66.7		64.9		58.9		67.	-	68
Medium Trucks:	-	3.4	62.8		56.5		54.9		63.		63
Heavy Trucks:		4.0	73.5		64.4		65.7		74.		74
Vehicle Noise:		5.2	74.6		68.0		66.8	3	75.	۷	75
_	to Maica C	ontour (in feet)								
Centerline Distance	to Noise C	,		70 dF	RA	65 dl	RA		in dra	5.5	5 dRA
Centerline Distance	to Noise C	,	Ldn:	70 dE	3A 111	65 dl	3A 240	6	60 dBA 517		5 dBA 1.11

Tuesday, December 8, 2020

F	HWA-RD-77-108 F	HIGHWAY	NOISE P	REDICTI	ON MODE	L		
Scenario: Existing Road Name: Heacock Road Segment: s/o Nano	St.				Name: Ga umber: 134	teway Aviat 145	on	
SITE SPECIFIC	INPUT DATA					DEL INPU	TS	
Highway Data			Site Con	ditions	(Hard = 10	, Soft = 15)		
Average Daily Traffic (Adt) Peak Hour Percentage Peak Hour Volume	8.08%	S			Aut icks (2 Axli ks (3+ Axli	,		
Vehicle Speed	50 mph		Vehicle	Mix				
Near/Far Lane Distance	48 feet		Veh	icleType	Da	y Evenin	a N	ight Daily
Site Data					lutos: 77	.5% 12.9	_	9.6% 86.23%
Barrier Height	0.0 feet		М	edium Ti	ucks: 84	.8% 4.9	% 1	0.3% 2.67%
Barrier Type (0-Wall, 1-Berm)	0.0			Heavy Ti	ucks: 86	.5% 2.7	% 1	0.8% 11.10%
Centerline Dist. to Barrier			Noise So	ource El	evations (i	in feet)		
Centerline Dist. to Observer				Autos	0.000)		
Barrier Distance to Observer			Mediu	m Truck:	2.297	7		
Observer Height (Above Pad)			Heav	vy Trucks	s: 8.004	4 Grade	Adjust	ment: 0.0
Pad Elevation	0.0 feet							
Road Elevation	0.0 feet		Lane Eq		Distance	, ,		
Road Grade	0.0%			Autos	3: 44.14	7		
Left View	-90.0 degrees	S	Mediu	m Trucks	3: 43.94	7		
Right View	90.0 degrees	S	Hear	y Truck	3: 43.966	6		
FHWA Noise Model Calculation	ons							
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier i	Atten	Berm Atten
Autos: 70.	20 -43.86	0	.71	-1.20	-4.	.65	0.000	0.000
Medium Trucks: 81.	00 -58.96	0	.74	-1.20	-4.	.87	0.000	0.000
Heavy Trucks: 85.	38 -52.77	0	.73	-1.20	-5.	.43	0.000	0.000
Unmitigated Noise Levels (w	<u>_</u>							
VehicleType Leq Peak F			Evening	,	Night	Ldn		CNEL
		4.9	23.1		17.1		5.7	26.3
		1.0	14.6		13.1	_	1.5	21.8
Heavy Trucks:		1.6	22.6		23.9	-	2.2	32.3
		2.8	26.2		25.0	3	3.4	33.6
Centerline Distance to Noise	Contour (in feet)	7/	0 dBA	65	dBA	60 dBA		55 dBA
	1	dn:	0	00 1	0	UU UDA	1	2
	CN		0		0		1	2

Tuesday, December 8, 2020 Tuesday, December 8, 2020

Scenario: Existing Wi		HIGH	IWAY N	IOISE PI	REDICT	ION MC	DEL			
Road Name: Indian Av. Road Segment: s/o Nandina	,					t Name: lumber:		ay Aviatior	1	
SITE SPECIFIC IN	IPUT DATA			04- 0				L INPUT	s	
Highway Data	40.440		- 1	Site Con	antions	(Hara =				
Average Daily Traffic (Adt): Peak Hour Percentage:	10,148 vehicle 8.08%	es		140	dium T	ucks (2	Autos:			
Peak Hour Percentage: Peak Hour Volume:	820 vehicle					cks (3+				
Vehicle Speed:	45 mph	5			•	CAS (S+	Axies).	15		
Near/Far Lane Distance:	36 feet		١	Vehicle I						
	00 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data						Autos:	77.5%		9.6%	
Barrier Height:	0.0 feet				edium T		84.8%		10.3%	
Barrier Type (0-Wall, 1-Berm):	0.0			,	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dist. to Barrier:	44.0 feet		1	Voise S	ource E	levation	s (in fe	eet)		
Centerline Dist. to Observer:	44.0 feet				Auto		.000	,		
Barrier Distance to Observer:	0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (Above Pad):	5.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justment	0.0
Pad Elevation:	0.0 feet		-				,,			
Road Elevation:	0.0 feet		-	Lane Eq			_ •	reet)		
Road Grade: Left View:	0.0%				Auto m Truck		.460			
	-90.0 degree				m Truck vy Truck		.241			
Right View:	90.0 degree	es		пеан	ry Truck	.5. 40	.202			
FHWA Noise Model Calculation										
VehicleType REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos: 68.46			1.28	-	-1.20		-4.61		000	0.000
Medium Trucks: 79.45			1.3		-1.20		-4.87		000	0.000
Heavy Trucks: 84.25			1.3		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise Levels (with					100	Minht	1	Ldn	-	NEL
VehicleType Leq Peak Hou		64.2	Leq Ev	ening 62.5		Night 56	4	Lan 65.0	_	NEL 65.6
Medium Trucks: 61		60.5		54.2		52.		61.	-	61.3
Heavy Trucks: 72		71.6		62.6		63.		72.5		72.3
		72.6		65.8		64.	-	73.2		73.4
Vehicle Noise: 73										
Vehicle Noise: 73 Centerline Distance to Noise Co	ontour (in feet)								
	ontour (in feet)	70 c	iBA	65	dBA	6	60 dBA	55	dBA
	,) Ldn:	70 c	1BA 72	65	dBA 156		60 dBA 335		dBA 722

	FHW	/A-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION M	ODEL			
Road Nam	o: Existing Wit e: Cactus Av. nt: w/o Heacoc	,						: Gatew : 13445	ay Aviation	1	
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard				
Average Daily	Traffic (Adt):	38,888 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.08%				edium Tri					
Peak H	our Volume:	3,142 vehicles	3		He	avy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	Vehicle	Mix					
Near/Far La	ne Distance:	73 feet		F		icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	6 12.9%	9.6%	86.23%
Rai	rier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.5%	6 2.7%	10.8%	11.10%
Centerline Dis	st. to Barrier:	55.0 feet		- 1	Voise S	ource El	evatio	ns (in f	eet)		
Centerline Dist.	to Observer:	55.0 feet		- F	10,00	Auto:		0.000	000		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustment	. 0 0
Pa	ad Elevation:	0.0 feet		L	i ica	y much	S. 1	3.004	0/440/10	jaotimoni	. 0.0
Roa	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Dista	nce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 4	1.446			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 4	1.232			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 4	1.253			
FHWA Noise Mode	el Calculations	1									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fre	snel	Barrier At	ten Ber	m Atten
Autos:	70.20	2.03		1.13	2	-1.20		-4.67	0.	000	0.000
Medium Trucks:	81.00	-13.06		1.1	5	-1.20		-4.87	0.	000	0.000
Heavy Trucks:	85.38	-6.87		1.1	5	-1.20		-5.38	0.	000	0.000
Unmitigated Noise											
	Leq Peak Hou		_	Leg E		,	Night		Ldn		NEL
Autos:	72.	_	71.2		69.4		63		72.		72.6
Medium Trucks:	67.	-	67.3		60.9			1.4	67.	-	68.
Heavy Trucks:	78.		78.0		68.9			1.2	78.		78.7
Vehicle Noise:	79.	7	79.1		72.5		71	.3	79.	7	79.9
Centerline Distanc	e to Noise Co	ntour (in feet)	1	70 0	VD A	67	dBA		60 dBA		dBA
			Ldn:	700	1BA 244	00	0BA 52		1.131		2.436
			Lan: VEL:		252		52		, .		,
		CI	VEL:		252		54		1,169	,	2,519

Average Daily Traffic (Adt): 23,388 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily New Peak Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily New Peak Near/Far Lane Distance: 50 feet Vehicle Type Day Evening Night Daily New Peak Near Pe		FH\	WA-RD-77-108	HIGH	IWAY N	OISE P	REDICT	ON MC	DEL			
Average Daily Traffic (Adf): 23,388 vehicles Peak Hour Percentage: 8.08% Reak Hour Volume: 1,890 vehicles Vehicle Speed: 40 mph Vehicle Type Day Evening Night Daily Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Type Day Evening Night Daily Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Type Day Evening Night Daily Near/Far Lane Distance: 50 feet Vehicle Mix Vehicle Type Day Evening Night Daily Night Daily Night Daily Night Daily Night Daily Night Daily Night Night Daily Night	Road Nam	e: Cactus Av.	,							ay Aviatior	1	
Average Daily Traffic (Adf): 23,388 vehicles Peak Hour Percentage: 8,08% Peak Hour Volume: 1,890 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 50 feet Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-8em): 0.0 Centerline Dist. to Observer: 44.0 feet Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Road Grade: 0.0% Road Grade: 0.0% Robert Registric Well, 1-8em, 2.297 Heavy Trucks: 86.5% 2.7% 10.8% 11.10 Noise Source Elevations (in feet) Autos: 0.000 Redium Trucks: 2.297 Heavy Trucks: 8.004 Road Grade: 0.0% Robert Registric Melline Distance (in feet) Autos: 36.551 Redium Trucks: 36.338 Heavy Trucks: 36.338 Heavy Trucks: 36.338 Heavy Trucks: 36.338 Heavy Trucks: 36.338 FHWA Noise Model Calculations Vehicle Type Robert Refine I Traffic Flow Distance Finite Road Freshel Barrier Atten Berm Atten Medium Trucks: 36.308 Heavy Trucks: 36.333 Septimal Registric Registri	SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Peak Hour Percentage:	Highway Data				5	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
Peak Hour Volume:	Average Daily	Traffic (Adt):	23,388 vehicl	es					Autos:	15		
Vehicle Speed:	Peak Hour	Percentage:	8.08%			Me	dium Tru	icks (2	Axles):	15		
Near/Far Lane Distance: 50 feet VehicleType Day Evening Night Daily VehicleType Autos: 77.75% 12.9% 9.6% 86.23 Medium Trucks: 84.8% 4.9% 10.3% 2.67 Heavy Trucks: 86.5% 2.7% 10.8% 11.10 Nise Source Elevations (in Feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 2.297 Heavy Trucks: 2.297 Heavy Trucks: 36.308	Peak H	lour Volume:	1,890 vehicle	s		He	avy Truc	cks (3+	Axles):	15		
Near/Far Lane Distance: 50 feet VehicleType Day Evening Night Daily	Ve	hicle Speed:	40 mph		,	/ohiclo	Miv					
Autos: 77.5% 12.9% 9.6% 86.23	Near/Far La	ne Distance:	50 feet		,				Dav	Evenina	Night	Dailv
Heavy Trucks: 86.5% 2.7% 10.8% 11.10	Site Data								77.5%	12.9%	9.6%	86.239
Barrier Type (0-Wall, 1-Berm):	Rai	rrier Height	0.0 feet			М	edium Ti	ucks:	84.8%	4.9%	10.3%	2.679
Noise Source Elevations (in feet)							Heavy Ti	ucks:	86.5%	2.7%	10.8%	11.109
Autos: 0.000 Barrier Atten Bern Atten		. ,	44.0 feet		١.	/-: O		4:	- 0- 5			
Barrier Distance to Observer: 0.0 feet Autos: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	Centerline Dist.	to Observer:	44.0 feet			ioise S				eet)		
Diserver Height (Above Pad):	Barrier Distance	to Observer:	0.0 feet			Modiu						
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Dist	Observer Height (Above Pad):	5.0 feet							Grade Ad	liuetman	e- n n
Road Grade: 0.0% Left View: 90.0 degrees Medium Trucks: 36.308 Heavy Trucks: 36.303	Pa	ad Elevation:	0.0 feet			пеа	ry Truck	s. o	004	Grade Ad	justinen	. 0.0
Left View:	Ros	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)		
Right View: 90.0 degrees	I	Road Grade:	0.0%				Autos	s: 36	.551			
		Left View:	-90.0 degre	es		Mediu	m Trucks	s: 36	.308			
VehicleType		Right View:	90.0 degre	es		Hea	y Truck	s: 36	.332			
Autos: 66.51 0.79 1.94 -1.20 -4.61 0.000 0.00	FHWA Noise Mode	el Calculation	s									
Medium Trucks: 77.72 -14.30 1.98 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -8.11 1.98 -1.20 -5.50 0.000 0.00 Unmitigated Noise Leevels (without Topo and barrier attenuation)	VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Heavy Trucks: 82.99 -8.11 1.98 -1.20 -5.50 0.000 0.00	Autos:	66.51	0.79		1.94	ļ	-1.20		-4.61	0.	000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL	Medium Trucks:	77.72			1.98	3			-4.87	0.	000	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 68.0 67.1 65.3 59.3 67.9 68.0 Medium Trucks: 64.2 63.6 57.2 55.7 64.2 64.6 Heavy Trucks: 75.7 75.2 66.1 67.4 75.7 75.7 Vehicle Noise: 76.6 76.0 69.0 68.3 76.6 76.0 Centerline Distance to Noise Contour (In feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 122 263 566 1,22	Heavy Trucks:	82.99	-8.11		1.98	3	-1.20		-5.50	0.	000	0.00
Autos: 68.0 67.1 65.3 59.3 67.9 68 Medium Trucks: 64.2 63.6 57.2 55.7 64.2 64 Heavy Trucks: 75.7 75.2 66.1 67.4 75.7 75 Vehicle Noise: 76.6 76.0 69.0 68.3 76.6 76 Centerline Distance to Noise Contour (in feet) 70 dBA	Unmitigated Noise	Levels (with	out Topo and	barrie	er atteni	uation)						
Medium Trucks: 64.2 63.6 57.2 55.7 64.2 64.2 Heavy Trucks: 75.7 75.2 66.1 67.4 75.7 75. Vehicle Noise: 76.6 76.0 69.0 68.3 76.6 76.6 Centerline Distance to Noise Contour (in feet) Ldn: 122 263 566 1,22	VehicleType	Leq Peak Hou	ur Leq Da	/	Leg Ev	ening	Leg	Night		Ldn	С	NEL
Heavy Trucks: 75.7 75.2 66.1 67.4 75.7 75.2 Vehicle Noise: 76.6 76.0 69.0 68.3 76.6 76.0 Telephone Noise Contour (In feet)	Autos:	68	3.0	67.1		65.3		59.	3	67.	9	68.
Vehicle Noise: 76.6 76.0 69.0 68.3 76.6 76.6 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 122 263 566 1,22		-									_	64.
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 122 263 566 1,22												75.
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 122 263 566 1,22	Vehicle Noise:	76	3.6	76.0		69.0		68.	3	76.	6	76.
Ldn: 122 263 566 1,22	Centerline Distanc	ce to Noise C	ontour (in fee)								
122 250 000 1,22				L	70 d		65					
CNEL: 126 271 584 1,25			_									1,220
			С	NEL:		126		271		584	ļ	1,258

Tuesday, December 8, 2020

	FHW	A-RD-77-108	HIGHWA	Y NOISE P	REDICT	ION MODEL		
Scenario: Ex Road Name: Ha Road Segment: e/	arley Knox	BI.				Name: Gatev lumber: 1344		
SITE SPE	CIFIC INF	UT DATA				IOISE MOD		
Highway Data				Site Cor	nditions	(Hard = 10, S	Soft = 15)	
Average Daily Traffi Peak Hour Perco Peak Hour V	entage: /olume: 1	7,290 vehicle 8.08% 1,397 vehicles				Autos ucks (2 Axles) cks (3+ Axles)): 15	
Vehicle	.,	45 mph		Vehicle	Mix			
Near/Far Lane Di	stance:	80 feet		Veh	nicleType	Day	Evening Ni	ight Daily
Site Data						Autos: 77.5	% 12.9%	9.6% 86.23%
Barrier I	Hoiaht.	0.0 feet		М	ledium T	rucks: 84.8°	% 4.9% 1	0.3% 2.67%
Barrier Type (0-Wall, 1		0.0			Heavy T	rucks: 86.5°	% 2.7% 1	0.8% 11.10%
Centerline Dist. to	Barrier:	64.0 feet		Noise S	ource E	levations (in	feet)	
Centerline Dist. to Ob	server:	64.0 feet			Auto		,	
Barrier Distance to Ob	server:	0.0 feet		Mediu	ım Truck			
Observer Height (Abov	,	5.0 feet			vy Truck		Grade Adjust	ment: 0.0
	evation:	0.0 feet						
Road Ele		0.0 feet		Lane Eq		t Distance (in	feet)	
	Grade:	0.0%			Auto			
	ft View:	-90.0 degree			m Truck			
Rigi	nt View:	90.0 degree	S	пеа	vy Truck	s: 50.050		
FHWA Noise Model Ca	lculations							
* * * * * * * * * * * * * * * * * * * *		Traffic Flow	Distanc		Road	Fresnel	Barrier Atten	Berm Atten
Autos:	68.46	-1.03		0.13	-1.20	-4.70		
Medium Trucks:	79.45	-16.13		0.11	-1.20	-4.88		
Heavy Trucks:	84.25	-9.93	-	0.11	-1.20	-5.31	0.000	0.000
Unmitigated Noise Lev								
	Peak Hour			q Evening		Night	Ldn	CNEL
Autos:	66.1		5.1	63.4		57.3	65.9	66.5
Medium Trucks:	62.0		31.4	55.1		53.5	62.0	62.2
Heavy Trucks:	73.0		2.5	63.5		64.7	73.1	73.2
Vehicle Noise:	74.1	· 7	3.5	66.7		65.7	74.1	74.3
Centerline Distance to	Noise Cor	ntour (in feet)						
				70 dBA	65	dBA	60 dBA	55 dBA
			.dn:	121		260	559	1,205
		CΛ	IEL:	124		268	578	1,244

	FH\	WA-RD-77-108	HIGI	HWAY I	NOISE P	REDICT	ION MC	DEL			
	e: Harley Kno						Name: lumber:		ay Aviation	1	
SITE S Highway Data	PECIFIC IN	IPUT DATA			Site Cor				L INPUT	S	
	F 65 (A 10)				Site Coi	luluolis	(Haiu -				
Average Daily 1		8,896 vehicle	es					Autos:			
Peak Hour F		8.08%				edium Tr					
	our Volume:	719 vehicle	S		He	eavy Tru	CKS (3+	Axies):	15		
	icle Speed:	45 mph			Vehicle	Mix					
Near/Far Lan	e Distance:	80 feet			Veh	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Ran	rier Heiaht:	0.0 feet			M	ledium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis		64.0 feet			Noise S	ource E	levation	ıs (in f	eet)		
Centerline Dist. t		64.0 feet				Auto	s: 0	.000			
Barrier Distance to		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (A	Above Pad): d Elevation:	5.0 feet 0.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0
Roa	d Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 50	.210			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 50	.033			
	Right View:	90.0 degree			Hea	vy Truck	s: 50	.050			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-3.91		-0.1	3	-1.20		-4.70	0.0	000	0.000
Medium Trucks:	79.45	-19.01		-0.1	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	84.25			-0.1		-1.20		-5.31	0.0	000	0.000
Unmitigated Noise			_								
,,	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos:			62.2		60.5		54.		63.0	-	63.6
Medium Trucks:			58.5		52.2		50.	-	59.		59.3
Heavy Trucks:			69.6		60.6		61.	-	70.2		70.3
Vehicle Noise:	71	.2	70.6		63.9)	62.	8	71.2	2	71.4
Centerline Distance	e to Noise Co	ontour (in feet)	70	dBA	65	dBA		60 dBA	E.F	i dBA
			Ldn:	70	77	00	167	_	359		774
			NEL:		80		172		371		774
		Ci	*LL.		80		1/4	-	3/1		199

	13445 MODE I			
Road Segment: n/o Gentian Av. SITE SPECIFIC INPUT DATA NOISE I dighway Data Site Conditions (Hard =	MODE	INDUT		
SITE SPECIFIC INPUT DATA NOISE I Highway Data Site Conditions (Hard =		INDUT		
Highway Data Site Conditions (Hard =		INDUST		
			3	
Average Daily Traffic (Adt): 23,851 vehicles				
	Autos:	15		
Peak Hour Percentage: 8.08% Medium Trucks (2.		15		
Peak Hour Volume: 1,927 vehicles Heavy Trucks (3+	Axles):	15		
Vehicle Speed: 50 mph Vehicle Mix				
Near/Far Lane Distance: 48 feet VehicleType	Day	Evening	Night	Daily
Site Data Autos:	77.5%	12.9%	9.6%	86.46%
Barrier Height: 0.0 feet Medium Trucks:	84.8%	4.9%	10.3%	2.62%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks:	86.5%	2.7%	10.8%	10.92%
Centerline Dist. to Barrier: 50.0 feet Noise Source Elevation	s (in fe	et)		
Centerline Dist. to Observer: 50.0 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.	.004	Grade Adj	ustment	. 0.0
Pad Elevation: 0.0 feet				
Road Elevation: 0.0 feet Lane Equivalent Distan	_ •	eet)		
71000 07000	.147			
20.0 dog.000	.947			
Right View: 90.0 degrees Heavy Trucks: 43.	.966			
FHWA Noise Model Calculations				
VehicleType REMEL Traffic Flow Distance Finite Road Fresi		Barrier Atte		rm Atten
Autos: 70.20 -0.08 0.71 -1.20	-4.65	0.0		0.00
Medium Trucks: 81.00 -15.26 0.74 -1.20	-4.87	0.0		0.00
Heavy Trucks: 85.38 -9.07 0.73 -1.20	-5.43	0.0	00	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	_			
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night		Ldn		NEL
Autos: 69.6 68.7 66.9 60.1	-	69.5		70.
Medium Trucks: 65.3 64.7 58.3 56.1	-	65.2		65.
Heavy Trucks: 75.8 75.4 66.3 67.4	-	75.9		76.
	7	77.1		77.
Vehicle Noise: 77.1 76.5 69.9 68.				
Centerline Distance to Noise Contour (in feet)	-	0 AB A	FE	dDA
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA		0 dBA	55	dBA
Centerline Distance to Noise Contour (in feet))	0 dBA 690 714	55	1,487

	- FH	WA-RD-77-108	HIGH	TWAY	NOISE P	REDICI	ION MC	DEL			
	b: E+P (Non- e: Heacock S t: s/o Iris Av.						Name: lumber:		ay Aviatior	1	
	PECIFIC II	NPUT DATA			0				L INPUT	s	
Highway Data					Site Cor	aitions	(Hara =				
Average Daily 1	. ,	14,712 vehicl	es					Autos:			
Peak Hour F		8.08%				edium Tr		/			
	our Volume:	1,189 vehicle	:S		He	eavy Tru	CKS (3+	Axies):	15		
ver Near/Far Lan	icle Speed:	50 mph 48 feet			Vehicle	Mix					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.709
Ban	rier Height:	0.0 feet				edium T		84.8%		10.3%	
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	10.729
Centerline Dis	t. to Barrier:	50.0 feet			Noise S	ource El	levatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	50.0 feet				Auto		.000	,		
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (A	,	5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet			Lane Eq	uivaien Auto		147	reet)		
h	Road Grade:	0.0%			Modiu	Auto m Truck		.147			
	Leπ View: Right View:	-90.0 degre 90.0 degre				vy Truck		.966			
FHWA Noise Mode			-			,					
VehicleType	REMEL	Traffic Flow	Di	stance	Einite	Road	Fres	nel	Barrier Att	on Por	m Atten
Autos:	70.20			0.		-1.20	1163	-4.65		000	0.00
Medium Trucks:	81.00			0.		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-11.24		0.	73	-1.20		-5.43		000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atte	nuation)						
	Leq Peak Ho	ur Leq Da	y	Leq I	ening	Leq	Night		Ldn	C	NEL
Autos:	67	7.5	66.6		64.8		58.	.8	67.4	4	68.
Medium Trucks:		3.1	62.5		56.2		54.	-	63.		63.
Heavy Trucks:		3.7	73.2		64.1		65.		73.		73.
Vehicle Noise:	74	1.9	74.3		67.8	i	66.	.5	74.9	9	75
Centerline Distanc	e to Noise C	ontour (in feet	t)	70	dBA	65	dBA		60 dBA		dBA
			Ldn:	70	<i>aBA</i> 107	05	ав <i>А</i> 231		00 aBA 495		
		0	NEL:		107		23	-	495 512		1,06

Tuesday, December 8, 2020

	FHW	/A-RD-77-108	HIGH	WAY N	IOISE PI	REDICTION	ON MC	DDEL			
Road Nan	nio: E+P (Non-Pone: Heacock St. ent: s/o Cardinal	,				Project I Job Nu			ay Aviation	n	
SITE Highway Data	SPECIFIC INI	PUT DATA		,	Site Con	No ditions (L INPUT	s	
Average Daily Peak Hour Peak F	Percentage: Hour Volume: Phicle Speed:	15,986 vehicle 8.08% 1,292 vehicles 50 mph			Ме	dium Tru avy Truci	cks (2	Autos Axles)	15		
Near/Far La	ane Distance:	48 feet		-	Veh	icleType		Day	Evening	Night	Daily
Site Data Ba Barrier Type (0-W	rrier Height: Vall, 1-Berm):	0.0 feet 0.0				A edium Tru Heavy Tru		77.59 84.89 86.59	6 4.9%		
Centerline Di	ist. to Barrier:	50.0 feet		,	Voisa Sr	ource Ele	vatio	ne (in f	oot)		
Centerline Dist. Barrier Distance Observer Height P	to Observer:	50.0 feet 0.0 feet 5.0 feet 0.0 feet		ĺ	Mediu	Autos m Trucks ry Trucks	: 0	.000 .297 .004	Grade Ad	ljustmen	t: 0.0
Ro	ad Elevation:	0.0 feet		I	ane Eq	uivalent	Distai	nce (in	feet)		
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks ry Trucks	43	1.147 3.947 3.966			
FHWA Noise Mod	lel Calculations										
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	ten Be	rm Atten
Autos:	70.20	-1.88		0.7	1	-1.20		-4.65	0.	000	0.000
Medium Trucks:	81.00	-16.84		0.74	4	-1.20		-4.87	0.	000	0.000
Heavy Trucks:	85.38	-10.34		0.73	3	-1.20		-5.43	0.	000	0.000
Unmitigated Nois	e Levels (witho	ut Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Hour		_	Leq Ev		Leg N			Ldn		NEL
Autos:		-	66.9		65.1		59		67.	•	68.3
Medium Trucks:			63.1		56.8		55	-	63.		63.9
Heavy Trucks:		-	74.1		65.0		66		74.		74.8
Vehicle Noise:		-	75.1		68.4		67	.3	75.	7	75.9
Centerline Distan	ce to Noise Co	ntour (in feet)		70 0	ID A	65 d	DΛ		60 dBA		i dBA
			Ldn:	700	120	00 0	<i>BA</i> 25		558 558		1,203
			VEL:		124		26	-	577		1,243

Tuesday, December 8, 2020

	FH\	WA-RD-77-108	HIGH	I YAW	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: E+P (Non-l ne: Heacock S nt: s/o Nandin	t.					Name: lumber:		ay Aviatior	1	
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	S	
					Site Con	uiuons	•				
Average Daily		1 vehicl	es					Autos:			
	Percentage:	8.08%					ucks (2 /	/			
	lour Volume:	0 vehicle	S		He	avy Tru	cks (3+ A	Axles):	15		
	hicle Speed:	50 mph			Vehicle I	Mix					
Near/Far La	ne Distance:	48 feet		Ī	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0			-	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Di		50.0 feet		F	M-: 0			- /: #	4		
Centerline Dist.	to Observer:	50.0 feet		-	Noise So				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		000			
Observer Height	(Above Pad):	5.0 feet				m Truck		297	0		
P	ad Elevation:	0.0 feet			Heal	y Truck	s: 8.	004	Grade Ad	justment	0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	Distan	ce (in	feet)		
	Road Grade:	0.0%		Γ		Auto	s: 44.	147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 43.	947			
	Right View:	90.0 degre	es		Heav	y Truck	s: 43.	966			
FHWA Noise Mod					_						
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fresn	_	Barrier Att		m Atten
Autos:	70.20			0.7		-1.20		-4.65		000	0.000
Medium Trucks:				0.7		-1.20		-4.87		000	0.000
Heavy Trucks:				0.7		-1.20		-5.43	0.0	000	0.000
Unmitigated Nois											
VehicleType	Leq Peak Hot			Leq E	vening	Leq	Night		Ldn	_	NEL
Autos:		5.8	24.9		23.1		17.1		25.7		26.3
Medium Trucks:		.6	21.0		14.6		13.1		21.	-	21.8
Heavy Trucks:		2.1	31.6		22.6		23.9		32.2		32.3
Vehicle Noise:		3.4	32.8		26.2		25.0)	33.4	1	33.6
Centerline Distan	ce to Noise Co	ontour (in feet)							1	
			L	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		0		0		1		2
		C	NEL:		0		0		1		2

	o: E+P (Non-F	Peak)							ay Aviatior	1	
	e: Indian Av.					Job N	umber.	13445			
Road Segmen											
SITE S Highway Data	SPECIFIC IN	PUT DATA			ito Con				L INPUT oft = 15)	S	
				3	nie Con	unuons	(паги	-			
Average Daily	. ,	10,774 vehicle	es					Autos			
	Percentage:	8.08%				dium Tru					
	our Volume:	871 vehicle	S		не	avy Truc	CKS (3+	Axies).	15		
	hicle Speed:	45 mph		ν	ehicle l	Mix					
Near/Far Lar	ne Distance:	36 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	6 12.9%	9.6%	84.47%
Bar	rier Heiaht:	0.0 feet			M	edium Ti	rucks:	84.8%	4.9%	10.3%	2.77%
Barrier Type (0-Wi	all, 1-Berm):	0.0			F	Heavy Ti	rucks:	86.5%	6 2.7%	10.8%	12.76%
Centerline Dis	st. to Barrier:	44.0 feet			loico Sa	ource El	ovatio	ne (in f	iont)		
Centerline Dist. t	to Observer:	44.0 feet		-	ioise sc	Auto:		0.000	eeu		
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (A	Above Pad):	5.0 feet				v Truck		3.004	Grade Ad	liuetman	· n n
Pa	d Elevation:	0.0 feet			пеач	ry Truck	s. c	0.004	Orauc Au	justinen	. 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 40	0.460			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 4(0.241			
	Right View:	90.0 degree	es		Heav	y Truck	s: 4(0.262			
FHWA Noise Mode	el Calculation:	S									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres	snel	Barrier Att	ten Be	rm Atten
Autos:	68.46	-3.17		1.28	3	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	79.45	-18.01		1.31		-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	84.25	-11.38		1.31		-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r attenı	uation)						
	Leq Peak Hou			Leq Ev			Night		Ldn		NEL
Autos:	65		64.4		62.6		56		65.		65.8
Medium Trucks:	61		61.0		54.6		53		61.		61.8
Heavy Trucks:	73		72.5		63.4		64		73.		73.2
Vehicle Noise:	73	.9	73.4		66.4		65	.6	74.	0	74.2
		ntour (in foot)								
Centerline Distanc	e to Noise Co	intour (in reet		70 4	DA	e e	AD A		CO ADA		AD A
Centerline Distanc	e to Noise Co	, ,	Ldn:	70 d	BA 81	65	dBA 17		60 dBA 375		6 dBA 809

	FH	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION MC	DDEL			
Road Nam	io: E+P (Non- ne: Cactus Av. nt: w/o Heaco	,					Name: lumber:		ay Aviatior	1	
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	s	
Highway Data				S	ite Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	39,088 vehicl	es					Autos:	15		
Peak Hour	Percentage:	8.08%			Me	edium Tri	ucks (2	Axles):	15		
Peak H	lour Volume:	3,158 vehicle	s		He	avy Truc	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		V	ehicle	Miv					
Near/Far La	ne Distance:	73 feet		ř		icleType		Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%		<u> </u>	86.309
Rai	rrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	2.659
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.8%	11.049
Centerline Dis	. ,	55.0 feet									
Centerline Dist.		55.0 feet		N	ioise S	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height (Above Pad):	5.0 feet				m Truck		.297	Grade Ad	ii ratma nt	
Pa	ad Elevation:	0.0 feet			неа	vy Truck	S: 8	.004	Grade Ad	justrnent	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	t Distar	ice (in i	feet)		
1	Road Grade:	0.0%				Auto	s: 41	.446			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 41	.232			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 41	.253			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	2.06		1.12		-1.20		-4.67	0.	000	0.00
Medium Trucks:	81.00			1.15		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-6.87		1.15		-1.20		-5.38	0.	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	er attenu	ıation)						
	Leq Peak Hou		_	Leq Ev			Night		Ldn		NEL
Autos:		2.2	71.2		69.4		63.		72.	-	72
Medium Trucks:		7.9	67.3		60.9		59.		67.	-	68
Heavy Trucks:		3.5	78.0		68.9		70.		78.	-	78
Vehicle Noise:	79	9.7	79.1		72.5		71.	.3	79.	7	79
Centerline Distanc	ce to Noise C	ontour (in fee)								
			L	70 d		65	dBA		0 dBA		dBA
			Ldn: NFL:		244		52		1,131		2,43
		C	IVEL.		252		54	3	1,170	'	2,52

Tuesday, December 8, 2020

	FHV	VA-RD-77-108	HIGHWAY	NOISE P	REDICT	ION MODE	L		
	c: E+P (Non-F e: Cactus Av. t: e/o Heacoc	•				Name: Ga lumber: 134	teway Aviation 145	n	
	PECIFIC IN	PUT DATA					DEL INPUT	s	
Highway Data				Site Cor	ditions	(Hard = 10	, Soft = 15)		
Average Daily 1	. ,	23,518 vehicle	S			Au			
Peak Hour F		8.08%				ucks (2 Axl			
	our Volume:	1,900 vehicles		He	eavy Tru	cks (3+ Axle	es): 15		
	icle Speed:	40 mph		Vehicle	Mix				
Near/Far Lan	e Distance:	50 feet		Veh	icleType	Da	y Evening	Night	Daily
Site Data					,	Autos: 77	.5% 12.9%	9.6%	86.31%
Ban	rier Height:	0.0 feet		М	edium T	rucks: 84	.8% 4.9%	10.3%	2.65%
Barrier Type (0-Wa		0.0			Heavy T	rucks: 86	.5% 2.7%	10.8%	11.04%
Centerline Dis	t. to Barrier:	44.0 feet		Noise S	ource E	levations (i	n feet)		
Centerline Dist. t	o Observer:	44.0 feet			Auto		,		
Barrier Distance t	o Observer:	0.0 feet		Mediu	m Truck				
Observer Height (A	,	5.0 feet			vy Truck		Grade Ad	ljustmen	t: 0.0
	d Elevation:	0.0 feet			•			-	
	d Elevation:	0.0 feet		Lane Eq		Distance			
F	Road Grade:	0.0%			Auto				
	Left View:	-90.0 degree			m Truck		-		
	Right View:	90.0 degree	S	пеа	vy Truck	s: 36.33	2		
FHWA Noise Mode	l Calculations	6							
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresnel	Barrier At		rm Atten
Autos:	66.51	0.82		.94	-1.20	-4.		000	0.000
Medium Trucks:	77.72	-14.30		.98	-1.20			000	0.000
Heavy Trucks:	82.99	-8.11		.98	-1.20	-5.	50 0.	000	0.000
Unmitigated Noise									
	Leq Peak Hou			Evening		Night	Ldn		NEL
Autos:	68		67.1	65.3		59.3	67.		68.5
Medium Trucks:	64		3.6	57.2		55.7	64.		64.4
Heavy Trucks:	75 76		75.2 76.1	66.1 69.1		67.4 68.3	75. 76.		75.9 76.8
			0.1	69.1		08.3	70.	О	76.8
Centerline Distanc	e to Noise Co	ntour (in feet)	7	0 dBA	65	dBA	60 dBA		5 dBA
		,	dn:	122	05	263	567 567		1.221
		_	.uri. IFL:	126		203	584		1,259
		CN		120		211	304	•	1,239

