Appendix 4.9

Noise



The Homestead

NOISE IMPACT ANALYSIS CITY OF EASTVALE

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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
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

 $\begin{array}{lll} L_{eq} & & \text{Equivalent continuous (average) sound level} \\ L_{max} & & \text{Maximum level measured over the time interval} \\ L_{min} & & \text{Minimum level measured over the time interval} \end{array}$

mph Miles per hour

OPR Office of Planning and Research

PPV Peak particle velocity

Project The Homestead

REMEL Reference Energy Mean Emission Level

RMS Root-mean-square VdB Vibration Decibels



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 The Homestead development ("Project"). The Project site is located west of Archibald Avenue and on either side of Limonite Avenue, in the City of Eastvale. The proposed Project consists of 560,291 square feet of warehousing use (Buildings 1 to 6) and 520,317 square feet of high-cube fulfillment center use (Building 7). At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown, and therefore, this noise study includes a conservative analysis of the proposed Project uses. This study has been prepared to satisfy applicable City of Eastvale, and adjacent City of Ontario, standards and thresholds of significance based on guidance provided by Appendix G of the California Environmental Quality Act (CEQA) Guidelines. (1)

OFF-SITE TRAFFIC NOISE ANALYSIS

Traffic generated by the operation of the Project will influence the traffic noise levels in surrounding off-site areas. To quantify the off-site traffic noise increases on the surrounding off-site areas, the changes in traffic noise levels on 15 study-area roadway segments were calculated based on the change in the average daily traffic (ADT) volumes. The traffic noise levels provided in this analysis are based on the traffic forecasts found in *The Homestead Traffic Impact Analysis* prepared by Urban Crossroads, Inc. (2) To assess the off-site noise level impacts associated with the proposed Project, noise contour boundaries were developed for Existing, Opening Year 2021, Interim Year 2023, and Horizon Year 2040 conditions.

The analysis shows that the unmitigated Project-related traffic noise level increases under all with Project traffic scenarios are considered *less than significant* impacts at land uses adjacent to the study area roadway segments.

OPERATIONAL NOISE ANALYSIS

Using reference noise levels to represent the expected noise sources from The Homestead site, this analysis estimates the Project-related stationary-source noise levels at nearby sensitive receiver locations. The typical activities associated with the proposed The Homestead are anticipated to include idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements. The operational noise analysis shows that the Project-related stationary-source noise levels at the nearby receiver locations will satisfy the City of Eastvale and City of Ontario exterior noise level standards. The analysis includes the barrier attenuation provided by the existing 6-foot high noise barriers in the Project study area and the Project buildings themselves.

Further, this analysis demonstrates that the unmitigated Project operational noise levels will not contribute a long-term operational noise level impact to the existing ambient noise environment at any of the sensitive receiver locations. Therefore, the operational noise level impacts associated with the proposed 24-hour seven days per week Project activities, such as the idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods,



roof-top air conditioning units, and parking lot vehicle movements, are considered *less than significant*.

CONSTRUCTION NOISE ANALYSIS

Using sample reference noise levels to represent the planned construction activities of The Homestead site, this analysis estimates the Project-related construction noise levels at nearby sensitive receiver locations. The Project-related short-term construction noise levels are expected to approach 54.2 dBA L_{eq} . Since the City of Eastvale and Ontario General Plans and Municipal Codes do not identify specific construction noise level thresholds, a threshold is identified based on the National Institute for Occupational Safety and Health (NIOSH) limits for construction noise. The results of the analysis show that the Project-related short-term construction noise levels will satisfy the 85 dBA L_{eq} threshold identified by NIOSH at all receiver locations.

Further, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations to assess the temporary noise level increases due to Project construction. A temporary noise level increase of 12 dBA L_{eq} is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases. (4) The analysis shows that the Project will contribute unmitigated, worst-case construction noise level increases ranging from 0.1 to 0.2 dBA L_{eq} at the nearby receiver locations during the daytime construction hours, and therefore, are considered a *less than significant* noise impact.

The construction noise analysis presents a conservative approach with the highest noise-level-producing equipment for each stage of Project construction operating at the closest point from primary construction activity to the nearby sensitive receiver locations. This scenario is unlikely to occur during typical construction activities and likely overstates the construction noise levels which will be experienced at each receiver location.

CONSTRUCTION VIBRATION ANALYSIS

At distances ranging from 258 to 1,442 feet from Project construction activity, construction vibration velocity levels are expected to approach 0.003 in/sec PPV. Based on the City of Eastvale Municipal Code vibration level standard of 0.0787 in/sec PPV, the proposed Project construction activities will satisfy the vibration standard at all receiver locations during Project construction. Therefore, the Project-related vibration impacts will be *less than significant* during the construction activities at the Project site.

Further, the Project-related construction vibration levels do not represent levels capable of causing building damage to nearby residential homes. The FTA identifies construction vibration levels capable of building damage ranging from 0.12 to 0.5 in/sec PPV. (4) The peak Project-construction vibration levels are shown to approach 0.003 in/sec PPV and will remain below the FTA vibration levels for building damage at the residential homes near the Project site. Further, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the



entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE ES-1: SUMMARY OF SIGNIFICANCE FINDINGS

Analusia	Report	Significance Findings		
Analysis	Section Unmitigated		Mitigated	
Off-Site Traffic Noise Levels	7	Less Than Significant	n/a	
Operational Noise Level Compliance	0	Less Than Significant	n/a	
Operational Noise Level Increases (Permanent)	9	Less Than Significant	n/a	
Construction Noise Level Compliance		Less Than Significant	n/a	
Construction Noise Level Increases (Temporary)	10	Less Than Significant	n/a	
Construction Vibration Levels		Less Than Significant	n/a	



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1 INTRODUCTION

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

1.1 SITE LOCATION

The proposed The Homestead site is located west of Archibald Avenue and on either side of Limonite Avenue, in the City of Eastvale, as shown on Exhibit 1-A. Chino Airport is located less than one mile west of the Project site.

1.2 PROJECT DESCRIPTION

The proposed Project consists of 560,291 square feet of warehousing use (Buildings 1 to 6) and 520,317 square feet of high-cube fulfillment center use (Building 7)., as shown on Exhibit 1-B.

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. The on-site Project-related noise sources are expected to include: idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site. To present a conservative approach, this report assumes the Project will operate 24-hour seven days per week.

Per *The Homestead Traffic Impact Analysis* prepared by Urban Crossroads, Inc. the Project is expected to generate a total of approximately 2,086 trip-ends per day (actual vehicles) and includes 390 truck trip-ends per day. (2) 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.

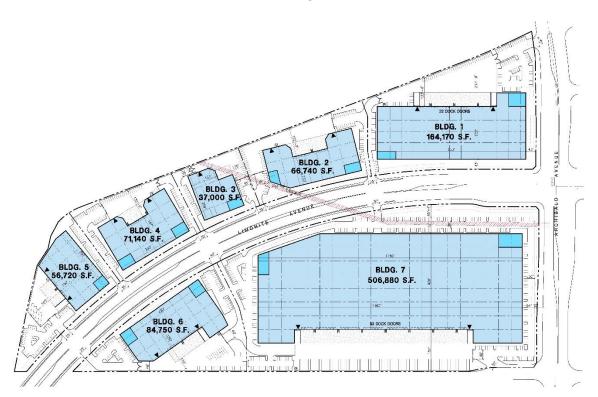


EXHIBIT 1-A: LOCATION MAP





EXHIBIT 1-B: SITE PLAN



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2 FUNDAMENTALS

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

EXHIBIT 2-A: TYPICAL NOISE LEVELS

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE
THRESHOLD OF PAIN		140		
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 HOLST	
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		HATERPERENCE
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	SLEEP
QUIET URBAN NIGHTTIME	THEATER, LARGE CONFERENCE ROOM (BACKGROUND)	40		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. (4) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA



at approximately 100 feet, which can cause serious discomfort. (5) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 Noise Descriptors

Environmental noise descriptors are generally based on averages, rather than instantaneous, noise levels. The most commonly used figure is the equivalent level (L_{eq}). Equivalent sound levels are not measured directly but are calculated from sound pressure levels typically measured in 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 Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time of day corrections require the addition of 5 decibels to dBA L_{eq} sound levels in the evening from 7:00 p.m. to 10:00 p.m., and the addition of 10 decibels to dBA L_{eq} sound levels at night between 10:00 p.m. and 7:00 a.m. These additions are made to account for the noise sensitive time periods during the evening and night hours when sound appears louder. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Eastvale 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. (4)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receptor is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been expressed in terms of attenuation per doubling of distance. This approximation is usually



sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receptor, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receptor such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (6)

2.3.3 ATMOSPHERIC EFFECTS

Receptors located downwind from a source can be exposed to increased noise levels relative to calm conditions, whereas locations upwind can have lowered noise levels. Sound levels can be increased at large distances (e.g., more than 500 feet) due to atmospheric temperature inversion (i.e., increasing temperature with elevation). Other factors such as air temperature, humidity, and turbulence can also have significant effects. (4)

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receptor can substantially attenuate noise levels at the receptor. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby 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 FHWA does not consider the planting of vegetation to be a noise abatement measure. (6)

2.4 Noise Control

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

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receptor. Noise barriers, however, do have limitations. For a noise barrier to work, it must be high enough and long enough to block the path of the noise source. (6)



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. (7)

2.7 COMMUNITY RESPONSE TO NOISE

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

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

Approximately ten percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints will occur. Another twenty-five percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be expected from people exposed to any given noise environment. (8) Surveys have shown that about ten percent of the people exposed to traffic noise of 60 dBA will report being highly annoyed with the noise, and each increase of one dBA is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 dBA or aircraft noise exceeds 55 dBA, people may begin to complain. (8) Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. An increase or decrease of 1 dBA cannot be perceived except in carefully controlled laboratory experiments, a change of 3 dBA are considered *barely perceptible*, and changes of 5 dBA are considered *readily perceptible*. (6)



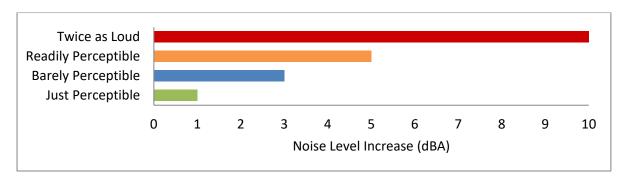


EXHIBIT 2-B: NOISE LEVEL INCREASE PERCEPTION

2.8 EXPOSURE TO HIGH NOISE LEVELS

The Occupational Safety and Health Administration (OSHA) sets legal limits on noise exposure in the workplace. The permissible exposure limit (PEL) for a worker over an eight-hour day is 90 dBA. The OSHA standard uses a 5 dBA exchange rate. This means that when the noise level is increased by 5 dBA, the amount of time a person can be exposed to a certain noise level to receive the same dose is cut in half. The National Institute for Occupational Safety and Health (NIOSH) has recommended that all worker exposures to noise should be controlled below a level equivalent to 85 dBA for eight hours to minimize occupational noise induced hearing loss. NIOSH also recommends a 3 dBA exchange rate so that every increase by 3 dBA doubles the amount of the noise and halves the recommended amount of exposure time. (9)

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



2.9 VIBRATION

Per the Federal Transit Administration (FTA) *Transit Noise Impact and Vibration Assessment* (3), 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), 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 Level* (50 ft from source) Human/Structural Response 100 Threshold, minor cosmetic damage Blasting from construction projects fragile buildings Bulldozers and other heavy tracked construction equipment Difficulty with tasks such as 90 reading a VDT screen Commuter rail, upper range 80 Residential annoyance, infrequent Rapid transit, upper range events (e.g. commuter rail) Commuter rail, typical 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 Impact and Vibration Assessment.



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3 REGULATORY SETTING

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

3.1 STATE OF CALIFORNIA NOISE REQUIREMENTS

The State of California regulates freeway noise, sets standards for sound transmission, provides occupational noise control criteria, identifies noise standards, and provides guidance for local land use compatibility. State law requires that each county and city adopt a General Plan that includes a Noise Element which is to be prepared per guidelines adopted by the Governor's Office of Planning and Research (OPR). (12) The purpose of the Noise Element is to *limit the exposure* of the community to excessive noise levels.

3.2 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. (13) These noise standards are applied to new construction in California for controlling interior noise levels resulting from exterior noise sources. The regulations specify that acoustical studies must be prepared when non-residential structures are developed in areas where the exterior noise levels exceed 65 dBA CNEL, such as within a noise contour of an airport, freeway, railroad, and other areas where noise contours are not readily available. If the development falls within an airport or freeway 65 dBA CNEL noise contour, the combined sound transmission class (STC) rating of the wall and roof-ceiling assemblies must be at least 50. For those developments in areas where noise contours are not readily available and the noise level exceeds 65 dBA L_{eq} for any hour of operation, a wall and roof-ceiling combined STC rating of 45, and exterior windows with a minimum STC rating of 40 are required (Section 5.507.4.1).

3.3 CITY OF EASTVALE GENERAL PLAN NOISE ELEMENT

The City of Eastvale has adopted a Noise Element of the General Plan to control and abate environmental noise, and to protect the citizens of City of Eastvale from excessive exposure to noise. (15) The Noise Element specifies the maximum allowable exterior noise levels for new developments impacted by transportation and stationary noise sources. To protect the City of Eastvale residents from excessive noise, the Noise Element contains the following four goals:

N-1 Prevent and mitigate the adverse impacts of excessive noise exposure on the residents, employees, visitors and noise-sensitive uses of Eastvale.



- N-2 Locate noise-tolerant land uses within areas irrevocably committed to land uses that are noise-producing, such as transportation corridors.
- N-3 Ensure that noise sensitive uses do not encroach into areas needed by noise generating uses.
- N-4 Locate noise sources away from existing noise sensitive land uses unless appropriate noise control measures are provided.

3.3.1 Transportation Noise & Land Use Compatibility

The noise criteria identified in the City of Eastvale Noise Element (Table N-3) are guidelines to evaluate the land use compatibility of transportation related noise. The compatibility criteria, shown on Exhibit 3-A, provides the City with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels

Table N-3 *Noise Compatibility by Land Use Designation* in the City of Eastvale General Plan provides guidelines to evaluate the acceptability of the transportation related noise level impacts. Residential land use in the Project study area, is considered *completely compatible* with exterior noise levels below 60 dBA CNEL and *tentatively compatible* with noise levels between 60 to 70 dBA CNEL. Non-residential, or non-noise-sensitive use, is considered *completely compatible* with exterior noise levels less than 70 dBA CNEL, and *tentatively compatible* with exterior noise levels approaching 75 dBA CNEL. (15)

EXHIBIT 3-A: NOISE COMPATIBILITY BY LAND USE DESIGNATION

Land Use Designations	Completely Compatible	Tentatively Compatible	Normally Incompatible	Completely Incompatible
All Residential (Single- and Multi-Family)	Less than 60 dBA	60-70 dBA	70-75 dBA	Greater than 75 dBA
All Non-Residential (Commercial, Industrial & Institutional)	Less than 70 dBA	70-75 dBA	Greater than 75 dBA	(2)
Public Parks (Lands on which public parks are located or planned)	Less than 65 dBA	65-70 dBA	70-75 dBA	Greater than 75 dBA

⁽¹⁾ All noise levels shown in this table are designated CNEL.

Source: City of Eastvale General Plan Noise Element, Table N-3.



⁽²⁾ To be determined as part of the project review process.

The City of Eastvale residential exterior noise level criteria for transportation noise sources is generally consistent with the adjacent jurisdictional guidelines of the City of Ontario, as indicated in The Ontario Plan Safety Section on Noise Hazards (Table LU-7), which identifies exterior noise levels ranging from 60 to 70 dBA CNEL as acceptable for residential uses. However, the City of Chino General Plan Noise Element does not identify specific exterior transportation noise level standards. As such, this noise study relies on the City of Eastvale residential exterior noise level criteria for transportation noise sources when evaluating Project-related off-site traffic noise level increases at noise-sensitive land uses. (16) (16) In addition, the guidelines of the City of Ontario, as indicated in The Ontario Plan Safety Section on Noise Hazards (Table LU-7), also identify 70 dBA CNEL as *normally acceptable* for industrial or non-noise-sensitive uses.

3.3.2 STATIONARY-SOURCE NOISE LEVEL STANDARDS

The City of Eastvale General Plan Noise Element identifies exterior noise limits to control operational noise impacts associated with the development of the proposed The Homestead Project. Table N-4 of the Noise Element provides the City's standards for maximum exterior non-transportation noise levels to which land designated for residential land uses may be exposed for any 30-minute period on any day. (15) For the purposes of this analysis, the noise generated by the idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements of the proposed Project will be evaluated based on the City's stationary source standards at the nearby residential land uses.

Table N-4 of the Noise Element (shown on Exhibit 3-B below) requires an exterior noise level standard for the nearby noise-sensitive single-family residential land uses of 60 dBA L_{eq} between the daytime hours of 7:00 a.m. and 10:00 p.m., and 50 dBA L_{eq} between the nighttime hours of 10:00 p.m. to 7:00 a.m. (15)

EXHIBIT 3-B: EXTERIOR NOISE LEVEL STANDARDS FOR NON-TRANSPORTATION NOISE

Land Use Type	Time Period	Maximum Noise Level (dBA)
ingle-Family Homes and Duplexes	10 p.m. to 7 a.m.	50
	7 a.m. to 10 p.m.	60
Multiple Decidential 2 or Mare Units Day Building (Tripley 1)	10 p.m. to 7 a.m.	55
Multiple Residential 3 or More Units Per Building (Triplex +)	7 a.m. to 10 p.m.	60

Source: City of Eastvale General Plan Noise Element, Table N-4.



3.3.3 CITY OF ONTARIO OPERATIONAL NOISE STANDARDS

Although the Project site is located within the City of Eastvale, sensitive receivers are also located in the City of Ontario. Therefore, to accurately describe the potential operational noise levels, this analysis presents the appropriate operational noise standards for each of the noise-sensitive receivers located within the City of Ontario. The City of Ontario Municipal Code, Title 5, Chapter 29 noise standards are included in Appendix 3.2 for those sensitive receiver locations within the City of Ontario. Section 5-29.04(a) identifies the acceptable daytime and nighttime ambient exterior noise standards for each land use type. For residential land uses (Noise Zone I), exterior noise levels may not exceed 65 dBA L_{eq} during the daytime hours (7:00 a.m. to 10:00 p.m.) and may not exceed 45 dBA L_{eq} during the nighttime hours (10:00 p.m. to 7:00 a.m.). These standards shall apply for a cumulative period of 15 minutes in any hour, as well as plus 20 dBA for any period of time. The operational noise level limits at off-site land uses in the City of Ontario are identified on Table 3-1 and provided in Appendix 3.2.

Exterior Noise Levels (dBA)³ Land Time City Use **Period** (Energy Avg.) (15 mins) (Anytime) Daytime 60 Eastvale1 Residential Nighttime 50 Daytime 65 65 85 Ontario² Residential

TABLE 3-1: OPERATIONAL NOISE STANDARDS

45

45

65

Nighttime

3.3.4 VIBRATION LEVEL STANDARDS

The City of Eastvale General Plan Noise Element, Policy N-3, identifies a vibration level standard for sensitive land uses of 0.0787 inches per second peak particle velocity (PPV). Since the City of Ontario does not identify specific vibration level standards, the City of Eastvale vibration standards are used to assess potential impacts from Project construction equipment. Therefore, for the purposes of this analysis, the vibration level shall not exceed 0.0787 in/sec PPV at the nearby sensitive receiver locations during Project construction activities capable of generating vibration levels. The construction vibration standards are provided on Table 3-2.



¹ Source: City of Eastvale General Plan Noise Element, Table N-4.

² Source: Section 5-29.04 of the City of Ontario Municipal Code (Appendix 3.2).

 $^{^3}$ L_{eq} represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L₂₅ is the noise level exceeded 25% of the time.

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "E. Avg." = logarithmic (energy) average

TABLE 3-2: VIBRATION LEVEL STANDARDS

City	Peak Particle Velocity (PPV) Standard (in/sec)	
Eastvale ¹	0.0787	
Ontario	n/a	

¹ Source: City of Eastvale General Plan Noise Element, Policy N-3.

3.4 CONSTRUCTION NOISE STANDARDS

The City of Eastvale has set restrictions to control noise impacts associated with the construction of the proposed Project. According to the City of Eastvale Municipal Code Section 8.52.020, construction activities are limited to the hours of 6:00 a.m. to 6:00 p.m. June through September, and 7:00 a.m. to 6:00 p.m. October through May. (19) While the City of Eastvale establishes limits to the hours during which construction activity may take place, neither the City of Eastvale or adjacent City of Ontario General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers, which would allow for a quantified determination of what CEQA constitutes a *substantial temporary or periodic noise increase*.

To evaluate whether the Project will generate potentially significant temporary construction noise levels at off-site sensitive receiver locations, a construction-related noise level threshold is adopted from the Criteria for Recommended Standard: Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). (20) A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The construction related noise level threshold starts at 85 dBA for more than eight hours per day, and for every 3 dBA increase, the exposure time is cut in half. This results in noise level thresholds of 88 dBA for more than four hours per day, 92 dBA for more than one hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. (20) For the purposes of this analysis, the lowest, more conservative construction noise level threshold of 85 dBA Leq is used as an acceptable threshold for construction noise at the nearby sensitive receiver locations. Since this construction-related noise level threshold represents the energy average of the noise source over a given time period, they are expressed as Leq noise levels. Therefore, the noise level threshold of 85 dBA Leq over a period of eight hours or more is used to evaluate the potential Project-related construction noise level impacts at the nearby sensitive receiver locations. The construction noise standards are shown on Table 3-3.



[&]quot;n/a" = The City of Ontario does not identify specific vibration level standards.

TABLE 3-3: CONSTRUCTION NOISE STANDARDS

City	Permitted Hours of Construction Activity	Construction Noise Level Threshold (dBA L _{eq}) ²	
Eastvale ¹	6:00 a.m. to 6:00 p.m. June through September, and 7:00 a.m. to 6:00 p.m. October through May	85	

¹ Source: Section 8.52.020 of the City of Eastvale Municipal Code (Appendix 3.1).

3.5 CHINO AIRPORT OVERLAY ZONE

The City of Chino Municipal Code, Section 20.09.050, includes the *airport overlay district* noise compatibility standards for land uses located within the noise level contours of Chino Airport. Table 20.09-2 establishes the *Community Noise Compatibility Standards* for land uses depending on the exterior noise environment due to Chino Airport aircraft overflight noise levels. The Project is located outside of the 65 dBA CNEL noise level contour of Chino Airport which, according to Table 20.09-2 of the Municipal Code, is considered *normally acceptable* for the Project land uses. Per the Municipal Code land use compatibility standards, the *specified land use is satisfactory*, and no noise mitigation is required. (21)

This is consistent with the *Chino Airport Master Plan*, (22) prepared by the County of San Bernardino, identifies noise compatibility policies based on the *Chino Airport Comprehensive Land Use Plan* (ACLUP). (23) The ACLUP indicates that exterior noise levels below 65 dBA CNEL at commercial and industrial uses, such as the Project, are considered *normally acceptable*. (23)



² Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

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

4.1 CEQA GUIDELINES NOT FURTHER ANALYZED

Based on the Chino Airport noise level contours previously discussed in Section 3.5, the Project use represents *normally satisfactory* land use. The Project site is also not located in the vicinity of a private airstrip. As such, the Project site would not be exposed to excessive noise levels from airport operations, and therefore, impacts are considered *less than significant*, and no further noise analysis is conducted in relation to Guideline C.

4.2 Noise-Sensitive Receivers

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. (19)

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

In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will typically be judged. The Federal Interagency Committee on Noise



(FICON) (20) 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 on Gray v. County of Madera. (19) 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. Table 4-1 below provides a summary of the potential noise impact significance criteria, based on guidance from FICON.

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

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

Federal Interagency Committee on Noise (FICON), 1992.

4.3 Non-Noise-Sensitive Receivers

The *completely compatible* exterior noise level for non-noise-sensitive land use, such as commercial and industrial uses, is 70 dBA CNEL, as previously described in Section 3.3.1. Noise levels greater than 70 dBA CNEL are considered *tentatively compatible* per the *Land Use Designation* criteria of the General Plan. (15)

This is consistent with the adjacent jurisdictional guidelines of the City of Ontario, as indicated in The Ontario Plan Safety Section on Noise Hazards (Table LU-7), which also identifies 70 dBA CNEL as *normally acceptable* for industrial uses. (16)

To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *readily perceptible* 5 dBA and *barely perceptible* 3 dBA criteria are used. When the without Project noise levels at the non-noise-sensitive land uses are below the *normally acceptable* 70 dBA CNEL compatibility criteria, a *readily perceptible* 5 dBA or greater



noise level increase is considered a significant impact. 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 70 dBA CNEL exterior noise level criteria of the City of Eastvale General Plan Noise Element.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed development. Table 4-2 shows the significance criteria summary matrix.

OFF-SITE TRAFFIC NOISE

- When the noise levels at existing and future noise-sensitive land uses (e.g. residential, etc.):
 - are less than 60 dBA CNEL and the Project creates a readily perceptible 5 dBA CNEL or greater Project-related noise level increase; or
 - range from 60 to 65 dBA CNEL and the Project creates a barely perceptible 3 dBA CNEL or greater Project-related noise level increase; or
 - o already exceed 65 dBA CNEL, and the Project creates a community noise level increase of greater than 1.5 dBA CNEL (FICON, 1992).
- When the noise levels at existing and future non-noise-sensitive land uses (e.g. industrial, etc.):
 - are less than the City of Eastvale General Plan Noise Element 70 dBA CNEL criteria and the Project creates a *readily perceptible* 5 dBA CNEL or greater Project-related noise level increase; or
 - are greater than the City of Eastvale General Plan Noise Element 70 dBA CNEL criteria and the Project creates a *barely perceptible* 3 dBA CNEL or greater Project-related noise level increase.

OPERATIONAL NOISE

- If Project-related operational (stationary-source) noise levels exceed the exterior daytime or nighttime noise level standards for sensitive residential land uses in either the City of Eastvale or Ontario as outlined on Table 3-1; or
- If the existing ambient noise levels at the nearby noise-sensitive receivers near the Project site:
 - o are less than 60 dBA L_{eq} and the Project creates a *readily perceptible* 5 dBA L_{eq} or greater Project-related noise level increase; or
 - o range from 60 to 65 dBA L_{eq} and the Project creates a *barely perceptible* 3 dBA L_{eq} or greater Project-related noise level increase; or
 - \circ already exceed 65 dBA L_{eq}, and the Project creates a community noise level increase of greater than 1.5 dBA L_{eq} (FICON, 1992).



CONSTRUCTION NOISE AND VIBRATION

- If Project-related construction activities:
 - generate noise levels which exceed the 85 dBA L_{eq} acceptable noise level threshold at the nearby sensitive receiver locations (NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure); or
 - generate temporary Project construction-related noise level increases which exceed the 12 dBA L_{eq} substantial noise level increase threshold at noise-sensitive receiver locations (Caltrans, Traffic Noise Analysis Protocol).
- If short-term Project generated construction vibration levels exceed the City of Eastvale acceptable vibration standard of 0.0787 in/sec PPV at sensitive receiver locations (City of Eastvale General Plan, Policy N-3).

TABLE 4-2: SIGNIFICANCE CRITERIA SUMMARY

Australia	Receiving	Condition (a)	Significance Criteria		
Analysis	Land Use	Condition(s)	Daytime	Nighttime	
	Noise- Sensitive	if ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase		
Off-Site		if ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase		
Traffic		if ambient is > 65 dBA CNEL	≥ 1.5 dBA CNEL	Project increase	
Noise ¹	Non-Noise- Sensitive ²	if ambient is < 70 dBA CNEL	≥ 5 dBA CNEL Project increase		
		if ambient is > 70 dBA CNEL	≥ 3 dBA CNEL Project increase		
		Exterior Noise Level Standards ³	See Table 3-1.		
Operational		if ambient is $< 60 \text{ dBA L}_{eq}^{1}$	≥ 5 dBA L _{eq} Project increase		
Noise		if ambient is 60 - 65 dBA L _{eq} 1	≥ 3 dBA L _{eq} Pr	oject increase	
	Noise- Sensitive	if ambient is > 65 dBA L_{eq}^{1}	≥ 1.5 dBA L _{eq} P	roject increase	
Construction	struction pise &	Noise Level Threshold ⁴	85 dBA L _{eq}	n/a	
Noise &		Noise Level Increase ⁵	12 dBA L _{eq}	n/a	
Vibration		Vibration Level Threshold ⁶	0.0787 PPV	n/a	

¹ Source: FICON, 1992.



² Sources: City of Eastvale and Ontario General Plan Noise Element land use compatibility criteria for non-noise-sensitive uses (e.g., commercial, industrial). The City of Chino does not identify specific land use compatibility criteria for the purpose of this analysis.

³ Source: City of Eastvale General Plan Noise Element, Table N-4 and Section 5-29.04 of the City of Ontario Municipal Code.

⁴ Source: NIOSH, Criteria for Recommended Standard: Occupational Noise Exposure, June 1998.

⁵ Source: Caltrans Traffic Noise Analysis Protocol, May 2011.

⁶ Source: City of Eastvale General Plan Noise Element, Policy N-3.

[&]quot;Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.; "n/a" = No nighttime construction activity is permitted and therefore, no nighttime construction noise level threshold is identified; "PPV" = Peak particle velocity.

5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at six 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 Tuesday, July 30, 2019. 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. (21)

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. (4) 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. (3)

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. (3) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the nearby sensitive receiver locations allows for a comparison of the before and after Project noise levels



and is necessary to assess potential noise impacts due to the Project's contribution to the ambient noise levels.

5.3 Noise Measurement Results

The noise measurements presented below focus on the average or equivalent sound levels (L_{eq}). The equivalent sound level (L_{eq}) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. Table 5-1 identifies the hourly daytime (7:00 a.m. to 10:00 p.m.) and nighttime (10:00 p.m. to 7:00 a.m.) noise levels at each noise level measurement location. Appendix 5.2 provides a summary of the existing hourly ambient noise levels described below:

- Location L1 represents the noise levels northeast of the Project site on Remington Avenue near existing residential homes. The noise level measurements collected show an overall 24hour exterior noise level of 72.6 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 67.4 dBA L_{eq} with an average nighttime noise level of 65.6 dBA L_{eq}.
- Location L2 represents the noise levels east of the Project site in a vacant lot on Limonite Avenue. The noise level measurements collected show an overall 24-hour exterior noise level of 69.0 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 64.5 dBA L_{eq} with an average nighttime noise level of 61.9 dBA L_{eq}.
- Location L3 represents the noise levels south of the Project site near existing residential homes. The 24-hour CNEL indicates that the overall exterior noise level is 69.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 62.8 dBA L_{eq} with an average nighttime noise level of 62.4 dBA L_{eq}.
- Location L4 represents the noise levels southwest of the Project site near existing industrial
 uses. The noise level measurements collected show an overall 24-hour exterior noise level of
 59.5 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.6
 dBA L_{eq} with an average nighttime noise level of 50.9 dBA L_{eq}.
- Location L5 represents the noise levels west of the Project site near existing industrial uses.
 The 24-hour CNEL indicates that the overall exterior noise level is 64.9 dBA CNEL. The energy
 (logarithmic) average daytime noise level was calculated at 61.3 dBA L_{eq} with an average
 nighttime noise level of 57.7 dBA L_{eq}.
- Location L6 represents the noise levels north of the Project site near existing agricultural uses.
 The noise level measurements collected show an overall 24-hour exterior noise level of 64.2 dBA CNEL. The energy (logarithmic) average daytime noise level was calculated at 57.2 dBA L_{eq} with an average nighttime noise level of 57.8 dBA L_{eq}.

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 the arterial roadway network and Chino Airport, in addition to background industrial land use activities. This includes the auto and heavy truck activities on study area roadway segments near the noise level measurement locations. The 24-hour existing noise level measurement results are shown on Table 5-1.

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 northeast of the Project site on Remington Avenue near existing residential homes.	67.4	65.6	72.6
L2	Located east of the Project site in a vacant lot on Limonite Avenue.	64.5	61.9	69.0
L3	Located south of the Project site near existing residential homes.	62.8	62.4	69.2
L4	Located southwest of the Project site near existing industrial uses.	57.6	50.9	59.5
L5	Located west of the Project site near existing industrial uses.	61.3	57.7	64.9
L6	Located north of the Project site near existing agricultural uses.	57.2	57.8	64.2

¹ See Exhibit 5-A for the noise level measurement locations.



² The long-term 24-hour measurement worksheets are included in Appendix 5.2.

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

LIMONITE AVE SITE SCHLEISM AN RD Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus OS, USDA, USGS, Aero GRID, IGN, and the GIS User Community Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA,

EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS

LEGEND:

Noise Measurement Locations



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. (22) 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. (23) 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. (24)

This methodology is consistent with the County of Riverside Office of Industrial Hygiene Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures, which specifically requires the FHWA RD-77-108 model to be used in analysis within the County's jurisdiction. (25)

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 15 study area roadway segments, the distance from the centerline to adjacent land use based on the functional roadway classifications per the City of Eastvale General Plan Circulation Element, and the posted vehicle speeds. The ADT volumes used in this study are presented on Table 6-2 and were obtained from *The Homestead Traffic Impact Analysis*. (2)



TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

ID	Roadway	Segment	Adjacent Planned (Existing) Land Use ¹	Distance from Centerline to Nearest Adjacent Land Use (Feet) ²	Posted Vehicle Speed (mph)
1	Archibald Av.	n/o Chino Av.	Residential	74'	55
2	Archibald Av.	s/o Chino Av.	Residential	74'	55
3	Archibald Av.	s/o Schaefer Av.	Residential	74'	55
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	74'	55
5	Archibald Av.	s/o Eucalyptus Av.	Residential	74'	55
6	Archibald Av.	s/o Merrill Av.	Residential	74'	55
7	Archibald Av.	s/o Limonite Av.	Residential	76'	50
8	Archibald Av.	s/o 65th St.	Residential	76'	50
9	Kimball Av.	w/o Hellman Av.	Residential	49'	50
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	76'	50
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	76'	50
12	Limonite Av.	e/o Harrison Av.	Residential	76'	50
13	Limonite Av.	e/o Sumner Av.	Residential	76'	50
14	Limonite Av.	e/o Scholar Wy.	Residential	76'	50
15	Limonite Av.	e/o Hamner Av.	Commercial	76'	45

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



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

[&]quot;Agr." = Agricultural use

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

				Avera	ge Daily T	raffic Volu	ımes ¹	Horizon Year 2040 Without Project 37,874 38,166 35,133 35,442 33,464 33,790 40,669 41,113 40,418 40,879 43,131 43,762 44,433 44,797 36,343 36,580 26,819 27,202 33,972 34,440		
ID	Roadway Segment	Exis	Existing		Opening Year 2021		n Year 23			
		Without Project	With Project	Without Project	With Project	Without Project	With Project		_	
1	Archibald Av. n/o Chino Av.	27,047	27,339	29,960	30,252	32,221	32,513	37,874	38,166	
2	Archibald Av. s/o Chino Av.	24,341	24,650	27,248	27,557	29,473	29,782	35,133	35,442	
3	Archibald Av. s/o Schaefer Av.	22,707	23,033	25,560	25,886	27,730	28,056	33,464	33,790	
4	Archibald Av. s/o Ontario Ranch Rd.	25,905	26,349	28,619	29,063	30,734	31,178	40,669	41,113	
5	Archibald Av. s/o Eucalyptus Av.	25,103	25,564	27,793	28,254	29,882	30,343	40,418	40,879	
6	Archibald Av. s/o Merrill Av.	26,707	27,338	29,249	29,880	31,258	31,889	43,131	43,762	
7	Archibald Av. s/o Limonite Av.	25,787	26,151	27,861	28,225	33,476	33,840	44,433	44,797	
8	Archibald Av. s/o 65th St.	29,454	29,691	31,647	31,884	33,456	33,693	36,343	36,580	
9	Kimball Av. w/o Hellman Av.	14,116	14,499	15,022	15,405	15,792	16,175	26,819	27,202	
10	Limonite Av. e/o Hellman Av.	n/a	469	466	934	777	1,245	33,972	34,440	
11	Limonite Av. e/o Archibald Av.	17,476	18,158	19,833	20,515	21,611	22,293	54,064	54,746	
12	Limonite Av. e/o Harrison Av.	19,514	20,162	21,923	22,571	23,759	24,407	55,789	56,437	
13	Limonite Av. e/o Sumner Av.	21,010	21,624	23,434	24,048	25,299	25,913	44,429	45,043	
14	Limonite Av. e/o Scholar Wy.	24,015	24,578	26,756	27,319	28,867	29,430	43,258	43,821	
15	Limonite Av. e/o Hamner Av.	26,762	27,223	29,589	30,050	31,789	32,250	65,190	65,651	

¹ Source: The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.

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.

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 Impact 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 6-8 show the vehicle mixes used for the with Project traffic scenarios.



[&]quot;n/a" = Roadway segment does not have an ADT volume because it does not exist under the given scenario.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

=		Time of Day Splits ¹		Total of Time of
Vehicle Type	Daytime	Evening	Nighttime	Day Splits
Autos	74.08%	10.30%	15.62%	100.00%
Medium Trucks	69.04%	7.12%	23.85%	100.00%
Heavy Trucks	82.11%	3.95%	13.95%	100.00%

¹ Based on existing 24-hour classification counts by vehicle type taken on 5/23/2019 at Archibald Avenue between Providence Way and Limonite Avenue (The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest 100th.

TABLE 6-4: WITHOUT PROJECT CONDITIONS VEHICLE MIX

Classification		Total % Traffic Flow ¹		Total
Classification	Autos	Medium Trucks	Heavy Trucks	Total
All Segments	89.65%	7.02%	3.33%	100.00%

¹ Based on existing 24-hour classification counts by vehicle type taken on 5/23/2019 at Archibald Avenue between Providence Way and Limonite Avenue (The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.). Vehicle mix percentage values rounded to the nearest 100th.

TABLE 6-5: EXISTING WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Archibald Av.	n/o Chino Av.	89.19%	7.12%	3.69%	100.00%
2	Archibald Av.	s/o Chino Av.	89.15%	7.13%	3.73%	100.00%
3	Archibald Av.	s/o Schaefer Av.	89.12%	7.13%	3.75%	100.00%
4	Archibald Av.	s/o Ontario Ranch Rd.	89.23%	7.08%	3.68%	100.00%
5	Archibald Av.	s/o Eucalyptus Av.	89.23%	7.08%	3.69%	100.00%
6	Archibald Av.	s/o Merrill Av.	89.32%	7.03%	3.65%	100.00%
7	Archibald Av.	s/o Limonite Av.	89.57%	6.99%	3.44%	100.00%
8	Archibald Av.	s/o 65th St.	89.73%	6.96%	3.30%	100.00%
9	Kimball Av.	w/o Hellman Av.	89.39%	7.00%	3.61%	100.00%
10	Limonite Av.	e/o Hellman Av.	83.35%	5.13%	11.52%	100.00%
11	Limonite Av.	e/o Archibald Av.	89.18%	7.02%	3.80%	100.00%
12	Limonite Av.	e/o Harrison Av.	89.21%	7.03%	3.76%	100.00%
13	Limonite Av.	e/o Sumner Av.	89.22%	7.04%	3.73%	100.00%
14	Limonite Av.	e/o Scholar Wy.	89.25%	7.05%	3.69%	100.00%
15	Limonite Av.	e/o Hamner Av.	89.25%	7.08%	3.67%	100.00%

¹ Source: The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.



[&]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.

[&]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.

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

TABLE 6-6: OPENING YEAR WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Archibald Av.	n/o Chino Av.	89.23%	7.11%	3.65%	100.00%
2	Archibald Av.	s/o Chino Av.	89.20%	7.12%	3.68%	100.00%
3	Archibald Av.	s/o Schaefer Av.	89.18%	7.12%	3.71%	100.00%
4	Archibald Av.	s/o Ontario Ranch Rd.	89.27%	7.08%	3.65%	100.00%
5	Archibald Av.	s/o Eucalyptus Av.	89.27%	7.08%	3.66%	100.00%
6	Archibald Av.	s/o Merrill Av.	89.35%	7.03%	3.62%	100.00%
7	Archibald Av.	s/o Limonite Av.	89.57%	6.99%	3.43%	100.00%
8	Archibald Av.	s/o 65th St.	89.73%	6.97%	3.31%	100.00%
9	Kimball Av.	w/o Hellman Av.	89.40%	7.00%	3.60%	100.00%
10	Limonite Av.	e/o Hellman Av.	86.49%	6.07%	7.44%	100.00%
11	Limonite Av.	e/o Archibald Av.	89.23%	7.02%	3.75%	100.00%
12	Limonite Av.	e/o Harrison Av.	89.26%	7.03%	3.71%	100.00%
13	Limonite Av.	e/o Sumner Av.	89.27%	7.04%	3.69%	100.00%
14	Limonite Av.	e/o Scholar Wy.	89.29%	7.05%	3.66%	100.00%
15	Limonite Av.	e/o Hamner Av.	89.29%	7.07%	3.64%	100.00%

¹ Source: The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.

TABLE 6-7: INTERIM YEAR WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Archibald Av.	n/o Chino Av.	89.26%	7.10%	3.63%	100.00%
2	Archibald Av.	s/o Chino Av.	89.23%	7.11%	3.66%	100.00%
3	Archibald Av.	s/o Schaefer Av.	89.21%	7.11%	3.68%	100.00%
4	Archibald Av.	s/o Ontario Ranch Rd.	89.30%	7.07%	3.63%	100.00%
5	Archibald Av.	s/o Eucalyptus Av.	89.29%	7.07%	3.64%	100.00%
6	Archibald Av.	s/o Merrill Av.	89.37%	7.03%	3.60%	100.00%
7	Archibald Av.	s/o Limonite Av.	89.59%	7.00%	3.42%	100.00%
8	Archibald Av.	s/o 65th St.	89.72%	6.97%	3.31%	100.00%
9	Kimball Av.	w/o Hellman Av.	89.41%	7.00%	3.58%	100.00%
10	Limonite Av.	e/o Hellman Av.	87.28%	6.31%	6.42%	100.00%
11	Limonite Av.	e/o Archibald Av.	89.27%	7.02%	3.71%	100.00%
12	Limonite Av.	e/o Harrison Av.	89.29%	7.03%	3.68%	100.00%
13	Limonite Av.	e/o Sumner Av.	89.29%	7.04%	3.67%	100.00%
14	Limonite Av.	e/o Scholar Wy.	89.32%	7.05%	3.63%	100.00%
15	Limonite Av.	e/o Hamner Av.	89.31%	7.07%	3.62%	100.00%

¹ Source: The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.



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 6-8: HORIZON YEAR WITH PROJECT CONDITIONS VEHICLE MIX

				With P	roject¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Archibald Av.	n/o Chino Av.	89.32%	7.09%	3.59%	100.00%
2	Archibald Av.	s/o Chino Av.	89.30%	7.09%	3.61%	100.00%
3	Archibald Av.	s/o Schaefer Av.	89.29%	7.09%	3.62%	100.00%
4	Archibald Av.	s/o Ontario Ranch Rd.	89.38%	7.06%	3.56%	100.00%
5	Archibald Av.	s/o Eucalyptus Av.	89.39%	7.06%	3.56%	100.00%
6	Archibald Av.	s/o Merrill Av.	89.44%	7.03%	3.53%	100.00%
7	Archibald Av.	s/o Limonite Av.	89.60%	7.00%	3.39%	100.00%
8	Archibald Av.	s/o 65th St.	89.72%	6.97%	3.31%	100.00%
9	Kimball Av.	w/o Hellman Av.	89.51%	7.01%	3.48%	100.00%
10	Limonite Av.	e/o Hellman Av.	89.56%	6.99%	3.44%	100.00%
11	Limonite Av.	e/o Archibald Av.	89.49%	7.02%	3.49%	100.00%
12	Limonite Av.	e/o Harrison Av.	89.49%	7.02%	3.48%	100.00%
13	Limonite Av.	e/o Sumner Av.	89.44%	7.03%	3.52%	100.00%
14	Limonite Av.	e/o Scholar Wy.	89.43%	7.04%	3.53%	100.00%
15	Limonite Av.	e/o Hamner Av.	89.49%	7.04%	3.47%	100.00%

¹ Source: The Homestead Traffic Impact Analysis, Urban Crossroads, Inc.

6.3 VIBRATION ASSESSMENT

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

However, while vehicular traffic is rarely perceptible, construction has the potential to result in varying degrees of temporary ground vibration, depending on the specific construction activities and equipment used. Ground vibration levels associated with various types of construction equipment are summarized on Table 6-9. Based on the representative vibration levels presented for various construction equipment types, it is possible to estimate the potential Project construction vibration levels using the following vibration assessment methods defined by the FTA. The FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$



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

TABLE 6-9: 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

Source: Federal Transit Administration, Transit Noise and Vibration Impact Assessment, September 2018.



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7 OFF-SITE TRANSPORTATION NOISE IMPACTS

To assess the off-site transportation CNEL noise level impacts associated with the proposed Project, noise contours were developed based on *The Homestead Traffic Impact Analysis*. (2) Noise contour boundaries represent the equal levels of noise exposure and are measured in CNEL from the center of the roadway. Noise contours were developed for the following traffic scenarios:

- <u>Existing Conditions Without / With Project</u>: This scenario refers to the existing present-day noise conditions without and with the proposed Project.
- Opening Year 2021 Without / With the Project: This scenario refers to Opening Year noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the Traffic Impact Analysis.
- <u>Interim Year 2023 Without / With the Project</u>: This scenario refers to Interim Year noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the Traffic Impact Analysis.
- Horizon Year 2040 Without / With the Project: This scenario refers to Horizon Year noise conditions without and with the proposed Project. This scenario includes all cumulative projects identified in the Traffic Impact Analysis.

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 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 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 7-8 present a summary of the exterior traffic noise levels, without barrier attenuation, for the 15 study area roadway segments analyzed from the without Project to the with Project conditions in each of the analysis timeframes. Appendix 7.1 includes a summary of the traffic noise level contours for each of the traffic scenarios.



TABLE 7-1: EXISTING WITHOUT PROJECT CONDITIONS NOISE CONTOURS

			Adjacent	CNEL at Nearest		nce to Co enterline	
ID	Road	Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Chino Av.	Residential	76.0	185	399	860
2	Archibald Av.	s/o Chino Av.	Residential	75.5	173	372	802
3	Archibald Av.	s/o Schaefer Av.	Residential	75.2	165	355	766
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	75.8	180	388	836
5	Archibald Av.	s/o Eucalyptus Av.	Residential	75.7	176	380	819
6	Archibald Av.	s/o Merrill Av.	Residential	75.9	184	396	853
7	Archibald Av.	s/o Limonite Av.	Residential	74.0	141	305	656
8	Archibald Av.	s/o 65th St.	Residential	74.6	154	333	717
9	Kimball Av.	w/o Hellman Av.	Residential	74.3	95	204	440
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	n/a	RW	RW	RW
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	72.4	109	235	506
12	Limonite Av.	e/o Harrison Av.	Residential	72.8	117	253	545
13	Limonite Av.	e/o Sumner Av.	Residential	73.2	123	266	572
14	Limonite Av.	e/o Scholar Wy.	Residential	73.7	135	290	626
15	Limonite Av.	e/o Hamner Av.	Commercial	73.2	124	268	577

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-2: EXISTING WITH PROJECT CONDITIONS NOISE CONTOURS

			Adjacent	CNEL at Nearest		nce to Co enterline	
ID	Road	Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Chino Av.	Residential	76.2	191	412	888
2	Archibald Av.	s/o Chino Av.	Residential	75.8	179	385	831
3	Archibald Av.	s/o Schaefer Av.	Residential	75.5	171	369	795
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	76.0	186	401	865
5	Archibald Av.	s/o Eucalyptus Av.	Residential	75.9	183	394	848
6	Archibald Av.	s/o Merrill Av.	Residential	76.2	190	410	883
7	Archibald Av.	s/o Limonite Av.	Residential	74.1	144	309	666
8	Archibald Av.	s/o 65th St.	Residential	74.6	155	333	718
9	Kimball Av.	w/o Hellman Av.	Residential	74.5	98	212	456
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	58.9	RW	RW	RW
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	72.7	115	248	535
12	Limonite Av.	e/o Harrison Av.	Residential	73.2	123	266	572
13	Limonite Av.	e/o Sumner Av.	Residential	73.4	129	278	599
14	Limonite Av.	e/o Scholar Wy.	Residential	74.0	140	302	651
15	Limonite Av.	e/o Hamner Av.	Commercial	73.4	129	278	598

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

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

			Adjacent	CNEL at Nearest		nce to Co enterline	
ID	Road	Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Archibald Av.	n/o Chino Av.	Residential	76.4	198	428	921
2	Archibald Av.	s/o Chino Av.	Residential	76.0	186	401	865
3	Archibald Av.	s/o Schaefer Av.	Residential	75.7	178	385	829
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	76.2	192	415	893
5	Archibald Av.	s/o Eucalyptus Av.	Residential	76.1	189	407	876
6	Archibald Av.	s/o Merrill Av.	Residential	76.3	195	421	906
7	Archibald Av.	s/o Limonite Av.	Residential	74.4	149	321	691
8	Archibald Av.	s/o 65th St.	Residential	74.9	162	349	752
9	Kimball Av.	w/o Hellman Av.	Residential	74.6	99	213	459
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	56.6	RW	RW	RW
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	72.9	119	256	551
12	Limonite Av.	e/o Harrison Av.	Residential	73.3	127	273	589
13	Limonite Av.	e/o Sumner Av.	Residential	73.6	133	286	616
14	Limonite Av.	e/o Scholar Wy.	Residential	74.2	145	312	672
15	Limonite Av.	e/o Hamner Av.	Commercial	73.6	133	286	617

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

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

			Adjacent	CNEL at Nearest	Distance to Contour from Centerline (Feet)			
ID	Road	Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Archibald Av.	n/o Chino Av.	Residential	76.6	204	440	948	
2	Archibald Av.	s/o Chino Av.	Residential	76.2	192	414	892	
3	Archibald Av.	s/o Schaefer Av.	Residential	76.0	185	398	857	
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	76.4	199	428	921	
5	Archibald Av.	s/o Eucalyptus Av.	Residential	76.3	195	420	905	
6	Archibald Av.	s/o Merrill Av.	Residential	76.5	202	434	936	
7	Archibald Av.	s/o Limonite Av.	Residential	74.5	151	325	701	
8	Archibald Av.	s/o 65th St.	Residential	74.9	162	350	753	
9	Kimball Av.	w/o Hellman Av.	Residential	74.8	102	220	475	
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	60.9	RW	RW	88	
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	73.2	125	268	578	
12	Limonite Av.	e/o Harrison Av.	Residential	73.6	133	286	615	
13	Limonite Av.	e/o Sumner Av.	Residential	73.9	138	298	641	
14	Limonite Av.	e/o Scholar Wy.	Residential	Residential 74.4		323	697	
15	Limonite Av.	e/o Hamner Av.	Commercial	73.9	137	296	637	

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-5: INTERIM YEAR WITHOUT PROJECT CONDITIONS NOISE CONTOURS

	Road		Adjacent	CNEL at Nearest	Distance to Contour from Centerline (Feet)			
ID		Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Archibald Av.	n/o Chino Av.	Residential	76.7	208	449	967	
2	Archibald Av.	s/o Chino Av.	Residential	76.4	196	423	911	
3	Archibald Av.	s/o Schaefer Av.	Residential	76.1	188	406	875	
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	76.5	202	435	937	
5	Archibald Av.	s/o Eucalyptus Av.	Residential	76.4	198	427	919	
6	Archibald Av.	s/o Merrill Av.	Residential	76.6	204	440	947	
7	Archibald Av.	s/o Limonite Av.	Residential	75.2	168	362	781	
8	Archibald Av.	s/o 65th St.	Residential	75.2	168	362	781	
9	Kimball Av.	w/o Hellman Av.	Residential	74.8	102	220	475	
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	58.8	RW	RW	RW	
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	73.3	126	271	583	
12	Limonite Av.	e/o Harrison Av.	Residential	73.7	134	288	621	
13	Limonite Av.	e/o Sumner Av.	Residential	74.0	140	301	648	
14	Limonite Av.	e/o Scholar Wy.	Residential	74.5	152	328	707	
15	Limonite Av.	e/o Hamner Av.	Commercial	73.9	139	300	647	

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-6: INTERIM YEAR WITH PROJECT CONDITIONS NOISE CONTOURS

	Road		Adjacent	CNEL at Nearest	Distance to Contour from Centerline (Feet)			
ID		Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Archibald Av.	n/o Chino Av.	Residential	76.9	214	461	993	
2	Archibald Av.	s/o Chino Av.	Residential	76.5	202	435	938	
3	Archibald Av.	s/o Schaefer Av.	Residential	76.3	194	419	902	
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	76.7	208	448	964	
5	Archibald Av.	s/o Eucalyptus Av.	Residential	76.6	204	440	947	
6	Archibald Av.	s/o Merrill Av.	Residential	76.8	210	453	976	
7	Archibald Av.	s/o Limonite Av.	Residential	75.3	170	367	790	
8	Archibald Av.	s/o 65th St.	Residential	75.2	168	363	782	
9	Kimball Av.	w/o Hellman Av.	Residential	75.0	106	227	490	
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	61.9	RW	RW	102	
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	73.6	131	283	610	
12	Limonite Av.	e/o Harrison Av.	Residential	74.0	139	300	647	
13	Limonite Av.	e/o Sumner Av.	Residential	74.2	145	312	673	
14	Limonite Av.	e/o Scholar Wy.	Residential	74.7	158	339	731	
15	Limonite Av.	e/o Hamner Av.	Commercial	74.1	144	310	667	

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



² The CNEL is calculated at the boundary of the right-of-way of each roadway and the property line of the nearest adjacent land use. "RW" = Location of the respective noise contour falls within the right-of-way of the road; "n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-7: HORIZON YEAR WITHOUT PROJECT CONDITIONS NOISE CONTOURS

	Road		Adjacent	CNEL at Nearest	Distance to Contour from Centerline (Feet)			
ID		Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	
1	Archibald Av.	n/o Chino Av.	Residential	77.4	232	500	1077	
2	Archibald Av.	s/o Chino Av.	Residential	77.1	221	475	1024	
3	Archibald Av.	s/o Schaefer Av.	Residential	76.9	214	460	992	
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	Residential 77.8		524	1129	
5	Archibald Av.	s/o Eucalyptus Av.	Residential	77.7	242	522	1125	
6	Archibald Av.	s/o Merrill Av.	Residential	78.0	253	545	1174	
7	Archibald Av.	s/o Limonite Av.	Residential	76.4	203	438	943	
8	Archibald Av.	s/o 65th St.	Residential	75.5	178	383	825	
9	Kimball Av.	w/o Hellman Av.	Residential	77.1	146	314	675	
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	75.2	170	366	789	
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	77.3	232	499	1075	
12	Limonite Av.	e/o Harrison Av.	Residential	77.4	236	509	1098	
13	Limonite Av.	e/o Sumner Av.	Residential	76.4	203	438	943	
14	Limonite Av.	e/o Scholar Wy.	Residential	76.3	200	430	926	
15	Limonite Av.	e/o Hamner Av.	Commercial	77.1	225	485	1044	

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.