Tuesday, December 8, 2020

	FH	WA-RD-77-108	HIGH	HWAY I	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: E+P (Non- ne: Harley Kno nt: e/o Patters	x Bl.					Name: lumber:		ay Aviation	1	
	SPECIFIC II	NPUT DATA			a:: a				L INPUT	s	
Highway Data					Site Con	aitions	•				
Average Daily	Traffic (Adt):	17,866 vehicle	es					Autos:			
Peak Hour	Percentage:	8.08%					ucks (2 i				
Peak F	lour Volume:	1,444 vehicle	S		He	avy Tru	cks (3+ ,	Axles):	15		
Ve	hicle Speed:	45 mph		l l	Vehicle	Mix					
Near/Far La	ne Distance:	80 feet		ŀ	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	85.13%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.74%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	12.13%
Centerline Di	st. to Barrier:	64.0 feet		ŀ	Noise So	urce F	lovation	e (in fa	not)		
Centerline Dist.	to Observer:	64.0 feet		-	140/36 00	Auto		000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				y Truck		004	Grade Ad	iustmen	t· 0.0
P	ad Elevation:	0.0 feet								, a o ti mo m	. 0.0
Ro	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distan	ce (in :	feet)		
	Road Grade:	0.0%				Auto		210			
	Left View:	-90.0 degre	es			m Truck		033			
	Right View:	90.0 degre	es		Heav	y Truck	s: 50	050			
FHWA Noise Mod					,						
VehicleType	REMEL	Traffic Flow		stance		Road	Fresi	_	Barrier Att		rm Atten
Autos:	68.46			-0.1	-	-1.20		-4.70		000	0.000
Medium Trucks:				-0.1		-1.20		-4.88		000	0.000
Heavy Trucks:	84.25	-9.40		-0.1	1	-1.20		-5.31	0.0	000	0.000
Unmitigated Nois										1	
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn	_	NEL
Autos:		3.2	65.2		63.4		57.4		66.0	-	66.6
Medium Trucks:		2.3	61.7		55.3		53.	-	62.2	_	62.5
Heavy Trucks:		3.5	73.0		64.0		65.3		73.6		73.7
Vehicle Noise:		1.5	74.0		67.0		66.	2	74.6	o .	74.8
Centerline Distan	ce to Noise C	ontour (in feet)								
			L	70	dBA	65	dBA	4 - 7	60 dBA		dBA
			Ldn:		129		278		599		1,291
		C	NEL:		133		287		618		1,332

	FH)	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION M	ODEL			
	o: E+P (Non- e: Harley Kno et: e/o Indian	x Bl.						Gatew 13445	vay Aviation	n	
	SPECIFIC II	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	8,896 vehicle	es					Autos.			
	Percentage:	8.08%				dium Tr					
	our Volume:	719 vehicles	3		He	avy Tru	cks (3+	Axles)	: 15		
	nicle Speed:	45 mph		-	Vehicle I	Mix					
Near/Far Lar	ne Distance:	80 feet			Veh	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	77.59	6 12.9%	9.6%	86.23%
Bar	rier Height:	0.0 feet			Me	edium T	rucks:	84.89	6 4.9%	10.3%	2.67%
Barrier Type (0-W		0.0			F	Heavy T	rucks:	86.5%	6 2.7%	10.8%	11.10%
Centerline Dis	t. to Barrier:	64.0 feet			Noise So	urce F	lovatio	ne (in f	inat)		
Centerline Dist.	o Observer:	64.0 feet		F	10,00	Auto		0.000	000		
Barrier Distance	o Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck	· -	3.004	Grade Ad	liustmen	t: 0.0
Pa	d Elevation:	0.0 feet				•				,	
Roa	d Elevation:	0.0 feet			Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		0.210			
	Left View:	-90.0 degree	es			m Truck	-	0.033			
	Right View:	90.0 degree	es		Heav	y Truck	s: 50	0.050			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	snel	Barrier At	ten Be	rm Atten
Autos:	68.46	-3.91		-0.1	3	-1.20		-4.70	0.	000	0.000
Medium Trucks:	79.45	-19.01		-0.1	1	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	84.25	-12.82		-0.1	1	-1.20		-5.31	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
• • • • • • • • • • • • • • • • • • • •	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL
Autos:			62.2		60.5		54		63.		63.6
Medium Trucks:			58.5		52.2		50		59.		59.3
Heavy Trucks:			69.6		60.6		61		70.		70.3
Vehicle Noise:	71	1.2	70.6		63.9		62	.8	71.	2	71.4
Centerline Distanc	e to Noise C	ontour (in feet)	1							_	
			L	70 (dBA	65	dBA		60 dBA		dBA
			Ldn:		77		16		359	-	774
		CI	VEL:		80		17	2	37	1	799

	FHV	VA-RD-77-108	HIGH	IWAY N	OISE P	REDICTI	ON MC	DEL			
Road Nam	o: E+P (Peak) e: Heacock St nt: n/o Gentian						Name: umber:		ay Aviatior	1	
SITE S	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	Site Cor	nditions (Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	24,040 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.08%			Me	edium Tru	icks (2	Axles):	15		
Peak H	our Volume:	1,942 vehicles	S		He	eavy Truc	ks (3+	Axles):	15		
Vel	hicle Speed:	50 mph		,	/ehicle	Miv					
Near/Far Lar	ne Distance:	48 feet		Ľ.		nicleType		Dav	Evening	Niaht	Dailv
Site Data							utos:	77.5%	-	9.69	. ,
Rar	rier Heiaht:	0.0 feet			M	ledium Tr	ucks:	84.8%	4.9%	10.39	6 2.60%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	86.5%	2.7%	10.89	6 10.83%
Centerline Dis	. ,	50.0 feet		- H.	/-: O			- /:- #			
Centerline Dist. t	to Observer:	50.0 feet		,	voise S	ource Ele Autos		000	eet)		
Barrier Distance t	to Observer:	0.0 feet			14	Autos m Trucks		297			
Observer Height (Above Pad):	5.0 feet				vy Trucks		004	Grade Ad	iuetmar	#: 0.0
Pa	ad Elevation:	0.0 feet			пеа	vy IIucks	. 0	004	Grade Au	justifier	ii. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in i	feet)		
F	Road Grade:	0.0%				Autos	: 44	.147			
	Left View:	-90.0 degree	es		Mediu	ım Trucks	: 43	.947			
	Right View:	90.0 degree	es		Hea	vy Trucks	: 43	.966			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	-0.04		0.71		-1.20		-4.65		000	0.000
Medium Trucks:	81.00	-15.26		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-9.07		0.73	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
	Leq Peak Hou		_	Leg Ev		Leq I	_		Ldn		CNEL
Autos:	69		68.7		66.9		60.	-	69.	-	70.
Medium Trucks:	65		64.7		58.3		56.	-	65.2	_	65.5
Heavy Trucks:	75	-	75.4		66.3		67.	_	75.9	-	76.0
Vehicle Noise:	77.	.1	76.5		70.0)	68.	1	77.	1	77.3
Centerline Distanc	e to Noise Co	ntour (in feet,)	70 0	ID A	65.0	VD A		60 dBA	-	5 dBA
			Ldn:	700	149	00 0	321		691		1,488
			NEL:		154		332		715		1,488
		Ci	¥LL.		134		332	-	/ 10		1,559

Tuesday, December 8, 2020

FH	WA-RD-77-108 I	HIGHWAY	NOISE PI	REDICTI	ON MOD	EL		
Scenario: E+P (Peak Road Name: Heacock S Road Segment: s/o Iris Av.					Name: Ga umber: 13		viation	
SITE SPECIFIC II	NPUT DATA				OISE M			
Highway Data			Site Con	ditions	(Hard = 1	0, Soft =	15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	14,948 vehicles 8.08% 1,208 vehicles	5			Au ucks (2 Ax uks (3+ Ax	les):	15 15 15	
Vehicle Speed:	50 mph		Vehicle	Miv				
Near/Far Lane Distance:	48 feet			icleType		av Ev	ening N	ight Daily
Site Data			VC//			,	-	9.6% 86.91%
			M	edium Tı		4.8%		0.3% 2.53%
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0			Heavy Ti		8.5%		0.8% 10.55%
Centerline Dist. to Barrier:	50.0 feet		Noise So	ource El	evations	(in feet)		
Centerline Dist. to Observer:	50.0 feet			Autos	s: 0.00	10		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck:	s: 2.29	7		
Observer Height (Above Pad):	5.0 feet		Heav	vy Trucks	s: 8.00	4 Gra	ade Adjust	ment: 0.0
Pad Elevation:	0.0 feet							
Road Elevation:	0.0 feet		Lane Eq		Distance	• -)	
Road Grade:	0.0%			Autos				
Left View:	-90.0 degrees			m Truck				
Right View:	90.0 degrees	S	Heav	y Truck	s: 43.96	66		
FHWA Noise Model Calculation			•					
VehicleType REMEL	Traffic Flow	Distance			Fresnei		rier Atten	Berm Atten
Autos: 70.20		-	.71	-1.20		1.65	0.000	
Medium Trucks: 81.00		-	.74	-1.20		1.87	0.000	
Heavy Trucks: 85.38			.73	-1.20	-5	5.43	0.000	0.000
Unmitigated Noise Levels (with								
VehicleType Leq Peak Ho			Evening	,	Night	Ldi	•	CNEL
		6.7	64.9		58.8		67.5	68.1
		2.5	56.2		54.6		63.1	63.3
		3.2 4.3	64.1 67.8		65.4 66.5		73.7 75.0	73.9 75.2
		4.3	67.8		06.5		75.0	75.2
Centerline Distance to Noise C	ontour (in feet)	7/) dBA	65	dBA	60 d	RA .	55 dBA
			JUDA	001				
	L	.dn:	107	00	230	00 0	496	1,069

Tuesday, December 8, 2020

	FH	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION MO	DEL			
Road Nar	rio: E+P (Peak ne: Heacock S ent: s/o Cardina	t.					Name: lumber:		ay Aviatior	1	
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Con				L INPUT	s	
					Site Con	aitions	(Hara =				
Average Daily		16,330 vehicle	es					Autos:			
	r Percentage:	8.08%				dium Tr					
Peak I	Hour Volume:	1,319 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	ehicle Speed:	50 mph		1	Vehicle i	Mix					
Near/Far La	ane Distance:	48 feet				icleType		Dav	Evenina	Niaht	Dailv
Site Data							Autos:	77.5%	12.9%	9.6%	84.64%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.75%
Barrier Type (0-V		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	12.61%
	ist. to Barrier:	50.0 feet		-							
Centerline Dist.		50.0 feet		F.	Noise So				eet)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height	(Ahove Pad):	5.0 feet				m Truck		.297			
-	Pad Elevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 degree			Heav	y Truck	s: 43	.966			
FHWA Noise Mod	lel Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	-1.82		0.7	1	-1.20		-4.65	0.0	000	0.00
Medium Trucks:	81.00	-16.70		0.7	4	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-10.08		0.7	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	67	7.9	66.9		65.2		59.	.1	67.	7	68.3
Medium Trucks:	: 63	3.8	63.3		56.9		55.	.3	63.	3	64.0
Heavy Trucks:	. 74	1.8	74.3		65.3		66.	.5	74.	9	75.0
Vehicle Noise:	75	5.9	75.3		68.5		67.	5	75.	9	76.
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 (dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		124		26	3	577		1,244
		C	NEL:		128		27	7	596	i	1.285

Road Nam	o: E+P (Peak e: Heacock S nt: s/o Nandina	t.					t Name: lumber:		ay Aviation	ı	
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	1 vehicl	es					Autos:	15		
Peak Hour	Percentage:	8.08%					rucks (2				
Peak H	our Volume:	0 vehicle	s		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far La	ne Distance:	48 feet		F		icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	-		86.23%
Par	rier Heiaht:	0.0 feet			М	ledium 7	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis		50.0 feet		L.							
Centerline Dist.		50.0 feet		1	Voise S		levation		eet)		
Barrier Distance		0.0 feet				Auto	-	.000			
Observer Height (5.0 feet				m Truck		.297			
	ad Flevation:	0.0 feet			Hea	vy Truck	rs: 8	.004	Grade Ad	ustment	0.0
	ad Elevation:	0.0 feet		1	ane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 degre			Hea	vy Truck	s: 43	.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	-43.86	i	0.7	1	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-58.96		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-52.77		0.73	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou		У	Leg Ev	ening/	Leq	Night		Ldn		VEL
Autos:	25		24.9		23.1		17.		25.7		26.3
Medium Trucks:	21	.6	21.0		14.6	i	13.	1	21.5	5	21.8
Heavy Trucks:	32	.1	31.6		22.6	;	23.	9	32.2	2	32.3
Vehicle Noise:	33	1.4	32.8		26.2	!	25.	0	33.4	1	33.6
Centerline Distanc	e to Noise Co	ontour (in fee	t)								
			L	70 c		65	dBA		60 dBA		dBA
			Ldn:		0		(1		2
		С	NEL:		0		()	1		2

	FH\	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL			
Road Nam	io: E+P (Peak ne: Indian Av. nt: s/o Nandin						Name: umber:		ay Aviatior	1	
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	10, Sc	ort = 15)		
Average Daily	Traffic (Adt):	11,071 vehicle	es					Autos:			
Peak Hour	Percentage:	8.08%				dium Tru		,			
	lour Volume:	895 vehicle	S		He	avy Truc	ks (3+	Axles):	15		
	hicle Speed:	45 mph		1	Vehicle	Mix					
Near/Far La	ne Distance:	36 feet			Veh	icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	77.5%			83.70
Rai	rrier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.82
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	13.48
Centerline Dis	st. to Barrier:	44.0 feet		7	Noise S	ource Ele	evatior	s (in fe	eet)		
Centerline Dist.	to Observer:	44.0 feet				Autos		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks	s: 2	297			
Observer Height (Above Pad):	5.0 feet			Hea	vy Trucks	s: 8	.004	Grade Ad	liustmen	: 0.0
	ad Elevation:	0.0 feet		_							
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent			feet)		
I	Road Grade:	0.0%				Autos		.460			
	Left View:	-90.0 degree				m Trucks		.241			
	Right View:	90.0 degree	es		Hea	y Trucks	s: 40	.262			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-3.09		1.2	В	-1.20		-4.61	0.	000	0.00
Medium Trucks:	79.45	-17.81		1.3	1	-1.20		-4.87	0.	000	0.00
Heavy Trucks:	84.25	-11.02		1.3	1	-1.20		-5.50	0.	000	0.00
Unmitigated Noise								_		1	
VehicleType	Leq Peak Hou		_	Leq E			Night		Ldn		NEL
Autos:	65		64.5		62.7		56.		65.		65
Medium Trucks:	61		61.2		54.8		53.	-	61.		62
Heavy Trucks: Vehicle Noise:	73		72.8 73.7		63.8		65. 65.	_	73. 74.		73 74
					00.0		00.		74.		/4
Centerline Distanc	ce to Noise Co	ontour (in feet	,	70 0	iBA	65 (dBA	- 6	60 dBA	55	dBA
			Ldn:		85		183	3	394	1	84
		C	NEL:		87		188		406		87

Tuesday, December 8, 2020

FH	WA-RD-77-108	HIGHWA	Y NOISE P	REDICTIO	ON MC	DEL			
Scenario: E+P (Peal Road Name: Cactus Av Road Segment: w/o Heacd				Project N Job Nu			ay Aviatior	1	
SITE SPECIFIC I	NPUT DATA		Site Con	No ditions (L INPUT	s	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	39,182 vehicle 8.08% 3,166 vehicles 50 mph		Ме	edium Truck	cks (2	Autos: Axles):	15 15		
Near/Far Lane Distance:	73 feet			icleType	Т	Dav	Evening	Night	Daily
Site Data Barrier Height: Barrier Type (A Wall 1 Berm):	0.0 feet 0.0		м			77.5% 84.8% 86.5%	12.9% 4.9%	9.6%	86.34%
Barrier Type (0-Wall, 1-Berm): Centerline Dist. to Barrier:	55.0 feet			ource Ele				10.070	11.0270
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	55.0 feet 0.0 feet 5.0 feet 0.0 feet		Hear	Autos: m Trucks: ry Trucks:	8	.000 .297 .004	Grade Ad	ljustment	: 0.0
Road Elevation:	0.0 feet		Lane Eq	uivalent i			feet)		
Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree			Autos: m Trucks: yy Trucks:	41	.446 .232 .253			
FHWA Noise Model Calculation	าร		-						
VehicleType REMEL	Traffic Flow	Distanc	e Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos: 70.20	2.07		1.12	-1.20		-4.67	0.	000	0.000
Medium Trucks: 81.00	-13.06		1.15	-1.20		-4.87	0.	000	0.000
Heavy Trucks: 85.38			1.15	-1.20		-5.38	0.	000	0.000
Unmitigated Noise Levels (with VehicleType Leg Peak Ho				Leg N	liaht	T	Ldn		NEL
		71.2	Evening 69.5		iignt 63	4	T2.		NEL 72.6
		37.3	60.9		59		67.	-	68.1
		78.0	68.9		70	-	78.	-	78.7
		79.1	72.5		71.		79.		79.9
Centerline Distance to Noise C	ontour (in feet)								
			0 dBA	65 d			60 dBA		dBA
	-	Ldn: IFL:	244 252		525 543	-	1,132 1,171		2,438 2.522

Tuesday, December 8, 2020

	FH\	WA-RD-77-108	HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: E+P (Peak ne: Cactus Av. nt: e/o Heacoo	,					Name: lumber:		ay Aviatior	ı	
	SPECIFIC IN	IPUT DATA			0				L INPUT	s	
Highway Data					Site Con	aitions	•				
Average Daily		23,580 vehicl	es					Autos:			
	Percentage:	8.08%					ucks (2)	/			
	lour Volume:	1,905 vehicle	S		He	avy Tru	cks (3+)	Axles):	15		
	hicle Speed:	40 mph		f	Vehicle	Mix					
Near/Far La	ne Distance:	50 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.34%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.64%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.01%
Centerline Di		44.0 feet		-	Noise So	urco E	lovation	c (in f	not)		
Centerline Dist.	to Observer:	44.0 feet		-	NOISE SC	Auto		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				ry Truck		004	Grade Ad	iuctman	
P	ad Elevation:	0.0 feet			rical	y IIUCK	3. 0.	004	Orauc Au	ustricii	. 0.0
Road Elevation: 0.0 feet					Lane Eq	uivalen	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Auto	s: 36.	551			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 36.	308			
	Right View:	90.0 degre	es		Heav	y Truck	s: 36.	332			
FHWA Noise Mod	el Calculation	s		'							
VehicleType	REMEL	Traffic Flow		stance		Road	Fresr	_	Barrier Att		rm Atten
Autos:	66.51			1.9		-1.20		-4.61		000	0.000
Medium Trucks:				1.9		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-8.11		1.9	98	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barri	ier attei	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn	_	NEL
Autos:	68		67.1		65.3		59.3		67.9		68.5
Medium Trucks:	-	1.2	63.6		57.2		55.7		64.2	-	64.4
Heavy Trucks:		5.7	75.2		66.1		67.4		75.7		75.9
Vehicle Noise:	76	3.6	76.1		69.1		68.3	3	76.7	7	76.9
Centerline Distan	ce to Noise Co	ontour (in feet)							_	
			Į	70	dBA	65	dBA		60 dBA		dBA
			Ldn:		122		263		567		1,221
		С	NEL:		126		271		585		1,260

	FN\	WA-RD-77-10	o midi	IWAII	NOISE PI	KEDIC I	ION WI	JDEL			
Scenario	: E+P (Peak)				Project	Name.	Gatev	ay Aviation	ı	
	: Harley Kno					Job ∧	lumber.	13445			
Road Segment	: e/o Patters	on Av.									
	PECIFIC IN	NPUT DATA			Site Con				L INPUT	S	
Highway Data					Site Con	aitions	(Hara				
Average Daily T	. ,	18,140 vehic	les					Autos.			
Peak Hour F		8.08%				dium Tr					
	ur Volume:	1,466 vehicle	es		He	avy Tru	cks (3+	Axles)	: 15		
	icle Speed:	45 mph		Ī	Vehicle I	Mix					
Near/Far Lan	e Distance:	80 feet		Ī	Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.59	6 12.9%	9.6%	84.63%
Rarr	ier Heiaht:	0.0 feet			Me	edium T	rucks:	84.89	6 4.9%	10.3%	2.77%
Barrier Type (0-Wa	II, 1-Berm):	0.0			F	Heavy T	rucks:	86.59	6 2.7%	10.8%	12.60%
Centerline Dist		64.0 feet		Ī	Noise So	ource E	evatio	ns (in f	eet)		
Centerline Dist. to		64.0 feet		Ī		Auto	s: (0.000	· ·		
Barrier Distance to		0.0 feet			Mediu	m Truck	s: 2	2.297			
Observer Height (A	,	5.0 feet			Heav	y Truck	s: 8	3.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet		L		•					
Road	0.0 feet		-	Lane Eq				feet)			
R	oad Grade:	0.0%				Auto		0.210			
	Left View:	-90.0 degre				m Truck	0,	0.033			
	Right View:	90.0 degre	ees		Heav	y Truck	s: 50	0.050			
FHWA Noise Model			,								
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	68.46			-0.1		-1.20		-4.70		000	0.000
Medium Trucks:	79.45		-	-0.1		-1.20		-4.88		000	0.000
Heavy Trucks:	84.25			-0.1		-1.20		-5.31	0.0	000	0.000
Unmitigated Noise			_				A 17 I- 4	_	Ldn		NFL
VehicleType L Autos:	eq Peak Hou	ur Leq Da	65.3	Leq E	vening 63.5		Night 57	4	Lan 66.		NEL 66.7
Medium Trucks:		0.2	61.8		55.5		53		62.		62.6
		2.4 3.8	73.3		64.2		65		73.		74.0
Heavy Trucks: Vehicle Noise:		1.7	74.2		67.2		66		74.	-	74.0
					67.2		00	.4	74.	0	/5.0
Centerline Distance	to Noise Co	ontour (in fee	it)	70	dBA	65	dBA		60 dBA	55	dBA
								1		1	
			Ldn:		133		28	7	618	3	1.331

	FH	WA-RD-77-108	B HIG	HWAY	NOI	SE PR	EDICTIC	N MC	DEL			
Scenario: E Road Name: H Road Segment: e	larley Kno	x Bl.					Project N Job Nu			ay Aviatior	1	
	CIFIC IN	IPUT DATA			0					L INPUT	s	
Highway Data					SITE	Conc	ditions (F					
Average Daily Trafi	, ,	8,896 vehic	les						Autos:	15		
Peak Hour Perd		8.08%					dium Truc		,			
Peak Hour		719 vehicle	es			Hea	avy Truck	s (3+	Axles):	15		
	Speed:	45 mph			Veh	icle N	lix					
Near/Far Lane D	istance:	80 feet				Vehi	cleType		Day	Evening	Night	Daily
Site Data							Αι	itos:	77.5%	12.9%	9.6%	86.23
Barrier	Height:	0.0 feet				Me	dium Tru	cks:	84.8%	4.9%	10.3%	2.67
Barrier Type (0-Wall,	1-Berm):	0.0				Н	leavy Tru	cks:	86.5%	2.7%	10.8%	11.10
Centerline Dist. to	Barrier:	64.0 feet			Noi	co So	urce Ele	ration	e (in f	not)		
Centerline Dist. to O	bserver:	64.0 feet			IVUI	36 30	Autos:		000	eu		
Barrier Distance to O	bserver:	0.0 feet				Aediun	n Trucks:	-	297			
Observer Height (Abo	ve Pad):	5.0 feet					v Trucks:	_	004	Grade Ad	liustmen	t· 0.0
Pad E	levation:	0.0 feet									juotiiioii	0.0
Road E	0.0 feet			Lan	e Equ	ıivalent L			feet)			
	d Grade:	0.0%					Autos:		.210			
_	eft View:	-90.0 degre					n Trucks:		.033			
Rig	ht View:	90.0 degre	es			Heav	y Trucks:	50	.050			
FHWA Noise Model Ca												
, , ,	EMEL	Traffic Flow	_	istance		Finite I		Fresi	_	Barrier Att		rm Atter
Autos:	68.46			-0.			-1.20		-4.70		000	0.00
Medium Trucks:	79.45			-0.			-1.20		-4.88		000	0.00
Heavy Trucks:	84.25			-0.			-1.20		-5.31	0.	000	0.00
VehicleType Lea	reis (with Peak Hoi			ler atte			Leg N	ioht		Ldn		NEL
Autos:		ur Leq Da	9 62.2		Everi	60.5	Leq N	igrit 54	4	63.		63
Medium Trucks:		9.1	58.5			52.2		50.		59.		59
Heavy Trucks:).1	69.6			60.6		61.	-	70.		70
Vehicle Noise:		1.2	70.6			63.9		62.		71.		71
Centerline Distance to	Noise C	ontour (in fee	t)									
				70	dBA	١	65 dl	ВА	6	0 dBA	55	dBA
			Ldn:			77		167	,	359)	77
								101		000		

Tuesday, December 8, 2020

	FHV	VA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MOD	EL		
Scenario Road Name Road Segment	: Heacock St	-					Name: G umber: 1		ay Aviation	
	PECIFIC IN	PUT DATA							L INPUTS	
Highway Data				S	ite Con	ditions	(Hard = 1	0, Sc	ft = 15)	
Average Daily T Peak Hour F Peak Ho	. ,	30,020 vehicle 8.08% 2,426 vehicles					A ucks (2 A) cks (3+ A)	/	15 15 15	
Veh	icle Speed:	50 mph		ı	'ehicle l	Mix				
Near/Far Lan	e Distance:	48 feet		F		icleType		ay	Evening N	ight Daily
Site Data								7.5%	_	9.6% 86.23%
Parr	rier Height:	0.0 feet			М	edium Ti	rucks: 8	4.8%	4.9% 1	0.3% 2.67%
Barrier Type (0-Wa		0.0			ı	Heavy T	rucks: 8	6.5%	2.7% 1	0.8% 11.10%
Centerline Dist		50.0 feet		٨	loise So	ource El	evations	(in fe	et)	
Road	Observer:	50.0 feet 0.0 feet 5.0 feet 0.0 feet 0.0 feet 0.0%		L	Heav	Auto m Truck yy Truck uivalent Auto	s: 2.29 s: 8.00	97 94 e (in t	Grade Adjusi feet)	tment: 0.0
	Left View: Right View:	-90.0 degree 90.0 degree				m Truck yy Truck	- 10.0			
FHWA Noise Model										
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite		Fresne		Barrier Atten	Berm Atten
Autos: Medium Trucks:	70.20 81.00	0.91 -14.19		0.71		-1.20 -1.20		4.65 4.87	0.000	
Heavy Trucks:	85.38	-7.99		0.74		-1.20		4.07 5.43	0.000	
Unmitigated Noise	Levels (with	out Topo and I	barriei	r atteni	uation)					
VehicleType L	Leq Peak Hou	r Leq Day		Leg Ev	ening	Leq	Night		Ldn	CNEL
Autos:	70	.6	69.6		67.9		61.8		70.4	71.1
Medium Trucks:	66	.3	35.8		59.4		57.9		66.3	66.6
Heavy Trucks:	76	.9	76.4		67.4		68.6		77.0	77.1
Vehicle Noise:	78	.1	77.6		71.0		69.8		78.2	78.4
Centerline Distance	e to Noise Co	ntour (in feet)								
			L	70 d		65	dBA	6	i0 dBA	55 dBA
		-	Ldn:		175		377		812	1,749
		CN	IEL:		181		390		839	1,808

	FHV	VA-RD-77-108	HIGH	N YAWH	NOISE P	REDICT	ION MO	DDEL			
Scenario Road Name Road Segmen	e: Heacock St						Name: lumber:		ay Aviation	n	
	SPECIFIC IN	PUT DATA			0				L INPUT	s	
Highway Data	T (Site Coi	aitions	(Hara :		oft = 15)		
Average Daily 1 Peak Hour I	. ,	27,902 vehicle 8.08%	es			edium Tr	uaka (2	Autos:			
	Percentage: our Volume:	8.08% 2,254 vehicle				avy Tru					
	nicle Speed:	50 mph	5	L		•	cha (a+	Axics).	10		
Near/Far Lar		48 feet			Vehicle						
	ic Distance.	40 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.69	
Ban	rier Height:	0.0 feet				edium T		84.8%		10.39	
Barrier Type (0-Wa	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.89	6 11.10%
Centerline Dis	t. to Barrier:	50.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t		50.0 feet				Auto	s: 0	.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (,	5.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	ljustmer	t: 0.0
	d Elevation:	0.0 feet		-							
	d Elevation:	0.0 feet		-	Lane Eq			_ •	reet)		
F	Road Grade:	0.0%				Auto m Truck		.147			
	Left View:	-90.0 degree				m Truck vy Truck		3.947 3.966			
	Right View:	90.0 degree	es		пеа	у писк	S. 40	0.900			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		rm Atten
Autos:	70.20	0.59		0.7		-1.20		-4.65		000	0.000
Medium Trucks:	81.00	-14.51		0.7		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-8.31		0.7		-1.20		-5.43	0.	000	0.000
Unmitigated Noise							A E l- 4	_	Ldn		NEL
VehicleType Autos:	Leq Peak Hou 70		69.3	Leq E	vening 67.6		Night 61	5	70.		70.7
Medium Trucks:	66	-	65.4		59.1		57		66.		66.2
Heavy Trucks:	76		76.1		67.1		68		76.		76.8
Vehicle Noise:	77		77.2		70.6		69	-	77.		78.1
Centerline Distanc	e to Noise Co	ntour (in feet)								
				70 (dBA	65	dBA	-	60 dBA	5	5 dBA
			Ldn:		167		35	9	773	3	1,666
		C	NEL:		172		37	1	799	9	1,722

Average Daily Traffic (Adt): 28,894 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): 15 Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Trucks (4 +	6% 86.23 3% 2.67 8% 11.10
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS	6% 86.23 3% 2.67 8% 11.10
Average Daily Traffic (Adj):	6% 86.23 3% 2.67 8% 11.10
Average Daily Traffic (Adt): 28,894 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): 15 Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Mix Vehicle Trucks (3 + Axles): 15 Vehicle Trucks (3 + Axles (4 xles (4 xles (4 xles (4 xles (4 xles (4 xles (4 x	6% 86.23 3% 2.67 8% 11.10
Peak Hour Percentage: 8.08% Medium Trucks (2 Axies): 15	6% 86.23 3% 2.67 8% 11.10
Peak Hour Volume: Vehicle Speed: 50 mph Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Type Day Evening Nig Nig Night View: 90.0 feet Centerline Dist. 10 Barrier Allow: 50.0 feet Barrier Distance to Observer: 60.0 feet Centerline Dist. 10 Barrier Speed Grade: 0.0 feet Road Elevation:	6% 86.23 3% 2.67 8% 11.10
Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Vehicle Type Day Evening Nig Nig Site Data Autos: 77.5% 12.9% 9.0 Near/Far Lane Distance: 50.0 feet Heavy Trucks: 86.5% 2.7% 10.0 Noise Source Elevations (in feet) Noise Source Ele	6% 86.23 3% 2.67 8% 11.10
Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Evening Nig.	6% 86.23 3% 2.67 8% 11.10
Site Data Autos: 77.5% 12.9% 9.	6% 86.23 3% 2.67 8% 11.10
Barrier Height: 0.0 feet 0.	3% 2.67 8% 11.10
Barrier Tright (-0-Well, 1-8-m):	8% 11.10
Barrier Type (0-Wall, 1-Berm):	
Centerline Dist. to Observer: Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Glevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: -90.0 degrees Pad Elevations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten	ent: 0.0
Barrier Distance to Observer: 0.0 feet Autos: 0.000	ent: 0.0
Medium Trucks: 2.29	ent: 0.0
Pad Elevation:	ent: 0.0
Road Elevation:	
Road Grade: 0.0%	
Left View:	
Right View: 90.0 degrees Heavy Trucks: 43.966	
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Autos: 70.20 0.74 0.71 -1.20 -4.65 0.000 Medium Trucks: 81.00 -14.35 0.74 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -8.16 0.73 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	
Autos: 70.20 0.74 0.71 -1.20 -4.65 0.000 Medium Trucks: 81.00 -14.35 0.74 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -8.16 0.73 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	
Medium Trucks: 81.00 -14.35 0.74 -1.20 -4.87 0.000 Heavy Trucks: 85.38 -8.16 0.73 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	Berm Atter
Heavy Trucks: 85.38 -8.16 0.73 -1.20 -5.43 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation)	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	0.00
	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	CNEL
Autos: 70.5 69.5 67.7 61.7 70.3	70
Medium Trucks: 66.2 65.6 59.2 57.7 66.2	66
Heavy Trucks: 76.8 76.3 67.2 68.5 76.8	77
Vehicle Noise: 78.0 77.4 70.8 69.6 78.0	78
Centerline Distance to Noise Contour (in feet)	
70 dBA 65 dBA 60 dBA	
Ldn: 170 367 791	55 dBA
CNEL: 176 380 818	

		WA-RD-77-108			NOIDETT						
Scenario Road Name Road Segmen	e: Heacock S							Gatew 13445	ay Aviatior	1	
	PECIFIC II	NPUT DATA			2:: 2				L INPUT	s	
Highway Data					Site Con	ditions	(Hard :	= 10, Sc	ft = 15)		
Average Daily	. ,	1 vehic	les					Autos:	15		
Peak Hour I		8.08%				dium Tr		/			
	our Volume:	0 vehicle	es		He	avy Truc	cks (3+	Axles):	15		
	icle Speed:	50 mph			Vehicle I	Wix					
Near/Far Lar	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.239
Ban	rier Height:	0.0 feet			M	edium Ti	rucks:	84.8%	4.9%	10.3%	2.679
Barrier Type (0-Wa	all, 1-Berm):	0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10
Centerline Dis		50.0 feet		İ	Noise So	ource El	evatio	ns (in fe	et)		
Centerline Dist. t		50.0 feet		İ		Auto	s: 0	.000			
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (/	,	5.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justment	0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet			Lane Eq				'eet)		
F	Road Grade:	0.0%				Auto		.147			
	Left View:	-90.0 degre				m Truck		3.947			
	Right View:	90.0 degre	es		Heav	y Truck	s: 43	3.966			
FHWA Noise Mode		7									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	70.20			0.7		-1.20		-4.65		000	0.00
Medium Trucks:	81.00			0.7		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.7		-1.20		-5.43	0.	000	0.00
Unmitigated Noise VehicleType	Levels (with Leg Peak Ho					100	Night	T	Ldn		NFL
Autos:		ur Leq Da 5.8	24.9	Ley E	vening 23.1	Leq	rvigrit 17	1	25.	_	26
Medium Trucks:	_	1.6	21.0		14.6		13		21.		20
Heavy Trucks:	_	2.1	31.6		22.6		23		32	-	32.
Vehicle Noise:		3.4	32.8		26.2		25		33.		33.
Centerline Distanc	e to Noise C	ontour (in fee	t)								
		,		70	dBA	65	dBA	6	i0 dBA	55	dBA
			Ldn:		0			0	1		
			NFL:		0			0	1		

Tuesday, December 8, 2020

FH	WA-RD-77-108 HI	IGHWAY	NOISE P	REDICT	ION MODEL		
Scenario: OYC Road Name: Indian Av. Road Segment: s/o Nandir	a Av.				Name: Gate lumber: 1344	eway Aviation 15	
SITE SPECIFIC II	NPUT DATA			N	IOISE MOI	EL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume: Vehicle Speed:	29,980 vehicles 8.08% 2,422 vehicles 45 mph				Auto ucks (2 Axle cks (3+ Axle	s): 15	
Near/Far Lane Distance:	36 feet		Vehicle I	Viix			
Near/Far Larie Distance.	36 1661		Veh	icleType		-	Night Daily
Site Data				/	Autos: 77.		9.6% 86.23%
Barrier Height:	0.0 feet		М	edium Ti	rucks: 84.8		10.3% 2.67%
Barrier Type (0-Wall, 1-Berm):	0.0		,	Heavy Ti	rucks: 86.	5% 2.7%	10.8% 11.10%
Centerline Dist. to Barrier:	44.0 feet		Noise S	urce El	evations (in	foot)	
Centerline Dist. to Observer:	44.0 feet		140/36 00	Auto	-	recij	
Barrier Distance to Observer:	0.0 feet		Modiu	m Truck	0.000		
Observer Height (Above Pad):	5.0 feet			y Truck		Grade Adjus	stment: 0.0
Pad Elevation:	0.0 feet		i icai	y ITUCK	3. 0.004		stmort. 0.0
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distance (i	n feet)	
Road Grade:	0.0%			Auto	s: 40.460		
Left View:	-90.0 degrees		Mediu	m Truck	s: 40.241		
Right View:	90.0 degrees		Heav	y Truck	s: 40.262		
FHWA Noise Model Calculation	ıs						
VehicleType REMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier Atter	Berm Atten
Autos: 68.46	1.36	1.3	28	-1.20	-4.6	1 0.00	0.000
Medium Trucks: 79.45	-13.74	1.3	31	-1.20	-4.8	7 0.00	0.000
Heavy Trucks: 84.25	-7.54	1.	31	-1.20	-5.5	0.00	0.000
Unmitigated Noise Levels (with	out Topo and ba	rrier atte	nuation)				
VehicleType Leq Peak Ho	ur Leq Day	Leg I	Evening	Leq	Night	Ldn	CNEL
Autos: 6	9.9 68	.9	67.2		61.1	69.7	70.3
Medium Trucks: 6	5.8 65	.2	58.9		57.3	65.8	66.0
Heavy Trucks: 7	6.8 76	.3	67.3		68.5	76.9	77.0
Vehicle Noise: 7	7.9 77	.3	70.5		69.5	77.9	78.1
Centerline Distance to Noise C	ontour (in feet)				10.4	00 /04	55 104
			dBA	65	dBA	60 dBA	55 dBA
	Ld		149		320	690	1,486
	CNE	L:	153		331	712	1,535