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

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

TABLE 7-8: HORIZON YEAR WITH PROJECT CONDITIONS NOISE CONTOURS

	Road		Adjacent	CNEL at Nearest		Distance to Contour from Centerline (Feet)			
ID		Segment	Planned (Existing) Land Use ¹	Adjacent Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL		
1	Archibald Av.	n/o Chino Av.	Residential	77.6	237	511	1101		
2	Archibald Av.	s/o Chino Av.	Residential	77.3	226	487	1050		
3	Archibald Av.	s/o Schaefer Av.	Residential	77.1	219	472	1017		
4	Archibald Av.	s/o Ontario Ranch Rd.	Residential	77.9	249	536	1154		
5	Archibald Av.	s/o Eucalyptus Av.	Residential	idential 77.9		534	1150		
6	Archibald Av.	s/o Merrill Av.	Residential	78.1	259	557	1200		
7	Archibald Av.	s/o Limonite Av.	Residential	76.5	205	442	952		
8	Archibald Av.	s/o 65th St.	Residential	75.5	178	383	826		
9	Kimball Av.	w/o Hellman Av.	Residential	77.2	148	319	688		
10	Limonite Av.	e/o Hellman Av.	Industrial (Agr.)	75.3	173	372	801		
11	Limonite Av.	e/o Archibald Av.	Commercial/Res.	77.4	236	508	1095		
12	Limonite Av.	e/o Harrison Av.	Residential	77.5	241	519	1117		
13	Limonite Av.	e/o Sumner Av.	Residential	76.5	208	447	964		
14	Limonite Av.	e/o Scholar Wy.	Residential	76.4	204	440	947		
15	Limonite Av.	e/o Hamner Av.	Commercial	77.2	228	492	1060		

¹ Sources: The Ontario Plan Exhibit LU-01, City of Chino General Plan Land Use Element Figure LU-2, and the City of Eastvale Land Use Map.

7.2 EXISTING CONDITIONS PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report. However, the analysis of existing traffic noise levels plus traffic noise generated by the proposed Project scenario will not actually occur since the Project would not be fully constructed and operational until Opening Year and later cumulative conditions.

Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 72.4 to 76.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-2 shows the Existing with Project conditions will range from 58.9 to 76.2 dBA CNEL. Table 7-9 shows that the Project off-site traffic noise level increases will range from 0.0 to 0.4 dBA CNEL.



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

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

TABLE 7-7: UNMITIGATED EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

ID	Road	Segment	La	EL at Adjac nd Use (dB	Noise- Sensitive Land Use?	Threshold Exceeded? ²	
			Project Project Addition		Project Addition		
1	Archibald Av.	n/o Chino Av.	76.0	76.2	0.2	Yes	No
2	Archibald Av.	s/o Chino Av.	75.5	75.8	0.3	Yes	No
3	Archibald Av.	s/o Schaefer Av.	75.2	75.5	0.3	Yes	No
4	Archibald Av.	s/o Ontario Ranch Rd.	75.8	76.0	0.2	Yes	No
5	Archibald Av.	s/o Eucalyptus Av.	75.7	75.9	0.2	Yes	No
6	Archibald Av.	s/o Merrill Av.	75.9	76.2	0.3	Yes	No
7	Archibald Av.	s/o Limonite Av.	74.0	74.1	0.1	Yes	No
8	Archibald Av.	s/o 65th St.	74.6	74.6	0.0	Yes	No
9	Kimball Av.	w/o Hellman Av.	74.3	74.5	0.2	Yes	No
10	Limonite Av.	e/o Hellman Av.	n/a	58.9	n/a	No	No
11	Limonite Av.	e/o Archibald Av.	72.4	72.7	0.3	Yes	No
12	Limonite Av.	e/o Harrison Av.	72.8	73.2	0.4	Yes	No
13	Limonite Av.	e/o Sumner Av.	73.2	73.4	0.2	Yes	No
14	Limonite Av.	e/o Scholar Wy.	73.7	74.0	0.3	Yes	No
15	Limonite Av.	e/o Hamner Av.	73.2	73.4	0.2	No	No

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

7.3 OPENING YEAR 2021 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-3 presents the Opening Year without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 56.6 to 76.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows the Opening Year with Project conditions will range from 60.9 to 76.6 dBA CNEL. As shown on Table 7-10 the Project will generate a noise level increase of up to 4.3 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Opening Year conditions at the land uses adjacent to roadways conveying Project traffic.



² Significance Criteria (Section 4).

[&]quot;n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-10: UNMITIGATED OPENING YEAR WITH PROJECT TRAFFIC NOISE IMPACTS

ID	Road	Segment		EL at Adjac nd Use (dB	Noise- Sensitive Land	Threshold Exceeded? ²	
			No Project	With Project	Project Addition	Use?	
1	Archibald Av.	n/o Chino Av.	76.4	76.6	0.2	Yes	No
2	Archibald Av.	s/o Chino Av.	76.0	76.2	0.2	Yes	No
3	Archibald Av.	s/o Schaefer Av.	75.7	76.0	0.3	Yes	No
4	Archibald Av.	s/o Ontario Ranch Rd.	76.2	76.4	0.2	Yes	No
5	Archibald Av.	s/o Eucalyptus Av.	76.1	76.3	0.2	Yes	No
6	Archibald Av.	s/o Merrill Av.	76.3	76.5	0.2	Yes	No
7	Archibald Av.	s/o Limonite Av.	74.4	74.5	0.1	Yes	No
8	Archibald Av.	s/o 65th St.	74.9	74.9	0.0	Yes	No
9	Kimball Av.	w/o Hellman Av.	74.6	74.8	0.2	Yes	No
10	Limonite Av.	e/o Hellman Av.	56.6	60.9	4.3	No	No
11	Limonite Av.	e/o Archibald Av.	72.9	73.2	0.3	Yes	No
12	Limonite Av.	e/o Harrison Av.	73.3	73.6	0.3	Yes	No
13	Limonite Av.	e/o Sumner Av.	73.6	73.9	0.3	Yes	No
14	Limonite Av.	e/o Scholar Wy.	74.2	74.4	0.2	Yes	No
15	Limonite Av.	e/o Hamner Av.	73.6	73.9	0.3	No	No

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

7.4 INTERIM YEAR 2023 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-5 presents the Interim Year without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 58.8 to 76.7 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-6 shows the Interim Year with Project conditions will range from 61.9 to 76.9 dBA CNEL. As shown on Table 7-11 the Project will generate a noise level increase of up to 3.1 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Interim Year conditions at the land uses adjacent to roadways conveying Project traffic.



² Significance Criteria (Section 4).

[&]quot;n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-11: UNMITIGATED INTERIM YEAR WITH PROJECT TRAFFIC NOISE IMPACTS

ID	Road	Segment		EL at Adjac nd Use (dB	Noise- Sensitive Land	Threshold Exceeded? ²	
				With Project	Project Addition	Use?	
1	Archibald Av.	n/o Chino Av.	76.7	76.9	0.2	Yes	No
2	Archibald Av.	s/o Chino Av.	76.4	76.5	0.1	Yes	No
3	Archibald Av.	s/o Schaefer Av.	76.1	76.3	0.2	Yes	No
4	Archibald Av.	s/o Ontario Ranch Rd.	76.5	76.7	0.2	Yes	No
5	Archibald Av.	s/o Eucalyptus Av.	76.4	76.6	0.2	Yes	No
6	Archibald Av.	s/o Merrill Av.	76.6	76.8	0.2	Yes	No
7	Archibald Av.	s/o Limonite Av.	75.2	75.3	0.1	Yes	No
8	Archibald Av.	s/o 65th St.	75.2	75.2	0.0	Yes	No
9	Kimball Av.	w/o Hellman Av.	74.8	75.0	0.2	Yes	No
10	Limonite Av.	e/o Hellman Av.	58.8	61.9	3.1	No	No
11	Limonite Av.	e/o Archibald Av.	73.3	73.6	0.3	Yes	No
12	Limonite Av.	e/o Harrison Av.	73.7	74.0	0.3	Yes	No
13	Limonite Av.	e/o Sumner Av.	74.0	74.2	0.2	Yes	No
14	Limonite Av.	e/o Scholar Wy.	74.5	74.7	0.2	Yes	No
15	Limonite Av.	e/o Hamner Av.	73.9	74.1	0.2	No	No

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

7.5 HORIZON YEAR 2040 PROJECT TRAFFIC NOISE LEVEL CONTRIBUTIONS

Table 7-7 presents the Horizon Year without Project conditions CNEL noise levels. The without Project exterior noise levels are expected to range from 75.2 to 78.0 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-8 shows the Horizon Year with Project conditions will range from 75.3 to 78.1 dBA CNEL. As shown on Table 7-11 the Project will generate a noise level increase of up to 0.2 dBA CNEL on the study area roadway segments. Based on the significance criteria in Section 4, the Project-related noise level increases are considered *less than significant* under Horizon Year conditions at the land uses adjacent to roadways conveying Project traffic.



² Significance Criteria (Section 4).

[&]quot;n/a" = Roadway segment does not exist in the given scenario.

TABLE 7-12: UNMITIGATED HORIZON YEAR WITH PROJECT TRAFFIC NOISE IMPACTS

ID	Road	Segment		IEL at Adjao nd Use (dB	Noise- Sensitive Land	Threshold Exceeded? ²	
		No With Project Project		Project Addition	Use?		
1	Archibald Av.	n/o Chino Av.	77.4	77.6	0.2	Yes	No
2	Archibald Av.	s/o Chino Av.	77.1	77.3	0.2	Yes	No
3	Archibald Av.	s/o Schaefer Av.	76.9	77.1	0.2	Yes	No
4	Archibald Av.	s/o Ontario Ranch Rd.	77.8	77.9	0.1	Yes	No
5	Archibald Av.	s/o Eucalyptus Av.	77.7	77.9	0.2	Yes	No
6	Archibald Av.	s/o Merrill Av.	78.0	78.1	0.1	Yes	No
7	Archibald Av.	s/o Limonite Av.	76.4	76.5	0.1	Yes	No
8	Archibald Av.	s/o 65th St.	75.5	75.5	0.0	Yes	No
9	Kimball Av.	w/o Hellman Av.	77.1	77.2	0.1	Yes	No
10	Limonite Av.	e/o Hellman Av.	75.2	75.3	0.1	No	No
11	Limonite Av.	e/o Archibald Av.	77.3	77.4	0.1	Yes	No
12	Limonite Av.	e/o Harrison Av.	77.4	77.5	0.1	Yes	No
13	Limonite Av.	e/o Sumner Av.	76.4	76.5	0.1	Yes	No
14	Limonite Av.	e/o Scholar Wy.	76.3	76.4	0.1	Yes	No
15	Limonite Av.	e/o Hamner Av.	77.1	77.2	0.1	No	No

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



² Significance Criteria (Section 4).

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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, natural open space, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

Receivers are located in outdoor living areas (e.g., backyards) at 10 feet from any existing or proposed barriers or at the building façade, whichever is closer to the Project site, based on FHWA guidance, and consistent with additional guidance provided by Caltrans and the FTA, as previously described in Section 5.2. Sensitive receiver locations in the Project study area include residential uses, as described below. 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.

- R1: Located approximately 716 feet south of the Project site, R1 represents existing residential homes. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing residential homes located northwest of the Project site at roughly 238 feet. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing residential homes southeast of the Project site at approximately 1,422 feet. A 24-hour noise measurement near this location, L3, is used to describe the existing ambient noise environment.
- R4: Location R4 represents the existing residential homes located roughly 1,327 feet south of the Project site. A 24-hour noise measurement near this location, L4, is used to describe the existing ambient noise environment.



LIMONITE AVE SITE ROLLING MEADOWST

EXHIBIT 8-A: SENSITIVE RECEIVER LOCATIONS

LEGEND:

Receiver Locations

6' Existing Barrier Height (in feet)

Distance from receiver to Project site boundary (in feet) Existing Barrier



9 OPERATIONAL NOISE IMPACTS

This section analyzes the potential stationary-source operational noise impacts at the nearby receiver locations, identified in Section 8, resulting from operation of the proposed The Homestead Project. Exhibit 9-A identifies the representative receiver locations and noise source locations used to assess the operational noise levels. Appendix 9.1 includes the detailed calculations for the Project operational noise levels presented in this section.

9.1 OPERATIONAL NOISE SOURCES

At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown. The on-site Project-related noise sources are expected to include: idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements. This noise analysis is intended to describe noise level impacts associated with the expected typical operational activities at the Project site.

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 idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements all operating simultaneously. These noise levels will likely vary throughout the day.

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. (21)



TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

Noise Source	Reference Meas. Duration (hh:mm:ss)	Dist. From Source (Feet)	Noise Source Height (Feet)	Hourly Activity (Min.) ⁴	Reference Noise Levels (dBA) at Reference Meas. Distance		Reference Noise Levels (dBA) at Uniform 50 Feet			
	,	` '	, ,		L _{eq}	L ₂₅	L _{max}	L _{eq}	L ₂₅	L _{max}
Roof-Top Air Conditioning Unit ¹	96:00:00	5'	5'	60	77.2	76.1	78.2	57.2	56.1	58.2
Parking Lot Vehicle Movements ²	01:0:00	10'	5'	60	52.2	50.0	71.9	38.2	36.0	57.9
Truck Unloading/Docking Activity ³	00:15:00	30'	8'	60	67.2	67.2	80.0	62.8	62.8	75.6

¹ As measured by Urban Crossroads, Inc. on 7/27/2015 at the Santee Walmart located at 170 Town Center Parkway.

9.2.2 ROOF-TOP AIR CONDITIONING UNITS

To assess the impacts created by the roof-top air conditioning units at the Project buildings, reference noise levels measurements were taken over a four-day total duration at the Santee Walmart on July 27th, 2015. Located at 170 Town Center Parkway in the City of Santee, the noise level measurements describe mechanical roof-top air conditioning units on the roof of an existing Walmart store, with additional roof-top units operating in the background. The reference noise level represents Lennox SCA120 series 10-ton model packaged air conditioning units. At 5 feet from the closest roof-top air conditioning unit, the highest exterior noise level from all four days of the measurement period was measured at 77.2 dBA Leq. Using the uniform reference distance of 50 feet, the noise level is 57.2 dBA Leq. The operating conditions of the reference noise level measurement reflect peak summer cooling requirements with measured temperatures approaching 96 degrees Fahrenheit (°F) with average daytime temperatures of 82°F.

9.2.3 Parking Lot Vehicle Movements (Autos)

To determine the noise levels associated with parking lot vehicle movements, Urban Crossroads collected reference noise level measurements over a 24-hour period on May 17^{th} , 2017 at the parking lot for the Panasonic Avionics Corporation in the City of Lake Forest. The peak hour of activity measured over the 24-hour noise level measurement period occurred between 12:00 p.m. to 1:00 p.m., or the typical lunch hour for employees working in the area. The measured reference noise level at 50 feet from parking lot vehicle movements was measured at 41.7 dBA L_{eq} . The parking lot noise levels are mainly due to cars pulling in and out of spaces during peak lunch hour activity and employees talking.



² As measured by Urban Crossroads, Inc. on 5/17/2017 at the Panasonic Avionics Corporation parking lot in the City of Lake Forest.

³ As measured by Urban Crossroads, Inc. on 1/7/2015 at the Motivational Fulfillment & Logistics Services distribution facility in Chino.

⁴ Anticipated duration (minutes within the hour) of noise activity during peak hourly conditions expected at the Project site.

9.2.4 Truck Idling, Deliveries, Backup Alarms, Unloading/Loading, and Docking

A single, short-term reference noise level measurement was collected on Wednesday, January 7th, 2015, by Urban Crossroads, Inc. at the Motivational Fulfillment & Logistics Services distribution facility located at 6810 Bickmore Avenue in the City of Chino. The noise level measurement represents the typical weekday dry goods logistics warehouse operation in a single building, of roughly 285,000 square feet, with a loading dock area on the western side of the building façade. The noise sources observed in the truck court area included a combination of Heavy Trucks (tractor trailer semi-trucks), Medium Trucks (two-axle delivery trucks), container loading/unloading, background truck idle, unloading, and movements, and background forklift operations, as follows:

- 1 Medium Truck unloading and idling in the background, to the left of the measurement location at roughly 100 feet;
- 1 Medium Truck movement to exit the truck court during the reference measurement in front of the sound level meter location at roughly 20 feet when passing by;
- 1 Medium Truck unloading and idling in the background, to the right of the measurement location at roughly 50 feet;
- 1 Medium Truck movement to exit the truck court during the reference measurement to the right of the sound level meter location at approximately 50 feet;
- 1 Heavy Truck container unloading in the background, to the right of the measurement location at roughly 50 feet;
- 1 Heavy Truck movement into the truck court in front of the reference measurement location, backing up to a loading dock, unloading, and idling at approximately 30 feet;
- 1 Medium Truck idling and unloading at loading docks immediately across from the reference measurement location at roughly 30 feet;
- 1 Heavy Truck container unloading immediately across from the reference measurement location at roughly 30 feet;
- 1 Heavy Truck entry movement into the truck court, backing up to a loading dock, unloading, and idling immediately across from the reference measurement location at roughly 50 feet;
- 8 Heavy Truck containers docked at loading bays in various stages of unloading/loading activity at distances ranging from 50 to 100 feet;
- Background forklift movements and interior activities generating noise through the open warehouse doors, at distances ranging from 100 to 200 feet.

The unloading/docking activity noise level measurement was taken over a fifteen-minute period and represents multiple noise sources, as described above, taken from the center of loading dock activities generating a reference noise level of 62.8 dBA L_{eq} at a uniform reference distance of 50 feet. The noise sources associated with employees unloading a docked truck container included the squeaking of the truck's shocks when weight was removed from the truck, employees playing music over a radio, as well as a forklift horn and backup alarm.



9.3 Project Operational Noise Levels

Using the reference noise levels to represent the proposed Project operations that include idling trucks, delivery truck activities, backup alarms, as well as loading and unloading of dry goods, roof-top air conditioning units, and parking lot vehicle movements, 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. The operational noise level calculations, shown on Table 9-2, 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. Hard site conditions are used in the operational noise analysis which result in noise levels that attenuate (or decrease) at a rate of 6 dBA for each doubling of distance from a point source. The basic noise attenuation equation shown below is used to calculate the distance attenuation based on a reference noise level (SPL₁):

$$SPL_2 = SPL_1 - 20log(D_2/D_1)$$

Where SPL_2 is the resulting noise level after attenuation, SPL_1 is the source noise level, D_2 is the distance to the reference sound pressure level (SPL_1), and D_1 is the distance to the receiver location.

Table 9-2 shows the individual operational noise levels of each noise source at each of the nearby sensitive receiver locations. As indicated on Table 9-3, the Project-only operational noise levels will range from 27.9 to 39.4 dBA L_{eq} at the sensitive receiver locations. The Project operational noise level calculations include the barrier and berm attenuation provided by the existing noise barriers and the Project buildings, where applicable.



ONTARIO LIMONITE AVE 1,644, 1,436' 1,695 EASTVALE ROLLING MEADOWS 65TH ST LEGEND: Receiver Locations Roof-Top Air Conditioning Unit Distance from receiver to noise source (in feet) Existing Barrier Height (in feet) Parking Lot Vehicle Movements Existing Barrier Distribution/Warehouse Activity

EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



TABLE 9-2: UNMITIGATED PROJECT-ONLY OPERATIONAL NOISE LEVELS

		Project Ope	erational Noise L	evels (dBA)³
Receiver Location ¹	Noise Source ²	L _{eq} (E. Avg.)	L ₂₅ (15 mins)	L _{max} (Anytime)
	Roof-Top Air Conditioning Unit	23.9	22.8	24.9
R1	Truck Unloading/Docking Activity	34.0	34.0	46.8
KI	Parking Lot Vehicle Movements	9.2	7.0	28.9
	Combined Noise Level:	34.4	34.3	46.9
	Roof-Top Air Conditioning Unit	31.9	30.8	32.9
R2	Truck Unloading/Docking Activity	38.5	38.5	51.3
KZ	Parking Lot Vehicle Movements	17.7	15.5	37.4
	Combined Noise Level:	39.4	39.2	51.5
	Roof-Top Air Conditioning Unit	21.6	20.5	22.6
R3	Truck Unloading/Docking Activity	26.7	26.7	39.5
K5	Parking Lot Vehicle Movements	3.6	1.4	23.3
	Combined Noise Level:	27.9	27.6	39.7
	Roof-Top Air Conditioning Unit	22.6	21.5	23.6
R4	Truck Unloading/Docking Activity	28.6	28.6	41.4
K4	Parking Lot Vehicle Movements	4.0	1.8	23.7
	Combined Noise Level:	29.6	29.4	41.5

¹ See Exhibit 9-A for the receiver and noise source locations.

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Eastvale and City of Ontario exterior noise level standards. Table 9-3 shows the operational noise levels associated with The Homestead Project will satisfy the exterior noise level standards at receiver locations during the daytime and nighttime hours, and therefore, the Project-related unmitigated operational noise levels are considered *less than significant* impacts.



² Reference noise sources as shown on Table 9-1.

³ Operational noise level calculations are provided in Appendix 9.1.

TABLE 9-3: UNMITIGATED OPERATIONAL NOISE LEVEL COMPLIANCE

		Noise Level a	at Receiver Loca	ations (dBA) ²	Threshold	Exceeded? ³	
Receiver ID ¹	City	L _{eq} (E. Avg.)	L ₂₅ (15 mins)	L _{max} (Anytime)	Daytime	Nighttime	
	Facturals	60	-	-	-	-	
Residential	Eastvale			-	-	-	-
Standards	Ontario	65	65	85	-	-	
		45	45	65	-	-	
R1	Eastvale	34.4	34.3	46.9	No	No	
R2	Ontario	39.4	39.2	51.5	No	No	
R3	Eastvale	27.9	27.6	39.7	No	No	
R4	Eastvale	29.6	29.4	41.5	No	No	

¹ See Exhibit 9-A for the receiver and noise source locations.

9.4 Project Operational Noise Level Contributions

To describe the Project operational noise level contributions, the Project operational noise levels are combined with the existing ambient noise levels measurements for the nearby 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. (4) 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 describe the Project noise level contributions to the existing ambient noise environment. Noise levels that would be experienced at receiver locations when Project-source noise is added to the daytime and nighttime ambient conditions are presented on Tables 9-4 and 9-5, respectively.

As indicated on Tables 9-4 and 9-5, the Project is not shown to generate an unmitigated daytime or nighttime operational noise level increase due to high ambient noise levels measured in the Project study area. Since the Project-related operational noise level contributions will satisfy the operational noise level increase significance criteria presented in Table 4-2, the increases at the sensitive receiver locations will be *less than significant*.



² Unmitigated Project operational noise levels as shown on Table 9-2.

³ Do the estimated Project operational noise levels meet the operational noise level standards (Table 3-1)?

[&]quot;Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.; "E. Avg." = logarithmic (energy) average

TABLE 9-4: PROJECT DAYTIME NOISE LEVEL CONTRIBUTIONS

Receiver ID ¹	Unmitigated Project Noise Levels (dBA L _{eq}) ²	Measurement Location ³	Reference Ambient Noise Levels (dBA L _{eq}) ⁴	Combined Project and Ambient (dBA L _{eq}) ⁵	Project Contribution (dBA L _{eq}) ⁶	Threshold? ⁷	Threshold Exceeded? ⁷
R1	34.4	L3	62.8	62.8	0.0	3.0	No
R2	39.4	L1	67.4	67.4	0.0	1.5	No
R3	27.9	L3	62.8	62.8	0.0	3.0	No
R4	29.6	L4	57.6	57.6	0.0	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.

TABLE 9-5: PROJECT NIGHTTIME NOISE LEVEL CONTRIBUTIONS

Receiver ID¹	Unmitigated Project Noise Levels (dBA L _{eq}) ²	Measurement Location ³	Reference Ambient Noise Levels (dBA L _{eq}) ⁴	Combined Project and Ambient (dBA L _{eq}) ⁵	Project Contribution (dBA L _{eq}) ⁶	Threshold? ⁷	Threshold Exceeded? ⁷
R1	34.4	L3	62.4	62.4	0.0	3.0	No
R2	39.4	L1	65.6	65.6	0.0	1.5	No
R3	27.9	L3	62.4	62.4	0.0	3.0	No
R4	29.6	L4	50.9	50.9	0.0	5.0	No

¹ See Exhibit 9-A for the sensitive receiver locations.



 $^{^{\}rm 2}$ Unmitigated Project 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 Criteria as defined in Section 4.

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

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 Criteria as defined in Section 4.

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 nearby sensitive receiver locations previously described in Section 8.

10.1 Construction Noise Levels

Noise generated by the Project construction equipment will include a combination of trucks, power tools, concrete mixers, and portable generators that when combined can reach high levels. The number and mix of construction equipment is expected to occur in the following stages, based on *Air Quality Impact Analysis* prepared for the Project: (30)

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

This construction noise analysis was prepared using reference noise level measurements taken by Urban Crossroads, Inc. to describe the typical construction activity noise levels for each stage of Project construction. The construction reference noise level measurements represent a list of typical construction activity noise levels. Noise levels generated by heavy construction equipment can range from approximately 68 dBA to more than 80 dBA when measured at 50 feet. However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 80 dBA measured at 50 feet from the noise source to the receiver would be reduced to 74 dBA at 100 feet from the source to the receiver and would be further reduced to 68 dBA at 200 feet from the source to the receiver.

10.2 Construction Reference Noise Levels

To describe the Project construction noise levels, measurements were collected for similar activities at several construction sites. Table 10-1 provides a summary of the construction reference noise level measurements. Since the reference noise levels were collected at varying distances of 30 feet and 50 feet, all construction noise level measurements presented on Table 10-1 have been adjusted for consistency to describe a uniform reference distance of 50 feet.



ONTARIO LIMONITE AVE 1,442 EASTVALE ROLLING MEADOWS 65TH ST Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community LEGEND: Receiver Locations Construction Activity Existing Barrier Height (in feet) — Distance from receiver to construction activity (in feet) Existing Barrier

EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

ID	Noise Source	Reference Distance From Source (Feet)	Reference Noise Levels @ Reference Distance (dBA L _{eq})	Reference Noise Levels @ 50 Feet (dBA L _{eq}) ⁵
1	Truck Pass-Bys & Dozer Activity ¹	30'	63.6	59.2
2	Dozer Activity ¹	30'	68.6	64.2
3	Construction Vehicle Maintenance Activities ²	30'	71.9	67.5
4	Foundation Trenching ²	30'	72.6	68.2
5	Rough Grading Activities ²	30'	77.9	73.5
6	Framing ³	30'	66.7	62.3
7	Concrete Mixer Truck Movements ⁴	50'	71.2	71.2
8	Concrete Paver Activities ⁴	30'	70.0	65.6
9	Concrete Mixer Pour & Paving Activities ⁴	30'	70.3	65.9
10	Concrete Mixer Backup Alarms & Air Brakes ⁴	50'	71.6	71.6
11	Concrete Mixer Pour Activities ⁴	50'	67.7	67.7
12	Forklift, Jackhammer, & Metal Truck Bed Activities ⁵	50'	67.9	67.9

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

10.3 Construction Noise Analysis

Using the reference construction equipment noise levels, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Tables 10-2 to 10-6 present the short-term construction noise levels for each stage of construction. Table 10-7 provides a summary of the construction noise levels by stage at the nearby noise-sensitive receiver locations. Based on the stages of construction, the noise impacts associated with the proposed Project are expected to create temporarily high noise levels at the nearby receiver locations. To assess the worst-case construction noise levels, this analysis shows the highest noise impacts when the equipment with the highest reference noise level is operating at the closest point from the edge of primary construction activity to each receiver location.



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

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

⁴ Reference noise level measurements were collected from a nighttime concrete pour at an industrial construction site, located at 27334 San Bernardino Avenue in the City of Redlands, between 1:00 a.m. to 2:00 a.m. on 7/1/15.

⁵ Reference noise levels are calculated at 50 feet using a drop off rate of 6 dBA per doubling of distance (point source).

TABLE 10-2: DEMOLITION/SITE PREPARATION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Truck Pass-Bys & Dozer Activity	59.2
Dozer Activity	64.2
Forklift, Jackhammer, & Metal Truck Bed Activities	67.9
Highest Reference Noise Level at 50 Feet (dBA Leq):	67.9

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	736'	-23.4	-5.0	39.5
R2	258'	-14.3	-5.0	48.6
R3	1,442'	-29.2	-5.0	33.7
R4	1,347'	-28.6	-5.0	34.3

 $^{^{\}rm 1}$ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers in the Project study area.

TABLE 10-3: GRADING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Truck Pass-Bys & Dozer Activity	59.2
Dozer Activity	64.2
Rough Grading Activities	73.5
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	73.5

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	736'	-23.4	-5.0	45.1
R2	258'	-14.3	-5.0	54.2
R3	1,442'	-29.2	-5.0	39.3
R4	1,347'	-28.6	-5.0	39.9

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers in the Project study area.

TABLE 10-4: BUILDING CONSTRUCTION EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Construction Vehicle Maintenance Activities	67.5
Foundation Trenching	68.2
Framing	62.3
Highest Reference Noise Level at 50 Feet (dBA Leq):	68.2

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	736'	-23.4	-5.0	39.8
R2	258'	-14.3	-5.0	48.9
R3	1,442'	-29.2	-5.0	34.0
R4	1,347'	-28.6	-5.0	34.6

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



 $^{^{\}rm 2}$ Distance from the nearest point of construction activity to the nearest receiver.

³ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers in the Project study area.

TABLE 10-5: PAVING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Concrete Mixer Truck Movements	71.2
Concrete Paver Activities	65.6
Concrete Mixer Pour & Paving Activities	65.9
Concrete Mixer Backup Alarms & Air Brakes	71.6
Concrete Mixer Pour Activities	67.7
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	71.6

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	736'	-23.4	-5.0	43.2
R2	258'	-14.3	-5.0	52.3
R3	1,442'	-29.2	-5.0	37.4
R4	1,347'	-28.6	-5.0	38.0

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.



² Distance from the nearest point of construction activity to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers in the Project study area.

TABLE 10-6: ARCHITECTURAL COATING EQUIPMENT NOISE LEVELS

Reference Construction Activity ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})
Construction Vehicle Maintenance Activities	67.5
Framing	62.3
Highest Reference Noise Level at 50 Feet (dBA L _{eq}):	67.5

Receiver Location	Distance to Construction Activity (Feet) ²	Distance Attenuation (dBA L _{eq}) ³	Estimated Noise Barrier Attenuation (dBA L _{eq}) ⁴	Construction Noise Level (dBA L _{eq})
R1	736'	-23.4	-5.0	39.1
R2	258'	-14.3	-5.0	48.2
R3	1,442'	-29.2	-5.0	33.3
R4	1,347'	-28.6	-5.0	33.9

¹ Reference construction noise level measurements taken by Urban Crossroads, Inc.

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

The construction noise analysis shows that the highest construction noise levels will occur when construction activities take place at the closest point from primary Project construction activity to each of the nearby receiver locations. As shown on Table 10-7, the unmitigated construction noise levels are expected to range from 33.3 to 54.2 dBA L_{eq} at the nearby receiver locations.

TABLE 10-7: UNMITIGATED CONSTRUCTION EQUIPMENT NOISE LEVEL SUMMARY (DBA LEQ)

	Unmitigated Construction Noise Levels (dBA L _{eq})					
Receiver Location ¹	Demolition & Site Preparation	Grading	Building Construction	Paving	Architectural Coating	Highest Construction Noise Levels ²
R1	39.5	45.1	39.8	43.2	39.1	45.1
R2	48.6	54.2	48.9	52.3	48.2	54.2
R3	33.7	39.3	34.0	37.4	33.3	39.3
R4	34.3	39.9	34.6	38.0	33.9	39.9

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



² Distance from the nearest point of construction activity to the nearest receiver.

 $^{^{\}rm 3}$ Point (stationary) source drop off rate of 6.0 dBA per doubling of distance.

⁴ Estimated barrier attenuation from existing barriers in the Project study area.

² Estimated construction noise levels during peak operating conditions.

To evaluate whether the Project will generate potentially significant short-term noise levels at off-site sensitive receiver locations a construction-related the NIOSH noise level threshold of 85 dBA L_{eq} is used as acceptable thresholds for construction noise at the nearby sensitive receiver locations. Table 10-8 shows the highest construction noise levels at the potentially impacted receiver locations are expected to approach 54.2 dBA L_{eq} and will satisfy the NIOSH 85 dBA L_{eq} significance threshold during temporary Project construction activities. The noise impact due to unmitigated Project construction noise levels is, therefore, considered a *less than significant* impact at all nearby sensitive receiver locations.

TABLE 10-8: CONSTRUCTION EQUIPMENT NOISE LEVEL COMPLIANCE (DBA LEQ)

Danahara.	Unmitigated Construction Noise Levels (dBA L _{eq})				
Receiver Location ¹	Highest Construction Noise Level ²	Threshold ³	Threshold Exceeded? ⁴		
R1	45.1	85	No		
R2	54.2	85	No		
R3	39.3	85	No		
R4	39.9	85	No		

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

10.5 Construction Noise Level Increases

To describe the temporary Project construction noise level contributions to the existing ambient noise environment, the Project construction noise levels were combined with the existing ambient noise levels measurements at the off-site receiver locations. The difference between the combined Project-construction and ambient noise levels are used to describe the construction noise level contributions. Temporary noise level increases that would be experienced at sensitive receiver locations when Project construction-source noise is added to the ambient daytime conditions are presented on Table 10-9. A temporary noise level increase of 12 dBA L_{eq} is considered a potentially significant impact based on the Caltrans substantial noise level increase criteria which is used to assess the Project-construction noise level increases. (4) No nighttime construction activity is permitted in the City of Eastvale Municipal Code, and therefore, nighttime noise level increases are not evaluated in this analysis.

As indicated in Table 10-9, the Project will contribute unmitigated, worst-case construction noise level increases between 0.0 to 0.2 dBA $L_{\rm eq}$ at the adjacent sensitive receiver locations during the daytime hours. The worst-case temporary noise level increases during Project construction activities are shown to remain below the 12 dBA $L_{\rm eq}$ significance threshold at all receiver locations, and therefore, the unmitigated construction-source noise level increases are considered *less than significant*.



² Estimated construction noise levels during peak operating conditions, as shown on Table 10-7.

³ Construction noise level threshold as shown on Table 4-2.

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

TABLE 10-9: UNMITIGATED CONSTRUCTION TEMPORARY NOISE LEVEL INCREASES

Receiver Location ¹	Highest Project Construction Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Temporary Worst-Case Project Contribution ⁶	Threshold Exceeded? ⁷
R1	45.1	L3	62.8	62.9	0.1	No
R2	54.2	L1	67.4	67.6	0.2	No
R3	39.3	L3	62.8	62.8	0.0	No
R4	39.9	L4	57.6	57.7	0.1	No

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

10.6 Construction Vibration Impacts

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

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

Ground-borne vibration levels resulting from construction activities occurring within the Project site were estimated by data published by the Federal Transit Administration. Construction activities that would have the potential to generate low levels of ground-borne vibration within the Project site include grading. Using the vibration source level of construction equipment provided on Table 6-9 and the construction vibration assessment methodology published by the FTA, it is possible to estimate the Project vibration impacts. Table 10-10 presents the expected Project related vibration levels at the nearby receiver locations.

At distances ranging from 258 to 1,442 feet from Project construction activities, construction peak vibration velocity levels are expected to approach 0.003 in/sec PPV and will remain below the City of Eastvale threshold of 0.0787 in/sec PPV at all receiver locations, as shown on Table 10-10. Therefore, the Project-related vibration impacts are considered *less than significant* during the construction activities at the Project site.



² Highest unmitigated Project construction noise levels as shown on Table 10-8.

³ Ambient 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 construction activities.

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

⁷ Based on the 12 dBA temporary increase significance criteria as defined in Section 4.

Moreover, the impacts at the site of the closest sensitive receivers are unlikely to be sustained during the entire construction period, but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

TABLE 10-10: PROJECT CONSTRUCTION VIBRATION LEVELS

	Distance	Receiver PPV Levels (in/sec) ²					
Receiver Location ¹	To Const. Activity (Feet)	Small Bulldozer	Jack- hammer	Loaded Trucks	Large Bulldozer	Highest Levels (PPV)	Threshold Exceeded? ³
R1	736'	0.0000	0.0002	0.0005	0.0006	0.0006	No
R2	258'	0.0001	0.0011	0.0023	0.0027	0.0027	No
R3	1,442'	0.0000	0.0001	0.0002	0.0002	0.0002	No
R4	1,347'	0.0000	0.0001	0.0002	0.0002	0.0002	No

¹ Receiver locations are shown on Exhibit 10-A.



 $^{^{2}}$ Based on the Vibration Source Levels of Construction Equipment included on Table 6-9.

³ Does the peak vibration exceed the maximum acceptable vibration threshold shown on Table 3-1?

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11 REFERENCES

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- 5. California Department of Transportation Environmental Program. *Technical Noise Supplement A Technical Supplement to the Traffic Noise Analysis Protocol.* Sacramento, CA: s.n., September 2013.
- 6. **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. March 1974. EPA/ONAC 550/9/74-004.
- 7. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning, Noise and Air Quality Branch. Highway Traffic Noise Analysis and Abatement Policy and Guidance. December 2011.
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- 9. **U.S.** Environmental Protection Agency Office of Noise Abatement and Control. Noise Effects Handbook-A Desk Reference to Health and Welfare Effects of Noise. October 1979 (revised July 1981). EPA 550/9/82/106.
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- 12. Office of Planning and Research. State of California General Plan Guidelines. October 2017.
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- 15. City of Ontario. The Ontario Plan, Safety Element, Section 4 Noise Hazards. February 2018.
- 16. City of Chino. General Plan Noise Element. July 2010.
- 17. City of Ontario. Municipal Code, Title 5, Chapter 29 Noise.
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- 20. City of Chino. Municipal Code, Chapter 9.40 Noise, and Section 20.09.050 Airport Overlay District.
- 21. County of San Bernardino. Chino Airport Master Plan, Appendix B Environmental Overview. 2010.
- 22. **San Bernardino County Airport Land Use Commission.** *Chino Airport Comprehensive Land Use Plan.* November 1991.
- 23. California Court of Appeal. *Gray v. County of Madera, F053661.* 167 Cal.App.4th 1099; Cal.Rptr.3d, October 2008.



- 24. **Federal Interagency Committee on Noise.** *Federal Agency Review of Selected Airport Noise Analysis Issues.* August 1992.
- 25. American National Standards Institute (ANSI). Specification for Sound Level Meters ANSI S1.4-2014/IEC 61672-1:2013.
- 26. **U.S. Department of Transportation, Federal Highway Administration.** *FHWA Highway Traffic Noise Prediction Model.* December 1978. FHWA-RD-77-108.
- 27. 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.
- 28. **California Department of Transportation.** *Traffic Noise Attenuation as a Function of Ground and Vegetation Final Report.* June 1995. FHWA/CA/TL-95/23.
- 29. **County of Riverside, Office of Industrial Hygiene.** *Requirements for Determining and Mitigating Traffic Noise Impacts to Residential Structures.* April 2015.
- 30. Urban Crossroads, Inc. The Homestead Air Quality Impact Analysis. August 2019.



12 CERTIFICATION

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

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 260 E. Baker Street, Suite 200 Costa Mesa, CA 92626 (949) 336-5979 blawson@urbanxroads.com



EDUCATION

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

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

PROFESSIONAL REGISTRATIONS

PE – Registered Professional Traffic Engineer – TR 2537 • January, 2009

AICP – American Institute of Certified Planners – 013011 • June, 1997–January 1, 2012

PTP – Professional Transportation Planner • May, 2007 – May, 2013

INCE – Institute of Noise Control Engineering • March, 2004

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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



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APPENDIX 3.1:

CITY OF EASTVALE MUNICIPAL CODE



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CHAPTER 8.52. - NOISE REGULATION

Sec. 8.52.010. - Reserved.

Sec. 8.52.020. - Exemptions.

Sound emanating from the following sources is exempt from the provisions of this chapter:

- (1) Facilities owned or operated by or for a governmental agency;
- (2) Capital improvement projects of a governmental agency;
- (3) The maintenance or repair of public properties;
- (4) Public safety personnel in the course of executing their official duties, including, but not limited to, sworn peace officers, emergency personnel and public utility personnel. This exemption includes, without limitation, sound emanating from all equipment used by such personnel, whether stationary or mobile;
- (5) Public or private schools and school-sponsored activities;
- (6) Agricultural operations on land designated agriculture in the city general plan, or land zoned A-l (light agriculture), A-P (light agriculture with poultry), A-2 (heavy agriculture), A-D (agriculture-dairy) or C/V (citrus/vineyard), provided such operations are carried out in a manner consistent with accepted industry standards. This exemption includes, without limitation, sound emanating from all equipment used during such operations, whether stationary or mobile;
- (7) Wind energy conversion systems (WECS), provided such systems comply with the WECS noise provisions of county Ordinance No. 348;
- (8) Private construction projects located one-quarter of a mile or more from an inhabited dwelling;
- (9) Private construction projects located within one-quarter of a mile from an inhabited dwelling, provided that construction does not occur between the hours of:
 - a. 6:00 p.m. and 6:00 a.m. during the months of June through September; and
 - b. 6:00 p.m. and 7:00 a.m. during the months of October through May;
- (10) Property maintenance, including, but not limited to, the operation of lawnmowers, leaf blowers, etc., provided such maintenance occurs between the hours of 7:00 a.m. and 8:00 p.m.;
- (11) Motor vehicles, other than off-highway vehicles. This exemption does not include sound emanating from motor vehicle sound systems;
- (12) Heating and air conditioning equipment;
- (13) Safety, warning and alarm devices, including, but not limited to, house and car alarms, and other warning devices that are designed to protect the public health, safety and welfare;
- (14) The discharge of firearms consistent with all state laws.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.030. - Definitions.

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Audio equipment means a television, stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device.

Decibel (dB) means a unit for measuring the relative amplitude of a sound equal approximately to the smallest difference normally detectable by the human ear, the range of which includes approximately 130 decibels on a scale beginning with zero decibels for the faintest detectable sound. Decibels are measured with a sound level meter using different methodologies defined as follows:

- (1) The term, "A-weighting (dBA)" means the standard A-weighted frequency response of a sound level meter, which de-emphasizes low and high frequencies of sound in a manner similar to the human ear for moderate sounds.
- (2) The term "maximum sound level (Lmax)" means the maximum sound level measured on a sound level meter.

Governmental agency means the United States, the state, the county, any city within the county, any special district within the county or any combination of these agencies.

Land use permit means a discretionary permit issued by the city pursuant to title 120 (planning and zoning) of this Code.

Motor vehicle means a vehicle that is self-propelled.

Motor vehicle sound system means a stereo, radio, tape player, compact disc player, mp3 player, I-POD or other similar device in a motor vehicle.

Noise means any loud, discordant or disagreeable sound.

Occupied property means property upon which is located a residence, business or industrial or manufacturing use.

Off-highway vehicle means a motor vehicle designed to travel over any terrain.

Public or private school means an institution conducting academic instruction at the preschool, elementary school, junior high school or college level.

Public property means property owned by a governmental agency or held open to the public, including, but not limited to, parks, streets, sidewalks, and alleys.

Sensitive receptor means a land use that is identified as sensitive to noise in the noise element of the city general plan, including, but not limited to, residences, schools, hospitals, churches, rest homes, cemeteries or public libraries.

Sound-amplifying equipment means a loudspeaker, microphone, megaphone or other similar device.

Sound level meter means an instrument meeting the standards of the American National Standards Institute for type 1 or type 2 sound level meters or an instrument that provides equivalent data.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.040. - General sound level standards.

No person shall create any sound, or allow the creation of any sound, on any property that causes the exterior sound level on any other occupied property to exceed the sound level standards set forth in the following table:

General Plan Foundation Component			Maximum De	Maximum Decibel Level	
and Use Designation General Plan	Land Use Designation Name	Density	7:00 a.m.— 10:00 p.m.	10:00 p.m. — 7:00 a.m.	
Community development	:		1		
EDR	Estate density residential	2 acres	55	45	
VLDR	Very low-density residential	1 acre	55	45	
LDR	Low-density residential	½ acre	55	45	
MDR	Medium-density residential	2—5	55	45	
MHDR	Medium high-density residential	5—8	55	45	
HDR	High-density residential	8—14	55	45	
VHDR	Very high-density residential	14—20	55	45	
H'TDR	Highest density residential	20+	55	45	
CR	Retail commercial		65	55	
со	Office commercial		65	55	
СТ	Tourist commercial		65	55	
СС	Community center		65	55	
LI	Light industrial		75	55	
Н	Heavy industrial		75	75	
BP	Business park		65	45	
PF	Public facility		65	45	
SP	Specific plan-residential		55	45	
	Specific plan-commercial		65	55	

120	10	Eastvale, OA Code of Oi	diffaffocs		
		Specific plan-light industrial		75	55
		Specific plan-heavy industrial		75	75
R	ural community				
	EDR	Estate density residential	2 acres	55	45
	VLDR	Very low-density residential	1 acre	55	45
	LDR	Low-density residential	½ acre	55	45
R	ural				
	RR	Rural residential	5 acres	45	45
	RM	Rural mountainous	10 acres	45	45
	RD	Rural desert	10 acres	45	45
Α	griculture				
	AG	Agriculture	10 acres	45	45
С	pen space				
	С	Conservation		45	45
	СН	Conservation habitat		45	45
	REC	Recreation		45	45
	RUR	Rural	20 acres	45	45
	W	Watershed		45	45
	MR	Mineral resources		75	45

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.050. - Sound level measurement methodology.

Sound level measurements may be made anywhere within the boundaries of an occupied property. The actual location of a sound level measurement shall be at the discretion of the enforcement officials identified in section 8.52.080. Sound level measurements shall be made with a sound level meter. Immediately before a measurement is made, the sound level meter shall be calibrated utilizing an acoustical calibrator meeting the standards of the American National Standards Institute. Following a sound level measurement, the calibration of the sound level meter shall be reverified. Sound level meters and calibration equipment shall be certified annually.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.060. - Special sound sources standards.

The general sound level standards set forth in <u>section 8.52.040</u> apply to sound emanating from all sources, including the special sound sources set forth in this section, and the person creating, or allowing the creation of, the sound is subject to the requirements of that section. The following special sound sources are also subject to the following additional standards, the failure to comply with which constitutes separate violations of this chapter:

(1) Motor vehicles.

- a. Off-highway vehicles.
 - No person shall operate an off-highway vehicle unless it is equipped with a USDA-qualified spark arrester and a constantly operating and properly maintained muffler. A muffler is not considered constantly operating and properly maintained if it is equipped with a cutout, bypass or similar device.
 - 2. No person shall operate an off-highway vehicle unless the noise emitted by the vehicle is not more than 96 dBA if the vehicle was manufactured on or after January 1, 1986, or is not more than 101 dBA if the vehicle was manufactured before January 1, 1986. For purposes of this subsection, emitted noise shall be measured a distance of 20 inches from the vehicle tailpipe using test procedures established by the Society of Automotive Engineers under Standard J-1287.
- b. *Sound systems.* No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, between the hours of 10:00 p.m. and 8:00 a.m., such that the sound system is audible to the human ear inside any inhabited dwelling. No person shall operate a motor vehicle sound system, whether affixed to the vehicle or not, at any other time such that the sound system is audible to the human ear at a distance greater than 100 feet from the vehicle.
- (2) Power tools and equipment. No person shall operate any power tools or equipment between the hours of 10:00 p.m. and 8:00 a.m. such that the power tools or equipment are audible to the human ear inside an inhabited dwelling other than a dwelling in which the power tools or equipment may be located. No person shall operate any power tools or equipment at any other time such that the power tools or equipment are audible to the human ear at a distance greater than 100 feet from the power tools or equipment.
- (3) Audio equipment. No person shall operate any audio equipment, whether portable or not, between the hours of 10:00 p.m. and 8:00 a.m. such that the equipment is audible to the human ear inside an inhabited dwelling other than a dwelling in which the equipment may be located. No person shall operate any audio equipment, whether portable or not, at any other time such that the equipment is audible to the human ear at a distance greater than 100 feet from the equipment.

- (4) Sound-amplifying equipment and live music. No person shall install, use or operate sound-amplifying equip perform, or allow to be performed, live music unless such activities comply with the following requirements that these requirements conflict with any conditions of approval attached to an underlying land use permit, requirements shall control:
 - a. Sound-amplifying equipment or live music is prohibited between the hours of 10:00 p.m. and 8:00 a.m.
 - b. Sound emanating from sound-amplifying equipment or live music at any other time shall not be audible to the human ear at a distance greater than 200 feet from the equipment or music.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.070. - Exceptions.

Exceptions may be requested from the standards set forth in <u>section 8.52.040</u> or <u>8.52.060</u> and may be characterized as construction-related, single-event or continuous event exceptions.

- (1) Application and processing.
 - a. *Construction-related exceptions*. An application for a construction-related exception shall be made to and considered by the city on forms provided by the city and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - b. *Single-event exceptions.* An application for a single-event exception shall be made to and considered by the city on forms provided by the planning department and shall be accompanied by the appropriate filing fee. No public hearing is required.
 - c. Continuous-event exceptions. An application for a continuous-event exception shall be made to the city on forms provided by the planning department and shall be accompanied by the appropriate filing fee. Upon receipt of an application for a continuous-event exception, the city shall set the matter for public hearing before the planning commission, notice of which shall be given as provided in the Eastvale Municipal Code. Notwithstanding the exceptions set forth in this section, an application for a continuous-event exception that is associated with an application for a land use permit shall be processed concurrently with the land use permit in the same manner that the land use permit is required to be processed.
- (2) Requirements for approval. The appropriate decision making body or officer shall not approve an exception application unless the applicant demonstrates that the activities described in the application would not be detrimental to the health, safety or general welfare of the community. In determining whether activities are detrimental to the health, safety or general welfare of the community, the appropriate decision-making body or officer shall consider such factors as the proposed duration of the activities and their location in relation to sensitive receptors. If an exception application is approved, reasonable conditions may be imposed to minimize the public detriment, including, but not limited to, restrictions on sound level, sound duration and operating hours.
- (3) Appeals. The city's decision on an application for a construction-related exception is considered final. The city's decision on an application for a single-event exception is considered final. After making a decision on an application for a continuous-event exception, the appropriate decision-making body or officer shall mail notice of the decision to the applicant. Within ten calendar days after the mailing of such notice, the applicant or an interested person may appeal the decision to the city council. Upon receipt of an appeal and payment of the appropriate appeal fee, the city clerk shall set the matter for hearing not less than

five days nor more than 30 days thereafter and shall give written notice of the hearing in the same manner as notice of the hearing was given by the appropriate hearing officer or body. The city council shall render its decision within 30 days after the appeal hearing is closed.

(4) Effect of a pending continuous-event exception application. For a period of 180 days from the effective date of the ordinance from which this chapter is derived, no person creating any sound prohibited by this chapter shall be considered in violation of this chapter if the sound is related to a use that is operating pursuant to an approved land use permit, if an application for a continuous-event exception has been filed to sanction the sound and if a decision on the application is pending.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.080. - Enforcement.

The chief of police and planning director shall have the primary responsibility for enforcing this chapter; provided, however, the chief of police and planning director may be assisted by the public health department. Violations shall be prosecuted as described in <u>section 8.52.100</u>, but nothing in this chapter shall prevent the chief of police, planning director or the department of public health from engaging in efforts to obtain voluntary compliance by means of warnings, notices or educational programs.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.090. - Duty to cooperate.

No person shall refuse to cooperate with, or obstruct, the enforcement officials identified in <u>section 8.52.080</u> when they are engaged in the process of enforcing the provisions of this chapter. This duty to cooperate may require a person to extinguish a sound source so that it can be determined whether sound emanating from the source violates the provisions of this chapter.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

Sec. 8.52.100. - Violations and penalties.

Any person who violates any provision of this chapter once or twice within a 180-day period shall be guilty of an infraction. Any person who violates any provision of this chapter more than twice within a 180-day period shall be guilty of a misdemeanor. Each day a violation is committed or permitted to continue shall constitute a separate offense and shall be punishable as such. Penalties shall not exceed the following amounts:

- (1) For the first violation within a 180-day period, the minimum mandatory fine shall be \$500.00.
- (2) For the second violation within a 180-day period, the minimum mandatory fine shall be \$750.00.
- (3) For any further violations within a 180-day period, the minimum mandatory fine shall be \$1,000.00 or imprisonment in the county jail for a period not exceeding six months, or both.

(Ord. No. 2011-04, §§ 1, 2, 1-26-2011)

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APPENDIX 3.2:

CITY OF ONTARIO MUNICIPAL CODE



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Print

Ontario Municipal Code

CHAPTER 29: NOISE

5-29.01	Declaration of findings and policy
5-29.02	Definitions
5-29.03	Designated noise zones
5-29.04	Exterior noise standards
5-29.05	Interior noise standards
5-29.06	Exemptions
5-29.07	Loud and disturbing noise
5-29.08	Real property maintenance noise regulations
5-29.09	Construction activity noise regulations
5-29.10	Other public agency exceptions
5-29.11 institutions	Schools, day care centers, churches, libraries, museums, health care ; Special provisions
5-29.12	Sound amplifying equipment
5-29.13	Amplified sound
5-29.14	Motor vehicles
5-29.15	Noise level measurement
5-29.16	Prima facie violation
5-29.17	Penalty
5-29.18	Enforcement and administration
5-29.19	City Manager waiver
5-29.20	Noise abatement program

Sec. 5-29.01. Declaration of findings and policy.

It is hereby found and declared that:

- (a) The making and creation of excessive, unnecessary or unusually loud noises within the limits of the City is a condition that has existed for some time, however, the extent and volume of such noises is increasing;
- (b) The making, creation or maintenance of such excessive, unnecessary, unnatural or unusually loud noises that are prolonged, unusual and unnatural in their time, place and use

affect and are a detriment to public health, comfort, convenience, safety, welfare and prosperity of the residents of the City; and

- (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, comfort, convenience, safety, welfare and prosperity and the peace and quiet of the residents of the City.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.02. Definitions.