Tuesday, December 8, 2020 Tuesday, December 8, 2020

	FH	WA-RD-77-108	HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: OYC ne: Cactus Av. nt: w/o Heaco						Name: lumber:		ay Aviation	ı	
	SPECIFIC II	IPUT DATA			0				L INPUT	s	
Highway Data					Site Con	aitions					
Average Daily	Traffic (Adt):	53,522 vehicl	es					Autos:			
Peak Hour	Percentage:	8.08%					ucks (2 A				
Peak F	lour Volume:	4,325 vehicle	s		He	avy Tru	cks (3+ A	Axles):	15		
Ve	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	73 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Di	st. to Barrier:	55.0 feet		1	Noise So	urce Fi	levation	e (in fe	not)		
Centerline Dist.	to Observer:	55.0 feet			140/36 00	Auto		000			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				ry Truck		004	Grade Ad	iustman	. 0.0
P	ad Elevation:	0.0 feet								ustricii	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in :	feet)		
	Road Grade:	0.0%				Auto		446			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 41.	232			
	Right View:	90.0 degre	es		Heav	y Truck	s: 41.	253			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fresr	_	Barrier Att		m Atten
Autos:	70.20			1.1	-	-1.20		-4.67		000	0.000
Medium Trucks:				1.1		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-5.48		1.1	15	-1.20		-5.38	0.0	000	0.000
Unmitigated Nois		-	barri	ier atte	nuation)			,			
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn	_	NEL
Autos:		3.5	72.6		70.8		64.8		73.4		74.0
Medium Trucks:		9.3	68.7		62.3		60.8		69.2	-	69.5
Heavy Trucks:		9.8	79.3		70.3		71.6		79.9		80.0
Vehicle Noise:	81	1.1	80.5		73.9		72.7	7	81.1	ı	81.3
Centerline Distan	ce to Noise C	ontour (in fee	t)							_	
			Į	70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		301		649		1,399		3,014
		С	NEL:		312		672		1,447		3,117

Scenario	. OVC					Project	Name	Gatew	ay Aviation		
	e: Cactus Av.							13445	ay Aviation		
Road Segmen		k St.				0001	iumber.	10440			
		IPUT DATA		Т			IOISE	MODE	L INPUT		
Highway Data		II OI DAIA		S	Site Con						
Average Daily 1	raffic (Adt):	36.334 vehicl	es					Autos:	15		
Peak Hour F	Percentage:	8.08%			Me	dium Tr	ucks (2	Axles):	15		
Peak Ho	our Volume:	2,936 vehicle	s		He	avy Tru	cks (3+	Axles):	15		
Veh	icle Speed:	40 mph		ı	/ehicle l	Wix					
Near/Far Lan	e Distance:	50 feet		F.		icleType		Dav	Evening	Night	Daily
Site Data							Autos:	77.5%	-	9.6%	
Ran	rier Height:	0.0 feet			Me	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-Wa	-	0.0			F	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis	t. to Barrier:	44.0 feet		^	Voise Sc	ource E	levatio	ns (in fe	eet)		
Centerline Dist. t	o Observer:	44.0 feet				Auto		0.000			
Barrier Distance to	o Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (A	,	5.0 feet				y Truck		004	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet		L		•					
Roa		L	ane Eq			_ •	feet)				
R				Auto		6.551					
	Left View:	-90.0 degre	es			m Truck	-	3.308			
	Right View:	90.0 degre	es		Heav	y Truck	s: 36	3.332			
FHWA Noise Mode	I Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista			Road	Fres		Barrier Atte		m Atten
Autos:	66.51	2.71		1.94		-1.20		-4.61		000	0.00
Medium Trucks:	77.72	-12.39		1.98	-	-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-6.19		1.98	3	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise								_			
, , ,	Leq Peak Hou			Leq Ev		Leq	Night		Ldn		NEL
Autos:	70		69.0		67.2		61	-	69.8		70.
Medium Trucks:	66		65.5		59.2		57		66.1		66.
	77		77.1		68.0		69		77.6		77.
Heavy Trucks:			78.0		71.0		70	.2	78.6)	78.
Vehicle Noise:	78										
Vehicle Noise:)	70 -	/D.4	0.5	-/0.4	1 ,	20 4D4		-10.4
· -			Ldn:	70 d	IBA 164	65	dBA 35		60 dBA 760	55	dBA 1.637

Scenario: OYC						Project N	lame:	Gatew	ay Aviation	1	
Road Name: Harley H	nox F	RI				Job Nu			ay Aviation		
Road Segment: e/o Patt						000710		.00			
SITE SPECIFIC	INP	UT DATA							L INPUT	s	
Highway Data					Site Con	ditions (l	Hard =	10, Sc	oft = 15)		
Average Daily Traffic (Adt): 31	1,042 vehicles	S					Autos:	15		
Peak Hour Percentage	: 8	3.08%			Me	dium Truc	cks (2 /	Axles):	15		
Peak Hour Volume	: 2,	508 vehicles			He	avy Truck	is (3+ /	Axles):	15		
Vehicle Speed	f:	45 mph		-	Vehicle I	Mix					
Near/Far Lane Distance	e.:	80 feet		H		icleType		Day	Evening	Night	Daily
Site Data						Aı	ıtos:	77.5%	12.9%	9.6%	86.239
Barrier Heigh	t:	0.0 feet			M	edium Tru	icks:	84.8%	4.9%	10.3%	2.679
Barrier Type (0-Wall, 1-Berm		0.0			I	Heavy Tru	icks:	86.5%	2.7%	10.8%	11.109
Centerline Dist. to Barrie	r:	64.0 feet		l l	Noise So	ource Ele	vation	s (in fe	eet)		
Centerline Dist. to Observe	r:	64.0 feet		F		Autos		000			
Barrier Distance to Observe	r:	0.0 feet			Mediu	m Trucks:		297			
Observer Height (Above Page):	5.0 feet				v Trucks:		004	Grade Ad	iustmen	t: 0.0
Pad Elevation	1.	0.0 feet				,				,	
Road Elevation	1.	0.0 feet		1	Lane Eq	uivalent l			feet)		
Road Grade		0.0%				Autos:		210			
Left View	/: ·	-90.0 degree:	S			m Trucks:		033			
Right View	/:	90.0 degrees	s		Heav	y Trucks:	50.	050			
FHWA Noise Model Calculat	ons			-							
VehicleType REMEL	T	raffic Flow	Dis	tance	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten
Autos: 68	46	1.51		-0.1	3	-1.20		-4.70	0.0	000	0.00
	45	-13.59		-0.1		-1.20		-4.88		000	0.00
Heavy Trucks: 84	25	-7.39		-0.1	1	-1.20		-5.31	0.0	000	0.00
Unmitigated Noise Levels (w			arrie					,		_	
VehicleType Leq Peak		Leq Day		Leq E	vening	Leq N	•		Ldn		NEL
Autos:	68.6	-	37.7		65.9		59.8		68.	-	69.
Medium Trucks:	64.6	-	34.0		57.6		56.1		64.	-	64.
Heavy Trucks:	75.6		75.1		66.0		67.3		75.0		75.
Vehicle Noise:	76.6	7	6.1		69.3		68.3	3	76.	7	76.
Centerline Distance to Noise	Cont	our (in feet)									
			, L	70 (dBA	65 di			0 dBA		dBA
		_	.dn:		178 184		384		826		1,780
							396		853		1.838

Tuesday, December 8, 2020

FH	WA-RD-77-108 H	HIGHWAY	NOISE P	REDICT	ION MOD	EL		
Scenario: OYC Road Name: Harley Kno Road Segment: e/o Indian					Name: G umber: 1		y Aviation	
SITE SPECIFIC II	NPUT DATA						INPUTS	
Highway Data			Site Con	ditions	(Hard = 1	0, So	ft = 15)	
Average Daily Traffic (Adt):	14,842 vehicles	3				utos:	15	
Peak Hour Percentage:	8.08%		1		ucks (2 A)	/	15	
Peak Hour Volume:	1,199 vehicles		He	avy Truc	cks (3+ A)	(les):	15	
Vehicle Speed:	45 mph		Vehicle	Mix				
Near/Far Lane Distance:	80 feet		Veh	icleType	E	ay	Evening I	light Daily
Site Data				-	Autos: 7	7.5%	12.9%	9.6% 86.23%
Barrier Height:	0.0 feet		М	edium Ti	rucks: 8	4.8%	4.9%	10.3% 2.67%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy T	rucks: 8	6.5%	2.7%	10.8% 11.10%
Centerline Dist. to Barrier:	64.0 feet		Noise S	ource Fl	evations	(in fe	et)	
Centerline Dist. to Observer:	64.0 feet		710,00 01	Auto		•		
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	0.01			
Observer Height (Above Pad):	5.0 feet			vy Truck			Grade Adjus	stment: 0.0
Pad Elevation:	0.0 feet			•				
Road Elevation:	0.0 feet		Lane Eq		Distance	•	eet)	
Road Grade:	0.0%			Auto				
Left View:	-90.0 degrees			m Truck	00.0			
Right View:	90.0 degrees	5	Hear	y Truck	s: 50.0	50		
FHWA Noise Model Calculation								
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne		Barrier Atter	
Autos: 68.46		-	.13	-1.20		4.70	0.00	
Medium Trucks: 79.45		-	.11	-1.20		4.88	0.00	
Heavy Trucks: 84.25			.11	-1.20	~	5.31	0.00	0.000
Unmitigated Noise Levels (with				10-	Minht		l da	CNEL
VehicleType Leq Peak Ho Autos: 6		4.5	Evening 62.7	,	Night 56.6		Ldn 65.3	CNEL 65.9
		4.5 0.8	54.4		52.9		61.3	61.6
		1.9	62.8		64.1		72.4	72.5
		2.9	66.1		65.1		73.5	73.7
Centerline Distance to Noise C	ontour (in feet)							
		70) dBA	65	dBA	60	0 dBA	55 dBA
	L	dn:	109		235		505	1,088
	CN		112		242		522	1.124

Tuesday, December 8, 2020

	FH	WA-RD-7	7-108 HIG	HWAY	NOISE P	REDICT	ION MO	DEL			
	o: OYCP (No e: Heacock S nt: n/o Gential	št.					Name: lumber:		ay Aviatior	1	
	SPECIFIC II	NPUT DA	TA						L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	30,420 v	ehicles					Autos:	15		
Peak Hour	Percentage:	8.08%			Ме	dium Tr	ucks (2)	Axles):	15		
Peak H	our Volume:	2,458 ve	hicles		He	avy Tru	cks (3+)	Axles):	15		
Ve	hicle Speed:	50 m	ph		Vehicle	Wix					
Near/Far La	ne Distance:	48 fe	et			icleType		Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	86.41%
Rai	rier Height:	0.0 f	eet		М	edium T	rucks:	84.8%	4.9%	10.3%	2.63%
Barrier Type (0-W		0.0			,	Heavy T	rucks:	86.5%	2.7%	10.8%	10.96%
Centerline Dis		50.0 fe	eet		Noise So	5		- /: #-			
Centerline Dist.	to Observer:	50.0 fe	eet		Noise S	Auto		- (eet)		
Barrier Distance	to Observer:	0.0 fe	eet		A des eller	Auto m Truck		000 297			
Observer Height (Above Pad):	5.0 fe	eet					297 004	Grade Ad	livotmon	t. 0.0
Pa	ad Elevation:	0.0 fe	eet		Heat	y Truck	s: 8.	004	Grade Ad	justriieri	. 0.0
Roa	ad Elevation:	0.0 fe	eet		Lane Eq	uivalent	Distan	ce (in i	feet)		
ı	Road Grade:	0.0%				Auto	s: 44.	147			
	Left View:	-90.0 d	egrees		Mediu	m Truck	s: 43.	947			
	Right View:	90.0 d	egrees		Heav	y Truck	s: 43.	966			
FHWA Noise Mode	el Calculation	ıs			l						
VehicleType	REMEL	Traffic F	low D	istance	Finite	Road	Fresr	nel	Barrier Att	en Be	rm Atten
Autos:	70.20		0.98	0.	71	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-1	4.19	0.	74	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38		7.99	0.	73	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo	and barr	ier atte	nuation)						
VehicleType	Leq Peak Ho	ur Le	q Day	Leq	Evening	Leq	Night		Ldn	С	NEL
Autos:	70	0.7	69.7		67.9		61.9	9	70.	5	71.1
Medium Trucks:	66	5.3	65.8		59.4		57.9	9	66.	3	66.6
Heavy Trucks:		6.9	76.4		67.4		68.6		77.		77.1
Vehicle Noise:	78	3.1	77.6		71.0		69.8	3	78.	2	78.4
Centerline Distance	e to Noise C	ontour (in	feet)								
) dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		175		377		813	3	1,752
			CNEL:		181		390		841		1,812

	PHVV	A-RD-77-108	HIGI	TWATE	IOISE PI	KEDIC I	TON MIC	JUEL			
Scenario: OYCF Road Name: Head Road Segment: s/o Iri	ock St.	Peak)					t Name: lumber:		ay Aviation		
SITE SPECIF	IC IN	PUT DATA							L INPUT	6	
Highway Data					Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily Traffic (A	Adt): 2	28,402 vehicle	es					Autos:	15		
Peak Hour Percenta	age:	8.08%			Me	dium Tı	ucks (2	Axles):	15		
Peak Hour Volu	me:	2,295 vehicle	S		He	avy Tru	cks (3+	Axles).	15		
Vehicle Spe	eed:	50 mph		h	Vehicle i	Wix					
Near/Far Lane Distar	nce:	48 feet			Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.479
Barrier Hei	aht:	0.0 feet			М	edium 7	rucks:	84.8%	4.9%	10.3%	2.62%
Barrier Type (0-Wall, 1-Be	rm):	0.0			1	Heavy 7	rucks:	86.5%	2.7%	10.8%	10.919
Centerline Dist. to Bar		50.0 feet		1	Voise So	ource E	levatio	ns (in f	eet)		
Centerline Dist. to Obser		50.0 feet				Auto	s: 0	.000			
Barrier Distance to Obser		0.0 feet			Mediu	m Truck	(s: 2	.297			
Observer Height (Above P	,	5.0 feet			Heav	y Truck	(s: 8	.004	Grade Adj	ustment	0.0
Pad Elevat		0.0 feet									
Road Elevat		0.0 feet			Lane Eq				reet)		
Road Gra		0.0%				Auto		.147			
Left V		-90.0 degree				m Truck		3.947			
Right V	iew:	90.0 degree	es		неач	y Truck	(S: 43	3.966			
FHWA Noise Model Calcul											
VehicleType REME		Traffic Flow	Dis	stance		Road	Fres		Barrier Atte		m Atten
	70.20	0.68		0.7	•	-1.20		-4.65	0.0		0.00
	81.00	-14.51		0.74		-1.20		-4.87			0.00
,	85.38	-8.31		0.7		-1.20		-5.43	0.0	00	0.00
Unmitigated Noise Levels	•	 					A.C lad		Ldn		NFL
VehicleType Leq Pea	r Hour		69.4	Leq E	ening 67.7	Leq	Night 61	c	70.2	_	VEL 70.
Medium Trucks:	66.0		65.4		59.1		57	-	66.0		70. 66.
Heavy Trucks:	76.6	-	76.1		67.1		68	-	76.7		76.
Vehicle Noise:	77.8	-	77.2		70.7		69	-	77.9		78.
Centerline Distance to No	ise Coi	ntour (in feet)								
				70 c	iBA	65	dBA		60 dBA	55	dBA
			Ldn:		167		36	0	775		1,669

	FH\	WA-RD-77-108	HIGH	VAY NO	JISE P	REDICTI	ON MO	DEL			
	o: OYCP (Nor	,							ay Aviatior	1	
Road Name Road Segmen	e: Heacock S					JOD N	umber:	13445			
Highway Data	SPECIFIC IN	IPUT DATA		Si	ite Con	ditions			L INPUT oft = 15)	5	
Average Daily	Traffic (Adt):	29,620 vehicl	es					Autos:	15		
	Percentage:	8.08%			Ме	dium Tru					
	our Volume:	2.393 vehicle	s			avy Truc		,			
Vel	nicle Speed:	50 mph		1/	ehicle	Miss					
Near/Far Lar	ne Distance:	48 feet		V-1		icleType		Dav	Evenina	Niaht	Dailv
Site Data					¥ C//			77.5%		<u> </u>	85.649
	rier Height:	0.0 feet			М	edium Tr		84.8%		10.3%	
Barrier Type (0-Wa		0.0 leet			-	Heavy Tr	ucks:	86.5%	2.7%	10.8%	11.679
Centerline Dis	. ,	50.0 feet		-							
Centerline Dist. t		50.0 feet		N	oise S	ource El			eet)		
Barrier Distance t		0.0 feet				Autos		000			
Observer Height (/		5.0 feet				m Trucks		297			
	d Elevation:	0.0 feet			Heav	y Trucks	s: 8.	004	Grade Ad	justment	: 0.0
Roa	d Elevation:	0.0 feet		La	ane Eq	uivalent	Distan	ce (in i	feet)		
F	Road Grade:	0.0%				Autos	s: 44.	147			
	Left View:	-90.0 degre	es		Mediu	m Trucks	3: 43.	947			
	Right View:	90.0 degre	es		Heav	y Trucks	3: 43.	966			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	0.82		0.71		-1.20		-4.65		000	0.00
Medium Trucks:	81.00			0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-7.84		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise										1	
	Leq Peak Hou		_	Leq Eve		Leq			Ldn		NEL
Autos:	70		69.6		67.8		61.7		70.4		71.
Medium Trucks:	66		65.8		59.4		57.9		66.3	-	66.
Heavy Trucks:	77		76.6		67.5		68.8		77.		77.
Vehicle Noise:	78		77.7		71.0		69.9	,	78.3	5	78.
	e to Noise Co	ontour (in feet)								
Centerline Distanc				70 45	ο Λ	65 /					
Centerline Distanc			Ldn:	70 dE	3 <i>A</i> 178	65 (383 383		60 dBA 825		dBA 1.777

Tuesday, December 8, 2020

F	HWA-RD-77-108	HIGHW	VAY N	OISE PE	REDICTION	ON MO	DDEL			
Scenario: OYCP (N Road Name: Heacock Road Segment: s/o Nand	St.				Project I Job Nu			ay Aviation	n	
SITE SPECIFIC Highway Data	INPUT DATA			ite Con	N ditions (L INPUT	s	
Average Daily Traffic (Adt) Peak Hour Percentage Peak Hour Volume Vehicle Speed Near/Far Lane Distance	8.08% 0 vehicle: 50 mph	-		Me He /ehicle I	dium Tru avy Truc Vix	cks (2	Autos. Axles). Axles).	15 15 15		
	40 1000		_	Veh	icleType	, 1	77.5%	Evening 12.9%	Night 9.6%	Daily
Site Data Barrier Height Barrier Type (0-Wall, 1-Berm)					A edium Tro Heavy Tro		84.89 86.59	6 4.9%	10.3%	
Centerline Dist. to Barrier			٨	loise Sc	ource Ele	vatio	ns (in f	eet)		
Centerline Dist. to Observer Barrier Distance to Observer Observer Height (Above Pad) Pad Elevation	0.0 feet 5.0 feet				Autos m Trucks ry Trucks	: 2	.000 .297 .004	Grade Ad	ljustment	: 0.0
Road Elevation	0.0 feet		L	ane Eq	uivalent	Distai	nce (in	feet)		
Road Grade Left View Right View	-90.0 degree				Autos m Trucks ry Trucks	: 43	1.147 3.947 3.966			
FHWA Noise Model Calculation	ons									
VehicleType REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	nel	Barrier Att	ten Ber	rm Atten
Autos: 70.2			0.71				-4.65 -4.87		000	0.000
Medium Trucks: 81.1 Heavy Trucks: 85.3			0.74		-1.20 -1.20				000 000	0.000
Unmitigated Noise Levels (wi	thout Topo and	barrier	atteni	uation)						
VehicleType Leq Peak F	our Leq Day	' L	.eq Ev	ening	Leq N	light		Ldn		NEL
		24.9		23.1		17		25.		26.3
		21.0		14.6		13		21.	-	21.8
		31.6 32.8		22.6		23 25		32.		32.3
Centerline Distance to Noise	Contour (in feet)								
	(111 100)		70 d	'BA	65 a	ΙΒΑ		60 dBA	55	dBA
		Ldn: NEL:	0 0 1 0 0 1			2				

Tuesday, December 8, 2020

	FH	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ION MO	DEL			
Road Nan	io: OYCP (No ne: Indian Av. nt: s/o Nandin	,					Name: lumber:		ay Aviatior	1	
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Con				L INPUT	s	
					Site Con	aitions	(Hara =				
Average Daily		30,606 vehicle	es					Autos:			
	Percentage:	8.08%				dium Tr					
Peak F	lour Volume:	2,473 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		1	Vehicle i	Mix					
Near/Far La	ne Distance:	36 feet				icleType		Dav	Evenina	Niaht	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	85.61%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.70%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.68%
Centerline Di		44.0 feet		H	Noise So	roo E	lovetion	an (in f	n a #1		
Centerline Dist.	to Observer:	44.0 feet		H.	voise 30	Auto		.000	eu)		
Barrier Distance	to Observer:	0.0 feet			A 4 = = E	m Truck		.000			
Observer Height	(Above Pad):	5.0 feet						.004	Crada Ad	i rotmo o m	
-	ad Elevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justmeni	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ce (in	feet)		
	Road Grade:	0.0%		Γ		Auto	s: 40	.460			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 40	.241			
	Right View:	90.0 degre	es		Heav	y Truck	s: 40	.262			
FHWA Noise Mod	el Calculation	s		-							
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	1.42		1.2	-	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	79.45	-13.59		1.3	1	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	84.25	-7.23		1.3	1	-1.20		-5.50	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atten	uation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	70	0.0	69.0		67.2		61.	2	69.	3	70.4
Medium Trucks:	66	3.0	65.4		59.0		57.	.5	65.	9	66.2
Heavy Trucks:	77	7.1	76.6		67.6		68.	8	77.:	2	77.3
Vehicle Noise:	78	3.2	77.6		70.7		69.	.8	78.	2	78.4
Centerline Distan	ce to Noise C	ontour (in feet)								
				70 (dBA	65	dBA		60 dBA	55	dBA
			Ldn:		155		333	3	718		1,548
		C	NEL:					1,597			

	o: OYCP (No e: Cactus Av.	,					t Name: Number:		ay Aviatior	1	
SITE S	SPECIFIC II	IPUT DA	TA				NOISE	MODE	L INPUT	s	
Highway Data					Site Cor	nditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	53,722 v	ehicles					Autos:	15		
Peak Hour	Percentage:	8.08%			Me	edium Ti	rucks (2	Axles):	15		
Peak H	our Volume:	4,341 ve	hicles		He	avy Tru	icks (3+	Axles):	15		
Vei	hicle Speed:	50 m	oh		Vehicle	Miv					
Near/Far Lar	ne Distance:	73 fe	et			icleType	ρ	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	-		86.28%
	rier Heiaht:	0.0 fe			м	ledium 7		84.8%		10.3%	
Barrier Type (0-W		0.0 10	et			Heavy 7	rucks:	86.5%		10.8%	11.06%
Centerline Dis		55.0 fe	et								
Centerline Dist		55.0 fe			Noise S				eet)		
Barrier Distance		0.0 fe				Auto		0.000			
Observer Height (5.0 fe	et			m Truck		2.297			
	ad Flevation:	0.0 fe			Hea	vy Truck	ks: 8	3.004	Grade Ad	justment	: 0.0
Roa	ad Elevation:	0.0 fe	et		Lane Eq	uivalen	t Distai	nce (in i	feet)		
F	Road Grade:	0.0%				Auto	os: 41	1.446			
	Left View:	-90.0 d	egrees		Mediu	m Truck	ks: 41	1.232			
	Right View:	90.0 d	egrees		Hea	vy Truck	ks: 41	1.253			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic F	low D	istance	Finite	Road	Fres	inel	Barrier Att	en Bei	m Atten
Autos:	70.20		3.44	1.	12	-1.20		-4.67	0.0	000	0.00
Medium Trucks:	81.00	-1	1.68	1.	.15	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-	5.48	1.	.15	-1.20		-5.38	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo	and bar	rier atte	enuation)						
VehicleType	Leq Peak Ho	ır Led	Day Day	Leq	Evening	Leq	Night		Ldn	C	NEL
Autos:	73	3.6	72.6	i	70.8	}	64	.8	73.4	4	74.0
Medium Trucks:	69	9.3	68.7		62.3	}	60	.8	69.2	2	69.
Heavy Trucks:		9.8	79.3		70.3		71		79.9		80.0
Vehicle Noise:	81	.1	80.5	5	73.9)	72	.7	81.	1	81.3
Centerline Distance	e to Noise C	ontour (in	feet)								
				70) dBA	65	dBA	6	0 dBA	55	dBA
					000						
			Ldn. CNFL		302 312		65 67	-	1,400 1,448		3,016

		VA-RD-77-108			10.011						
	o: OYCP (Non	-Peak)							ay Aviatior	ı	
	e: Cactus Av.					Job N	umber:	13445			
Road Segmen											
SITE S Highway Data	SPECIFIC IN	PUT DATA			Site Con				L INPUT	S	
	F	00.404	_		One con	unions	•	Autos:			
Average Daily	. ,	36,464 vehicle	S			-ti T.					
Peak Hour I		8.08%				dium Tri		,			
	our Volume:	2,946 vehicles			He	avy Truc	CKS (3+ .	4xies):	15		
	nicle Speed:	40 mph			Vehicle I	Лix					
Near/Far Lar	e Distance:	50 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						-	Autos:	77.5%	12.9%	9.6%	86.28%
Ran	rier Heiaht:	0.0 feet			Me	edium Ti	rucks:	84.8%	4.9%	10.3%	2.66%
Barrier Type (0-Wa		0.0			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	11.06%
Centerline Dis		44.0 feet		-							
Centerline Dist. t		44.0 feet		-	Noise So				eet)		
Barrier Distance t		0.0 feet				Auto		000			
Observer Height (/		5.0 feet				n Truck		297			
	d Flevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade Ad	iustmen	1: 0.0
	d Elevation:	0.0 feet		- I	Lane Equ	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%		ı		Auto		551	,		
	Left View:	-90.0 degree	s		Mediur	n Truck	s: 36	308			
	Right View:	90.0 degree			Heav	y Truck	s: 36	332			
						,					
VehicleType	I Calculations REMEL	Traffic Flow	Diet	ance	Finite	Dood	Fresi	201	Barrier Att	on Do	rm Atten
Autos:	66.51	2.73	DISU	1.9		-1.20	riesi	-4.61		000	0.000
Medium Trucks:	77.72	-12.39		1.9		-1.20		-4.87		000	0.000
Heavy Trucks:	82.99	-6.19		1.9	-	-1.20		-5.50		000	0.000
						-1.20		-0.00	0.0	JUU	0.000
Unmitigated Noise VehicleType	Levels (with Leg Peak Hou	-	_		vening	I en	Night	1	Ldn		NEL
Autos:	70		9.0	LUY L	67.2	Log	61.	2	69.8		70.4
Medium Trucks:	66		5.5 5.5		59.2		57.		66.		66.3
Heavy Trucks:	77		7.1		68.0		69.		77.0		77.8
Vehicle Noise:	78		8.0		71.0		70.		78.6		78.8
Centerline Distanc	e to Noise Co	ntour (in feet)									
			\neg	70	dBA	65	dBA	1	60 dBA	55	dBA
				, ,	UDA						
		ı	.dn:	70	164		353		760		1,638

Tuesday, December 8, 2020

	FH\	VA-RD-77-108	HIGHWA	Y NOISE P	REDICT	ION MOD	EL			
	o: OYCP (Nor e: Harley Kno t: e/o Patters	x Bl.				Name: Ga lumber: 13		ation		
	PECIFIC IN	IPUT DATA				IOISE M				
Highway Data				Site Co	nditions	(Hard = 1), Soft = 1	5)		
Average Daily T	raffic (Adt):	31,618 vehicle	es				itos: 15			
Peak Hour F		8.08%				ucks (2 Ax	/			
	our Volume:	2,555 vehicles	3	He	eavy Tru	cks (3+ Ax	les): 15			
	icle Speed:	45 mph		Vehicle	Mix					
Near/Far Lan	e Distance:	80 feet		Vel	nicleType	D	ay Ever	ning Ni	ight	Daily
Site Data					,	Autos: 7	7.5% 12	.9%	9.6%	85.61%
Barr	rier Height:	0.0 feet		N	fedium T	rucks: 8	1.8% 4	.9% 1	0.3%	2.71%
Barrier Type (0-Wa		0.0			Heavy T	rucks: 8	6.5% 2	.7% 1	0.8%	11.68%
Centerline Dis	t. to Barrier:	64.0 feet		Noise S	ource E	levations	(in feet)			
Centerline Dist. to		64.0 feet			Auto					
	Barrier Distance to Observer: 0.0 feet				ım Truck	s: 2.29	7			
	Observer Height (Above Pad): 5.0 feet				vy Truck	s: 8.00	4 Grad	e Adjust	ment:	0.0
	d Elevation:	0.0 feet		1 5		. Di-4	(i f4)			
	d Elevation:	0.0 feet		Lane Ec		t Distance s: 50.21				
R	Road Grade:	0.0%		Madis	Auto					
	Right View:	-90.0 degree		Medium Trucks: 50.033 Heavy Trucks: 50.050						
FHWA Noise Mode	I Calculation	s		-						
VehicleType	REMEL	Traffic Flow	Distant	e Finite	Road	Fresnei	Barrie	er Atten	Bern	n Atten
Autos:	68.46	1.56		0.13	-1.20	-4	.70	0.000		0.000
Medium Trucks:	79.45	-13.44		0.11	-1.20	-4	.88	0.000		0.000
Heavy Trucks:	84.25	-7.09		0.11	-1.20	-5	.31	0.000		0.000
Unmitigated Noise	Levels (with	out Topo and	barrier at	tenuation)						
	Leq Peak Hοι			q Evening		Night	Ldn		CN	
Autos:	68		67.7	66.0		59.9		68.5		69.1
Medium Trucks:	64		64.1	57.8		56.2		64.7		64.9
Heavy Trucks:	75		75.4	66.3 69.5		67.6		75.9		76.1
	Vehicle Noise: 76.9 76.3				Ò	68.5		76.9		77.1
Centerline Distance	e to Noise Co	ontour (in feet)		70 dBA	65	dD A	60 dD		55.0	ID A
			Ldn:	70 dBA 65 dBA 60 dBA 55 185 399 859			55 C	1.851		
			VFL:	191		412		887		1,911
		Ci		131		712		501		1,011

Tuesday, December 8, 2020 Tuesday, December 8, 2020

	FH	WA-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: OYCP (No ne: Harley Kno nt: e/o Indian	x Bl.					Name: lumber:		ay Aviatior	1	
SITE Highway Data	SPECIFIC II	NPUT DATA			Site Con				L INPUT	S	
					Site Con	aitions	(Hara =				
Average Daily		14,842 vehicle	es					Autos:			
	Percentage:	8.08%				dium Tr					
Peak F	lour Volume:	1,199 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	45 mph		T I	Vehicle	Mix					
Near/Far La	ne Distance:	80 feet				icleType		Dav	Evenina	Niaht	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Pa	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Di	st. to Barrier:	64.0 feet		-	Noise So	urco E	lovation	ne (in fi	not)		
Centerline Dist.	to Observer:	64.0 feet		H	110/36 00	Auto		.000			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.000			
Observer Height	(Above Pad):	5.0 feet				ry Truck		.004	Grade Ad	liuctman	t- 0.0
P	ad Elevation:	0.0 feet			пеан	ry Truck	s. o	.004	Grade Au	justinen	0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
	Road Grade:	0.0%				Auto	s: 50	.210			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 50	.033			
	Right View:	90.0 degre	es		Heav	y Truck	s: 50	.050			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	68.46	-1.69		-0.1	3	-1.20		-4.70	0.0	000	0.000
Medium Trucks:	79.45	-16.79		-0.1	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	84.25	-10.59		-0.1	1	-1.20		-5.31	0.0	000	0.000
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atter	nuation)						
VehicleType	Leq Peak Ho	ur Leq Day	/	Leq E	vening	Leq	Night		Ldn	С	NEL
Autos:	65	5.4	64.5		62.7		56.	6	65.	3	65.9
Medium Trucks:	61	1.4	8.00		54.4		52.	9	61.	3	61.6
Heavy Trucks:	72	2.3	71.9		62.8		64.	.1	72.	4	72.5
Vehicle Noise:	73	3.4	72.9		66.1		65.	.1	73.	5	73.7
Centerline Distan	ce to Noise C	ontour (in feet)								
				70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		109		23	5	505	5	1,088
		C	NEL:	112 242 522				1,124			

	FH\	WA-RD-77-10	8 HIGI	N YAWH	OISE P	REDICT	TON MO	ODEL			
Road Nam	io: OYC (Peak ne: Heacock S nt: n/o Gentiar	t.						Gatew 13445	ay Aviatior	n	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	30,609 vehic	les					Autos:	15		
Peak Hour	Percentage:	8.08%				edium Tr					
Peak H	lour Volume:	2,473 vehicle	es		He	eavy Tru	cks (3+	Axles):	15		
	hicle Speed:	50 mph		ν	'ehicle	Mix					
Near/Far La	ne Distance:	48 feet			Ver	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.50%
Bai	rrier Height:	0.0 feet			M	edium T	rucks:	84.8%	4.9%	10.3%	2.61%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	10.89%
Centerline Dis	st. to Barrier:	50.0 feet			loise S	ource E	levatio	ns (in fe	et)		
Centerline Dist.	to Observer:	50.0 feet		F.	0.00	Auto		0.000			
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		3.004	Grade Ad	liustmen	t: 0.0
Pa	ad Elevation:	0.0 feet				•				,	
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen		_ •	feet)		
1	Road Grade:	0.0%				Auto		1.147			
	Left View:	-90.0 degre				m Truck		3.947			
	Right View:	90.0 degre	ees		Hea	vy Truck	s: 43	3.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	1.01		0.71		-1.20		-4.65		000	0.00
Medium Trucks:	81.00		-	0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-7.99	9	0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise											
VehicleType	Leq Peak Hou		,	Leq Ev			Night		Ldn		NEL
Autos:).7	69.7		68.0		61		70.	-	71.
Medium Trucks:		5.3	65.8		59.4		57		66.	-	66.
Heavy Trucks:		3.9	76.4		67.4		68		77.	-	77.
Vehicle Noise:	78	3.2	77.6		71.0		69	.8	78.	2	78.
Centerline Distant	ce to Noise Co	ontour (in fee	t)	70 -	D.4		-/D.4		20 404		- 404
			Ldn:	70 d	<i>BA</i> 175	05	dBA 37		60 dBA 814		5 dBA 1.753
											,
		C	ONEL:		181		39	1	842	2	1,81

	FH'	WA-RD-77-10	HIGHW	VAY NO	DISE PE	REDICTION	ON MO	DEL			
	o: OYC (Peal e: Heacock S t: s/o Iris Av.	,					lame: mber:		ay Aviation	1	
SITE S Highway Data	PECIFIC II	NPUT DATA		Ci	ito Con	No ditions (L INPUT	S	
• •				31	te Con	uilions (
Average Daily T	. ,	28,638 vehic	es					Autos:	15		
Peak Hour F		8.08%				dium Tru		,			
	our Volume:	2,314 vehicle	es		не	avy Truci	(S (3+ A	axies):	15		
	icle Speed:	50 mph		Ve	ehicle l	Иiх					
Near/Far Lan	e Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	86.599
Barr	ier Height:	0.0 feet			Me	edium Tru	icks:	84.8%	4.9%	10.3%	2.609
Barrier Type (0-Wa	all, 1-Berm):	0.0			ŀ	leavy Tru	icks:	86.5%	2.7%	10.8%	10.829
Centerline Dist	t. to Barrier:	50.0 feet		N	nisa Sr	urce Ele	vation	e (in f	not)		
Centerline Dist. to	Observer:	50.0 feet		741	DISE SC	Autos		000	eij		
Barrier Distance to	Observer:	0.0 feet			Modiu	n Trucks		297			
Observer Height (A	Above Pad):	5.0 feet				y Trucks		004	Grade Ad	iustman	r n n
Pad	d Elevation:	0.0 feet			ricav	y IIucks.	0.1	JU4	Orauc Au	justinen	. 0.0
Road	d Elevation:	0.0 feet		Lá	ane Eq	uivalent i	Distand	ce (in	feet)		
R	load Grade:	0.0%				Autos.	44.	147			
	Left View:	-90.0 degre	es			n Trucks					
	Right View:	90.0 degre	es		Heav	y Trucks	43.	966			
FHWA Noise Model		-									
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fresn		Barrier Att		rm Atten
Autos:	70.20			0.71		-1.20		-4.65		000	0.00
Medium Trucks:	81.00			0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38			0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise							E-1-4		Ldn	1 6	NFL
VehicleType I	Leq Peak Ho	ur Leq Da	9 L 69.5	Leq Eve	67.7	Leq N	iignt 61.6		70.3		NEL 70
Medium Trucks:		3.0	65.4		59.1		57.5		66.0	-	66
Heavy Trucks:		5.0 5.6	76.1		67.1		68.3		76.7	-	76
Vehicle Noise:		7.8	77.3		70.7		69.5		77.9		78
			41								
Contorlino Dietano	to Noice C	antaur (in fac									
Centerline Distance	e to Noise C	ontour (in fee	9	70 dE	BA	65 d	BA	- 6	0 dBA	55	dBA
Centerline Distance	e to Noise C	ontour (in fee	Ldn:	70 dE	BA 167	65 d	<i>BA</i> 360		60 dBA 776		<i>dBA</i> 1,67

Tuesday, December 8, 2020

	FH\	WA-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MC	DEL			
	o: OYC (Peak e: Heacock S nt: s/o Cardina	ť.					Name: lumber:		vay Aviatior	ı	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Average Daily	. ,	29,965 vehicle	S					Autos			
	Percentage:	8.08%				dium Tr		,			
	our Volume:	2,421 vehicles			He	avy Tru	cks (3+	Axles)	: 15		
	hicle Speed:	50 mph		ν	ehicle l	Vix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType		Day	Evening	Nigh	t Daily
Site Data						,	Autos:	77.59	6 12.9%	9.6	3% 85.36%
Bar	rier Height:	0.0 feet			M	edium T	rucks:	84.89	6 4.9%	10.3	3% 2.71%
Barrier Type (0-W		0.0			I	Heavy T	rucks:	86.59	6 2.7%	10.8	3% 11.93%
Centerline Dis	st. to Barrier:	50.0 feet		^	loise So	ource El	levation	s (in f	eet)		
Centerline Dist. t	to Observer:	50.0 feet		Ē		Auto		.000			
Barrier Distance t	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	iustme	ent: 0.0
	ad Elevation:	0.0 feet		L							
	nd Elevation:	0.0 feet		L	ane Eq	uivalen			feet)		
F	Road Grade:	0.0%				Auto		.147			
	Left View:	-90.0 degree				m Truck		.947			
	Right View:	90.0 degree	S		Heav	y Truck	s: 43	.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresi	nel	Barrier Att	en L	Berm Atten
Autos:	70.20	0.86		0.71		-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-14.12		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-7.69		0.73		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise			oarrier (attenı	ıation)						
	Leq Peak Hou			eq Ev			Night		Ldn		CNEL
Autos:	70		69.6		67.8		61.		70.4		71.0
Medium Trucks:	66		35.8		59.5		57.	-	66.4		66.6
Heavy Trucks:			76.7		67.7		68.	-	77.3		77.4
Vehicle Noise:	78	3.4	77.8		71.1		70.	0	78.4	1	78.6
Centerline Distanc	e to Noise Co	ontour (in feet)									
			L	70 d		65	dBA		60 dBA		55 dBA
		-	.dn:		181		390		841		1,811
		CV	IEL:		187		403	,	869		1,872

Tuesday, December 8, 2020 Tuesday, December 8, 2020

	FH\	WA-RD-77-108	HIGH	YAW	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: OYC (Peak ne: Heacock S nt: s/o Nandin	t.					Name: lumber:		ay Aviatior	1	
	SPECIFIC IN	IPUT DATA			0:4- 0				L INPUT	S	
Highway Data				-	Site Con	aitions	•				
Average Daily		1 vehicle	es					Autos:			
	Percentage:	8.08%					ucks (2 A	,			
	lour Volume:	0 vehicle	S		He	avy Tru	cks (3+ A	(xles	15		
	hicle Speed:	50 mph		F	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		F	Veh	icleType		Day	Evening	Night	Daily
Site Data								77.5%	12.9%	9.6%	86.23%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Di		50.0 feet			Noise So	roo E	lovetion	n (im f	n a #1		
Centerline Dist.	to Observer:	50.0 feet		ľ	woise 30	Auto		000	eu)		
Barrier Distance	to Observer:	0.0 feet			A deceller	Auto m Truck		297			
Observer Height	(Above Pad):	5.0 feet				v Truck		004	Grade Ad	i voteno ne	
P	ad Elevation:	0.0 feet			неа	y iruck	S. 8.	JU4	Grade Ad	justrnent	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	Distan	e (in	feet)		
	Road Grade:	0.0%				Auto	s: 44.	147			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 43.	947			
	Right View:	90.0 degre	es		Heav	y Truck	s: 43.	966			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fresn	_	Barrier Att		m Atten
Autos:	70.20			0.7		-1.20		-4.65		000	0.000
Medium Trucks:				0.7		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-52.77		0.7	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois										1	
VehicleType	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		NEL
Autos:		5.8	24.9		23.1		17.1		25.7		26.3
Medium Trucks:		.6	21.0		14.6		13.1		21.	-	21.8
Heavy Trucks:		2.1	31.6		22.6		23.9		32.2		32.3
Vehicle Noise:		3.4	32.8		26.2		25.0)	33.4	1	33.6
Centerline Distant	ce to Noise Co	ontour (in feet)								
			L	70	dBA	65	dBA	6	60 dBA		dBA
			Ldn:		0		0		1		2
		C	NEL:		0		0		1		2

	FH\	WA-RD-77-10	8 HI	SHWAY	NOISE P	REDICT	ION M	JDEL					
	io: OYC (Peak	()							ay Aviation	n			
	ne: Indian Av.	_				Job N	umber	13445	i				
Road Segmei	nt: s/o Nandin	a Av.											
	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Highway Data					Site Cor	nditions	(Hard	= 10, S	oft = 15)				
Average Daily	Traffic (Adt):	30,903 vehic	cles					Autos	: 15				
Peak Hour	Percentage:	8.08%			Me	edium Tru	ucks (2	Axles)	: 15				
Peak H	lour Volume:	2,497 vehicl	es		He	eavy Truc	cks (3+	Axles)	: 15				
	hicle Speed:	45 mph			Vehicle	Mix							
Near/Far La	ne Distance:	36 feet			Ver	icleType		Day	Evening	Night	Daily		
Site Data						-	Autos:	77.59	6 12.9%	9.6%	85.32%		
Bai	rrier Height:	0.0 feet			M	ledium Ti	rucks:	84.89	6 4.9%	10.3%	2.72%		
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.59	6 2.7%	10.8%	11.95%		
Centerline Di	st. to Barrier:	44.0 feet			Noise S	ource Fl	evatio	ns (in t	ieet)				
Centerline Dist.	to Observer:	44.0 feet			710,000	Auto:		000.	000				
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297					
Observer Height (5.0 feet			***********	vy Truck		3.004	Grade Ad	liustment	0.0			
Pa	0.0 feet			1100	vy much	J. (7.004		,				
Ros	ad Elevation:	0.0 feet			Lane Eq				feet)				
, and a	Road Grade:	0.0%				Auto		0.460					
	Left View:	-90.0 degr	ees		***********	m Truck).241					
	Right View:	90.0 degr	ees		Hea	vy Truck	s: 41	0.262					
FHWA Noise Mode	el Calculation	s											
VehicleType	REMEL	Traffic Flow	L	Distance	Finite	Road	Fre	inel	Barrier At	ten Bei	m Atten		
Autos:	68.46	1.4	5	1.	28	-1.20		-4.61	0.	000	0.000		
Medium Trucks:	79.45	-13.5	1	1.	31	-1.20		-4.87	0.	000	0.000		
Heavy Trucks:	84.25	-7.0	9	1.	31	-1.20		-5.50	0.	000	0.000		
Unmitigated Noise	e Levels (with	out Topo an	d bar	rier atte	nuation)								
VehicleType	Leq Peak Hou		-		Evening		Night		Ldn	_	NEL		
Autos:		0.0	69.		67.2		61		69.		70.4		
Medium Trucks:		6.0	65.	-	59.1		57		66.	-	66.3		
Heavy Trucks:		'.3	76.	-	67.7		69		77.		77.		
Vehicle Noise: 78.3 77.7			7	70.8	1	69	.9	78.	3	78.5			
Centerline Distand	ce to Noise C	ontour (in fee	et)	_									
					dBA	65	dBA		60 dBA		dBA		
			Ldr		158		34	-	732		1,577		
		(CNEL		163		35	U	755)	1,627		

Scenario: OYC (Peak)	
Average Daily Traffic (Adt): 53,816 vehicles Autos: 15	
Peak Hour Percentage: 8.08% Medium Trucks (2 Axles): 15	
Peak Hour Volume: 4,348 vehicles Heavy Trucks (3+ Axles): 15	
Vehicle Speed: 50 mph Vehicle Mix	
Near/Far Lane Distance: 73 feet VehicleType Day Evening Nig.	ht Daily
Site Data Autos: 77.5% 12.9% 9.	6% 86.31%
Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.	3% 2.65%
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.	8% 11.049
Centerline Dist. to Barrier: 55.0 feet Noise Source Elevations (in feet)	
Centerline Dist. to Observer: 55.0 feet Autos: 0.000	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297	
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Grade Adjustm	ent: 0.0
Pad Elevation: 0.0 feet	
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	
Road Grade: 0.0% Autos: 41.446	
Left View: -90.0 degrees Medium Trucks: 41.232	
Right View: 90.0 degrees Heavy Trucks: 41.253	
FHWA Noise Model Calculations	
5 5 5 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	Berm Atten
Autos: 70.20 3.45 1.12 -1.20 -4.67 0.000	0.00
Medium Trucks: 81.00 -11.68 1.15 -1.20 -4.87 0.000	0.00
Heavy Trucks: 85.38 -5.48 1.15 -1.20 -5.38 0.000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)	
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn	CNEL
Autos: 73.6 72.6 70.8 64.8 73.4	74.
Medium Trucks: 69.3 68.7 62.3 60.8 69.2	69.
Heavy Trucks: 79.8 79.3 70.3 71.6 79.9	80.
Vehicle Noise: 81.1 80.5 73.9 72.7 81.1	81.
Centerline Distance to Noise Contour (in feet)	55 dB4
70 dBA 65 dBA 60 dBA	55 dBA
	55 dBA 3,016 3,119

Tuesday, December 8, 2020

FI	HWA-RD-77-108	HIGHV	VAY N	OISE PI	REDICT	ION MOD	EL		
Scenario: OYC (Per Road Name: Cactus A Road Segment: e/o Heac	v. ´					Name: G lumber: 1		ay Aviation	
SITE SPECIFIC	INPUT DATA							L INPUTS	
Highway Data			S	ite Con	ditions	(Hard = 1	0, S	oft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	8.08%					A ucks (2 A: cks (3+ A:	/	15	
Vehicle Speed:	,		L.						
Near/Far Lane Distance:			V	ehicle I	VIIX icleType		Day	Evening N	ight Daily
Site Data			_	VEII			7.59		9.6% 86.30%
	0.0 feet			М	edium T		4.89		0.3% 2.65%
Barrier Height: Barrier Type (0-Wall, 1-Berm):				1	Heavy T	rucks: 8	6.5%		0.8% 11.04%
Centerline Dist. to Barrier:			N	loise So	ource El	levations	(in f	eet)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation: Road Grade:	0.0 feet 5.0 feet 0.0 feet 0.0 feet		L	Heav	Auto m Truck ry Truck uivalem Auto	s: 2.2 s: 8.0	97 94 e (in	Grade Adjus	tment: 0.0
Left View: Right View:	-90.0 degre 90.0 degre				m Truck y Truck	s: 36.3	80		
FHWA Noise Model Calculation									
VehicleType REMEL	Traffic Flow	Dista		Finite		Fresne		Barrier Atten	Berm Atten
Autos: 66.5 Medium Trucks: 77.7			1.94		-1.20 -1.20		4.61 4.87	0.000	
Heavy Trucks: 77.7 Heavy Trucks: 82.9			1.98		-1.20		4.87 5.50	0.000	
Unmitigated Noise Levels (with	hout Topo and	barrier	attenu	iation)					
VehicleType Leq Peak H	our Leq Day	/ L	Leg Ev	ening	Leq	Night		Ldn	CNEL
Autos:	70.0	69.0		67.2		61.2		69.8	70.4
Medium Trucks:	66.1	65.5		59.2		57.6		66.1	66.3
Heavy Trucks:	77.6	77.1		68.0		69.3		77.6	77.8
Vehicle Noise:	78.5	78.0		71.0		70.2		78.6	78.8
Centerline Distance to Noise	Contour (in feet)							
			70 di		65	dBA	-	60 dBA	55 dBA
		Ldn:		164		353		760	1,638
	С	NEL:		169		364		784	1,689

Tuesday, December 8, 2020

	FHV	VA-RD-77-108	HIGH	-WAY	NOISE P	REDICT	ION MO	DEL			
Road Nam	ne: OYC (Peak ne: Harley Knownt: e/o Patterso	BI.					Name: lumber:		ay Aviatior	ı	
SITE Highway Data	SPECIFIC IN	PUT DATA			Site Cor				L INPUT	S	
Average Daily Peak Hour Peak H	Percentage:	31,891 vehicle 8.08% 2,577 vehicle 45 mph			Ме Не	dium Tru	ucks (2	Autos: Axles):	15 15		
Near/Far La	ne Distance:	80 feet		-	Vehicle .	icleType		Dav	Evening	Night	Daily
Site Data					V C / 1		Autos:	77.5%			85.32%
Barrier Type (0-W	rrier Height: /all, 1-Berm):	0.0 feet 0.0				edium Ti Heavy Ti		84.8% 86.5%		10.3% 10.8%	2.73% 11.95%
Centerline Di		64.0 feet		f	Noise S	ource El	evation	ıs (in fe	eet)		
Centerline Dist.		64.0 feet				Auto	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height ((Above Pad): ad Elevation:	5.0 feet 0.0 feet			Hea	y Truck	s: 8	.004	Grade Ad	iustmen	: 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in i	feet)		
	Road Grade:	0.0%				Auto:	s: 50	.210			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 50	.033			
	Right View:	90.0 degree	es		Hear	y Truck	s: 50	.050			
FHWA Noise Mode	el Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	m Atten
Autos:	68.46	1.58		-0.1	13	-1.20		-4.70	0.0	000	0.000
Medium Trucks:	79.45	-13.37		-0.1	11	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:		-6.95		-0.1		-1.20		-5.31	0.0	000	0.000
Unmitigated Noise											
VehicleType	Leq Peak Hou	.,.,		Leq E	vening	_	Night		Ldn		NEL
Autos:	68		67.7		66.0		59.		68.		69.1
Medium Trucks:	64	-	64.2		57.8		56.	-	64.7		65.0
Heavy Trucks: Vehicle Noise:			75.5 76.4		66.5 69.5		67.		76. ⁻		76.2 77.2
Centerline Distant	ce to Noise Co	ntour (in feet)								
		,,		70	dBA	65	dBA	6	0 dBA	55	dBA
			Ldn:		188		40	3	875		1,885
		CI	VEL:		194		419	9	903		1,944

	o: OYC (Peal							Gatew 13445	ay Aviatior	1	
Road Segmen											
SITE S	SPECIFIC II	NPUT DAT	A				NOISE	MODE	L INPUT	S	
Highway Data				5	Site Cor	nditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	14,842 veh	icles					Autos:	15		
Peak Hour	Percentage:	8.08%			Me	edium Ti	ucks (2	Axles):	15		
Peak He	our Volume:	1,199 vehic	les		He	eavy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	45 mph		,	Vehicle	Mix					
Near/Far Lar	ne Distance:	80 feet		F		nicleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	-		86.23%
Rar	rier Heiaht:	0.0 feet			M	fedium 7	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0				Heavy 7	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis		64.0 feet		١,	Voico S	ource E	lovatio	ne (in f	not)		
Centerline Dist. t	to Observer:	64.0 feet		H'	voise 3	Auto		0.000	ei)		
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				ım Truck vy Truck		3.004	Grade Ad	iustmant	. 0 0
Pa	d Elevation:	0.0 feet			неа	vy Truck	(S: 6	3.004	Grade Au	Justinent	. 0.0
Roa	d Elevation:	0.0 feet		I	Lane Eq	quivalen	t Dista	nce (in i	feet)		
F	Road Grade:	0.0%				Auto	s: 50	0.210			
	Left View:	-90.0 deg	rees		Mediu	ım Truck	(s: 50	0.033			
	Right View:	90.0 deg	rees		Hea	vy Truck	(s: 50	0.050			
FHWA Noise Mode	el Calculation	IS									
VehicleType	REMEL	Traffic Flov	v D	istance	Finite	Road	Fres	snel	Barrier Att	en Bei	m Atten
Autos:	68.46	-1.6	39	-0.13	3	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	79.45	-16.	79	-0.1	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-10.	59	-0.1	1	-1.20		-5.31	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo ar	nd barr	ier atten	uation)						
	Leq Peak Ho		-	Leq Ev			Night		Ldn		NEL
Autos:		5.4	64.5		62.7		56		65.		65.9
Medium Trucks:		1.4	60.8		54.4		52		61.		61.0
Heavy Trucks:		2.3	71.9		62.8		64		72.		72.
Vehicle Noise:	73	3.4	72.9		66.1		65	.1	73.	5	73.
Centerline Distanc	e to Noise C	ontour (in fe	et)								
				70 c		65	dBA		60 dBA		dBA
			Ldn:		109 112		23	-	505 522		1,088
			CNEL:								

	FH\	WA-RD-77-108	HIGH	IWAY N	IOISE P	REDICTI	ON MC	DEL			
	io: HY 2040 w e: Heacock S nt: n/o Gentiar	t.					Name: umber:		ay Aviatior	1	
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	ft = 15)		
Average Daily	Traffic (Adt):	33,022 vehicl	es					Autos:	15		
Peak Hour	Percentage:	8.08%			Me	edium Tru	icks (2	Axles):	15		
Peak H	our Volume:	2,668 vehicle	S		He	eavy Truc	ks (3+	Axles):	15		
Vei	hicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet		F		icleType		Day	Evening	Night	Daily
Site Data							lutos:	77.5%	12.9%	9.6%	86.239
Rai	rier Height:	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.679
Barrier Type (0-W	-	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	11.109
Centerline Dis	st. to Barrier:	50.0 feet		,	Voico S	ource El	ovation	e (in fe	not)		
Centerline Dist.	to Observer:	50.0 feet		<u> </u>	VUISE SI	Autos		.000	eu		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks		297			
Observer Height (Above Pad):	5.0 feet				vy Trucks		.004	Grade Ad	iustmant	. 00
Pa	ad Elevation:	0.0 feet			rica	vy Trucks	s. 0	.004	Orauc Au	justinoni	. 0.0
Roa	ad Elevation:	0.0 feet		I	ane Eq	uivalent	Distan	ce (in t	eet)		
F	Road Grade:	0.0%				Autos	: 44	.147			
	Left View:	-90.0 degre	es		Mediu	m Trucks	3: 43	.947			
	Right View:	90.0 degre	es		Hea	vy Trucks	s: 43	.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Bei	rm Atten
Autos:	70.20			0.7		-1.20		-4.65		000	0.00
Medium Trucks:	81.00			0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-7.58		0.73	3	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barrie	er atten	uation)						
	Leq Peak Hou			Leg E			Night		Ldn	_	NEL
Autos:		1.0	70.1		68.3		62.	_	70.9	-	71.
Medium Trucks:	66		66.2		59.8		58.	-	66.7		67.
Heavy Trucks:		7.3	76.8		67.8		69.		77.4		77.
Vehicle Noise:	78	3.5	78.0		71.4		70.	2	78.0	5	78.
Centerline Distanc	e to Noise Co	ontour (in feet)	70	1D.4		-/D.4		O -ID 4	1	-104
			I dn:	70 c		65 (dBA		i0 dBA		dBA
		0	Ldn: NFL:		186		401		865		1,863
		C	VEL.		193		415)	894		1,927

Wednesday, December 9, 2020

	FHWA	A-RD-77-108 H	HIGHW <i>A</i>	Y NOISE P	REDICT	ON MODE	L	
Scenario: H Road Name: H Road Segment: s	eacock St.	ext.				Name: Gat umber: 134	eway Aviation 45	
	CIFIC INP	UT DATA					DEL INPUTS	
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)	
Average Daily Traff Peak Hour Pero Peak Hour V	entage:	8,473 vehicles 8.08% ,301 vehicles	S			Aut ucks (2 Axle cks (3+ Axle	s): 15	
Vehicle	Speed:	50 mph		Vehicle	Miv			
Near/Far Lane D	istance:	48 feet			nicleType	Da	/ Evening	Night Daily
Site Data						Autos: 77.		9.6% 86.23%
Barrier	Hoight:	0.0 feet		M	ledium Ti	ucks: 84.	8% 4.9%	10.3% 2.67%
Barrier Type (0-Wall, 1	-Berm):	0.0			Heavy T	ucks: 86.	5% 2.7%	10.8% 11.10%
Centerline Dist. to		50.0 feet		Noise S	ource El	evations (i	n feet)	
Barrier Distance to O Observer Height (Abov Pad El	Centerline Dist. to Observer: 50.0 fe Barrier Distance to Observer: 0.0 fe observer Height (Above Pad): 5.0 fe Pad Elevation: 0.0 fe Road Elevation: 0.0 fe				Auto im Truck vy Truck juivalent	s: 2.297	Grade Adju	stment: 0.0
Road	Grade:	0.0%			Auto	s: 44.147		
	eft View: ht View:	-90.0 degrees 90.0 degrees			m Truck vy Truck			
FHWA Noise Model Ca	lculations							
VehicleType R	EMEL 7	raffic Flow	Distan	ce Finite	Road	Fresnel	Barrier Atte	n Berm Atten
Autos:	70.20	0.68		0.71	-1.20	-4.	55 0.00	0.000
Medium Trucks:	81.00	-14.42		0.74	-1.20	-4.	37 0.00	0.000
Heavy Trucks:	85.38	-8.22		0.73	-1.20	-5.4	43 0.00	0.000
Unmitigated Noise Lev				,				
	Peak Hour	Leq Day		q Evening		Night	Ldn	CNEL
Autos:	70.4	-	9.4	67.7		61.6	70.2	70.8
Medium Trucks:	66.1		5.5	59.2		57.6	66.1	66.3
Heavy Trucks: Vehicle Noise:	76.7 77.9		6.2 7.3	67.2 70.7		68.4 69.5	76.8 77.9	76.9 78.1
			1.5	70.7		05.5	11.5	70.1
Centerline Distance to	Noise Con	tour (in feet)		70 dBA	65	dBA	60 dBA	55 dBA
		L	.dn:	169	1 30	364	784	1.688
		_	EL:	175		376	810	1,746

Tuesday, December 8, 2020

Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGH	HWAY N	OISE PI	REDICTI	ON MO	DEL			
Scenario: HY Road Name: He Road Segment: s/o	acock St						Name: umber:		ay Aviatior	ı	
SITE SPEC	IFIC IN	PUT DATA							L INPUT	s	
Highway Data				5	Site Con	ditions (
Average Daily Traffic	(Adt):	31,784 vehicle	es					Autos:	15		
Peak Hour Perce	ntage:	8.08%				dium Tru		,	15		
Peak Hour Vo		2,568 vehicles	S		He	avy Truc	ks (3+)	Axles):	15		
Vehicle S	,	50 mph		١	/ehicle	Mix					
Near/Far Lane Dis	tance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	86.23%
Barrier H	eiaht.	0.0 feet			М	edium Tr	ucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-Wall, 1-		0.0			1	Heavy Tr	ucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dist. to E		50.0 feet		1	loise S	ource Ele	evation	s (in fe	et)		
Centerline Dist. to Obs		50.0 feet				Autos	: 0.	000	,		
Barrier Distance to Obs		0.0 feet			Mediu	m Trucks	: 2.	297			
Observer Height (Above	Pad):	5.0 feet				y Trucks		004	Grade Ad	iustment	: 0.0
Pad Ele		0.0 feet									
Road Ele		0.0 feet		L	ane Eq	uivalent		_ •	eet)		
Road (0.0%				Autos		147			
	View:	-90.0 degree				m Trucks		947			
Right	View:	90.0 degree	es		Heav	y Trucks	: 43.	966			
FHWA Noise Model Cald	culations	3									
	MEL	Traffic Flow	Dis	stance		Road	Fresr		Barrier Att		m Atten
Autos:	70.20	1.16		0.71		-1.20		-4.65		000	0.000
Medium Trucks:	81.00	-13.94		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-7.75		0.73		-1.20		-5.43	0.0	000	0.000
VehicleType Leg F	Is (witho eak Hou					Logi	Violet	1	Ldn		NEL
Autos:	еак <i>нои</i> 70		69.9	Leq Ev	ening 68.1	Leq I	vignt 62.1	1	70.7		VEL 71.3
Medium Trucks:	66	-	66.0		59.7		58.1	•	66.6		66.8
Heavy Trucks:	77.	-	76.7		67.6		68.9		77.2		77.4
Vehicle Noise:	78		77.8		71.2		70.0		78.4		78.6
Centerline Distance to N	loise Co	ntour (in feet)								
				70 a	IBA	65 c	iBA	6	0 dBA	55	dBA
			Ldn:		182		391		843		1,817
		-	NEL:		188		405		872		1.879

	FHW.	A-RD-77-108	HIGH	WAY N	OISE P	REDICT	ION M	ODEL			
Scenario: Road Name: Road Segment:								Gatew 13445	ay Aviatior	1	
SITE SP Highway Data	ECIFIC INF	UT DATA		S	ite Cor	i ditions			L INPUT	S	
Average Daily Tra Peak Hour Pe Peak Hou	rcentage: r Volume: le Speed:	1 vehicle 8.08% 0 vehicle 50 mph 48 feet	-		Me He 'ehicle	edium Tr eavy Tru	ucks (2 cks (3+	Autos: Axles):	15 15	Night	Daily
Site Data					V C//		Autos:	77.5%	-	9.6%	
Barrie Barrier Type (0-Wall,	r Height: 1-Berm):	0.0 feet 0.0				edium T Heavy T		84.8% 86.5%		10.3%	
	Observer: Observer:	50.0 feet 50.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu Hea	Auto M Truck Vy Truck	s: (s: 2 s: 8	0.000 2.297 3.004	Grade Ad	justmen	t: 0.0
Ros R	ad Grade: Left View: ight View:	0.0% -90.0 degree 90.0 degree			Mediu	Auto m Truck vy Truck	s: 44	4.147 3.947 3.966			
FHWA Noise Model (,		5 (-	***
VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	-43.86 -58.96 -52.77	DIS	0.71 0.74 0.73		-1.20 -1.20 -1.20	Fres	-4.65 -4.87 -5.43	0.0	000 000 000	0.000 0.000 0.000
Unmitigated Noise L	evels (witho	ut Topo and	barri	er atteni	uation)						
	q Peak Hour			Leq Ev		Leq	Night		Ldn	С	NEL
Autos: Medium Trucks:	25.8 21.6	•	24.9 21.0		23.1 14.6		17 13	.1	25.1 21.5	5	26.3 21.8
Heavy Trucks: Vehicle Noise:	32.1 33.4		31.6 32.8		26.2		23 25		32.2		32.3
Centerline Distance	to Noise Cor	tour (in feet,)								
			Ldn: NEL:	70 d	<i>BA</i> 0 0	65		0 0	60 dBA 1 1		2 2

Scenario: HY 2040 Road Name: Indian Av	<i>i</i> .							Gatew 13445	ay Aviatior	1	
Road Segment: s/o Nand											
SITE SPECIFIC Highway Data	INP	JT DATA			Site Co	N nditions (L INPUT ft = 15)	S	
Average Daily Traffic (Adt)	. 22	.978 vehicles	,		0.10 00	1011101101	77070	Autos:	15		
Peak Hour Percentage		3.08%	,			edium Tru	cke (2				
Peak Hour Volume		665 vehicles				eavy Truc		,			
Vehicle Speed	,	45 mph		L				, 1000).			
Near/Far Lane Distance		36 feet		Ľ	Vehicle						
		00 1001			Ve	hicleType		Day	Evening	Night	Daily
Site Data							utos:	77.5%			86.239
Barrier Height	:	0.0 feet			٨	1edium Tr		84.8%		10.3%	
Barrier Type (0-Wall, 1-Berm)	:	0.0				Heavy Tr	ucks:	86.5%	2.7%	10.8%	11.109
Centerline Dist. to Barrier	:	44.0 feet			Noisa	ource Ele	vatio	ne (in f	not)		
Centerline Dist. to Observer	:	44.0 feet		ľ	140/36 6	Autos		.000	.00		
Barrier Distance to Observer	:	0.0 feet			Modi	ım Trucks		297			
Observer Height (Above Pad)	:	5.0 feet				arr Trucks	-	.004	Grade Ad	iuetman	t· 0.0
Pad Elevation	:	0.0 feet		L	1100	ivy Trucks		1.004	Orauc Au	justinen	. 0.0
Road Elevation	:	0.0 feet			Lane E	quivalent	Distai	nce (in	feet)		
Road Grade	: (0.0%				Autos	: 40	.460			
Left View	: -	90.0 degrees	3		Medi	um Trucks	: 40	.241			
Right View	:	90.0 degrees	3		Hea	vy Trucks	: 40	0.262			
FHWA Noise Model Calculation	ons										
VehicleType REMEL	T	raffic Flow	Dis	stance	Finit	e Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos: 68.4	46	1.78		1.2	8	-1.20		-4.61	0.0	000	0.00
Medium Trucks: 79.4	45	-13.32		1.3	1	-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 84.3	25	-7.13		1.3	1	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels (wi	_	•	arrie								
VehicleType Leq Peak F	lour	Leq Day		Leq E	vening	Leq I	Vight		Ldn	C	NEL
Autos:	70.3	6	9.3		67.	6	61	.5	70.	1	70.
Medium Trucks:	66.2	6	5.7		59.	3	57	.7	66.2	2	66.
	77.2		6.7		67.		69		77.3	-	77.
Vehicle Noise:	78.3	7	7.7		71.	0	69	.9	78.3	3	78.
Centerline Distance to Noise	Cont	our (in feet)				,				,	
			L	70 (dBA	65 c			60 dBA		dBA
		_	dn:		158		34		735		1,584
		CN	⊏ı .		164		35	2	759		1.635

Wednesday, December 9, 2020

	FHW	/A-RD-77-108	HIGHW	AY N	OISE PI	REDICTI	ON M	DDEL			
Road Nam	io: HY 2040 w/o ne: Cactus Av. nt: w/o Heacoc							Gatew 13445	vay Aviatior	n	
SITE :	SPECIFIC IN	PUT DATA			ito Con	N ditions			EL INPUT	s	
Average Daily Peak Hour Peak H	Percentage:	58,874 vehicle 8.08% 4,757 vehicles 50 mph			Ме	edium Tru eavy Truc	icks (2	Autos Axles)	: 15 : 15		
Near/Far La	ne Distance:	73 feet				icleType		Day	Evening	Night	Daily
Site Data Bai Barrier Type (0-W	rrier Height:	0.0 feet			М			77.5% 84.8% 86.5%	6 12.9% 6 4.9%	9.6%	86.23%
Centerline Dist. Barrier Distance Observer Height (st. to Barrier: to Observer: to Observer:	55.0 feet 55.0 feet 0.0 feet 5.0 feet		٨	loise So	Autos Trucks	evatio	ns (in t			
	ad Elevation:	0.0 feet 0.0 feet				vy Trucks uivalent		3.004		ijustriieri	. 0.0
	Road Grade: Left View: Right View:	0.0% -90.0 degree 90.0 degree				Autos m Trucks vy Trucks	s: 41	1.446 1.232 1.253	,		
FHWA Noise Mode	el Calculations	i									
VehicleType Autos:	70.20	Traffic Flow 3.83	Distan	1.12		Road -1.20	Fres	nel -4.67	Barrier Att	ten Be	rm Atten 0.000
Medium Trucks: Heavy Trucks:	81.00 85.38	-11.26 -5.07		1.15 1.15		-1.20 -1.20		-4.87 -5.38		000 000	0.000
Unmitigated Noise	Levels (witho	ut Topo and I	barrier a	ttenı	ıation)						
VehicleType	Leq Peak Hou			eq Ev	ening	Leq I			Ldn		NEL
Autos: Medium Trucks:	74. 69.		73.0 69.1		71.2 62.7		65 61		73. 69.		74.4 69.9
Heavy Trucks: Vehicle Noise:	80. 81.		79.8 80.9		70.7 74.3		72 73		80. 81.	-	80.5 81.7
Centerline Distanc	ce to Noise Co	ntour (in feet)	1								
		,,	L	70 d		65 (60 dBA	55	dBA
		-	Ldn: VEL:		321 332		69 71	_	1,491 1,542		3,212 3,321

Wednesday, December 9, 2020

Wednesday, December 9, 2020

	FHW	VA-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL			
Road Nam	io: HY 2040 w/e: Cactus Av. nt: e/o Heacocl						Name: lumber:		ay Aviatior	1	
	SPECIFIC IN	PUT DATA			Site Cor				L INPUT	s	
Highway Data					Site Cor	aitions	(Hara =				
Average Daily		39,968 vehicle	es					Autos:	15		
	Percentage:	8.08%				dium Tr					
		3,229 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ne Distance:	50 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	,
Par	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-W	all, 1-Berm):	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis		44.0 feet		- 1	Noise S	ource El	evation	ns (in fe	eet)		
Centerline Dist.		44.0 feet				Auto	s: 0	.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck	s: 2	.297			
Observer Height (5.0 feet			Hear	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
	ad Elevation:	0.0 feet		_							
	ad Elevation:	0.0 feet			Lane Eq				feet)		
I	Road Grade:	0.0%				Auto		.551			
	Left View:	-90.0 degree				m Truck		.308			
	Right View:	90.0 degree	es		Hea	y Truck	s: 36	.332			
FHWA Noise Mode	el Calculations	3									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:	66.51	3.12		1.9	4	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-11.98		1.9	8	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-5.78		1.9	-	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise											
,,	Leq Peak Hou	.,.,		Leq E	vening	_	Night		Ldn		NEL
Autos:	70.		69.4		67.6		61.		70.2		70.8
Medium Trucks:	66.	-	65.9		59.6		58.	-	66.	-	66.7
Heavy Trucks: Vehicle Noise:	78. 78.		77.5 78.4		68.5 71.4		69. 70.		78. ⁻		78.2 79.2
Centerline Distance		-							70.		70.2
Centernile Distant	e to Noise Co	intour (III reet)		70 0	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:		174		376	3	810	i	1,744
		CI	NEL:		180		388	В	835		1,799

	FH	WA-RD-77-1	08 HIG	1 YAWH	NOISE P	REDICT	ION MODE	L		
	o: HY 2040 w e: Harley Kno t: e/o Patters	ox Bl.					t Name: Gat lumber: 134	eway Aviatior 45	1	
SITE S	PECIFIC II	NPUT DATA	١				NOISE MO	DEL INPUT	S	
Highway Data					Site Cor	nditions	(Hard = 10,	Soft = 15)		
Average Daily 1 Peak Hour F Peak Ho	. ,	34,146 vehi 8.08% 2,759 vehic					Auto rucks (2 Axle rcks (3+ Axle	s): 15		
Veh	icle Speed:	45 mph		F	Vehicle	Mix				
Near/Far Lan	e Distance:	80 feet		F		nicleType	e Da	y Evening	Night	Daily
Site Data							Autos: 77.		9.6%	
Ran	rier Height:	0.0 feet			M	1edium 7	rucks: 84.	8% 4.9%	10.3%	2.67%
Barrier Type (0-Wa		0.0				Heavy 7	rucks: 86.	5% 2.7%	10.8%	11.10%
Centerline Dis	t. to Barrier:	64.0 feet			Noise S	ource F	levations (ii	n feet)		
Centerline Dist. t	o Observer:	64.0 feet		F		Auto				
Barrier Distance to	o Observer:	0.0 feet			Modiu	ım Truck	0.000			
Observer Height (A	Above Pad):	5.0 feet				vy Truck			iustmen	t· 0.0
Pa	d Elevation:	0.0 feet			rica	vy mucr	13. 0.004	0,000,10	Juotimom	0.0
Roa	d Elevation:	0.0 feet		Ŀ	Lane Eq	quivalen	t Distance (in feet)		
R	Road Grade:	0.0%				Auto	s: 50.210			
	Left View:	-90.0 deg	rees		Mediu	ım Truck	s: 50.033			
	Right View:	90.0 deg	rees		Hea	vy Truck	s: 50.050			
FHWA Noise Mode	I Calculation	ıs								
VehicleType	REMEL	Traffic Flow	/ D	istance	Finite	Road	Fresnel	Barrier Att	en Be	rm Atten
Autos:	68.46	1.9	93	-0.1	3	-1.20	-4.1	70 0.0	000	0.000
Medium Trucks:	79.45	-13.1	17	-0.1	1	-1.20	-4.8	98 0.0	000	0.000
Heavy Trucks:	84.25	-6.9	98	-0.1	1	-1.20	-5.3	31 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo an	d barr	ier atten	uation)					
VehicleType	Leq Peak Ho	ur Leq D	ay	Leq E	vening	Leq	Night	Ldn	C	NEL
Autos:	69	9.1	68.1		66.3	3	60.3	68.9	9	69.5
Medium Trucks:	6	5.0	64.4		58.0)	56.5	64.9	9	65.2
Heavy Trucks:	76	6.0	75.5		66.4	ļ.	67.7	76.0)	76.2
Vehicle Noise:	7	7.0	76.5		69.7	,	68.7	77.	1	77.3
Centerline Distance	e to Noise C	ontour (in fe	et)							
					dBA	65	dBA	60 dBA		dBA
			Ldn:		190		409	880		1,897
			CNEL:		196		422	909		1,959