As used in this chapter, specific words and phrases are defined as follows:

- (a) "Ambient noise level" shall mean the all-encompassing noise level associated with a given environment and is a composite of sounds from all sources, excluding the alleged offensive noise or excessive sound, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.
- (b) "Applicable (noise) zone" shall mean the noise zone category based on the actual use of the property, provided that the actual use is a legal use in the City.
- (c) "A-weighted sound level" shall mean the sound pressure level in decibels (dBAs) as measured with a sound level meter using the A-weighted filter network (scale) at slow response and at a pressure of twenty (20) micropascals. The A-weighted filter de-emphasizes the very low and a very high frequency component of sound in a manner similar to the response of the human ear, and is a numerical method of rating human judgment of loudness.
- (d) "Decibel (dBA)" shall mean a unit for measuring the amplitude of a sound, equal to twenty (20) times the logarithm to the base ten (10) of the ratio of pressure of the sound measured to the reference pressure of twenty (20) micropascals.
- (e) "Equivalent sound or noise level (Leq)" shall mean the International Electrotechnical Commission (IEC) 60804 Standard for measurement, or the most recent revision thereof, for the sound level corresponding to a steady state noise level over a given sample period with the same amount of acoustic energy as the actual time varying noise level or the energy average noise level during the sample period. The measurement period for the purposes of this chapter is fifteen (15) minutes.
- (f) "Impulsive noise" shall mean a noise of short duration usually less than one (1) second and of high intensity, with an abrupt onset and rapid decay. Such objectionable noises may also be repetitive.
- (g) "Intrusive noise" shall mean that noise that intrudes over and above the ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence and tonal information content, as well as the prevailing ambient noise level.
- (h) "Maintenance" shall mean the upkeep, repair or preservation of existing property or structures.
- (i) "Noise" shall mean any unwanted sound or sound that is undesirable because it interferes with speech and hearing, or is intense enough to damage hearing or is otherwise annoying.
- (j) "Noise level (sound level)" shall mean the weighted sound pressure level obtained by use of a sound level meter having a standard frequency filter for attenuating part of the sound spectrum.

For purposes of this chapter, all noise levels (sound levels) shall be A-weighted sound pressure level.

(k) "Noise (sound) level meter" shall mean an instrument, including a microphone, an amplifier, an output meter and frequency weighting networks for the measurement and determination of noise and sound levels. For the purposes of this chapter, the sound level meter must meet the International Electrotechnical Commission (IEC) 60651 and 60804 Standards, or the most recent revisions thereof, for Type 1 sound level meters or an instrument and the associated recording and analyzing equipment that will provide equivalent data.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.03. Designated noise zones.

The properties hereinafter described shall be assigned to the following noise zones:

Noise Zone I:	All single-family residential properties;
Noise Zone II:	All multi-family residential properties and mobile home parks;
Noise Zone III:	All commercial property;
Noise Zone IV:	The residential portion of mixed use properties;
Noise Zone V:	All manufacturing or industrial properties and all other uses.

The actual use of the property, and not necessarily its zoning designation, shall be the determining factor in establishing whether a property is in Noise Zone I, II, III, IV or V, provided that the actual use is a legal use within the applicable zone.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.04. Exterior noise standards.

(a) The following exterior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone.

Allowable Exterior Noise Level (1)		Allowed Equivalent Noise Level, Leq. (2)		
Noise Zone	Type of Land Use	7 a.m. to 10 p.m.	10 p.m. to 7 a.m.	
I	Single-Family Residential	65 dBA	45 dBA	
II	Multi-Family Residential, Mobile Home Parks	65 dBA	50 dBA	
III	Commercial Property	65 dBA	60 dBA	
IV	Residential Portion of Mixed Use	70 dBA	70 dBA	
V	Manufacturing and Industrial, Other	70 dBA	70 dBA	

Uses

- (1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
 - (2) Measurements for compliance are made on the affected property pursuant to § 5-29.15.
- (b) It is unlawful for any person at any location within the incorporated area of the City to create noise, or to allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:
 - (1) The noise standard for the applicable zone for any fifteen-minute (15) period; and
- (2) A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
- (c) In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
- (d) The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.
- (e) If the measurement location is on a boundary between two (2) different noise zones, the lower noise level standard applicable to the noise zone shall apply.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.05. Interior noise standards.

(a) The following interior noise standards, unless otherwise specifically indicated, shall apply to all properties within a designated noise zone.

Allowable Interior Noise Level (1)		Allowed Equivalent Noise Level, Leq. (2)		
Noise Zone Type of Land Use		7 a.m. to 10 p.m.	10 p.m. to 7 a.m.	
1	Single-Family Residential	45 dBA	40 dBA	
II	Multi-Family Residential, Mobile Home Parks	45 dBA	40 dBA	
IV	Residential Portion of Mixed Use	45 dBA	40 dBA	

- (1) If the ambient noise level exceeds the resulting standard, the ambient noise level shall be the standard.
 - (2) Measurements for compliance are made on the affected property pursuant to § 5-29.15.
- (b) It is unlawful for any person at any location within the incorporated area of the City to create noise, or to allow the creation of any noise on property owned, leased, occupied or

otherwise controlled by such person, which noise causes the noise level, when measured at any location on any other property, to exceed either of the following:

- (1) The noise standard for the applicable zone for any fifteen-minute (15) period;
- (2) A maximum instantaneous (single instance) noise level equal to the value of the noise standard plus twenty (20) dBA for any period of time (measured using A-weighted slow response).
- (c) In the event the ambient noise level exceeds the noise standard, the maximum allowable noise level under such category shall be increased to reflect the maximum ambient noise level.
- (d) The Noise Zone IV standard shall apply to that portion of residential property falling within one hundred (100) feet of a commercial property or use, if the noise originates from that commercial property or use.
- (e) If the measurement location is on a boundary between two (2) different noise zones, the lower noise level standard applicable to the noise zone shall apply.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.06. Exemptions.

The following activities shall be exempted from the provisions of this chapter:

- (a) Any activity conducted on public property, or on private property with the consent of the owner, by any public entity or its officers, employees, representatives, agents, subcontractors, permittees, licensees or lessees that the public entity has authorized are exempt from the provisions of this chapter. This includes, without limitation, sporting and recreational activities that are sponsored, co-sponsored, permitted or allowed by the City or any school district within the City's jurisdictional boundaries. This also includes, without limitation, occasional outdoor gatherings, public dances, shows or sporting and entertainment events, provided such events are conducted pursuant to an approval, authorization, contract, lease, permit or sublease by the appropriate public entity, specifically the planning commission or City Council;
- (b) Occasional outdoor gatherings, public dances, show, sporting and entertainment events, provided said events are conducted pursuant to a permit or license issued by the appropriate jurisdiction relative to the staging of said events;
- (c) Any mechanical device, apparatus or equipment used, related to or connected with emergency machinery, vehicle, work or warning alarm or bell, provided the sounding of any bell or alarm on any building or motor vehicle shall terminate its operation within forty-five (45) minutes in any hour of its being activated;
- (d) Noise sources associated with construction, repair, remodeling, demolition or grading of any real property. Such activities shall instead be subject to the provisions of § 5-29.09;
- (e) Noise sources associated with construction, repair, remodeling, demolition or grading of public rights-of-way or during authorized seismic surveys;
- (f) All mechanical devices, apparatus or equipment associated with agriculture operations provided that:
 - (1) Operations do not take place between 8:00 p.m. and 7:00 a.m.;
- (2) Such operations and equipment are utilized for the protection or salvage of agricultural crops during periods of potential or actual frost damage or other adverse weather conditions; or

- (3) Such operations and equipment are associated with agricultural pest control through pesticide application, provided the application is made in accordance with permits issued by or regulations enforced by the California Department of Agriculture:
- (g) Noise sources associated with the maintenance of real property. Such activities shall instead be subject to the provisions of § 5-29.08;
 - (h) Any activity to the extent regulation thereof has been preempted by state or federal law;
- (i) Any noise sources associated with people and/or music associated with a party at a residential property. Such noise shall be subject to the provisions of OMC § 5-29.07;
- (j) Any noise source emanating from an ice cream truck within the City. Such noise shall be subject to the provisions of OMC § 4-18.04;
- (k) Any noise sources associated with barking dogs or other intermittent noises made by animals on any properly within the City. Such noise shall be subject to the provisions of OMC Chapter 1, Title 6;
- (I) Noise sources related to uses approved by a permit or development agreement adopted prior to the date of adoption of this chapter and that contains acoustic or noise standard conditions of approval. This exemption shall only be applicable during the effective period of the City-approved permit or development agreement.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.07. Loud and disturbing noise.

- (a) It is unlawful for any person or property owner within the City to make, cause or allow to be made any loud, excessive, impulsive or intrusive noise, disturbance or commotion that disturbs the peace or quiet of any area or that causes discomfort or annoyance to any reasonable person of normal sensitivities in the area, after a Police or Code Enforcement Officer has first requested that the person or property owner cease and desist from making such noise. The types of loud, disturbing, excessive, impulsive or intrusive noise may include, but shall not be limited to, yelling, shouting, hooting, whistling, singing, playing a musical instrument, or emitting or transmitting any loud music or noise from any mechanical or electrical sound making or sound-amplifying device.
- (b) The factors, standards, and conditions that may be considered in determining whether a violation of the provisions of this section has been committed, included, but not limited to, the following:
 - (1) The level of the noise;
 - (2) The level and intensity of the background (ambient) noise, if any;
 - (3) The proximity of the noise to residential or commercial sleeping areas;
 - (4) The nature and zoning of the area within which the noise emanates;
 - (5) The density of inhabitation of the area within which the noise emanates;
 - (6) The time of day and night the noise occurs;
 - (7) The duration of the noise;
 - (8) Whether the noise is constant, recurrent or intermittent;
 - (9) Whether the noise is produced by a commercial or noncommercial activity; and

- (10) Whether the use is lawful under the provisions of Title 5 of this Code and whether the noise is one that could reasonably be expected from the activity or allowed use.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.08. Real property maintenance noise regulations.

- (a) No person, while engaged in maintenance of real property, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, except between the hours of 8:00 a.m. and 6:00 p.m.
- (b) Trimming or pruning that requires the use of chainsaws or mulching machines shall only be allowed between the hours of 8:00 a.m. and 6:00 p.m. on a weekday and between the hours of 9:00 a.m. and 5:00 p.m. on Saturday or Sunday.
- (c) The use of electrical or gasoline powered blowers, such as commonly used by gardeners or other persons for cleaning lawns, yards, driveways, gutters and other property shall only be allowed between the hours of 8:00 a.m. and 6:00 p.m. on a weekday and between the hours of 9:00 a.m. and 5:00 p.m. on Saturday or Sunday.
- (d) No landowner, gardener, property maintenance service, contractor, subcontractor or employer shall permit or allow any person or persons working under his or her direction or control to operate any tool, equipment or machine in violation of the provisions of this section.
 - (e) Exceptions. The provisions of this section shall not apply to the following:
 - (1) Emergency property maintenance required by the building official;
- (2) The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City, or its employees, contractors or agents, unless:
- (i) The City Manager or department head determines that the maintenance, repair or improvement is immediately necessary to maintain public service,
- (ii) The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or
- (iii) The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes maintenance during hours of the day that would otherwise be prohibited pursuant to this section; and
 - (3) Any maintenance that complies with the noise limits specified in § 5-29.04.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.09. Construction activity noise regulations.

(a) No person, while engaged in construction, remodeling, digging, grading, demolition or any other related building activity, shall operate any tool, equipment or machine in a manner that produces loud noise that disturbs a person of normal sensitivity who works or resides in the vicinity, or a Police or Code Enforcement Officer, on any weekday except between the hours of 7:00 a.m. and 6:00 p.m. or on Saturday or Sunday between the hours of 9:00 a.m. and 6:00 p.m.

- (b) No landowner, construction company owner, contractor, subcontractor, or employer shall permit or allow any person or persons working under their direction and control to operate any tool, equipment or machine in violation of the provisions of this section.
 - (c) Exceptions.
- (1) The provisions of this section shall not apply to emergency construction work performed by a private party when authorized by the City Manager or his or her designee;
- (2) The maintenance, repair or improvement of any public work or facility by public employees, by any person or persons acting pursuant to a public works contract, or by any person or persons performing such work or pursuant to the direction of, or on behalf of, any public agency; provided, however, this exception shall not apply to the City, or its employees, contractors or agents, unless:
- (i) The City Manager or a department head determines that the maintenance, repair or improvement is immediately necessary to maintain public services,
- (ii) The maintenance, repair or improvement is of a nature that cannot feasibly be conducted during normal business hours, or
- (iii) The City Council has approved project specifications, contract provisions, or an environmental document that specifically authorizes construction during hours of the day that would otherwise be prohibited pursuant to this section; and
 - (3) Any construction that complies with the noise limits specified in §§ 5-29.04 or 5-29.05.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.10. Other public agency exceptions.

The provisions of this chapter shall not be construed to prohibit any work at different hours by or under the direction of any other public agency or public or private utility companies in cases of necessity or emergency.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.11. Schools, day care centers, churches, libraries, museums, health care institutions; Special provisions.

It is unlawful for any person to create any noise that causes the outdoor noise level at any school, day care center, hospital or similar health care institution, church, library or museum while the same is in use, to exceed the noise standards specified in § 5-29.04 prescribed for the assigned Noise Zone I.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.12. Sound amplifying equipment.

Loudspeakers, sound amplifiers, public address systems or similar devices used to amplify sounds shall be subject to the provisions of § 5-29.13. Such sound amplifying equipment shall not be construed to include electronic devices, including but not limited to, radios, tape players, tape recorders, compact disc players, MP3 players, electric keyboards, music synthesizers, record players or televisions, which are designed and operated for personal use, or used entirely

within a building and are not designed or used to convey the human voice, music or any other sound to an audience outside such building, or which are used in vehicles and heard only by occupants of the vehicle in which installed.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.13. Amplified sound.

- (a) The City Council enacts the following legislation for the sole purpose of securing and promoting the public health, comfort, safety and welfare for its citizenry. While recognizing that the use of sound amplifying equipment may be entitled to certain protection by the constitutional rights of freedom of speech and assembly, the City Council finds that in order to protect the public safety and the correlative rights of the citizens of this community to privacy and freedom from public nuisance of loud and unnecessary noise, reasonable regulation of the time, place and manner of the use of amplifying equipment is necessary. In no event shall approval or authorization required herein be withheld by reason of the constitutionally protected content of any material proposed to be broadcast through amplifying equipment.
- (b) It is unlawful for any person, other than personnel of law enforcement or governmental agencies, to install, use or operate a loudspeaker or sound amplifying device in a fixed or movable position or mounted upon any vehicle within the City for the purpose of giving instructions, directions, talks, addresses or lectures to any persons or assemblages of persons in or upon any street, alley, sidewalk, park, place or public property without a permit to do so from the Police Chief or his or her designee. Notwithstanding any other provision of this chapter, the provisions of this section shall also apply to the use of sound amplifying equipment upon public or private property when used in connection with outdoor or indoor public or private events, whether or not admission is charged or food or beverages are sold, when such activity is to be attended by more than one hundred (100) persons and the noise emanating from the event will be audible at the property plane, or in the case of a street dance or concert on the nearest residential property. Those activities listed in § 5-29.06(a) are exempt from the requirements of this section.
- (c) The Police Chief or his or her designee is authorized to approve and issue permits under this section.
- (d) An application for a permit required by this section shall be filed with the Police Chief at least sixteen (16) days and no more than one hundred twenty (120) days prior to the date on which the sound amplifying equipment is intended to be used. Applications for events covered by the First Amendment of the United States Constitution are exempt from the time requirements of this section if it is shown that circumstances require a shorter filing period and the event will not constitute an unsafe condition. The application shall contain the following information:
- (1) The name, address and telephone number of both the owner and the user of the sound amplifying equipment;
 - (2) The license number, if a sound truck is to be used;
 - (3) A general description of the sound amplifying equipment which is to be used;
- (4) Whether sound amplifying equipment will be used for commercial or noncommercial purpose;
- (5) The dates and times upon and within which, and the streets or property over or upon which, the equipment is proposed to be operated;
- (6) The name or names of one (1) or more persons who will be present during the conduct of any activities for which registration is sought and who will have authority to reduce the volume of

any sound amplifying equipment during the course of the activities if required pursuant to this chapter and, otherwise, to insure compliance with the provisions of this chapter;

- (7) A statement by the applicant that he or she is willing and able to comply with the provisions of this chapter and the conditions of the permit; and
- (8) A sketch of the area or facilities within which the activities are to be conducted, with approximate dimensions and illustration of the location and orientation of all sound-amplifying equipment.
- (e) The Police Chief shall deny the permit application or revoke any permit if the chief finds any of the following:
 - (1) The application contains materially false or intentionally misleading information;
- (2) The use of sound amplifying equipment at an event or activity proposed will be located in or upon a premises, building or structure that is hazardous to the health or safety of the employees or patrons of the premises, business, activity, or event, or the general public, under the standards established by the Uniform Building or Fire Codes, or other applicable codes, as set forth in OMC Titles 4 and 8;
- (3) The use of sound amplifying equipment at an event or activity proposed in or upon a premises, building or structure that lacks adequate on-site parking for participants attending the proposed event or activity under the applicable standards set forth in OMC Title 9;
- (4) The conditions of any motor vehicle movement are such that, in his or her opinion, the use of the equipment would constitute an unreasonable interference with traffic safety;
- (5) The conditions of pedestrian movement are such that the use of the equipment would constitute a detriment to traffic safety;
- (6) The application submitted by the applicant reveals that the applicant would violate the provisions of this section or any other provision of federal, state and/or local law;
- (7) The applicant is unwilling or unable to comply with the provisions of this chapter or any conditions imposed upon any permit issued;
- (8) There had already been a permitted event at the intended location, or within a two hundred (200) yard radius of the intended location and the prior permitted event was located on residentially zoned property or on a street, alley, public parking lot or neighborhood park within three (3) months prior to the intended event. Community parks are exempt from this subsection (8); or
- (9) The applicant or location has had previous violations within the past calendar year, and in the judgment of the Police Chief, issuance would be contrary to the intent of this section.
- (f) In determining whether the use of the equipment would constitute an unreasonable interference with or detriment to traffic safety, the Police Chief shall consider, but shall not necessarily be limited to:
- (1) The volumes, patterns and speed of vehicular and pedestrian traffic in the proposed area of use:
- (2) The relationship of the proposed use of equipment and potential impacts upon traffic patterns;
- (3) Availability of sufficient room for the operation of the equipment without significantly interfering with the traffic patterns;

- (4) Proximity to schools, playgrounds and similar facilities where use of such equipment might attract children into traffic patterns; or
- (5) Proximity to busy intersections or other potentially hazardous conditions where use of such equipment might constitute a hazard by reason of its tendency to distract drivers of vehicles or pedestrians.
 - (g) Issuance or denial.
- (1) If the application is approved, the Police Chief shall return an approved copy of the application to the applicant and shall issue a permit. The permit shall constitute permission for the use of the sound amplifying equipment as requested.
- (2) Any application filed shall be either approved or disapproved within five (5) days of the filing thereof.
- (3) If the application is disapproved, the Police Chief shall return a disapproved copy forthwith to the applicant with a written statement on the reason for disapproval.
- (i) Any person aggrieved by a decision of the Police Chief or his or her designee may file an appeal to the City Manager. A complete and proper appeal shall be filed with the City Clerk within ten (10) calendar days of the action that is the subject of the appeal. If the applicant fails to file an appeal within the ten (10) day filing period provided herein, denial shall take effect immediately upon expiration of such filing period. All appeals shall be in writing and shall contain the following information: (a) name(s) of the person filing the appeal, (b) a brief statement in ordinary and concise language of the relief sought, and (c) the signatures of all parties named as appellants and their mailing addresses. After receiving the appeal, the City Clerk shall immediately forward the matter to the City Manager for handling.
- (ii) The City Manager shall, upon receipt of the appeal, set the matter for hearing before the City Manager or a hearing officer. Any hearing officer shall be a licensed attorney or recognized mediator designated by the City Manager. The hearing shall be set for not more than ten (10) calendar days after the receipt of the appeal unless a longer time is requested or consented to by the appellant. Notice of such hearing shall be given in writing and mailed at least five (5) calendar days prior to the date of the hearing, by U.S. mail, with a proof of service attached, addressed to the address listed on the permit application, or the written appeal if different from the permit application. The notice shall state the grounds of the complaint or reason for the denial and shall state the time and place where such hearing will be held.
- (iii) The City Manager or hearing officer shall, within ten (10) calendar days following the conclusion of the hearing, make a written finding and decision, which shall be delivered to the City and the appellant by first class mail. Notwithstanding any provision in this Code, the decision of the City Manager or hearing officer shall be the final administrative decision of the City. Any party dissatisfied with the decision of the City Manager or hearing officer may seek review of such decision under the provisions of Code Civil Procedure, §§ 1094.5 and 1094.8, as amended from time to time.
- (h) In addition to any other provisions of this Code, the use of sound-amplifying equipment and sound trucks in the City shall be subject to the following regulations:
 - The only sounds permitted are music and human speech;
- (2) Sound shall not be emitted within one hundred (100) yards of hospitals, churches, schools and City Hall;
- (3) The volume of sound shall be controlled so that it will not be audible for a distance in excess of one hundred (100) feet from the sound amplifying equipment or sound truck, and so

that the volume is not unreasonably loud, raucous, jarring, disturbing or a nuisance to persons within the range of allowed audibility; or

- (4) The sound amplifying equipment or sound truck shall not be used between the hours of 8:00 p.m. and 8:00 a.m.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.14. Motor vehicles.

The use of any motor vehicle in such a condition as to create excessive, impulsive or intrusive noises is prohibited. The discharge into the open air of the exhaust of any internal combustion engine, stationary or mounted on wheels, motorboat or motor vehicle, including motor cycle, whether or not discharged through a muffler or other similar device, which discharge creates excessive, unusual, impulsive or intrusive noise is prohibited. Motor vehicles shall comply with the noise regulations of the California Vehicle Code.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.15. Noise level measurement.

- (a) The location selected for measuring exterior noise levels in a residential area shall be at any part of a private yard, patio, deck or balcony normally used for human activity and identified by the owner or, if occupied by someone other than the owner, the occupant of the affected property as suspected of exceeding the noise level standard. This location may be the closest point in the private yard or patio, or on the deck or balcony, to the noise source, but should not be located in nonhuman activity areas such as trash container storage areas, planter beds, above or contacting a property line fence, or other areas not normally used as part of the yard, patio, deck or balcony. The location selected for measuring exterior noise levels in a nonresidential area shall be at the closest point to the noise source. The measurement microphone height shall be five (5) feet above finish elevation or, in the case of a deck or balcony, the measurement microphone height shall be five (5) feet above the finished floor level.
- (b) The location selected for measuring interior noise levels shall be made within the affected residential unit. The measurements shall be made at a point at least four (4) feet from the wall, ceiling or floor, or within the frame of a window opening, nearest the noise source. The measurements shall be made with windows in an open position.
- (c) Any decibel measurement made pursuant to the provisions of this chapter shall be measured in decibels (dBAs) as measured with a sound level meter using the A-weighted sound pressure level.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.16. Prima facie violation.

Any noise exceeding the noise level standard as specified in §§ 5-29.04 and 5-29.05, shall be deemed to be prima facie evidence of a violation of the provisions of this chapter.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.17. Penalty.

- (a) Any person who negligently or knowingly violates any provision of this chapter shall be guilty of an infraction and upon conviction shall be punishable by a fine specified in OMC § 1-2.01. Each day a violation occurs shall constitute a separate offense and shall be punishable as such
- (b) Any person who negligently or knowingly violates any provision of this chapter may also be subject to fine(s) specified in the administrative citation schedule of fines set forth in OMC § 1-5.04. The manner of issuing administrative citations shall comply with all the procedures specified in OMC Chapter 5, Title 1.
- (c) As an additional remedy, the operation or maintenance of any device, instrument, vehicle or machinery in violation of any provisions of this chapter, which operation or maintenance causes or creates sound levels exceeding the allowable standards as specified in this chapter, shall be deemed and is declared to be a public nuisance and may be subject to abatement by a restraining order or injunction issued by a court of competent jurisdiction.
- (d) Any violation of this chapter is declared to be a public nuisance and may be abated in accordance with law. The expense of enforcing this chapter is declared to be public nuisance and may be by resolution of the City Council declared to be a lien and special assessment against the property on which such nuisance is maintained, and any such charge shall also be a personal obligation of the property owner.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.18. Enforcement and administration.

- (a) It shall be the responsibility of Police or Code Enforcement Officers to enforce the provisions of this chapter and to perform all other functions required by this chapter. Such duties shall include, but not be limited to investigating potential violations, issuing warning notices and citations, and providing evidence to the City prosecutor for legal action.
- (b) For violations of § 5-29.07, Police or Code Enforcement Officers shall obtain a declaration under penalty of perjury from two (2) declarants living in separate households within a sixty (60) day period stating in detail all of the following:
- (1) That the declarant is a resident of a residential neighborhood located within two hundred (200) yards of the noise source; and
- (2) Within the past month declarant has heard noise for substantially long periods to the extreme annoyance of the declarant.
- (3) Declarations from two (2) declarants are required to prove a violation of § 5-29.07, but are not required to prove that a person has violated any other provision of this chapter.
- (§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.19. City Manager waiver.

The City Manager is authorized to grant a temporary waiver to the provisions of this chapter for a period of time necessary to correct the violations of this chapter, if such temporary waiver would be in the public interest and there is no feasible and prudent alternative to the activity, or the method of conducting the activity, for which the temporary waiver is sought. This time period may include a commitment to a program that includes placing necessary orders and entering into necessary contracts within thirty (30) days for repair or installation.

(§ 2, Ord. 2888, eff. March 6, 2008)

Sec. 5-29.20. Noise abatement program.

- (a) In circumstances where adopted community-wide noise standards and policies prove impractical in controlling noise generated from a specific source, the City Council may establish a noise abatement program that recognizes the characteristics of the noise source and affected property and that incorporates specialized mitigation measures.
- (b) Noise abatement programs shall set forth in detail the approved terms, conditions and requirements for achieving maximum compliance with noise standards and policies. Said terms, conditions and requirements may include, but shall not be limited to, limitations, restrictions, or prohibitions on operating hours, location of operations, and the types of equipment.
- (§ 2, Ord. 2888, eff. March 6, 2008)

APPENDIX 5.1:

STUDY AREA PHOTOS



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33, 58' 39.830000", 117, 35' 34.890000"



33, 58' 39.870000", 117, 35' 34.950000"



L1_N 33, 58' 39.660000", 117, 35' 35.000000"



33, 58' 39.850000", 117, 35' 34.970000"



L1_W 33, 58' 39.800000", 117, 35' 34.950000"



33, 58' 32.040000", 117, 35' 34.180000"



33, 58' 32.140000", 117, 35' 34.150000"



L2_N 33, 58' 31.990000", 117, 35' 33.930000"



L2_S 33, 58' 32.140000", 117, 35' 34.070000"



L2_W 33, 58' 32.030000", 117, 35' 34.120000"



33, 58' 16.510000", 117, 35' 36.480000"



L3_N 33, 58' 16.600000", 117, 35' 36.260000"



L3_S 33, 58' 16.580000", 117, 35' 36.210000"



L3_W 33, 58' 16.630000", 117, 35' 36.320000"



33, 58' 19.460000", 117, 36' 3.920000"



L4_4 33, 58' 19.320000", 117, 36' 3.980000"



L4_E 33, 58' 19.560000", 117, 36' 3.920000"



L4_N 33, 58' 19.520000", 117, 36' 3.980000"



L4_S 33, 58' 19.520000", 117, 36' 3.870000"



L5



L5_E 33, 58' 30.600000", 117, 36' 4.880000"



L5_N 33, 58' 30.600000", 117, 36' 4.910000"



L5_S 33, 58' 30.610000", 117, 36' 4.880000"



L5_W 33, 58' 30.680000", 117, 36' 4.940000"



33, 58' 35.870000", 117, 35' 45.380000"



L6_E 33, 58' 35.890000", 117, 35' 45.470000"



L6_N 33, 58' 35.870000", 117, 35' 45.380000"



L6_S 33, 58' 35.950000", 117, 35' 45.520000"



L6_W 33, 58' 36.020000", 117, 35' 45.250000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS



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24-Hour Noise Level Measurement Summary L1 - Located Northeast of project site on Remington Ave and Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Archibald Project: The Homestead Analyst: P. Mara Hourly Lea dBA Readings (unadjusted) 80.0 75.0 (dBA) 70.0 70.0 65.0 60.0 68.2 55.0 50.0 45.0 40.0 35.0 2 7 8 9 10 12 13 18 19 20 22 23 0 1 3 5 6 11 14 15 16 17 21 **Hour Beginning** L1% L2% L5% L25% L50% L90% L95% L99% **Timeframe** Hour L eq L max L_{min} L8% L eq Adj. Adj. L eq 42.0 0 58.7 73.2 41.5 68.0 67.0 66.0 65.0 56.0 47.0 43.0 43.0 58.7 10.0 68.7 1 59.8 77.9 42.3 70.0 69.0 66.0 65.0 55.0 47.0 43.0 43.0 42.0 59.8 10.0 69.8 2 62.1 80.4 42.6 72.0 71.0 68.0 67.0 59.0 50.0 45.0 44.0 43.0 62.1 10.0 72.1 Night 3 64.9 78.7 43.9 74.0 72.0 70.0 69.0 65.0 59.0 49.0 48.0 45.0 64.9 10.0 74.9 74.0 4 67.5 80.4 46.1 75.0 72.0 71.0 69.0 65.0 52.0 50.0 48.0 67.5 10.0 77.5 55.0 5 69.2 82.0 49.2 76.0 74.0 73.0 72.0 70.0 68.0 58.0 51.0 69.2 10.0 79.2 6 69.5 81.3 51.2 76.0 74.0 73.0 72.0 70.0 68.0 60.0 57.0 53.0 69.5 10.0 79.5 84.5 46.1 76.0 74.0 72.0 71.0 58.0 54.0 50.0 0.0 68.9 68.9 69.0 67.0 68.9 8 68.0 80.5 45.3 74.0 72.0 47.0 76.0 71.0 69.0 66.0 53.0 50.0 68.0 0.0 68.0 9 45.3 66.9 83.5 74.0 73.0 71.0 70.0 68.0 65.0 53.0 50.0 47.0 66.9 0.0 66.9 10 66.8 80.0 44.7 75.0 73.0 71.0 70.0 68.0 65.0 52.0 50.0 46.0 66.8 0.0 66.8 11 67.2 88.6 42.1 76.0 74.0 71.0 70.0 67.0 64.0 48.0 45.0 67.2 0.0 51.0 67.2 12 66.7 77.8 44.9 73.0 72.0 71.0 70.0 68.0 65.0 54.0 51.0 48.0 66.7 0.0 66.7 Day 13 67.8 80.9 46.4 75.0 73.0 72.0 71.0 69.0 66.0 56.0 53.0 49.0 67.8 0.0 67.8 14 68.4 85.5 47.4 75.0 74.0 72.0 71.0 69.0 67.0 58.0 54.0 50.0 68.4 0.0 68.4 15 68.2 83.0 46.5 75.0 74.0 72.0 71.0 69.0 67.0 57.0 54.0 50.0 68.2 0.0 68.2 16 67.9 85.4 45.0 74.0 73.0 71.0 71.0 69.0 67.0 58.0 55.0 51.0 67.9 0.0 67.9 17 68.9 92.2 48.3 74.0 73.0 71.0 71.0 69.0 67.0 58.0 54.0 50.0 68.9 0.0 68.9 18 72.0 71.0 70.0 48.0 0.0 67.2 67.2 84.6 47.1 74.0 68.0 66.0 53.0 51.0 67.2 19 66.2 76.4 46.0 72.0 71.0 70.0 70.0 68.0 65.0 52.0 50.0 47.0 66.2 5.0 71.2 Evening 20 65.5 78.3 48.7 72.0 71.0 70.0 69.0 67.0 63.0 53.0 52.0 49.0 65.5 5.0 70.5 64.9 79.1 43.8 72.0 71.0 70.0 69.0 66.0 50.0 48.0 46.0 64.9 5.0 69.9 21 61.0 22 63.2 78.6 43.2 72.0 70.0 44.0 63.2 10.0 69.0 68.0 64.0 57.0 47.0 45.0 73.2 Night 23 61.0 74.7 42.0 70.0 69.0 67.0 66.0 61.0 53.0 45.0 44.0 43.0 61.0 10.0 71.0 Lea (dBA) L1% L2% L5% L8% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L min L99% Min 66.7 42.1 73.0 72.0 71.0 70.0 67.0 64.0 51.0 48.0 45.0 24-Hour Daytime Day Nighttime Max 68.9 92.2 48.3 76.0 74.0 72.0 71.0 69.0 67.0 58.0 55.0 51.0 74.8 73.3 71.4 70.6 55.1 52.0 48.4 **Energy Average** 67.8 Average: 68.5 66.0 66.8 65.6 67.4 64.9 76.4 43.8 72.0 71.0 70.0 69.0 66.0 61.0 50.0 48.0 46.0 Min Evening 24-Hour CNEL (dBA) 49.0 Max 66.2 79.1 48.7 72.0 71.0 70.0 70.0 68.0 65.0 53.0 52.0 65.6 Average: 72.0 71.0 70.0 69.3 67.0 63.0 51.7 50.0 47.3 **Energy Average** Min 58.7 73.2 41.5 68.0 67.0 66.0 65.0 55.0 47.0 43.0 43.0 42.0 72.6 Night 69.5 74.0 73.0 70.0 68.0 60.0 57.0 53.0 Max 82.0 51.2 76.0 72.0 **Energy Average** 65.6 Average: 72.6 71.1 69.3 68.3 63.2 57.1 49.1 47.7 45.7



24-Hour Noise Level Measurement Summary L2 - Located East of the project site on Limonite Ave Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Project: The Homestead Analyst: P. Mara Hourly L ea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 55.0 50.0 45.0 65. ŝ. 63. 40.0 2 7 8 9 10 12 18 19 20 22 0 1 3 5 6 11 13 14 15 16 17 21 23 **Hour Beginning** L1% L2% L5% L25% L50% L95% L99% **Timeframe** Hour L eq L max L min L8% L90% L eq Adj. Adj. L eq 43.0 0 55.7 75.6 43.0 68.0 66.0 60.0 59.0 52.0 47.0 44.0 44.0 55.7 10.0 65.7 1 57.1 76.6 43.2 70.0 66.0 62.0 60.0 52.0 47.0 44.0 44.0 43.0 57.1 10.0 67.1 2 58.4 77.7 43.4 71.0 67.0 62.0 61.0 55.0 50.0 45.0 45.0 44.0 58.4 10.0 68.4 Night 3 82.3 45.7 72.0 70.0 67.0 50.0 48.0 47.0 10.0 71.8 61.8 65.0 61.0 56.0 61.8 4 64.4 79.5 48.6 75.0 73.0 69.0 68.0 63.0 60.0 54.0 52.0 50.0 64.4 10.0 74.4 55.0 5 65.0 79.8 47.6 73.0 72.0 70.0 68.0 65.0 62.0 56.0 52.0 65.0 10.0 75.0 6 65.6 79.5 51.7 75.0 73.0 70.0 69.0 65.0 62.0 57.0 56.0 53.0 65.6 10.0 75.6 79.4 50.2 75.0 73.0 70.0 57.0 55.0 53.0 0.0 65.2 68.0 64.0 62.0 65.2 65.2 8 47.9 74.0 72.0 64.4 83.1 69.0 67.0 63.0 61.0 55.0 53.0 51.0 64.4 0.0 64.4 9 64.0 81.2 46.8 73.0 71.0 69.0 67.0 63.0 60.0 54.0 53.0 50.0 64.0 0.0 64.0 10 64.3 85.3 48.6 74.0 71.0 68.0 67.0 63.0 60.0 55.0 53.0 50.0 64.3 0.0 64.3 11 66.1 89.2 46.3 75.0 72.0 69.0 68.0 63.0 60.0 54.0 52.0 49.0 66.1 0.0 66.1 12 63.5 79.7 47.5 72.0 71.0 68.0 67.0 63.0 60.0 54.0 53.0 50.0 63.5 0.0 63.5 Day 13 65.0 85.3 49.6 74.0 72.0 70.0 68.0 64.0 61.0 55.0 54.0 51.0 65.0 0.0 65.0 14 66.2 86.5 50.5 76.0 73.0 70.0 68.0 64.0 62.0 56.0 55.0 53.0 66.2 0.0 66.2 15 65.6 85.4 51.8 75.0 73.0 70.0 69.0 65.0 62.0 57.0 55.0 53.0 65.6 0.0 65.6 16 64.5 80.4 52.6 73.0 71.0 68.0 67.0 64.0 62.0 57.0 56.0 54.0 64.5 0.0 64.5 17 65.5 86.8 51.3 76.0 72.0 68.0 67.0 63.0 61.0 57.0 55.0 54.0 65.5 0.0 65.5 18 75.0 72.0 68.0 51.0 64.2 85.5 49.1 66.0 62.0 60.0 54.0 53.0 64.2 0.0 64.2 19 62.9 83.6 48.8 73.0 70.0 67.0 65.0 61.0 59.0 53.0 52.0 50.0 62.9 5.0 67.9 Evening 20 61.5 79.7 45.7 71.0 69.0 66.0 65.0 61.0 57.0 52.0 50.0 48.0 61.5 5.0 66.5 59.9 81.9 44.5 69.0 67.0 64.0 63.0 59.0 56.0 50.0 49.0 46.0 59.9 5.0 64.9 21 22 58.3 77.7 43.7 10.0 68.0 67.0 63.0 61.0 57.0 53.0 47.0 46.0 45.0 58.3 68.3 Night 23 58.0 83.3 67.0 64.0 62.0 56.0 44.0 44.0 43.0 58.0 10.0 42.6 68.0 51.0 68.0 Lea (dBA) L1% L2% L5% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L min L8% L99% Min 63.5 79.4 46.3 72.0 71.0 68.0 66.0 62.0 60.0 54.0 52.0 49.0 24-Hour Day Daytime Nighttime Max 66.2 89.2 52.6 76.0 73.0 70.0 69.0 65.0 62.0 57.0 56.0 54.0 65.0 74.3 71.9 68.9 55.4 **Energy Average** Average: 67.4 63.4 60.9 53.9 51.6 63.7 64.5 61.9 59.9 79.7 44.5 69.0 67.0 64.0 63.0 59.0 56.0 50.0 49.0 46.0 Min Evening 24-Hour CNEL (dBA) 50.0 Max 62.9 83.6 48.8 73.0 70.0 67.0 65.0 61.0 59.0 53.0 52.0 61.6 Average 71.0 68.7 65.7 64.3 60.3 57.3 51.7 50.3 48.0 **Energy Average** Min 55.7 75.6 42.6 68.0 66.0 60.0 59.0 52.0 47.0 44.0 44.0 43.0 69.0 Night 70.0 69.0 62.0 57.0 56.0 53.0 Max 65.6 83.3 51.7 75.0 73.0 65.0 **Energy Average** 61.9 Average: 71.1 69.0 65.2 63.7 58.4 54.2 49.0 48.2 46.7



24-Hour Noise Level Measurement Summary L3 - Located South of the project site near electric area. Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Project: The Homestead Analyst: P. Mara Hourly L ea dBA Readings (unadjusted) 80.0 75.0 (dBA) 70.0 70.0 65.0 60.0 55.0 50.0 45.0 ∞ 61.9 64. 8 63. 62. 40.0 2 7 8 9 10 12 18 19 20 22 0 1 3 5 6 11 13 14 15 16 17 21 23 **Hour Beginning** L1% L2% L5% L25% L50% L90% L95% L99% **Timeframe** Hour L eq L max L min L8% L eq Adj. Adj. L eq 0 60.5 84.0 51.2 69.0 66.0 64.0 63.0 58.0 56.0 54.0 53.0 51.0 60.5 10.0 70.5 1 58.3 75.8 49.8 69.0 66.0 63.0 61.0 56.0 55.0 52.0 52.0 51.0 58.3 10.0 68.3 2 58.8 79.0 50.4 69.0 67.0 63.0 62.0 56.0 53.0 51.0 51.0 50.0 58.8 10.0 68.8 Night 3 62.3 85.8 72.0 70.0 57.0 52.0 51.0 10.0 72.3 51.5 67.0 66.0 62.0 52.0 62.3 4 65.0 79.4 51.1 73.0 72.0 69.0 68.0 65.0 62.0 54.0 53.0 52.0 65.0 10.0 75.0 5 65.3 78.9 50.4 73.0 72.0 70.0 69.0 66.0 63.0 54.0 52.0 51.0 65.3 10.0 75.3 6 64.9 81.2 48.6 73.0 71.0 69.0 68.0 65.0 62.0 52.0 50.0 49.0 64.9 10.0 74.9 78.0 48.2 72.0 71.0 52.0 51.0 49.0 0.0 64.1 68.0 67.0 64.0 62.0 64.1 64.1 8 89.8 48.6 72.0 70.0 64.4 68.0 67.0 64.0 60.0 51.0 50.0 49.0 64.4 0.0 64.4 9 63.3 79.4 49.2 72.0 70.0 68.0 67.0 63.0 60.0 52.0 51.0 49.0 63.3 0.0 63.3 10 63.5 85.0 49.2 72.0 70.0 68.0 67.0 63.0 60.0 52.0 51.0 50.0 63.5 0.0 63.5 11 62.1 75.5 49.2 70.0 69.0 67.0 66.0 62.0 59.0 52.0 51.0 49.0 62.1 0.0 62.1 12 62.3 79.8 50.7 71.0 69.0 66.0 65.0 62.0 59.0 53.0 52.0 51.0 62.3 0.0 62.3 Day 13 61.8 77.0 51.1 70.0 68.0 66.0 65.0 62.0 59.0 53.0 52.0 51.0 61.8 0.0 61.8 14 61.8 74.0 51.4 69.0 68.0 66.0 65.0 62.0 60.0 54.0 53.0 52.0 61.8 0.0 61.8 15 61.9 76.7 51.2 70.0 68.0 66.0 65.0 62.0 60.0 53.0 53.0 51.0 61.9 0.0 61.9 16 62.9 86.1 51.5 69.0 68.0 66.0 65.0 63.0 61.0 53.0 52.0 52.0 62.9 0.0 62.9 17 63.4 81.1 52.0 70.0 69.0 67.0 66.0 63.0 61.0 54.0 53.0 52.0 63.4 0.0 63.4 18 66.0 59.0 52.0 63.2 86.7 51.7 71.0 68.0 65.0 63.0 53.0 53.0 63.2 0.0 63.2 19 62.7 80.2 52.0 71.0 68.0 65.0 63.0 60.0 55.0 54.0 53.0 62.7 5.0 67.7 66.0 Evening 20 62.5 76.8 54.0 69.0 68.0 66.0 66.0 63.0 60.0 56.0 55.0 55.0 62.5 5.0 67.5 61.1 75.6 51.4 68.0 67.0 65.0 65.0 58.0 54.0 52.0 5.0 66.1 21 62.0 53.0 61.1 22 73.6 49.3 10.0 60.0 68.0 66.0 65.0 64.0 60.0 56.0 53.0 53.0 51.0 60.0 70.0 Night 23 59.6 72.9 50.2 64.0 63.0 59.0 57.0 53.0 53.0 51.0 59.6 10.0 69.6 68.0 66.0 Lea (dBA) L1% L2% L5% L25% L50% L90% L95% L99% Timeframe Hour L_{eq} L_{max} L_{min} L8% Min 61.8 74.0 48.2 69.0 68.0 66.0 65.0 62.0 59.0 51.0 50.0 49.0 24-Hour Day Daytime Nighttime Max 64.4 89.8 52.0 72.0 71.0 68.0 67.0 64.0 62.0 54.0 53.0 52.0 70.7 69.0 52.7 **Energy Average** 63.0 Average: 66.8 65.8 62.8 60.0 51.8 50.6 62.7 62.8 62.4 61.1 75.6 51.4 68.0 67.0 65.0 65.0 62.0 58.0 54.0 53.0 52.0 Min Evening 24-Hour CNEL (dBA) Max 62.7 80.2 54.0 71.0 68.0 66.0 66.0 63.0 60.0 56.0 55.0 55.0 62.2 Average: 69.3 67.7 65.7 65.3 62.7 59.3 55.0 54.0 53.3 **Energy Average** Min 58.3 72.9 48.6 68.0 66.0 63.0 61.0 56.0 53.0 51.0 50.0 49.0 69.2 Night 69.0 66.0 54.0 53.0 52.0 Max 65.3 85.8 51.5 73.0 72.0 70.0 63.0 62.4 Average: 70.4 68.4 66.0 64.9 60.8 57.9 52.8 52.1 50.8 **Energy Average**



24-Hour Noise Level Measurement Summary L4 - Located Southwest of the project site near Parker House. Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Project: The Homestead Analyst: P. Mara Hourly Lea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 55.0 50.0 45.0 ė 82 58 ٥ 57 55. 49.9 54. 40.0 2 7 8 9 10 13 19 20 22 0 1 3 6 11 12 14 15 16 17 18 21 23 **Hour Beginning** L1% L2% L5% L25% L95% **Timeframe** Hour L eq L max L min L8% L50% L90% L99% L eq Adj. Adj. L eq 44.0 59.1 0 49.1 66.1 43.9 61.0 58.0 49.0 47.0 46.0 46.0 45.0 45.0 49.1 10.0 1 46.9 61.3 43.3 54.0 52.0 49.0 48.0 46.0 45.0 44.0 44.0 44.0 46.9 10.0 56.9 2 47.8 66.6 43.8 56.0 52.0 48.0 47.0 46.0 46.0 45.0 44.0 44.0 47.8 10.0 57.8 Night 3 50.0 71.3 44.7 57.0 54.0 49.0 48.0 47.0 45.0 50.0 10.0 60.0 46.0 45.0 45.0 4 53.1 76.5 44.4 65.0 54.0 48.0 47.0 46.0 46.0 45.0 45.0 44.0 53.1 10.0 63.1 5 53.4 69.8 45.2 64.0 62.0 58.0 56.0 51.0 47.0 46.0 46.0 45.0 53.4 10.0 63.4 6 53.6 70.7 46.3 64.0 61.0 57.0 55.0 51.0 50.0 48.0 48.0 47.0 53.6 10.0 63.6 79.7 47.3 57.0 52.0 51.0 47.0 57.4 0.0 57.4 69.0 65.0 60.0 49.0 48.0 57.4 8 58.7 77.9 47.6 72.0 48.0 58.7 69.0 61.0 59.0 53.0 51.0 49.0 49.0 58.7 0.0 9 56.0 78.8 46.7 65.0 64.0 61.0 58.0 53.0 51.0 49.0 48.0 47.0 56.0 0.0 56.0 10 58.5 79.1 40.8 71.0 67.0 63.0 60.0 52.0 50.0 44.0 42.0 42.0 58.5 0.0 58.5 11 54.6 73.4 39.8 66.0 62.0 58.0 56.0 48.0 41.0 41.0 54.6 53.0 42.0 0.0 54.6 12 59.5 81.1 50.2 69.0 67.0 63.0 61.0 58.0 56.0 53.0 52.0 51.0 59.5 0.0 59.5 Day 13 57.9 74.1 51.6 65.0 63.0 61.0 60.0 58.0 56.0 53.0 53.0 52.0 57.9 0.0 57.9 14 61.6 85.7 51.4 70.0 69.0 68.0 64.0 59.0 57.0 54.0 54.0 53.0 61.6 0.0 61.6 15 58.4 77.5 50.6 65.0 63.0 61.0 60.0 58.0 56.0 54.0 53.0 52.0 58.4 0.0 58.4 16 55.8 67.7 52.2 61.0 60.0 58.0 57.0 55.0 55.0 54.0 53.0 53.0 55.8 0.0 55.8 17 60.0 85.4 46.1 63.0 58.0 56.0 55.0 50.0 48.0 47.0 46.0 60.0 0.0 60.0 54.0 18 46.0 59.0 55.0 49.0 46.0 52.6 71.7 62.0 54.0 51.0 47.0 47.0 52.6 0.0 52.6 19 54.9 77.9 45.5 65.0 64.0 60.0 57.0 51.0 49.0 47.0 47.0 46.0 54.9 5.0 59.9 Evening 20 54.8 78.1 45.0 64.0 61.0 55.0 52.0 49.0 48.0 47.0 46.0 45.0 54.8 5.0 59.8 48.4 63.4 44.4 56.0 54.0 51.0 50.0 47.0 46.0 45.0 45.0 45.0 48.4 5.0 53.4 21 22 49.0 43.8 57.0 44.0 44.0 10.0 66.5 61.0 50.0 49.0 46.0 45.0 44.0 49.0 59.0 Night 23 49.9 69.5 59.0 52.0 50.0 46.0 45.0 44.0 44.0 44.0 49.9 10.0 59.9 43.6 61.0 Lea (dBA) L1% L2% L5% L8% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L_{min} L99% 54.0 Min 52.6 39.8 61.0 58.0 55.0 51.0 48.0 42.0 41.0 41.0 24-Hour Day Daytime Nighttime Max 61.6 85.7 52.2 72.0 69.0 68.0 64.0 59.0 57.0 54.0 54.0 53.0 58.2 54.7 52.5 49.7 48.9 48.2 **Energy Average** Average: 66.5 63.8 60.4 58.4 56.1 57.6 50.9 48.4 63.4 44.4 56.0 54.0 51.0 50.0 47.0 46.0 45.0 45.0 45.0 Min Evening 24-Hour CNEL (dBA) Max 54.9 78.1 45.5 65.0 64.0 60.0 57.0 51.0 49.0 47.0 47.0 46.0 53.6 Average 61.7 59.7 55.3 53.0 49.0 47.7 46.3 46.0 45.3 **Energy Average** Min 46.9 61.3 43.3 54.0 52.0 48.0 47.0 46.0 45.0 44.0 44.0 44.0 59.5 Night 58.0 56.0 50.0 48.0 48.0 47.0 Max 53.6 76.5 46.3 65.0 62.0 51.0 **Energy Average** 50.9 Average: 60.3 56.6 51.1 49.7 47.2 46.2 45.1 45.0 44.6



24-Hour Noise Level Measurement Summary L5 - Located directly west of the project site. Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Project: The Homestead Analyst: P. Mara Hourly L ea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 63.8 55.0 50.0 45.0 67 63. 64. 62. 0 9 58 40.0 2 7 8 9 10 13 18 19 20 22 0 1 3 5 6 11 12 14 15 16 17 21 23 **Hour Beginning** L1% L2% L5% L25% L50% L95% **Timeframe** Hour L eq L_{max} L min L8% L90% L99% L eq Adj. Adj. L eq 0 51.8 70.0 45.7 64.0 60.0 51.0 50.0 48.0 47.0 46.0 46.0 46.0 51.8 10.0 61.8 1 49.7 66.4 45.6 55.0 52.0 51.0 50.0 49.0 48.0 47.0 46.0 46.0 49.7 10.0 59.7 2 51.0 70.8 47.0 61.0 54.0 51.0 50.0 49.0 48.0 48.0 47.0 47.0 51.0 10.0 61.0 Night 3 57.4 82.3 47.4 68.0 56.0 51.0 49.0 48.0 47.0 57.4 10.0 51.0 49.0 48.0 67.4 4 56.0 82.6 45.8 67.0 60.0 54.0 53.0 49.0 48.0 47.0 46.0 46.0 56.0 10.0 66.0 5 61.0 77.7 46.9 72.0 70.0 67.0 65.0 58.0 55.0 49.0 48.0 47.0 61.0 10.0 71.0 6 63.8 87.3 52.8 75.0 71.0 67.0 65.0 61.0 59.0 55.0 54.0 53.0 63.8 10.0 73.8 83.6 49.7 72.0 57.0 53.0 52.0 51.0 0.0 61.3 69.0 65.0 63.0 60.0 61.3 61.3 8 67.2 48.6 74.0 50.0 94.4 72.0 68.0 66.0 64.0 63.0 54.0 51.0 67.2 0.0 67.2 9 63.9 83.0 50.1 74.0 71.0 68.0 66.0 63.0 61.0 55.0 54.0 52.0 63.9 0.0 63.9 10 59.4 79.1 44.6 69.0 66.0 63.0 61.0 59.0 56.0 52.0 49.0 45.0 59.4 0.0 59.4 11 60.4 76.5 69.0 67.0 66.0 64.0 54.0 47.0 46.0 45.0 60.4 44.1 61.0 0.0 60.4 12 62.8 79.4 46.9 71.0 69.0 67.0 66.0 64.0 58.0 50.0 49.0 48.0 62.8 0.0 62.8 Day 13 64.4 84.4 47.2 74.0 73.0 72.0 70.0 62.0 57.0 51.0 50.0 48.0 64.4 0.0 64.4 14 60.6 77.7 46.9 72.0 71.0 66.0 63.0 57.0 54.0 50.0 49.0 48.0 60.6 0.0 60.6 15 58.0 79.7 46.2 69.0 66.0 62.0 60.0 56.0 53.0 49.0 48.0 47.0 58.0 0.0 58.0 16 55.1 72.6 44.5 64.0 62.0 60.0 58.0 54.0 51.0 47.0 47.0 45.0 55.1 0.0 55.1 17 62.5 89.3 45.2 71.0 64.0 57.0 55.0 51.0 49.0 46.0 46.0 45.0 62.5 0.0 62.5 18 57.0 45.0 52.4 52.4 68.4 44.6 64.0 62.0 54.0 50.0 48.0 46.0 45.0 52.4 0.0 19 53.5 70.8 44.4 65.0 63.0 60.0 56.0 50.0 48.0 45.0 45.0 45.0 53.5 5.0 58.5 Evening 20 56.1 80.6 44.0 67.0 63.0 56.0 53.0 49.0 47.0 45.0 45.0 44.0 56.1 5.0 61.1 48.9 69.8 43.2 59.0 56.0 52.0 50.0 47.0 45.0 44.0 44.0 43.0 48.9 5.0 53.9 21 22 51.4 71.9 42.5 52.0 43.0 10.0 65.0 59.0 50.0 46.0 45.0 43.0 43.0 51.4 61.4 Night 23 51.9 62.0 53.0 50.0 45.0 44.0 43.0 43.0 43.0 51.9 10.0 71.4 42.3 66.0 61.9 Lea (dBA) L1% L2% L5% L8% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L_{min} L99% 64.0 Min 52.4 44.1 62.0 57.0 54.0 50.0 48.0 46.0 45.0 45.0 24-Hour Day Daytime Nighttime Max 67.2 94.4 50.1 74.0 73.0 72.0 70.0 64.0 63.0 55.0 54.0 52.0 62.2 70.3 67.7 64.3 62.2 47.4 **Energy Average** Average: 58.4 55.1 50.0 48.8 60.3 61.3 57.7 48.9 69.8 43.2 59.0 56.0 52.0 50.0 47.0 45.0 44.0 44.0 43.0 Min Evening 24-Hour CNEL (dBA) 45.0 Max 56.1 80.6 44.4 67.0 63.0 60.0 56.0 50.0 48.0 45.0 45.0 53.7 Average: 63.7 60.7 56.0 53.0 48.7 46.7 44.7 44.7 44.0 **Energy Average** Min 49.7 66.4 42.3 55.0 52.0 51.0 50.0 45.0 44.0 43.0 43.0 43.0 64.9 Night 65.0 59.0 54.0 53.0 Max 63.8 87.3 52.8 75.0 71.0 67.0 61.0 55.0 **Energy Average** 57.7 Average: 65.9 60.4 55.2 53.8 50.4 49.2 47.3 46.8 46.4



24-Hour Noise Level Measurement Summary L6 - Located directly north of the project site. Date: Tuesday, July 30, 2019 Location: Meter: Piccolo I JN: 11965 Project: The Homestead Analyst: P. Mara Hourly Lea dBA Readings (unadjusted) 80.0 75.0 70.0 65.0 60.0 55.0 50.0 45.0 61. 8 28 Ø 28 57 40.0 2 7 8 9 10 13 19 20 22 0 1 3 5 6 11 12 14 15 16 17 18 21 23 **Hour Beginning** L1% L2% L5% L25% L95% **Timeframe** Hour L eq L_{max} L min L8% L50% L90% L99% L eq Adj. Adj. L eq 0 50.2 68.4 42.9 65.0 60.0 50.0 47.0 45.0 44.0 43.0 43.0 43.0 50.2 10.0 60.2 1 47.4 66.2 43.3 54.0 51.0 48.0 47.0 46.0 45.0 44.0 44.0 43.0 47.4 10.0 57.4 2 48.3 62.9 44.4 58.0 54.0 49.0 48.0 47.0 46.0 45.0 45.0 45.0 48.3 10.0 58.3 Night 3 71.9 46.1 59.0 56.0 52.0 48.0 47.0 46.0 46.0 10.0 51.9 51.0 50.0 51.9 61.9 4 56.0 79.1 45.5 69.0 61.0 51.0 50.0 48.0 48.0 47.0 46.0 46.0 56.0 10.0 66.0 5 60.4 83.9 47.4 71.0 68.0 63.0 59.0 53.0 51.0 49.0 48.0 48.0 60.4 10.0 70.4 6 65.0 88.5 47.1 78.0 74.0 68.0 64.0 55.0 52.0 49.0 48.0 48.0 65.0 10.0 75.0 75.5 47.2 65.0 62.0 57.0 55.0 51.0 50.0 48.0 54.1 0.0 54.1 54.1 48.0 48.0 8 79.7 45.8 59.0 0.0 57.4 70.0 65.0 57.0 52.0 50.0 47.0 47.0 46.0 57.4 57.4 9 60.5 78.4 45.0 71.0 69.0 67.0 65.0 57.0 51.0 47.0 47.0 46.0 60.5 0.0 60.5 10 56.3 74.9 43.0 67.0 65.0 62.0 59.0 53.0 51.0 46.0 45.0 44.0 56.3 0.0 56.3 11 59.3 84.6 41.0 70.0 66.0 60.0 58.0 49.0 42.0 41.0 59.3 59.3 53.0 43.0 0.0 12 57.2 80.3 43.3 68.0 66.0 62.0 59.0 54.0 50.0 46.0 45.0 44.0 57.2 0.0 57.2 Day 13 61.3 87.3 43.3 72.0 69.0 64.0 61.0 52.0 49.0 46.0 45.0 44.0 61.3 0.0 61.3 47.0 14 58.7 82.8 45.0 69.0 66.0 60.0 58.0 53.0 51.0 46.0 46.0 58.7 0.0 58.7 15 57.4 78.6 45.4 68.0 66.0 62.0 59.0 54.0 51.0 48.0 47.0 46.0 57.4 0.0 57.4 16 53.9 70.8 43.6 64.0 62.0 59.0 57.0 53.0 50.0 46.0 46.0 45.0 53.9 0.0 53.9 17 58.8 83.2 45.1 72.0 63.0 56.0 52.0 49.0 47.0 46.0 46.0 45.0 58.8 0.0 58.8 18 50.9 65.9 60.0 58.0 53.0 48.0 46.0 50.9 50.9 45.1 54.0 50.0 46.0 46.0 0.0 19 51.8 66.2 44.4 61.0 60.0 57.0 55.0 50.0 48.0 46.0 45.0 45.0 51.8 5.0 56.8 Evening 20 53.3 77.6 43.7 64.0 60.0 55.0 53.0 49.0 47.0 45.0 45.0 44.0 53.3 5.0 58.3 49.4 74.3 43.0 59.0 55.0 53.0 52.0 48.0 46.0 44.0 44.0 43.0 49.4 5.0 54.4 21 22 50.2 69.3 41.4 57.0 47.0 42.0 50.2 10.0 60.2 63.0 51.0 49.0 45.0 43.0 43.0 Night 23 55.0 81.0 65.0 57.0 52.0 46.0 44.0 43.0 42.0 42.0 55.0 10.0 41.5 67.0 65.0 Lea (dBA) L1% L2% L5% L25% L50% L90% L95% Timeframe Hour L_{eq} L_{max} L min L8% L99% Min 50.9 41.0 60.0 58.0 54.0 52.0 49.0 47.0 43.0 42.0 41.0 24-Hour Day Daytime Nighttime Max 61.3 87.3 47.2 72.0 69.0 67.0 65.0 57.0 51.0 48.0 48.0 48.0 58.0 68.0 60.2 57.8 45.1 **Energy Average** Average: 64.8 52.6 49.8 46.3 45.8 57.8 57.5 57.2 49.4 66.2 43.0 59.0 55.0 53.0 52.0 48.0 46.0 44.0 44.0 43.0 Min Evening 24-Hour CNEL (dBA) 45.0 Max 53.3 77.6 44.4 64.0 60.0 57.0 55.0 50.0 48.0 46.0 45.0 51.8 Average: 61.3 58.3 55.0 53.3 49.0 47.0 45.0 44.7 44.0 **Energy Average** Min 47.4 62.9 41.4 54.0 51.0 48.0 47.0 45.0 44.0 43.0 42.0 42.0 64.2 Night 68.0 64.0 52.0 49.0 48.0 48.0 Max 65.0 88.5 47.4 78.0 74.0 55.0 **Energy Average** 57.8 Average: 64.9 60.7 54.3 51.9 48.6 47.0 45.6 45.0 44.8



APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE CONTOURS



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	FHW	A-RD-77-108	HIGH	YAW	NOISE PI	REDICTIO	ON MO	DEL			
	io: E e: Archibald Av nt: n/o Chino Av	-				Project N Job Nu			stead		
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (l	Hard =	10, S	oft = 15)		
Average Daily	. ,	27,047 vehicle	es					Autos:			
	Percentage:	10%				dium Truc		,			
		2,705 vehicles	3		He	avy Truck	(S (3+ A	(xles	15		
	hicle Speed:	55 mph		ı	Vehicle I	Mix					
Near/Far Lai	ne Distance:	93 feet		ı	Veh	icleType		Day	Evening	Night	Daily
Site Data						A	ıtos:	74.1%	10.3%	15.6%	89.65%
Bar	rier Height:	0.0 feet			M	edium Tru	icks:	69.0%	7.1%	23.8%	6 7.02%
Barrier Type (0-W	-	0.0			1	Heavy Tru	icks:	82.1%	3.9%	13.9%	3.33%
Centerline Dis	st. to Barrier:	74.0 feet		-	Naisa Sa	ource Ele	vation	r (in f	not)		
Centerline Dist.	to Observer:	74.0 feet		ľ	NOISE SC	Autos:		000	, (()		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks:		297			
Observer Height (,	5.0 feet				v Trucks:		004	Grade Ad	iustmen	t: 0.0
	ad Elevation:	0.0 feet		L		,					
	ad Elevation:	0.0 feet		- 1	Lane Eq	uivalent l			feet)		
F	Road Grade:	0.0%				Autos:					
	Left View:	-90.0 degree				m Trucks:	01.				
	Right View:	90.0 degree	es		Heav	y Trucks:	57.	644			
FHWA Noise Mode	el Calculations	:									
VehicleType	REMEL	Traffic Flow	Dist	tance	_	Road	Fresn		Barrier Atte		rm Atten
Autos:	71.78	1.14		-1.0	-	-1.20		-4.73		000	0.000
Medium Trucks:	82.40	-9.92		-1.0	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-13.16		-1.0	-	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise										,	
	Leq Peak Hour	., .,		Leq E	vening	Leq N			Ldn		NEL
Autos:	70.		68.6		66.0		63.1		70.7		71.1
Medium Trucks:	70.	-	67.8		64.0		64.5		71.4		71.6
Heavy Trucks: Vehicle Noise:	71.0 75.4		69.4 73.4		62.2 69.1		62.9		70.7 75.7		70.9 76.0
Centerline Distance							30.0				70.0
Contonino Distant		mour (m reet)		70	dBA	65 d	BA	(60 dBA	55	5 dBA
			Ldn:	17	78	384	4		828	1	,784
		CI	VEL:	18	85	399	9		860	1	,854

		WA-RD-77-108	HIG	HWAY	NOISE PI	REDIC I	ON MO	JUEL			
Scenari								Home			
	e: Archibald A					Job N	lumber.	11968			
Road Segmer	nt: s/o Schaet	er Av.									
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	22,707 vehicl	es					Autos.	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles).	15		
Peak H	our Volume:	2,271 vehicle	:S		He	avy Tru	cks (3+	Axles).	15		
Vei	hicle Speed:	55 mph		1	Vehicle I	Mix					
Near/Far Lai	ne Distance:	93 feet		1		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	74.19		15.69	
Rar	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	6 7.1%	23.89	6 7.02%
Barrier Type (0-W		0.0			-	Heavy T	rucks:	82.1%	3.9%	13.99	6 3.339
Centerline Dis	. ,	74.0 feet			M-1 0-			/! 6	41		
Centerline Dist.	to Observer:	74.0 feet			Noise So			_ •	eet)		
Barrier Distance	to Observer:	0.0 feet			A de elle	Auto m Truck		0.000 0.297			
Observer Height (Above Pad):	5.0 feet				m Truck vy Truck		3.004	Grade Ad	diuetmor	#: O O
Pa	ad Elevation:	0.0 feet			пеац	ry Huck	S. C	5.004	Grade At	ijusii nei	n. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	Dista	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 57	7.782			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 57	7.629			
	Right View:	90.0 degre	es		Heav	y Truck	s: 57	7.644			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		erm Atten
Autos:	71.78			-1.0		-1.20		-4.73		000	0.000
Medium Trucks:	82.40			-1.0		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40			-1.0		-1.20		-5.25	0.	000	0.000
Unmitigated Noise								_			
,,	Leq Peak Ho			Leq E	vening		Night		Ldn		CNEL
Autos:		0.9	67.8		65.3		62		69.	-	70.3
Medium Trucks:		0.5	67.1		63.2		63		70.		70.9
Heavy Trucks: Vehicle Noise:		1.7	68.6 72.6		61.4 68.4		62 67		70. 75.		70.: 75.:
Centerline Distance		•••			00.4		- 01		70.		10.
Centernine Distant	e to Noise Ci	ontour (III ree	9	70	dBA	65	dBA		60 dBA	5	5 dBA
			Ldn:	1	59	3	42		737	1	,588
			NFI:		65		55		766		.650

			11101	IWAI	NOISE P						
Scena							t Name:				
	me: Archibald A					Job N	lumber.	11968			
Road Segm	ent: s/o Chino A	Av.									
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard :				
Average Daily	/ Traffic (Adt):	24,341 vehicle	es					Autos.			
Peak Hou	r Percentage:	10%				edium Tr					
Peak	Hour Volume:	2,434 vehicle	S		He	eavy Tru	cks (3+	Axles).	15		
V	ehicle Speed:	55 mph			Vehicle	Mix					
Near/Far L	ane Distance:	93 feet				icleType	9	Dav	Evenina	Niaht	Dailv
Site Data							Autos:	74.19	10.3%	15.6%	89.65%
R	arrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-1		0.0				Heavy T	rucks:	82.19	3.9%	13.9%	3.33%
	ist. to Barrier:	74.0 feet									
Centerline Dist	to Observer:	74.0 feet			Noise S				eet)		
Barrier Distance	e to Observer:	0.0 feet				Auto		0.000			
Observer Height	(Above Pad):	5.0 feet				m Truck	-	2.297	0		
	Pad Elevation:	0.0 feet			Hea	vy Truck	s: E	3.004	Grade Ad	justment	0.0
Re	oad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 57	7.782			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 57	7.629			
	Right View:	90.0 degre			Hea	vy Truck	s: 57	7.644			
FHWA Noise Mod	del Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres		Barrier Att	en Ber	m Atten
Autos	: 71.78	0.68		-1.0	05	-1.20		-4.73	0.0	000	0.00
Medium Trucks	: 82.40	-10.38		-1.0	03	-1.20		-4.88	0.0	000	0.00
Heavy Trucks	: 86.40	-13.62		-1.0	03	-1.20		-5.25	0.0	000	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Ho	- 1 - 7		Leq E	vening		Night		Ldn		VEL
Autos			68.1		65.6		62		70.2	-	70.0
Medium Trucks			67.4		63.5		64		71.0	-	71.
Heavy Trucks			68.9		61.7		62		70.3		70.4
Vehicle Noise		5.0	73.0		68.7	'	67	.9	75.3	3	75.
Centerline Distar	ce to Noise C	ontour (in feet)								
			L		dBA		dBA		60 dBA		dBA
			Ldn: NFI:		66 73	-	58 72		772 802	,	663 728

Thursday, August 8, 2019

	FHV	WA-RD-77-108	HIGHV	/AY N	OISE P	REDICT	ION M	ODEL			
Scenario Road Name Road Segmen	: Archibald A							Home: 11968	stead		
SITE S	PECIFIC IN	IPUT DATA		T		N	IOISE	MODE	L INPUT	S	
Highway Data				S	ite Con				oft = 15)		
Average Daily 1	raffic (Adt):	25.905 vehicle	es					Autos.	15		
Peak Hour F	. ,	10%			Me	dium Tri	ucks (2	Axles).	15		
	our Volume:	2.591 vehicles	3		He	avy Truc	cks (3+	Axles).	15		
Veh	icle Speed:	55 mph									
Near/Far Lan		93 feet		V	ehicle l			D	[Allenter	D-16.
					ven	icleType		Day 74.19	Evening	Night	Daily
lite Data							Autos:			15.6%	
	rier Height:	0.0 feet				edium Ti		69.0%		23.8%	
Barrier Type (0-Wa		0.0			,	Heavy Ti	rucks:	82.19	3.9%	13.9%	3.33%
Centerline Dis		74.0 feet		٨	loise Sc	ource El	evatio	ns (in f	eet)		
Centerline Dist. to		74.0 feet				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	justmen	t: 0.0
	d Elevation:	0.0 feet									
	d Elevation:	0.0 feet		L	ane Eq	uivalent			teet)		
R	load Grade:	0.0%				Auto		7.782			
	Left View:	-90.0 degree				m Truck		7.629			
	Right View:	90.0 degree	es		Heav	y Truck	s: 5	7.644			
HWA Noise Mode	l Calculation										
VehicleType	REMEL	Traffic Flow	Dista			Road	Fre		Barrier Att		rm Atten
Autos:	71.78	0.95		-1.05		-1.20		-4.73		000	0.000
Medium Trucks:	82.40			-1.03		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-13.35		-1.03	3	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise											
,,	Leq Peak Hou	, ,		eq Ev		Leq	Night		Ldn	_	NEL
Autos:	70		68.4		65.8		62		70.	-	70.9
Medium Trucks:	70		67.7		63.8		64	.3	71.	2	71.4
Heavy Trucks:	70 75		69.2 73.2		62.0		62		70.	_	70.7 75.8
Vehicle Noise:					68.9		68	.1	75.	0	/5.8
Centerline Distance	e to Noise Co	ontour (in feet	1	70 d	ID 4	05	dBA		50 dBA		dBA
			I dn:	17			73		805		.733

	FHW	A-RD-77-108 I	HIGHWA	AY N	OISE PE	REDICTION	ON MC	DEL			
	io: E le: Archibald Av nt: s/o Eucalypt	-				Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Peak H Ve	Percentage:	25,103 vehicles 10% 2,510 vehicles 55 mph 93 feet	3		Me He /ehicle l		cks (2	Autos: Axles): Axles):	15 15 15		
	no Biotarioo.	00 1001			Veh	icleType	utoni	Day 74.1%	Evening 10.3%	Night	Daily 89.65%
Site Data Barrier Type (0-W	rrier Height: 'all, 1-Berm):	0.0 feet 0.0				A edium Tru Heavy Tru		69.0% 82.1%	7.1%	15.6% 23.8% 13.9%	7.02%
Centerline Dis Centerline Dist. Barrier Distance Observer Height (to Observer: to Observer:	74.0 feet 74.0 feet 0.0 feet 5.0 feet 0.0 feet		٨	Mediui	Autos m Trucks ry Trucks	2.	000 297 004	eet) Grade Ad	justmen	t: 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in i	feet)		
,	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees				Autos m Trucks ry Trucks	57	.782 .629 .644			
FHWA Noise Mode	el Calculations										
VehicleType Autos: Medium Trucks: Heavy Trucks:	71.78 82.40 86.40	0.81 -10.25 -13.49		-1.05 -1.03 -1.03	5	-1.20 -1.20 -1.20	Fresi	-4.73 -4.88 -5.25	0.0	en Bei 000 000 000	0.000 0.000 0.000
						-1.20		-0.20	0.0	,,,,,	0.000
Unmitigated Noise VehicleType	Lea Peak Hour		_		vening	Leg N	liaht	1	Ldn	0	NEL
Autos:	70.3	- 1 - 7	8.3	, y _ L v	65.7	Logi	62.	7	70.4		70.7
Medium Trucks:	69.9	9 6	7.5		63.7		64.	2	71.	1	71.3
Heavy Trucks: Vehicle Noise:	70.7 75.		9.0		61.9 68.8		62. 68.		70.4 75.4		70.6 75.7
			3.1		00.0		00.	U	75.4	+	13.1
Centerline Distance	e to Noise Col	ntour (in feet)		70 d	iBA	65 d	BA	6	i0 dBA	55	dBA
			dn:	17		36			788		697
		CN	EL:	17	6	38	0		819	1,	764

	FH\	WA-RD-77-108	HIGH	N YAWI	OISE PI	REDICTI	ON M	DDEL			
	io: E ne: Archibald A nt: s/o Limonit					Project Job N		Home 11968			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data				5	Site Con	ditions (Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	25,787 vehicl	es					Autos	: 15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles)	: 15		
Peak H	lour Volume:	2,579 vehicle	s		He	avy Truc	ks (3+	Axles)	: 15		
Ve	hicle Speed:	50 mph		,	/ehicle l	Miv					
Near/Far La	ne Distance:	78 feet		-		icleType		Dav	Evening	Night	Dailv
Site Data				_	VC//		utos:	74.19		15.6	
					M	edium Tr		69.09		23.89	
Barrier Type (0-W	rrier Height:	0.0 feet 0.0				Heavy Tr					
Centerline Di		76.0 feet									
Centerline Dist.		76.0 feet		٨	loise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height		5.0 feet				m Trucks	-	.297			
	ad Elevation:	0.0 feet			Heav	y Trucks	3: 8	1.004	Grade A	ljustmei	nt: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 65	5.422			
	Left View:	-90.0 degre	es		Mediu	m Trucks	: 65	5.286			
	Right View:	90.0 degre	es		Heav	y Trucks	8: 65	5.299			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier At		erm Atten
Autos:	70.20	1.34		-1.85		-1.20		-4.73		000	0.00
Medium Trucks:	81.00	-9.72		-1.84		-1.20		-4.88		000	0.00
Heavy Trucks:		-12.96		-1.84		-1.20		-5.25	0.	000	0.00
Unmitigated Noise			_					_			
VehicleType	Leq Peak Hou		_	Leq Ev		Leq I			Ldn		CNEL
Autos:	68		66.4		63.8		60		68.		68.
Medium Trucks:	68	-	65.8		62.0		62		69.		69.6
Heavy Trucks: Vehicle Noise:	69 73		67.7 71.5		60.6 67.1		61 66		69. 73.		69.1 74.1
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 a	IBA .	65 (iBA		60 dBA	5	5 dBA
			Ldn:	13	6	29	93		632		1,361
		_	NFI:	14	4	30			656		1,414

							ION MC				
Scenari							t Name:		stead		
	e: Archibald Av					Job I	lumber:	11968			
Road Segmer	t: s/o Merrill Av	'.									
	SPECIFIC INF	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 2	26,707 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%					ucks (2				
Peak H	our Volume: 2	2,671 vehicles	3		He	eavy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	55 mph		1	Vehicle	Mix					
Near/Far Lar	ne Distance:	93 feet		F		icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.65
Rar	rier Heiaht:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.33
Centerline Dis	t. to Barrier:	74.0 feet		-	Noise S	ource E	levation	s (in fe	eet)		
Centerline Dist.	to Observer:	74.0 feet				Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		004	Grade Ad	iustment	.00
Pa	d Elevation:	0.0 feet				•				,	- 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq				feet)		
F	Road Grade:	0.0%				Auto		.782			
	Left View:	-90.0 degree	es			m Truck		.629			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 57	.644			
HWA Noise Mode											
VehicleType		Traffic Flow	Dis	stance		Road	Fresi		Barrier Att		m Atte
Autos:	71.78	1.08		-1.0	-	-1.20		-4.73		000	0.0
Medium Trucks:	82.40	-9.98		-1.0	-	-1.20		-4.88		000	0.0
Heavy Trucks:	86.40	-13.22		-1.0	3	-1.20		-5.25	0.0	000	0.0
Inmitigated Noise VehicleType	•						A II I- I		Late		N/E/
Veriicie i ype Autos:	Leq Peak Hour 70.6		68.5	Leq E	vening 66.0		Night 63	0	Ldn 70.6		NEL 71
Medium Trucks:	70.0		67.8		63.9		64	-	70.0	-	71
Heavy Trucks:	70.2	-	69.3		62.1		62		70.7		70
Vehicle Noise:	75.4		73.4		69.1		68.		75.7		75
Centerline Distanc	e to Noise Cor	ntour (in feet)								
					dBA	65	dBA	ϵ	0 dBA	55	dBA
			I dn:	17	77	2	81		821	- 1	769
			Luii.				01		021	٠,	, 00

Thursday, August 8, 2019

_	FH\	WA-RD-77-108 H	IGHWA`	Y NOISE PE	REDICTIO	N MODEL			
Scenari						ame: Home	stead		
Road Nam	e: Archibald A	v.				nber: 11968			
Road Segmer	nt: s/o 65th St.								
SITE S	SPECIFIC IN	IPUT DATA			NO	ISE MODE	L INPUT	'S	
Highway Data				Site Con	ditions (H	ard = 10, S	oft = 15)		
Average Daily	Traffic (Adt):	29,454 vehicles				Autos.	15		
Peak Hour	Percentage:	10%		Me	dium Truci	ks (2 Axles).	: 15		
Peak H	our Volume:	2,945 vehicles		He	avy Trucks	(3+ Axles).	: 15		
Ve	hicle Speed:	50 mph		Vehicle I	Mix				
Near/Far Lai	ne Distance:	78 feet			icleType	Day	Evening	Night	Daily
Site Data					Au	os: 74.19			89.65%
Par	rier Height:	0.0 feet		Me	edium Truc	ks: 69.0%	6 7.1%		7.02%
Barrier Type (0-W		0.0		F	leavy Truc	ks: 82.19	6 3.9%	13.9%	3.33%
Centerline Dis		76.0 feet		N-/ 0-		-41 (! 4	41		
Centerline Dist.	to Observer:	76.0 feet		Noise Sc		ations (in f	eet)		
Barrier Distance	to Observer:	0.0 feet			Autos:	0.000			
Observer Height (Above Pad):	5.0 feet			n Trucks:	2.297 8.004	Crada A	djustment	
Pa	ad Elevation:	0.0 feet		Heav	y Trucks:	8.004	Grade At	ajustrient	0.0
Roa	ad Elevation:	0.0 feet		Lane Equ	uivalent D	istance (in	feet)		
I	Road Grade:	0.0%			Autos:	65.422			
	Left View:	-90.0 degrees		Mediui	n Trucks:	65.286			
	Right View:	90.0 degrees		Heav	y Trucks:	65.299			
FHWA Noise Mode	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	70.20	1.92	-1	1.85	-1.20	-4.73	0.	.000	0.000
Medium Trucks:	81.00	-9.14		1.84	-1.20	-4.88		.000	0.000
Heavy Trucks:	85.38	-12.38	-1	1.84	-1.20	-5.25	0.	.000	0.000
Unmitigated Noise	Levels (with	out Topo and ba	rrier att	tenuation)					
VehicleType	Leq Peak Hou	ır Leq Day	Leg	Evening	Leq Ni	ght	Ldn	CI	VEL
Autos:	69			64.4		61.5	69.		69.5
Medium Trucks:	68			62.6		63.1	70.	-	70.2
Heavy Trucks:	70			61.1		61.9	69.		69.8
Vehicle Noise:	74	1.1 72	1	67.7		66.9	74.	.4	74.6
Centerline Distanc	e to Noise Co	ontour (in feet)							
				70 dBA	65 dB	A	60 dBA		dBA
		La		149	320		690	,	488
		CNE	L:	154	333		717	1,	545

	FHW.	A-RD-77-108 H	IIGHWA	ΥN	OISE PE	REDICTION	ON MC	DEL			
	io: E e: Kimball Av. nt: w/o Hellman	Av.				Project I Job Nu			stead		
	SPECIFIC INF	PUT DATA			24- 0				L INPUT	s	
Peak H	Percentage: our Volume: hicle Speed:	14,116 vehicles 10% 1,412 vehicles 50 mph 51 feet	i		Me He /ehicle I	ditions (dium Tru avy Truc Mix icleType	cks (2	Autos: Axles):	15 15	Night	Dailv
Site Data				+	ven		utos:	74.1%		15.6%	. ,
	rier Height: 'all, 1-Berm):	0.0 feet 0.0				edium Tru Heavy Tru		69.0% 82.1%		23.8%	7.02%
	to Observer: to Observer: Above Pad): ad Elevation:	49.0 feet 49.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediui Heav	Autos m Trucks ry Trucks	: 0 : 2 : 8	.000 .297 .004	Grade Ad	ljustmen	t: 0.0
,	ad Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees			Mediui	Autos Trucks ry Trucks	: 42 : 41	.140 .929 .950	leet)		
FHWA Noise Mode											
VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	-1.27 -12.33 -15.57		1.01 1.04 1.04	ļ ļ	-1.20 -1.20 -1.20	Fres	-4.64 -4.87 -5.44	0.0	000 000 000	0.000 0.000 0.000 0.000
Unmitigated Noise			_								
VehicleType Autos:	Leq Peak Hour 68.7	- 1 - 7	6.6	q Ev	rening	Leq N	light 61.		Ldn 68.1		NEL
Medium Trucks: Heavy Trucks:	68.5 69.6	6 6	6.1 8.0		64.1 62.3 60.8		62. 61.	7 5	69.4 69.4	7	69.1 69.9 69.5
Vehicle Noise:	73.8		1.8		67.4		66.	ь	74.	1	74.3
Centerline Distance	e to Noise Cor	L	dn:	70 a	1	65 d	7	6	60 dBA 424		5 <i>dBA</i> 914
		CN	EL:	95	5	20	4		440		949

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICTI	ON MO	DDEL			
Scenari Road Nam Road Segmer	e: Limonite A					Project Job N		Home: 11968			
SITE S	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				,	Site Con	ditions	Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	17,476 vehicle	es					Autos.	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles).	15		
Peak H	our Volume:	1,748 vehicles	3		He	avy Truc	ks (3+	Axles).	15		
Vei	hicle Speed:	50 mph		-	Vehicle I	Miss					
Near/Far Lai	ne Distance:	78 feet				icleType		Dav	Evening	Night	Dailv
Site Data						, , ,	utos:	74.19	6 10.3%	15.6%	89.65%
Par	rier Height:	0.0 feet			М	edium Tı	ucks:	69.0%	6 7.1%	23.8%	7.02%
Barrier Type (0-W		0.0			1	Heavy Tr	ucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis		76.0 feet			M-1 0-	51		/! 6	41		
Centerline Dist.	to Observer:	76.0 feet		,	Noise So				eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		0.000			
Observer Height (5.0 feet				m Trucks	-	.297	0	E	
	ad Elevation:	0.0 feet			Heav	y Trucks	S: 8	1.004	Grade Ad	ijustmeni	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	nce (in	feet)		
F	Road Grade:	0.0%				Autos	: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 65	5.286			
	Right View:	90.0 degree	es		Heav	y Trucks	s: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fres		Barrier At	ten Bei	rm Atten
Autos:	70.20	-0.35		-1.8	5	-1.20		-4.73	0.	000	0.00
Medium Trucks:	81.00	-11.41		-1.8		-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38	-14.65		-1.8	4	-1.20		-5.25	0.	000	0.000
Unmitigated Noise			_								
VehicleType	Leq Peak Hou			Leq E	vening	Leq			Ldn		NEL
Autos:			64.7		62.2		59	-	66.		67.
Medium Trucks:	66		64.2		60.3		60		67.		67.9
Heavy Trucks: Vehicle Noise:			66.0 69.8		58.9 65.4		59 64		67. 72.		67.i
					00.4		04	.1	12.		12.
Centerline Distanc	e to worse Co	ontour (in reet,	, 	70 (dBA	65 (iBA		60 dBA	55	dBA
			Ldn:	10)5	22	26		488	1,	,050
			VFI:		9	23			506		.091

Scenar Road Nan	rio: E ne: Limonite Av	v.						: Home:	stead		
Road Segme	nt: e/o Hellmai	n Av.									
SITE	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Co.	nditions	(Hard	= 10, Se	oft = 15)		
Average Daily	Traffic (Adt):	1 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			М	edium T	rucks (2	2 Axles):	15		
Peak H	lour Volume:	0 vehicles			Н	eavy Tru	icks (3-	+ Axles):	15		
Ve	hicle Speed:	50 mph			Vehicle	Miv					
Near/Far La	ne Distance:	78 feet				hicleTyp	۵	Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.6%	
	rrier Height:	0.0 feet			٨	1edium 1	rucks:	69.0%		23.8%	
Barrier Type (0-W		0.0 feet				Heavy 7				13.9%	
Centerline Di		76.0 feet									
Centerline Dist.		76.0 feet			Noise S	ource E	levatio	ns (in f	eet)		
Barrier Distance		0.0 feet				Auto	os:	0.000			
Observer Height		5.0 feet			Media	ım Truci	ks:	2.297			
	ad Elevation:	0.0 feet			Hea	vy Truci	KS.	8.004	Grade Ad	ljustment	0.0
	ad Elevation: ad Flevation:	0.0 feet			Lane Ed	nuivalen	t Dista	nce (in	feet)		
	Road Grade:	0.0 feet				Auto		5.422	,		
	Left View:	-90.0 degree			Medii	ım Truci		5.286			
	Right View:	90.0 degree				vy Truci		5.299			
	rugin view.	50.0 degree	:5		7700	17 11401		0.200			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	e Road	Fre	snel	Barrier At	ten Ber	m Atte
Autos:	70.20	-42.77		-1.8	35	-1.20		-4.73	0.	000	0.0
Medium Trucks:	81.00	-53.83		-1.8	34	-1.20		-4.88	0.	000	0.0
Heavy Trucks:	85.38	-57.07		-1.8	34	-1.20		-5.25	0.	000	0.0
Unmitigated Noise	e Levels (with	out Topo and I	barri	er atte	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	vening	Leg	Night		Ldn	C	NEL
Autos:	24	.4 2	22.3		19.7	7	16	3.8	24.	4	24
Medium Trucks:	24	.1 2	21.7		17.9	9	18	3.4	25.	3	25
Heavy Trucks:	25	i.3 2	23.6		16.5	5	17	7.2	25.	0	2
Vehicle Noise:	29).4 2	27.4		23.0)	22	2.3	29.	7	29
Centerline Distan	ce to Noise Co	ontour (in feet)									
				70	dBA	65	dBA	(60 dBA	55	dBA
			l dn:		n		Λ		1		2

Thursday, August 8, 2019

	FHV	VA-RD-77-108	HIGHWA	Y NOISE	PREDICT	ION M	ODEL			
	io: E ne: Limonite Av nt: e/o Harriso						Home: 11968	stead		
SITE	SPECIFIC IN	IPUT DATA		T		IOISE	MODE	L INPUT	S	
Highway Data				Site Co	nditions					
Average Daily	Traffic (Adt):	19,514 vehicle	:S				Autos:	15		
Peak Hour	Percentage:	10%		٨	fedium Tr	ucks (2	Axles):	15		
Peak F	lour Volume:	1,951 vehicles	;	F	leavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		Vehicle	Miss					
Near/Far La	ne Distance:	78 feet			hicleType		Dav	Evening	Night	Daily
ite Data				-		Autos:	74.1%	-	15.6%	
		0.0 feet		+	, Medium T		69.0%		23.8%	
Barrier Type (0-W	rrier Height:	0.0 reet			Heavy T	rucks:	82.1%	3.9%	13.9%	3.33%
Centerline Di		76.0 feet								
Centerline Dist.		76.0 feet		Noise	Source El			eet)		
Barrier Distance		0.0 feet			Auto		0.000			
Observer Height		5.0 feet			um Truck		2.297			
	ad Flevation:	0.0 feet		He	avy Truck	s: 8	3.004	Grade Ad	justment	: 0.0
Ro	ad Flevation:	0.0 feet		Lane E	quivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%			Auto	s: 6	5.422			
	Left View:	-90.0 degree	s	Med	um Truck	s: 65	5.286			
	Right View:	90.0 degree		He	avy Truck	s: 6	5.299			
HWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distanc		e Road	Fres		Barrier Att		m Atten
Autos:	70.20	0.13	-	1.85	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	81.00	-10.93		1.84	-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-14.17	-	1.84	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise	e Levels (with	out Topo and I	barrier at	tenuation)					
VehicleType	Leq Peak Hou			q Evening		Night		Ldn	_	NEL
Autos:	67		65.2	62	-	59		67.3		67.7
Medium Trucks:	67		64.6	60		61		68.	_	68.4
Heavy Trucks: Vehicle Noise:	68 72		36.5 70.3	59 65		60		67.9 72.0		68.1 72.8
Centerline Distant				00		00	-	72.		72.0
emerme Distant	LE IO MOISE CO	mour (m reet)		70 dBA	65	dBA		60 dBA	55	dBA
			Ldn:	113	2	14		525	1,	131
		CI	IFI:	117		53		545	- 4	174

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE PF	REDICT	ION MO	DEL			
Scenari Road Nam Road Segmei	e: Limonite A						Name: lumber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	21,010 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	2,101 vehicles	3		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		ŀ	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet		f		cleType		Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.69	
Pos	rier Height:	0.0 feet			Me	edium T	rucks:	69.0%	7.1%	23.89	6 7.02%
Barrier Type (0-W		0.0			F	leavy T	rucks:	82.1%	3.9%	13.99	6 3.33%
Centerline Dis	st. to Barrier:	76.0 feet		F	Noise So	urce Fl	evation	e (in f	oot)		
Centerline Dist.	to Observer:	76.0 feet		F	140/36 00	Auto		000	501)		
Barrier Distance	to Observer:	0.0 feet			Modiuu	n Truck		.297			
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	liustmer	nt: 0 0
Pa	ad Elevation:	0.0 feet								juotimor	n. 0.0
Roa	ad Elevation:	0.0 feet			Lane Equ	uivalent	Distar	ce (in	feet)		
1	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	s		Mediur	n Truck	s: 65	.286			
	Right View:	90.0 degree	es		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	70.20			-1.8		-1.20		-4.73	0.	000	0.000
Medium Trucks:	81.00	-10.61		-1.8	34	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38	-13.85		-1.8	34	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r attei	nuation)						
	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		CNEL
Autos:			65.5		63.0		60.		67.		68.0
Medium Trucks:	67		65.0		61.1		61.		68.	-	68.7
Heavy Trucks:	68	3.5	8.66		59.7		60.	4	68.		68.4
Vehicle Noise:			70.6		66.2		65.	5	72.	9	73.2
Centerline Distance	e to Noise C	ontour (in feet,)								
			L		dBA		dBA	(60 dBA	5	5 dBA
			Ldn:		19	_	56		551		1,188
		CI	VEL:	1	23	2	66		572	1	1,233

	io: E ne: Limonite A nt: e/o Hamne						Name: lumber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUTS	,	
Highway Data				S	ite Con	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	26,762 vehic	les					Autos.			
Peak Hour	Percentage:	10%				dium Tr					
Peak H	lour Volume:	2,676 vehicle	es		He	avy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	45 mph			ehicle l	Miv					
Near/Far La	ne Distance:	78 feet		H.		icleType		Day	Evening	Night	Daily
Site Data							Autos:	74.19	-	15.6%	,
D-		0.0 feet			Me	edium T		69.0%		23.8%	
Barrier Type (0-W	rrier Height:	0.0 reet			F	leavy T	rucks:	82.1%	3.9%	13.9%	3.33%
Centerline Di		76.0 feet									
Centerline Dist.		76.0 feet		٨	loise Sc	ource El	evation	s (in f	eet)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height		5.0 feet				m Truck		297			
	ad Flevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Adju	ıstment	: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivaleni	Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto		422			
	Left View:	-90.0 deare	200		Mediu	m Truck		286			
	Right View:	90.0 degre				y Truck		.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Atte	n Bei	m Atten
Autos:	68.46	1.90	3	-1.85	5	-1.20		-4.73	0.0	00	0.00
Medium Trucks:	79.45	-9.10)	-1.84	ļ	-1.20		-4.88	0.0	00	0.00
Heavy Trucks:	84.25			-1.84		-1.20		-5.25	0.0	00	0.00
Unmitigated Noise			_	er atteni	uation)						
VehicleType	Leq Peak Hou		,	Leq Ev		Leq	Night		Ldn	C	NEL
Autos:	67	• •	65.3		62.7		59.	-	67.4		67.8
Medium Trucks:	67		64.9		61.1		61.	-	68.5		68.7
Heavy Trucks: Vehicle Noise:	68	3.9 2.7	67.2 70.7		60.1 66.2		60. 65.		68.6 73.0		68.8 73.2
Centerline Distant					30.2			-			
Jones III o Distant		onioai (m rec		70 d	'BA	65	dBA		60 dBA	55	dBA
			Later	12					556		197
	Ldn: CNFI:				U	2	58		220	1,	

	FHV	/A-RD-77-108	HIGH	YAW	NOISE P	REDICT	ION MO	DDEL			
Scenari							t Name:				
	e: Limonite Av					Job I	Number:	11968			
Road Segmei	nt: e/o Scholar	Wy.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	24,015 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium T	rucks (2	Axles):	: 15		
Peak H	our Volume:	2,402 vehicles	3		He	eavy Tru	icks (3+	Axles):	: 15		
Ve	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	78 feet				icleTyp	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	6 10.3%	15.6%	89.659
Rai	rier Height:	0.0 feet			М	ledium 1	rucks:	69.0%	6 7.1%	23.8%	7.029
Barrier Type (0-W		0.0				Heavy 1	rucks:	82.1%	6 3.9%	13.9%	3.339
Centerline Dis		76.0 feet			N-: 0			/! #			
Centerline Dist.	to Observer:	76.0 feet			Noise S				eet)		
Barrier Distance	to Observer:	0.0 feet			A de elle	Auto m Truck		.000			
Observer Height (Above Pad):	5.0 feet				m Truci vy Truci		.004	Grade Ad	liuetmant	. 0 0
Pa	ad Elevation:	0.0 feet			пеа	vy Truci	18. 0	.004	Orauc Au	justinoni	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	nce (in	feet)		
	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	es			m Truci	00	.286			
	Right View:	90.0 degree	es		Hear	vy Truci	rs: 65	5.299			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	70.20	1.04		-1.8		-1.20		-4.73		000	0.00
Medium Trucks:	81.00	-10.03		-1.8		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-13.27		-1.8		-1.20		-5.25	0.0	000	0.00
Unmitigated Noise								-			
VehicleType	Leq Peak Hou			Leq E	Evening		Night	_	Ldn 68.2		NEL
Autos: Medium Trucks:	68. 67.		66.1 65.5		63.5 61.7		60 62		69.1	_	68 69
Heavy Trucks:	69.	-	67.4		60.3		61	_	68.8	•	69
Vehicle Noise:	73.		71.2		66.8		66		73.5		73
Centerline Distanc	e to Noise Co	ntour (in feet)								
		([70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:	1	130	2	180		603	1,	298
			VFI:		35		90		626		348

Thursday, August 8, 2019

	FHWA	A-RD-77-108 HIG	HWAY	NOISE PR	REDICTIO	N MODE	L		
Scenario: E+P					Project N	ame: Hor	nestead		
Road Name: Archi	bald Av.				Job Nui	nber: 119	68		
Road Segment: n/o C	hino Av.								
SITE SPECIF	IC INP	UT DATA			NC	ISE MO	DEL INPL	ITS	
Highway Data				Site Cond	ditions (F	lard = 10,	Soft = 15		
Average Daily Traffic (A	Adt): 27	7,339 vehicles				Aut	os: 15		
Peak Hour Percent	age:	10%		Med	dium Truc	ks (2 Axle	s): 15		
Peak Hour Volu	ıme: 2,	,734 vehicles		Hea	avy Truck	s (3+ Axle	s): 15		
Vehicle Sp	eed:	55 mph		Vehicle N	Ai v				
Near/Far Lane Dista	nce:	93 feet			cleTvpe	Da	/ Evenin	q Night	Dailv
Site Data				VCIII	,,		1% 10.3		. ,
				Me	edium Tru				
Barrier Hei		0.0 feet			leavv Tru				
Barrier Type (0-Wall, 1-Be		0.0		,	icavy iia	DNO. 02.	170 0.5	70 10.070	0.00 /
Centerline Dist. to Ba		74.0 feet		Noise So	urce Elev	rations (i	ı feet)		
Centerline Dist. to Obse. Barrier Distance to Obse.		74.0 feet 0.0 feet			Autos:	0.000			
		5.0 feet		Mediur	n Trucks:	2.297			
Observer Height (Above F Pad Fleva		0.0 feet		Heav	y Trucks:	8.004	Grade .	Adjustment	: 0.0
Road Fleva		0.0 feet		Lane Equ	ιivalent Γ	istance (in feet)		
Road Eleva Road Gr		0.0 feet		zano zgo	Autos:	57.782			
Left V		-90.0 degrees		Modiur	n Trucks:	57.629			
Right V		90.0 degrees			y Trucks:	57.644			
right v	iew.	50.0 degrees		11cav	y Trucks.	57.044			
HWA Noise Model Calcu	lations								
VehicleType REM	EL T	raffic Flow D	istance	Finite	Road	Fresnel	Barrier A	Atten Bei	m Atten
Autos:	71.78	1.16	-1.0	05	-1.20	-4.	73	0.000	0.000
Medium Trucks:	82.40	-9.82	-1.0	03	-1.20	-4.8	38	0.000	0.000
Heavy Trucks:	86.40	-12.67	-1.0	03	-1.20	-5.2	25	0.000	0.000
Unmitigated Noise Levels	(withou	t Topo and barr	rier atte	nuation)					
VehicleType Leq Pea	ak Hour	Leq Day	Leq I	Evening	Leq N	ght	Ldn	C	NEL
Autos:	70.7	68.6	i	66.1		63.1	7	0.7	71.1
Medium Trucks:	70.4	68.0)	64.1		64.6	7	1.5	71.7
Heavy Trucks:	71.5	69.8	3	62.7		63.4	7	1.2	71.4
Vehicle Noise:	75.6	73.6	6	69.3		68.5	7	5.9	76.2
Centerline Distance to No	ise Com	tour (in feet)							
) dBA	65 dE		60 dBA		dBA
		Ldn.		184	397		855		842
		CNEL	: 1	191	412		888	1,	913

	FHV	/A-RD-77-108	HIGHV	VAY N	IOISE PI	REDICTION	ON MC	DEL			
Road Nan	rio: E+P ne: Archibald A ent: s/o Chino A					Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions (Hard =	10, S	oft = 15)		
	Percentage:	24,650 vehicle 10% 2,465 vehicle				edium Tru eavy Truc	cks (2		15		
	ehicle Speed:	55 mph		-	Vehicle	Mix					
Near/Far La	ane Distance:	93 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						Α	utos:	74.1%		15.6%	89.15%
Ra	rrier Height:	0.0 feet			М	edium Tr	ıcks:	69.0%	7.1%	23.8%	7.13%
Barrier Type (0-V	Vall, 1-Berm):	0.0				Heavy Tr	ıcks:	82.1%	3.9%	13.9%	3.73%
	ist. to Barrier:	74.0 feet		1	Noise S	ource Ele	vation	s (in f	eet)		
Centerline Dist.		74.0 feet				Autos	: 0.	000			
Barrier Distance		0.0 feet			Mediu	m Trucks	: 2.	297			
Observer Height	. ,	5.0 feet			Hear	y Trucks	: 8.	004	Grade Ad	justmen	t: 0.0
1	ad Elevation: ad Elevation:	0.0 feet			l ano Ea	uivalent	Dietan	co (in	foot)		
	Road Grade:	0.0 feet		H.	Lane Ly	Autos		782	ieei)		
	l eft View:	0.0%			Modiu	m Trucks		629			
	Right View:	-90.0 degree				ni Trucks vy Trucks		644			
FHWA Noise Mod	lel Calculations	i									
VehicleType	REMEL	Traffic Flow	Dista	ance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	0.71		-1.0	5	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	82.40	-10.26		-1.0	3	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-13.08		-1.0	3	-1.20		-5.25	0.0	000	0.000
Unmitigated Nois	e Levels (witho	out Topo and	barrier	atten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leq N	light		Ldn	С	NEL
Autos:	70.	2	68.2		65.6		62.	3	70.3	3	70.6
Medium Trucks:	69.	9	67.5		63.7		64.	1	71.	1	71.3
Heavy Trucks:	71.	.1	69.4		62.3		63.)	70.8	3	71.0
Vehicle Noise:	75.	2	73.2		68.8		68.	1	75.	5	75.8
Centerline Distan	ce to Noise Co	ntour (in feet)								
					dBA	65 d		- (60 dBA		dBA
			Ldn:		72	37			800		,723
		C	NEL:	17	79	38	5		831	1	,789

Road Nam	io: E+P ne: Archibald A nt: s/o Ontario					Project Job N	Name: umber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUTS	;	
Highway Data				S	ite Con	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	26,349 vehicl	es					Autos.	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ıcks (2	Axles).	15		
Peak H	lour Volume:	2,635 vehicle	S		He	avy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	55 mph		V	ehicle l	Miv					
Near/Far La	ne Distance:	93 feet		-		icleType		Day	Evening	Night	Daily
Site Data							Autos:	74.19	-	15.6%	
D-		0.0 feet			Me	edium T		69.0%		23.8%	
Barrier Type (0-W	rrier Height:	0.0 reet			F	leavy T	rucks:	82.1%	3.9%	13.9%	3.68%
Centerline Di		74.0 feet									
Centerline Dist.		74.0 feet		٨	loise Sc				eet)		
Barrier Distance					Auto		.000				
Observer Height				Medium Trucks: 2.297							
	ad Flevation:	5.0 feet 0.0 feet			Heav	y Truck	s: 8	.004	Grade Adju	ustmen	: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degre	es		Mediui	m Truck	s: 57	.629			
	Right View:	90.0 degre	es		Heav	y Truck	s: 57	.644			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow		stance	Finite		Fres		Barrier Atte		m Atten
Autos:	71.78			-1.05		-1.20		-4.73	0.0		0.000
Medium Trucks:	82.40			-1.03		-1.20		-4.88	0.0		0.000
Heavy Trucks:	86.40			-1.03		-1.20		-5.25	0.0	00	0.00
Unmitigated Noise											
VehicleType	Leq Peak Ho			Leq Ev		Leq	Night		Ldn	С	NEL
Autos:).5	68.4		65.9		62.	-	70.6		70.9
Medium Trucks:).2	67.8		63.9		64.		71.4		71.6
Heavy Trucks: Vehicle Noise:		5.5	69.7 73.5		62.5 69.1		63. 68.		71.1 75.8		71.2 76.0
Centerline Distant					00.1			-			. 0.
Jonathine Distant	110136 01	JJui (III IEEI	,	70 d	BA	65	dBA		60 dBA	55	dBA
			Ldn:	17			37		833		794
	CNFI:				186 401 865 1,8						

	FHV	VA-RD-77-108	HIGH	I YAW	NOISE P	REDICT	TION M	ODEL			
Scenari	io: E+P					Projec	t Name	: Homes	stead		
	e: Archibald A					Job I	Vumber	: 11968			
Road Segmer	nt: s/o Schaefe	r Av.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard				
Average Daily	Traffic (Adt):	23,033 vehicle	es					Autos:			
Peak Hour	Percentage:	10%						Axles):			
Peak H	lour Volume:	2,303 vehicles	S		He	eavy Tru	icks (3+	- Axles):	15		
Ve	hicle Speed:	55 mph		ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	93 feet		-		icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.12
Rai	rrier Height:	0.0 feet			M	ledium 1	rucks:	69.0%	7.1%	23.8%	7.13
Barrier Type (0-W		0.0				Heavy 1	rucks:	82.1%	3.9%	13.9%	3.75
Centerline Dis	st. to Barrier:	74.0 feet		ŀ	Noise S	E	lovetio	no (in f	2041		
Centerline Dist.	to Observer:	74.0 feet		ŀ	Noise 3				et)		
Barrier Distance	to Observer:	0.0 feet			11-15	Auto m Truck		0.000 2.297			
Observer Height (Above Pad):	5.0 feet						2.297 3.004	Grade Ad	liustmont	
Pa	ad Elevation:	0.0 feet			неа	vy Truci	KS: C	3.004	Grade Ad	jusunem	. 0.0
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)		
1	Road Grade:	0.0%				Auto	os: 5	7.782			
	Left View:	-90.0 degree	es		Mediu	m Truck	ks: 5	7.629			
	Right View:	90.0 degree	es		Hea	vy Truci	ks: 5	7.644			
FHWA Noise Mode	el Calculations	S									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atter
Autos:	71.78	0.41		-1.0)5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	82.40	-10.56		-1.0	03	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-13.34		-1.0	03	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barri	er attei	nuation)						
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:	69	-	67.9		65.3		62		70.0	-	70
Medium Trucks:	69	-	67.2		63.4		63		70.8	-	71
Heavy Trucks:	70		69.2		62.0		62		70.0		70
Vehicle Noise:	74	.9	72.9		68.5		67	.8	75.	2	75
Centerline Distanc	ce to Noise Co	ntour (in feet)								
			L		dBA		dBA	(60 dBA		dBA
			Ldn:		65		355		766	,	649 713
			NFI:		71		369		795		

Thursday, August 8, 2019

		WA-RD-77-108	HIGHW.	AY NO						
Scenario						Project N				
	: Archibald A					Job Nur	nber: 119	88		
Road Segmen	t: s/o Eucalyp	otus Av.								
	PECIFIC IN	IPUT DATA						DEL INPU	TS	
Highway Data				S	ite Cond	ditions (H	ard = 10,	Soft = 15)		
Average Daily 1	raffic (Adt):	25,564 vehicle	S				Auto	os: 15		
Peak Hour I	Percentage:	10%			Med	dium Truc	ks (2 Axle	s): 15		
Peak Ho	our Volume:	2,556 vehicles			Hea	avy Truck	s (3+ Axle	s): 15		
Veh	icle Speed:	55 mph		1/	ehicle N	fiv				
Near/Far Lar	e Distance:	93 feet		-		cleType	Da	/ Evening	Night	Daily
Site Data				+	* 07 111		tos: 74.	`		,
				-	Me	dium Tru				
	rier Height:	0.0 feet 0.0				leavy Truc				
Barrier Type (0-Wa		0.0 74.0 feet				cavy ma	M3. UZ.	170 0.07	0 10.570	0.00 /
Centerline Dis				N	oise So	urce Elev	ations (ii	ı feet)		
Centerline Dist. t		74.0 feet				Autos:	0.000			
Barrier Distance t		0.0 feet			Mediun	n Trucks:	2.297			
Observer Height (A		5.0 feet			Heav	Trucks:	8.004	Grade A	\djustment	: 0.0
	d Elevation: d Elevation:	0.0 feet 0.0 feet		1.	ano Equ	ivalent D	ictanco (in foot)		
	a Elevation: Road Grade:	0.0 feet 0.0%		-	ane Equ	Autos:	57.782			
F	l eft View:		_		Modium	n Trucks:	57.629			
		-90.0 degree					57.644			
	Right View:	90.0 degree	S		Heav	y Trucks:	57.044			
FHWA Noise Mode	l Calculation	s								
VehicleType	REMEL	Traffic Flow	Distar	ice	Finite I	Road	Fresnel	Barrier A	tten Bei	m Atten
Autos:	71.78	0.87		-1.05		-1.20	-4.7	73 (0.000	0.000
Medium Trucks:	82.40	-10.13		-1.03		-1.20	-4.8		0.000	0.000
Heavy Trucks:	86.40	-12.96		-1.03		-1.20	-5.2	25 (0.000	0.000
Unmitigated Noise	Levels (with	out Topo and I	arrier a	ttenu	ation)					
VehicleType	Leq Peak Hou	ır Leq Day	Le	eq Eve	ening	Leq Ni	ght	Ldn	C	NEL
Autos:	70).4	8.3		65.8		62.8	70).4	70.8
Medium Trucks:	70	0.0	7.6		63.8		64.3	7	1.2	71.4
Heavy Trucks:	71	.2	9.6		62.4		63.1	70).9	71.1
Vehicle Noise:	75	i.4	3.3		69.0		68.2	7	5.6	75.9
Centerline Distanc	e to Noise Co	ontour (in feet)								
				70 dl	BA	65 dE	iA .	60 dBA	55	dBA
			.dn:	176	3	379		817	1,	759
		CN	IEL:	183	3	394		848	1,	827

	FHW	A-RD-77-108 I	HIGHW <i>A</i>	N Y	IOISE PE	REDICTIO	ON MO	DEL			
	io: E+P e: Archibald Av nt: s/o Merrill Av	-				Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA			n:- 0				L INPUT	S	
Peak H	Percentage: lour Volume: hicle Speed:	27,338 vehicles 10% 2,734 vehicles 55 mph 93 feet	6		Me He Vehicle I	ditions (I dium Truck avy Truck Mix icleType	cks (2 .	Autos: Axles):	15 15	Night	Dailv
Site Data				+	ven		ıtos:	74.1%		15.6%	. ,
	rier Height: 'all, 1-Berm):	0.0 feet 0.0				edium Tru Heavy Tru		69.0% 82.1%		23.8%	7.03%
Centerline Dist. Centerline Dist. Barrier Distance Observer Height (to Observer: to Observer:	74.0 feet 74.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediui Heav	Autos: m Trucks: y Trucks:	0. 2. 8.	000 297 004	Grade Ad	ljustmen	t: 0.0
	ad Elevation:	0.0 feet		L	Lane Eq	uivalent l			feet)		
,	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees				Autos: m Trucks: ry Trucks:	57.	782 629 644			
FHWA Noise Mode	el Calculations										
VehicleType Autos:	REMEL 71.78	Traffic Flow 1.17	Distan	ce -1.05		-1.20	Fresi	nel -4.73	Barrier Att	en Be	rm Atten 0.000
Medium Trucks: Heavy Trucks:	82.40 86.40	-9.87 -12.72		-1.03 -1.03	3	-1.20 -1.20		-4.88 -5.25	0.0	000	0.000
Unmitigated Noise	Levels (witho	ut Topo and b	arrier a	tten	uation)						
VehicleType	Leq Peak Hour	Leq Day	Le	q Ev	ening ,	Leq N	light		Ldn	C	NEL
Autos: Medium Trucks:	70.: 70.:		8.6 7.9		66.1 64.1		63. 64.	-	70.1 71.5		71.1 71.7
Heavy Trucks: Vehicle Noise:	71.4 75.0		9.8 3.6		62.6 69.3		68.		71.2 75.9		71.3 76.2
Centerline Distance	e to Noise Co	ntour (in feet)									
		, ,		70 a		65 d		6	0 dBA		dBA
		CN	dn: EL:	18 19		398 410			850 883		,832 ,903