	FHW	A-RD-77-108	HIGH	IWAY I	NOISE F	REDICT	ION MO	DEL			
Scenario: HY 20- Road Name: Harley Road Segment: e/o Ind	Knox	BI.					Name: lumber:		ay Aviatior	1	
SITE SPECIFI	CINE	PUT DATA							L INPUT	s	
Highway Data					Site Co.	nditions					
Average Daily Traffic (Ad	,	16,326 vehicle	es					Autos:			
Peak Hour Percentag		8.08%				edium Tr		,			
Peak Hour Volun		1,319 vehicle	S		Н	eavy Tru	cks (3+)	Axles):	15		
Vehicle Spee		45 mph		İ	Vehicle	Mix					
Near/Far Lane Distant	e:	80 feet		İ	Vei	hicleType		Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	86.239
Barrier Heig	nt:	0.0 feet			٨	1edium T	rucks:	84.8%	4.9%	10.3%	2.679
Barrier Type (0-Wall, 1-Berl		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	11.109
Centerline Dist. to Barri	er:	64.0 feet		-	Noisa S	ource El	lovation	e (in fi	not)		
Centerline Dist. to Observ	er:	64.0 feet		-	140/36 0	Auto		000			
Barrier Distance to Observ	er:	0.0 feet			Medii	ım Truck		297			
Observer Height (Above Pa	d):	5.0 feet				vy Truck		004	Grade Ad	liustment	. 0.0
Pad Elevation	n:	0.0 feet								,	
Road Elevation		0.0 feet			Lane Ed	quivalen			feet)		
Road Grad		0.0%				Auto		210			
Left Vie		-90.0 degree				ım Truck		033			
Right Vie	W:	90.0 degree	es		Hea	vy Truck	s: 50.	050			
FHWA Noise Model Calcula											
VehicleType REME		Traffic Flow		tance		Road	Fresi		Barrier Att		m Atten
	3.46	-1.28		-0.1		-1.20		-4.70		000	0.00
Medium Trucks: 7	9.45	-16.38		-0.1		-1.20		-4.88		000	0.00
		-10.18		-0.1	11	-1.20		-5.31	0.0	000	0.00
Heavy Trucks: 8											
Unmitigated Noise Levels (vitho					_	h li lu d		Lata		A.IT.
Unmitigated Noise Levels (VehicleType Leq Peak	vitho Hour	Leq Day	/		vening	Leq	Night		Ldn	_	NEL
Unmitigated Noise Levels (VehicleType Leq Peak Autos:	witho Hour	Leq Day	64.9		vening 63.	Leq	57.		65.	7	66.
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks:	Hour 65.9	Leq Day	64.9 61.2		63.1 54.8	Leq 1	57. 53.	3	65.1 61.1	7	66.
Unmitigated Noise Levels (VehicleType Leq Peak Autos:	witho Hour	Leq Day 9 8 8	64.9		vening 63.	Leq 1 3	57.	3 5	65.	7 7 8	66 62 73
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	######################################	Leq Day 9 8 8 8	64.9 61.2 72.3 73.3		63.2 54.8 63.2	Leq 1 3	57. 53.0 64.0	3 5	65.1 61.1 72.8	7 7 8	66 62 73
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks:	######################################	Leq Day 9 8 8 8	64.9 61.2 72.3 73.3	Leq E	63.2 54.8 63.2	Leq 1 3 2	57. 53.0 64.0	5	65.1 61.1 72.8	7 7 8 9	66. 62. 73. 74.
Unmitigated Noise Levels (VehicleType Leq Peak Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	######################################	Leq Day 9 8 8 8 8 8	64.9 61.2 72.3 73.3	Leq E	63.2 54.8 63.2 66.8	Leq 1 3 2 5	57. 53.3 64.8 65.8	5	65.1 61.1 72.1 73.9	7 7 8 9	66 62 73 74

Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGHWA	Y NOISE P	REDICT	ION MODE	-	
	e: Heacock St		eak)		.,	Name: Gat umber: 134	eway Aviation 45	
SITE S	SPECIFIC IN	PUT DATA			N	IOISE MOI	DEL INPUTS	
Highway Data				Site Cor	nditions	(Hard = 10,	Soft = 15)	
	Percentage: our Volume:	33,372 vehicle 8.08% 2,696 vehicles	S			Auto ucks (2 Axle cks (3+ Axle	s): 15	
	nicle Speed:	50 mph		Vehicle	Mix			
Near/Far Lar	ne Distance:	48 feet		Veh	icleType	Day	/ Evening	Night Daily
Site Data						Autos: 77.	5% 12.9%	9.6% 86.38%
Rar	rier Height:	0.0 feet		М	edium Ti	rucks: 84.	8% 4.9%	10.3% 2.64%
Barrier Type (0-Wa		0.0			Heavy T	rucks: 86.	5% 2.7%	10.8% 10.98%
Centerline Dis	t. to Barrier:	50.0 feet		Noise S	ource El	evations (ii	n feet)	
Centerline Dist. t	o Observer:	50.0 feet			Auto		,	
Barrier Distance t	o Observer:	0.0 feet		Mediu	m Truck	0.000		
Observer Height (/	Above Pad):	5.0 feet			vy Truck		Grade Adiu	stment: 0.0
Pa	d Elevation:	0.0 feet		rica	vy IIuck	3. 0.004	Orado riaja	otmont. o.o
Roa	d Elevation:	0.0 feet		Lane Eq	uivalent	Distance (in feet)	
F	Road Grade:	0.0%			Auto	s: 44.147		
	Left View:	-90.0 degree	S	Mediu	m Truck	s: 43.947		
	Right View:	90.0 degree	S	Hea	vy Truck	s: 43.966		
FHWA Noise Mode	l Calculations	3						
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Atter	n Berm Atten
Autos:	70.20	1.38		0.71	-1.20	-4.0	55 0.00	0.000
Medium Trucks:	81.00	-13.77		0.74	-1.20	-4.8	37 0.00	0.000
Heavy Trucks:	85.38	-7.58		0.73	-1.20	-5.4	13 0.00	0.000
Unmitigated Noise				,				
	Leq Peak Hou			q Evening		Night	Ldn	CNEL
Autos:	71.	.1 7	0.1	68.3		62.3	70.9	71.5
Medium Trucks:	66.	.8 6	6.2	59.8		58.3	66.7	67.0
Heavy Trucks:	77.	.3 7	6.8	67.8		69.1	77.4	77.5
Vehicle Noise:	78.	.6 7	8.0	71.4		70.2	78.6	78.8
Centerline Distanc	e to Noise Co	ntour (in feet)		70 -ID4		-/D.4	CO -(D.4	55 -IDA
				70 dBA	65	dBA 400	60 dBA	55 dBA
		_	.dn:	187		402	866	1,866
		CN	EL:	193		416	896	1,930

Wednesday, December 9, 2020 Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGH	I YAWH	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: HYP 2040 v ne: Heacock St nt: s/o Iris Av.		Peak)				Name: lumber:		ay Aviatior	1	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	•				
Average Daily	Traffic (Adt):	28,923 vehicle	es					Autos:	15		
Peak Hour	Percentage:	8.08%				edium Tri					
Peak H	lour Volume:	2,337 vehicle	S		He	eavy Truc	cks (3+ .	Axles):	15		
Ve	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		İ	Veh	icleType	,	Dav	Evening	Niaht	Dailv
Site Data							Autos:	77.5%	-	9.6%	86.45%
Rai	rrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	2.62%
Barrier Type (0-W		0.0				Heavy Ti	rucks:	86.5%	2.7%	10.8%	10.93%
Centerline Di	. ,	50.0 feet		-							
Centerline Dist	to Observer:	50.0 feet		-	Noise S				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height (Above Pad):	5.0 feet				m Truck		.297	0	4 4	
Pi	ad Elevation:	0.0 feet			Hea	vy Truck	s: 8.	.004	Grade Ad	justment	0.0
Roa	ad Elevation:	0.0 feet		Ī	Lane Eq	uivalent	Distan	ce (in f	feet)		
	Road Grade:	0.0%				Auto:	s: 44	.147			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43	.947			
	Right View:	90.0 degree	es		Hea	y Truck	s: 43	.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	0.76		0.7	1	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-14.42		0.7	4	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-8.22		0.7	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er atter	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening	-	Night		Ldn		VEL
Autos:	70		69.5		67.7		61.		70.3	-	70.9
Medium Trucks:	66		65.5		59.2		57.	-	66.		66.3
Heavy Trucks:	76		76.2		67.2		68.		76.8		76.9
Vehicle Noise:	77	.9	77.3		70.8	i	69.	5	77.9	9	78.2
Centerline Distant	ce to Noise Co	ntour (in feet)	70	dBA	65	dBA		i0 dBA	FF	dBA
			Ldn:	70	169	03	364 364		785		1.692
			NEL:		169		364		785 812		1,692
		C	VEL.		1/5		3/1		812		1,750

Average Daily Traffic (Adi): 32,560 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Barrier Height: 0.0 feet Medium Trucks: 84.8% Heavy Trucks (3+ Axles): Vehicle Mix Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Barrier Height: 0.0 feet Medium Trucks: 84.8% Heavy Trucks: 86.5% Noise Source Elevations (in feet) Centerline Dist. to Observer: 50.0 feet Autos: 0.000 Medium Trucks: 2.297	NPUTS 15) 15 15 15 15 2.9% 9.69 4.9% 10.39	% 85.71%
Road Segment: s/o Cardinal Av. SITE SPECIFIC INPUT DATA Highway Data Average Daily Traffic (Adt): 32,560 vehicles Peak Hour Percentage: 8.08% Peak Hour Volume: 2,631 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Barrier Distance to Observer: 50.0 feet Doserver Height (Above Pad): 5.0 feet Barrier Height (Above Pad): 5.0 feet Barrier Height (Above Pad): 5.0 feet Modium Trucks: 84.8% Noise Source Elevations (in feet) Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 3.004 Medium Trucks: 2.297 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004 Medium Trucks: 3.004	15) 15 15 15 15 15 15 15 17 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	% 85.71% % 2.69%
SITE SPECIFIC INPUT DATA **Highway Data** *Average Daily Traffic (Adt): 32,560 vehicles **Peak Hour Volume: 2,631 vehicles **Peak Hour Volume: 2,631 vehicles **Vehicle Speed: 50 mph **Near/Far Lane Distance: 48 feet **Barrier Height: Barrier Type (0-Wall, 1-Berm): 0.0 feet **Description Dist. to Barrier: 50.0 feet **Centerline Dist. to Observer: 0.0 feet **Description Dist. to Distance on Observer: 0.0 feet **Observer Height (Above Pad): 5.0 feet **Description Dist. to Distance on Observer: 0.0 feet **Description Dist. to	15) 15 15 15 15 15 15 15 17 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	% 85.71% % 2.69%
Highway Data Average Daily Traffic (Adt): 32,560 vehicles Peak Hour Volume: 2,631 vehicles Peak Hour Volume: 2,631 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Observer: 0.0 feet Distract Observer Guesser (0.00 feet Distract Observer (0.00 feet Distr	15) 15 15 15 15 15 15 15 17 18 19 10 10 10 10 10 10 10 10 10 10 10 10 10	% 85.71% % 2.69%
Average Daily Traffic (Adt): 32,560 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Barrier Height: Barrier Type (0-Wall, 1-Berm): 0.0 feet Centerline Dist. to Barrier: 50.0 feet Distance to Observer: 50.0 feet Distance to Observer: 0.0 feet Observer Height (Above Pad): 50 feet Autos: 0.000 Noise Source Elevations (in feet) Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 2.297 Medium Trucks: 36.5%	ening Night 2.9% 9.6% 4.9% 10.3% 2.7% 10.8%	% 85.71% % 2.69%
Peak Hour Percentage: 8.08% Peak Hour Volume: 2,631 vehicles beak Hour Volume: 2,631 vehicles beak Hour Volume: 2,631 vehicles beak Heavy Trucks (3 Axles): Heavy Trucks (3 Axles): Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Mix Vehicle Mix:	ening Night 2.9% 9.6% 4.9% 10.3% 2.7% 10.8%	% 85.71% % 2.69%
Peak Hour Volume: 2,631 vehicles Vehicle Speed: 50 mph Near/Far Lane Distance: 48 feet Vehicle Mix Vehicle Type Day Event	ening Night 2.9% 9.6% 4.9% 10.3% 2.7% 10.8%	% 85.71% % 2.69%
Vehicle Speed: 50 mph Vehicle Mix Vehicle Type Day Evi E	ening Night 2.9% 9.69 4.9% 10.39 2.7% 10.89	% 85.71% % 2.69%
Near/Far Lane Distance:	2.9% 9.69 4.9% 10.39 2.7% 10.89	% 85.71% % 2.69%
Site Data	2.9% 9.69 4.9% 10.39 2.7% 10.89	% 85.71% % 2.69%
Barrier Height: 0.0 feet Medium Trucks: 84.8%	4.9% 10.39 2.7% 10.89	% 2.69%
Barrier Type (0-Wall, 1-Bern) 0.0 Heavy Trucks: 86.5%	2.7% 10.89	
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet)		% 11.60%
Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Gre	ada Adiuatman	
Centerline Dist. to Observer: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Gre	ada Adiyatmay	
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Gre	odo Adiustmo	
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Gra	do Adiuatma	
		nt: 0 0
0.0 1001		n. 0.0
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet))	
Road Grade: 0.0% Autos: 44.147		
Left View: -90.0 degrees Medium Trucks: 43.947		
Right View: 90.0 degrees Heavy Trucks: 43.966		
FHWA Noise Model Calculations		
		erm Atten
Autos: 70.20 1.24 0.71 -1.20 -4.65	0.000	0.00
Medium Trucks: 81.00 -13.80 0.74 -1.20 -4.87	0.000	0.00
Heavy Trucks: 85.38 -7.45 0.73 -1.20 -5.43	0.000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation)		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldr		CNEL
Autos: 70.9 70.0 68.2 62.2	70.8	71.4
Medium Trucks: 66.7 66.2 59.8 58.3	66.7	66.
Heavy Trucks: 77.5 77.0 67.9 69.2	77.5	77.
Vehicle Noise: 78.6 78.0 71.4 70.2	78.7	78.
Centerline Distance to Noise Contour (in feet)	24 -	IDA
70 dBA 65 dBA 60 db	876 S	i5 dBA
Ldn: 189 407 CNEL: 195 420	905	1,887
CIVEL: 195 420	900	1,951

Road Nam	o: HYP 2040 w/ e: Heacock St. ht: s/o Nandina	,	eak)				Name: umber:		ay Aviation		
	SPECIFIC INF	UT DATA							LINPUT	s	
Highway Data	-			5	Site Con	aitions	•				
Average Daily	. ,	451 vehicle	es					Autos:	15		
	Percentage:	8.08%				dium Tn	,	,	15		
	our Volume:	36 vehicles	3		He	avy Truc	cks (3+	Axles):	15		
	nicle Speed:	50 mph		ν	ehicle l	Иiх					
Near/Far Lai	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	99.97%
Ras	rier Heiaht:	0.0 feet			Me	edium Ti	rucks:	84.8%	4.9%	10.3%	0.01%
Barrier Type (0-W		0.0			F	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.02%
Centerline Dis	. ,	50.0 feet		L							
Centerline Dist		50.0 feet		٨	loise Sc				et)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height (5.0 feet				n Truck		.297			
	d Flevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Adj	ustment	: 0.0
	d Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in t	eet)		
	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	es		Mediui	n Truck	s: 43	.947			
	Right View:	90.0 degree			Heav	y Truck	s: 43	.966			
FHWA Noise Mode	l Calculations										
VehicleType		Traffic Flow	Di	stance	Finite		Fresi		Barrier Atte		m Atten
Autos:	70.20	-16.68		0.71		-1.20		-4.65		000	0.00
Medium Trucks:	81.00	-58.96		0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-52.77		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Noise VehicleType	Levels (without Lea Peak Hour		_	er atteni Leg Ev		100	Night	1	Ldn		NEL
venicie i ype Autos:	Leq Peak Hour 53.0	- 1 - 7	52.1	Ley EV	ening 50.3	Leq	ivignt 44.	2	52.9		NEL 53.
Medium Trucks:	21.6		21.0		14.6		13.		21.5		21.
Heavy Trucks:	32.1		31.6		22.6		23.		32.2		32.
Vehicle Noise:	53.1		52.1		50.3		44.		52.9		53.
Centerline Distanc	e to Noise Con	tour (in feet))								
				70 d	BA	65	dBA	6	0 dBA	55	dBA
			Ldn:		4		8)	17		36
			Luii.		4			,			00

Wednesday, December 9, 2020

FH	WA-RD-77-108	HIGHWAY	/ NOISE PI	REDICT	ION MOD	EL		
Scenario: HYP 2040 Road Name: Indian Av. Road Segment: s/o Nandir		eak)			Name: G lumber: 13		Aviation	
SITE SPECIFIC II	NPUT DATA				IOISE M			
Highway Data			Site Con	ditions	(Hard = 1	0, Soft	= 15)	
Average Daily Traffic (Adt):	33,304 vehicle	s				ıtos:	15	
Peak Hour Percentage:	8.08%				ucks (2 Ax	/	15	
Peak Hour Volume:	2,691 vehicles		He	avy Tru	cks (3+ Ax	les):	15	
Vehicle Speed:	45 mph		Vehicle	Mix				
Near/Far Lane Distance:	36 feet		Veh	icleType	D	ay E	vening N	light Daily
Site Data					Autos: 7	7.5%	12.9%	9.6% 85.54%
Barrier Height:	0.0 feet		М	edium T	rucks: 8	4.8%	4.9% 1	0.3% 2.72%
Barrier Type (0-Wall, 1-Berm):	0.0		1	Heavy T	rucks: 8	6.5%	2.7% 1	0.8% 11.74%
Centerline Dist. to Barrier:	44.0 feet		Noise Se	ource E	levations	(in fee	t)	
Centerline Dist. to Observer:	44.0 feet			Auto			7	
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck				
Observer Height (Above Pad):	5.0 feet			vy Truck			rade Adjus	tment: 0.0
Pad Elevation:	0.0 feet			•				
Road Elevation:	0.0 feet		Lane Eq		Distance	•	et)	
Road Grade:	0.0%			Auto				
Left View:	-90.0 degree			m Truck	- 10.2			
Right View:	90.0 degree	S	Hear	y Truck	s: 40.26	32		
FHWA Noise Model Calculation			1					
VehicleType REMEL	Traffic Flow	Distance		Road	Fresne		arrier Atten	Berm Atten
Autos: 68.46			.28	-1.20		1.61	0.000	
Medium Trucks: 79.45			.31	-1.20		1.87	0.000	
Heavy Trucks: 84.25	-6.84	1	.31	-1.20		5.50	0.000	0.000
Unmitigated Noise Levels (with								
VehicleType Leq Peak Ho			Evening		Night	L	.dn	CNEL
		9.3	67.6		61.5		70.1 66.3	70.8 66.6
		5.8 7.0	59.4 68.0		57.9 69.2		77.6	
		7.0	71.1		70.2		77.6	77.7 78.8
		5.0	, 1.1		10.2		70.0	, 0.0
Centerline Distance to Noise C	ontour (in feet)	7	0 dBA	65	dBA	60	dBA	55 dBA
	1	dn:	164		354		762	1.642

Wednesday, December 9, 2020

Wednesday, December 9, 2020

	FH\	WA-RD-77-108	HIGI	HWAY	NOISE P	REDICTI	ON MOI	DEL			
Road Nar	ne: Cactus Av. ent: w/o Heaco	,	Peak)				Name: (umber: '		ay Aviation	ı	
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	59,024 vehicle	es				,	Autos:	15		
Peak Hour	Percentage:	8.08%			Me	dium Tru	icks (2 A	(xles	15		
	Hour Volume:	4,769 vehicle	S		He	avy Truc	ks (3+ A	(xles	15		
Ve	ehicle Speed:	50 mph			Vehicle	Miv					
Near/Far La	ane Distance:	73 feet				icleType		Dav	Evening	Night	Dailv
Site Data								77.5%	-	9.6%	86.27%
Ra	rrier Heiaht:	0.0 feet			М	edium Tı	ucks:	84.8%	4.9%	10.39	6 2.66%
Barrier Type (0-V		0.0				Heavy Ti	ucks:	86.5%	2.7%	10.8%	6 11.07%
Centerline D	ist. to Barrier:	55.0 feet			Noise S	urce El	ovations	in fo	of)		
Centerline Dist.	to Observer:	55.0 feet			710,00	Auto:		000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck:		97			
Observer Height	(Above Pad):	5.0 feet				y Trucks		004	Grade Adj	iustmen	t: 0.0
P	ad Elevation:	0.0 feet								000111011	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%				Autos	s: 41.4	146			
	Left View:	-90.0 degre	es			m Trucks					
	Right View:	90.0 degre	es		Hea	y Trucks	s: 41.1	253			
FHWA Noise Mod	lel Calculation										
VehicleType	REMEL	Traffic Flow	Di	stance	_	Road	Fresn	_	Barrier Atte		rm Atten
Autos:		3.85			12	-1.20		-4.67		000	0.000
Medium Trucks:					15	-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-5.07		1.	15	-1.20		-5.38	0.0	000	0.000
Unmitigated Nois			_								
VehicleType	Leq Peak Hou			Leq I	vening		Night		Ldn		NEL
Autos:		1.0	73.0		71.2		65.2		73.8		74.4
Medium Trucks:		0.7	69.1		62.7		61.2		69.7		69.9
Heavy Trucks:).3	79.8		70.7		72.0		80.3		80.5
Vehicle Noise:	81	.5	80.9		74.3		73.1		81.5	5	81.7
Centerline Distan	ce to Noise Co	ontour (in feet) _								
			L	70	dBA	65 (dBA	6	0 dBA	5	5 dBA
			Ldn:		321		692		1,491		3,213
		C	NEL:		332		716		1,542		3,323

	FH\	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICT	ION MODE	L		
	e: Cactus Av.		Peak)				Name: Gai	teway Aviatior 145	1	
SITE S	SPECIFIC IN	IPUT DATA					IOISE MO	DEL INPUT	S	
Highway Data				S	ite Con	ditions	(Hard = 10	, Soft = 15)		
Average Daily	Traffic (Adt):	40,098 vehicl	es				Aut	tos: 15		
Peak Hour	Percentage:	8.08%			Me	dium Tr	ucks (2 Axle	es): 15		
Peak H	our Volume:	3,240 vehicle	s		He	avy Tru	cks (3+ Axle	es): 15		
	hicle Speed:	40 mph		ν	ehicle	Mix				
Near/Far Lar	ne Distance:	50 feet				icleType	Da	y Evening	Night	Daily
Site Data							Autos: 77	.5% 12.9%	9.6%	86.28%
Bar	rier Height:	0.0 feet			М	edium T	rucks: 84	.8% 4.9%	10.3%	2.66%
Barrier Type (0-W		0.0			- 1	Heavy T	rucks: 86	.5% 2.7%	10.8%	11.07%
Centerline Dis	st. to Barrier:	44.0 feet			loise So	ource F	levations (i	n feet)		
Centerline Dist. t	to Observer:	44.0 feet		-	0.00	Auto				
Barrier Distance t	to Observer:	0.0 feet			Mediu	m Truck	0.000			
Observer Height (,	5.0 feet				vy Truck			justmen	t: 0.0
	d Elevation:	0.0 feet		-		•				
	d Elevation:	0.0 feet		L	ane Eq	uivaien: Auto	t Distance	,		
F	Road Grade:	0.0%			A 4 17	Auto m Truck				
	Left View:	-90.0 degre				m Truck vy Truck		-		
	Right View:	90.0 degre	es		rical	y IIUCK	3. 30.332	2		
FHWA Noise Mode										
VehicleType	REMEL	Traffic Flow		ance		Road	Fresnel	Barrier Att		rm Atten
Autos:	66.51	3.14		1.94		-1.20 -1.20	-4.		000	0.000
Medium Trucks: Heavy Trucks:	77.72 82.99			1.98		-1.20 -1.20	-4. -5.		000	0.000
						-1.20	-0.	50 0.0	500	0.000
Unmitigated Noise VehicleType	Leg Peak Hou			Leg Ev		l ea	Night	Ldn		NEL
Autos:	70 70		69.4	LUY LV	67.6		61.6	70.2		70.8
Medium Trucks:	66		65.9		59.6		58.0	66.5		66.7
Heavy Trucks:	78	3.0	77.5		68.5		69.7	78.	1	78.2
Vehicle Noise:	78	3.9	78.4		71.4		70.6	79.0)	79.2
Centerline Distanc	e to Noise C	ontour (in feet)							
				70 d		65	dBA	60 dBA		dBA
			Ldn:		175		376	810		1,745
		С	NEL:		180		388	835		1,799

		VA-RD-77-108		III/AII IN	OIOL FI								
Road Nam	o: HYP 2040 v e: Harley Kno nt: e/o Patters		Peak)		Project Name: Gateway Aviation Job Number: 13445								
SITE	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data				S	ite Con	ditions (Hard =	10, So	ft = 15)				
Average Daily	Traffic (Adt):	34,772 vehicle	es				,	Autos:	15				
Peak Hour	Percentage:	8.08%			Ме	dium Tru	cks (2 A	Axles):	15				
Peak H	our Volume:	2,810 vehicle	s		Heavy Trucks (3+ Axles): 15								
Ve	hicle Speed:	45 mph			Vehicle Mix								
Near/Far Lar	ne Distance:	80 feet		-					Night	Dailv			
Site Data					****			77.5%	. ,		85.69%		
	rier Heiaht:	0.0 feet			М	edium Tri		84.8%		10.3%	2.70%		
Barrier Type (0-W		0.0			-	Heavy Tru		86.5%		10.8%	11.619		
Centerline Dis	. ,	64.0 feet		<u> </u>									
Centerline Dist		64.0 feet		٨	loise So	ource Ele			et)				
Barrier Distance		0.0 feet				Autos		000					
Observer Height (5.0 feet				m Trucks		297					
Pad Elevation: 0.0 feet					Heav	ry Trucks	: 8.0	004	Grade Adj	ustment.	0.0		
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in f	eet)				
F	Road Grade:	0.0%				Autos	: 50.:	210					
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 50.	033					
	Right View:	90.0 degree	es		Heav	y Trucks	50.	050					
FHWA Noise Mode	el Calculation	s											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fresn	_	Barrier Atte		m Atten		
Autos:	68.46	1.98		-0.13		-1.20		-4.70	0.0		0.00		
Medium Trucks:	79.45	-13.04		-0.11		-1.20		-4.88		000	0.00		
Heavy Trucks:	84.25	-6.70		-0.11		-1.20		-5.31	0.0	000	0.00		
Unmitigated Noise													
,,	Leq Peak Hou	-, -,	_	Leq Ev		Leq N	_		Ldn		VEL		
Autos:	69		68.1		66.4		60.3		68.9		69.		
Medium Trucks:	65		64.5		58.2		56.6		65.1		65.		
Heavy Trucks: Vehicle Noise:	76 77		75.7 76.7		66.7		68.0		76.3 77.3		76. 77.		
Centerline Distance					50.0		50.0			-			
	e to Noise Co	mour (m řeet	,	70.		0.5	ID A	-	0 dBA		dBA		
Centerine Distanc				70 d	BA	65 a	DA	0	U UDA	55	aba		
Centerine Distant			Ldn:	70 a	<i>BA</i> 197	65 0	424		913		1,966		

Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGHWA	/ NOISE P	REDICT	ION MOD	EL				
Road Nan	rio: HYP 2040 v ne: Harley Kno: ent: e/o Indian A		eak)	Project Name: Gateway Aviation Job Number: 13445							
	SPECIFIC IN	PUT DATA						INPUTS			
Highway Data				Site Cor	nditions	(Hard = 1	0, Sof	ft = 15)			
Average Daily	Traffic (Adt):	16,426 vehicle	s			Α	utos:	15			
Peak Hour	Percentage:	8.08%				ucks (2 A)	/	15			
Peak F	Hour Volume:	1,327 vehicles		He	eavy Truc	cks (3+ A)	(les):	15			
	ehicle Speed:	45 mph		Vehicle	Mix						
Near/Far La	ane Distance:	80 feet		Veh	icleType)av	Evening I	Night Daily		
Site Data							7.5%	12.9%	9.6% 86.32%		
Pa	rrier Height:	0.0 feet		М	edium Ti	rucks: 8	4.8%	4.9%	10.3% 2.65%		
Barrier Type (0-V		0.0			Heavy T	rucks: 8	6.5%	2.7%	10.8% 11.03%		
Centerline Di	ist. to Barrier:	64.0 feet		Noise S	ource Fl	evations	(in fe	et)			
Centerline Dist.	to Observer:	64.0 feet		110,000	Auto		•				
Barrier Distance	to Observer:	0.0 feet		Mediu	m Truck	0.01					
Observer Height	(Above Pad):	5.0 feet			vy Truck			Grade Adjus	stment: 0.0		
P	ad Elevation:	0.0 feet			•						
Ro	ad Elevation:	0.0 feet		Lane Eq		Distance	•	eet)			
	Road Grade:	0.0%			Auto		10				
	Left View:	-90.0 degree	s		m Truck	00.0					
	Right View:	90.0 degree	s	Hea	vy Truck	s: 50.0	50				
FHWA Noise Mod	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distance		Road	Fresne		Barrier Atter			
Autos:		-1.25	-).13	-1.20		4.70	0.00			
Medium Trucks:		-16.38	-).11	-1.20		4.88	0.00			
Heavy Trucks:	84.25	-10.18	-0).11	-1.20		5.31	0.00	0.00		
Unmitigated Nois											
VehicleType	Leq Peak Hou			Evening		Night		Ldn	CNEL		
Autos:			64.9	63.1		57.1		65.7	66.		
Medium Trucks:			31.2	54.8		53.3		61.7	62.		
Heavy Trucks:			72.3	63.2		64.5		72.8	73.		
Vehicle Noise:			73.3	66.5		65.5		73.9	74.		
Centerline Distan	ce to Noise Co	ntour (in feet)	7	0 dBA	65	dBA	61	0 dBA	55 dBA		
		,	dn:	116	ບວ	250	00	539	33 aBA 1.161		
		_	IFL:	120		258		556	1,101		
		Ch	ILL.	120		230		550	1,198		

Wednesday, December 9, 2020

Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGH	A YAW	IOISE P	REDICT	ION M	ODEL					
Road Nai	rio: HYP 2040 v ne: Heacock St ent: n/o Gentian				Project Name: Gateway Aviation Job Number: 13445								
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily		33,537 vehicle	es		Autos: 15								
	r Percentage:	8.08%			Medium Trucks (2 Axles): 15								
	Hour Volume:	2,710 vehicle	S		Heavy Trucks (3+ Axles): 15								
	ehicle Speed:	50 mph		1	Vehicle Mix								
Near/Far L	ane Distance:	48 feet			Veh	icleType	,	Day	Evening	Night	Daily		
Site Data							Autos:	77.5%	12.9%	9.6%	86.44%		
R	arrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.63%		
Barrier Type (0-V		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	10.93%		
Centerline D	ist. to Barrier:	50.0 feet		- 17	Voise S	nurce F	levatio	ns (in fe	et)				
Centerline Dist	to Observer:	50.0 feet		F	10,00	Auto		0.000					
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		297					
Observer Height	Observer Height (Above Pad): 5.0 feet					vy Truck		3.004	Grade Ad	liustmen	. 00		
Pad Elevation: 0.0 feet						ry much	.5		0,000,10	jacamom	0.0		
Ro	oad Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distai	nce (in :	feet)				
	Road Grade:	0.0%				Auto	s: 44	1.147					
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43	3.947					
	Right View:	90.0 degree	es		Hea	vy Truck	s: 43	3.966					
FHWA Noise Mod	del Calculations	5											
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	inel	Barrier Att	en Be	rm Atten		
Autos	70.20	1.40		0.7	1	-1.20		-4.65	0.0	000	0.000		
Medium Trucks	81.00	-13.77		0.7	4	-1.20		-4.87	0.0	000	0.000		
Heavy Trucks	85.38	-7.58		0.7	3	-1.20		-5.43	0.0	000	0.000		
Unmitigated Nois								_		1			
VehicleType	Leq Peak Hou			Leq E			Night		Ldn		NEL		
Autos			70.1		68.4		62		70.	-	71.5		
Medium Trucks		-	66.2		59.8		58		66.		67.0		
Heavy Trucks			76.8		67.8		69		77.		77.5		
Vehicle Noise			78.0		71.4		70	.2	78.	6	78.8		
Centerline Distar	ce to Noise Co	ntour (in feet)	70 0	/D 4		-/0.4		20 -40 4	-	-404		
			Ldn:	/00		05	dBA		0 dBA		dBA		
			Lan: NEL:		187		40	-	867		1,867		
		Ci	vEL.		193		41	O	896)	1,931		

	FHV	VA-RD-77-108	HIGH	WAY N	DISE P	REDICT	ION M	ODEL					
	e: Heacock St	w/o ext. (Peak) t.)					Gatew 13445	ay Aviation				
	PECIFIC IN	IPUT DATA							L INPUT	s			
	Percentage: our Volume: nicle Speed:	29,135 vehicle 8.08% 2,354 vehicle 50 mph			Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Autes): 15 Heavy Trucks (3+ Autes): 15 Vehicle Mix								
Near/Far Lan	e Distance:	48 feet			Veh	icleType	9	Day	Evening	Night	Daily		
Barrier Type (0-Wa		0.0 feet 0.0				edium T Heavy T		77.5% 84.8% 86.5%	4.9%	9.6% 10.3% 10.8%			
Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5,0 feet Pad Elevation: 0,0 feet Road Elevation: 0.0 feet Left View: 90.0 degrees					Noise Source Elevations (in feet) Autos: 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Lane Equivalent Distance (in feet) Autos: 44.147 Medium Trucks: 43.947								
FHWA Noise Mode	Right View:	90.0 degre				y Truck		3.966					
VehicleType	REMEL	Traffic Flow	Diet	ance	Finite	Road	Fres	enel	Barrier Att	en Rei	m Atten		
Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	0.80 -14.42 -8.22		0.71 0.74 0.73		-1.20 -1.20 -1.20	7,700	-4.65 -4.87 -5.43	0.0	000	0.000		
Unmitigated Noise	I evels (with	out Tono and	harrie	r attenu	ation)								
	Leg Peak Hou			Leg Eve		Leq	Night		Ldn	C	NEL		
Autos: Medium Trucks:	70 66	.5 .1	69.5 65.5	.,	67.8 59.2		61 57	.6	70.3	B I	70.9 66.3		
Heavy Trucks: Vehicle Noise:	76 77		76.2 77.3		67.2 70.8		68 69		76.8 77.9		76.9 78.2		
Centerline Distance	e to Noise Co	ntour (in feet)										
	2000		Ldn:	70 di	BA 169	65	dBA 36		60 dBA 786		dBA		
		С	NEL:		175		37	-	813		1,693 1,752		

0	LIVE 20.40	/+ (DI-)				Danie of A		0-4	0		
Scenario: Road Name:		v/o ext. (Peak)				Job Nu			ay Aviatior	1	
Road Name: Road Segment:						JOD INUI	mber:	13445			
				-							
SITE SI Highway Data	PECIFIC IN	PUT DATA		s	ite Con	NC ditions (F			L INPUT oft = 15)	S	
Average Daily Tr	affic (Adt)	32.928 vehicle	8					Autos:			
Peak Hour Pe	. ,	8.08%	-		Me	dium Truc					
		2.661 vehicles				avy Truck		,			
	le Speed:	50 mph				•	. (0.7	1000).			
Near/Far Lane		48 feet		ν	ehicle l						
	Diotarioo.	10 1001			Vehi	cleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	
Barri	er Height:	0.0 feet				edium Tru		84.8%		10.3%	
Barrier Type (0-Wall	l, 1-Berm):	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.8%	11.83
Centerline Dist.	to Barrier:	50.0 feet			loise So	urce Ele	vation	s (in fe	net)		
Centerline Dist. to	Observer:	50.0 feet		F	.0.00 00	Autos:		000	,,,,		
Barrier Distance to	Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height (All	ove Pad):	5.0 feet				v Trucks:		004	Grade Ad	iustment	. 0.0
Pad	Elevation:	0.0 feet			11000	y Trucks.	0.	004	0,000,10	Juotimom	. 0.0
Road	Elevation:	0.0 feet		L	ane Equ	uivalent L	Distan	ce (in i	feet)		
Ro	ad Grade:	0.0%				Autos:	44.	147			
	Left View:	-90.0 degree	S		Mediur	n Trucks:	43.	947			
F	Right View:	90.0 degree	S		Heav	y Trucks:	43.	966			
FHWA Noise Model	Calculations	i									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atter
Autos:	70.20	1.27		0.71		-1.20		-4.65	0.0	000	0.00
Medium Trucks:	81.00	-13.73		0.74	ļ	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-7.32		0.73	3	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise L			_					1			
• • • • • • • • • • • • • • • • • • • •	eq Peak Hou		_	.eq Ev		Leq N	•		Ldn		NEL
Autos:	71.	-	0.0		68.2		62.2	-	70.8	-	71
Medium Trucks:	66.	-	6.2		59.9		58.3		66.8	-	67
Heavy Trucks:	77.		7.1		68.1		69.3		77.		77
Vehicle Noise:	78.	.7 7	8.2		71.5		70.4	1	78.	3	79
Centerline Distance	to Noise Co	ntour (in feet)		70 d	·D4	65 dl	-	_	60 dBA	-	dBA
		,	dn:	7U a		00 al					
		_	.an: EL:		192		414		891		1,92
					198		428		921		1.98