	FH\	WA-RD-77-108	HIGH	WAY N	OISE P	REDICT	ON MO	ODEL			
	io: E+P e: Archibald A nt: s/o 65th St.							Home: 11968	stead		
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	29,691 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ıcks (2	Axles):	15		
Peak H	our Volume:	2,969 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		,	/ehicle	Miv					
Near/Far La	ne Distance:	78 feet		F.		icleType		Day	Evening	Night	Daily
Site Data						,	lutos:	74.1%	10.3%	15.6%	89.73%
Rai	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	6.96%
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.30%
Centerline Dis	st. to Barrier:	76.0 feet		,	Voise S	ource El	evatio	ns (in fi	oet)		
Centerline Dist.	to Observer:	76.0 feet		F.	10,00 0	Auto		0.000	301)		
Barrier Distance	to Observer:	0.0 feet			Madiu			2.297			
Observer Height (Above Pad):	5.0 feet			Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0						
Pa	ad Elevation:	0.0 feet								dotmom	. 0.0
Roa	ad Elevation:	0.0 feet		L	.ane Eq	uivalent	Distar	nce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	5.286			
	Right View:	90.0 degree	es		Hear	y Truck	s: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att	en Ber	m Atten
Autos:	70.20	1.96		-1.85	5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	81.00	-9.14		-1.84		-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-12.38		-1.84	1	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise								_			
,,,	Leq Peak Hou	- , .,		Leq Ev		,	Night		Ldn		NEL
Autos:	69		67.0		64.5		61		69.		69.
Medium Trucks:	68		66.4		62.6		63		70.0		70.2
Heavy Trucks: Vehicle Noise:	70		68.3 72.1		61.1		61 67		69.1 74.4		69.8 74.6
					01.1		31		, 4.	•	7-4.1
Centerline Distanc	e to Noise Co	ontour (In feet	,	70 a	iBA	65	dBA	- (60 dBA	55	dBA
			Ldn:	14	.9	3:	21		692	1,	490
	CNFI:					155 333 718 1,					

Scenari	n: F+P					Project	t Name:	Home	stead		
	e: Archibald A	v				.,	lumber:				
	nt: s/o Limonite					0001	varriocr.	11300			
							IOICE	4000	I INIDIIT		
Highway Data	SPECIFIC IN	PUIDAIA			Site Con				L INPUT	>	
Average Daily	Traffic (Adt):	26.151 vehicle	es				•	Autos:			
,	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	: 15		
	our Volume:	2.615 vehicles	s		He	avy Tru	cks (3+ .	Axles):	: 15		
Ve	hicle Speed:	50 mph			Vehicle		•				
Near/Far Lai	ne Distance:	78 feet				iviix nicleType		Dav	Evening	Night	Daily
Site Data					Ven		Autos:	74.1%	-	15.6%	
	rier Height:	0.0 feet			М	ledium T	rucks:	69.0%		23.8%	
Barrier Type (0-W	-	0.0 leet				Heavy T	rucks:	82.1%	6 3.9%	13.9%	3.44
Centerline Dis		76.0 feet									
Centerline Dist		76.0 feet			Noise S				eet)		
Barrier Distance		0.0 feet				Auto		000			
Observer Height (5.0 feet				m Truck		297			
	ad Elevation:	0.0 feet			Hear	vy Truck	s: 8.	004	Grade Ad	ustment	0.0
	ad Flevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
	Road Grade:	0.0%				Auto	s: 65	422	,		
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65.	286			
	Right View:	90.0 degree			Hear	vy Truck	s: 65	299			
FHWA Noise Mode	el Calculation:	s									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fresi		Barrier Att		m Atter
Autos:	70.20	1.40		-1.8		-1.20		-4.73	0.0		0.00
Medium Trucks:	81.00	-9.67		-1.8		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-12.75		-1.8	84	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise			_								
	Leq Peak Hou		66.5	Leq E	ening		Night 60.5		Ldn 68.6		VEL
Autos: Medium Trucks:	68		65.9		63.9 62.0		62.	-	69.5		68 69
Heavy Trucks:	69		67.9		60.8		61.	-	69.3		69
Vehicle Noise:	73		71.6		67.2		66.	_	73.9		74
Centerline Distanc	e to Noise Co	ntour (in feet)					-			
contonine Distant	0 10 110/36 00	mour (m reet)	,	70	dBA	65	dBA		60 dBA	55	dBA
			I dn:	- 1	138	2	98		642	- 1	383
			Luii.		100		.50		072	٠,٠	000

Thursday, August 8, 2019

	FHWA	-RD-77-108 HIG	HWAY	NOISE PR	REDICTIO	N MOI	DEL			
Scenario: E+P					Project N			stead		
Road Name: Kimba					Job Nui	nber: 1	1968			
Road Segment: w/o He	ilman A	IV.								
SITE SPECIFI	C INP	JT DATA						L INPUT	S	
Highway Data				Site Cond	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily Traffic (Ad	dt): 14	,499 vehicles				/	Autos:	15		
Peak Hour Percentag	ge:	10%		Med	dium Truc	ks (2 A	xles):	15		
Peak Hour Volun	ne: 1,	450 vehicles		Hea	avy Truck	s (3+ A	xles):	15		
Vehicle Spec	ed:	50 mph		Vehicle N	Niv					
Near/Far Lane Distant	ce:	51 feet			cleType		Dav	Evening	Niaht	Dailv
Site Data				*0777			74.1%	-	15.6%	89.39%
				Ma	edium Tru		69.0%		23.8%	7.00%
Barrier Heig		0.0 feet 0.0			leavv Tru		82.1%		13.9%	3.61%
Barrier Type (0-Wall, 1-Ben Centerline Dist. to Barri		0.0 49.0 feet			,				10.070	0.017
Centerline Dist. to Observ		49.0 feet		Noise So	urce Elev	ations	in fe	eet)		
Barrier Distance to Observ		0.0 feet			Autos:		000			
Observer Height (Above Pa		5.0 feet		Mediur	n Trucks:		297			
Pad Flevati		0.0 feet		Heav	y Trucks:	8.0	004	Grade Ad	ljustment.	0.0
Road Flevati		0.0 feet		Lane Equ	ıivalent E	istand	e (in i	feet)		
Road Gra		0.0%			Autos:	42.1	•			
Left Vie		90.0 degrees		Mediur	n Trucks:	41.9	929			
Right Vie		90.0 degrees			y Trucks:	41.9	950			
		9			,					
FHWA Noise Model Calcula										
VehicleType REME			istance	Finite		Fresn		Barrier At		m Atten
	0.20	-1.17	1.0		-1.20		-4.64		000	0.000
	1.00	-12.23	1.0		-1.20		-4.87		000	0.000
Heavy Trucks: 8	5.38	-15.10	1.0	04	-1.20		-5.44	0.	000	0.000
Unmitigated Noise Levels (withou	t Topo and barı	rier atte	nuation)						
VehicleType Leq Peal	Hour	Leq Day	Leq I	Evening	Leq N	ght		Ldn	CI	VEL
Autos:	68.8	66.8	3	64.2		61.2		68.	9	69.2
Medium Trucks:	68.6	66.2	2	62.4		62.8		69.	8	70.0
Heavy Trucks:	70.1	68.5	i	61.3		62.0		69.	8	70.0
Vehicle Noise:	74.0	72.0)	67.6		66.9		74.	3	74.5
Centerline Distance to Nois	e Cont	our (in feet)								
			70	dBA	65 dE	BA .	ϵ	0 dBA	55	dBA
		Ldn.		95	204			440	9	47
		CNEL	:	98	212			456	9	83

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE PI	REDICT	ION MO	DEL			
Scenari Road Nam Road Segmei	e: Limonite A						Name: lumber:				
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	469 vehicle	es					Autos.	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles).	15		
Peak H	our Volume:	47 vehicles	3		He	avy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	50 mph			Vehicle I	Miv					
Near/Far La	ne Distance:	78 feet				icleType	9	Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.69	,
Rai	rier Height:	0.0 feet			M	edium T	rucks:	69.0%	6 7.1%	23.89	% 5.13%
Barrier Type (0-W		0.0			1	Heavy T	rucks:	82.1%	3.9%	13.99	% 11.52%
Centerline Dis		76.0 feet			M-1 0-			/! 6	41		
Centerline Dist.	to Observer:	76.0 feet			Noise So				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height (Above Pad):	5.0 feet				m Truck		.297	Grade Ad	liustmor	nt: 0.0
Pa	ad Elevation:	0.0 feet			Heav	y Truck	'S: 8	.004	Grade At	jusimer	n. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in	feet)		
1	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	es		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier At	en Be	erm Atten
Autos:	70.20	-16.37		-1.8		-1.20		-4.73	0.	000	0.000
Medium Trucks:	81.00	-28.48		-1.8	84	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38	-24.97		-1.8	B4	-1.20		-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er atte	nuation)						
	Leq Peak Hot			Leq E	vening	Leq	Night		Ldn		CNEL
Autos:			48.7		46.1		43.		50.		51.2
Medium Trucks:	49		47.1		43.2		43.		50.		50.9
Heavy Trucks:	57		55.7		48.6		49.	3	57.	1	57.3
Vehicle Noise:	58	3.8	57.0		51.3		51.	1	58.	7	58.9
Centerline Distance	e to Noise C	ontour (in feet,)								
					dBA		dBA	- (60 dBA	5	5 dBA
			Ldn:		13		29		63		135
		CI	VEL:		14	3	30		65		139

	FH\	WA-RD-77-108	HIGH	HWAY N	OISE P	REDICTI	ON M	DDEL				
Road Nam	rio: E+P ne: Limonite Av nt: e/o Harriso					Project Job N		Home 11968				
	SPECIFIC IN	IPUT DATA							L INPUT	s		
Highway Data					Site Conditions (Hard = 10, Soft = 15)							
Average Daily	Traffic (Adt):	20,162 vehicle	es					Autos	: 15			
Peak Hour	Percentage:	10%			Medium Trucks (2 Axles): 15							
Peak H	lour Volume:	2,016 vehicles	S		He	avy Truc	ks (3+	Axles)	: 15			
Ve	hicle Speed:	50 mph		1	/ehicle	Miv						
Near/Far La	ne Distance:	78 feet		H.		icleType	П	Dav	Evening	Night	Dailv	
Site Data					Autos: 74.1% 10.3% 15.6% 8							
Par	rrier Height:	0.0 feet			М	edium Tr	ucks:	69.09	6 7.1%	23.8	% 7.03%	
Barrier Type (0-W		0.0				Heavy Tr	ucks:	82.19	6 3.9%	13.9	% 3.76%	
Centerline Di		76.0 feet		١.	v-: 0			/! /	41			
Centerline Dist.	to Observer:	76.0 feet		1	voise S	ource El			eet)			
Barrier Distance	to Observer:	0.0 feet				Autos		0.000				
Observer Height ((Above Pad):	5.0 feet				m Trucks		.297	0	E t		
	ad Elevation:	0.0 feet			Heal	y Trucks	S: 6	1.004	Grade Ad	ijustme	nt: U.U	
Roa	ad Elevation:	0.0 feet		I	ane Eq	uivalent	Dista	nce (in	feet)			
	Road Grade:	0.0%				Autos	s: 65	.422				
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 65	5.286				
	Right View:	90.0 degree	es		Hear	y Trucks	s: 65	5.299				
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier At	ten B	erm Atten	
Autos:	70.20	0.25		-1.8	5	-1.20		-4.73	0.	000	0.000	
Medium Trucks:	81.00	-10.78		-1.84	1	-1.20		-4.88	0.	000	0.000	
Heavy Trucks:	85.38	-13.50		-1.84	1	-1.20		-5.25	0.	000	0.000	
Unmitigated Noise	e Levels (with	out Topo and	barri	er atten	uation)							
VehicleType	Leq Peak Hou	ır Leq Day	′	Leg E	ening/	Leq	Night		Ldn		CNEL	
Autos:	67	.4	65.3		62.8		59	.8	67.	4	67.8	
Medium Trucks:	67	.2	64.8		60.9		61	.4	68.	4	68.6	
Heavy Trucks:	68		67.2		60.0		60		68.		68.7	
Vehicle Noise:	72	2.6	70.7		66.2		65	.5	72.	9	73.2	
Centerline Distand	ce to Noise Co	ontour (in feet)					_		_		
			L	70 c			dBA		60 dBA		5 dBA	
			Ldn:	11	-	25			552		1,188	
		C	NEL:	12	3	26	рb		572		1,233	

	FHW	A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION MC	DEL			
Scenari							t Name:		stead		
	e: Limonite Av.					Job I	Number:	11968			
	nt: e/o Archibalo										
SITE S Highway Data	SPECIFIC INF	PUT DATA			Site Con				L INPUT	S	
	T65- (A-b). A	10.450	_	-	One oon	unions	•	Autos:			
Average Daily	. ,	18,158 vehicle	:S			-ti	ucks (2				
	Percentage:	10%									
		1,816 vehicles	5		HE	avy iru	icks (3+	Axies):	15		
	hicle Speed:	50 mph		ſ	Vehicle I	Иiх					
Near/Far Lar	ne Distance:	78 feet		ſ	VehicleType Day Evening Night					Daily	
Site Data					Autos: 74.1% 10.3% 15.6% 89						
Bar	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.809
Centerline Dis	st. to Barrier:	76.0 feet		ŀ	Noise So	urco E	lovation	c (in f	not)		
Centerline Dist.	to Observer:	76.0 feet		ŀ	NOISE SC	Auto		000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (A	Above Pad):	5.0 feet				n Truck vy Truck		.004	Grade Ad	iuetmant	. 0 0
Pa	ad Elevation:	0.0 feet			пеан	ry Truci	18. 0.	.004	Orado Au	Justinoni	. 0.0
Roa	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	:S		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	:S		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculations										
VehicleType		Traffic Flow	Dis	tance	Finite	Road	Fresi		Barrier Att	en Ber	m Atten
Autos:	70.20	-0.20		-1.8	35	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	81.00	-11.24		-1.8	34	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-13.91		-1.8	34	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise											
	Leq Peak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	66.9		64.9		62.3		59.		67.0		67.
Medium Trucks:	66.7		64.3		60.5		61.	-	67.9	-	68.
Heavy Trucks: Vehicle Noise:	68.4 72.2		70.2		59.6 65.7		60. 65.	-	68.2 72.5		68. 72.
Centerline Distanc					00.7		00.		12.		12.
senterine Distanc	e to Noise Coi	noui (ili leet)		70	dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	1	11	2	:39		516	1,	111

Thursday, August 8, 2019

		VA-RD-77-108 I	HIGHWA'	Y NOISE PR					
Scenario						me: Home:	stead		
	: Limonite Av				Job Nun	ber: 11968			
Road Segment	t: e/o Sumne	r Av.							
	PECIFIC IN	IPUT DATA				SE MODE		S	
Highway Data				Site Cond	ditions (H	ard = 10, So	oft = 15)		
Average Daily T	raffic (Adt):	21,624 vehicles	3			Autos:	15		
Peak Hour F	Percentage:	10%		Med	dium Truck	s (2 Axles):	15		
Peak Ho	our Volume:	2,162 vehicles		Hea	avy Trucks	(3+ Axles):	15		
Veh	icle Speed:	50 mph		Vehicle N	Niv				
Near/Far Lan	e Distance:	78 feet			cleType	Day	Evening	Night	Daily
Site Data				VCIII	Aut			15.6%	89.22%
				Me	edium Truc			23.8%	7.04%
	rier Height:	0.0 feet			leavy Truc			13.9%	3.73%
Barrier Type (0-Wa		0.0			icavy mac	No. 02.17	0.070	10.070	0.70%
Centerline Dist		76.0 feet		Noise So	urce Elev	ations (in f	eet)		
Centerline Dist. to		76.0 feet			Autos:	0.000			
Barrier Distance to		0.0 feet		Mediur	n Trucks:	2.297			
Observer Height (A	,	5.0 feet		Heav	y Trucks:	8.004	Grade Ad	ljustment.	0.0
	d Elevation:	0.0 feet		I one Fau	ilisələnt D	stance (in	foot)		
	d Elevation:	0.0 feet		Lane Equ			ieet)		
R	load Grade:	0.0%			Autos:	65.422			
	Left View:	-90.0 degrees			n Trucks:	65.286			
	Right View:	90.0 degrees	5	Heav	y Trucks:	65.299			
FHWA Noise Model	Calculation	s							
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	70.20	0.56	-1	1.85	-1.20	-4.73	0.	000	0.000
Medium Trucks:	81.00	-10.47	-1	1.84	-1.20	-4.88	0.	000	0.000
Heavy Trucks:	85.38	-13.22	-1	1.84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and b	arrier att	enuation)					
VehicleType L	Leq Peak Hou		Leq	Evening	Leq Nig	pht	Ldn		VEL
Autos:	67	.7 6	5.6	63.1		60.1	67.	7	68.1
Medium Trucks:	67		5.1	61.2		61.7	68.		68.9
Heavy Trucks:	69	.1 6	7.5	60.3		61.0	68.	8	69.0
Vehicle Noise:	72	.9 7	1.0	66.5		65.8	73.	2	73.4
Centerline Distance	e to Noise Co	ontour (in feet)							
			7	'0 dBA	65 dB.	4 (60 dBA	55	dBA
		L	.dn:	124	268	•	577	1,2	244
		CN	EL:	129	278		599	1,2	291

	FH\	WA-RD-77-108	HIGH	WAY	NOISE PI	REDICT	ION MO	DEL			
Scenari Road Nam Road Segmei	e: Limonite A						Name: lumber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	24,578 vehicle	s					Autos:			
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	2,458 vehicles	3		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet				icleType		Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.69	
Pos	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.89	6 7.05%
Barrier Type (0-W	-	0.0			ı	leavy T	rucks:	82.1%	3.9%	13.99	6 3.69%
Centerline Dis	st. to Barrier:	76.0 feet		ŀ	Noise So	urce Fl	evation	ıs (in fı	oet)		
Centerline Dist.	to Observer:	76.0 feet		ł	710,00 00	Auto		.000	301)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	liustmer	nt: 0.0
Pa	ad Elevation:	0.0 feet								juotimor	n. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distar	ice (in	feet)		
I	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	es		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	70.20	1.12		-1.8	B5	-1.20		-4.73	0.	000	0.000
Medium Trucks:	81.00	-9.90		-1.8	84	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38			-1.8		-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r atte	nuation)						
VehicleType	Leq Peak Hot	ır Leq Day		Leq E	vening	Leq	Night		Ldn	(CNEL
Autos:	68	3.3	66.2		63.6		60.	7	68.	3	68.7
Medium Trucks:	68	3.1	65.7		61.8		62.	3	69.	2	69.4
Heavy Trucks:	69	0.6	0.86		60.8		61.	5	69.	3	69.5
Vehicle Noise:	73	3.5	71.5		67.0		66.	3	73.	7	74.0
Centerline Distance	e to Noise C	ontour (in feet,)								
	-			70	dBA	65	dBA	(60 dBA	5	5 dBA
			Ldn:	1	35	2	91		627	1	1,351
		CI	VEL:	1	40	3	02		651	1	,402

	e: Archibald A					Project I Job Nu	Name: H Imber: 1		tead			
Road Segme	nt: n/o Chino A	Av.										
SITE Highway Data	SPECIFIC IN	IPUT DATA		-	Sito Con				L INPUTS			
	T (A-le).	29.960 vehicle			Site Conditions (Hard = 10, Soft = 15) Autos: 15							
Average Daily	Percentage:	29,960 venicion 10%	es		Mo	dium Tru			15			
	lour Volume:	2.996 vehicle				avy Truc		,	15			
	hicle Speed:	55 mph	3		770	avy mac	13 (5+71	AICS).	10			
	ne Distance:	93 feet		1	Vehicle I							
	ne Distance.	93 1661			Veh	icleType		Day	٥	Night	Daily	
Site Data								74.1%			89.65%	
Ba	rrier Height:	0.0 feet				edium Tri		9.0%		23.8%	7.02%	
Barrier Type (0-W	/all, 1-Berm):	0.0			F	Heavy Tr	ıcks: 8	32.1%	3.9%	13.9%	3.33%	
Centerline Di	st. to Barrier:	74.0 feet		1	Voise Sc	ource Ele	vations	(in fe	et)			
Centerline Dist.	to Observer:	74.0 feet		-		Autos		•	/			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Trucks						
Observer Height	,	5.0 feet			Heav	y Trucks	: 8.0	04	Grade Adju	stment:	0.0	
	ad Elevation:	0.0 feet		_					,			
	ad Elevation:	0.0 feet		- 1	Lane Eq	uivalent		•	eet)			
	Road Grade:	0.0%				Autos						
	Left View:	-90.0 degree				m Trucks						
	Right View:	90.0 degree	es		Heav	y Trucks	: 57.6	44				
FHWA Noise Mod										,		
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fresne		Barrier Atter	_	n Atten	
Autos:	71.78	1.58		-1.0	-	-1.20		4.73	0.00	-	0.000	
Medium Trucks:	82.40			-1.03	-	-1.20		4.88	0.00	-	0.000	
Heavy Trucks:	86.40	.=		-1.03		-1.20	-	5.25	0.00	0	0.00	
Unmitigated Noise												
VehicleType	Leq Peak Hou			Leg E		Leq N	~		Ldn	CI	IEL	
Autos: Medium Trucks:	71		69.0 68.3		66.5 64.4		63.5 64.9		71.1 71.9		71.	
Heavy Trucks:			69.8		62.6		63.3		71.9		71.	
Vehicle Noise:		5.9	73.9		69.6		68.8		76.2		76.4	
Centerline Distant	ce to Noise C	ontour (in feet)									
o D.3tane		, , 1001	_	70.0	√RA	65.0	'RA	6	0 dBA	55	dBA	
				700								
			Ldn:	19		41			886		910	

	FHW	A-RD-77-108	HIGH	1 YAW	NOISE PI	REDICT	ION MC	DEL			
Scenari	o: E+P					Projec	t Name:	Home	stead		
	e: Limonite Av.					Job N	lumber:	11968			
Road Segmer	nt: e/o Hamner	Av.									
	SPECIFIC IN	PUT DATA							L INPUT	s	
lighway Data					Site Con	ditions	(Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	27,223 vehicle	:S					Autos:			
Peak Hour	Percentage:	10%			Me	dium Ti	ucks (2	Axles):	15		
Peak H	our Volume:	2,722 vehicles	•		He	avy Tru	cks (3+	Axles):	15		
Vei	hicle Speed:	45 mph		F	Vehicle i	Mix					
Near/Far Lar	ne Distance:	78 feet			VehicleType Day Evening Night					Daily	
Site Data					Autos: 74.1% 10.3% 15.6% 8						89.259
Rar	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.089
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.679
Centerline Dis	st. to Barrier:	76.0 feet		F	Noise So	urco E	lovation	e (in f	not)		
Centerline Dist.	to Observer:	76.0 feet		H	NOISE SC	Auto		000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	Auto m Truck		297			
Observer Height (A	Above Pad):	5.0 feet				n Truck vy Truck		.004	Grade Ad	iuetmant	. 0 0
Pa	ad Elevation:	0.0 feet			пеан	ry Truci	.s. o.	.004	Orado Au	Justinoni	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	:S		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	:S		Heav	y Truck	s: 65	.299			
HWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	68.46	2.02		-1.8	5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	79.45	-8.99		-1.8	4	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-11.84		-1.8	4	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise	•		barrie	r atter	nuation)						
	Leq Peak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	67.		35.3		62.8		59.		67.4		67.
Medium Trucks:	67.4		35.0		61.2		61.		68.6	-	68.
Heavy Trucks: Vehicle Noise:	69.4 72.1		67.7 71.0		60.6		61. 65.	-	69.1 73.2		69. 73.
Centerline Distanc					00.4		00.		13.4	-	13.
semernne Distanc	e to NOISE CO	nour (In reet)	<u> </u>	70	dBA	65	dBA	т,	60 dBA	55	dBA
			Ldn:		24		68	<u> </u>	577		242

Thursday, August 8, 2019

	FHW	A-RD-77-108 HIC	SHWAY	NOISE PF	REDICTIO	N MOI	DEL			
Scenario:					Project N			tead		
Road Name:		•			Job Nui	mber: 1	1968			
Road Segment:	s/o Chino Av	'.								
SITE SP	ECIFIC INF	PUT DATA			NC	ISE N	10DE	L INPUT	S	
Highway Data				Site Con	ditions (F	lard =	10, Sc	ft = 15)		
Average Daily Tra	affic (Adt): 2	27,248 vehicles				,	Autos:	15		
Peak Hour Pe	rcentage:	10%		Me	dium Truc	ks (2 A	xles):	15		
Peak Hou	r Volume:	2,725 vehicles		He	avy Truck	s (3+ A	xles):	15		
Vehic	le Speed:	55 mph		Vehicle I	/liv					
Near/Far Lane	Distance:	93 feet			cleType		Dav	Evening	Night	Dailv
Site Data				******			74.1%		15.6%	/
	I I a I a I a I a I	0.0.64		Me	edium Tru		69.0%		23.8%	7.02%
Barrier Type (0-Wall,	r Height:	0.0 feet 0.0			leavv Tru		82.1%		13.9%	3.33%
Centerline Dist. t	,	74.0 feet			,					
Centerline Dist. to 1		74.0 feet		Noise So			•	et)		
Barrier Distance to 0		0.0 feet			Autos:		000			
Observer Height (Ab		5.0 feet			n Trucks:		297			
	Flevation:	0.0 feet		Heav	y Trucks:	8.0	004	Grade Ad	ljustment.	0.0
	Elevation:	0.0 feet		Lane Equ	ıivalent E	Distanc	e (in i	eet)		
Ros	ad Grade:	0.0%			Autos:	57.7	782			
i i	Left View:	-90.0 degrees		Mediur	n Trucks:	57.6	329			
Ri	ight View:	90.0 degrees		Heav	y Trucks:	57.6	644			
FHWA Noise Model C										
, , , ,			Distance	Finite		Fresn		Barrier At		m Atten
Autos:	71.78	1.17	-1.		-1.20		-4.73		000	0.000
Medium Trucks:	82.40	-9.89	-1.		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-13.13	-1.	03	-1.20		-5.25	0.	000	0.000
Unmitigated Noise Le	evels (witho	ut Topo and bar	rier atte	nuation)						
VehicleType Le	q Peak Hour	Leq Day	Leq	Evening	Leq N	ight		Ldn	CI	VEL
Autos:	70.7		-	66.1		63.1		70.		71.1
Medium Trucks:	70.3		-	64.0		64.5		71.	-	71.7
Heavy Trucks:	71.0			62.2		62.9		70.	-	70.9
Vehicle Noise:	75.	5 73.4	4	69.2		68.3		75.	8	76.0
Centerline Distance t	to Noise Co	ntour (in feet)								
			70	dBA	65 dE	ЗА	6	i0 dBA	55	dBA
		Ldn		79	386			832	,	793
		CNEL		186	401			865	1,8	863

	FHWA	A-RD-77-108	HIGH	1 YAWI	NOISE P	REDICT	ION MO	DEL			
Scenario: (Road Name: I Road Segment: s	Archibald Av.						Name: lumber:				
	ECIFIC INP	UT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	10, S	oft = 15)		
Average Daily Tra	ffic (Adt): 2	5,560 vehicle	es					Autos			
Peak Hour Per		10%				edium Tr		,			
Peak Hour		,556 vehicle:	S		He	avy Tru	cks (3+)	4xles)	15		
	e Speed:	55 mph			Vehicle	Mix					
Near/Far Lane I	Distance:	93 feet		Ī	Veh	icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	74.19	6 10.3%	15.6%	89.65%
Barrie	r Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-Wall,	-	0.0				Heavy T	rucks:	82.19	3.9%	13.9%	3.33%
Centerline Dist. to	o Barrier:	74.0 feet		T T	Noise S	ource E	evation	s (in f	eet)		
Centerline Dist. to 0		74.0 feet				Auto		000	,		
Barrier Distance to C	Observer:	0.0 feet			Mediu	m Truck		297			
Observer Height (Abo	,	5.0 feet			Hear	vy Truck	s: 8.	004	Grade Ad	justmen	t: 0.0
	levation:	0.0 feet		L		•					
	levation:	0.0 feet		L	Lane Eq				feet)		
	d Grade:	0.0%				Auto		782			
		-90.0 degree				m Truck	0,,	629			
Ri	ght View:	90.0 degree	es		Hear	y Truck	s: 57.	644			
FHWA Noise Model C	alculations										
VehicleType I	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fresi	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	0.89		-1.0	-	-1.20		-4.73		000	0.000
Medium Trucks:	82.40	-10.17		-1.0	-	-1.20		-4.88		000	0.000
Heavy Trucks:	86.40	-13.41		-1.0	13	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise Le	•	ıt Topo and	barri	er atter	nuation)					,	
	g Peak Hour	Leq Day		Leq E	vening		Night		Ldn		NEL
Autos:	70.4		68.3		65.8		62.8	-	70.4		70.8
Medium Trucks:	70.0		67.6		63.8		64.2	-	71.2	_	71.4
Heavy Trucks: Vehicle Noise:	70.8 75.2		69.1 73.2		61.9 68.9		62.7		70.9 75.9	_	70.6 75.7
					00.5		00.		75.	,	75.7
Centerline Distance to	J NOISE CON	tour (III reet		70	dBA	65	dBA		60 dBA	55	5 dBA
			Ldn:	1	72	3	70		797	1	,718
		Ci	NEL:	1	78	3	85		829		,785

	FH\	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICTI	ON M	ODEL					
Road Nan	rio: OY ne: Archibald A ent: s/o Eucalyp					Project Job N		Home 11968					
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPU	ΓS			
Highway Data				S	ite Con	ditions (Hard:	= 10, S	oft = 15)				
Average Daily	Traffic (Adt):	27,793 vehicle	es		Autos: 15								
Peak Hour	Percentage:	10%			Medium Trucks (2 Axles): 15								
Peak F	lour Volume:	2,779 vehicles	3		He	avy Truc	ks (3+	Axles)	15				
Ve	ehicle Speed:	55 mph		,	ehicle l	Miv							
Near/Far La	ne Distance:	93 feet		-								Dailv	
Site Data					Autos: 74.1% 10.3% 15.6% 89								
Do.	rrier Height:	0.0 feet			М	edium Tr	ucks:	69.09				7.02%	
Barrier Type (0-V		0.0 1001			- 1	Heavy Tr	ucks:	82.19	6 3.9%	13	.9%	3.33%	
	ist. to Barrier:	74.0 feet											
Centerline Dist.	to Observer:	74.0 feet		^	ioise Sc	ource Ele			eet)				
Barrier Distance	to Observer:	0.0 feet				Autos		0.000					
Observer Height	(Above Pad):	5.0 feet				m Trucks	-	2.297 3.004	Grade A	divoto	nonti O	0	
P	ad Elevation:	0.0 feet			Heat	y Trucks	s: e	3.004	Grade A	ujusiri	nent. U.	U	
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)				
	Road Grade:	0.0%				Autos	s: 57	7.782					
	Left View:	-90.0 degree	es		Mediu	m Trucks	5: 57	7.629					
	Right View:	90.0 degree	es		Heav	y Trucks	3: 57	7.644					
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow	Dist	tance		Road	Fres		Barrier A		Berm /		
Autos:				-1.05		-1.20		-4.73		.000		0.00	
Medium Trucks:				-1.03		-1.20		-4.88	-	.000		0.000	
Heavy Trucks:				-1.03		-1.20		-5.25	0	.000		0.000	
Unmitigated Nois										-	01/5		
VehicleType	Leq Peak Hou		_	Leq Ev		Leq I		_	Ldn		CNE		
Autos: Medium Trucks:			68.7 68.0		66.1 64.1		63 64		70 71			71.2	
Heavy Trucks:			69.5		62.3		63		71			71.0	
Vehicle Noise:			73.5		69.2		68		75			76.	
Centerline Distan	ce to Noise C	ontour (in feet)										
				70 d	'BA	65 (1BA		60 dBA		55 dB	A	
			Ldn:	18	2	39	91		843		1,817		
	CNFI:						189 407 876 1,887						

	11144	A-RD-77-108	IIIGI	IVVATI	NOISE P	REDICI	ION INC	,DLL			
Scenari	o: OY					Project	Name:	Home	stead		
Road Nam	e: Archibald Av					Job №	lumber:	11968			
Road Segmei	nt: s/o Ontario R	tanch Rd.									
	SPECIFIC INF	PUT DATA			0'' 0				L INPUT	S	
lighway Data					Site Cor	aitions	(Hard =				
Average Daily	Traffic (Adt): 2	8,619 vehicle	s					Autos.			
	Percentage:	10%				edium Tr					
Peak H	our Volume: 2	2,862 vehicles	;		He	eavy Tru	cks (3+	Axles).	: 15		
	hicle Speed:	55 mph		ı	Vehicle	Mix					
Near/Far La	ne Distance:	93 feet		ħ	VehicleType Day Evening Night						Daily
Site Data					Autos: 74.1% 10.3% 15.6% 8						
Rai	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	6 7.1%	23.8%	7.02
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.19	6 3.9%	13.9%	3.33
Centerline Dis	st. to Barrier:	74.0 feet		ŀ	Noise S	ource E	levation	ns (in f	eet)		
Centerline Dist.	to Observer:	74.0 feet		ŀ		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liustment	: 0.0
Pa	ad Elevation:	0.0 feet		L		•				,	
Ros	ad Elevation:	0.0 feet		L	Lane Eq				feet)		
1	Road Grade:	0.0%				Auto		.782			
	Left View:	-90.0 degree	:S			m Truck	-	.629			
	Right View:	90.0 degree	:S		Hear	vy Truck	s: 57	.644			
HWA Noise Mode											
VehicleType		Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atte
Autos:	71.78	1.38		-1.0		-1.20		-4.73		000	0.0
Medium Trucks:	82.40	-9.68		-1.0	-	-1.20		-4.88		000	0.0
Heavy Trucks:	86.40	-12.92		-1.0		-1.20		-5.25	0.0	000	0.0
Inmitigated Noise VehicleType	Leg Peak Hour	ut Topo and L			vening	100	Night	1	I dn		NFI
Autos:	70.9		38.8	Ley E	66.3		fvigrit 63.	2	70.9		71
Medium Trucks:	70.5		38.1		64.2		64		71.7		71
Heavy Trucks:	71.2		39.6		62.4		63		71.0		71
Vehicle Noise:	75.7		73.7		69.4		68.	_	76.0		76
Centerline Distanc	e to Noise Con	tour (in feet)	1								
				70	dBA	65	dBA		60 dBA	55	dBA
	Ldn:			4	185 399 860 1		852				
			LUII.	- 1	00	3	192 415 893 1.92			002	

Thursday, August 8, 2019

	FHW	/A-RD-77-108 I	HIGHW	VAY N	OISE PR	REDICTION	ON MC	DEL					
Scenario: C						Project N			stead				
Road Name: A						Job Nu	mber:	11968					
Road Segment: s	o Merrill A	V.											
SITE SPE	CIFIC IN	PUT DATA				NO	DISE	MODE	L INPUT	S			
Highway Data				5	Site Conditions (Hard = 10, Soft = 15)								
Average Daily Traf	fic (Adt):	29,249 vehicles	3					Autos:	15				
Peak Hour Per	centage:	10%			Med	dium True	cks (2	Axles):	15				
Peak Hour	Volume:	2,925 vehicles			Hea	avy Truck	is (3+	Axles):	15				
Vehicle	Speed:	55 mph		1	/ehicle N	/liv							
Near/Far Lane D	Distance:	93 feet		-		cleTvpe		Dav	Evening	Night	Dailv		
Site Data					*0111	,,	ıtos:	74.1%		15.6%	89.65%		
					Me	edium Tru		69.0%		23.8%	7.02%		
Barrier Type (0-Wall,	Height:	0.0 feet 0.0				leavv Tru		82.1%		13.9%	3.33%		
Centerline Dist. to	,	74.0 feet				,							
Centerline Dist. to C		74.0 feet		٨	loise So	urce Ele		_	eet)				
Barrier Distance to C		0.0 feet				Autos:	-	.000					
Observer Height (Abo		5.0 feet				n Trucks:	_	.297					
	levation:	0.0 feet			Heav	y Trucks:	8	.004	Grade Ad	ljustment.	0.0		
	levation:	0.0 feet		L	ane Equ	ıivalent l	Distan	ce (in	feet)				
Roa	d Grade:	0.0%				Autos	57	.782					
L	eft View:	-90.0 degrees	3		Mediur	n Trucks	57	.629					
Ric	nt View:	90.0 degrees			Heav	y Trucks:	57	.644					
FHWA Noise Model Ca													
,,, .	REMEL	Traffic Flow	Dista		Finite		Fres		Barrier At		m Atten		
Autos:	71.78	1.48		-1.05		-1.20		-4.73		000	0.000		
Medium Trucks:	82.40	-9.58		-1.03		-1.20		-4.88		000	0.000		
Heavy Trucks:	86.40	-12.82		-1.03	5	-1.20		-5.25	0.	000	0.000		
Unmitigated Noise Le	vels (witho	ut Topo and b	arrier	atteni	uation)								
VehicleType Leq	Peak Hou	Leq Day	L	Leq Ev	ening	Leq N	light		Ldn	CI	VEL		
Autos:	71.		8.9		66.4		63.		71.	-	71.4		
Medium Trucks:	70.		8.2		64.3		64.	-	71.	-	72.0		
Heavy Trucks:	71.		9.7		62.5		63.		71.		71.2		
Vehicle Noise:	75.	8 7	3.7		69.5		68.	7	76.	1	76.3		
Centerline Distance to	Noise Co.	ntour (in feet)											
		-		70 a		65 d		6	60 dBA		dBA		
		_	dn:	18	-	40	-		872	,	880		
		CN	EL:	19	5	42	1		906	1,9	953		

	FH\	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DDEL			
	io: OY ne: Archibald A nt: s/o Limonit					Project Job N	Name: lumber:		stead		
	SPECIFIC IN	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	27,861 vehicle	es					Autos:			
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	2,786 vehicle	S		He	eavy True	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	Vehicle	Miv					
Near/Far La	ne Distance:	78 feet				icleType	,	Dav	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.69	6 89.65%
Pa	rrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.89	6 7.02%
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.99	6 3.33%
Centerline Di	st. to Barrier:	76.0 feet		1	Noise S	ourco El	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	76.0 feet		1	NOISE 3	Auto.		.000	et)		
Barrier Distance	to Observer:	0.0 feet			Modis	m Truck		297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liuetmar	t- 0.0
P	ad Elevation:	0.0 feet			пеа	vy Truck	δ. ο	.004	Orade Au	justinoi	n. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalent	t Distar	ice (in	feet)		
	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 65	.299			
FHWA Noise Mode	el Calculation	IS									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	erm Atten
Autos:	70.20	1.68		-1.8	35	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	81.00	-9.38		-1.8	34	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-12.62		-1.8	34	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	r atte	nuation)						
VehicleType	Leq Peak Hot			Leq E	vening		Night		Ldn		CNEL
Autos:	68	3.8	66.7		64.2		61.	.2	68.8	3	69.2
Medium Trucks:			66.2		62.3		62.	-	69.		70.0
Heavy Trucks:	69	9.7	68.1		60.9		61.	.6	69.4	4	69.6
Vehicle Noise:	73	3.8	71.8		67.5		66	.7	74.	1	74.4
Centerline Distant	ce to Noise C	ontour (in feet)								
•				70	dBA	65	dBA	6	60 dBA	5	5 dBA
			Ldn:	1	43	3	09		665	1	,433
		C	NEL:	1	49	3:	21		691	1	,488

	FH\	WA-RD-77-108	HIGH	HWAY N	IOISE P	REDICTI	ON MO	DDEL			
	io: OY le: Kimball Av. nt: w/o Hellma					Project Job N		Home: 11968			
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	15,022 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tru	ıcks (2	Axles).	15		
Peak H	lour Volume:	1,502 vehicles	3		He	avy Truc	ks (3+	Axles).	15		
Ve	hicle Speed:	50 mph		Η,	Vehicle	Miv					
Near/Far La	ne Distance:	51 feet		F		icleType		Dav	Evening	Night	Dailv
Site Data							lutos:	74.19		15.6	,
Por	rrier Heiaht:	0.0 feet			М	edium Tr	ucks:	69.0%			
Barrier Type (0-W		0.0				Heavy Tr	ucks:	82.1%	6 3.9%	13.9	% 3.33%
Centerline Dis		49.0 feet		I.							
Centerline Dist.		49.0 feet		1	Noise So	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		.000			
Observer Height ((Above Pad):	5.0 feet				m Trucks		.297			
	ad Elevation:	0.0 feet			Hear	y Trucks	s: 8	.004	Grade A	ijustmei	nt: 0.0
	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distar	ice (in	feet)		
i	Road Grade:	0.0%				Autos	s: 42	.140			
	Left View:	-90.0 degree	s		Mediu	m Trucks	s: 41	.929			
	Right View:	90.0 degree	s		Hear	y Trucks	s: 41	.950			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres		Barrier At	ten B	erm Atten
Autos:	70.20	-1.00		1.0	1	-1.20		-4.64	0.	000	0.000
Medium Trucks:	81.00	-12.06		1.0	4	-1.20		-4.87	0.	000	0.000
Heavy Trucks:	85.38	-15.30		1.04	4	-1.20		-5.44	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barri	er atten	uation)						
VehicleType	Leq Peak Hou			Leq E		,	Night		Ldn		CNEL
Autos:	69		66.9		64.4		61		69.		69.4
Medium Trucks:	68		66.4		62.5		63	-	70.	-	70.2
Heavy Trucks: Vehicle Noise:	69 74		68.3 72.0		61.1 67.6		61 66		69. 74	-	69.8 74.0
Centerline Distance					01.0		- 00		,		77.
Centernine Distant	e to Noise Co	ontour (in reet,	<u>'</u>	70 0	dBA	65 (dBA		60 dBA	5	5 dBA
			Ldn:	9	5	20)5		442		952
			VFI:	9		2.			459		989

	FHW	A-RD-77-108	HIGH	IWAY I	NOISE P	REDICT	ION MC	DEL			
	io: OY ne: Archibald Av nt: s/o 65th St.	<i>'</i> .					t Name: Number:		stead		
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	31,647 vehicle	s					Autos:			
Peak Hour	Percentage:	10%					rucks (2				
		3,165 vehicles			He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far Lai	ne Distance:	78 feet		İ	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.659
Rat	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis	st. to Barrier:	76.0 feet		1	Noise S	nurca F	lovation	ne (in fi	oot)		
Centerline Dist.	to Observer:	76.0 feet		1	140/36 01	Auto		.000	JUL)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck	-	297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	. 0 0
Pa	ad Elevation:	0.0 feet			Tical	y Huch	13. 0	.004	Orado ria	Juoumoni	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	:S		Mediu	m Truck	rs: 65	.286			
	Right View:	90.0 degree	:S		Hear	vy Truck	s: 65	.299			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres		Barrier Att	en Ber	m Atten
Autos:	70.20	2.23		-1.8	35	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	81.00	-8.83		-1.8	34	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-12.07		-1.8	34	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise								1			
	Leq Peak Hou	- 1 - 7		Leq E	vening		Night		Ldn		NEL
Autos: Medium Trucks:	69. 69.		67.3 66.7		64.7 62.9		61. 63.		69.4 70.1		69. 70.
	69. 70.		36.7 38.6		62.9		62.		70.3	-	70.
Heavy Trucks: Vehicle Noise:	70.		72.4		68.0		67.		70.0		70.
Centerline Distanc								-			
Contoninio Distant		nou. (III loct)		70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:	1	56	3	36		724	1,	561
			IFI:		62		49		752		620

Thursday, August 8, 2019

		VA-RD-77-108 HI	GHWAY						
Scenario						me: Home:	stead		
	e: Limonite Av				Job Num	ber: 11968			
Road Segmen	t: e/o Hellmar	ı Av.							
	SPECIFIC IN	PUT DATA				SE MODE		S	
Highway Data				Site Cond	ditions (Ha	ard = 10, So	oft = 15)		
Average Daily 1	Traffic (Adt):	466 vehicles				Autos:	15		
Peak Hour I	Percentage:	10%		Med	dium Truck	s (2 Axles):	15		
Peak Ho	our Volume:	47 vehicles		Hea	avy Trucks	(3+ Axles):	15		
Veh	nicle Speed:	50 mph		Vehicle N	fiv				
Near/Far Lar	ne Distance:	78 feet			cleType	Day	Evening	Night	Daily
Site Data				VOIM	Aut			15.6%	89.65%
				Mo	dium Truc			23.8%	7.02%
	rier Height:	0.0 feet			leavy Truc			13.9%	3.33%
Barrier Type (0-Wa	. ,	0.0			eavy Truc	No. 02.17	3.570	13.570	3.33 /
Centerline Dis		76.0 feet		Noise So	urce Eleva	ations (in f	eet)		
Centerline Dist. t		76.0 feet			Autos:	0.000			
Barrier Distance t		0.0 feet		Mediun	n Trucks:	2.297			
Observer Height (A	,	5.0 feet		Heav	Y Trucks:	8.004	Grade Ad	ljustment.	0.0
, 4	d Elevation:	0.0 feet		I ano Equ	ivalent Di	stance (in	foot)		
	d Elevation:	0.0 feet 0.0%		Lane Lyu	Autos:	65 422	icei)		
F	Road Grade:			A de elle co	n Trucks:	65.286			
	Left View:	-90.0 degrees				65.299			
	Right View:	90.0 degrees		Heav	y Trucks:	65.299			
FHWA Noise Mode	l Calculation:	5							
VehicleType	REMEL		Distance	Finite I		Fresnel	Barrier At		m Atten
Autos:	70.20	-16.09	-1.8		-1.20	-4.73	0.	000	0.000
Medium Trucks:	81.00	-27.15	-1.8		-1.20	-4.88		000	0.000
Heavy Trucks:	85.38	-30.39	-1.8	84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and ba	rrier atte	nuation)					
,,	Leq Peak Hou			Evening	Leq Nig		Ldn		VEL
Autos:	51		-	46.4		43.5	51.		51.5
Medium Trucks:	50			44.6		45.0	52.	-	52.2
Heavy Trucks:	51			43.1		43.9	51.		51.8
Vehicle Noise:	56	.1 54.	.1	49.7		48.9	56.	4	56.6
Centerline Distanc	e to Noise Co	ntour (in feet)							
				dBA	65 dB	4 (60 dBA		dBA
		Ld		9	20		44		94
		CNE	L:	10	21		45	9	97

	FH\	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DEL			
	io: OY ne: Limonite A nt: e/o Archiba						Name: lumber:	Homes 11968	tead		
	SPECIFIC IN	NPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	19,833 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak F	lour Volume:	1,983 vehicle	S		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	Vehicle	Miv					
Near/Far La	ne Distance:	78 feet				icleType	,	Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.6%	-
Pa	rrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.33%
Centerline Di	st. to Barrier:	76.0 feet		1	Noise S	ourco E	lovatio	ne (in f	not)		
Centerline Dist.	to Observer:	76.0 feet		ł	NOISE S	Auto		.000	et)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liuetman	t 0.0
P	ad Elevation:	0.0 feet			пеа	vy Truck	δ. ο	.004	Orade Ad	justinon	i. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in i	feet)		
	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 65	.299			
FHWA Noise Mod	el Calculation	IS									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	0.20		-1.8	35	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	81.00	-10.86		-1.8	34	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-14.10		-1.8	34	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Hou	ur Leq Daj	/	Leq E	vening	Leq	Night		Ldn		NEL
Autos:	67	7.4	65.3		62.7		59.	7	67.4	4	67.7
Medium Trucks:		7.1	64.7		60.9		61.	-	68.3		68.5
Heavy Trucks:	68	3.2	66.6		59.4		60.	1	68.0)	68.1
Vehicle Noise:	72	2.4	70.4		66.0		65	2	72.	7	72.9
Centerline Distant	ce to Noise C	ontour (in feet)								
			T	70	dBA	65	dBA	6	60 dBA	55	5 dBA
			Ldn:	1	14	2	46		530	1	,143
		С	NEL:	1	19	2	56		551	1	,187

	FH\	WA-RD-77-108	HIGH	N YAWI	OISE P	REDICTI	ON M	ODEL			
	io: OY ne: Limonite A nt: e/o Sumne					Project Job N		Home 11968			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions	(Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	23,434 vehicle	es					Autos	15		
Peak Hour	Percentage:	10%			Me	edium Tru	icks (2	Axles)	15		
Peak F	lour Volume:	2,343 vehicle	s		He	avy Truc	ks (3+	Axles)	15		
Ve	hicle Speed:	50 mph			/ehicle	Miv					
Near/Far La	ne Distance:	78 feet		H.		icleType		Dav	Evening	Night	Dailv
Site Data							lutos:	74.19		15.69	% 89.65%
Pa	rrier Height:	0.0 feet			М	edium Tr	ucks:	69.09	6 7.1%	23.89	% 7.02%
Barrier Type (0-W		0.0				Heavy Tr	ucks:	82.19	3.9%	13.99	% 3.33%
Centerline Di		76.0 feet		-							
Centerline Dist.	to Observer:	76.0 feet			voise S	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		0.000			
Observer Height	(Above Pad):	5.0 feet				m Trucks		2.297	Crada A	livotmo	o4: 0 0
P	ad Elevation:	0.0 feet			Heat	y Trucks	S: 6	3.004	Grade Ad	ijusimei	п. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Trucks	s: 65	5.286			
	Right View:	90.0 degree	es		Hear	y Trucks	s: 65	5.299			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier At		erm Atten
Autos:	70.20			-1.85		-1.20		-4.73		000	0.00
Medium Trucks:	81.00			-1.84		-1.20		-4.88		000	0.00
Heavy Trucks:				-1.84		-1.20		-5.25	0.	000	0.00
Unmitigated Nois											
VehicleType	Leq Peak Hou			Leq Ev		,	Night	_	Ldn		CNEL
Autos:	68		66.0		63.4		60		68.		68.
Medium Trucks:	67		65.4		61.6		62 60		69. 68.	-	69.2
Heavy Trucks: Vehicle Noise:	69 73	3.1	67.3 71.1		66.7		66		73.		68.9 73.0
Centerline Distan	ce to Noise Co	ontour (in feet)								
				70 d	IBA .	65 (dBA		60 dBA	5	5 dBA
			Ldn:	12	8	27	75	_	593		1,277
		_	NFI:	13	2	28	0.0		616		1,326

	FHV	VA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DDEL			
	rio: OY ne: Limonite Av nt: e/o Harrisor						t Name: lumber:		stead		
	SPECIFIC IN			1			IOISE	MODE	L INPUT	c	
Highway Data	SECULIO III	FUIDAIA			Site Cor					3	
Average Daily	Traffic (Adt):	21.923 vehicle	es					Autos:	15		
,	Percentage:	10%			Me	edium Ti	ucks (2	Axles):	15		
		2,192 vehicles	3		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		-	Vehicle	Miss					
Near/Far La	ne Distance:	78 feet				icleType		Day	Evening	Night	Daily
Site Data							Autos:	74.1%	-	15.6%	,
Pa	rrier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.33
Centerline Di		76.0 feet		-					.,		
Centerline Dist.	to Observer:	76.0 feet		-	Noise S				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		.297	Crada Aa	livotmont	
P	ad Elevation:	0.0 feet			Hear	vy Truck	s: 8	.004	Grade Ad	jusuneni	. 0.0
Ro	ad Elevation:	0.0 feet		Ī	Lane Eq	uivalen	t Distar	ice (in	feet)		
	Road Grade:	0.0%		ĺ		Auto	s: 65	.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 65	.299			
FHWA Noise Mod	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dis	tance	_	Road	Fres		Barrier Att		m Atter
Autos:		0.64		-1.8		-1.20		-4.73		000	0.0
Medium Trucks:		-10.42		-1.8		-1.20		-4.88		000	0.0
Heavy Trucks:	85.38	-13.66		-1.8	34	-1.20		-5.25	0.0	000	0.0
Unmitigated Nois								,			
VehicleType	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos: Medium Trucks:			65.7 65.1		63.1 61.3		60 61		67.8 68.1		68 68
Heavy Trucks:		-	67.0		59.9		60	-	68.4		68
Vehicle Noise:			70.8		66.4		65	-	73.		73
Centerline Distan	ce to Noise Co	ntour (in feet)								
				70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:	1	22	2	63		567	1,	222
			VFI:		27		73		589		269

Thursday, August 8, 2019

		WA-RD-77-108 H	IGHWA	Y NOISE P					
Scenari						ame: Home			
	e: Limonite A				Job Nun	nber: 11968			
Road Segmei	nt: e/o Scholai	· Wy.							
	SPECIFIC IN	IPUT DATA				ISE MODE		'S	
Highway Data				Site Co	nditions (H	ard = 10, S	oft = 15)		
Average Daily	Traffic (Adt):	26,756 vehicles				Autos.	15		
Peak Hour	Percentage:	10%		M	edium Truci	ks (2 Axles).	15		
Peak H	lour Volume:	2,676 vehicles		H	eavy Trucks	(3+ Axles)	15		
Ve	hicle Speed:	50 mph		Vehicle	Mix				
Near/Far La	ne Distance:	78 feet			nicleType	Day	Evening	Night	Daily
Site Data					Au	os: 74.19	10.3%	15.6%	89.65%
Par	rrier Height:	0.0 feet		Λ.	ledium Truc	ks: 69.09	7.1%		7.02%
Barrier Type (0-W		0.0 feet			Heavy Truc	ks: 82.19	3.9%	13.9%	3.33%
Centerline Dis		76.0 feet							
Centerline Dist.		76.0 feet		Noise S		ations (in f	eet)		
Barrier Distance	to Observer	0.0 feet			Autos:	0.000			
Observer Height ((Ahove Pad):	5.0 feet			ım Trucks:	2.297			
	ad Flevation:	0.0 feet		Hea	vy Trucks:	8.004	Grade Ad	djustment.	0.0
	ad Elevation:	0.0 feet		Lane Ed	uivalent D	istance (in	feet)		
	Road Grade:	0.0%			Autos:	65.422			
	Left View:	-90.0 degrees		Mediu	ım Trucks:	65.286			
	Right View:	90.0 degrees		Hea	vy Trucks:	65.299			
					,				
FHWA Noise Mode	el Calculation	s							
VehicleType	REMEL	Traffic Flow	Distant	ce Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	70.20	1.50	-	1.85	-1.20	-4.73	0.	000	0.000
Medium Trucks:	81.00	-9.56	-	1.84	-1.20	-4.88	0.	000	0.000
Heavy Trucks:	85.38	-12.80		1.84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and ba	arrier at	tenuation)					
VehicleType	Leq Peak Hou	ır Leq Day	Le	q Evening	Leq Ni	ght	Ldn	CI	VEL
Autos:	68	1.7 66	i.6	64.0)	61.0	68.	7	69.0
Medium Trucks:		3.4 66		62.2		62.6	69.	-	69.8
Heavy Trucks:	69).5 67	'.9	60.7	,	61.4	69.	3	69.4
Vehicle Noise:	73	3.7 71	.7	67.3	3	66.5	74.	.0	74.2
Centerline Distand	ce to Noise Co	ontour (in feet)							
				70 dBA	65 dE	Α	60 dBA	55	dBA
		Lo	ln:	140	301		648	1,3	395
		CNE	L:	145	312		672	1,4	149

	FHW.	A-RD-77-108	HIGH	WAY N	IOISE P	REDICT	ION MC	DEL			
Scenario: OY Road Name: Limor Road Segment: e/o H		NV.				Project Job N	Name: lumber:		stead		
SITE SPECIF	IC INP	UT DATA							L INPUT	s	
Average Daily Traffic (A Peak Hour Percente Peak Hour Volu Vehicle Spe	nge: me: 2	9,589 vehicle 10% ,959 vehicles 45 mph			Ме	edium Trueavy True	ucks (2	Autos: Axles):	15 15		
Near/Far Lane Distar	nce:	78 feet				iviix nicleType		Dav	Evening	Night	Dailv
Site Data Barrier Heig Barrier Type (0-Wall, 1-Be		0.0 feet 0.0			М		Autos: rucks:	74.1%	10.3% 7.1%	15.6% 23.8% 13.9%	89.65% 7.02%
Centerline Dist. to Bar Centerline Dist. to Obser Barrier Distance to Obser Observer Height (Above P Pad Elevar	ver: ver: ad):	76.0 feet 76.0 feet 0.0 feet 5.0 feet 0.0 feet			Mediu	Auto m Truck vy Truck	s: 0 s: 2	.000 .297 .004	eet) Grade Ad	ljustmer	t: 0.0
Road Elevai Road Gra Left V Right V	ade: iew: iew:	0.0 feet 0.0% -90.0 degree 90.0 degree			Mediu	Auto Auto m Truck vy Truck	s: 65 s: 65	.422 .286 .299	feet)		
FHWA Noise Model Calcul VehicleType RFMI		raffic Flow	D/-	tance	F1-11-	Road	Fres		Barrier Att		rm Atten
Autos: Medium Trucks: Heavy Trucks:	68.46 79.45 34.25	2.40 -8.66 -11.90		-1.8 -1.8 -1.8	5 4 4	-1.20 -1.20 -1.20	ries	-4.73 -4.88 -5.25	0.0	000 000 000	0.000 0.000 0.000
Unmitigated Noise Levels	•		_					1			
VehicleType Leq Pea Autos: Medium Trucks:	67.8 67.7		65.7 65.3	Leq E	vening 63.2 61.5		Night 60.	_	67.	8	68.2 69.1
Heavy Trucks: Vehicle Noise:	69.3 73.1		67.7 71.1		60.5		61.		69. 73.		69.2 73.6
Centerline Distance to No	se Con	tour (in feet))								
			Ldn: VEL:	70 d 12	28	2	<i>dBA</i> 76 86	6	50 dBA 594 617	1	,280 ,328

	FH\	WA-RD-77-108	HIGHV	VAY N	OISE PI	REDICTI	ON MO	DDEL				
Road Nam	io: OY+P le: Archibald A nt: s/o Chino A					Project Job N		Home: 11968	stead			
	SPECIFIC IN	IPUT DATA							L INPU	TS		
Highway Data				S	Site Con	ditions	Hard:	= 10, S	oft = 15)			
Average Daily	Traffic (Adt):	27,557 vehicle	s					Autos.	15			
Peak Hour	Percentage:	10%			Me	edium Tru	icks (2	Axles).	15			
Peak H	lour Volume:	2,756 vehicles	3		He	avy Truc	ks (3+	Axles).	15			
Ve	hicle Speed:	55 mph		,	/ehicle l	Miv						
Near/Far La	ne Distance:	93 feet		F.		icleType		Dav	Evening	Nie	ght	Dailv
Site Data							utos:	74.1%			5.6%	89.20%
Par	rrier Height:	0.0 feet			М	edium Tr	ucks:	69.0%	7.1%	23	3.8%	7.12%
Barrier Type (0-W		0.0			1	Heavy Tr	ucks:	82.1%	3.9%	5 13	3.9%	3.68%
Centerline Dis		74.0 feet		١.					-1			
Centerline Dist.	to Observer:	74.0 feet		^	voise Sc	ource El			eet)			
Barrier Distance	to Observer:	0.0 feet				Autos		.000				
Observer Height (Above Pad):	5.0 feet				m Trucks	-	.297	0	-ti t		0.0
	ad Elevation:	0.0 feet			Heav	y Trucks	S: 8	.004	Grade A	ajusti	nent:	0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	ice (in	feet)			
1	Road Grade:	0.0%				Autos	s: 57	.782				
	Left View:	-90.0 degree	s		Mediu	m Trucks	3: 57	.629				
	Right View:	90.0 degree	es		Heav	y Trucks	3: 57	.644				
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dista			Road	Fres		Barrier A		Berr	n Atten
Autos:	71.78	1.20		-1.05		-1.20		-4.73		.000		0.000
Medium Trucks:	82.40	-9.78		-1.03		-1.20		-4.88	-	.000		0.000
Heavy Trucks:	86.40	-12.64		-1.03	3	-1.20		-5.25	C	0.000		0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	atteni	uation)							
VehicleType	Leq Peak Hou			Leq Ev		Leq			Ldn		C٨	IEL
Autos:	70		68.6		66.1		63		70			71.
Medium Trucks:	70		0.86		64.1		64	-	71			71.8
Heavy Trucks: Vehicle Noise:	71 75		69.9 73.7		62.7		63 68			.3		71.4 76.3
Centerline Distance					00.0		- 00		70			10.1
Cemerine Distant	e to Noise Co	ontour (iii reet)		70 d	IBA	65 (iBA		60 dBA	Т	55 (dBA
			Ldn:	18	5	39	99		859		1,8	351
		-	VFI:	19	_	41			892			22

		VA-RD-77-108	HIGH	WATI	NOISE P						
	o: OY+P						Name:		stead		
	e: Archibald A					Job ∧	lumber:	11968			
Road Segmen	t: n/o Chino A	V.									
	PECIFIC IN	PUT DATA			011 0				L INPUT	S	
Highway Data					Site Cor	ditions	•				
Average Daily 1	raffic (Adt):	30,252 vehicle	es					Autos:	15		
Peak Hour I	Percentage:	10%				dium Tr					
Peak Ho	our Volume:	3,025 vehicles	3		He	avy Tru	cks (3+	Axles):	15		
Veh	icle Speed:	55 mph		ŀ	Vehicle	Mix					
Near/Far Lar	e Distance:	93 feet		ŀ		icleType	,	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.239
Ran	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.119
Barrier Type (0-Wa		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.65%
Centerline Dis		74.0 feet		-							
Centerline Dist. t	o Observer:	74.0 feet		-	Noise S				eet)		
Barrier Distance t	o Observer:	0.0 feet				Auto		.000			
Observer Height (A	Above Pad):	5.0 feet				m Truck		.297	0		
	d Elevation:	0.0 feet			Hear	y Truck	s: 8	.004	Grade Ad	justment	0.0
Roa	d Elevation:	0.0 feet		Ī	Lane Eq	uivalen	Distan	ce (in	feet)		
F	Road Grade:	0.0%		Ī		Auto	s: 57	.782			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degree			Hear	y Truck	s: 57	.644			
HWA Noise Mode	l Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	ance		Road	Fresi		Barrier Att		m Atten
Autos:	71.78	1.60		-1.0		-1.20		-4.73		000	0.00
Medium Trucks:	82.40	-9.38		-1.0)3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-12.27		-1.0)3	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise	•										
	Leq Peak Hou	- 1 - 7		Leq E	vening	Leq	Night		Ldn		NEL
Autos:	71.		69.0		66.5		63.	-	71.		71.
Medium Trucks:	70.	-	68.4		64.5		65.	-	72.0	-	72.
Heavy Trucks: Vehicle Noise:	71. 76.		70.2 74.1		63.1		63. 68.		71.6 76.4		71. 76.
Venicie Noise:					09.7		08.	5	10.4	*	10.
	e to Noise Co	inour (in reet)	'								
centernne Distanc				70	dBA	65	dBA		60 dBA	55	dBA
senternne Distanc			Ldn:		<i>dBA</i> 97		dBA 24		912		<i>dBA</i> 966

Thursday, August 8, 2019

FH	WA-RD-77-108	HIGHWAY	NOISE PE	REDICTION	ON MC	ODEL			
Scenario: OY+P Road Name: Archibald A Road Segment: s/o Schaef				Project I Job Nu		Home: 11968	stead		
SITE SPECIFIC II	NPUT DATA			N	OISE	MODE	L INPUT	s	
lighway Data			Site Con	ditions (Hard:	= 10, Sc	oft = 15)		
Average Daily Traffic (Adt):	25,886 vehicle	s				Autos:	15		
Peak Hour Percentage:	10%		Me	dium Tru	cks (2	Axles):	15		
Peak Hour Volume:	2,589 vehicles		He	avy Truc	ks (3+	Axles):	15		
Vehicle Speed:	55 mph		Vehicle I	Misc					
Near/Far Lane Distance:	93 feet			icleTvpe		Dav	Evening	Night	Daily
Site Data			Ven	,,,	utos:	74.1%	-	15.6%	. ,
			14	edium Tri		69.0%		23.8%	
Barrier Height:	0.0 feet 0.0			Heavy Tri		82.1%		13.9%	
Barrier Type (0-Wall, 1-Berm): Centerline Dist. to Barrier:	74.0 feet							10.070	0.7170
Centerline Dist. to Barrier:	74.0 feet		Noise Sc	ource Ele	vatio	ns (in f	eet)		
Barrier Distance to Observer:	0.0 feet			Autos	: (0.000			
	5.0 feet		Mediu	m Trucks	: 2	2.297			
Observer Height (Above Pad): Pad Flevation:	0.0 feet		Heav	y Trucks	: 8	3.004	Grade Ad	justmen	t: 0.0
Road Flevation:	0.0 feet		Lane Eq	uivalent	Dieta	nce (in	foot)		
Road Elevation: Road Grade:	0.0 reet		Lane Ly	Autos		7.782	reet)		
I eft View:			Modius	m Trucks		7.629			
Right View:	-90.0 degree			n Trucks vy Trucks		644			
Right view.	90.0 degree	5	1 Icav	y ITUCKS		.044			
HWA Noise Model Calculation	ıs		•						
VehicleType REMEL	Traffic Flow	Distance		Road	Fres		Barrier Att		rm Atten
Autos: 71.78			.05	-1.20		-4.73		000	0.000
Medium Trucks: 82.40			.03	-1.20		-4.88		000	0.000
Heavy Trucks: 86.40	-12.89	-1	.03	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise Levels (with	out Topo and I	barrier atte	enuation)						
VehicleType Leq Peak Ho	. , .,		Evening	Leq N			Ldn	_	NEL
	0.5	68.4	65.8		62	.9	70.	-	70.9
Medium Trucks: 70	0.1 6	67.7	63.9		64	.4	71.3	3	71.5
Heavy Trucks: 7	1.3 6	69.6	62.5		63	.2	71.0	0	71.2
Vehicle Noise: 7	5.4 7	73.4	69.0		68	.3	75.	7	76.0
	ontour (in feet)								
Centerline Distance to Noise C									
Centerline Distance to Noise C) dBA	65 a		(60 dBA		dBA
Centerline Distance to Noise C	-	dn:	0 dBA 178 185	65 d 38	3		825 857	1.	777 ,846

	FH	WA-RD-77-108	HIGH	1 YAW	NOISE P	REDICT	ION MO	DEL			
Scena	rio: OY+P					Project	Name:	Homes	tead		
	ne: Archibald /					Job N	lumber:	11968			
Road Segme	ent: s/o Ontario	Ranch Rd.									
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	10, Sc	oft = 15		
Average Daily	Traffic (Adt):	29,063 vehicl	es					Autos:			
	r Percentage:	10%				edium Tr					
Peak	Hour Volume:	2,906 vehicle	·S		He	eavy Trui	cks (3+ i	4xles):	15		
	ehicle Speed:	55 mph		İ	Vehicle	Mix					
Near/Far Li	ane Distance:	93 feet		Ī	Veh	icleType	,	Day	Evening	Night	Daily
Site Data						,	Autos:	74.1%	10.3%	15.69	89.27%
Ba	arrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.89	6 7.08%
Barrier Type (0-V	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.99	3.65%
	ist. to Barrier:	74.0 feet		ŀ	Noise S	ource El	evation	s (in fe	eet)		
Centerline Dist		74.0 feet				Auto		000	,		
Barrier Distance		0.0 feet			Mediu	m Truck		297			
Observer Height	. ,	5.0 feet			Hea	vy Truck		004	Grade Ad	justmer	t: 0.0
	Pad Elevation:	0.0 feet		L		•					
Ro	oad Elevation:	0.0 feet		L	Lane Eq				eet)		
	Road Grade:	0.0%				Auto		782			
	Left View:	-90.0 degre				m Truck		629			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 57.	644			
FHWA Noise Mod	lel Calculation	18									
VehicleType	REMEL	Traffic Flow		stance		Road	Fresi		Barrier Att	_	rm Atten
Autos				-1.0		-1.20		-4.73		000	0.000
Medium Trucks				-1.0	-	-1.20		-4.88		000	0.000
Heavy Trucks	: 86.40	-12.45		-1.0	3	-1.20		-5.25	0.0	000	0.000
Unmitigated Nois										,	
VehicleType	Leq Peak Ho			Leq E	vening		Night		Ldn		NEL
Autos		1.0	68.9		66.3		63.4		71.	-	71.4
Medium Trucks		0.6	68.2		64.3		64.8	-	71.	-	72.0
Heavy Trucks Vehicle Noise		1.7 5.9	70.1		62.9 69.5		63.6		71. 76.		71.6 76.4
Centerline Distan					09.0	'	00.0	,	76		70.4
Centernine Distar	LE IO NOISE C	ontour (III fee	1	70	dBA	65	dBA	-	60 dBA	5	5 dBA
			Ldn:		91		12		887		.912
		C	NEL:		99		28		921		.985
		C	NEL:	1	99	4	28		921	1	,985

	FHV	VA-RD-77-108	HIGHW	AY N	OISE PI	REDICTION	ON MC	DDEL			
	o: OY+P e: Archibald A nt: s/o Merrill A					Project I Job No		Home: 11968			
SITE S	SPECIFIC IN	IPUT DATA				N	DISE	MODE	L INPUT	s	
Highway Data				S	ite Con	ditions (Hard :	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	29,880 vehicle	s					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tru	cks (2	Axles).	15		
Peak H	our Volume:	2,988 vehicles	\$		He	avy Truc	ks (3+	Axles).	15		
Ve	hicle Speed:	55 mph		ı,	ehicle l	Miv					
Near/Far Lai	ne Distance:	93 feet				icleType		Dav	Evening	Nigh	t Daily
Site Data				_	*011		utos:	74.1%		15.6	
				-	M	edium Tn		69.0%		23.8	
	rier Height:	0.0 feet 0.0				Heavy Tr		82.1%	3.9%	13.9	
Barrier Type (0-W Centerline Dis		0.0 74.0 feet								10.0	0.027
Centerline Dist		74.0 feet		٨	loise So	ource Ele	vatio	ıs (in f	eet)		
Barrier Distance		0.0 feet				Autos	: 0	.000			
Observer Height (5.0 feet			Mediu	m Trucks	: 2	.297			
	nd Flevation:	0.0 feet			Heav	y Trucks	: 8	.004	Grade Ad	justme	ent: 0.0
	nd Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%		F		Autos		.782	,		
,	Left View:	-90.0 degree	e e		Mediu	m Trucks		629			
	Right View:	90.0 degree				vy Trucks		.644			
	J										
HWA Noise Mode			D: -		F: :				5		
VehicleType	REMEL 71.78	Traffic Flow 1.56	Dista	nce -1.05		Road -1.20	Fres	nei -4.73	Barrier Att	en E	Berm Atten
Autos: Medium Trucks:	71.78 82.40	-9.48		-1.03		-1.20		-4.73 -4.88		000	0.000
Heavy Trucks:	82.40 86.40	-9.48		-1.03		-1.20		-4.88 -5.25		000	0.000
						-1.20		-0.20	0.0	500	0.000
Unmitigated Noise VehicleType	Lea Peak Hou			attenu eq Ev		Leg N	liabt	1	l dn	1	CNFI
Autos:	71	.,.,	69.0	ey Lv	66.4		11911t 63	5	71.	1	71.5
Medium Trucks:	70		68.3		64.4		64	-	71.	-	71.5
Heavy Trucks:	71		70.2		63.0		63	-	71.	-	71.7
Vehicle Noise:	76		74.0		69.6		68		76.	_	76.5
Centerline Distanc	e to Noise Co	ontour (in feet)								
		, ,		70 d		65 d		- 1	60 dBA		55 dBA
			Ldn:	19	4	41	8		901		1,941
			VFI:	20		43			936		

	FHV	VA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MC	DEL			
Scenari	o: OY+P					Projec	t Name:	Homes	stead		
Road Nam	e: Archibald A	v.				Job N	lumber:	11968			
Road Segmer	nt: s/o Eucalyp	tus Av.									
	SPECIFIC IN	PUT DATA			011 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hard =				
Average Daily	Traffic (Adt):	28,254 vehicle	:S					Autos:			
	Percentage:	10%					ucks (2				
		2,825 vehicles	;		He	eavy Tru	cks (3+	Axles):	15		
	hicle Speed:	55 mph		F	Vehicle	Mix					
Near/Far Lar	ne Distance:	93 feet		ı	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.279
Rar	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.089
Barrier Type (0-W	-	0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.669
Centerline Dis	st. to Barrier:	74.0 feet		H	Noise S	nurca F	levation	ne (in f	not)		
Centerline Dist.	to Observer:	74.0 feet		ŀ	NOISE S	Auto		.000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (A	Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iuetmant	
Pa	ad Elevation:	0.0 feet			пеа	vy Truci	.s. o	.004	Orado Au	Justinoni	0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degree	:S		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degree	:S		Hear	vy Truck	s: 57	.644			
FHWA Noise Mode	el Calculations	3									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fres		Barrier Att	en Ber	m Atten
Autos:	71.78	1.31		-1.0)5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	82.40	-9.70		-1.0)3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-12.57		-1.0)3	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	•							_			
	Leq Peak Hou			Leq E	vening		Night		Ldn		VEL
Autos:	70.		38.7		66.2		63.		70.9		71.
Medium Trucks:	70.	-	38.1		64.2		64.		71.7		71.
Heavy Trucks: Vehicle Noise:	71. 75.		70.0 73.8		62.8		63. 68.	-	71.0 76.1		71. 76.
Centerline Distanc		-			00.4		00.		70.		70.
Jenner mile Distanc		mour (m reet)		70	dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	1	88	4	04		871	1,	877

Thursday, August 8, 2019

	EU	WA-RD-77-108	ПСПМА	/ NOISE D	BEDICTI	ON M	ODEL		_	
		WA-KD-//-108	HIGHWA	NOISE PI				-4		
	ario: OY+P me: Archibald A				Project I		: Home : 11968			
					JOD IVL	mber	11968			
Road Segm	ent: s/o Limonite	e Av.								
	SPECIFIC IN	IPUT DATA						L INPUT	S	
Highway Data				Site Con	ditions (Hard	= 10, S	oft = 15)		
Average Dail	y Traffic (Adt):	28,225 vehicle	s				Autos	15		
Peak Hou	ır Percentage:	10%		Me	dium Tru	cks (2	Axles)	: 15		
Peak	Hour Volume:	2,823 vehicles		He	avy Truc	ks (3+	Axles)	: 15		
	ehicle Speed:	50 mph								
	ane Distance:	78 feet		Vehicle			_	1	*** **	
	and Biotarioo.	70 1001		Veh	icleType		Day	Evening	Night	Daily
Site Data				4		utos:	74.19		15.6%	
В	arrier Height:	0.0 feet			edium Tru		69.09		23.8%	
Barrier Type (0-	Wall, 1-Berm):	0.0		'	Heavy Tri	ıcks:	82.19	3.9%	13.9%	3.43%
Centerline I	Dist. to Barrier:	76.0 feet		Noise So	ource Ele	vatio	ns (in f	eet)		
Centerline Dis	t. to Observer:	76.0 feet		110,00 00	Autos		0.000	001)		
Barrier Distanc	e to Observer:	0.0 feet		Modiu	m Trucks		2.297			
Observer Heigh	t (Above Pad):	5.0 feet			vy Trucks		3.004	Grade Ad	iustmon	+ n n
_	Pad Elevation:	0.0 feet		пеан	ry Trucks		0.004	Graue Au,	Jusunen	. 0.0
R	oad Elevation:	0.0 feet		Lane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%			Autos	: 6	5.422			
	Left View:	-90.0 degree	s	Mediu	m Trucks	: 6	5.286			
	Right View:	90.0 degree	s	Heav	y Trucks	6	5.299			
	3									
FHWA Noise Mo	del Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance		Road	Fre		Barrier Att	en Be	rm Atten
Autos	70.20	1.73	-1	.85	-1.20		-4.73	0.0	000	0.000
Medium Trucks	81.00	-9.34	-1	.84	-1.20		-4.88	0.0	000	0.000
Heavy Trucks	85.38	-12.43	-1	.84	-1.20		-5.25	0.0	000	0.000
Inmitigated Noi	se Levels (with	out Topo and I	parrier att	enuation)						
VehicleType	Leg Peak Hou			Evening	Leg N	light		Ldn	С	NEL
Autos			6.8	64.2	. 1.	61	.3	68.9	9	69.3
Medium Trucks			6.2	62.4		62		69.8	3	70.0
Heavy Trucks			88.3	61.1		61		69.6	-	69.8
Vehicle Noise			71.9	67.5		66		74.2		74.5
Centerline Dista	ana ta Naisa Ca	antaux (in foot)								
Jennerille Distal	ice to Noise Co	ontour (III leet)	7	O dBA	65 o	BA	Т.	60 dBA	55	dBA
		,	dn:	145	31			675		454
			IFI :	151	32	-		701		510
		Ch			32	_			1,	,5.0

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE P	REDICTI	ON MC	DEL			
Road Nan	rio: OY+P ne: Archibald A nt: s/o 65th St.					Project Job N	Name: umber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				- 1	Site Cor	nditions	(Hard =				
Average Daily	. ,	31,884 vehicl	es			edium Tru	inko (2	Autos:			
	Percentage:	3.188 vehicle				eavy Truc					
	hicle Speed:	50 mph	5				no (ot	Axies).	10		
	ne Distance:	78 feet		L	Vehicle				1 1		T =
					Ver	icleType	Autos:	Day 74.1%	Evening 10.3%	Night 15.69	Daily 6 89.73%
Site Data						ء ledium Tr		69.0%		23.89	
	rrier Height:	0.0 feet				eululli Ti Heavv Ti				13.99	
Barrier Type (0-W Centerline Di		0.0 76.0 feet				,				10.07	0.0170
Centerline Dist.		76.0 feet			Noise S	ource El			eet)		
Barrier Distance		0.0 feet				Autos		.000			
Observer Height		5.0 feet				m Trucks		.297	Crada As	li voteno e	4 0 0
P	ad Elevation:	0.0 feet			Hea	vy Trucks	s: 8	.004	Grade Ad	justiner	i. 0.0
Ro	ad Elevation:	0.0 feet		1	Lane Eq	uivalent	Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos		.422			
	Left View:	-90.0 degre				m Trucks		.286			
	Right View:	90.0 degre	es		Hea	vy Trucks	s: 65	.299			
FHWA Noise Mod	el Calculation	-									
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att	_	erm Atten
Autos:	70.20	2.27		-1.8	-	-1.20		-4.73		000	0.000
Medium Trucks:		-8.83		-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:		-12.07		-1.8		-1.20		-5.25	0.0	000	0.000
Unmitigated Nois								_			24.51
VehicleType Autos:	Leq Peak Hou	- 1 - 1	67.3	Leq E	vening 64.8		Night 61.	0	Ldn 69		69.8
Medium Trucks:	69		66.7		62.9		63	-	70.		70.5
Heavy Trucks:	70		68.6		61.5		62.		70.	-	70.2
Vehicle Noise:	74	.4	72.4		68.0		67.	3	74.	7	74.9
Centerline Distan	ce to Noise Co	ontour (in feet)								
,				70 (dBA	65 (dBA	(60 dBA	5	5 dBA
			Ldn:	15			37		726		,563
		С	NEL:	16	32	35	50		753	1	,623

	FH\	VA-RD-77-108 I	HIGHWAY	NOISE P	REDICTION	ON MC	DDEL			
Road Nam	io: OY+P ne: Limonite Av nt: e/o Hellman				Project I Job Nu					
	SPECIFIC IN	IPUT DATA						L INPUT	S	
Highway Data				Site Con	ditions (Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	934 vehicles	S				Autos.	15		
Peak Hour	Percentage:	10%		Me	edium Tru	cks (2	Axles).	15		
Peak H	lour Volume:	93 vehicles		He	avy Truc	ks (3+	Axles).	15		
Ve	hicle Speed:	50 mph		Vehicle	Miv					
Near/Far La	ne Distance:	78 feet			icleType		Dav	Evening	Night	Dailv
Site Data						utos:	74.1%		15.6%	86.49%
Pa	rrier Height:	0.0 feet		М	edium Tru	icks:	69.0%	6 7.1%	23.8%	6.07%
Barrier Type (0-W		0.0			Heavy Tru	ıcks:	82.1%	3.9%	13.9%	7.44%
Centerline Di	. ,	76.0 feet								
Centerline Dist.	to Observer:	76.0 feet		Noise S	ource Ele			eet)		
Barrier Distance	to Observer:	0.0 feet			Autos		.000			
Observer Height	(Above Pad):	5.0 feet			m Trucks	_	.297			
	ad Elevation:	0.0 feet		Hear	y Trucks	: 8	.004	Grade Ad	justmeni	. 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distar	nce (in	feet)		
	Road Grade:	0.0%			Autos	: 65	.422			
	Left View:	-90.0 degrees	s	Mediu	m Trucks	: 65	.286			
	Right View:	90.0 degrees	S	Hear	y Trucks	: 65	.299			
FHWA Noise Mode	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	-13.22		.85	-1.20		-4.73		000	0.000
Medium Trucks:	81.00	-24.76		.84	-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-23.87	-1	.84	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise										
VehicleType	Leq Peak Hou			Evening	Leq N	_		Ldn	_	NEL
Autos:	53		1.8	49.3		46.		53.		54.3
Medium Trucks:	53	-	8.0	47.0		47.		54.		54.6
Heavy Trucks: Vehicle Noise:	58		6.8	49.7 53.6		50. 53.		58. 60.		58.4 60.9
Centerline Distant				00.0			_	30.	•	00.0
Jennerinie Distant	e to Moise Co	mour (m reet)	7	0 dBA	65 d	BA	-	60 dBA	55	dBA
		L	.dn:	18	39)		85	. 1	183

	FH\	VA-RD-77-108	HIGH	YAW	NOISE P	REDICT	ION MO	DDEL			
Road Nar	rio: OY+P ne: Kimball Av. ent: w/o Hellma	n Av.					t Name: Number:		stead		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	15,405 vehicle	es					Autos:			
Peak Hou	r Percentage:	10%					rucks (2				
Peak I	Hour Volume:	1,541 vehicle	S		He	eavy Tru	icks (3+	Axles):	15		
Ve	ehicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ane Distance:	51 feet		ı	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.40
Ra	arrier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.00
Barrier Type (0-V		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.60
Centerline D	ist. to Barrier:	49.0 feet		1	Noise S	ource F	levation	ns (in fi	oet)		
Centerline Dist.	to Observer:	49.0 feet		1		Auto		.000	,,,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height	(Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iustment	. 0 0
F	Pad Elevation:	0.0 feet									
Ro	oad Elevation:	0.0 feet			Lane Eq				feet)		
	Road Grade:	0.0%				Auto		.140			
	Left View:	-90.0 degree	es			m Truck		.929			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 41	.950			
FHWA Noise Mod				· ·							
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atter
Autos:		-0.90		1.0		-1.20		-4.64		000	0.00
Medium Trucks:		-11.97		1.0		-1.20		-4.87		000	0.00
Heavy Trucks:		-14.86		1.0		-1.20		-5.44	0.0	000	0.00
Unmitigated Nois							A.C. auto 4	_	1 -1-		
VehicleType Autos:	Leq Peak Hou		67.0	Leq E	ening 64.5		Night 61.	5	Ldn 69.1		NEL 69
Medium Trucks			66.5		62.6		63.		70.1		70
Heavy Trucks			68.7		61.6		62		70.		70
Vehicle Noise.			72.3		67.8		67.	-	74.5		74
Centerline Distan	ce to Noise Co	ontour (in feet)								
		,			dBA		dBA	- (60 dBA		dBA
			Ldn:		98	_	12		457	_	85
			NFI:		02		20		475		022

Thursday, August 8, 2019

	FHWA	-RD-77-108 HIG	HWAY	NOISE PR	REDICTIO	N MODEL			
Scenario: OY+F					Project N	ame: Hom	estead		
Road Name: Limor	nite Av.				Job Nur	nber: 1196	8		
Road Segment: e/o Ai	chibald /	Av.							
SITE SPECIF	IC INPL	JT DATA			NO	ISE MOD	EL INPUT	s	
Highway Data				Site Cond	ditions (H	lard = 10,	Soft = 15)		
Average Daily Traffic (A	dt): 20	,515 vehicles				Auto	s: 15		
Peak Hour Percenta	age:	10%		Med	dium Truc	ks (2 Axles	:): 15		
Peak Hour Volu	me: 2,	051 vehicles		Hea	avy Truck	s (3+ Axles	:): 15		
Vehicle Spe	eed:	50 mph		Vehicle N	Ai v				
Near/Far Lane Distar	nce:	78 feet			cleTvpe	Dav	Evening	Night	Dailv
Site Data				VOIM	,, .	tos: 74.1			89.23%
				Mo	edium Tru				7.02%
Barrier Heig	,	0.0 feet			leavv Tru				3.75%
Barrier Type (0-Wall, 1-Be	,	0.0			icavy IIu	JAS. 02.1	70 3.570	13.570	3.7370
Centerline Dist. to Bar		76.0 feet		Noise So	urce Elev	ations (in	feet)		
Centerline Dist. to Obser Barrier Distance to Obser		76.0 feet 0.0 feet			Autos:	0.000			
		5.0 feet		Mediun	n Trucks:	2.297			
Observer Height (Above P	,	0.0 feet		Heav	y Trucks:	8.004	Grade Ad	djustment	0.0
Road Flevai		0.0 feet		I ane Fou	iivalent Γ	istance (ii	n feet)		
Road Gra		0.0 feet		Luno Lqu	Autos:	65.422	77001)		
Left V		90.0 degrees		Modium	n Trucks:	65.286			
Right V		90.0 degrees			y Trucks:	65.299			
ragit vi	EW.	30.0 degrees		ricav,	y Trucks.	00.200			
FHWA Noise Model Calcul	ations								
VehicleType REME	EL T	raffic Flow D	istance	Finite I	Road	Fresnel	Barrier At	ten Ber	m Atten
	70.20	0.33	-1.8	35	-1.20	-4.7	3 0.	.000	0.000
Medium Trucks:	31.00	-10.71	-1.8	34	-1.20	-4.8	3 0.	.000	0.000
Heavy Trucks:	35.38	-13.44	-1.8	34	-1.20	-5.2	5 0.	.000	0.000
Unmitigated Noise Levels	(without	Topo and barr	ier atte	nuation)					
VehicleType Leq Pea	k Hour	Leq Day	Leq E	vening	Leq Ni	ght	Ldn	CI	VEL
Autos:	67.5	65.4		62.8		59.9	67.	.5	67.9
Medium Trucks:	67.2	64.8		61.0		61.5	68.	.4	68.6
Heavy Trucks:	68.9	67.2		60.1		60.8	68.	-	68.8
Vehicle Noise:	72.7	70.7		66.2		65.5	73.	.0	73.2
Centerline Distance to Noi	se Cont	our (in feet)							
				dBA	65 dE		60 dBA		dBA
		Ldn:		20	259		557	,	201
		CNEL:	1	25	268		578	1,	246

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION M	ODEL			
	o: OY+P e: Limonite A nt: e/o Harriso							Home: 11968			
	SPECIFIC IN	IPUT DATA			0				L INPUT	S	
Highway Data					Site Con	aitions	(Hard				
Average Daily	Traffic (Adt):	22,571 vehicle	s					Autos.			
Peak Hour	Percentage:	10%				edium Ti		,			
Peak H	our Volume:	2,257 vehicles	3		He	avy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	50 mph		H	Vehicle	Mix					
Near/Far La	ne Distance:	78 feet		ŀ		icleType	9	Dav	Evening	Night	Daily
Site Data							Autos:	74.19	-	15.6	
Rai	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	6 7.1%	23.8	% 7.03%
Barrier Type (0-W	-	0.0				Heavy 7	rucks:	82.1%	3.9%	13.9	% 3.71%
Centerline Dis		76.0 feet		Ļ							
Centerline Dist.	to Observer	76.0 feet		L	Noise S				eet)		
Barrier Distance		0.0 feet				Auto		.000			
Observer Height (5.0 feet				m Truck		.297			
	ad Elevation:	0.0 feet			Hear	vy Truck	:s: 8	1.004	Grade Ad	ljustme	nt: 0.0
	ad Elevation:	0.0 feet		İ	Lane Eq	uivalen	t Distai	nce (in	feet)		
	Road Grade:	0.0%		İ		Auto		5.422	,		
	Left View:	-90.0 degree	e		Mediu	m Truck		286			
	Right View:	90.0 degree			Hear	y Truck	-	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier At	ten B	erm Atten
Autos:	70.20	0.75		-1.8	35	-1.20		-4.73	0.	000	0.000
Medium Trucks:	81.00	-10.29		-1.8	34	-1.20		-4.88	0.	000	0.000
Heavy Trucks:	85.38	-13.06		-1.8	34	-1.20		-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r atter	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day		Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	67	'.9	65.8		63.3		60	.3	67.	9	68.3
Medium Trucks:			65.3		61.4		61	.9	68.	8	69.1
Heavy Trucks:	69	9.3	67.6		60.5		61	.2	69.	0	69.2
Vehicle Noise:	73	3.1	71.1		66.6		65	.9	73.	4	73.6
Centerline Distance	e to Noise C	ontour (in feet))								
				70	dBA	65	dBA	- (60 dBA		5 dBA
			Ldn:	1.	28	2	75		593		1,277
		CI	VEL:	1	33	2	86		615		1,326

	FHV	WA-RD-77-108	HIGHV	VAY N	OISE P	REDICTION	M NC	ODEL			
Road Nam	no: OY+P ne: Limonite Av nt: e/o Scholar					Project I Job Nu		Home: 11968			
	SPECIFIC IN	IPUT DATA							L INPUT	S	
Highway Data				5	Site Con	ditions (Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	27,319 vehicle	s					Autos.	15		
Peak Hour	Percentage:	10%			Me	dium Tru	cks (2	Axles).	15		
Peak H	lour Volume:	2,732 vehicles			He	avy Truci	ks (3+	Axles).	15		
Ve	hicle Speed:	50 mph		,	/ehicle	Miv					
Near/Far La	ne Distance:	78 feet		F.		icleType		Day	Evening	Night	Daily
Site Data						A	utos:	74.19	6 10.3%	15.6%	89.29%
Ra	rrier Height:	0.0 feet			М	edium Tru	ıcks:	69.0%	7.1%	23.8%	7.05%
Barrier Type (0-W		0.0				Heavy Tru	ıcks:	82.1%	3.9%	13.9%	3.66%
Centerline Di		76.0 feet		٠.	/- / O			/! 6	41		
Centerline Dist.	to Observer:	76.0 feet		,	voise S	ource Ele		_ •	eet)		
Barrier Distance	to Observer:	0.0 feet				Autos. m Trucks		0.000 0.297			
Observer Height	(Above Pad):	5.0 feet					-		Crada Ad	li rotmont	. 0 0
Pi	ad Elevation:	0.0 feet			Heat	y Trucks.	: 6	3.004	Grade Ad	justrnent	. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent l	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos.	: 65	5.422			
	Left View:	-90.0 degree	s		Mediu	m Trucks.	: 65	5.286			
	Right View:	90.0 degree	·S		Hear	y Trucks.	: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fres	snel	Barrier Att	en Ber	m Atten
Autos:	70.20	1.58		-1.85	5	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	81.00	-9.45		-1.84	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-12.30		-1.84	1	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and I	barrier	atten	uation)						
VehicleType	Leq Peak Hou			Leq Ev		Leq N	_		Ldn		NEL
Autos:	68		6.6		64.1		61		68.		69.1
Medium Trucks:	68		36.1		62.3		62		69.7		69.9
Heavy Trucks:	70		38.4		61.2		61		69.8	_	69.9
Vehicle Noise:	73	1.9	71.9		67.5		66	.8	74.2	2	74.4
Centerline Distant	ce to Noise Co	ontour (in feet)		70		05.1	-				10.4
				70 d		65 d			60 dBA		dBA
			Ldn:	14 15	-	31:	_		671		447
		Cr	IEL:	15	U	32	3		697	1,3	501

Scenario	OVID					Drois -	Nome:	James :	tood		
							Name: I		stead		
	: Limonite Av.					JOD IV	lumber:	11968			
Road Segment	r: e/o Sumner A	W.									
SITE S lighway Data	PECIFIC INP	UT DATA		_	Site Con				L INPUTS	3	
* '					site Con	aitions	•				
Average Daily T	. ,	4,048 vehicle	8					Autos:			
Peak Hour F		10%					ucks (2 A		15		
		,405 vehicles			He	avy Iru	cks (3+ A	(xies	15		
	icle Speed:	50 mph		1	Vehicle I	Viix					
Near/Far Lan	e Distance:	78 feet			Veh	icleType	,	Day	Evening	Night	Daily
ite Data						,	Autos:	74.1%	10.3%	15.6%	89.279
Barı	ier Height:	0.0 feet			M	edium T	rucks:	69.0%	7.1%	23.8%	7.04%
Barrier Type (0-Wa		0.0			F	Heavy T	rucks:	82.1%	3.9%	13.9%	3.69%
Centerline Dist		76.0 feet		١.	O.	5		- /! #-	41		
Centerline Dist. to	Observer:	76.0 feet		1	Noise Sc				eet)		
Barrier Distance to	Observer:	0.0 feet				Auto		000			
Observer Height (A	lbove Pad):	5.0 feet				m Truck		297	0		
	d Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustment	0.0
Road	d Elevation:	0.0 feet		I	Lane Eq	uivalen	Distanc	ce (in i	feet)		
R	oad Grade:	0.0%				Auto	s: 65.	422			
	Left View:	-90.0 degrees	3		Mediu	m Truck	s: 65.	286			
	Right View:	90.0 degrees			Heav	y Truck	s: 65.	299			
HWA Noise Model	Calculations										
VehicleType		Traffic Flow	Dista	nce	Finite		Fresn	_	Barrier Atte	en Ber	m Atten
Autos:	70.20	1.02		-1.8	5	-1.20		-4.73	0.0	100	0.00
Medium Trucks:	81.00	-10.01		-1.84	4	-1.20		-4.88	0.0	100	0.00
Heavy Trucks:	85.38	-12.81		-1.8	4	-1.20		-5.25	0.0	00	0.00
Inmitigated Noise	•										
	eq Peak Hour	Leq Day		eq E	vening	Leq	Night		Ldn		NEL
Autos:	68.2	-	6.1		63.5		60.6		68.2		68.
Medium Trucks:	68.0		5.6		61.7		62.2		69.1		69.
Heavy Trucks:	69.5 73.4		7.9		66.9		61.4		69.3 73.7		69. 73.
Venicie Noise:			1.4		00.9		00.2	-	13.1		13.
	e to worse Con	tour (in feet)									
enternne Distance				70 c	dBA I	65	dBA	1 6	60 dBA	55	dBA
enternne Distance		ı	.dn:	70 c			<i>dBA</i> 87	E	618		331

Thursday, August 8, 2019

		VA-RD-77-108 HI	GHWAY						
Scenario						ame: Home:	stead		
	: Limonite Av				Job Nun	nber: 11968			
Road Segmen	t: e/o Hamne	r Av.							
	PECIFIC IN	IPUT DATA				ISE MODE		S	
Highway Data				Site Cond	ditions (H	ard = 10, So	oft = 15)		
Average Daily 1	raffic (Adt):	30,050 vehicles				Autos:	15		
Peak Hour I	Percentage:	10%		Med	dium Truck	s (2 Axles):	15		
Peak Ho	our Volume:	3,005 vehicles		Hea	avy Trucks	(3+ Axles):	15		
Veh	icle Speed:	45 mph		Vehicle N	fiv				
Near/Far Lar	e Distance:	78 feet			cleType	Day	Evening	Night	Daily
Site Data				10111	Aut			15.6%	89.29%
				Ma	dium Truc			23.8%	7.07%
	rier Height:	0.0 feet			leavy Truc			13.9%	3.64%
Barrier Type (0-Wa		0.0		,	cavy mac	NO. 02.17	0.570	10.070	0.047
Centerline Dis		76.0 feet		Noise So	urce Elev	ations (in f	eet)		
Centerline Dist. t		76.0 feet			Autos:	0.000			
Barrier Distance t		0.0 feet		Mediun	n Trucks:	2.297			
Observer Height (A	,	5.0 feet		Heav	Y Trucks:	8.004	Grade Ad	ljustment.	0.0
	d Elevation:	0.0 feet		Lana Fau	ilitalant D	istance (in	foot)		
	d Elevation:	0.0 feet		Lane Equ			ieet)		
F	Road Grade:	0.0%			Autos:	65.422			
	Left View:	-90.0 degrees			n Trucks:	65.286			
	Right View:	90.0 degrees		Heav	y Trucks:	65.299			
FHWA Noise Mode	l Calculation	s							
VehicleType	REMEL	Traffic Flow	Distance	Finite I	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	68.46	2.45	-1.8	85	-1.20	-4.73	0.	000	0.000
Medium Trucks:	79.45	-8.56	-1.8	84	-1.20	-4.88	0.	000	0.000
Heavy Trucks:	84.25	-11.45	-1.8	84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and ba	rrier atte	nuation)					
,,	Leq Peak Hοι			Evening	Leq Nig		Ldn		VEL
Autos:	67		-	63.2		60.2	67.	-	68.3
Medium Trucks:	67			61.6		62.1	69.	-	69.2
Heavy Trucks:	69	.8 68.	.1	61.0		61.7	69.	5	69.7
Vehicle Noise:	73	.4 71.	4	66.8		66.2	73.	6	73.9
Centerline Distanc	e to Noise Co	ontour (in feet)							
			70	dBA	65 dB.	A (60 dBA	55	dBA
		Ldi	n: 1	132	285		614	1,	324
		CNE	L: 1	137	296		637	1,3	373

FHW	A-RD-77-108 H	IGHWAY	NOISE P	REDICTIO	ON MO	DEL			
Scenario: IY Road Name: Archibald Av. Road Segment: n/o Chino Av.				Project N Job Nu			stead		
SITE SPECIFIC INP	UT DATA						L INPUT	6	
Highway Data			Site Cor	nditions (l	Hard =	10, S	oft = 15)		
Average Daily Traffic (Adt): 3	2,221 vehicles					Autos:			
Peak Hour Percentage:	10%			edium Truc		,			
	3,222 vehicles		He	eavy Truck	(S (3+ A	(xles	15		
Vehicle Speed:	55 mph		Vehicle	Mix					
Near/Far Lane Distance:	93 feet		Vet	nicleType		Day	Evening	Night	Daily
Site Data				A	ıtos:	74.1%	10.3%	15.6%	89.65%
Barrier Height:	0.0 feet		M	1edium Tru	icks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-Wall, 1-Berm):	0.0			Heavy Tru	icks:	82.1%	3.9%	13.9%	3.33%
Centerline Dist. to Barrier:	74.0 feet		Noise S	ource Ele	vation	e (in f	not)		
Centerline Dist. to Observer:	74.0 feet		740/30 0	Autos:		000	501)		
Barrier Distance to Observer:	0.0 feet		Medi	ım Trucks:		297			
Observer Height (Above Pad):	5.0 feet			vy Trucks:		004	Grade Ad	ustment	: 0.0
Pad Elevation:	0.0 feet			-					
Road Elevation:	0.0 feet		Lane Eq	uivalent l			feet)		
Road Grade:	0.0%			Autos:					
Left View:	-90.0 degrees			ım Trucks:	01.				
Right View:	90.0 degrees		Hea	vy Trucks:	57.0	644			
FHWA Noise Model Calculations									
VehicleType REMEL	Traffic Flow	Distance	e Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos: 71.78	1.90		.05	-1.20		-4.73	0.0		0.000
Medium Trucks: 82.40	-9.16		.03	-1.20		-4.88	0.0		0.000
Heavy Trucks: 86.40	-12.40	-1	.03	-1.20		-5.25	0.0	00	0.000
Unmitigated Noise Levels (withou	ut Topo and ba	rrier att	enuation)						
VehicleType Leq Peak Hour	. , . ,		Evening	Leq N			Ldn		NEL
Autos: 71.4			66.8		63.8		71.4		71.8
Medium Trucks: 71.0			64.8		65.2		72.2		72.4
Heavy Trucks: 71.8 Vehicle Noise: 76.2			63.0 69.9		63.7		71.5 76.5		71.7 76.7
			69.5	,	69.1		70.0	,	/6./
Centerline Distance to Noise Con	tour (in feet)	7	0 dBA	65 d	RA	,	60 dBA	55	dBA
	10	In:	200	433)		931	2	005

	FH\	WA-RD-77-108	HIGH	IWAY N	OISE PI	REDICTI	ON M	ODEL				
	rio: IY ne: Archibald A ent: s/o Schaef					Project Job Ni		Home 11968				
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPU	TS		
Highway Data				5	Site Con	ditions (Hard:	= 10, S	oft = 15)			
Average Daily	Traffic (Adt):	27,730 vehicle	es					Autos	15			
Peak Hou	Percentage:	10%			Me	dium Tru	icks (2	Axles)	15			
Peak I	Hour Volume:	2,773 vehicle	s		He	avy Truc	ks (3+	Axles)	15			
Ve	ehicle Speed:	55 mph		1	/ehicle l	Miv						
Near/Far La	ane Distance:	93 feet		F.		icleType	T	Dav	Evening	Nie	ght	Dailv
Site Data							utos:	74.19			5.6%	89.65%
D-	rrier Height:	0.0 feet			М	edium Tr	ucks:	69.09	6 7.1%	23	3.8%	7.02%
Barrier Type (0-V		0.0			1	Heavy Tr	ucks:	82.19	3.9%	5 13	3.9%	3.33%
	ist. to Barrier:	74.0 feet			/ O			(! 4	41			
Centerline Dist.	to Observer:	74.0 feet		^	voise Sc	ource Ele			eet)			
Barrier Distance	to Observer:	0.0 feet			11-15	Autos m Trucks		2.297				
Observer Height	(Above Pad):	5.0 feet				m Trucks vy Trucks	-	3.004	Grade A	diucti	mont	0.0
F	ad Elevation:	0.0 feet			пеач	ry Trucks	s. c	0.004	Grade A	ujusti	ment.	0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)			
	Road Grade:	0.0%				Autos	3: 57	7.782				
	Left View:	-90.0 degree	es		Mediu	m Trucks	5: 57	7.629				
	Right View:	90.0 degree	es		Heav	y Trucks	3: 57	7.644				
FHWA Noise Mod	lel Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier A		Berr	n Atten
Autos:				-1.05		-1.20		-4.73		.000		0.00
Medium Trucks:				-1.03		-1.20		-4.88	-	.000		0.000
Heavy Trucks:				-1.03		-1.20		-5.25	0	0.000		0.00
Unmitigated Nois												IFI
VehicleType Autos:	Leq Peak Hot		68.7	Leq Ev	ening 66.1	Leq I	vignt 63	2	Ldn 70		CI	71.
Medium Trucks:			68.0		64.1		64		71			71.7
Heavy Trucks:			69.5		62.3		63		70			71.0
Vehicle Noise:		5.5	73.5		69.2		68		75			76.
Centerline Distan	ce to Noise C	ontour (in feet)									
				70 d	IBA .	65 (1BA		60 dBA		<i>5</i> 5 d	dBA
			Ldn:	18	1	39	91		842		1,8	14
		_	NFI:	18	0	40			875		1,8	0.5

_											
Scenari						.,		: Homes	stead		
	e: Archibald Av					Job I	Vumber	: 11968			
Road Segmer	nt: s/o Chino Av	/.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	ditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	29,473 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%						2 Axles):			
Peak H	our Volume:	2,947 vehicles	S		He	eavy Tru	icks (3+	+ Axles):	15		
Ve	hicle Speed:	55 mph		ν	ehicle	Mix					
Near/Far Lai	ne Distance:	93 feet				icleTyp	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.65
Rat	rier Height:	0.0 feet			М	edium 1	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.33
Centerline Dis	st. to Barrier:	74.0 feet		N	loise Si	nurce F	levatio	ns (in fe	opt)		
Centerline Dist.	to Observer:	74.0 feet		<u> </u>	0.00 0	Auto		0.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Madiu	m Truci		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truci		B 004	Grade Ad	liustment	: 0.0
Pa	ad Elevation:	0.0 feet				•				,	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Dista	nce (in i	feet)		
I	Road Grade:	0.0%				Auto	s: 5	7.782			
	Left View:	-90.0 degree	es			m Truci	0	7.629			
	Right View:	90.0 degree	es		Hear	vy Truci	(s: 5	7.644			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fre.		Barrier Att	_	m Atte
Autos:	71.78	1.51		-1.05		-1.20		-4.73		000	0.0
Medium Trucks:	82.40	-9.55		-1.03		-1.20		-4.88		000	0.0
Heavy Trucks:	86.40	-12.79		-1.03		-1.20		-5.25	0.0	000	0.0
Inmitigated Noise	•										
	Leq Peak Hour		_	Leq Ev			Night		Ldn 71.		NEL
Autos: Medium Trucks:	71. 70.	-	69.0 68.2		66.4 64.4			3.4 1.9	71.	•	71 72
	70.0	-	68.2 69.7		62.6		-	1.9 3.3	71.	-	
Heavy Trucks:											71
Vehicle Noise:	75.		73.8		69.5	1	68	3.7	76.	1	76
Centerline Distanc	e to Noise Co	ntour (in feet)	70 di	DΛ	65	dBA	-	60 dBA	55	dBA
			I dn:	189			.07	1 .	877		889
			Lan.	108	,	-	101		011	Ι,	003
		C	VFI:	196	3		23		911	- 1	963

Thursday, August 8, 2019

	FH\	WA-RD-77-108	HIGHW	/AY N	IOISE PE	REDICT	ION M	ODEL					
	rio: IY ne: Archibald A ent: s/o Ontario							: Home : 11968	stead				
SITE	SPECIFIC IN	IPUT DATA				N	IOISE	MODE	L INPUT	s			
Highway Data				5	Site Con	ditions	(Hard	= 10, S	oft = 15)				
Average Daily	Traffic (Adt):	30,734 vehicle	es		Autos: 15								
Peak Hou	Percentage:	10%			Me	dium Tr	ucks (2	Axles).	15				
Peak I	Hour Volume:	3,073 vehicles	3		He	avy Tru	cks (3+	Axles).	15				
V	ehicle Speed:	55 mph		,	/ehicle l	Misc							
Near/Far La	ane Distance:	93 feet		١,		icleType	. 1	Dav	Evening	Night	Daily		
Site Data					Ven		Autos:	74.19	-	15.6%	,		
				-	Medium Trucks: 69.0% 7.1% 23.8% 7.0								
	rrier Height:	0.0 feet 0.0				Heavy T				13.9%			
Barrier Type (0-V	vali, 1-Berm): ist. to Barrier:	0.0 74.0 feet				loary 1	dono.	02.17	0.070	10.070	0.0070		
Centerline D		74.0 feet		1	Voise Sc	ource El	evatio	ns (in f	eet)				
Barrier Distance		0.0 feet				Auto		0.000					
Observer Height		5.0 feet			Mediu	m Truck	s: :	2.297					
	(Above Pau). Pad Flevation:	0.0 feet			Heav	y Truck	s: 8	8.004	Grade Ad	justment	: 0.0		
	ad Elevation:	0.0 feet		ı	ane Eq	uivalen	Dista	nce (in	feet)				
//C	Road Grade:	0.0%		F		Auto		7.782	,				
	Left View:	-90.0 degree	00		Mediu	m Truck		7.629					
	Right View:	90.0 degree				v Truck		7.644					
	rugin view.	00.0 409.00	,,			,	-						
FHWA Noise Mod													
VehicleType	REMEL	Traffic Flow	Dista		Finite		Fre.	snel	Barrier Att		m Atten		
Autos.		1.69		-1.05	-	-1.20		-4.73		000	0.000		
Medium Trucks				-1.03	-	-1.20		-4.88		000	0.000		
Heavy Trucks	86.40	-12.61		-1.03	3	-1.20		-5.25	0.0	000	0.000		
Unmitigated Nois	e Levels (with	out Topo and	barrier	atten	uation)								
VehicleType	Leq Peak Hou	ır Leq Day	' L	eq Ev	ening/	Leq	Night		Ldn	C	NEL		
Autos	71	.2	69.1		66.6		63	3.6	71.:	2	71.6		
Medium Trucks	70	1.8	68.4		64.6		65	5.0	72.0)	72.2		
Heavy Trucks	71	.6	69.9		62.7		63	3.5	71.3	3	71.4		
Vehicle Noise	76	5.0	74.0		69.7		68	3.9	76.	3	76.5		
Centerline Distan	ce to Noise Co	ontour (in feet)										
		• •		70 c	lBA	65	dBA		60 dBA	55	dBA		
			Ldn:	19	14	4	19		902	1,	943		
			VFI:	20			35		937		018		