Wednesday, December 9, 2020

	FHWA	∖-RD-77-108 H	HIGHWA	Y NO	DISE PE	REDICTI	ON M	ODEL				
Scenario: HYF Road Name: Hea Road Segment: s/o1	cock St.	, ,		Project Name: Gateway Aviation Job Number: 13445								
SITE SPECI Highway Data	FIC INP	UT DATA		NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traffic (Peak Hour Percen	tage:	663 vehicles 8.08% 54 vehicles	3	Autos: 15 Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15								
Vehicle Sp Near/Far Lane Dista	need:	50 mph 48 feet		V	ehicle l		(0 :	Day	Evening	Night	Daily	
Site Data Barrier He Barrier Type (0-Wall, 1-B		0.0 feet 0.0			Ме			77.5% 84.8% 86.5%	6 12.9% 6 4.9%	9.6%	99.98%	
Centerline Dist. to Ba Centerline Dist. to Obse Barrier Distance to Obse Observer Height (Above Pad Elevi	50.0 feet 50.0 feet 0.0 feet 5.0 feet 0.0 feet		N	Mediui	Autos Trucks y Trucks	i: (ns (in t 0.000 2.297 3.004	Grade Ad	ljustmen	t: 0.0		
Road Elevi Road G Left Right	rade: View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees		L	Mediu	Autos Trucks ry Trucks	: 44 : 43	nce (in 1.147 3.947 3.966	feet)			
FHWA Noise Model Calcu	ulations											
VehicleType REN Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	-15.00 -58.96 -52.77		0.71 0.74 0.73		-1.20 -1.20 -1.20	Fres	-4.65 -4.87 -5.43	0.	ten Be 000 000 000	0.000 0.000 0.000	
Unmitigated Noise Level	s (withou	t Topo and b	arrier at	tenu	ation)							
	ak Hour 54.7	Leq Day	_		ening 52.0	Leq I	Vight 45	0	Ldn 54.		NEL 55.1	
Medium Trucks: Heavy Trucks:	21.6 32.1	2	1.0 1.6		14.6 22.6		13	.1	21.	5	21.8 32.3	
Vehicle Noise:	54.7	5	3.8		52.0		45		54.		55.2	
Centerline Distance to No	oise Con	tour (in feet)		70 dl	BA .	65 (iBA		60 dBA	55	i dBA	
		L CN	dn:		5 5	- 55 (1	0	22 24	2	47 51	

nesday, December 9, 2020

	FHW	A-RD-77-108	HIGH	1 YAW	NOISE P	REDICT	ION MO	DDEL					
Road Name	o: HYP 2040 w e: Indian Av. t: s/o Nandina	, ,			Project Name: Gateway Aviation Job Number: 13445								
	SPECIFIC IN	PUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	. ,	33,460 vehicle	es		Autos: 15								
Peak Hour		8.08%			Medium Trucks (2 Axles): 15								
		2,704 vehicle	S		Heavy Trucks (3+ Axles): 15								
	nicle Speed:	45 mph		F	Vehicle Mix								
Near/Far Lar	ne Distance:	36 feet		F	Veh	icleType		Day	Evening	Night	Daily		
Site Data							Autos:	77.5%	12.9%	9.6%	85.21%		
Rar	rier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.75%		
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	12.04%		
Centerline Dis	t. to Barrier:	44.0 feet		h	Noise S	ource E	levatio	ns (in fe	eet)				
Centerline Dist. t	o Observer:	44.0 feet		F		Auto		.000					
Barrier Distance t	o Observer:	0.0 feet			Mediu	m Truck		297					
Observer Height (Above Pad): 5.0 feet						vy Truck		.004	Grade Ad	liustment	0.0		
Pad Elevation: 0.0 feet										,			
Roa	d Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in i	feet)				
F	Road Grade:	0.0%				Auto		.460					
	Left View:	-90.0 degree	es			m Truck).241					
	Right View:	90.0 degree	es		Hea	y Truck	s: 40).262					
FHWA Noise Mode	l Calculations												
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		rm Atten		
Autos:	68.46	1.79		1.2	-	-1.20		-4.61		000	0.000		
Medium Trucks:	79.45	-13.12		1.3		-1.20		-4.87		000	0.000		
Heavy Trucks:	84.25	-6.71		1.3	11	-1.20		-5.50	0.0	000	0.000		
Unmitigated Noise							A.C. order		Ldn		NFL		
VehicleType Autos:	Leq Peak Hour 70.:		69.4	Leq E	vening 67.6		Night 61	-	70.:	_	NEL 70.8		
Medium Trucks:	66.4	-	65.9		59.5		58	-	70 66.	_	66.6		
	77.0	-	77.2		59.5 68.1		58 69	-	77.		77.8		
Heavy Trucks: Vehicle Noise:	78.		78.1		71.2		70		78.		78.9		
Centerline Distanc	e to Noise Cor	ntour (in feet)										
		,,		70	dBA	65	dBA	6	60 dBA	55	dBA		
			Ldn:		167		36	0	775	;	1,669		
		C	NEL:		172		37	1	799)	1,722		

Scenario: HYP 2040 w/o ext. (Peak) Project Name: C Road Name: Cactus Av. Job Number: 1 Road Seament: w/o Heacock St.		
We hadden of		
	IODEL INPUTS	
Highway Data Site Conditions (Hard =	10, Soft = 15)	
Peak Hour Percentage: 8.08% Medium Trucks (2 A Peak Hour Volume: 4,775 vehicles Heavy Trucks (3 A	,	
Mear/Far Lane Distance: 73 feet		
Venicie i ype		aily .28%
Marking Translation		.66%
Barrier Height: 0.0 feet	86.5% 2.7% 10.8% 11.	
Barrier Type (0-vvaii, 1-berrii).	00.570 2.770 10.070 11.	.00 /
Centerline Dist. to Barrier: 55.0 feet Noise Source Elevations	(in feet)	
Centerline Dist. to Observer: 55.0 feet 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	0.0 Grade Adjustment: 0.0)
Pad Elevation: 0.0 feet	on (in fact)	
Road Grade: 0.0% Lane Equivalent Distance Road Grade: 0.0% Autos: 414		
71000 07000		
Left View: -90.0 degrees Medium Trucks: 41.2 Right View: 90.0 degrees Heavy Trucks: 41.2		
FHWA Noise Model Calculations		
VehicleType REMEL Traffic Flow Distance Finite Road Fresh	el Barrier Atten Berm At	tten
Autos: 70.20 3.85 1.12 -1.20 -	-4.67 0.000 C	0.00
Medium Trucks: 81.00 -11.26 1.15 -1.20	-4.87 0.000 C	0.000
Heavy Trucks: 85.38 -5.07 1.15 -1.20	-5.38 0.000 0	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)		
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night	Ldn CNEL	
Autos: 74.0 73.0 71.2 65.2		74.4
Medium Trucks: 69.7 69.1 62.7 61.2		69.
Heavy Trucks: 80.3 79.8 70.7 72.0		80.
Vehicle Noise: 81.5 80.9 74.3 73.1	81.5	81.
Centerline Distance to Noise Contour (in feet)	CO 4D4 55 104	
70 dBA 65 dBA	60 dBA 55 dBA	_
Ldn: 321 692	, ,	,213
CNEL: 332 716	1,543 3	,323

	FH\	WA-RD-77-108 I	HIGHW	VAY N	IOISE PE	REDICTI	ON MC	DEL			
Road Nar	rio: HYP 2040 me: Cactus Av. ent: e/o Heacod					Project i Job Ni			ay Aviatior	1	
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Con				L INPUT	S	
	. T#- (A-W)	40.450		- '	one con	unions (Autos:			
Average Daily	. ,	40,159 vehicle: 8.08%	5		Mo	dium Tru					
	r Percentage: Hour Volume:					avy Truc		,			
		3,245 vehicles			не	avy iruc	KS (3+	Axies):	15		
	ehicle Speed:	40 mph		1	Vehicle I	Nix					
Near/Far La	ane Distance:	50 feet			Veh	cleType		Day	Evening	Night	Daily
Site Data						Α	utos:	77.5%	12.9%	9.6%	86.309
Ba	arrier Height:	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	10.3%	2.659
Barrier Type (0-V	-	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	11.059
Centerline D	ist. to Barrier:	44.0 feet		,	Noise Sc	urce Fle	vation	s (in fe	net)		
Centerline Dist	to Observer:	44.0 feet		ľ	10/36 00	Autos		.000	.00		
Barrier Distance	to Observer:	0.0 feet			Modiu	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks	_	.004	Grade Ad	iustman	t· 0.0
F	Pad Elevation:	0.0 feet			ricav	y IIuchs	. 0	.004	Orauc Au	justinen	. 0.0
Ro	oad Elevation:	0.0 feet		I	Lane Eq	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos	: 36	.551			
	Left View:	-90.0 degrees	3		Mediui	n Trucks	: 36	.308			
	Right View:	90.0 degrees	5		Heav	y Trucks	: 36	.332			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos	: 66.51	3.15		1.9	4	-1.20		-4.61	0.0	000	0.00
Medium Trucks	: 77.72	-11.98		1.98	В	-1.20		-4.87	0.0	000	0.00
Heavy Trucks	82.99	-5.78		1.98	В	-1.20		-5.50	0.0	000	0.00
Unmitigated Nois	se Levels (with	out Topo and b	arrier	atten	uation)						
VehicleType	Leq Peak Hot	ur Leq Day	L	.eq E	vening	Leq I	Vight		Ldn		NEL
Autos	: 70	0.4 6	9.4		67.7		61.	6	70.2	2	70.
Medium Trucks	: 66	6.5	5.9		59.6		58.	0	66.	5	66.
Heavy Trucks	. 78		7.5		68.5		69.	7	78.	1	78.
Vehicle Noise	: 78	3.9 7	8.4		71.4		70.	6	79.0)	79.
Centerline Distan	ice to Noise C	ontour (in feet)									
			. L	70 c		65 c			60 dBA		dBA
			dn:		175		376		810		1,745
		CN	EL:		180		388	3	835		1,800

Wednesday, December 9, 2020

	FH\	WA-RD-77-108	HIGHV	VAY N	IOISE PI	REDICT	ON M	DDEL					
Road Nar	nio: HYP 2040 ne: Harley Kno ent: e/o Patters				Project Name: Gateway Aviation Job Number: 13445								
SITE	SPECIFIC IN	IPUT DATA			NOISE MODEL INPUTS								
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	35,069 vehicle	s					Autos.	15				
Peak Hou	Percentage:	8.08%			Me	dium Tr	ıcks (2	Axles).	15				
Peak I	Hour Volume:	2,834 vehicles	3	Heavy Trucks (3+ Axles): 15									
V	ehicle Speed:	45 mph		h	Vehicle Mix								
Near/Far La	ane Distance:	80 feet		F		icleType		Day	Evening	Night	Daily		
Site Data							Autos:	77.5%	-	_	85.43%		
	rrier Heiaht:	0.0 feet			М	edium Ti		84.89					
Barrier Type (0-V		0.0 1001			- 1	Heavy Ti	ucks:	86.5%	6 2.7%	10.8%	11.85%		
	ist. to Barrier:	64.0 feet		H.									
Centerline Dist		64.0 feet		1	Noise So	Auto			eet)				
Barrier Distance	Barrier Distance to Observer: 0.0 feet							0.000					
Observer Height	(Above Pad):	5.0 feet			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustm						t: 0.0		
F	ad Elevation:	0.0 feet			Heav	y iruck	S: 8	3.004	04 Grade Adjustment: 0.				
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Dista	nce (in	feet)				
	Road Grade:	0.0%				Auto	s: 50	0.210					
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 50	0.033					
	Right View:	90.0 degree	es		Heav	y Truck	s: 50	0.050					
FHWA Noise Mod	lel Calculation												
VehicleType	REMEL	Traffic Flow	Dista			Road	Fres		Barrier Att		rm Atten		
Autos		2.00		-0.1	-	-1.20		-4.70		000	0.000		
Medium Trucks				-0.1		-1.20		-4.88		000	0.000		
Heavy Trucks				-0.1		-1.20		-5.31	0.	000	0.000		
Unmitigated Nois							N II I- A		Ldn		NEL		
VehicleType Autos	Leq Peak Hou		68.2	Leq E	vening 66.4	,	Night 60	2	Lan 69		NEL 69.6		
Medium Trucks			64.6		58.2		56		65.	-	65.4		
Heavy Trucks			75.9		66.8		68		76		76.6		
Vehicle Noise			76.8		69.9		69		77.		77.6		
Centerline Distan	ce to Noise Co	ontour (in feet)											
				70 c	dBA	65	dBA		60 dBA	58	dBA		
			Ldn:		200		43	1	928	3	1,999		
		CI	VEL:		206		44	4	957	,	2.062		

Wednesday, December 9, 2020

Wednesday, December 9, 2020

	FHV	VA-RD-77-108	HIGI	HWAY N	IOISE P	REDICTI	ION MO	DDEL			
Road Na	nrio: HYP 2040 v me: Harley Kno: ent: e/o Indian A	x Bl.						Gatew 13445	ay Aviatior	1	
	SPECIFIC IN	IPUT DATA			0				L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :				
Average Daily	/ Traffic (Adt):	16,473 vehicle	es					Autos:			
Peak Hou	r Percentage:	8.08%				edium Tru		,			
Peak	Hour Volume:	1,331 vehicle	S		He	eavy Truc	cks (3+	Axles):	15		
V	ehicle Speed:	45 mph			Vehicle	Mix					
Near/Far L	ane Distance:	80 feet			Ver	icleType		Dav	Evening	Niaht	Dailv
Site Data							Autos:	77.5%		9.69	6 86.36%
R	arrier Height:	0.0 feet			M	edium Tr	rucks:	84.8%	4.9%	10.39	6 2.64%
Barrier Type (0-l	Vall, 1-Berm):	0.0				Heavy Tr	rucks:	86.5%	2.7%	10.89	6 11.00%
	ist. to Barrier:	64.0 feet			Noise S	ource Ele	evatio	ns (in fe	eet)		
Centerline Dist		64.0 feet				Autos	s: 0	.000			
Barrier Distance		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height	. ,	5.0 feet			Hea	vy Trucks	s: 8	.004	Grade Ad	justmer	t: 0.0
	Pad Elevation:	0.0 feet		<u> </u>							
Ro	oad Elevation:	0.0 feet			Lane Eq	uivalent		_ •	feet)		
	Road Grade:	0.0%				Autos).210			
	Left View:	-90.0 degree				m Trucks		0.033			
	Right View:	90.0 degree	es		Hea	vy Trucks	s: 50	0.050			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att		rm Atten
Autos		-1.23		-0.1	-	-1.20		-4.70		000	0.000
Medium Trucks		-16.38		-0.1		-1.20		-4.88		000	0.000
Heavy Trucks		-10.18		-0.1		-1.20		-5.31	0.0	000	0.000
Unmitigated Nois								-			
VehicleType	Leq Peak Hou		_	Leq E	vening		Night		Ldn	_	NEL
Autos			64.9		63.2		57		65.		66.3
Medium Trucks			61.2		54.8		53	-	61.		62.0
Heavy Trucks			72.3 73.3		63.2		64		72.		73.0 74.1
Vehicle Noise					66.5		65	.5	73.	9	74.1
Centerline Distar	nce to Noise Co	ontour (in feet)	70 /	dBA	65.0	dBA		SO dBA	5	5 dBA
			Ldn:	701	116	1 00 0	25		539	_	1.161
			NEL:		120		25	-	557		1,199
											,

		WA-RD-77-10									
	io: HY 2040 w								ay Aviation	1	
	e: Heacock S					JOD N	lumber:	13445			
Road Segmer	nt: n/o Gential	1 AV.									
	SPECIFIC II	IPUT DATA	١						L INPUT	S	
Highway Data					Site Cor	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	33,022 vehi	cles					Autos.			
Peak Hour	Percentage:	8.08%				dium Tr	,				
Peak H	lour Volume:	2,668 vehic	les		He	avy Tru	cks (3+	Axles)	15		
Ve	hicle Speed:	50 mph		-	Vehicle	Mix					
Near/Far La	ne Distance:	48 feet		-	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	77.59	12.9%	9.6%	86.239
Rai	rrier Height:	0.0 feet			М	edium T	rucks:	84.89	4.9%	10.3%	2.67%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.59	6 2.7%	10.8%	11.109
Centerline Dis	st. to Barrier:	50.0 feet		- 1	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	50.0 feet		, if		Auto		.000	000		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck	0	.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	0.0
Pá	ad Elevation:	0.0 feet			11001	ry much	.5. 0	.004			
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ıce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degr	ees		Mediu	m Truck	s: 43	3.947			
	Right View:	90.0 degr	ees		Hea	y Truck	s: 43	1.966			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fres	nel	Barrier Att	en Bei	m Atten
Autos:	70.20	1.3	2	0.7	1	-1.20		-4.65	0.0	000	0.00
Medium Trucks:	81.00	-13.7	7	0.7	4	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	85.38	-7.5	8	0.7	3	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo an	d barr	ier atten	uation)						
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn	_	NEL
Autos:	71	1.0	70.1		68.3		62	.2	70.9	9	71.
Medium Trucks:	66	3.8	66.2		59.8		58	.3	66.7	7	67.
Heavy Trucks:	77	7.3	76.8		67.8		69	.1	77.4	1	77.
Vehicle Noise:	78	3.5	78.0		71.4		70	.2	78.6	3	78.
Centerline Distanc	e to Noise C	ontour (in fe	et)								
				70 (dBA	65	dBA		60 dBA		dBA
			Ldn:		186		40		865		1,863
			CNEL:		193		41		894		1.927

		VA-RD-77-108 F	попу	AT N	OISE PI						
	io: HY 2040 w								ay Aviatior	1	
	ne: Heacock Si	t.				Job Nui	mber: '	13445			
Road Segme	nt: s/o Iris Av.										
SITE Highway Data	SPECIFIC IN	IPUT DATA			ito Con	NC ditions (F			L INPUT	S	
	- m / m			3	nie Com	uluons (i					
Average Daily	. ,	28,473 vehicles						Autos:	15		
	Percentage:	8.08%				dium Truc		,	15		
	lour Volume:	2,301 vehicles			Hea	avy Truck	s (3+ A	(xies	15		
	hicle Speed:	50 mph		ν	ehicle N	/lix					
Near/Far La	ne Distance:	48 feet			Vehi	cleType		Day	Evening	Night	Daily
Site Data						Au	tos:	77.5%	12.9%	9.6%	86.23
Ra	rrier Heiaht:	0.0 feet			Me	dium Tru	cks:	84.8%	4.9%	10.3%	2.679
Barrier Type (0-W		0.0			H	łeavy Tru	cks:	86.5%	2.7%	10.8%	11.10
Centerline Di	st. to Barrier:	50.0 feet		۸	loise So	urce Elev	vation:	s (in fe	et)		
Centerline Dist.	to Observer:	50.0 feet		F	.0.00 00	Autos:		000			
Barrier Distance	to Observer:	0.0 feet			Mediur	n Trucks:		297			
Observer Height	(Above Pad):	5.0 feet				v Trucks:		004	Grade Ad	iustment	0.0
P	ad Elevation:	0.0 feet				,				,	
Ro	ad Elevation:	0.0 feet		L	ane Equ	ıivalent E	Distanc	e (in t	eet)		
	Road Grade:	0.0%				Autos:	44.	147			
	Left View:	-90.0 degrees			Mediur	n Trucks:	43.9	947			
	Right View:	90.0 degrees			Heav	y Trucks:	43.9	966			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar		Finite		Fresn	_	Barrier Att		rm Atter
Autos:		0.68		0.71		-1.20		-4.65		000	0.00
Medium Trucks:		-14.42		0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-8.22		0.73		-1.20		-5.43	0.0	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			eq Ev	ening	Leq N	-		Ldn		NEL
Autos:			9.4		67.7		61.6		70.2	_	70
Medium Trucks:			5.5		59.2		57.6		66.		66
Heavy Trucks:			6.2		67.2		68.4		76.8	-	76
Vehicle Noise:			7.3		70.7		69.5	•	77.9	9	78
Centerline Distan	ce to Noise Co	ontour (in feet)		70 d	RA .	65 dE	8.4	6	i0 dBA	55	dBA
		1	dn:		169	30 UL	364		784		1.68
		CN			175		376		810		1,74
		014			175		370		010		1,74

Wednesday, December 9, 2020

F	HWA-RD-77-108	HIGHV	VAY NOISE	PREDICT	ION MODEL		
Scenario: HY 2040 Road Name: Heacock Road Segment: s/o Cardii	St.				Name: Gate lumber: 1344	eway Aviation 15	
SITE SPECIFIC	INPUT DATA					EL INPUTS	
Highway Data			Site C	onditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	8.08%				Auto ucks (2 Axle: cks (3+ Axle:	s): 15	
Vehicle Speed:	,		Vehic	e Mix			
Near/Far Lane Distance:	48 feet		V	ehicleType	e Day	Evening I	light Daily
Site Data					Autos: 77.5		9.6% 86.23%
Barrier Height:	0.0 feet			Medium T	rucks: 84.8	3% 4.9%	10.3% 2.67%
Barrier Type (0-Wall, 1-Berm):				Heavy T	rucks: 86.5	5% 2.7%	10.8% 11.10%
Centerline Dist. to Barrier:			Noise	Source E	levations (in	feet)	
Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation: Road Elevation:	0.0 feet 5.0 feet 0.0 feet		He	Auto ium Truck avy Truck quivalen	s: 2.297	Grade Adjus	stment: 0.0
Road Grade:				Auto	s: 44.147	,	
Left View: Right View:	-90.0 degree			ium Truck avy Truck	- 10.011		
FHWA Noise Model Calculatio	ns						
VehicleType REMEL	Traffic Flow	Dista	nce Fin	te Road	Fresnel	Barrier Atter	Berm Atten
Autos: 70.2	0 1.16		0.71	-1.20	-4.6	5 0.00	0.000
Medium Trucks: 81.0	0 -13.94		0.74	-1.20	-4.8	7 0.00	0.000
Heavy Trucks: 85.3			0.73	-1.20	-5.4	3 0.00	0.000
Unmitigated Noise Levels (with							
VehicleType Leq Peak H			eq Evening		Night	Ldn	CNEL
		69.9	68		62.1	70.7	71.3
		66.0	59		58.1	66.6	66.8
	77.2	76.7	67		68.9	77.2	77.4
		77.8	71	.∠	70.0	78.4	78.6
Centerline Distance to Noise	Contour (in feet)	70 dBA	65	dBA	60 dBA	55 dBA
		Ldn:	18		391	843	1.817
		NEL:	18		405	872	1,879

ay, December 9, 2020 Wednesday, December 9, 2020

	FHV	WA-RD-77-108	HIGH	IWAY N	IOISE PI	REDICT	ION MO	DDEL			
	o: HY 2040 w e: Heacock St t: s/o Nandina	t.					Name: lumber:		ay Aviation	1	
SITE S	SPECIFIC IN	IPUT DATA			Sita Can				L INPUT	S	
				-	site con	unions	(riaru ·				
Average Daily		14,626 vehicle	:S					Autos			
	Percentage:	8.08%				dium Tr					
	our Volume:	1,182 vehicles	6		He	avy Tru	CKS (3+	Axies)	15		
	nicle Speed:	50 mph		١	Vehicle I	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	77.59	12.9%	9.69	% 86.23%
Rar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.89	4.9%	10.39	% 2.67%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	5 2.7%	10.89	% 11.10%
Centerline Dis	t. to Barrier:	50.0 feet		,	Voise So	urco El	lovatio	ne (in f	innt)		
Centerline Dist. t	o Observer:	50.0 feet		· ·	V0/36 30	Auto.		.000	eeu		
Barrier Distance t	o Observer:	0.0 feet			Modiu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				v Truck		.004	Grade Ad	iuetmai	at: 0.0
Pa	d Elevation:	0.0 feet			rical	ry Truck	s. u	.004	Orace Au	Justinici	и. о.о
Roa	d Elevation:	0.0 feet		L	Lane Eq	uivalent	Distar	ıce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 44	.147			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 43	3.947			
	Right View:	90.0 degree	:S		Heav	y Truck	s: 43	1.966			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	70.20	-2.21		0.7	1	-1.20		-4.65	0.0	000	0.000
Medium Trucks:	81.00	-17.31		0.74	4	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	85.38	-11.12		0.73	3	-1.20		-5.43	0.0	000	0.000
Unmitigated Noise		-	_							,	
	Leq Peak Hou			Leg Ev		_	Night		Ldn		CNEL
Autos:	67		66.5		64.8		58		67.3	-	67.9
Medium Trucks:	63		62.6		56.3		54		63.2	_	63.4
Heavy Trucks:	73		73.3		64.3		65	-	73.9		74.0
Vehicle Noise:	75	.0	74.4		67.8		66	.6	75.0)	75.3
Centerline Distance	e to Noise Co	ontour (in feet)		70		0.5		-			
			,	70 c		65	dBA	_	60 dBA		5 dBA
			Ldn: IFL:		108		23	-	503		1,083
		Cr	VEL.		112		24	1	520		1,120

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MOI	DEL			
Road Nam	io: HY 2040 w ne: Indian Av. nt: s/o Nandina						t Name: (lumber: '		ay Aviation		
SITE	SPECIFIC IN	IPUT DATA							L INPUTS		
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
Peak H	Traffic (Adt): Percentage: lour Volume: hicle Speed:	27,978 vehicle 8.08% 2,261 vehicle					ucks (2 A cks (3+ A		15		
Near/Far Lai		45 mph 36 feet		ν	ehicle l	Mix					
Neal/Fal Lai	rie Distance.	36 1661			Veh	icleType	,	Day	Evening	Night	Daily
Site Data								77.59		9.6%	86.23%
Bai	rrier Height:	0.0 feet				edium T		84.89		10.3%	2.67%
Barrier Type (0-W	'all, 1-Berm):	0.0			- 1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dis	st. to Barrier:	44.0 feet			Inica Si	urce F	levations	(in f	oot)		
Centerline Dist.	to Observer:	44.0 feet		F.	0.00	Auto		000	000		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				v Truck		04	Grade Adju	stment:	0.0
Pa	ad Elevation:	0.0 feet									
	ad Elevation:	0.0 feet		L	ane Eq		t Distanc	_	feet)		
I	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degree	es			m Truck					
	Right View:	90.0 degree	es		Heav	ry Truck	s: 40.2	262			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresn	e/	Barrier Atter	n Ben	m Atten
Autos:	68.46	1.06		1.28		-1.20		-4.61	0.00		0.000
Medium Trucks:	79.45	-14.04		1.31		-1.20		-4.87	0.00		0.000
Heavy Trucks:	84.25	-7.84		1.31		-1.20		-5.50	0.00	00	0.000
Unmitigated Noise											
	Leq Peak Hou			eq Ev	ening		Night		Ldn	CI	IEL
Autos:	69		68.6		66.9		60.8		69.4		70.0
Medium Trucks:	65		64.9		58.6		57.0		65.5		65.7
Heavy Trucks:	76		76.0		67.0		68.2		76.6		76.7
Vehicle Noise:	77	.6	77.0		70.2		69.2		77.6		77.8
Centerline Distanc	ce to Noise Co	ontour (in feet)	70 d	D.A	C.	dBA		60 dBA		dBA
			Ldn:	/ U a	142	00	306		659	22	1.419
			ver:		142		316		680		1,419
		C	vĽL.		14/		316		000		1,400

Average Daily Traffic (Adt): 58,874 vehicles Beak Hour Percentage: 8,80% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15 Heavy Trucks (3+ Axles): 15		FH'	WA-RD-77-108	HIGH	WAY N	OISE P	REDICTION	ON MC	DEL			
Site Specific Input DATA										ay Aviation	1	
SITE SPECIFIC INPUT DATA NOISE MODEL INPUTS							Job Nu	ımber:	13445			
Autos: 0.000 Auto	Road Segmen	nt: w/o Heaco	ck St.									
Average Daily Traffic (Adt): 58,874 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15		SPECIFIC II	NPUT DATA								S	
Peak Hour Percentage:	Highway Data				S	ite Cor	ditions (Hard =	10, So	ft = 15)		
Peak Hour Volume: Vehicle Speed: 50 mph Near/Far Lane Distance: 73 feet Vehicle Mix Vehicle	Average Daily	Traffic (Adt):	58,874 vehicl	es					Autos:	15		
Vehicle Speed: Near/Far Lane Distance: 73 feet Vehicle Mix Vehicle Type Day Evening Night Daily	Peak Hour	Percentage:	8.08%			Me	dium Tru	cks (2 .	Axles):	15		
Near/Far Lane Distance: 73 feet Vehicle Type Day Evening Night Daily	Peak H	our Volume:	4,757 vehicle	:S		He	avy Truci	ks (3+ .	Axles):	15		
Near/Far Lane Distance: 73 feet VehicleType Day Evening Night Daily	Vel	hicle Speed:	50 mph		v	ehicle	Mix					
Site Data	Near/Far Lar	ne Distance:	73 feet						Dav	Evenina	Niaht	Daily
Barrier Trype (O-Well, 1-Berm): 0.0 Centerline Dist. to Diserver: 55.0 feet Centerline Dist. to Observer: 55.0 feet Autos: 0.000 Centerline Dist. to Observer: 0.0 feet Autos: 0.000 Centerline Dist. to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 0.000 Centerline Distance to Observer: 0.0 feet Autos: 41.446 Centerline Distance (in feet) Centerline Distance (in fee	Site Data							utos:	77.5%	12.9%		,
	Rar	rior Hoiaht	0.0 feet			М	edium Tru	ucks:	84.8%	4.9%	10.3%	2.67%
Noise Source Elevations (in feet) Noise Source Elevations (in feet)							Heavy Tru	ıcks:	86.5%	2.7%	10.8%	11.109
Autos: 0.000 Autos: 0.000 Barrier Atten Barrier Distance (in Gest)	*, ,				-							
Barrier Distance to Observer: 0.0 feet Autos: 0.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)	Centerline Dist. 1	to Observer:	55.0 feet		^	ioise S				eet)		
Heavy Trucks: 8.004 Grade Adjustment: 0.0	Barrier Distance t	to Observer:	0.0 feet									
Pad Elevation:	Observer Height (Above Pad):	5.0 feet									
Road Grade: 0.0% Autos: 41.446		,	0.0 feet			неа	y irucks	: 8.	004	Grade Adj	justment	: 0.0
	Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in t	eet)		
Right View: 90.0 degrees Heavy Trucks: 41.253	F	Road Grade:	0.0%				Autos	: 41.	.446			
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten		Left View:	-90.0 degre	es		Mediu	m Trucks	: 41.	.232			
VehicleType		Right View:	90.0 degre	es		Hea	y Trucks	: 41	.253			
Autos: 70.20 3.83 1.12 -1.20 -4.67 0.000 0.00	FHWA Noise Mode	el Calculation	s									
Medium Trucks: 81.00 -11.26 1.15 -1.20 -4.87 0.000 0.00 Heavy Trucks: 85.38 -5.07 1.15 -1.20 -5.38 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation)	,,, .							Fresi	_			
Heavy Trucks: 85.38 -5.07 1.15 -1.20 -5.38 0.000 0.00												
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL												
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 74.0 73.0 71.2 65.2 73.8 77.8 Medium Trucks: 69.7 69.1 62.7 61.2 69.7 69. Heavy Trucks: 80.3 79.8 70.7 72.0 80.3 80. Vehicle Noise: 81.5 80.9 74.3 73.1 81.5 81. Centerline Distance to Noise Contour (in feet) Ldn: 321 692 1,491 3,211							-1.20		-5.38	0.0	000	0.00
Autos: 74.0 73.0 71.2 65.2 73.8 74. Medium Trucks: 69.7 69.1 62.7 61.2 69.7 69. Heavy Trucks: 80.3 79.8 70.7 72.0 80.3 80. Vehicle Noise: 81.5 80.9 74.3 73.1 81.5 81. Centerline Distance to Noise Contour (in feet) Ldn: 321 692 1,491 3,211												
Medium Trucks: 69.7 69.1 62.7 61.2 69.7 69. Heavy Trucks: 80.3 79.8 70.7 72.0 80.3 80. Vehicle Noise: 81.5 80.9 74.3 73.1 81.5 81. Centerline Distance to Noise Contour (in feet) Ldn: 321 65 dBA 60 dBA 55 dBA Ldn: 321 692 1,491 3,213		•			Leq Ev			_	<u> </u>		_	
Heavy Trucks: 80.3 79.8 70.7 72.0 80.3 80.									_		-	
Vehicle Noise: 81.5 80.9 74.3 73.1 81.5 81. Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 321 692 1,491 3,212									_			
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 321 692 1,491 3,21									-			
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 321 692 1,491 3,212						74.3		73.	1	81.5	0	81.
Ldn: 321 692 1,491 3,212	Centerline Distanc	e to Noise C	ontour (in fee	1)	70 ~	DΛ	SE ~	ID A		O ADA	FE	dDA.
021 002 1,101 0,212				I dn:	700		00 0					
ONEL. 332 /10 1,542 3,32			_							, .		- /
			C	IVLL.		332		/10	,	1,542		3,321

Wednesday, December 9, 2020

FH	WA-RD-77-108 HI	GHWAY I	NOISE PI	REDICT	ION MODEL		
Scenario: HY 2040 v Road Name: Cactus Av Road Segment: e/o Heacc					Name: Gate lumber: 1344	way Aviation 5	
SITE SPECIFIC I	NPUT DATA			ı	IOISE MOD	EL INPUTS	
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)	
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	39,968 vehicles 8.08% 3,229 vehicles				Auto ucks (2 Axles cks (3+ Axles	:): 15	
Vehicle Speed:	40 mph		Vehicle I	Wix			
Near/Far Lane Distance:	50 feet		Veh	icleType	Day	Evening N	light Daily
Site Data					Autos: 77.5		9.6% 86.23%
Barrier Height:	0.0 feet		M	edium T	rucks: 84.8	% 4.9%	10.3% 2.67%
Barrier Type (0-Wall, 1-Berm):	0.0		I	Heavy T	rucks: 86.5	% 2.7%	10.8% 11.10%
Centerline Dist. to Barrier:	44.0 feet	ŀ	Noise So	ource E	evations (in	feet)	
Centerline Dist. to Observer:	44.0 feet			Auto		,	
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	0.000		
Observer Height (Above Pad):	5.0 feet			y Truck		Grade Adjus	tment: 0.0
Pad Elevation:	0.0 feet	L	77001	y much	3. 0.004		
Road Elevation:	0.0 feet		Lane Eq		Distance (i.	n feet)	
Road Grade:	0.0%			Auto			
Left View:	-90.0 degrees			m Truck	00.000		
Right View:	90.0 degrees		Heav	ry Truck	s: 36.332		
FHWA Noise Model Calculation	าร	1					
VehicleType REMEL	Traffic Flow I	Distance	Finite	Road	Fresnel	Barrier Atten	Berm Atten
Autos: 66.5	1 3.12	1.9	94	-1.20	-4.6	1 0.000	0.000
Medium Trucks: 77.72	2 -11.98	1.9	98	-1.20	-4.8	7 0.000	0.000
Heavy Trucks: 82.99	-5.78	1.9	98	-1.20	-5.5	0.000	0.000
Unmitigated Noise Levels (with	hout Topo and bar	rier attei	nuation)				
VehicleType Leq Peak Ho			vening	Leq	Night	Ldn	CNEL
	0.4 69.4		67.6		61.6	70.2	70.8
	6.5 65.		59.6		58.0	66.5	66.7
	8.0 77.	-	68.5		69.7	78.1	78.2
Vehicle Noise: 7	8.9 78.	4	71.4		70.6	79.0	79.2
Centerline Distance to Noise C	Contour (in feet)						
			dBA	65	dBA	60 dBA	55 dBA
	Ldr		174		376	810	1,744
	CNEL		180		388	835	1,799

y, December 9, 2020 Wednesday, December 9, 2020

F	HWA-RD-77-10	8 HIG	HWAY N	IOISE P	REDICTI	ON MC	DEL			
Scenario: HY 2040 Road Name: Harley K Road Segment: e/o Patte	nox Bl.					Name: umber:		ay Aviation	ı	
SITE SPECIFIC	INPUT DATA							L INPUT	s	
Highway Data				Site Cor	ditions			ft = 15)		
Average Daily Traffic (Adt)	34,146 vehic	les					Autos:	15		
Peak Hour Percentage	8.08%				dium Tru		,	15		
Peak Hour Volume	_,	es		He	avy Truc	ks (3+ .	Axles):	15		
Vehicle Speed			1	Vehicle	Mix					
Near/Far Lane Distance	80 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	86.23%
Barrier Height	0.0 feet			М	edium Tı	ucks:	84.8%	4.9%	10.3%	2.67%
Barrier Type (0-Wall, 1-Berm)					Heavy Ti	ucks:	86.5%	2.7%	10.8%	11.10%
Centerline Dist. to Barrier			1	Voise S	ource El	evation	s (in fe	et)		
Centerline Dist. to Observer	64.0 feet				Autos	s: 0.	.000	,		
Barrier Distance to Observer				Mediu	m Trucks	s: 2.	297			
Observer Height (Above Pad)	5.0 feet				y Trucks		004	Grade Ad	iustment	: 0.0
Pad Elevation			_				-			
Road Elevation			1	Lane Eq	uivalent		_ •	eet)		
Road Grade					Autos		.210			
Left View	-90.0 degre	ees			m Trucks		.033			
Right View	90.0 degre	ees		Hea	y Trucks	s: 50	.050			
FHWA Noise Model Calculation	ons									
VehicleType REMEL	Traffic Flow	_	stance		Road	Fresi		Barrier Att		m Atten
Autos: 68.4		-	-0.1	-	-1.20		-4.70		000	0.00
Medium Trucks: 79.4			-0.1		-1.20		-4.88		000	0.000
Heavy Trucks: 84.2			-0.1		-1.20		-5.31	0.0	000	0.000
Unmitigated Noise Levels (wi						A 17 1- 4		1 -1-		NITI
VehicleType Leq Peak H		_	Leq E		_	Night	2	Ldn		NEL 69.5
	69.1 65.0	68.1 64.4		66.3 58.0		60. 56.	-	68.9 64.9		65.3
							-			
,	76.0 77.0	75.5 76.5		66.4		67.		76.0 77.1		76.2 77.3
Centerline Distance to Noise	Contour (in fee	t)								
		7	70 0	iBA	65 (dBA	6	0 dBA	55	dBA
		Ldn:		190		409)	880	•	1,897
	(NEL:		196		422	,	909		1.959

Site Data		FH\	WA-RD-77-108	HIGHW	AY N	DISE P	REDICT	ION MOI	DEL			
Autos: 15 Autos: 17:5% 12:9% 9:6% 86:25 Autos: 17:5% 12:9% 9:6% 8:25 Autos: 17:5% 12:9% Autos: 17:5% 12:9% Autos: 17:5% Autos	Road Name	e: Harley Kno	x Bl.							ay Aviation		
Average Daily Traffic (Adt): 16,647 vehicles Peak Hour Percentage: 8,08% Medium Trucks (2 Axles): 15 Heavy Trucks (3+ Axles): 15	SITE S	SPECIFIC IN	NPUT DATA								3	
Peak Hour Percentage:	Highway Data				S	ite Cor	ditions	(Hard =	10, Sc	oft = 15)		
Near/Far Lane Distance: 80 feet Vehicle Mix Vehicle Type Day Evening Night Daily Site Data Vehicle Type Day Evening Night Daily Daily Site Data Vehicle Type Day Evening Night Daily Daily Site Data Vehicle Type Day Evening Night Daily Daily Daily Site Data Vehicle Type Day Evening Night Daily Daily Site Data Vehicle Type Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Site Data Night Daily Site Data Night Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Site Data Night Daily Night	Peak Hour I Peak Ho	Percentage: our Volume:	8.08% 1,345 vehicle					ucks (2 A	xles):	15		
Site Data Barrier Height: 0.0 feet Barrier Type (0-Wal), 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Diserver: 64.0 feet Centerline Dist. Centerl					ν	ehicle	Mix					
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Barrier: 64.0 feet Centerline Dist. to Observer: 64.0 feet Autos: 0.000 Medium Trucks: 8.004 Grade Adjustment: 0.0 feet Autos: 6.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Glevation: 0.0 feet Road Grade: 0.0% Autos: 50.210 Medium Trucks: 50.210 Medium Trucks: 50.210 Medium Trucks: 50.033 Heavy Trucks: 50.033 Heavy Trucks: 50.050 Medium Trucks: 50.050	Near/Far Lar	ne Distance:	80 feet			Veh	icleType	e 1	Day	Evening	Night	Daily
Barrier Trype (C-Wall, 1-Berm): 0.0 Teel Centerline Dist. to Doserver: 64.0 feet Centerline Dist. to Observer: 64.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Elevation: 0.0 feet Pad Pad Pad Pad Pad Pad Pad Pad Pad Pad	Site Data							Autos:	77.5%	12.9%	9.6%	86.23%
Barrier Type (O-Wall, 1-Berm): 0.0 Centerline Dist. to Dasrier: 64.0 feet Centerline Dist. to Dasrier: 64.0 feet Barrier Distance to Observer: 0.0 feet Conterline Dist. to Dasrier: 0.0 feet Conterline Dist. to Dasrier: 0.0 feet Conterline Dist. to Dasrier: 0.0 feet Conterline Dist. to Dasrier: 0.0 feet Conterline Dist. to Dasrier: 0.0 feet Conterline Distance to Noise Source Elevations (in feet) Conterline Distance to Noise Source Intervitors: 0.00 feet Conterline Distance (in feet) Contenline Contenline (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Contenline (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in feet) Contenline Distance (in	Ban	rier Heiaht	0.0 feet			М	edium 7	rucks:	34.8%	4.9%	10.3%	2.67%
Centerline Dist. to Observer: 64.0 feet Barrier Distance to Observer: 0.0 feet Barrier Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Ro							Heavy 7	rucks:	36.5%	2.7%	10.8%	11.10%
Centerline Dist. to Observer: 64.0 feet Barrier Distance to Observer: 0.0 feet Distance to Observer: 0.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0 feet Distance to Observer: 0.0 feet Road Grade: 0.0 feet Distance to Observer:	Centerline Dis	t. to Barrier:	64.0 feet		٨	loise Si	nurce F	levations	(in fe	eet)		
Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Autos: 50.210 Autos: 50.033 Heavy Trucks: 50.033 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 50.050 Heavy Trucks: 79.45 -16.29 -0.13 -1.20 -4.70 0.000 0.0 0.000 Heavy Trucks: 79.45 -16.29 -0.11 -1.20 -4.88 0.000 0.000 0.000 Heavy Trucks: 44.25 -10.10 -0.11 -1.20 -5.31 0.000 0.000 0.000 Heavy Trucks: 64.25 -10.10 -0.11 -1.20 -5.31 0.000 0.000 0.000 Heavy Trucks: 65.9 65.0 63.2 57.1 65.8 64.000 65.000 Heavy Trucks: 61.9 61.3 54.9 53.4 61.8	Centerline Dist. t	o Observer:	64.0 feet		Ë				•			
Diserver Height (Above Pad):	Barrier Distance t	o Observer:	0.0 feet			Mediu						
Pad Elevation:	Observer Height (/	Above Pad):	5.0 feet							Grade Adiu	ıstment	0.0
Road Grade: 0.0%	Pa	d Elevation:	0.0 feet				,					
Right View:					L	ane Eq			_	feet)		
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 68.46 -1.19 -0.13 -1.20 -4.70 0.000 0.	F											
FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berm Atte			-90.0 degre	es								
VehicleType		Right View:	90.0 degre	es		Hea	y Truck	rs: 50.0)50			
Autos: 68.46	FHWA Noise Mode	l Calculation	s									
Medium Trucks: 79.45 -16.29 -0.11 -1.20 -4.88 0.000 0.0 Heavy Trucks: 84.25 -10.10 -0.11 -1.20 -5.31 0.000 0.0 Unmitigated Noise Levels (without Tropo and barrier attenuation) VehicleType Leq Peak Howr Leq Day Leq Evening Leq Night Ldn CNEL Autos: 65.9 65.0 63.2 57.1 65.8 66 Medium Trucks: 61.9 61.3 54.9 53.4 61.8 66 Heavy Trucks: 72.8 72.4 63.3 64.6 72.9 77 Vehicle Noise: 73.9 73.4 66.6 65.6 74.0 7 Centerline Distance to Noise Contour (in feet) Ldn: 118 253 545 1.1	VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	e/	Barrier Atte	n Ber	m Atten
Heavy Trucks: 84.25	Autos:	68.46	-1.19		-0.13		-1.20		4.70	0.00	00	0.000
Unmitigated Noise Levels (without Topo and barrier attenuation)	Medium Trucks:	79.45	-16.29		-0.11		-1.20		4.88	0.00	00	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 65.9 65.0 63.2 57.1 65.8 61 Medium Trucks: 61.9 61.3 54.9 53.4 61.8 66 Heavy Trucks: 72.8 72.4 63.3 64.6 72.9 73 Vehicle Noise: 73.9 73.4 66.6 65.6 74.0 74 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 118 253 545 1,1	Heavy Trucks:	84.25	-10.10		-0.11		-1.20		-5.31	0.00	00	0.000
Autos: 65.9 65.0 63.2 57.1 65.8 66	Unmitigated Noise	Levels (with	out Topo and	barrier	attenu	ation)						
Medium Trucks: 61.9 61.3 54.9 53.4 61.8 66.8 Heavy Trucks: 72.8 72.4 63.3 64.6 72.9 77. Vehicle Noise: 73.9 73.4 66.6 65.6 74.0 74.0 Centerline Distance to Noise Contour (in feet) India 65 dBA 60 dBA 55 dBA Ldn: 118 253 545 1,1	VehicleType	Leq Peak Hou	ur Leq Da	y L	.eq Ev	ening	Leq	Night		Ldn	C	VEL
Heavy Trucks: 72.8 72.4 63.3 64.6 72.9 77.												66.4
Vehicle Noise: 73.9 73.4 66.6 65.6 74.0 74.0 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 118 253 545 1,1		-										62.1
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 118 253 545 1,1'	· -									. =		73.0
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 118 253 545 1,1	Vehicle Noise:	73	3.9	73.4		66.6		65.6		74.0		74.2
Ldn: 118 253 545 1,1	Centerline Distanc	e to Noise Co	ontour (in fee)								
					70 d		65		6		55	
CNEL: 121 261 563 1.2:												1,175
CIVEL: 121 201 303 1,2			С	NEL:		121		261		563		1,213

	FH\	WA-RD-77-108 I	HIGHW.	AY N	IOISE PE	REDICTION	ON MC	DEL			
Road Nar	rio: HYP 2040 me: Heacock S ent: n/o Gentiar		k)			Project I Job Nu			ay Aviatior	1	
SITE Highway Data	SPECIFIC IN	IPUT DATA			Site Con	No ditions (L INPUT	s	
	. T#- (A-W)	00.070		- '	one con	unions (Autos:			
Average Daily	. ,	33,372 vehicle: 8.08%	5		Mo	dium Tru					
	r Percentage:							,			
	Hour Volume:	2,696 vehicles			не	avy Truci	KS (3+	Axies):	15		
	ehicle Speed:	50 mph		١	/ehicle l	Лix					
Near/Far La	ane Distance:	48 feet			Veh	cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.69	6 86.389
Ba	arrier Height:	0.0 feet			Me	edium Tru	ıcks:	84.8%	4.9%	10.39	6 2.649
Barrier Type (0-V	-	0.0			F	leavy Tru	ıcks:	86.5%	2.7%	10.89	6 10.989
Centerline D	ist. to Barrier:	50.0 feet			Voise Sc	urce Ele	vation	s (in fe	net)		
Centerline Dist	to Observer:	50.0 feet		F	10.00 00	Autos		.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Mediu	n Trucks		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	liustmar	#· 0.0
F	Pad Elevation:	0.0 feet		L	ricav	y Trucks.	. 0	.004	Orauc Au	justinoi	n. 0.0
Ro	oad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Autos.	: 44	.147			
	Left View:	-90.0 degrees	s		Mediui	n Trucks	: 43	.947			
	Right View:	90.0 degrees	S		Heav	y Trucks	: 43	.966			
FHWA Noise Mod	del Calculation	s									
Vehicle Type	REMEL	Traffic Flow	Distar	псе	Finite	Road	Fresi	nel	Barrier Att	en Be	erm Atten
Autos	70.20	1.38		0.71	1	-1.20		-4.65	0.0	000	0.00
Medium Trucks	: 81.00	-13.77		0.74	4	-1.20		-4.87	0.0	000	0.00
Heavy Trucks	85.38	-7.58		0.73	3	-1.20		-5.43	0.0	000	0.00
Unmitigated Nois			arrier a	atteni	uation)					_	
VehicleType	Leq Peak Hot			eq Ev	ening/	Leq N	_		Ldn		CNEL
Autos			0.1		68.3		62.	-	70.9	-	71.
Medium Trucks			6.2		59.8		58.	-	66.		67.
Heavy Trucks			6.8		67.8		69.	_	77.4		77.
Vehicle Noise	: 78	3.6 7	8.0		71.4		70.	2	78.0	6	78.
Centerline Distan	ice to Noise C	ontour (in feet)		70 -	4D.4		·D.4		- ID 4		5 dBA
		,	dni	70 d		65 d			00 dBA		
			.dn: FL:		187		402	-	866		1,866
		CN	EL.		193		416	5	896	5	1,93

Wednesday, December 9, 2020

	FH\	VA-RD-77-108	HIGHWA	Y NOISE I	PREDICT	ION MOD	EL		
	e: Heacock S	v/ext. (Non-Pea :.	k)			Name: G		iation	
SITE	SPECIFIC IN	PUT DATA			1	OISE M	ODEL IN	PUTS	
Highway Data				Site Co	nditions	(Hard = 1	0, Soft = 1	15)	
Average Daily	Traffic (Adt):	28,923 vehicle	s				utos: 15		
	Percentage:	8.08%				ucks (2 Ax	,		
	lour Volume:	2,337 vehicles		H	eavy Tru	cks (3+ Ax	les): 15	5	
	hicle Speed:	50 mph		Vehicle	Mix				
Near/Far La	ne Distance:	48 feet		Ve	hicleType	e D	ay Eve	ning N	ight Daily
Site Data						Autos: 7	7.5% 12	2.9%	9.6% 86.45%
Bai	rrier Height:	0.0 feet		/	∕ledium T	rucks: 8	4.8% 4	1.9% 1	0.3% 2.62%
Barrier Type (0-W	-	0.0			Heavy T	rucks: 8	6.5% 2	2.7% 1	0.8% 10.93%
Centerline Dis		50.0 feet		Noise S	Source E	levations	(in feet)		
Centerline Dist.		50.0 feet			Auto	s: 0.00	00		
Barrier Distance		0.0 feet		Medi	um Truck	s: 2.29	97		
Observer Height (,	5.0 feet		Hea	avy Truck	s: 8.00)4 Grad	le Adjust	ment: 0.0
	ad Elevation:	0.0 feet				4 Di-4	(i f4)		
	ad Elevation:	0.0 feet		Lane E		t Distance	. ,		
,	Road Grade:	0.0%		14	Auto um Truck				
	Left View:	-90.0 degree			um Truck avy Truck	- 10.0			
	Right View:	90.0 degree	S	пес	ivy IIuck	s. 43.9t	00		
FHWA Noise Mode									
VehicleType	REMEL	Traffic Flow	Distanc		e Road	Fresne		er Atten	Berm Atten
Autos:	70.20	0.76		0.71	-1.20		1.65	0.000	
Medium Trucks:	81.00	-14.42		0.74	-1.20		1.87	0.000	
Heavy Trucks:	85.38	-8.22		0.73	-1.20	-<	5.43	0.000	0.000
VehicleType	Leg Peak Hou			t enuation , g Evening		Night	Ldn		CNEL
Autos:	70		9.5	67.		61.7	Luii	70.3	70.9
Medium Trucks:	66		55.5	59.		57.6		66.1	66.3
Heavy Trucks:	76	.7 7	6.2	67.	2	68.4		76.8	76.9
Vehicle Noise:	77	.9 7	7.3	70.	8	69.5		77.9	78.2
Centerline Distanc	ce to Noise Co	ntour (in feet)							
				70 dBA		dBA	60 dB.		55 dBA
		_	.dn:	169		364		785	1,692
		CN	IEL:	175	Ó	377		812	1,750

Wednesday, December 9, 2020

	FHW	/A-RD-77-108	HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nar	rio: HYP 2040 v me: Heacock St ent: s/o Cardinal		ak)				Name: (umber:		ay Aviation		
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	32,560 vehicle	es				,	Autos:	15		
Peak Hou	r Percentage:	8.08%			Me	dium Tru	ucks (2 A	(xles	15		
Peak	Hour Volume:	2,631 vehicle	s		He	avy Truc	cks (3+ A	(xles	15		
V	ehicle Speed:	50 mph			Vehicle	Miv					
Near/Far L	ane Distance:	48 feet		-		icleType		Dav	Evenina	Night	Dailv
Site Data								77.5%		9.6%	. ,
R	arrier Height:	0.0 feet			М	edium Ti	rucks:	84.8%	4.9%	10.3%	2.69%
Barrier Type (0-V		0.0			1	Heavy Ti	rucks:	86.5%	2.7%	10.8%	11.60%
	ist. to Barrier:	50.0 feet		-							
Centerline Dist		50.0 feet			Noise So				et)		
Barrier Distance	to Observer:	0.0 feet				Auto		000			
Observer Height		5.0 feet				m Truck		297			
-	Pad Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustment	: 0.0
	oad Elevation:	0.0 feet			Lane Eq	uivalent	Distanc	e (in f	eet)		
	Road Grade:	0.0%		ı		Auto	s: 44.	147			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 43.	947			
	Right View:	90.0 degree	es		Heav	y Truck	s: 43.	966			
FHWA Noise Mod	del Calculations	;									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fresn	_	Barrier Atte	en Ber	m Atten
Autos	70.20	1.24		0.7	71	-1.20		-4.65	0.0	000	0.000
Medium Trucks	81.00	-13.80		0.7	74	-1.20		-4.87	0.0	000	0.000
Heavy Trucks	85.38	-7.45		0.7	73	-1.20		-5.43	0.0	000	0.000
Unmitigated Nois	se Levels (witho	out Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	Evening	Leq	Night		Ldn	C	NEL
Autos	70.	9	70.0		68.2		62.2	2	70.8	3	71.4
Medium Trucks			66.2		59.8		58.3		66.7		66.9
Heavy Trucks			77.0		67.9		69.2		77.5		77.7
Vehicle Noise	78.	6	78.0		71.4		70.2	2	78.7	,	78.9
Centerline Distar	ice to Noise Co	ntour (in feet)								
			I	70	dBA	65	dBA	6	0 dBA		dBA
			Ldn:		189		407		876		1,887
		C	NEL:		195		420		905		1,951

FH	WA-RD-77-108	HIGHW	ay noi	ISE PI	REDICT	ION MODE	L		
Scenario: HYP 2040 Road Name: Heacock S Road Segment: s/o Nandir	St.	ak)				t Name: Ga lumber: 134		ion	
SITE SPECIFIC I	NPUT DATA					NOISE MO	DEL INPU	JTS	
Highway Data			Site	e Con	ditions	(Hard = 10	, Soft = 15)		
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	15,076 vehicle 8.08% 1,218 vehicle					Au rucks (2 Axi rcks (3+ Axi	/		
Vehicle Speed:	50 mph		Vel	hicle l	Wix				
Near/Far Lane Distance:	48 feet				icleType	e Da	y Evenin	a Ni	ight Daily
Site Data							.5% 12.9	-	9.6% 86.64%
Barrier Height:	0.0 feet			M	edium 7	rucks: 84	.8% 4.9	% 1	0.3% 2.59%
Barrier Type (0-Wall, 1-Berm):	0.0			F	Heavy 7	rucks: 86	.5% 2.7	% 1	0.8% 10.77%
Centerline Dist. to Barrier:	50.0 feet		No	ieo Sr	urce F	levations (in foot)		
Centerline Dist. to Observer:	50.0 feet		1401	136 30	Auto				
Barrier Distance to Observer:	0.0 feet			Modiu	m Truck	0.00			
Observer Height (Above Pad):	5.0 feet		,		y Truck			Adiust	ment: 0.0
Pad Elevation:	0.0 feet			1 Icav	y mucr	3. 0.00	- 0,000	lajaot	
Road Elevation:	0.0 feet		Lar	ne Eq	uivalen	t Distance	(in feet)		
Road Grade:	0.0%				Auto	s: 44.14	7		
Left View:	-90.0 degre		/		m Truck				
Right View:	90.0 degre	es		Heav	y Truck	(s: 43.96)	6		
FHWA Noise Model Calculation	15								
VehicleType REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresnel	Barrier	Atten	Berm Atten
Autos: 70.20	-2.06		0.71		-1.20	-4.	65	0.000	0.000
Medium Trucks: 81.00	-17.31		0.74		-1.20	-4.	87	0.000	0.000
Heavy Trucks: 85.38	-11.12		0.73		-1.20	-5.	43	0.000	0.000
Unmitigated Noise Levels (with	nout Topo and	barrier a	ttenua	tion)					
VehicleType Leq Peak Ho	ur Leq Day	/ L	eq Even	ning	Leq	Night	Ldn		CNEL
	7.7	66.7		64.9		58.9	-	7.5	68.1
Medium Trucks: 6	3.2	62.6		56.3		54.7	6	3.2	63.4
	3.8	73.3		64.3		65.5		3.9	74.0
Vehicle Noise: 7	5.0	74.5		67.9		66.7	7	5.1	75.3
Centerline Distance to Noise C	ontour (in feet)							
			70 dBA	4	65	dBA	60 dBA		55 dBA
		Ldn:		109		234	5	05	1,087
	C	NEL:		112		242	5	22	1,125

Scenario: HYP 20		A-RD-77-108 I		IIIAI I	VOIOL I				ay Aviatior		
Road Name: Indian / Road Segment: s/o Nar	Av.	,	N)			Job Nu			ay Aviatioi		
SITE SPECIFIC	CINE	UT DATA				N	OISE	MODE	L INPUT	S	
Highway Data					Site Co	nditions (Hard =	= 10, Sc	oft = 15)		
Average Daily Traffic (Ad	t): 2	8,304 vehicles	3					Autos:	15		
Peak Hour Percentag	e:	8.08%			М	edium Tru	cks (2	Axles):	15		
Peak Hour Volum	e: 2	2,287 vehicles			Н	eavy Truc	ks (3+	Axles):	15		
Vehicle Spee	d:	45 mph		-	Vehicle	Miss					
Near/Far Lane Distance	e:	36 feet		-		hicleType		Dav	Evenina	Niaht	Dailv
Site Data					***		utos:	77.5%			85.429
Barrier Heigh	n#-	0.0 feet			٨	nedium Tri		84.8%		10.3%	
Barrier Type (0-Wall, 1-Bern		0.0 leet				Heavy Tru	icks:	86.5%	2.7%	10.8%	11.859
Centerline Dist. to Barrie	,	44.0 feet		L							
Centerline Dist. to Observe		44.0 feet		Į.	Noise S	ource Ele			eet)		
Barrier Distance to Observe	er:	0.0 feet				Autos		.000			
Observer Height (Above Page		5.0 feet				um Trucks		.297			
Pad Elevation	n:	0.0 feet			Hea	vy Trucks	: 8	.004	Grade Ad	ustmen	t: U.U
Road Elevation	n:	0.0 feet		Ī	Lane E	quivalent	Distan	ce (in	feet)		
Road Grad	le:	0.0%				Autos	: 40	.460			
Left Vie	W.	-90.0 degrees	3		Medi	um Trucks	: 40	.241			
Right Vie	w:	90.0 degrees	3		Hea	vy Trucks	: 40	.262			
FHWA Noise Model Calcula	tions										
VehicleType REMEL	-	Traffic Flow	Dis	stance	Finit	e Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos: 68	3.46	1.07		1.2	18	-1.20		-4.61	0.0	000	0.00
Medium Trucks: 79	9.45	-13.88		1.3		-1.20		-4.87	0.0	000	0.00
Heavy Trucks: 84	1.25	-7.51		1.3	11	-1.20		-5.50	0.0	000	0.00
Unmitigated Noise Levels (v	vitho	ut Topo and b	arri	er atter	nuation)						
VehicleType Leq Peak	Hour	Leq Day		Leq E	vening	Leq N	light		Ldn	С	NEL
Autos:	69.6	6	8.6		66.	9	60.	8	69.4	1	70.
Medium Trucks:	65.7	′ 6	5.1		58.	7	57.	2	65.	7	65
Heavy Trucks:	76.9	7	6.4		67.	3	68.	6	76.9	9	77.
Vehicle Noise:	77.9	7	7.3		70.	4	69.	5	77.9	9	78
Centerline Distance to Nois	e Con	tour (in feet)									
			L	70	dBA	65 a			60 dBA		dBA
		_	dn:		148		319		687		1,48
		CN	E1 ·		153		329)	709		1.52

Wednesday, December 9, 2020

FH	WA-RD-77-108 HI	IGHWAY	NOISE P	REDICTI	ON MODEL				
Scenario: HYP 2040 Road Name: Cactus Av Road Segment: w/o Heaco)		.,	Name: Gate umber: 1344	eway Aviation 15			
SITE SPECIFIC I	NPUT DATA			N	OISE MOD	EL INPUTS			
Highway Data			Site Con	ditions	(Hard = 10,	Soft = 15)			
Average Daily Traffic (Adt): Peak Hour Percentage: Peak Hour Volume:	59,024 vehicles 8.08% 4,769 vehicles				Auto ucks (2 Axle: cks (3+ Axle:	s): 15			
Vehicle Speed:	50 mph		Vehicle	Mix					
Near/Far Lane Distance:	73 feet		Veh	icleType	Day	Evening I	light Daily		
Site Data				A	Autos: 77.5	5% 12.9%	9.6% 86.27%		
Barrier Height:	0.0 feet		М	edium Ti	ucks: 84.8	3% 4.9%	10.3% 2.66%		
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Ti	ucks: 86.5	5% 2.7%	10.8% 11.07%		
Centerline Dist. to Barrier:	55.0 feet		Noise S	ource El	evations (in	foot)			
Centerline Dist. to Observer:	55.0 feet		140/36 00	Auto:		recij			
Barrier Distance to Observer:	0.0 feet		Modiu	m Truck:	0.000				
Observer Height (Above Pad):	5.0 feet			vy Truck:		Grade Adjus	etment: 0.0		
Pad Elevation:	0.0 feet		пеан	ry Trucks	5. 0.004	Огаас Ааја	atmont. 0.0		
Road Elevation:	0.0 feet		Lane Eq	uivalent	Distance (i	n feet)			
Road Grade:	0.0%			Autos	s: 41.446				
Left View:	-90.0 degrees		Mediu	m Trucks	s: 41.232				
Right View:	90.0 degrees		Hear	y Truck	s: 41.253				
FHWA Noise Model Calculation	ıs								
VehicleType REMEL		Distance	Finite	Road	Fresnel	Barrier Atter	Berm Atten		
Autos: 70.20	3.85	1.	12	-1.20	-4.6	7 0.00	0.000		
Medium Trucks: 81.00	-11.26	1.	15	-1.20	-4.8	7 0.00	0.000		
Heavy Trucks: 85.38	-5.07	1.	15	-1.20	-5.3	0.00	0.000		
Unmitigated Noise Levels (with	out Topo and ba	rrier atte	nuation)						
VehicleType Leq Peak Ho	ur Leq Day	Leq I	Evening	Leq	Night	Ldn	CNEL		
Autos: 7	4.0 73	.0	71.2		65.2	73.8	74.4		
Medium Trucks: 6	9.7 69	.1	62.7		61.2	69.7	69.9		
	0.3 79		70.7		72.0	80.3	80.5		
Vehicle Noise: 8	1.5 80	.9	74.3		73.1	81.5	81.7		
Centerline Distance to Noise C	ontour (in feet)								
			dBA	65	dBA	60 dBA	55 dBA		
	Ld		321		692	1,491	3,213		
	CNE	L:	332		716	1,542	,542 3,323		

Wednesday, December 9, 2020

	FH\	VA-RD-77-108	HIGI	I YAWH	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: HYP 2040 vie: Cactus Av. nt: e/o Heacoc	w/ext. (Non-Pe k St.	ak)				Name: lumber:		ay Aviatior	1	
	SPECIFIC IN	IPUT DATA			0				L INPUT	S	
Highway Data					Site Cor	aitions	•				
Average Daily		40,098 vehicle	es					Autos:	15		
	Percentage:	8.08%				dium Tr			15		
	lour Volume:	3,240 vehicle	S		He	avy Tru	cks (3+ .	Axles):	15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far La	ne Distance:	50 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	86.28%
Par	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.66%
Barrier Type (0-W	-	0.0				Heavy T	rucks:	86.5%	2.7%	10.8%	11.07%
Centerline Di		44.0 feet		-							
Centerline Dist		44.0 feet		L	Noise S				et)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height (5.0 feet				m Truck		.297			
	ad Flevation:	0.0 feet			Hea	y Truck	s: 8.	.004	Grade Ad	justment	0.0
	ad Elevation:	0.0 feet			Lane Eq	uivalen	Distan	ce (in t	eet)		
	Road Grade:	0.0%				Auto	s: 36	.551	,		
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 36	.308			
	Right View:	90.0 degree			Hea	y Truck	s: 36	.332			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	66.51	3.14		1.9	94	-1.20		-4.61	0.0	000	0.000
Medium Trucks:	77.72	-11.98		1.9	8	-1.20		-4.87	0.0	000	0.000
Heavy Trucks:	82.99	-5.78		1.9	8	-1.20		-5.50	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barri	er atter	nuation)						
VehicleType	Leq Peak Hou		_	Leq E	vening	_	Night		Ldn		VEL
Autos:	70		69.4		67.6		61.	-	70.2	_	70.8
Medium Trucks:	66		65.9		59.6		58.	-	66.	-	66.7
Heavy Trucks:	78		77.5		68.5		69.		78.		78.2
Vehicle Noise:	78	.9	78.4		71.4		70.	6	79.0)	79.2
Centerline Distant	ce to Noise Co	ntour (in feet)	70	dBA	65	dBA		0 dBA	FF	dBA
			Ldn:	70	и <i>Б</i> А 175	65	376		810		1.745
											1,745
	CNEL:				180 388 835 1					1,799	

	FH	WA-RI	D-77-108	HIGH	A YAWH	IOISE P	REDICT	TION M	ODEL			
	o: HYP 2040 e: Harley Kno nt: e/o Patters	ox BI.	,	ak)					: Gatew : 13445	ay Aviatior	n	
	SPECIFIC II	NPUT	DATA							L INPUT	s	
Highway Data						Site Cor	nditions	(Hard		oft = 15)		
Average Daily		. ,	2 vehicle	es					Autos:			
	Percentage:	8.08					edium Ti					
	our Volume:	2,810	vehicle:	S		He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	45	mph		- 1	Vehicle	Mix					
Near/Far Lar	ne Distance:	80) feet			Veh	nicleTyp	е	Day	Evening	Night	Daily
Site Data								Autos:	77.5%	12.9%	9.6%	85.69%
Bar	rier Heiaht:	0.	0 feet			M	ledium 1	rucks:	84.8%	4.9%	10.3%	2.70%
Barrier Type (0-W	all, 1-Berm):	0.	0				Heavy 1	rucks:	86.5%	2.7%	10.8%	11.619
Centerline Dis			0 feet		1	Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t			0 feet				Auto	os: (0.000			
Barrier Distance t		0.	0 feet			Mediu	ım Truck		2.297			
Observer Height (,	5.	0 feet			Hea	vy Truci	ks: 8	3.004	Grade Ad	justment	: 0.0
	d Elevation:		0 feet		L.		•					
	d Elevation:		0 feet		1	Lane Eq	uivalen			feet)		
F	Road Grade:	0.09	-				Auto		0.210			
	Left View:		0 degree				ım Truci		0.033			
	Right View:	90.	0 degree	es		Hea	vy Truci	ks: 50	0.050			
FHWA Noise Mode												
VehicleType	REMEL		ic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	68.46		1.98		-0.1		-1.20		-4.70		000	0.00
Medium Trucks:	79.45		-13.04		-0.1	•	-1.20		-4.88		000	0.00
Heavy Trucks:	84.25		-6.70		-0.1		-1.20		-5.31	0.0	000	0.00
Unmitigated Noise							1				1	
	Leq Peak Ho		Leq Day		Leq E	/ening		Night		Ldn		NEL
Autos:	-	9.1		68.1		66.4		60		68.9	-	69.
Medium Trucks:	-	5.1		64.5		58.2	-	56		65.		65.
Heavy Trucks:		6.2		75.7		66.7		68		76.3		76.
Vehicle Noise:		7.3		76.7		69.9)	68	1.9	77.3	3	77.
Centerline Distanc	e to Noise C	ontoui	(in feet,)	70	/D 4		-10.4		CO -/D4		-404
				Ldn:	70 c	197	65	dBA 42		60 dBA 913		dBA
				Lan: VEL:		203		42		913		1,966
			CI	VCL.		203		43	,,	942		2,02

Coonorio: L	IVD 2040 w	layt (Non Bool	()			Drain at A	lomo: (Cotoniu	au Audation		
Road Name: F		ext. (Non-Peal	()			Job Nu			ay Aviation		
Road Segment: e						JOD IVUI	iibei.	3443			
		UT DATA		П		NC	DISE N	IODE	L INPUT	s	
Highway Data		• · • · · · · · · · · · · · · · · · · ·		S	ite Con	ditions (F					
Average Daily Traf	fic (Adt): 1	6,747 vehicles					-	Autos:	15		
Peak Hour Pen	centage:	8.08%			Med	dium Truc	ks (2 A	xles):	15		
Peak Hour	Volume: 1	,353 vehicles			Hea	avy Truck	s (3+ A	xles):	15		
Vehicle	Speed:	45 mph		ν	ehicle N	Nix					
Near/Far Lane D	istance:	80 feet		ľ		cleType		Dav	Evening	Night	Dailv
Site Data							itos:	77.5%		9.6%	86.31
Barrier	Heiaht:	0.0 feet			Ме	edium Tru	cks:	84.8%	4.9%	10.3%	2.65
Barrier Type (0-Wall,		0.0			H	leavy Tru	cks:	86.5%	2.7%	10.8%	11.04
Centerline Dist. to	,	64.0 feet			loico So	urce Ele	rations	(in fo	of)		
Centerline Dist. to C	bserver:	64.0 feet		N	ioise so	Autos:		100	ei)		
Barrier Distance to C	bserver:	0.0 feet			Modium	n Trucks:		97			
Observer Height (Abo	ve Pad):	5.0 feet				v Trucks:		104	Grade Ad	iustment	0.0
Pad E	levation:	0.0 feet		L	ricav,	y Trucks.	0.0	10-1	0,440,714,	dournorne	. 0.0
	levation:	0.0 feet		L	ane Equ	ıivalent L			eet)		
	d Grade:	0.0%				Autos:					
_	eft View:	-90.0 degrees				n Trucks:					
Rig	nht View:	90.0 degrees			Heav	y Trucks:	50.0	050			
FHWA Noise Model Ca	alculations										
VehicleType F	REMEL	Traffic Flow	Distan	ce	Finite	Road	Fresn	e/	Barrier Att	en Ber	m Atter
Autos:	68.46	-1.16		-0.13		-1.20		4.70	0.0	000	0.00
Medium Trucks:	79.45	-16.29		-0.11		-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-10.10		-0.11		-1.20		-5.31	0.0	000	0.00
Unmitigated Noise Le	•		_								
	Peak Hour			eq Ev	ening	Leq N	•		Ldn		NEL
Autos:	66.0	-	5.0		63.2		57.2		65.8	-	66
Medium Trucks:	61.9	-	1.3		54.9		53.4		61.8	-	62
Heavy Trucks:	72.8		2.4		63.3		64.6		72.9		73
Vehicle Noise:	73.9	7	3.4		66.6		65.6		74.0	J	74
Centerline Distance to	Noise Con	tour (in feet)		70.4	RΔ	65 41	24	6	O dRA	55	dRΔ
	Noise Con	, ,	dn:	70 d	BA 118	65 dl	3A 253	6	0 dBA 546		dBA 1.17