	FHW	/A-RD-77-108	HIGHWA	AY N	OISE PE	REDICTION	ON MC	DEL			
	io: IY e: Archibald A nt: s/o Eucalyp					Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Peak H	Percentage: lour Volume: hicle Speed:	29,882 vehicle 10% 2,988 vehicles 55 mph 93 feet			Me He /ehicle l		cks (2	Autos: Axles): Axles):	15 15 15		
Site Data					Veh	icleType	utos:	Day 74.1%	Evening 10.3%	Night 15.6%	Daily 89.65%
	rier Height: 'all, 1-Berm):	0.0 feet 0.0				edium Tru Heavy Tru	ıcks:	69.0% 82.1%	7.1%	23.8%	7.02%
Centerline Dist. Centerline Dist. Barrier Distance Observer Height (to Observer: to Observer:	74.0 feet 74.0 feet 0.0 feet 5.0 feet 0.0 feet		^	Mediui	Autos Trucks y Trucks	: 0. : 2.	s (in fe 000 297 004	eet) Grade Ad	ljustmen	t: 0.0
	ad Elevation: Road Grade:	0.0 feet 0.0%		L	.ane Eq	uivalent . Autos		ce (in : 782	feet)		
,	Left View: Right View:	-90.0 degree				m Trucks ry Trucks	57	629 644			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Distan			Road	Fresi		Barrier Att		rm Atten
Autos: Medium Trucks: Heavy Trucks:	71.78 82.40 86.40	1.57 -9.49 -12.73		-1.05 -1.03 -1.03	3	-1.20 -1.20 -1.20		-4.73 -4.88 -5.25	0.0	000 000 000	0.000 0.000 0.000
Unmitigated Noise	Levels (with	out Topo and I	barrier a	tten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Ev	ening	Leq N	light		Ldn	C	NEL
Autos: Medium Trucks:	71. 70.		9.0 88.3		66.5 64.4		63. 64.	-	71. 71.	-	71.5 72.1
Heavy Trucks: Vehicle Noise:	71. 75.		73.8		62.6 69.6		63.		71.1 76.1		71.3 76.4
Centerline Distance											
Genternine Distant		, ,		70 a		65 d		6	60 dBA		i dBA
			Ldn: IEL:	19 19		41 42			885 919		,907 ,981

	io: IY e: Archibald A nt: s/o Limonit						Name: lumber:					
	SPECIFIC IN	IPUT DATA							L INPUT	s		
Highway Data					Site Con	ditions	(Hard =	: 10, S	oft = 15)			
Average Daily	Traffic (Adt):	33,476 vehicle	s					Autos.	15			
Peak Hour	Percentage:	10%			Medium Trucks (2 Axles): 15							
Peak H	our Volume:	3,348 vehicles	3		He	avy Tru	cks (3+	Axles).	15			
Ve	hicle Speed:	50 mph		ŀ	Vehicle I	Miv						
Near/Far Lai	ne Distance:	78 feet		H		icleType		Day	Evening	Nig	tht	Daily
Site Data				_	1011		Autos:	74.19		_		39.65%
		0.0 feet			M	edium T		69.0%			.8%	7.02%
Barrier Type (0-W	rier Height:	0.0 reet 0.0				leavy T	rucks:	82.1%	6 3.9%	13	.9%	3.33%
Centerline Dis		76.0 feet		L								
Centerline Dist		76.0 feet			Noise So	ource El	evation	ıs (in f	eet)			
Barrier Distance		0.0 feet				Auto		.000				
						m Truck		.297				
	bserver Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					y Truck	s: 8	.004	Grade A	djustn	nent: (0.0
	ad Elevation:	0.0 feet		h	Lane Eq	uivalent	Distan	ce (in	feet)			
	Road Grade:	0.0%		F		Auto		422				
,	Left View:	-90.0 degree	20		Mediu	m Truck		.286				
	Right View:	90.0 degree			Heav	y Truck	s: 65	.299				
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier A	ten	Berm	Atten
Autos:	70.20	2.48		-1.8	5	-1.20		-4.73	0	.000		0.000
Medium Trucks:	81.00	-8.58		-1.8	4	-1.20		-4.88	0	.000		0.000
Heavy Trucks:	85.38	-11.82		-1.8	4	-1.20		-5.25	0	.000		0.000
Unmitigated Noise				er atten	nuation)							
,,	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		CNE	
Autos:	69		67.5		65.0		62.	-	69	-		70.0
Medium Trucks:	69		67.0		63.1		63.	-	70	-		70.8
Heavy Trucks: Vehicle Noise:	70		68.9 72.6		61.7 68.3		62. 67.		70 74			70.4 75.2
Centerline Distanc								-		-		
Jenternie Distant	.c 10 110136 CC	mour (III leet,	T	70	dBA	65	dBA	-	60 dBA	Т	55 dl	BA
			Ldn:	16	62	3-	49		752		1,62	20
			VFI:		68		62		781		1.68	

		VA-RD-77-108		A.	NOIDE I	IKEDIOI	IOIT III	,,,,,,,			
Scenar							t Name:		stead		
	e: Archibald A					Job I	lumber.	11968			
Road Segme	nt: s/o Merrill A	IV.									
	SPECIFIC IN	PUT DATA			011 0				L INPUT	S	
Highway Data					Site Cor	iaitions	(Hara :				
Average Daily	. ,	31,258 vehicle	:S					Autos.			
Peak Hour	Percentage:	10%				edium Ti					
Peak F	lour Volume:	3,126 vehicles	;		He	eavy Tru	cks (3+	Axles).	15		
Ve	hicle Speed:	55 mph		ŀ	Vehicle	Mix					
Near/Far La	ne Distance:	93 feet		ħ	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.19	10.3%	15.6%	89.65
Ra	rrier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W	/all, 1-Berm):	0.0				Heavy 7	rucks:	82.19	3.9%	13.9%	3.33
Centerline Di		74.0 feet		Ī	Noise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	74.0 feet		İ		Auto	s: C	0.000			
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height	Above Pad):	5.0 feet			Hear	vy Truck		004	Grade Ad	iustment	: 0.0
P	ad Elevation:	0.0 feet		L		•					
Ro	ad Elevation:	0.0 feet		L	Lane Eq				feet)		
	Road Grade:	0.0%				Auto		7.782			
	Left View:	-90.0 degree	:S			m Truck		7.629			
	Right View:	90.0 degree	:S		Hear	vy Truck	s: 57	7.644			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atter
Autos:	71.78	1.77		-1.0		-1.20		-4.73		000	0.0
Medium Trucks:	82.40	-9.30		-1.0	-	-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-12.53		-1.0		-1.20		-5.25	0.0	000	0.00
Unmitigated Noise VehicleType							A II and a		I dn		
Autos:	Leq Peak Hou	, ,	39.2	Leq E	vening 66.7		Night 63	7	Tan 71.3		NEL 71
Medium Trucks:	71 70		38.5		64.6		65		71.	-	71
			70.0		62.8		63		71.4		
Heavy Trucks: Vehicle Noise:	71 76		74.0		62.8		68		71.4		71 76
Centerline Distan	ce to Noise Co	ontour (in feet)									
					dBA		dBA		60 dBA		dBA
			l dn:	1	96	- 1	23		912	- 1	965
			Luii.		50	-	20		312	٠,	000

Thursday, August 8, 2019

	EUW	/A-RD-77-108 HIG		NOISE DE	EDICTIO	N MODEL			
Scenario:		7A-KD-77-100 HIC	JIIWAI	NOISE FF		ame: Home	etood		
Road Name:		,				nber: 11968			
Road Segment:		<i>.</i> .			JOD IVAII	1001. 11900	,		
		PUT DATA			NO	ISE MODI	EL INPUT	s	
Highway Data				Site Con		ard = 10, S			
Average Daily Tra	affic (Adt):	33,456 vehicles				Autos	: 15		
Peak Hour Pe	rcentage:	10%		Me	dium Truci	ks (2 Axles)	: 15		
Peak Hou	r Volume:	3,346 vehicles		Hei	avy Trucks	(3+ Axles)	: 15		
Vehic	le Speed:	50 mph		Vehicle I	Alle				
Near/Far Lane	Distance:	78 feet			cleType	Dav	Evening	Night	Daily
Site Data				Verii		tos: 74.19			89.65%
				1.4	edium Truc				7.02%
	er Height:	0.0 feet			leavy Truc				3.33%
Barrier Type (0-Wall,		0.0 76.0 feet		,	icavy irac	M3. 02.11	70 0.570	10.570	0.00 /
Centerline Dist. to		76.0 feet		Noise So	urce Elev	ations (in	feet)		
Barrier Distance to		0.0 feet			Autos:	0.000			
Observer Height (Ab		5.0 feet		Mediur	n Trucks:	2.297			
	ove rau). Flevation:	0.0 feet		Heav	y Trucks:	8.004	Grade A	djustment	0.0
	Elevation:	0.0 feet		Lane Equ	ıivalent D	istance (in	feet)		
	ad Grade:	0.0%			Autos:	65.422	,		
	l eft View:	-90.0 degrees		Mediur	n Trucks:	65.286			
	iaht View:	90.0 degrees			y Trucks:	65.299			
	gni non.	00.0 dog.000			,				
FHWA Noise Model (Calculations	1							
VehicleType	REMEL		istance	Finite		Fresnel	Barrier At		m Atten
Autos:	70.20	2.48	-1.		-1.20	-4.73	-	.000	0.000
Medium Trucks:	81.00	-8.59	-1.		-1.20	-4.88	-	.000	0.000
Heavy Trucks:	85.38	-11.83	-1.	84	-1.20	-5.25	0.	.000	0.000
Unmitigated Noise L	evels (witho	out Topo and bar	rier atte	nuation)					
VehicleType Le	q Peak Hou	r Leq Day	Leq	Evening	Leq Ni	ght	Ldn	CI	VEL
Autos:	69.	6 67.5	5	65.0		62.0	69	.6	70.0
Medium Trucks:	69.			63.1		63.6	70	.5	70.8
Heavy Trucks:	70.	5 68.9)	61.7		62.4	70	.2	70.4
Vehicle Noise:	74.	6 72.6	3	68.2		67.5	74	.9	75.2
Centerline Distance	to Noise Co	ntour (in feet)							
) dBA	65 dB	A	60 dBA	55	dBA
		Ldn	: -	162	349		752	1,	619
		CNEL		168	362		781	1,	682

	FH\	WA-RD-77-108	HIGH	HWAY	NOISE P	REDICT	ION MO	DEL			
	io: IY ne: Kimball Av nt: w/o Hellma						t Name: lumber:		stead		
	SPECIFIC IN	NPUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	15,792 vehicl	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	1,579 vehicle	S		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	51 feet				icleType		Day	Evening	Nigh	t Daily
Site Data							Autos:	74.1%		15.6	-
Rai	rrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.8	7.029
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9	3.33%
Centerline Di	st. to Barrier:	49.0 feet			Noise S	ouroo E	lovetion	o (in f	2041		
Centerline Dist.	to Observer:	49.0 feet			Noise 3	Auto		.000	ei)		
Barrier Distance	to Observer:	0.0 feet			Modis	m Truck		297			
Observer Height ((Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liuotma	nt 0.0
Pa	ad Elevation:	0.0 feet			пеа	vy Truck	.s. o	.004	Orauc Ac	justin	m. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ce (in	feet)		
1	Road Grade:	0.0%				Auto	s: 42	.140			
	Left View:	-90.0 degre	es		Mediu	m Truck	s: 41	.929			
	Right View:	90.0 degre	es		Hea	vy Truck	s: 41	.950			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier At	ten E	Berm Atten
Autos:	70.20				01	-1.20		-4.64		000	0.00
Medium Trucks:	81.00				04	-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-15.09		1.	04	-1.20		-5.44	0.	000	0.00
Unmitigated Noise	e Levels (with	out Topo and	barri	er atte	nuation)						
VehicleType	Leq Peak Hot			Leq I	vening		Night		Ldn		CNEL
Autos:		9.2	67.1		64.6		61.		69.		69.
Medium Trucks:		9.0	66.6		62.7		63.	_	70.	_	70.
Heavy Trucks:	70		68.5		61.3		62.	0	69.	_	70.
Vehicle Noise:	74	1.3	72.3		67.9	1	67.	1	74.	5	74.
Centerline Distance	ce to Noise C	ontour (in feet	t)								
				70	dBA	65	dBA	(60 dBA		55 dBA
			Ldn:		98	_	12		457		985
		С	NEL:	1	02	2	20		475		1,022

Scenari	io: IV					Project	Nama	Homo	etood		
	io. 11 ie: Limonite Ai	,						11968	steau		
	nt: e/o Archiba					JOD 11	umber.	11900			
SITE : Highway Data	SPECIFIC IN	IPUT DATA			Sito Cor				L INPUT of $t = 15$)	S	
_ · · ·				-	site Con	unuons	(naru :				
Average Daily		21,611 vehic	les			-#: T-		Autos:			
	Percentage:	10%				dium Tr		,			
	lour Volume:	2,161 vehicle	es		HE	avy Tru	CKS (3+	Axies).	15		
	hicle Speed:	50 mph		١	/ehicle	Mix					
Near/Far La	ne Distance:	78 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.65%
Bai	rrier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis	st. to Barrier:	76.0 feet			Vaisa Si	ource E	lovatio	ne (in f	oot)		
Centerline Dist.	to Observer:	76.0 feet		,	V0/36 30	Auto		.000	eei)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	livetman	- 0 0
Pa	ad Elevation:	0.0 feet			rica	y Huck	s. c	1.004	Orauc Au	justinom	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	Distar	nce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degre	ees		Mediu	m Truck	s: 65	5.286			
	Right View:	90.0 degre	ees		Hear	y Truck	s: 65	5.299			
FHWA Noise Mode	el Calculation										
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	0.58		-1.85		-1.20		-4.73		000	0.00
Medium Trucks:	81.00	-10.48	-	-1.84		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-13.72	2	-1.84	1	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise										_	
VehicleType	Leq Peak Hou		,	Leq Ev			Night		Ldn	_	NEL
Autos:	67		65.6		63.1		60		67.		68.
Medium Trucks:	67		65.1		61.2		61		68.		68.
Heavy Trucks: Vehicle Noise:	68 72		67.0 70.7		59.8 66.4		60 65		68. 73.		68. 73.
Centerline Distance	e to Noise Co	ntour (in fee	t)								
Como mile Distant		mou (m rec	-7	70 d	IBA	65	dBA	-	60 dBA	55	dBA
			Ldn:	12	1	2	61		562	1,	210

	FHV	VA-RD-77-108	HIGI	HWAY	NOISE P	REDICT	ION MO	ODEL			
Scenari							t Name:		stead		
	e: Limonite Av					Job I	Number.	11968			
Road Segmei	nt: e/o Hellmar	n Av.									
	SPECIFIC IN	PUT DATA			0': 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hard:	_			
Average Daily	. ,	777 vehicle	es					Autos:			
	Percentage:	10%					rucks (2				
	our Volume:	78 vehicles	S		He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	78 feet			Veh	icleTyp	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.65
Rai	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.33
Centerline Dis		76.0 feet			Noise S	E	lovetie	no (in f	0041		
Centerline Dist.	to Observer:	76.0 feet			Noise 3	Auto		0.000	eet)		
Barrier Distance	to Observer:	0.0 feet			A 4 45 -	Auto m Truci		2.297			
Observer Height (Above Pad):	5.0 feet				m Truci vy Truci		3.004	Grade Ad	liustmont	
Pa	ad Elevation:	0.0 feet			пеа	vy Truci	is. c	.004	Orade Ad	justinoni	. 0.0
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distai	nce (in	feet)		
I	Road Grade:	0.0%				Auto	os: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	5.286			
	Right View:	90.0 degree	es		Hear	vy Truci	rs: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Di	stance		Road	Fres		Barrier Att		m Atter
Autos:	70.20	-13.87		-1.8		-1.20		-4.73		000	0.00
Medium Trucks:	81.00	-24.93		-1.8		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-28.17		-1.8	84	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise											
VehicleType Autos:	Leq Peak Hou		51.2	Leq I	Evening 48.6		Night 45	7	Ldn 53.3		NEL 53
Medium Trucks:	53		50.6		46.8		45 47		54.1		53 54
Heavy Trucks:	54		52.5		45.4		47		53.5	_	54 54
Vehicle Noise:	58		56.3		45.4 51.9		46 51		58.0	_	58
Centerline Distanc	e to Noise Co	ontour (in feet)								
			[70	dBA	65	dBA		60 dBA	55	dBA
			Ldn:		13		28		61	1	32
			NFI:		14		29		64		37

Thursday, August 8, 2019

	FH\	VA-RD-77-108 H	IIGHWAY	NOISE PR	EDICTION	MODEL			
Scenario					Project Na	me: Home:	stead		
	: Limonite Av				Job Num	ber: 11968			
Road Segment	t: e/o Harriso	n Av.							
	PECIFIC IN	IPUT DATA				SE MODE		S	
Highway Data				Site Cond	ditions (Ha	ard = 10, So	oft = 15)		
Average Daily T	raffic (Adt):	23,759 vehicles				Autos:	15		
Peak Hour F	Percentage:	10%		Med	dium Truck	s (2 Axles):	15		
Peak Ho	ur Volume:	2,376 vehicles		Hea	avy Trucks	(3+ Axles):	15		
Veh	icle Speed:	50 mph		Vehicle N	Niv				
Near/Far Lan	e Distance:	78 feet			cleType	Day	Evening	Night	Daily
Site Data				Verill	Aut			15.6%	89.65%
				Mc	Aut dium Truc			23.8%	7.02%
	ier Height:	0.0 feet			leavy Truc			13.9%	3.33%
Barrier Type (0-Wa		0.0		1.	icavy IIuc	no. 02.17	3.570	13.570	3.33 /
Centerline Dist		76.0 feet		Noise So	urce Eleva	ations (in f	eet)		
Centerline Dist. to		76.0 feet			Autos:	0.000			
Barrier Distance to		0.0 feet		Mediun	n Trucks:	2.297			
Observer Height (A		5.0 feet		Heav	y Trucks:	8.004	Grade Ad	ljustment.	0.0
	d Elevation:	0.0 feet		I ano Equ	ijyalont Di	stance (in	foot)		
	d Elevation:	0.0 feet 0.0%		Lane Lyu	Autos:	65 422	icei)		
R	oad Grade:			Marthus	n Trucks:	65.286			
	Left View:	-90.0 degrees				65.299			
	Right View:	90.0 degrees		Heav	y Trucks:	65.299			
FHWA Noise Model	Calculation	s							
VehicleType	REMEL	Traffic Flow	Distance	Finite		Fresnel	Barrier At		m Atten
Autos:	70.20	0.99	-1.		-1.20	-4.73	0.	000	0.000
Medium Trucks:	81.00	-10.07	-1.		-1.20	-4.88	0.	000	0.000
Heavy Trucks:	85.38	-13.31	-1.	84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise	Levels (with	out Topo and ba	arrier atte	nuation)					
VehicleType L	.eq Peak Hou	ır Leq Day	Leq	Evening	Leq Nig	pht	Ldn	CI	VEL
Autos:	68	.1 66	3.0	63.5		60.5	68.	1	68.5
Medium Trucks:	67		5.5	61.6		62.1	69.		69.3
Heavy Trucks:	69	.0 67	7.4	60.2		60.9	68.	8	68.9
Vehicle Noise:	73	.1 71	1.1	66.8		66.0	73.	4	73.7
Centerline Distance	to Noise Co	ontour (in feet)							
-			70) dBA	65 dB	4 (60 dBA	55	dBA
		Lo	dn:	129	278		598	1,2	289
		CNE	EL:	134	288		621	1,3	339

	FH\	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DEL				
	io: IY ne: Limonite A nt: e/o Sumne						Name: lumber:		stead			
	SPECIFIC IN	IPUT DATA							L INPUT	s		
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)			
Average Daily	Traffic (Adt):	25,299 vehicle	es					Autos:	15			
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15			
Peak H	lour Volume:	2,530 vehicle	s		He	eavy Tru	cks (3+	Axles):	15			
Ve	hicle Speed:	50 mph			Vehicle	Mix						
Near/Far La	ne Distance:	78 feet				icleType	9	Dav	Evening	Nigh	nt E	Daily
Site Data							Autos:	74.1%		15.0		9.65%
Rai	rrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.	3%	7.02%
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9	9% :	3.33%
Centerline Dis	st. to Barrier:	76.0 feet			Noise S	ourco E	lovation	ne (in f	not)			
Centerline Dist.	to Observer:	76.0 feet			Noise 3	Auto		.000	ei)			
Barrier Distance	to Observer:	0.0 feet			Modis	m Truck		.297				
Observer Height ((Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liuetm	ont• ∩	n
Pa	ad Elevation:	0.0 feet			пеа	vy Truck	.s. o	.004	Grade Ac	ijustiii	one. U.	0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in i	feet)			
1	Road Grade:	0.0%				Auto	s: 65	.422				
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	.286				
	Right View:	90.0 degree	es		Hea	vy Truck	s: 65	.299				
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier At	ten l	Berm /	Atten
Autos:	70.20	1.26		-1.8		-1.20		-4.73	0.	000		0.000
Medium Trucks:	81.00	-9.80		-1.8	84	-1.20		-4.88	0.	000		0.000
Heavy Trucks:	85.38	-13.04		-1.8	84	-1.20		-5.25	0.	000		0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)							
VehicleType	Leq Peak Hou	ır Leq Day	′	Leq E	Evening	Leq	Night		Ldn		CNE	
Autos:	68	3.4	66.3		63.8		60.	8	68.	4		68.8
Medium Trucks:			65.8		61.9		62.		69.			69.5
Heavy Trucks:	69	9.3	67.6		60.5		61.	2	69.	0		69.2
Vehicle Noise:	73	3.4	71.4		67.0	1	66.	3	73.	7		74.0
Centerline Distance	ce to Noise C	ontour (in feet)									
				70	dBA	65	dBA	6	60 dBA		55 dB	Α
			Ldn:	1	34	2	90		624		1,344	ļ
		C	NEL:	1	40	3	01		648		1,396	į

	FH\	WA-RD-77-108	HIGH	N YAWI	OISE PI	REDICTI	ON M	ODEL			
	io: IY ne: Limonite A nt: e/o Hamne					Project Job Ni		Home 11968			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data				5	Site Con	ditions (Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	31,789 vehicle	es					Autos	: 15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles)	: 15		
Peak H	lour Volume:	3,179 vehicles	s		He	avy Truc	ks (3+	Axles)	: 15		
Ve	hicle Speed:	45 mph		,	/ehicle l	Miv					
Near/Far La	ne Distance:	78 feet				icleType		Dav	Evening	Night	Dailv
Site Data							utos:	74.19		15.6	
		0.0 feet			М	edium Tr		69.09			
Barrier Type (0-W	rrier Height:	0.0 1001			- 1	Heavy Tr	ucks:	82.19	6 3.9%	13.9	% 3.33%
Centerline Di		76.0 feet		-							
Centerline Dist.		76.0 feet		^	loise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos		0.000			
Observer Height		5.0 feet				m Trucks	-	2.297			
	ad Elevation:	0.0 feet			Heav	y Trucks	3: 8	3.004	Grade A	djustme.	nt: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Trucks	: 65	5.286			
	Right View:	90.0 degree	es		Heav	y Trucks	8: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier At		erm Atten
Autos:	68.46			-1.85		-1.20		-4.73		000	0.00
Medium Trucks:	79.45			-1.84		-1.20		-4.88		000	0.000
Heavy Trucks:	84.25	-11.59		-1.84	1	-1.20		-5.25	0.	000	0.000
Unmitigated Noise			_								
VehicleType	Leq Peak Hou		_	Leq Ev		Leq I			Ldn		CNEL
Autos:	68		66.0		63.5		60		68.		68.
Medium Trucks:	68		65.7		61.8		62		69.	_	69.4
Heavy Trucks: Vehicle Noise:	69		68.0 71.4		60.8		61 66		69. 73		69.5 73.5
Centerline Distant					00.0		- 50		70.		
oemenine Distant	JE 10 140/36 CI	ontour (III leet	_	70 d	IBA .	65 (iBA		60 dBA	5	5 dBA
			Ldn:	13	4	28	39	_	623		1,343
		_	NFI:	13	_	30			647		1.393

	FHW	A-RD-77-108	HIGH	WAY I	NOISE PI	REDICT	ION MO	DEL			
Scenari							t Name:		stead		
	e: Limonite Av.					Job I	lumber:	11968			
Road Segmer	nt: e/o Scholar V	Ny.									
	SPECIFIC INF	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 2	28,867 vehicle	S					Autos:			
Peak Hour	Percentage:	10%			Me	dium Ti	ucks (2 .	Axles):	15		
Peak H	our Volume: 2	2,887 vehicles			He	avy Tru	cks (3+ .	Axles):	15		
Vei	hicle Speed:	50 mph		F	Vehicle	Mix					
Near/Far Lar	ne Distance:	78 feet		ŀ		icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.659
Rar	rier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W		0.0			1	Heavy 7	rucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis	st. to Barrier:	76.0 feet		ŀ	Noise So	urce F	lovation	e (in f	not)		
Centerline Dist.	to Observer:	76.0 feet		ŀ	NOISE SC	Auto		000	<i>(</i>		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (A	Above Pad):	5.0 feet				n Truck vy Truck		004	Grade Ad	iuetmant	. 0 0
Pa	ad Elevation:	0.0 feet		L	пеан	ry Truci	.s. o.	004	Orado Au	Justinoni	. 0.0
Roa	ad Elevation:	0.0 feet		L	Lane Eq	uivalen	t Distan	ce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 65	422			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	S		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresi	nel	Barrier Att	en Ber	m Atten
Autos:	70.20	1.83		-1.8	35	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	81.00	-9.23		-1.8	34	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-12.47		-1.8	34	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise	•										
	Leq Peak Hour			Leq E	vening	Leq	Night		Ldn		NEL
Autos:	69.0		6.9		64.3		61.4		69.0		69.
Medium Trucks:	68.7		6.3		62.5		63.0	-	69.9	-	70.
Heavy Trucks: Vehicle Noise:	69.9		72.0		61.1 67.6		61.8	_	69.6 74.1		69. 74.
Centerline Distanc					07.0		50.		74.		14.
senterine Distanc	e to Noise Con	noui (ili leet)		70	dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	1-	47	3	16		681	1,	468

Thursday, August 8, 2019

	FHW	A-RD-77-108 HI	GHWAY	NOISE PE	REDICTIO	N MODEL			
Scenario: IY	+P				Project N	ame: Home	stead		
Road Name: Ar					Job Nun	nber: 11968			
Road Segment: n/	Chino Av	<i>l</i> .							
SITE SPE	CIFIC IN	PUT DATA				ISE MODE		s	
Highway Data				Site Con	ditions (H	ard = 10, S	oft = 15)		
Average Daily Traffi	c (Adt): 3	32,513 vehicles				Autos	15		
Peak Hour Perc	entage:	10%		Me	dium Truci	ks (2 Axles)	: 15		
Peak Hour V	olume:	3,251 vehicles		He	avy Trucks	(3+ Axles)	: 15		
Vehicle	Speed:	55 mph		Vehicle I	/liv				
Near/Far Lane Di	stance:	93 feet			cleType	Dav	Evening	Night	Daily
Site Data					Au	.,			
	Interior	0.0 feet		M	edium Truc				7.10%
Barrier I Barrier Type (0-Wall, 1		0.0 teet			leavy Truc				3.63%
Centerline Dist. to		74.0 feet							
Centerline Dist. to Of		74.0 feet		Noise Sc		ations (in f	eet)		
Barrier Distance to Of		0.0 feet			Autos:	0.000			
Observer Height (Abov		5.0 feet		Mediui	n Trucks:	2.297			
Pad Fle		0.0 feet		Heav	y Trucks:	8.004	Grade A	djustment.	0.0
Road Fle		0.0 feet		Lane Equ	ıivalent D	istance (in	feet)		
	Grade:	0.0%			Autos:	57.782	,		
	ft View:	-90.0 degrees		Mediu	n Trucks:	57.629			
	nt View:	90.0 degrees			y Trucks:	57.644			
Ngi	it view.	50.0 degrees		11001	y Trucks.	57.044			
FHWA Noise Model Ca	culations								
VehicleType RI	EMEL	Traffic Flow	Distance	Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	71.78	1.92	-1.	.05	-1.20	-4.73	0.	000	0.000
Medium Trucks:	82.40	-9.07	-1.	.03	-1.20	-4.88	0.	000	0.000
Heavy Trucks:	86.40	-11.99	-1.	.03	-1.20	-5.25	0.	000	0.000
Unmitigated Noise Lev	els (witho	ut Topo and ba	rrier atte	enuation)					
VehicleType Leq	Peak Hour	Leq Day	Leq	Evening	Leq Ni	ght	Ldn	CI	VEL
Autos:	71.	5 69.	4	66.8		63.8	71.	5	71.8
Medium Trucks:	71.	1 68.	7	64.9		65.3	72.	3	72.5
Heavy Trucks:	72.2	2 70.	5	63.4		64.1	71.	9	72.1
Vehicle Noise:	76.4	4 74.	4	70.0		69.2	76.	.7	76.9
Centerline Distance to	Noise Co	ntour (in feet)							
			70) dBA	65 dE	Α	60 dBA	55	dBA
		Ldi	n:	206	444		956	2,0	059
		CNE	Li i	214	461		993	2,	139

	FH\	WA-RD-77-108	HIGHWA	AY N	IOISE PF	REDICT	ON MO	DEL				
	io: IY+P e: Archibald A nt: s/o Chino A						Name: umber:					
SITE S	SPECIFIC IN	IPUT DATA				N	OISE I	MODE	L INPU	TS		
Highway Data					Site Con	ditions	(Hard =	10, S	oft = 15)			
Average Daily	Traffic (Adt):	29,782 vehicle	es					Autos	: 15			
Peak Hour	Percentage:	10%			Me	dium Tri	icks (2	Axles)	: 15			
Peak H	our Volume:	2,978 vehicles	3		He	avy Truc	cks (3+)	Axles)	: 15			
Ve	hicle Speed:	55 mph		١,	Vehicle N	Aiv						
Near/Far La	ne Distance:	93 feet		H.		cleType		Day	Evening	n Nic	ght	Daily
Site Data							Autos:	74.19	_ ,	-	_	89.23%
Rai	rier Heiaht:	0.0 feet			Me	edium Ti	rucks:	69.09	6 7.19	6 23	8.8%	7.11%
Barrier Type (0-W		0.0			F	leavy Ti	rucks:	82.19	6 3.99	6 13	3.9%	3.66%
Centerline Dis		74.0 feet		Η.								
Centerline Dist.	to Observer:	74.0 feet			Voise So				eet)			
Barrier Distance	to Observer:	0.0 feet				Auto		000				
Observer Height (Above Pad):	5.0 feet				n Truck		297	0			
	ad Elevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade A	Aajusti	nent:	0.0
Roa	ad Elevation:	0.0 feet		I	Lane Equ	ıivalent	Distan	ce (in	feet)			
1	Road Grade:	0.0%				Auto	s: 57.	782				
	Left View:	-90.0 degree	s		Mediur	n Truck	s: 57.	629				
	Right View:	90.0 degree	es.		Heav	y Truck	s: 57.	644				
FHWA Noise Mode	el Calculation	s										
VehicleType	REMEL	Traffic Flow	Distan	се	Finite	Road	Fresi	nel	Barrier A	Atten	Bern	n Atten
Autos:	71.78			-1.0	-	-1.20		-4.73		0.000		0.000
Medium Trucks:	82.40			-1.03	-	-1.20		-4.88		0.000		0.000
Heavy Trucks:	86.40	-12.34		-1.03	3	-1.20		-5.25	(0.000		0.000
Unmitigated Noise	Levels (with	out Topo and	barrier a	tten	uation)							
VehicleType	Leq Peak Hou	ır Leq Day	Le	eq Ev	vening	Leq	Night		Ldn		CN	
Autos:	71	.1	69.0		66.4		63.	5	7	1.1		71.5
Medium Trucks:	70).7	68.3		64.5		65.0)	7	1.9		72.1
Heavy Trucks:	71	.8	70.2		63.0		63.7	7	7	1.6		71.7
Vehicle Noise:	76	3.0	74.0		69.6		68.9	9	76	3.3		76.5
Centerline Distance	e to Noise C	ontour (in feet,)									
				70 c			dBA		60 dBA		55 c	
			Ldn:	19	-		19		903		1,9	
		CI	VEL:	20)2	43	35		938		2,0	21

	. n/. n					D 1 44							
	io: IY+P					Project N			tead				
Road Nam Road Segme	e: Archibald A					Job Nui	mber:	11968					
Road Segmen	n. s/o Ontano	Ranciir	u.										
	SPECIFIC IN	NPUT DA	ATA						L INPUT	S			
Highway Data					Site Conditions (Hard = 10, Soft = 15)								
Average Daily	Traffic (Adt):	31,178 \	ehicles					Autos:	15				
Peak Hour	Percentage:	10%				dium Truc			15				
Peak H	lour Volume:	3,118 ve	ehicles		He	avy Truck	s (3+	Axles):	15				
Ve	hicle Speed:	55 m	ph		Vehicle I	Miv							
Near/Far La	ne Distance:	93 fe	et			icleType		Dav	Evening	Night	t Daily		
Site Data							itos:	74.1%	0	15.6			
Pa	rrier Heiaht:	0.0 1	ant		Me	edium Tru	cks:	69.0%	7.1%	23.8	% 7.07%		
Barrier Type (0-W		0.0	eet		F	leavy Tru	cks:	82.1%	3.9%	13.9	% 3.63%		
Centerline Di	. ,	74.0 f	oot										
Centerline Dist.		74.0 f			Noise Sc	ource Ele			et)				
Barrier Distance		0.0 f				Autos:	-	.000					
Observer Height (5.0 f				m Trucks:	_	.297					
	ad Flevation:	0.0 f			Heav	y Trucks:	8	.004	Grade Ad	iustme	nt: 0.0		
	ad Elevation:	0.0 f			Lane Eq	uivalent E	Distar	ce (in i	eet)				
	Road Grade:	0.0%				Autos:		.782	,				
	Left View:		legrees		Mediu	m Trucks:		629					
	Right View:		degrees			v Trucks:		.644					
	rugni viovi.	00.0	10g.000			,	-						
FHWA Noise Mode		ıs											
VehicleType	REMEL	Traffic I		istance		Road	Fres		Barrier Att		Berm Atten		
Autos:	71.78		1.74	-1.0		-1.20		-4.73		000	0.000		
Medium Trucks:	82.40		-9.27	-1.0		-1.20		-4.88		000	0.000		
Heavy Trucks:	86.40	-	12.17	-1.0	03	-1.20		-5.25	0.0	000	0.000		
Unmitigated Noise	e Levels (with	out Topo	and barr	ier atte	nuation)								
VehicleType	Leq Peak Ho	ur Le	q Day	Leq E	vening	Leq N	ight		Ldn		CNEL		
Autos:	71	1.3	69.2		66.6		63.	7	71.3	3	71.7		
Medium Trucks:	70	0.9	68.5		64.7		65.	1	72.1	1	72.3		
Heavy Trucks:	72	2.0	70.3		63.2		63.	9	71.7	7	71.9		
Vehicle Noise:	76	3.2	74.2		69.8		69.	.1	76.5	5	76.7		
Centerline Distanc	e to Noise C	ontour (ii	n feet)										
				70	dBA	65 dE	ВА	6	0 dBA		55 dBA		
			Ldn:	2	200	431			928		2,000		

Scenario:	DV. D					Desires			4		
							Name: I		stead		
Road Name:						JOD IV	lumber:	11968			
Road Segment:	s/o Schaeler	AV.									
SITE SP lighway Data	ECIFIC INP	UT DATA			Site Con				L INPUTS	3	
* *				- '	Site Con	aitions	•				
Average Daily Tra	. ,	3,056 vehicles	S					Autos:			
Peak Hour Pe		10%					ucks (2 A				
Peak Hou		,806 vehicles			He	avy Tru	cks (3+ A	(xles	15		
	le Speed:	55 mph		-	Vehicle i	Wix					
Near/Far Lane	Distance:	93 feet			Veh	icleType	,	Day	Evening	Night	Daily
ite Data						,	Autos:	74.1%	10.3%	15.6%	89.219
Barrie	r Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.119
Barrier Type (0-Wall,	-	0.0			-	leavy T	rucks:	82.1%	3.9%	13.9%	3.689
Centerline Dist. t		74.0 feet		- 1							
Centerline Dist. to	Observer:	74.0 feet		Ľ	Noise So				eet)		
Barrier Distance to 0	Observer:	0.0 feet				Auto		000			
Observer Height (Ab	ove Pad):	5.0 feet				m Truck		297	0		
	Elevation:	0.0 feet			Heav	y Truck	s: 8.0	004	Grade Adj	ustment	0.0
	Elevation:	0.0 feet		1	Lane Eq	uivaleni	t Distand	e (in	feet)		
Ros	ad Grade:	0.0%				Auto	s: 57.	782			
i i	Left View:	-90.0 degree:	s		Mediu	m Truck	s: 57.	629			
Ri	ight View:	90.0 degrees			Heav	y Truck	s: 57.	644			
HWA Noise Model C	Calculations										
VehicleType	REMEL 7	raffic Flow	Dista	ance	Finite	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	71.78	1.28		-1.0	5	-1.20		-4.73	0.0	100	0.00
Medium Trucks:	82.40	-9.71		-1.0	3	-1.20		-4.88	0.0	100	0.00
Heavy Trucks:	86.40	-12.57		-1.0	3	-1.20		-5.25	0.0	00	0.00
Inmitigated Noise Le	•										
	q Peak Hour	Leq Day		Leq E	vening	Leq	Night		Ldn		VEL
Autos:	70.8	-	8.7		66.2		63.2		70.8		71.
Medium Trucks:	70.5	-	8.1		64.2		64.7		71.6		71.
Heavy Trucks: Vehicle Noise:	71.6 75.8		9.9		62.8		63.5 68.6		71.3 76.0		71. 76
Centerline Distance t			0.0		03.4		00.0		70.0	,	10.
enternne Distance t	o Noise Con	tour (in reet)		70	-10.4	e E	dBA	-	60 dBA	55	dBA
				70 d	JBA						
		L	.dn:	18			03		869		872

Thursday, August 8, 2019

	FHWA	-RD-77-108 HIG	HWAY	NOISE PR	EDICTIO	N MODE	L			
Scenario: IY+P					Project N	lame: Ho	mes	tead		
Road Name: Archib	oald Av.				Job Nur	mber: 119	968			
Road Segment: s/o Eu	ıcalyptus	Av.								
SITE SPECIF	IC INPL	JT DATA			NO	ISE MO	DEI	INPUT	s	
Highway Data				Site Cond	ditions (H	lard = 10	, So	ft = 15)		
Average Daily Traffic (A	dt): 30	,343 vehicles				Au	tos:	15		
Peak Hour Percenta	ige:	10%		Med	dium Truc	ks (2 Axl	es):	15		
Peak Hour Volu	me: 3,	034 vehicles		Hea	avy Truck	s (3+ Axl	es):	15		
Vehicle Spe	ed:	55 mph		Vehicle N	Ai v					
Near/Far Lane Distar	ice:	93 feet			cleTvpe	De	11/	Evening	Night	Dailv
Site Data				VCIII	,, .		.1%	10.3%	15.6%	89.29%
				Me	edium Tru		.0%	7.1%	23.8%	7.07%
Barrier Heig	,	0.0 feet			leavv Tru		.1%	3.9%	13.9%	3.64%
Barrier Type (0-Wall, 1-Bei		0.0			icavy IIu	chs. 02	. 1 70	3.570	13.570	3.04 /
Centerline Dist. to Bar		74.0 feet		Noise So	urce Elev	ations (in fe	et)		
Centerline Dist. to Obser		74.0 feet			Autos:	0.000)			
Barrier Distance to Obser		0.0 feet		Mediun	n Trucks:	2.29	7			
Observer Height (Above Pa		5.0 feet		Heav	y Trucks:	8.004	1	Grade Ad	ljustment.	0.0
Pad Elevat		0.0 feet		Lane Equ	iivalont Γ	Dietanco	(in f	not)		
Road Elevat		0.0 feet		Lane Lyu	Autos:	57.78	•	eet)		
Road Gra		0.0%		A de ellere	n Trucks:	57.62				
Left Vi		90.0 degrees				57.64	-			
Right Vi	ew:	90.0 degrees		Heav	y Trucks:	57.64	+			
FHWA Noise Model Calcul	ations									
VehicleType REME			istance	Finite		Fresnel		Barrier At		m Atten
	71.78	1.62	-1.0		-1.20		73		000	0.000
	32.40	-9.39	-1.0		-1.20		88		000	0.000
Heavy Trucks: 8	36.40	-12.28	-1.	03	-1.20	-5.	25	0.	000	0.000
Unmitigated Noise Levels	(without	Topo and barr	ier atte	nuation)						
VehicleType Leq Pea	k Hour	Leq Day	Leg I	Evening	Leq Ni	ight		Ldn	CI	VEL
Autos:	71.2	69.1		66.5		63.5		71.	2	71.6
Medium Trucks:	70.8	68.4		64.5		65.0		72.	0	72.2
Heavy Trucks:	71.9	70.2		63.1		63.8		71.	6	71.8
Vehicle Noise:	76.1	74.1		69.7		68.9		76.	4	76.6
Centerline Distance to Noi	se Cont	our (in feet)								
				dBA	65 dE		-	0 dBA		dBA
		Ldn:		197	423			912	,	965
		CNEL:	. 2	204	440)		947	2,0	041

	FH\	WA-RD-77-108	HIGH	WAY	NOISE PE	REDICT	ION MC	DEL			
	io: IY+P ne: Archibald A nt: s/o Merrill A						Name: lumber:		stead		
	SPECIFIC IN	NPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	•				
Average Daily	Traffic (Adt):	31,889 vehicle	es					Autos:			
Peak Hour	Percentage:	10%					ucks (2	,			
Peak H	lour Volume:	3,189 vehicles	3		He	avy Tru	cks (3+.	Axles):	15		
Ve	hicle Speed:	55 mph		İ	Vehicle I	Mix					
Near/Far La	ne Distance:	93 feet		İ	Veh	cleType		Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.69	
Par	rrier Height:	0.0 feet			Me	edium T	rucks:	69.0%	7.1%	23.89	6 7.03%
Barrier Type (0-W		0.0			F	leavy T	rucks:	82.1%	3.9%	13.99	3.60%
Centerline Dis	st. to Barrier:	74.0 feet		ł	Noise Sc	urce Fl	evation	s (in f	pet)		
Centerline Dist.	to Observer:	74.0 feet		ł	710700 00	Auto		.000	301)		
Barrier Distance	to Observer:	0.0 feet			Modiu	n Truck		297			
Observer Height ('Above Pad):	5.0 feet				y Truck		.004	Grade Ad	liustmer	t- 0 0
Pa	ad Elevation:	0.0 feet								juotimon	. 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent	Distan	ce (in	feet)		
ı	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degree	es		Mediui	n Truck	s: 57	.629			
	Right View:	90.0 degree	es		Heav	y Truck	s: 57	.644			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite		Fresi		Barrier Att	_	rm Atten
Autos:	71.78			-1.0		-1.20		-4.73		000	0.000
Medium Trucks:	82.40			-1.0		-1.20		-4.88		000	0.000
Heavy Trucks:	86.40			-1.0		-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)						
	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		NEL
Autos:			69.3		66.7		63.		71.		71.8
Medium Trucks:			68.6		64.7		65.	_	72.		72.4
Heavy Trucks:	72	2.1	70.4		63.3		64.	0	71.	3	72.0
Vehicle Noise:	76	3.3	74.3		69.9		69.	1	76.	5	76.8
Centerline Distance	ce to Noise Co	ontour (in feet,)		-						
				70	dBA	65	dBA	(60 dBA	5	5 dBA
			Ldn:	2	02		36		940	2	,025
		CI	VEL:	2	10	4	53		976	2	,103

	FHV	WA-RD-77-108	HIGH	HWAY N	OISE P	REDICT	ION MO	ODEL			
Road Nam	io: IY+P le: Archibald A nt: s/o 65th St.							Homes 11968	stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	33,693 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	lour Volume:	3,369 vehicle	S		He	avy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		-	/ehicle	Miv					
Near/Far La	ne Distance:	78 feet		H.		icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	74.1%	-	15.6%	89.72%
Rai	rrier Heiaht:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	6.97%
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.31%
Centerline Dis		76.0 feet		١.	v-: 0	5		/! 6			
Centerline Dist.	to Observer:	76.0 feet		1	voise S	ource El			et)		
Barrier Distance	to Observer:	0.0 feet				Auto		0.000			
Observer Height (Above Pad):	5.0 feet				m Truck		2.297	Crada Ad	i intmont	
Pa	ad Elevation:	0.0 feet			Heat	y Truck	S. 6	3.004	Grade Ad	usimeni	. 0.0
Roa	ad Elevation:	0.0 feet		I	ane Eq	uivalent	Distar	nce (in :	feet)		
ı	Road Grade:	0.0%				Auto	s: 65	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	5.286			
	Right View:	90.0 degree	es		Hear	y Truck	s: 65	5.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	stance		Road	Fres		Barrier Att		m Atten
Autos:	70.20	2.51		-1.8	5	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	81.00	-8.59		-1.84	1	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	85.38	-11.83		-1.84	1	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)						
,,	Leq Peak Hou			Leq E		Leq	Night		Ldn		NEL
Autos:	69		67.6		65.0		62		69.7		70.
Medium Trucks:	69		67.0		63.1		63		70.	-	70.8
Heavy Trucks: Vehicle Noise:	70 74		68.9 72.6		61.7		62 67		70.2		70.4 75.1
Centerline Distance					50.5		07		74.	,	73.
Centernine Distant	e to Noise Co	ontour (In reet	,	70 c	IBA	65	dBA	1 6	60 dBA	55	dBA
			Ldn:	16		3.	49	-1	753		622

Scenario:	IV.D					Drois - 1	Nome	Llom-	tood		
	Archibald Av.						Name: lumber:		stead		
Road Segment:						JOD IV	umber:	11908			
				-							
SITE SI dighway Data	PECIFIC INP	UT DATA			Site Con				L INPUTS	S	
· ·	ff:- (A-ft)- O	3.840 vehicle	_		One oon	untions	•	Autos:			
Average Daily Tr Peak Hour P	. ,	3,840 venicie 10%	S		Ma	dium Tr	ucks (2)				
		.384 vehicles					cks (3+)				
	ar volume.	50 mph					una (OT)	чиса).	10		
Near/Far I and		78 feet			Vehicle I	Иiх					
Near/Far Lane	Distance.	76 leet			Veh	icleType	•	Day	Evening	Night	Daily
ite Data						,	Autos:	74.1%	10.3%	15.6%	89.599
Barri	er Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.009
Barrier Type (0-Wal	II, 1-Berm):	0.0			-	Heavy T	rucks:	82.1%	3.9%	13.9%	3.429
Centerline Dist.	to Barrier:	76.0 feet		F	Noise So	urco E	lovation	c (in f	not)		
Centerline Dist. to	Observer:	76.0 feet		F	NOISE SC	Auto		000	<i>(</i>		
Barrier Distance to	Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Al	bove Pad):	5.0 feet				n Truck vy Truck		004	Grade Ad	iuetmant	. 0 0
Pad	Elevation:	0.0 feet		L	пеан	ry Truck	8. 0.	004	Orado Adj	usunone	0.0
Road	Elevation:	0.0 feet			Lane Eq	uivalen	Distan	ce (in	feet)		
Ro	oad Grade:	0.0%				Auto	s: 65.	422			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 65.	286			
F	Right View:	90.0 degree	s		Heav	y Truck	s: 65.	299			
HWA Noise Model	Calculations										
VehicleType		raffic Flow	Dist	ance	_	Road	Fresr	_	Barrier Att		m Atten
Autos:	70.20	2.52		-1.8	-	-1.20		-4.73	0.0		0.00
Medium Trucks:	81.00	-8.55		-1.8		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-11.67		-1.8	4	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise L	•										
	eq Peak Hour	Leq Day		Leq E	vening		Night		Ldn		VEL
Autos:	69.7	-	67.6		65.0		62.1		69.7		70.
Medium Trucks:	69.4	-	37.0		63.2		63.6	-	70.6		70.
Heavy Trucks: Vehicle Noise:	70.7 74.7		9.0 72.7		61.9 68.3		62.6		70.4 75.0		70. 75.
Centerline Distance					00.0		07.0		, 5.0	•	, ,
emenne Distance	to Noise Con	tour (III leet)		70	dBA	65	dBA	6	60 dBA	55	dBA
			dn:		64		53		761	1,	640

Thursday, August 8, 2019

	FH\	VA-RD-77-108	HIGHWA	Y NOISE P	REDICT	ON MO	DDEL			
Road Nam	io: IY+P e: Kimball Av. nt: w/o Hellma				Project Job N		Home: 11968	stead		
SITE	SPECIFIC IN	IDI IT DATA		1		OISE	MODE	L INPUT	s .	
Highway Data	or con to in	I OI DAIA		Site Co	nditions					
Average Daily	Traffic (Adt):	16.175 vehicle	is.				Autos	15		
,	Percentage:	10%		M	edium Tri	ıcks (2	Axles):	15		
	lour Volume:	1.618 vehicles			eavy Truc					
Ve	hicle Speed:	50 mph								
	ne Distance:	51 feet		Vehicle			_	Te : T		
				Vei	nicleType		Day	Evening	Night	Daily
Site Data				╡.		lutos:	74.1%		15.6%	
	rier Height:	0.0 feet			ledium Ti		69.0%		23.8%	
Barrier Type (0-W	. ,	0.0			Heavy Ti	ucks:	82.1%	3.9%	13.9%	3.58%
Centerline Dis		49.0 feet		Noise S	ource El	evatio	ns (in f	eet)		
Centerline Dist.		49.0 feet			Auto	s: 0	.000	-		
Barrier Distance		0.0 feet		Mediu	ım Truck	s: 2	.297			
Observer Height (,	5.0 feet		Hea	vy Truck	s: 8	.004	Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		1 5	uivalent	Distant	/!	f4\		
	ad Elevation:	0.0 feet		Lane Et				ieei)		
1	Road Grade:	0.0%			Auto		2.140			
	Left View:	-90.0 degree			ım Truck		.929			
	Right View:	90.0 degree	:S	Hea	vy Truck	s: 41	.950			
HWA Noise Mode										
VehicleType	REMEL	Traffic Flow	Distanc		Road	Fres		Barrier Att		rm Atten
Autos:	70.20	-0.69		1.01	-1.20		-4.64		000	0.000
Medium Trucks:	81.00	-11.75		1.04	-1.20		-4.87		000	0.000
Heavy Trucks:	85.38	-14.66		1.04	-1.20		-5.44	0.0	000	0.000
Inmitigated Noise				,			_			
VehicleType	Leq Peak Hou			Evening		Night		Ldn	_	NEL
Autos:	69		67.2	64.7		61		69.		69.7
Medium Trucks:	69		66.7	62.8		63		70.		70.5
Heavy Trucks: Vehicle Noise:	70		72.5	61.7		62	-	70.3		70.4 75.0
Centerline Distanc	e to Noise Co	ontour (in feet)								
		,		70 dBA	65	dBA	-	60 dBA	55	dBA
			Ldn:	102	2	19	-	472	1,	,017
			IFI:	106	0.0	7		490		.055

	FH\	WA-RD-77-108	HIGH	WAY	NOISE P	REDICT	ION MO	DEL			
Road Nan	io: IY+P ne: Limonite A nt: e/o Hellma						Name: lumber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Cor	nditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	1,245 vehicle	es					Autos:			
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak F	lour Volume:	125 vehicles	S		He	eavy Tru	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph			Vehicle	Mix					
Near/Far La	ne Distance:	78 feet				icleType	,	Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.6%	,
Ra	rrier Height:	0.0 feet			M	ledium T	rucks:	69.0%	7.1%	23.8%	6.31%
Barrier Type (0-W	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	6.42%
Centerline Di		76.0 feet									
Centerline Dist.	to Observer:	76.0 feet			Noise S				eet)		
Barrier Distance	to Observer:	0.0 feet				Auto		.000			
Observer Height	(Above Pad):	5.0 feet				m Truck		.297	Grade Ad	li voteno e	4 0 0
P	ad Elevation:	0.0 feet			Hea	vy Truck	s: 8	.004	Grade Ad	justriieri	i. 0.0
Ro	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distar	ice (in i	feet)		
	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 65	.286			
	Right View:	90.0 degree	es		Hea	vy Truck	s: 65	.299			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:		-11.93		-1.8		-1.20		-4.73	0.0	000	0.000
Medium Trucks:				-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-23.27		-1.8	34	-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrie	er atte	nuation)						
VehicleType	Leq Peak Hou	ır Leq Day	′	Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	55	5.2	53.1		50.6		47.	6	55.2	2	55.6
Medium Trucks:	54	1.6	52.2		48.4		48.	8	55.8	-	56.0
Heavy Trucks:	59	0.1	57.4		50.3		51.	0	58.8	3	59.0
Vehicle Noise:	61	1.5	59.7		54.6		54.	1	61.7	7	61.9
Centerline Distant	ce to Noise C	ontour (in feet)								
		-	T	70	dBA	65	dBA	6	60 dBA	55	5 dBA
			Ldn:		21		16		98		212
		Ci	NEL:		22	4	17		102		219

Daily 89.29% 7.03% 3.68%
89.29% 7.03% 3.68%
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	FHW	A-RD-77-108	HIGH	WAY I	NOISE P	REDICT	TION M	ODEL			
Scenari	o: IY+P					Projec	t Name	Homes	stead		
	e: Limonite Av.					Job I	Vumber.	11968			
Road Segmer	nt: e/o Archibalo	d Av.									
	SPECIFIC INF	PUT DATA			0': 0				L INPUT	S	
Highway Data					Site Cor	aitions	(Hara				
Average Daily		22,293 vehicle	es					Autos:			
	Percentage:	10%						Axles):			
		2,229 vehicles	S		He	eavy Tru	icks (3+	Axles):	15		
	hicle Speed:	50 mph		ı	Vehicle	Mix					
Near/Far Lai	ne Distance:	78 feet		ı	Veh	icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.27
Rai	rier Height:	0.0 feet			М	edium 1	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.71
Centerline Dis	st. to Barrier:	76.0 feet		ŀ	Noise S	ource E	levatio	ns (in fe	eet)		
Centerline Dist.	to Observer:	76.0 feet		ŀ		Auto		0.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truci		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truci		3.004	Grade Ad	liustment	: 0.0
Pa	ad Elevation:	0.0 feet				•				,	- 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Dista	nce (in	feet)		
I	Road Grade:	0.0%				Auto	os: 6	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truci	ks: 65	5.286			
	Right View:	90.0 degree	es		Hear	vy Truci	ks: 6	5.299			
FHWA Noise Mode											
VehicleType		Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atter
Autos:	70.20	0.69		-1.8	-	-1.20		-4.73		000	0.0
Medium Trucks:	81.00	-10.35		-1.8		-1.20		-4.88		000	0.00
Heavy Trucks:	85.38	-13.12		-1.8		-1.20		-5.25	0.0	000	0.00
Unmitigated Noise VehicleType	Levels (witho Lea Peak Hour						A Contact		Ldn		NEL
Autos:	Leq Peak Hour	- 1 - 7	65.7	Leq E	vening 63.2		Night 60	2	Lan 67.5		NEL 68
Medium Trucks:	67.6	-	65.2		61.4		61		68.	-	69
Heavy Trucks:	69.3	-	67.6		60.4		61		68.5	-	69
Vehicle Noise:	73.		71.1		66.6		65	• •	73.	_	73
Centerline Distanc	e to Noise Cor	ntour (in feet))								
					dBA	65	dBA	(60 dBA	55	dBA
			Ldn:	1.	27	2	273		588	1,	266