Wednesday, December 9, 2020

	FH\	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICT	ION MC	DEL			
Road Nan	nio: HYP 2040 ne: Heacock S nt: n/o Gentiar	t. `´					Name: lumber:		ay Aviation		
	SPECIFIC IN	IPUT DATA							L INPUTS	3	
Highway Data				S	ite Con	ditions	(Hard =	10, S	oft = 15)		
	Percentage:	33,537 vehicle 8.08%				edium Tr	ucks (2	/	15		
	Hour Volume:	2,710 vehicles	3		не	avy Tru	CKS (3+ .	4xies)	15		
	ehicle Speed:	50 mph		ν	ehicle l	Mix					
Near/Far La	ane Distance:	48 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	6 12.9%	9.6%	86.44%
Ba	rrier Height:	0.0 feet			M	edium T	rucks:	84.89	4.9%	10.3%	2.63%
Barrier Type (0-V	Vall, 1-Berm):	0.0			1	Heavy T	rucks:	86.5%	6 2.7%	10.8%	10.93%
Centerline Di		50.0 feet		٨	loise So	ource El	levation	s (in f	eet)		
Centerline Dist.		50.0 feet				Auto	s: 0.	000			
Barrier Distance		0.0 feet			Mediu	m Truck	s: 2.	297			
Observer Height	. ,	5.0 feet			Heav	v Truck	s: 8.	004	Grade Adj	ustmen	t: 0.0
	ad Elevation:	0.0 feet		-							
	ad Elevation:	0.0 feet		L	ane Eq	uivalen			reet)		
	Road Grade:	0.0%				Auto		147			
	Left View:	-90.0 degree				m Truck	10	947			
	Right View:	90.0 degree	s		Heav	y Truck	s: 43	966			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Distan	ice	Finite	Road	Fresi	nel	Barrier Atte	en Be	rm Atten
Autos:	70.20	1.40		0.71		-1.20		-4.65	0.0	00	0.000
Medium Trucks:	81.00	-13.77		0.74		-1.20		-4.87	0.0	00	0.000
Heavy Trucks:	85.38	-7.58		0.73		-1.20		-5.43	0.0	00	0.000
Unmitigated Nois			barrier a	ttenı	ıation)						
VehicleType	Leq Peak Hou			eq Ev	ening		Night		Ldn		NEL
Autos:			70.1		68.4		62.		70.9		71.5
Medium Trucks:			66.2		59.8		58.	-	66.7		67.0
Heavy Trucks:			76.8		67.8		69.		77.4		77.5
Vehicle Noise:			78.0		71.4		70.:	2	78.6	i	78.8
Centerline Distan	ce to Noise Co	ontour (in feet)		70 d	DA.	65	dBA		60 dBA	-	dBA
			Ldn:	7 U a	187	03	ава 402		867	- 50	1.867
			Lan: VEL:		193		402		896		1,867
		Cr	VLL.		193		410	'	096		1,931

/ednesday, December 9, 2020

	FHW	A-RD-77-108	HIGH	HWAY N	OISE P	REDICTI	ION MC	DEL			
	o: HYP 2040 w e: Heacock St. t: s/o Iris Av.	/ext. (Peak)					Name: umber:		ay Aviatior	n	
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				3	ite Cor	ditions	(Hard =				
Average Daily	. ,	29,135 vehicle	es					Autos:			
	Percentage:	8.08%				dium Tru		,			
		2,354 vehicles	S		He	avy Truc	cks (3+	Axles):	15		
	nicle Speed:	50 mph		V	ehicle	Mix					
Near/Far Lar	ne Distance:	48 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.69	6 86.55%
Rar	rier Height:	0.0 feet			М	edium Tı	rucks:	84.8%	4.9%	10.39	6 2.61%
Barrier Type (0-Wi		0.0				Heavy Tr	rucks:	86.5%	2.7%	10.89	6 10.85%
Centerline Dis		50.0 feet		٨	loise S	ource El	evation	s (in fe	eet)		
Centerline Dist. t		50.0 feet				Autos	s: 0	.000			
Barrier Distance t		0.0 feet			Mediu	m Trucks	s: 2	.297			
Observer Height (,	5.0 feet			Hear	y Trucks	s: 8	.004	Grade Ad	justmer	t: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Eq	uivalent		_ •	feet)		
F	Road Grade:	0.0%				Autos		.147			
	Left View:	-90.0 degree				m Trucks		.947			
	Right View:	90.0 degree	es		Hea	y Trucks	s: 43	.966			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	0.80		0.71		-1.20		-4.65		000	0.000
Medium Trucks:	81.00	-14.42		0.74		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-8.22		0.73		-1.20		-5.43	0.0	000	0.000
Unmitigated Noise							A Contra	1	I also		NIE!
	Leq Peak Hour			Leq Ev		_	Night	-	Ldn	_	NEL
Autos: Medium Trucks:	70. 66.	-	69.5 65.5		67.8 59.2		61. 57.		70.3 66.3	-	70.9 66.3
								-			
Heavy Trucks:_ Vehicle Noise:	76. 77.		76.2 77.3		67.2 70.8		68. 69.		76. 77.		76.9 78.2
Centerline Distance	e to Noise Co	ntour (in feet)								
z z z z z z z z z z z z z z z z z z z		(111100)		70 d	BA	65 (dBA	6	60 dBA	5	5 dBA
			Ldn:		169		36	5	786	;	1,693
		CI	NEL:		175		37	7	813	3	1,752

	FH	WA-RD-77-10	8 HIGH	IWAY N	OISE P	REDICT	TION MODE	L		
	e: Heacock S						t Name: Ga Number: 134	teway Aviation 145	1	
SITE S	SPECIFIC II	NPUT DATA						DEL INPUT	S	
Highway Data				S	Site Cor	nditions	(Hard = 10	, Soft = 15)		
	Traffic (Adt): Percentage: our Volume:	32,928 vehic 8.08% 2,661 vehicle					Aut rucks (2 Axie icks (3+ Axie	es): 15		
Vel	hicle Speed:	50 mph		ı	/ehicle	Mix				
Near/Far Lar	ne Distance:	48 feet		F		icleType	e Da	y Evening	Night	Daily
Site Data								.5% 12.9%	9.6%	
Par	rier Height:	0.0 feet			M	ledium 7	rucks: 84	.8% 4.9%	10.3%	2.70%
Barrier Type (0-W		0.0				Heavy 7	rucks: 86	.5% 2.7%	10.8%	11.83%
Centerline Dis	t. to Barrier:	50.0 feet			loise S	ource F	levations (i	n feet)		
Centerline Dist. t	to Observer:	50.0 feet		- 1	10/36 0	Auto				
Barrier Distance t	to Observer:	0.0 feet			Modiu	m Truck	0.000			
Observer Height (Above Pad):	5.0 feet				vy Truck			iustmant	. 0 0
Pa	d Elevation:	0.0 feet		L	rica	vy IIucr	13. 0.00-	. 0,440,710,	Juotimom	. 0.0
Roa	d Elevation:	0.0 feet		L	.ane Eq	uivalen	t Distance	(in feet)		
F	Road Grade:	0.0%				Auto	os: 44.147	7		
	Left View:	-90.0 degre	es		Mediu	m Truck	ks: 43.947	7		
	Right View:	90.0 degre	ees		Hea	vy Truck	ks: 43.966	3		
FHWA Noise Mode	el Calculation	ıs								
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresnel	Barrier Att	en Bei	m Atten
Autos:	70.20	1.27	7	0.71	ľ	-1.20	-4.	65 0.0	000	0.000
Medium Trucks:	81.00	-13.73	3	0.74	1	-1.20	-4.	87 0.0	000	0.000
Heavy Trucks:	85.38	-7.32	2	0.73	3	-1.20	-5.	43 0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	l barrie	er atteni	uation)					
VehicleType	Leq Peak Ho			Leq Ev	ening	Leq	Night	Ldn		NEL
Autos:	-	1.0	70.0		68.2		62.2	70.8	-	71.4
Medium Trucks:	-	6.8	66.2		59.9		58.3	66.8	-	67.0
Heavy Trucks:		7.6	77.1		68.1		69.3	77.		77.8
Vehicle Noise:	78	8.7	78.2		71.5	,	70.4	78.8	3	79.0
Centerline Distance	e to Noise C	ontour (in fee	t)						,	
			L	70 d		65	dBA	60 dBA		dBA
			Ldn:		192		414	891		1,921
		C	NEL:		198		428	921		1,985

Scenario: L	IVD 2040 v	v/ext. (Peak)				Project A	lama: (Catow	ay Aviation		
Road Name: F						Job Nu			ay Aviation	l	
Road Segment: s						JOD IVUI	IIDEI.	13443			
SITE SPE	CIFIC IN	PUT DATA		T		NC	DISE N	IODE	L INPUT	s	
Highway Data					Site Con	ditions (F	lard =	10, Sc	ft = 15)		
Average Daily Traft	fic (Adt):	15,288 vehicle	s				,	Autos:	15		
Peak Hour Perd	centage:	8.08%			Me	dium Truc	ks (2 A	(xles	15		
Peak Hour	Volume:	1,235 vehicles			He	avy Truck	s (3+ A	(xles	15		
Vehicle	Speed:	50 mph		,	/ehicle I	Miv					
Near/Far Lane D	istance:	48 feet		- F		cleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	,
Barrier	Height:	0.0 feet			Me	edium Tru	cks:	84.8%	4.9%	10.3%	2.559
Barrier Type (0-Wall,	-	0.0			F	leavy Tru	cks:	86.5%	2.7%	10.8%	10.62
Centerline Dist. to	Barrier:	50.0 feet		,	Voisa So	urce Ele	vation	: (in fa	of)		
Centerline Dist. to O	bserver:	50.0 feet		ľ	10/36 00	Autos:		000	icij		
Barrier Distance to O	bserver:	0.0 feet			Mediur	n Trucks:		97			
Observer Height (Abo	ve Pad):	5.0 feet				y Trucks:		004	Grade Ad	iustment	. 0.0
Pad E	levation:	0.0 feet								doimon.	. 0.0
Road E	levation:	0.0 feet		I	Lane Equ	uivalent L	Distanc	e (in i	feet)		
Road	d Grade:	0.0%				Autos:	44.	147			
Le	eft View:	-90.0 degree	S			n Trucks:					
Rig	nt View:	90.0 degree	s		Heav	y Trucks:	43.9	966			
FHWA Noise Model Ca	alculations	3									
VehicleType R	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	70.20	-1.99		0.7		-1.20		-4.65		000	0.00
Medium Trucks:	81.00	-17.31		0.74		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-11.12		0.73	3	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Le			_							_	
-, ,	Peak Hou		_	Leg E	ening/	Leq N	-		Ldn	_	NEL
Autos:	67.		6.7		65.0		58.9		67.5	-	68
Medium Trucks:	63.		32.6		56.3		54.7		63.2	-	63
Heavy Trucks:	73.		3.3		64.3		65.5		73.9		74
Vehicle Noise:	75.	.1 7	4.5		68.0		66.7	•	75.1	l	75
Centerline Distance to	Noise Co	ntour (in feet)		70 -	1D.4	CF 41	24	_	0 404		-10.4
		,	dn:	70 c		65 dl			i0 dBA		dBA
			.dn: IFL:		109 113		235 243		506 523		1,08
											1,12

Wednesday, December 9, 2020

Fł	IWA-RD-77-108 HI	GHWAY	NOISE PI	REDICT	ON MOD	DEL				
Scenario: HYP 2040 Road Name: Indian Av. Road Segment: s/o Nandi					Name: 0 umber: 1		ay Aviation			
SITE SPECIFIC I	NPUT DATA						L INPUTS	}		
Highway Data			Site Con	ditions	(Hard = :	10, S	oft = 15)			
Average Daily Traffic (Adt):	28,460 vehicles					lutos:				
Peak Hour Percentage:	8.08%				ıcks (2 A					
Peak Hour Volume:	2,300 vehicles		He	avy Truc	ks (3+ A	xles):	15			
Vehicle Speed:	45 mph		Vehicle I	Wix						
Near/Far Lane Distance:	36 feet	Ì	Veh	icleType	ı	Day	Evening	Night	Daily	
Site Data				-	lutos:	77.5%	12.9%	9.6%	85.03%	
Barrier Height:	0.0 feet		M	edium Ti	ucks: 8	34.8%	4.9%	10.3%	2.77%	
Barrier Type (0-Wall, 1-Berm):	0.0		ı	Heavy T	ucks: 8	36.5%	2.7%	10.8%	12.20%	
Centerline Dist. to Barrier:	44.0 feet	ł	Noise So	nurce Fl	evations	(in f	oet)			
Centerline Dist. to Observer:	44.0 feet			Auto		•	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
Barrier Distance to Observer:	0.0 feet		Mediu	m Truck	0.0					
Observer Height (Above Pad):	5.0 feet			y Truck			Grade Adju	ıstment:	0.0	
Pad Elevation:	0.0 feet									
Road Elevation:	0.0 feet		Lane Eq			_ •	feet)			
Road Grade:	0.0%			Auto						
Left View:	-90.0 degrees			m Truck						
Right View:	90.0 degrees		Heav	y Truck	s: 40.2	162				
FHWA Noise Model Calculatio										
VehicleType REMEL		Distance		Road	Fresne		Barrier Atte		n Atten	
Autos: 68.4		1.2		-1.20		4.61	0.00		0.000	
Medium Trucks: 79.4		1.3		-1.20		4.87	0.00		0.000	
Heavy Trucks: 84.2		1.3		-1.20		5.50	0.00	00	0.000	
Unmitigated Noise Levels (wit									·=·	
VehicleType Leq Peak Ho			vening		Night		Ldn	CN	IEL	
	9.6 68. 5.8 65.	-	66.9 58.8		60.8 57.3		69.4 65.7		70.0 66.0	
	7.0 76	_	67.5		68.7		77.1		77.2	
	8.0 77.	-	70.5		69.6		78.0		78.2	
Centerline Distance to Noise (Contour (in feet)									
	,	70	dBA	65	dBA	(60 dBA	55 (dBA	
	Ldn:						701		1,509	
	Ldn: CNEL:					156 335 723				

Wednesday, December 9, 2020

	FH	WA-RD-77-108	HIGI	HWAY	NOISE PI	REDICT	ION MO	DEL			
Road Nan	io: HYP 2040 ne: Cactus Av. nt: w/o Heaco						Name: lumber:		ay Aviatior	ı	
	SPECIFIC II	NPUT DATA			0				L INPUT	s	
Highway Data					Site Con	aitions					
Average Daily		59,095 vehicl	es					Autos:			
	Percentage:	8.08%					ucks (2)				
	lour Volume:	.,	s		He	avy Tru	cks (3+)	Axles):	15		
	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	73 feet			Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	77.5%	12.9%	9.6%	86.28%
Ra	rrier Height:	0.0 feet			М	edium T	rucks:	84.8%	4.9%	10.3%	2.66%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	86.5%	2.7%	10.8%	11.06%
Centerline Di	st. to Barrier:	55.0 feet		-	Noise So	urco E	lovation	c (in f	not)		
Centerline Dist.	to Observer:	55.0 feet		-	NOISE SC	Auto.		000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				ry Truck		004	Grade Ad	iuctman	
P	ad Elevation:	0.0 feet								ustricii	. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in i	feet)		
	Road Grade:	0.0%				Auto	s: 41.	446			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 41.	232			
	Right View:	90.0 degre	es		Heav	y Truck	s: 41.	253			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow		stance		Road	Fresr	_	Barrier Att		rm Atten
Autos:	70.20			1.1	-	-1.20		-4.67		000	0.000
Medium Trucks:				1.1		-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-5.07		1.1	15	-1.20		-5.38	0.0	000	0.000
Unmitigated Nois		-	barri	er atte	nuation)						
VehicleType	Leq Peak Ho			Leq E	vening	_	Night		Ldn	_	NEL
Autos:		1.0	73.0 69.1		71.2		65.2	-	73.8	-	74.4
	Medium Trucks: 6				62.7		61.2	-	69.7		69.9
Heavy Trucks:).3	79.8		70.7		72.0		80.0		80.5
Vehicle Noise:		1.5	80.9		74.3		73.	l	81.5	Ō	81.7
Centerline Distan	ce to Noise C	ontour (in fee	t)					_		_	
			L	70	dBA	65	dBA		60 dBA		i dBA
		_	Ldn:		321		692		1,492		3,213
		С	NEL:		332		716		1,543		3,323

		WA-RD-77-10									
	o: HYP 2040								ay Aviation	1	
	e: Cactus Av.					Job N	lumber:	13445			
Road Segmen	it: e/o Heacoo	ck St.									
	SPECIFIC IN	IPUT DATA			0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara				
Average Daily	. ,	40,159 vehic	les					Autos.			
	Percentage:	8.08%				dium Tr					
	our Volume:	3,245 vehicle	es		He	avy Tru	cks (3+	Axles)	: 15		
	hicle Speed:	40 mph			Vehicle	Mix					
Near/Far Lar	ne Distance:	50 feet		F	Veh	icleType	•	Day	Evening	Night	Daily
Site Data							Autos:	77.59	6 12.9%	9.6%	86.30%
Bar	rier Heiaht:	0.0 feet			М	edium T	rucks:	84.89	6 4.9%	10.3%	2.65%
Barrier Type (0-W		0.0				Heavy T	rucks:	86.5%	6 2.7%	10.8%	11.05%
Centerline Dis		44.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist. t		44.0 feet		Ī		Auto		0.000	,		
Barrier Distance t		0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad): 5.0 feet						vy Truck		3.004	Grade Ad	justment	: 0.0
	Pad Elevation: 0.0 feet										
	d Elevation:	0.0 feet			Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		3.551			
	Left View:	-90.0 degre				m Truck	00	3.308			
	Right View:	90.0 degre	ees		Hea	y Truck	:s: 36	3.332			
FHWA Noise Mode				1							
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		m Atten
Autos:	66.51		-	1.9		-1.20		-4.61		000	0.00
Medium Trucks:	77.72		-	1.9	-	-1.20		-4.87		000	0.00
Heavy Trucks:	82.99			1.9		-1.20		-5.50	0.0	000	0.00
Unmitigated Noise								_		_	
	Leq Peak Hou		,	Leq E	vening	Leq	Night		Ldn		NEL
Autos:	70		69.4		67.7		61		70.2	_	70.
Medium Trucks: 66.5 65.9 Heavy Trucks: 78.0 77.5					59.6		58		66.	-	66.
Heavy Trucks:			77.5		68.5		69		78.		78.
Vehicle Noise:	78		78.4		71.4		70	.6	79.0)	79.
Centerline Distanc	e to Noise Co	ontour (in fee	t)	70	dBA	C.	dBA		60 dBA		dBA
			Ldn:	700	ава 175	05	ава 37		<i>60 ава</i> 810		
		,	Lan:		175		37		810		1,745
			NVEL.		100		30	U	030		1,000

	FH\	WA-RD-77-108	HIGH	WAY N	OISE P	REDICTI	ION MC	DEL			
Road Nam	ne: HYP 2040 ne: Harley Kno nt: e/o Patters	x Bl.					Name: umber:		ay Aviation	I	
	SPECIFIC IN	IPUT DATA			24- 0				L INPUT	S	
Highway Data				- 2	site Con	ditions	•				
Average Daily	Traffic (Adt):	35,069 vehicle	es					Autos:	15		
	Percentage:	8.08%				dium Tru	,	,			
	lour Volume:	2,834 vehicles	S		He	avy Truc	cks (3+	Axles):	15		
	hicle Speed:	45 mph		١	/ehicle	Mix					
Near/Far La	ne Distance:	80 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	85.439
Ba	rrier Height:	0.0 feet			М	edium Tı	rucks:	84.8%	4.9%	10.3%	2.729
Barrier Type (0-W	-	0.0			-	Heavy Ti	rucks:	86.5%	2.7%	10.8%	11.859
Centerline Di	st. to Barrier:	64.0 feet			Inica Si	ource El	ovation	e (in fa	of)		
Centerline Dist.	to Observer:	64.0 feet			10/36 00	Auto:		.000	icij		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck:		297			
Observer Height	Observer Height (Above Pad): 5.0 feet							.004	Grade Ad	iuctment	. 0.0
P	ad Elevation:	0.0 feet			rica	y Truck	3. 0	.004	Orauc Au	ustricit	0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in t	eet)		
	Road Grade:	0.0%				Autos	s: 50	.210			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 50	.033			
	Right View:	90.0 degree	es		Hear	y Truck	s: 50	.050			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	2.00		-0.13	3	-1.20		-4.70	0.0	000	0.00
Medium Trucks:	79.45	-12.98		-0.11	I	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-6.58		-0.11	I	-1.20		-5.31	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atten	uation)						
VehicleType	Leq Peak Hou	ır Leq Day	,	Leq Ev	rening	Leq	Night		Ldn	C	NEL
Autos:			68.2		66.4		60.	-	69.0		69.
Medium Trucks:	Medium Trucks: 65.2 64.6				58.2		56.		65.1		65.
Heavy Trucks:			75.9		66.8		68.	1	76.4		76.
Vehicle Noise:	77	.4	76.8		69.9		69.	0	77.4	1	77.
Centerline Distant	ce to Noise Co	ontour (in feet,)								
			L	70 d		65	dBA		i0 dBA		dBA
			Ldn:		200		431		928		1,999
		Ci	NEL:		206		444	1	957		2,062

Wednesday, December 9, 2020

	FHWA	A-RD-77-108 HI	IGHWAY	NOISE P	REDICTI	ON MODE	L	
Scenario: Road Name: Road Segment:		3I. ´				Name: Ga umber: 134	teway Aviation 145	
	ECIFIC INP	UT DATA					DEL INPUTS	1
Highway Data				Site Con	ditions	(Hard = 10	, Soft = 15)	
Average Daily Tra	ffic (Adt): 16	3,794 vehicles				Aut		
Peak Hour Pe		8.08%				icks (2 Axle	.,	
Peak Hour		,357 vehicles		He	avy Truc	ks (3+ Axle	es): 15	
	le Speed:	45 mph		Vehicle	Mix			
Near/Far Lane	Distance:	80 feet		Veh	icleType	Da	y Evening	Night Daily
Site Data					A	lutos: 77	.5% 12.9%	9.6% 86.35%
Barrie	r Height:	0.0 feet		М	edium Tr	ucks: 84	.8% 4.9%	10.3% 2.64%
Barrier Type (0-Wall,		0.0		1	Heavy Tr	ucks: 86	.5% 2.7%	10.8% 11.00%
Centerline Dist. t	to Barrier:	64.0 feet		Noise S	ource Ele	evations (i	n feet)	
Centerline Dist. to 0		64.0 feet			Autos			
Barrier Distance to 0		0.0 feet		Mediu	m Trucks			
Observer Height (Ab	,	5.0 feet			vy Trucks		Grade Adju	ustment: 0.0
	Elevation:	0.0 feet						
	Elevation:	0.0 feet		Lane Eq		Distance	,	
		0.0%			Autos			
_		-90.0 degrees			m Trucks			
Ri	ight View:	90.0 degrees		Heav	y Trucks	50.050)	
FHWA Noise Model C								
,,, .			Distance		Road	Fresnel	Barrier Atte	
Autos:	68.46	-1.15	-0.		-1.20	-4.		
Medium Trucks:	79.45	-16.29	-0.		-1.20	-4.		
Heavy Trucks:	84.25	-10.10	-0.	11	-1.20	-5.	31 0.0	0.000
Unmitigated Noise Le		t Topo and ba						
	q Peak Hour	Leq Day		Evening	,	Night	Ldn	CNEL
Autos:	66.0	65		63.2		57.2	65.8	66.4
Medium Trucks:	61.9	61		54.9		53.4	61.8	62.1
Heavy Trucks:	72.8	72		63.3		64.6	72.9	73.0
Vehicle Noise:	73.9	73	.4	66.6		65.6	74.0	74.2
Centerline Distance t	to Noise Con	tour (in feet)					00 (04	55 104
		Ld		dBA	65 (dBA OFF	60 dBA	55 dBA
		CNF		118 121		253 262	546 564	1,176
		CNE	L.	121		202	564	1,215

lay, December 9, 2020 Wednesday, December 9, 2020



APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS





13445 - Meridian D-1 Gateway

CadnaA Noise Prediction Model: 13445-07.cna

Date: 06.06.22 Analyst: B. Lawson

Calculation Configuration

Configurat	tion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	М.	ID		Level Lr		Lir	nit. Valı	ue		Land	l Use	Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	25.0	24.2	30.9	55.0	55.0	0.0				5.00	а	6261541.44	2268345.63	5.00
RECEIVERS		R2	36.1	35.9	42.6	55.0	55.0	0.0				5.00	а	6262793.15	2267209.01	5.00
RECEIVERS		R3	36.1	36.0	42.7	55.0	55.0	0.0				5.00	а	6262827.55	2265320.23	5.00
RECEIVERS		R4	36.9	36.8	43.5	55.0	55.0	0.0				5.00	а	6262827.12	2263841.06	5.00

Point Source(s)

Name	M.	ID	R	Result. PWL			Lw/L	i	Оре	erating Ti	me	Heigh	t	Co	oordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Υ	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		252.00	0.00	152.00	5.00	g	6258848.64	2263909.32	50.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		150.00	0.00	90.00	5.00	а	6258831.46	2263704.30	5.00

Line Source(s)

	Name	M.	ID	R	Result. PWL			esult. PW	L'		Lw / Li		Op	erating Ti	ime		Moving	Pt. Src		Heigh	١t
				Day	Evening	Night	Day	Evening	Night	Type	Value	norm.	Day	Special	Night		Number		Speed		
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LIN	IESOURCE		DWY01	95.0	79.6	85.9	77.0	61.7	68.0	PWL-Pt	93.2					239.0	7.0	30.0	6.2	8	а

	Name	ŀ	lei	ght			Coordinat	es	
		Begin		End		х	У	z	Ground
ſ		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
1	LINESOURCE	8.00	8.00 a			6258816.62	2263774.88	8.00	0.00

Name	He	ight		Coordinat	es	
	Begin	End	х	у	Z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6258857.26	2263796.75	8.00	0.00
			6258867.70	2263801.81	8.00	0.00
			6258878.83	2263805.06	8.00	0.00
			6258890.35	2263806.40	8.00	0.00
			6258901.93	2263805.80	8.00	0.00
			6258913.25	2263803.27	8.00	0.00
			6258923.99	2263798.89	8.00	0.00
			6258933.84	2263792.77	8.00	0.00
			6258942.53	2263785.10	8.00	0.00
			6258949.82	2263776.07	8.00	0.00
			6258955.50	2263765.96	8.00	0.00
			6258975.56	2263727.57	8.00	0.00

Area Source(s)

	-	- 1 - 1														
Name	M.	ID	R	Result. PWL			esult. PW	L"		Lw / Li	i	Оре	erating Ti	me	Height	
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	П
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
AREASOURCE		DOCK01	111.5	111.5	111.5	72.2	72.2	72.2	Lw	111.5					8	а

Name	ŀ	lei	ght		Coordinat	es	
	Begin		End	х	У	z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	8.00	а		6258769.21	2263865.07	8.00	0.00
				6258784.81	2263839.07	8.00	0.00
				6258856.31	2263694.78	8.00	0.00
				6258439.02	2263473.79	8.00	0.00
				6258345.42	2263646.68	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	ilever	+	lei	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	х	у	Z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6262812.23	2265552.95	6.00	0.00
											6262810.93	2265287.33	6.00	0.00
BARRIERS		BARRIERS00002						6.00	а		6262814.73	2264941.01	6.00	0.00
											6262814.73	2264474.43	6.00	0.00
BARRIERS		BARRIERS00003						6.00	а		6262812.56	2264416.92	6.00	0.00
											6262809.66	2263810.58	6.00	0.00
BARRIERS		BARRIERS00004						6.00	а		6262807.49	2263720.52	6.00	0.00
											6262806.41	2263631.55	6.00	0.00
BARRIERS		BARRIERS00005						6.00	а		6261425.99	2268327.40	6.00	0.00
											6261928.31	2268324.65	6.00	0.00

Building(s)

Name	M.	ID	RB	Residents	Absorption	Height			Coordinat	es	
						Begin		х	у	Z	Ground
						(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING		BUILDING00001	х	0		45.00	а	6258206.33	2263914.47	45.00	0.00
								6258736.71	2264191.36	45.00	0.00
								6258890.10	2263896.27	45.00	0.00
								6258784.81	2263839.07	45.00	0.00
								6258769.21	2263865.07	45.00	0.00
								6258345.42	2263646.68	45.00	0.00

Urban Crossroads, Inc.

APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS





13445 - Meridian D-1 Gateway

CadnaA Noise Prediction Model: 13445-07_Construction.cna

Date: 06.06.22 Analyst: B. Lawson

Calculation Configuration

ion
Value
0.00
2000.01
0.00
0.50
999.99
1.01
0.00
On
On
960.00
480.00
0.00
5.00
10.00
0.00
Triangulation
2
100.00
100.00
1000.00 1000.00
1.00 1.00
0.10
some Obj
On
Incl. Ground Att. over Barrier
Dz with limit (20/25)
3.0 20.0 0.0
10
70
0.00
3.0

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Land Use		Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)	
RECEIVERS		R1	38.0	38.0	44.7	55.0	55.0	0.0				5.00	а	6261541.44	2268345.63	5.00	
RECEIVERS		R2	42.4	42.4	49.1	55.0	55.0	0.0				5.00	а	6262793.15	2267209.01	5.00	
RECEIVERS		R3	39.4	39.4	46.1	55.0	55.0	0.0				5.00	а	6262827.55	2265320.23	5.00	
RECEIVERS		R4	39.6	39.6	46.3	55.0	55.0	0.0				5.00	а	6262827.12	2263841.06	5.00	

Area Source(s)

Name	M.	ID	R	esult. PW	'L	Re	esult. PW	L"		Lw / L	i	Ope	erating Ti	me	Height	:
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	П
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
SITEBOUNDARY		CONSTRUCTION	115.0	115.0	115.0	61.1	61.1	61.1	Lw	115					8	а

Name	F	lei	ght		Coordinat	es	
	Begin		End	х	у	Z	Ground
	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
SITEBOUNDARY	8.00	а		6257270.22	2264233.50	8.00	0.00
				6257363.82	2264422.98	8.00	0.00
				6257658.30	2264886.39	8.00	0.00
				6257815.82	2265048.48	8.00	0.00
				6258226.73	2265178.60	8.00	0.00
				6258441.32	2265064.46	8.00	0.00
				6258244.99	2264701.48	8.00	0.00
				6260027.78	2265630.70	8.00	0.00
				6260062.50	2265575.14	8.00	0.00

Name	He	ight		Coordinat	es	
	Begin	End	х	у	Z	Ground
	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)
			6258867.62	2264947.28	8.00	0.00
			6259004.34	2264690.77	8.00	0.00
			6258991.97	2263780.61	8.00	0.00
			6259682.08	2264137.38	8.00	0.00
			6259707.29	2264146.87	8.00	0.00
			6259733.16	2264154.39	8.00	0.00
			6259759.53	2264159.92	8.00	0.00
			6259786.24	2264163.42	8.00	0.00
			6259952.04	2264160.60	8.00	0.00
			6259950.96	2264195.32	8.00	0.00
			6259996.53	2264197.49	8.00	0.00
			6259999.78	2264411.25	8.00	0.00
			6260009.55	2264447.06	8.00	0.00
			6260011.72	2264461.17	8.00	0.00
			6260012.81	2264486.12	8.00	0.00
			6260028.00	2264486.12	8.00	0.00
			6260026.91	2264161.69	8.00	0.00
			6260110.46	2264161.69	8.00	0.00
			6260106.12	2264068.37	8.00	0.00
			6259796.88	2264077.05	8.00	0.00
			6259767.51	2264074.99	8.00	0.00
			6259738.41	2264070.48	8.00	0.00
			6259709.80	2264063.55	8.00	0.00
			6259681.86	2264054.26	8.00	0.00
			6259363.93	2263884.99	8.00	0.00
			6257894.75	2263122.19	8.00	0.00
			6257641.93	2263509.56	8.00	0.00
			6257620.23	2263467.24	8.00	0.00
			6257399.96	2263576.83	8.00	0.00
			6257526.91	2263829.65	8.00	0.00

Barrier(s)

Name	M.	ID	Abso	rption	Z-Ext.	Canti	ilever	H	lei	ght		Coordinat	es	
			left	right		horz.	vert.	Begin		End	х	У	z	Ground
					(ft)	(ft)	(ft)	(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6262812.23	2265552.95	6.00	0.00
											6262810.93	2265287.33	6.00	0.00
BARRIERS		BARRIERS00002						6.00	а		6262814.73	2264941.01	6.00	0.00
											6262814.73	2264474.43	6.00	0.00
BARRIERS		BARRIERS00003						6.00	а		6262812.56	2264416.92	6.00	0.00
											6262809.66	2263810.58	6.00	0.00
BARRIERS		BARRIERS00004						6.00	а		6262807.49	2263720.52	6.00	0.00
											6262806.41	2263631.55	6.00	0.00
BARRIERS		BARRIERS00005						6.00	а		6261425.99	2268327.40	6.00	0.00
											6261928.31	2268324.65	6.00	0.00

APPENDIX 10.2:

CADNAA CONCRETE POUR NOISE MODEL INPUTS





13445 - Meridian D-1 Gateway

CadnaA Noise Prediction Model: 13445-07_ConcretePour.cna

Date: 06.06.22 Analyst: B. Lawson

Calculation Configuration

Configurat	ion
Parameter	Value
General	
Max. Error (dB)	0.00
Max. Search Radius (#(Unit,LEN))	2000.01
Min. Dist Src to Rcvr	0.00
Partition	
Raster Factor	0.50
Max. Length of Section (#(Unit,LEN))	999.99
Min. Length of Section (#(Unit,LEN))	1.01
Min. Length of Section (%)	0.00
Proj. Line Sources	On
Proj. Area Sources	On
Ref. Time	
Reference Time Day (min)	960.00
Reference Time Night (min)	480.00
Daytime Penalty (dB)	0.00
Recr. Time Penalty (dB)	5.00
Night-time Penalty (dB)	10.00
DTM	
Standard Height (m)	0.00
Model of Terrain	Triangulation
Reflection	
max. Order of Reflection	2
Search Radius Src	100.00
Search Radius Rcvr	100.00
Max. Distance Source - Rcvr	1000.00 1000.00
Min. Distance Rvcr - Reflector	1.00 1.00
Min. Distance Source - Reflector	0.10
Industrial (ISO 9613)	
Lateral Diffraction	some Obj
Obst. within Area Src do not shield	On
Screening	Incl. Ground Att. over Barrier
	Dz with limit (20/25)
Barrier Coefficients C1,2,3	3.0 20.0 0.0
Temperature (#(Unit,TEMP))	10
rel. Humidity (%)	70
Ground Absorption G	0.00
Wind Speed for Dir. (#(Unit,SPEED))	3.0
Roads (TNM)	
Railways (FTA/FRA)	
Aircraft (???)	
Strictly acc. to AzB	

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Land	l Use	Height		Coordinates		
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Υ	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	37.6	37.6	44.3	55.0	55.0	0.0				5.00	а	6261541.44	2268345.63	5.00
RECEIVERS		R2	42.4	42.4	49.0	55.0	55.0	0.0				5.00	а	6262793.15	2267209.01	5.00
RECEIVERS		R3	39.6	39.6	46.2	55.0	55.0	0.0				5.00	а	6262827.55	2265320.23	5.00
RECEIVERS		R4	40.1	40.1	46.8	55.0	55.0	0.0				5.00	а	6262827.12	2263841.06	5.00

Area Source(s)

Name	M.	ID	R	Result. PWL			esult. PW	L"		Lw / Li			erating Ti	me	Height	:
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	Г
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		Γ
BUILDING		CONCRETEPOUR	115.0	115.0	115.0	72.6	72.6	72.6	Lw	115					8	а

Name	ŀ	Hei	ght			Coordinat	es	
	Begin		End		х	у	Z	Ground
	(ft)		(ft)		(ft)	(ft)	(ft)	(ft)
BUILDING	8.00	а			6258206.33	2263914.47	8.00	0.00
	0.00 0				6258736.71	2264191.36	8.00	0.00
					6258890.10	2263896.27	8.00	0.00
					6258784.81	2263839.07	8.00	0.00
					6258769.21	2263865.07	8.00	0.00
					6258345.42	2263646.68	8.00	0.00

Barrier(s)

Name	M.	ID	Absorption		Z-Ext.	Cantilever		Height			Coordinates			
			left	right		horz.	vert.	Begin		End	×	у	z	Ground
					(ft)	(ft)	(ft)	(ft)	П	(ft)	(ft)	(ft)	(ft)	(ft)
BARRIERS		BARRIERS00001						6.00	а		6262812.23	2265552.95	6.00	0.00
											6262810.93	2265287.33	6.00	0.00
BARRIERS		BARRIERS00002						6.00	а		6262814.73	2264941.01	6.00	0.00
											6262814.73	2264474.43	6.00	0.00
BARRIERS		BARRIERS00003						6.00	а		6262812.56	2264416.92	6.00	0.00
									П		6262809.66	2263810.58	6.00	0.00
BARRIERS		BARRIERS00004						6.00	а		6262807.49	2263720.52	6.00	0.00
											6262806.41	2263631.55	6.00	0.00
BARRIERS		BARRIERS00005						6.00	а		6261425.99	2268327.40	6.00	0.00
											6261928.31	2268324.65	6.00	0.00