Thursday, August 8, 2019

	FHWA	-RD-77-108 HIC	SHWAY	NOISE PR	REDICTIO	N MOI	DEL			
Scenario: IY+P					Project N			stead		
Road Name: Limonii	e Av.				Job Nui	nber: 1	1968			
Road Segment: e/o Sui	nner A	1.								
SITE SPECIFIC	CINPU	JT DATA			NC	ISE N	IODE	L INPUT	s	
Highway Data				Site Cond	ditions (F	lard =	10, Sc	oft = 15)		
Average Daily Traffic (Ad	t): 25	,913 vehicles				,	Autos:	15		
Peak Hour Percentag	ie:	10%		Med	dium Truc	ks (2 A	xles):	15		
Peak Hour Volum	ne: 2,	591 vehicles		Hea	avy Truck	s (3+ A	xles):	15		
Vehicle Spee	ed:	50 mph		Vehicle N	Ai v					
Near/Far Lane Distance	e:	78 feet			cleType		Dav	Evening	Night	Daily
Site Data				Vern			74.1%	-	15.6%	89.29%
				Me	edium Tru		69.0%		23.8%	7.04%
Barrier Heigi		0.0 feet			leavv Tru		33.0 /c 32.1%		13.9%	3.67%
Barrier Type (0-Wall, 1-Berr		0.0			icavy iia	DNO.	JZ. 170	0.570	10.570	0.01 /
Centerline Dist. to Barri		76.0 feet		Noise So	urce Elev	ations	(in fe	eet)		
Centerline Dist. to Observ Barrier Distance to Observ		76.0 feet 0.0 feet			Autos:	0.0	100			
		5.0 feet		Mediur	n Trucks:	2.2	97			
Observer Height (Above Pa Pad Flevation		0.0 feet		Heav	y Trucks:	8.0	104	Grade Ad	ljustment.	0.0
Pad Elevation		0.0 feet		Lane Equ	ıivalent Γ	istanc	e (in i	feet)		
Road Elevation		0.0 feet 0.0%		Lane Lye	Autos:	65.4	_ •	ccij		
Left Vie		90.0 degrees		Modiur	n Trucks:	65.2				
Right Vie		90.0 degrees			y Trucks:	65.2				
Right vie	w.	90.0 degrees		i icav	y ITUCKS.	03.2	.55			
FHWA Noise Model Calcula	tions									
VehicleType REMEL	. T	raffic Flow [Distance	Finite	Road	Fresn	el	Barrier At	ten Ber	m Atten
Autos: 70	0.20	1.35	-1.8	85	-1.20		4.73	0.	000	0.000
	1.00	-9.68	-1.8		-1.20		4.88		000	0.000
Heavy Trucks: 85	5.38	-12.52	-1.8	84	-1.20		-5.25	0.	000	0.000
Unmitigated Noise Levels (withou	Topo and bar	rier atte	nuation)						
VehicleType Leq Peak	Hour	Leq Day	Leq I	Evening	Leq N	ght		Ldn	CI	VEL
Autos:	68.5	66.4	1	63.9		60.9		68.	5	68.9
Medium Trucks:	68.3	65.9	9	62.0		62.5		69.	5	69.7
Heavy Trucks:	69.8	68.2	2	61.0		61.7		69.	5	69.7
Vehicle Noise:	73.7	71.	7	67.2		66.5		74.	0	74.2
Centerline Distance to Nois	e Cont	our (in feet)								
		-	70	dBA	65 dE	3A	6	0 dBA	55	dBA
		Ldn	ı: 1	140	301			648	1,	397
		CNEL	. 1	145	312			673	1,4	450

	FH\	WA-RD-77-108	HIGH	WAY I	NOISE PE	REDICT	ION MC	DEL			
	io: IY+P e: Limonite Av nt: e/o Scholar						Name: lumber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	29,430 vehicle	s					Autos:			
Peak Hour	Percentage:	10%				dium Tri		,			
Peak H	our Volume:	2,943 vehicles	3		He	avy Trud	cks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		f	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet		f	Veh	cleType		Dav	Evening	Night	Daily
Site Data							Autos:	74.1%		15.69	
Par	rier Height:	0.0 feet			Me	edium Ti	rucks:	69.0%	7.1%	23.89	6 7.05%
Barrier Type (0-W	-	0.0			F	leavy Ti	rucks:	82.1%	3.9%	13.99	6 3.63%
Centerline Dis	st. to Barrier:	76.0 feet		-	Noise Sc	urce Fl	evation	s (in f	pet)		
Centerline Dist.	to Observer:	76.0 feet		ŀ	710700 00	Auto:		000	301)		
Barrier Distance	to Observer:	0.0 feet			Madiu	n Truck		.297			
Observer Height (Above Pad):	5.0 feet				y Truck		.004	Grade Ad	liustmer	t: 0.0
Pa	ad Elevation:	0.0 feet								,	0.0
Ros	ad Elevation:	0.0 feet			Lane Eq				feet)		
1	Road Grade:	0.0%				Auto	s: 65	.422			
	Left View:	-90.0 degree	s		Mediui	n Truck	s: 65	.286			
	Right View:	90.0 degree	es		Heav	y Truck	s: 65	.299			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite		Fres		Barrier Att		erm Atten
Autos:	70.20			-1.8		-1.20		-4.73		000	0.000
Medium Trucks:	81.00			-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38			-1.8		-1.20		-5.25	0.0	000	0.000
Unmitigated Noise	Levels (with	out Topo and	barrie	r attei	nuation)						
	Leq Peak Hou			Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	69		67.0		64.4		61.		69.		69.4
Medium Trucks:	68		66.4		62.6		63.		70.		70.2
Heavy Trucks:	70).3	68.7		61.5		62.	2	70.	1	70.2
Vehicle Noise:	74	1.2	72.2		67.8		67.	1	74.	5	74.7
Centerline Distance	e to Noise Co	ontour (in feet))								
				70	dBA	65	dBA	(60 dBA	5	5 dBA
			Ldn:	1	52	32	27		704	1	,518
		CI	VEL:	1	58	33	39		731	1	,575

	FHV	VA-RD-77-108	HIGH	YAWI	NOISE PI	REDICT	ION MO	DDEL			
	o: HY e: Archibald A nt: n/o Chino A					Project Job N	Name: lumber:		stead		
SITE S	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Con	ditions	(Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	37,874 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	3,787 vehicles	S		He	avy Tru	cks (3+	Axles):	15		
Vel	hicle Speed:	55 mph		ŀ	Vehicle I	Miss					
Near/Far Lar	ne Distance:	93 feet		ŀ		icleType	,	Dav	Evening	Night	Dailv
Site Data							Autos:	74.1%		15.6%	89.65%
Par	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-W		0.0 1661			1	Heavy T	rucks:	82.1%	3.9%	13.9%	3.33%
Centerline Dis	. ,	74.0 feet									
Centerline Dist.		74.0 feet			Noise So				eet)		
Barrier Distance t		0.0 feet				Auto		.000			
Observer Height (5.0 feet				m Truck		.297			
	d Elevation:	0.0 feet			Heav	y Truck	s: 8	.004	Grade Ad	justment	: 0.0
	d Elevation:	0.0 feet			Lane Eq	uivalen	Distar	ice (in	feet)		
F	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degree	es		Heav	y Truck	s: 57	.644			
FHWA Noise Mode	el Calculations	5									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	2.60		-1.0)5	-1.20		-4.73	0.0	000	0.000
Medium Trucks:	82.40	-8.46		-1.0)3	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	86.40	-11.70		-1.0	03	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo and	barri	er atter	nuation)						
,,	Leq Peak Hou			Leq E	vening		Night		Ldn		NEL
Autos:	72		70.0		67.5		64.		72.		72.
Medium Trucks:	71.		69.3		65.5		65.		72.		73.
Heavy Trucks: Vehicle Noise:	72 76	-	70.8		63.7 70.6		64.		72.: 77.:		72 77
Centerline Distanc					70.0		00		77.	-	11.
Cemernne Distanc	e to worse Co	intour (In reet	,	70	dBA	65	dBA	6	60 dBA	55	dBA
			Ldn:	2	23	4	B1		1,036	2,	233
		_	NFI:		32		00		1.077		320

		VA-RD-77-108			O.OL I						
Scenari								: Home:			
	e: Limonite Av					Job i	Numbe	: 11968			
Road Segmer	nt: e/o Hamner	Av.									
	SPECIFIC IN	PUT DATA		_					L INPUT	S	
Highway Data				8	Site Cor	ditions	(Hard	= 10, Se	oft = 15)		
Average Daily	Traffic (Adt):	32,250 vehicle	es					Autos:			
Peak Hour	Percentage:	10%						2 Axles):			
Peak H	our Volume:	3,225 vehicle	S		He	eavy Tru	ıcks (3-	+ Axles):	: 15		
Ve	hicle Speed:	45 mph		1	/ehicle	Mix					
Near/Far Lai	ne Distance:	78 feet		ľ		icleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	6 10.3%	15.6%	89.31
Rar	rier Height:	0.0 feet			М	edium '	Trucks:	69.0%	6 7.1%	23.8%	7.07
Barrier Type (0-W	-	0.0				Heavy	Trucks:	82.1%	6 3.9%	13.9%	3.62
Centerline Dis	st. to Barrier:	76.0 feet			Voise S	ource E	levatio	ns (in f	eet)		
Centerline Dist.	to Observer:	76.0 feet		F		Aut		0.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truc		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truc		8.004	Grade Ad	liustment	. 0 0
Pa	ad Elevation:	0.0 feet		L		•				,	- 0.0
Roa	ad Elevation:	0.0 feet		L	.ane Eq	uivaler	t Dista	nce (in	feet)		
I	Road Grade:	0.0%				Aut	os: 6	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truc	ks: 6	5.286			
	Right View:	90.0 degree	es		Hear	vy Truc	ks: 6	5.299			
FHWA Noise Mode											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road		snel	Barrier At		m Atter
Autos:	68.46	2.76		-1.85		-1.20		-4.73		000	0.0
Medium Trucks:	79.45	-8.26		-1.84		-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-11.17		-1.84	1	-1.20		-5.25	0.	000	0.00
Unmitigated Noise	•										
	Leq Peak Hou		_	Leq Ev			Night		Ldn		NEL
Autos:	68	-	66.1		63.5			0.6	68.	_	68
Medium Trucks:	68		65.7		61.9			2.4	69.	-	69
Heavy Trucks:	70		68.4		61.2			1.9	69.	-	69
Vehicle Noise:	73		71.7		67.1		66	6.5	73.	9	74
Centerline Distanc	e to Noise Co	ntour (in feet)	70 a	ID A	- 66	i dBA		60 dBA		dBA
			I dn:	13			98 98	"		1	
					-		298 310		643 667	,	386 437
			NFI:	14							

Thursday, August 8, 2019

	FH\	WA-RD-77-108	HIGHWAY	NOISE PI	REDICTI	ON M	ODEL			
Road Nar	rio: HY ne: Archibald A ent: s/o Chino A				Project Job No		: Home: : 11968	stead		
SITE	SPECIFIC IN	NPUT DATA			N	OISE	MODE	L INPUT	S	
Highway Data				Site Con	ditions (Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	35,133 vehicle	s				Autos:	15		
Peak Hou	r Percentage:	10%		Me	dium Tru	icks (2	Axles):	15		
Peak i	Hour Volume:	3,513 vehicles		He	avy Truc	ks (3+	- Axles):	15		
V	ehicle Speed:	55 mph		M-t-l-1-						
Near/Far La	ane Distance:	93 feet		Vehicle I	icleTvpe		Dav	Evening	Night	Daily
Site Data				ven	,,	utos:	74.1%	-	15.6%	,
					A edium Tr		69.0%		23.8%	
	arrier Height:	0.0 feet					82.1%		13.9%	
Barrier Type (0-V	. ,	0.0		,	Heavy Tr	ucks:	82.1%	3.9%	13.9%	3.33%
	ist. to Barrier:	74.0 feet		Noise So	ource Ele	evatio	ns (in f	eet)		
Centerline Dist		74.0 feet			Autos	: (0.000			
Barrier Distance		0.0 feet		Mediu	m Trucks	: 2	2.297			
Observer Height		5.0 feet		Heav	y Trucks	:: 8	3.004	Grade Ad	justment	: 0.0
	Pad Elevation:	0.0 feet								
Ro	oad Elevation:	0.0 feet		Lane Eq				feet)		
	Road Grade:	0.0%			Autos		7.782			
	Left View:	-90.0 degree	s	Mediu	m Trucks	: 5	7.629			
	Right View:	90.0 degree	s	Heav	y Trucks	: 5	7.644			
HWA Noise Mod	lel Calculation	IS								
VehicleType	REMEL	Traffic Flow	Distance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos	71.78	2.27	-1	.05	-1.20		-4.73	0.	000	0.000
Medium Trucks	82.40	-8.79	-1	.03	-1.20		-4.88	0.	000	0.000
Heavy Trucks	86.40	-12.03	-1	.03	-1.20		-5.25	0.	000	0.000
Inmitigated Nois	e Levels (with	out Topo and I	barrier atte	enuation)						
VehicleType	Leq Peak Ho			Evening	Leq I			Ldn		NEL
Autos	71	1.8	39.7	67.2		64	.2	71.	В	72.2
Medium Trucks	: 71	1.4	69.0	65.1		65	.6	72.	6	72.8
Heavy Trucks	72	2.1	70.5	63.3		64	.0	71.	9	72.0
Vehicle Noise	: 76	3.6	74.5	70.3		69	1.5	76.	9	77.1
Centerline Distan	ce to Noise C	ontour (in feet)								
) dBA	65 c		- (60 dBA		dBA
		-		212	45	-		986	,	124
		C/V	IFI:	221	47	5		1.024	2.	207

	FHW	/A-RD-77-108 I	HIGHW <i>A</i>	N Y	OISE PE	REDICTION	ON MC	DEL			
	io: HY e: Archibald Av nt: s/o Schaefe					Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA		Ι,	2:- 0				L INPUT	S	
Peak H	Percentage: lour Volume: hicle Speed:	33,464 vehicle: 10% 3,346 vehicles 55 mph 93 feet	3		Me He /ehicle l		cks (2	Autos: Axles): Axles):	15 15 15	15.11	
Site Data				-	ven	icleType Δ	utos:	Day 74.1%	Evening 10.3%	Night 15.6%	Daily 89.65%
	rier Height: 'all, 1-Berm):	0.0 feet 0.0				edium Tro Heavy Tro	ıcks:	69.0% 82.1%	7.1%	23.8%	7.02%
Centerline Dist. Centerline Dist. Barrier Distance Observer Height (to Observer: to Observer:	74.0 feet 74.0 feet 0.0 feet 5.0 feet 0.0 feet		^	Mediui	Autos Trucks y Trucks	: 0. : 2.	s (in fe 000 297 004	eet) Grade Ad	justmen	t: 0.0
	ad Elevation:	0.0 feet		L	ane Eq	uivalent			feet)		
,	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees				Autos m Trucks ry Trucks	57	782 629 644			
FHWA Noise Mode	el Calculations	;									
VehicleType Autos:	71.78	Traffic Flow 2.06	Distan	ce -1.05		-1.20	Fresi	nel -4.73	Barrier Att 0.0	en Be	rm Atten 0.000
Medium Trucks: Heavy Trucks:	82.40 86.40	-9.00 -12.24		-1.03 -1.03	-	-1.20 -1.20		-4.88 -5.25		000	0.000
Unmitigated Noise	Levels (witho	out Topo and b	arrier a	tten	uation)						
VehicleType	Leq Peak Hou	r Leq Day	Le	q Ev	ening	Leq N	light		Ldn	(NEL
Autos: Medium Trucks:	71. 71.		9.5 8.8		67.0 64.9		64. 65.	-	71.0 72.4	-	72.0 72.6
Heavy Trucks: Vehicle Noise:	71. 76.		0.3 4.3		63.1 70.1		63. 69.		71.1 76.1		71.8 76.9
Centerline Distance	e to Noise Co	ntour (in feet)									
				70 a		65 d		6	0 dBA		dBA
			dn: EL:	20 21		44 46			954 992		,056 ,136

		/A-RD-77-10	3-111GI	HWAT I	IOIOL P						
Scenari						Project					
	e: Archibald A					Job ∧	lumber:	11968			
Road Segmer	nt: s/o Eucalyp	tus Av.									
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard :	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	40,418 vehic	les					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Tr	ucks (2	Axles):	15		
Peak H	our Volume:	4,042 vehicle	es		He	avy Tru	cks (3+	Axles):	15		
Vei	hicle Speed:	55 mph			Vehicle	Miv					
Near/Far Lai	ne Distance:	93 feet		F		icleType		Dav	Evening	Night	Dailv
Site Data							Autos:	74.1%	10.3%	15.6%	89.65%
Par	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis	st. to Barrier:	74.0 feet			Noise So	ource F	ovation	ne (in f	oot)		
Centerline Dist.	to Observer:	74.0 feet		H.	110/30 01	Auto		0.000	501)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liuetmant	. 0 0
Pa	ad Elevation:	0.0 feet			rica	y Huck	s. u	1.004	Orauc Au	justinoni	0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalen	Distar	nce (in	feet)		
F	Road Grade:	0.0%				Auto	s: 57	7.782			
	Left View:	-90.0 degre	ees		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degre	ees		Hear	y Truck	s: 57	.644			
FHWA Noise Mode	el Calculations	;									
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Ber	m Atten
Autos:	71.78	2.88	3	-1.0	5	-1.20		-4.73	0.	000	0.00
Medium Trucks:	82.40	-8.18	3	-1.0	3	-1.20		-4.88	0.	000	0.00
Heavy Trucks:	86.40	-11.42	2	-1.0	3	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	•		_								
,,	Leq Peak Hou		,	Leq E	vening		Night		Ldn	-	NEL
Autos:	72.		70.3		67.8		64.		72.		72.
Medium Trucks:	72.		69.6		65.7		66.	-	73.		73.
Heavy Trucks: Vehicle Noise:	72. 77.	•	71.1 75.2		63.9 70.9		64. 70.		72. 77.	-	72.i
Centerline Distance		_			. 5.0					-	
Conto mile Distance		ou. (m icc	-/	70	dBA	65	dBA	-	60 dBA	55	dBA
			Ldn:	23	33	5	02		1,082	2,	332
			NFI:		12		22		1.125		423

Scenario	- LD/					Desired A	/ 1		4		
	o: HY e: Archibald A					Project N Job Nu			stead		
Road Name						JOD IVU	mber:	11908			
SITE S Highway Data	SPECIFIC IN	PUT DATA		5	Site Con	NC ditions (l			L INPUTS	5	
Average Daily	Troffic (Adt):	40.669 vehicle				41110110 (1		Autos:			
Peak Hour I	. ,	10%	:5		Mo	dium Truc	-				
	our Volume:	4.067 vehicles				avy Truck					
	nicle Speed:	55 mph	,			-	0 (017	ы.ооу.			
Near/Far I ar		93 feet		ν	/ehicle l						
	ic Distance.	35 1001			Veh	icleType		Day	Evening	Night	Daily
Site Data								74.1%		15.6%	
Bar	rier Height:	0.0 feet				edium Tru		69.0%		23.8%	
Barrier Type (0-Wa	all, 1-Berm):	0.0			P	leavy Tru	cks:	82.1%	3.9%	13.9%	3.339
Centerline Dis	t. to Barrier:	74.0 feet			loise Sr	urce Ele	vation	in fe	opt)		
Centerline Dist. t	o Observer:	74.0 feet		F	.0,00 00	Autos:		000	,,,,		
Barrier Distance t	o Observer:	0.0 feet			Madiu	n Trucks:		97			
Observer Height (/	Above Pad):	5.0 feet				v Trucks:		004	Grade Ad	iustment	. 0 0
Pa	d Elevation:	0.0 feet				•					- 0.0
Roa	d Elevation:	0.0 feet		L	ane Eq	uivalent L	Distand	e (in i	feet)		
F	Road Grade:	0.0%				Autos:	57.	782			
	Left View:	-90.0 degree	:S		Mediu	n Trucks:	57.	329			
	Right View:	90.0 degree	:S		Heav	y Trucks:	57.	644			
FHWA Noise Mode	l Calculation:	s									
VehicleType	REMEL	Traffic Flow	Distai	nce	Finite	Road	Fresn		Barrier Atte	en Ber	m Atten
Autos:	71.78	2.91		-1.05	5	-1.20		-4.73	0.0	100	0.00
Medium Trucks:	82.40	-8.15		-1.03		-1.20		-4.88	0.0	100	0.00
Heavy Trucks:	86.40	-11.39		-1.03	3	-1.20		-5.25	0.0	100	0.00
Inmitigated Noise	•										
	Leq Peak Hou	- 1 - 7		.eq Ev	rening	Leq N			Ldn		NEL
Autos:	72		70.3		67.8		64.8		72.5		72
Medium Trucks:	72		69.6		65.8		66.3		73.2	-	73.
Heavy Trucks: Vehicle Noise:	72 77		71.1 75.2		64.0 70.9		64.7 70.1		72.5 77.5		72 77
					70.9		70.1		11.0	'	11.
Centerline Distanc	e to Noise Co	ontour (in feet)	<u> </u>	70 d	IRA	65 di	84	6	60 dBA	55	dBA
			Ldn:	23		504		_	1.087		341

Thursday, August 8, 2019

_	FHV	VA-RD-77-108	HIGH	WAY	NOISE PE	REDICTION	ON M	ODEL			
Scenario: HY Road Name: Arch Road Segment: s/o N						Project i Job Nu		Home 11968	stead		
SITE SPECII	FIC IN	PUT DATA				N	OISE	MODE	L INPUT	S	
Highway Data					Site Con	ditions (Hard	= 10, S	oft = 15)		
Average Daily Traffic (Adt):	43,131 vehicle	s					Autos.	15		
Peak Hour Percent	age:	10%			Me	dium Tru	cks (2	Axles).	15		
Peak Hour Voll	ıme:	4,313 vehicles	;		He	avy Truc	ks (3+	Axles).	15		
Vehicle Sp	eed:	55 mph		1	Vehicle I	Niv					
Near/Far Lane Dista	nce:	93 feet		1		icleType	Т	Day	Evening	Night	Dailv
Site Data					VCIII		utos:	74.19	-	15.6%	. ,
					M	edium Tr		69.09		23.8%	
Barrier He		0.0 feet 0.0				leavy Tr		82.19		13.9%	
Barrier Type (0-Wall, 1-Be Centerline Dist. to Ba		0.0 74.0 feet								10.070	0.0070
Centerline Dist. to Ba		74.0 feet			Noise Sc	urce Ele	evatio	ns (in f	eet)		
Barrier Distance to Obse		0.0 feet				Autos	: (0.000			
		5.0 feet			Mediui	n Trucks	: 2	.297			
Observer Height (Above F		0.0 feet			Heav	y Trucks	: 8	3.004	Grade Ad	justmen:	t: 0.0
Pad Eleva Road Fleva		0.0 feet		ł	Lane Equ	iivələnt	Dieta	nco (in	foot)		
Road Eleva Road Gi		0.0 reet		-	Lane Ly	Autos		7.782	reet)		
Left \		-90.0 degree			Modiuu	n Trucks		7.629			
Riaht \						y Trucks		644			
Right	new.	90.0 degree	:5		Heav	y IIuchs	. 5	.044			
HWA Noise Model Calcu	lations	3									
VehicleType REM		Traffic Flow	Dis	tance	Finite		Fres		Barrier Att		rm Atten
Autos:	71.78	3.16		-1.0		-1.20		-4.73		000	0.000
Medium Trucks:	82.40	-7.90		-1.0	03	-1.20		-4.88	0.0	000	0.000
Heavy Trucks:	86.40	-11.14		-1.0	03	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise Levels	(with	out Topo and	barrie	er attei	nuation)						
VehicleType Leq Pe		-, -,		Leq E	vening	Leq N	Vight		Ldn	_	NEL
Autos:	72.		70.6		68.1		65		72.	7	73.1
Medium Trucks:	72.	.3 (69.9		66.0		66	.5	73.	5	73.7
Heavy Trucks:	73.	.0	71.4		64.2		64	.9	72.	В	72.9
Vehicle Noise:	77.	.5	75.4		71.2		70	.3	77.	В	78.0
Centerline Distance to No	ise Co	ntour (in feet)									
				70	10.4	0.5			SO dBA		-ID 4
			L		dBA	65 c					dBA
			Ldn: JFI :	2	44 53	52 54	5	-	1,130		,435

	FHW	A-RD-77-108 H	IIGHWA	ΥN	IOISE PE	REDICTION	ON MC	DEL			
	io: HY e: Archibald Av nt: s/o Limonite					Project I Job Nu			stead		
	SPECIFIC IN	PUT DATA		Ι,	n: 0				L INPUT	s	
Peak H	Percentage: lour Volume: hicle Speed:	14,433 vehicles 10% 4,443 vehicles 50 mph 78 feet	;		Me He Vehicle I		cks (2	Autos: Axles): Axles):	15 15 15	Allerha	D-#
Site Data				-	ven	icleType A	utos:	Day 74.1%	Evening 10.3%	Night 15.6%	Daily 89.65%
	rier Height: 'all, 1-Berm):	0.0 feet 0.0				edium Tru Heavy Tru	ıcks:	69.0% 82.1%	7.1%	23.8%	7.02%
Centerline Dist. Centerline Dist. Barrier Distance Observer Height (to Observer: to Observer:	76.0 feet 76.0 feet 0.0 feet 5.0 feet 0.0 feet		•	Mediui	Autos m Trucks ry Trucks	: 0. : 2.	s (in fe 000 297 004	eet) Grade Ad	ljustmen	t: 0.0
Ros	ad Elevation:	0.0 feet		L	Lane Eq	uivalent			feet)		
,	Road Grade: Left View: Right View:	0.0% -90.0 degrees 90.0 degrees				Autos m Trucks ry Trucks	: 65	422 286 299			
FHWA Noise Mode	el Calculations										
VehicleType Autos: Medium Trucks: Heavy Trucks:	70.20 81.00 85.38	3.71 -7.35 -10.59	-	1.85 -1.84 -1.84	5 4	-1.20 -1.20 -1.20	Fresi	-4.73 -4.88 -5.25	0.0	en Be 000 000	0.000 0.000 0.000
						-1.20		-0.20	0.0		0.000
Unmitigated Noise VehicleType	Lea Peak Hour		_	_	vening	Leg N	liaht	T	Ldn		NEL
Autos:	70.9	- 1 - 7	8.8	9	66.2		63.	3	70.9		71.3
Medium Trucks:	70.6	6	8.2		64.4		64.	В	71.8	В	72.0
Heavy Trucks: Vehicle Noise:	71. ¹		0.1 3.9		62.9 69.5		63.		71.9 76.1		71.6 76.4
Centerline Distance					00.0					-	70.
Centernine Distant	e to Noise Coi	, ,		70 a		65 d		6	0 dBA		ō dBA
		L CN	dn: EL:	19 20		42 43	_		908 943		,957 ,032

Scenario Road Name Road Segmen	o: HY e: Kimball Av.	/A-RD-77-108			.0.0	Project		Home				
SITE S	SPECIFIC IN	PUT DATA				N	IOISE	MODE	L INPUT	S		
Highway Data					Site Con	ditions	(Hard =	= 10, S	oft = 15)			
Average Daily	Traffic (Adt):	26,819 vehicle	es					Autos	: 15			
Peak Hour I	Percentage:	10%			Me	dium Tr	ucks (2	Axles)	: 15			
Peak Ho	our Volume:	2,682 vehicles	S		He	avy Tru	cks (3+	Axles)	: 15			
Vel	nicle Speed:	50 mph		-	Vehicle I	Miss						
Near/Far Lar	ne Distance:	51 feet		+		icleType		Day	Evening	Night	Daily	
Site Data					VOII		Autos:	74.19		15.6%	. ,	
					14	edium T		69.09		23.8%		
	rier Height:	0.0 feet				Heavy T				13.9%		
Barrier Type (0-Wa		0.0				icavy 1	ucns.	02.17	0 0.570	10.57	0.007	
Centerline Dis		49.0 feet		I	Noise So	ource El	evatio	ıs (in f	eet)			
Centerline Dist. t		49.0 feet				Auto	s: 0	.000				
Barrier Distance t		0.0 feet			Mediu	m Truck	s: 2	.297				
	Observer Height (Above Pad): 5.0 feet Pad Flevation: 0.0 feet					Heavy Trucks: 8.004 Grade Adjustment: 0.0						
	d Elevation: d Flevation:	0.0 feet			Lane Eq	uivalen	Dietar	nce (in	foot)			
	Road Grade:	0.0 feet		F	Larro Lq	Auto		140	1001)			
r	l eft View:	-90.0 degree			Modiu	m Truck		.929				
	Right View:	90.0 degree				vy Truck		.950				
	rigiti view.	50.0 degree	55		ricar	ry rruch	J. 71	.550				
FHWA Noise Mode	l Calculations	;		•								
VehicleType	REMEL	Traffic Flow	Dis	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten	
Autos:	70.20	1.51		1.0		-1.20		-4.64	0.0	000	0.000	
Medium Trucks:	81.00	-9.55		1.0	4	-1.20		-4.87		000	0.000	
Heavy Trucks:	85.38	-12.79		1.0	4	-1.20		-5.44	0.0	000	0.000	
Unmitigated Noise	Levels (with	out Topo and	barri	er atten	uation)							
VehicleType	Leq Peak Hou	r Leq Day	/	Leq E	vening	Leq	Night		Ldn	С	NEL	
Autos:	71.	5	69.4		66.9		63.	.9	71.5	5	71.9	
Medium Trucks:	71.	3	68.9		65.0		65.	.5	72.5		72.7	
Heavy Trucks:	72.	4	70.8		63.6		64.	.3	72.2	2	72.3	
Vehicle Noise:	76.	6	74.6		70.2		69	.4	76.8	3	77.	
Centerline Distanc	e to Noise Co	ntour (in feet)									
					dBA		dBA		60 dBA		5 dBA	
			Ldn:		10	-	02		651		,402	
		_	NFI:	14	16	0	14		675	- 1	.455	

Scenari Road Nam Road Segmer	e: Archibald Av	ı.						: Homes :: 11968	stead		
	SPECIFIC IN	PUT DATA							L INPUT	s	
Highway Data				٤	Site Cor	nditions	(Hard	= 10, Sc			
Average Daily	. ,	36,343 vehicle	:S					Autos:			
	Percentage:	10%						2 Axles):			
		3,634 vehicles			He	eavy Tru	ıcks (3-	+ Axles):	15		
Vel	nicle Speed:	50 mph		1	/ehicle	Mix					
Near/Far Lar	ne Distance:	78 feet			Ver	icleTyp	е	Dav	Evening	Night	Daily
Site Data						,,	Autos:	74.1%	-		89.65%
Par	rier Height:	0.0 feet			M	ledium 1	rucks:	69.0%	7.1%	23.8%	7.029
Barrier Type (0-W	-	0.0				Heavy 1	rucks:	82.1%	3.9%	13.9%	3.339
Centerline Dis		76.0 feet		<u> </u>							
Centerline Dist.		76.0 feet			Voise S			ns (in fe	eet)		
Barrier Distance		0.0 feet				Auto		0.000			
Observer Height (5.0 feet				m Truci		2.297			
	d Elevation:	0.0 feet			Hea	vy Truci	KS.	8.004	Grade Ad	justment	0.0
	d Elevation:	0.0 feet		L	ane Eo	uivaler	t Dista	nce (in	feet)		
	Road Grade:	0.0%				Auto		5.422	,		
•	I eft View:	-90.0 degree	is.		Mediu	m Truci	ks: 6	5.286			
	Right View:	90.0 degree			Hea	vy Truci	ks: 6	5.299			
FHWA Noise Mode	l Calculations	;									
VehicleType	REMEL	Traffic Flow	Dist	ance	Finite	Road	Fre	snel	Barrier Att	en Ber	m Atten
Autos:	70.20	2.83		-1.85	5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	81.00	-8.23		-1.84	1	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	85.38	-11.47		-1.84	1	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	Levels (witho	out Topo and	barrie	r atten	uation)						
	Leq Peak Hou			Leq Ev			Night		Ldn		VEL
Autos:	70.		37.9		65.3			2.4	70.0		70.
Medium Trucks:	69.		37.3		63.5			1.0	70.9	-	71.
Heavy Trucks:	70.	9 (39.2		62.1		62	2.8	70.6	3	70.
Vehicle Noise:	75.	0	73.0		68.6		67	7.9	75.3	3	75.
Centerline Distanc	e to Noise Co	ntour (in feet)	1								
			L	70 c		65	dBA	(60 dBA	55	dBA
			Ldn:	17	1	3	369		794	1,	711
			IFI:	17			883		825		777

Thursday, August 8, 2019

	EUI	WA-RD-77-108 H	ICHW	AV NO	NISE DE	EDICTIO	N MOD	\EI				
Scenari		WA-KD-77-100 II	IGHW	AI N		Project N			tood			
	o. mr e: Limonite A	,				Job Nur			steau			
Road Segmen						000 1441	inoci. I	1300				
				_								
SITE : Highway Data	SPECIFIC IN	IPUT DATA		-	ito Con	NO ditions (H			L INPUT	S		
				3	ne Con	uitions (n						
Average Daily	. ,	33,972 vehicles		Autos: 15 Medium Trucks (2 Axles): 15								
	Percentage:	10%										
	our Volume:	3,397 vehicles			Hea	avy Truck	s (3+ A.	xles):	15			
	hicle Speed:	50 mph		V	ehicle N	Лix						
Near/Far Lai	ne Distance:	78 feet			Vehi	cleType	Ĺ	Day	Evening	Night	Daily	
Site Data						Au	tos: 7	4.1%	10.3%	15.6%	89.65%	
Rai	rier Height:	0.0 feet			Me	edium Truc	cks: 6	9.0%	7.1%	23.8%	7.02%	
Barrier Type (0-W		0.0			H	leavy Truc	cks: 8	32.1%	3.9%	13.9%	3.33%	
Centerline Dis		76.0 feet		-								
Centerline Dist		76.0 feet		N	oise So	urce Elev		•	eet)			
Barrier Distance	to Observer:	0.0 feet				Autos:	0.0					
Observer Height (Above Pad):	5.0 feet				n Trucks:	2.2		0			
	ad Elevation:	0.0 feet			Heav	y Trucks:	8.0	04	Grade Ad	ijustment.	0.0	
Roa	ad Elevation:	0.0 feet		L	ane Equ	ıivalent D	istanc	e (in :	feet)			
ı	Road Grade:	0.0%				Autos:	65.4	22				
	Left View:	-90.0 degrees			Mediun	n Trucks:	65.2	86				
	Right View:	90.0 degrees			Heav	y Trucks:	65.2	99				
FHWA Noise Mode		-								-		
VehicleType	REMEL	Traffic Flow	Distar		Finite		Fresne		Barrier At		m Atten	
Autos:	70.20	2.54		-1.85		-1.20		4.73		000	0.000	
Medium Trucks:	81.00	-8.52		-1.84		-1.20		4.88		000	0.000	
Heavy Trucks:	85.38	-11.76		-1.84		-1.20	-	5.25	0.	000	0.000	
Unmitigated Noise	Levels (with	out Topo and b	arrier a	attenu	ation)							
VehicleType	Leq Peak Hou	ır Leq Day	L	eq Eve	ening	Leq Ni	ght		Ldn	CI	VEL	
Autos:	69	0.7 67	7.6		65.0		62.1		69.	7	70.1	
Medium Trucks:	69		7.0		63.2		63.7		70.	-	70.8	
Heavy Trucks:	70		3.9		61.8		62.5		70.		70.5	
Vehicle Noise:	74	.7 72	2.7		68.3		67.6		75.	0	75.2	
Centerline Distanc	e to Noise Co	ontour (in feet)										
				70 dl	BA	65 dE	BA .	6	0 dBA	55	dBA	
		Lo	dn:	164	ļ.	352			759	1,0	636	
		CNE	EL:	170)	366	366 789			789 1,699		

FHW	A-RD-77-108 HI	GHWAY	NOISE P	REDICTIO	N MODE	L			
Scenario: HY Road Name: Limonite Av. Road Segment: e/o Archibal				Project N Job Nur			ead		
SITE SPECIFIC IN	PUT DATA		01: 0				INPUT	S	
Peak Hour Percentage:	54,064 vehicles 10% 5,406 vehicles 50 mph 78 feet		Me He Vehicle		Au ks (2 Ax s (3+ Ax	itos: les): les):	15 15 15	A Control	Dailv
Site Data			ver	nicleType Au		ay 1.1%	Evening 10.3%	Night 15.6%	. ,
Barrier Height: Barrier Type (0-Wall, 1-Berm):	0.0 feet 0.0			ledium Truc Heavy Truc	cks: 69	9.0% 2.1%	7.1%	23.8%	7.02%
Centerline Dist. to Barrier: Centerline Dist. to Observer: Barrier Distance to Observer: Observer Height (Above Pad): Pad Elevation:	76.0 feet 76.0 feet 0.0 feet 5.0 feet 0.0 feet		Mediu Hea	Autos: m Trucks: vy Trucks:	0.00 2.29 8.00	0 7 4	Grade Ad	justment	t: 0.0
Road Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degrees 90.0 degrees		Mediu	Autos: m Trucks: vy Trucks:	65.42 65.28 65.29	2	eet)		
FHWA Noise Model Calculations									
VehicleType REMEL Autos: 70.20 Medium Trucks: 81.00 Heavy Trucks: 85.38	4.56 -6.50 -9.74	-1	.85 .84 .84	-1.20 -1.20 -1.20	-4	1.73 1.88 1.25	0.0	en Ber 000 000 000	0.000 0.000 0.000
Unmitigated Noise Levels (without	ut Topo and ba	rrier atte	enuation)						
VehicleType Leq Peak Hou	- 1 - 7		Evening	Leq Ni			Ldn		NEL
Autos: 71. Medium Trucks: 71. Heavy Trucks: 72. Vehicle Noise: 76.	5 69 6 70	.1 .9	67.1 65.2 63.8 70.3		64.1 65.7 64.5		71.7 72.6 72.3	3	72.1 72.8 72.5
Centerline Distance to Noise Co	ntour (in foot)								
Centerline Distance to Noise Co	ntour (in feet) Ld CNE	n:	0 dBA 223 232	65 dE 480 499		1	0 dBA ,035 .075	2,	dBA 230 316

	io: HY ne: Limonite Av nt: e/o Sumne					Project Job N	Name: umber:				
	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data					Site Con	ditions	(Hard =	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	44,429 vehicl	es					Autos	15		
Peak Hour	Percentage:	10%			Me	dium Tr	ıcks (2	Axles)	15		
Peak H	lour Volume:	4,443 vehicle	s		He	avy Tru	cks (3+	Axles)	15		
Ve	hicle Speed:	50 mph		-	Vehicle I	Miv					
Near/Far La	ne Distance:	78 feet		-		icleType		Dav	Evening	Night	Daily
Site Data					VC//		Autos:	74.19		15.6	
					14	edium T		69.09		23.8	
	rrier Height:	0.0 feet				Heavy T					
Barrier Type (0-W	. ,	0.0				icavy i	ucns.	02.17	0 0.070	10.0	70 0.007
Centerline Di		76.0 feet			Noise So	ource El	evatio	ıs (in f	eet)		
Centerline Dist.		76.0 feet				Auto	s: 0	.000			
	Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet					m Truck	s: 2	.297			
	Observer Height (Above Pad): 5.0 feet					y Truck	s: 8	.004	Grade Ad	ljustme	nt: 0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		ŀ	Lane Eq	uivaleni	Distar	nce (in	feet)		
	Road Grade:	0.0%		F	zano zq	Auto		422	1001)		
	l eft View:	-90.0 degre			Modiu	m Truck		286			
	Right View:	90.0 degre				y Truck		.299			
	rigiti view.	90.0 degre	es		rical	y Huck	s. 0c	1.233			
FHWA Noise Mode	el Calculation										
VehicleType	REMEL	Traffic Flow		stance		Road	Fres		Barrier At		erm Atten
Autos:	70.20	3.71		-1.8		-1.20		-4.73		000	0.000
Medium Trucks:	81.00	-7.36		-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-10.59		-1.8	34	-1.20		-5.25	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barr	ier attei	nuation)						
VehicleType	Leq Peak Hou	ır Leq Daj	y	Leq E	vening	Leq	Night		Ldn		CNEL
Autos:	70	1.9	68.8		66.2		63.	.3	70.	9	71.3
Medium Trucks:	.6	68.2 70.1		64.4		64.	-	71.	-	72.0	
Heavy Trucks:					62.9		63.	-	71.	-	71.6
Vehicle Noise:	75	i.9	73.9		69.5		68	.7	76.	2	76.4
Centerline Distand	ce to Noise Co	ontour (in feet	t)	70		0.5	10.4				
					dBA		dBA		60 dBA		55 dBA
	Ldn:						1,957				
	CNEL:										2.032

_											
Scenari						.,		: Homes	stead		
	e: Limonite Av.	_				Job I	Vumbe	: 11968			
Road Segmer	nt: e/o Harrison	AV.									
	SPECIFIC INF	PUT DATA							L INPUT	S	
Highway Data				S	ite Cor	nditions	(Hard	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	55,789 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%						2 Axles):			
Peak H	our Volume:	5,579 vehicles	S		He	eavy Tru	icks (3-	+ Axles):	15		
Ve	hicle Speed:	50 mph		ν	ehicle	Mix					
Near/Far Lai	ne Distance:	78 feet				icleTyp	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.65
Rai	rier Height:	0.0 feet			M	ledium 1	rucks:	69.0%	7.1%	23.8%	7.02
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.33
Centerline Dis	st. to Barrier:	76.0 feet		٨	loise S	nurce F	levatio	ns (in fe	opt)		
Centerline Dist.	to Observer:	76.0 feet			.0.00	Auto		0.000	,,,,		
Barrier Distance	to Observer:	0.0 feet			Madii	m Truck		2.297			
Observer Height (Above Pad):	5.0 feet				vy Truci		8.004	Grade Ad	liustment	. 0 0
Pa	ad Elevation:	0.0 feet			Tica	vy Truci	io.	0.004	0,000,10	juoumom	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalen	t Dista	nce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 6	5.422			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 6	5.286			
	Right View:	90.0 degree	es		Hea	vy Truci	rs: 6	5.299			
FHWA Noise Mode	el Calculations										
VehicleType		Traffic Flow	Dis	tance		Road	Fre		Barrier Att	_	m Atte
Autos:	70.20	4.70		-1.85	i	-1.20		-4.73	0.0	000	0.0
Medium Trucks:	81.00	-6.37		-1.84		-1.20		-4.88	0.0	000	0.0
Heavy Trucks:	85.38	-9.61		-1.84		-1.20		-5.25	0.0	000	0.0
Inmitigated Noise											
	Leq Peak Hour			Leq Ev			Night	1.0	Ldn		NEL
Autos:	71.8	-	69.8		67.2		-	1.2	71.9	-	72
Medium Trucks:	71.6	-	69.2		65.3			5.8	72.	-	73
Heavy Trucks:	72.		71.1		63.9		_	1.6	72.		72
Vehicle Noise:	76.9		74.9		70.5	•	69	9.7	77.	1	77
Centerline Distanc	e to Noise Cor	ntour (in feet))	70 d	RΔ	65	dBA	-	60 dBA	55	dBA
			l dn:	221			91		1.057		277
		CI	VFI:	236	6		09		1.098	,	365

Thursday, August 8, 2019

	ELIM/A	-RD-77-108 HIG	LIMAY	NOISE DE	EDICTIO	N MODEL			
Scenario: HY	FNWA	K-KD-//-100 HIG	INWAT	NUISE FI		ame: Hom	natand		
Road Name: Limor	vito Av					anie. nom nber: 1196			
Road Segment: e/o So		lv			JOD IVUI	iber. 1190	0		
		,							
SITE SPECIF	IC INP	UT DATA					EL INPUT	'S	
Highway Data				Site Con	ditions (H	ard = 10, 3			
Average Daily Traffic (A	ldt): 43	3,258 vehicles				Auto			
Peak Hour Percenta	age:	10%		Me	dium Truc	ks (2 Axles): 15		
Peak Hour Volu	me: 4,	,326 vehicles		He	avy Truck	s (3+ Axles): 15		
Vehicle Spe	eed:	50 mph		Vehicle I	/liv				
Near/Far Lane Distar	nce:	78 feet			cleType	Dav	Evening	Night	Daily
Site Data						tos: 74.1			89.65%
		0.0.64		Me	edium Truc				7.02%
Barrier Heig		0.0 feet 0.0			leavy Truc				3.33%
Barrier Type (0-Wall, 1-Be		76.0 feet			ioury mu	710. OZ.1	70 0.070	10.070	0.007
Centerline Dist. to Bar Centerline Dist. to Obser		76.0 feet		Noise So	urce Elev	ations (in	feet)		
Barrier Distance to Obser		0.0 feet			Autos:	0.000			
				Mediur	n Trucks:	2.297			
Observer Height (Above P		5.0 feet		Heav	y Trucks:	8.004	Grade A	djustment.	0.0
Pad Elevai		0.0 feet		I ano Equ	ijvalont D	istance (ii	foot)		
Road Elevai		0.0 feet		Lane Lyt	Autos:	65 422	i ieet)		
Road Gra		0.0%		14	n Trucks:	65.286			
Left V		-90.0 degrees							
Right V	iew:	90.0 degrees		Heav	y Trucks:	65.299			
HWA Noise Model Calcul	ations								
VehicleType REME	L T	raffic Flow D	istance	Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos:	70.20	3.59	-1.8	35	-1.20	-4.7	3 0.	.000	0.000
Medium Trucks:	31.00	-7.47	-1.8	34	-1.20	-4.8	3 0.	.000	0.000
Heavy Trucks:	35.38	-10.71	-1.8	34	-1.20	-5.2	5 0.	.000	0.000
Inmitigated Noise Levels	(withou	t Tono and har	rior atto	nuation)					
VehicleType Leg Pea	<u>. </u>	Leg Day		vening	Leg Ni	aht	I dn	CI	VEL
Autos:	70.7	68.6	,	66.1		63.1	70.		71.1
Medium Trucks:	70.5	68.1		64.2		64.7	71	-	71.9
Heavy Trucks:	71.6	70.0		62.8		63.5	71		71.5
Vehicle Noise:	75.8	73.7		69.4		68.6	76		76.3
Centerline Distance to Noi	se Con	tour (in feet)							
		1/	70	dBA	65 dE	iA .	60 dBA	55	dBA
		Ldn.	. 1	92	414		892	1,9	922
		CNEL		200	430				996

	FH\	WA-RD-77-108	HIGHW	AY N	IOISE PR	EDICTI	ON MC	DEL			
	io: HY ne: Limonite A nt: e/o Hamne	**				Project Job N	Name: umber:				
	SPECIFIC IN	NPUT DATA							L INPUT	S	
Highway Data					Site Cond	ditions	(Hard =	10, S	oft = 15)		
Average Daily	Traffic (Adt):	65,190 vehicle	s					Autos	: 15		
Peak Hour	Percentage:	10%				dium Tru					
Peak H	lour Volume:	6,519 vehicles	\$		Hea	avy Truc	ks (3+	Axles)	: 15		
Ve	hicle Speed:	45 mph		-	Vehicle N	lix					
Near/Far La	ne Distance:	78 feet		H	Vehi	cleType		Dav	Evening	Nigh	t Dailv
Site Data							lutos:	74.19		15.6	
Rai	rrier Height:	0.0 feet			Me	dium Ti	ucks:	69.09	6 7.1%	23.8	7.02%
Barrier Type (0-W		0.0			H	leavy Tr	ucks:	82.19	6 3.9%	13.9	% 3.33%
Centerline Dis	st. to Barrier:	76.0 feet			Noise So	urce Fl	evation	s (in f	eet)		
Centerline Dist.	to Observer:	76.0 feet		H.	110/30 00	Autos		000	<i>cci)</i>		
Barrier Distance	to Observer:	0.0 feet			Madiur	n Trucks		297			
Observer Height ((Above Pad):	5.0 feet				y Trucks		.004	Grade Ad	liustme	ent: 0.0
	ad Elevation:	0.0 feet		L						,	
	ad Elevation:	0.0 feet		1	Lane Equ				feet)		
	Road Grade:	0.0%				Autos		.422			
	Left View:	-90.0 degree				n Trucks		.286			
	Right View:	90.0 degree	es		Heav	y Trucks	s: 65	.299			
FHWA Noise Mode	el Calculation	ıs									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite		Fresi	nel	Barrier At	ten E	Berm Atten
Autos:	68.46			-1.8	-	-1.20		-4.73		000	0.000
Medium Trucks:	79.45			-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	84.25	-8.47		-1.8	4	-1.20		-5.25	0.	000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier a	atten	uation)						
	Leq Peak Hou	- 1 - 7		eq E	vening	Leq	Night		Ldn		CNEL
Autos:			69.1		66.6		63.		71.	-	71.6
Medium Trucks:			8.86		64.9		65.		72.		72.6
Heavy Trucks:			71.1		63.9		64.		72.		72.6
Vehicle Noise:	76	3.6	74.6		70.1		69.	4	76.	8	77.1
Centerline Distance	ce to Noise C	ontour (in feet)								
					dBA	65 (60 dBA	4	55 dBA
			Ldn:	21		46			1,006		2,168
		C	VEL:	22	25	48	35		1,044		2,249

Coonari	io: HY+P					Project	Nama	Homo	etood		
	e: Archibald A	lv.						11968			
Road Segmen						00014	arriber.	11300			
	SPECIFIC IN					N	OISE	MODE	L INPUT	c	
Highway Data	JI LOII IO III	II O I DAI	•	5	Site Con	ditions					
Average Daily	Traffic (Adt):	35.442 vehi	icles					Autos	: 15		
	Percentage:	10%			Me	dium Tru	icks (2	Axles).	15		
	our Volume:	3,544 vehic	les		He	avy Truc	ks (3+	Axles).	15		
Vei	hicle Speed:	55 mph			/ehicle						
Near/Far Lai	ne Distance:	93 feet				viix icleType		Day	Evening	Night	Daily
Site Data							utos:	74.19	-	15.6%	
		0.0 feet			М	edium Tı		69.0%		23.8%	
Barrier Type (0-W	rier Height:	0.0 reet				Heavy Tr	ucks:	82.1%	6 3.9%	13.9%	3.619
Centerline Dis	. ,	74.0 feet		L							
Centerline Dist		74.0 feet		^	loise S	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		.000			
Observer Height (5.0 feet				m Trucks	-	.297	0		
	ad Elevation:	0.0 feet			Hear	y Trucks	S: 8	1.004	Grade Ad	ustmen	t: U.U
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Distar	nce (in	feet)		
F	Road Grade:	0.0%				Autos	3: 57	7.782			
	Left View:	-90.0 deg	rees		Mediu	m Trucks	3: 57	.629			
	Right View:	90.0 deg	rees		Hear	y Trucks	s: 57	7.644			
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flov	v Di	stance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	71.78	2.2	29	-1.05	5	-1.20		-4.73	0.0	000	0.00
Medium Trucks:	82.40	-8.7	70	-1.03	3	-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	86.40	-11.6	64	-1.03	3	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise	Levels (with	out Topo ar	d barr	ier attenı	uation)						
,,	Leq Peak Hou		,	Leq Ev		Leq	Vight		Ldn	_	NEL
Autos:	71		69.7		67.2		64	-	71.8	-	72.
Medium Trucks:	71		69.1		65.2		65		72.0		72.
Heavy Trucks: Vehicle Noise:	72	2.5	70.9 74.7		63.7 70.4		64 69		72.3 77.0		72 77.
		•••			70.4		05	.0	77.	,	11.
Centerline Distanc	e to Noise Co	ontour (in fe	et)	70 d	IBA	65 (1BA		60 dBA	55	dBA
						-0 (
			Ldn:	21	8	46	9		1.011	2	.177

	111117	4-100	IIIGII	WAII	NOISE PI	REDICI	ION INC	,DLL			
	o: HY+P						t Name:				
	e: Archibald Av.					Job N	lumber:	11968			
Road Segmer	nt: n/o Chino Av.										
	SPECIFIC INP	UT DATA			0': 0				L INPUT	S	
Highway Data				- 1	Site Con	aitions	(Hard =				
Average Daily	Traffic (Adt): 3	8,166 vehicle	S					Autos.			
Peak Hour	Percentage:	10%				edium Tr					
Peak H	our Volume: 3	,817 vehicles			He	eavy Tru	cks (3+	Axles).	: 15		
Ve	hicle Speed:	55 mph		ŀ	Vehicle i	Mix					
Near/Far Lai	ne Distance:	93 feet		F	Veh	icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.19	6 10.3%	15.6%	89.32
Rai	rier Height:	0.0 feet			М	edium T	rucks:	69.0%	6 7.1%	23.8%	7.09
Barrier Type (0-W		0.0			-	Heavy T	rucks:	82.19	6 3.9%	13.9%	3.59
Centerline Dis	st. to Barrier:	74.0 feet		l,	Noise So	ource E	levation	ns (in f	eet)		
Centerline Dist.	to Observer:	74.0 feet		f		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Mediu	m Truck		.297			
Observer Height (.	Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	liustment	: 0.0
Pa	ad Elevation:	0.0 feet		L		•				,	
Roa	ad Elevation:	0.0 feet		Į.	Lane Eq	uivalen	t Distar	ice (in	feet)		
I	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degree	s		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degree	S		Heav	vy Truck	s: 57	.644			
FHWA Noise Mode											
VehicleType		Traffic Flow	Dist	tance	_	Road	Fres		Barrier Att		m Atter
Autos:	71.78	2.62		-1.0		-1.20		-4.73		000	0.0
Medium Trucks:	82.40	-8.38		-1.0	-	-1.20		-4.88		000	0.0
Heavy Trucks:	86.40	-11.34		-1.0		-1.20		-5.25	0.0	000	0.0
Unmitigated Noise VehicleType	Levels (withou Leg Peak Hour	It Topo and I Leg Day	arrie		vening	Log	Night	Т	l dn		NFI
Autos:	72.2		70.1	Ley L	67.5		14igiit 64	5	72.2		72
Medium Trucks:	71.8		9.4		65.5		66	-	73.0	_	73
Heavy Trucks:	71.0	-	1.2		64.0		64	-	72.6	-	72
Vehicle Noise:	77.0		75.0		70.7		69.		77.3		77
Centerline Distanc	e to Noise Con	tour (in feet)									
				70 (dBA	65	dBA		60 dBA	55	dBA
			dn:	2	28	- 1	92		1.060	2	285
			un.	~	20	-	32		1,000	۷,	

Thursday, August 8, 2019

	FHV	VA-RD-77-10	8 HIGI	HWAY	NOISE PR	REDICTIO	M M	ODEL			
Scenario: HY+	-P					Project N	lame	: Home:	stead		
Road Name: Arcl	nibald A	V.				Job Nu	mber	11968			
Road Segment: s/o	Schaefe	er Av.									
SITE SPECI	FIC IN	IPUT DATA				NC	ISE	MODE	L INPUT	'S	
Highway Data					Site Cond	ditions (F	lard	= 10, S	oft = 15)		
Average Daily Traffic	(Adt):	33,790 vehic	les					Autos:	15		
Peak Hour Percer	itage:	10%			Med	dium Truc	ks (2	Axles):	15		
Peak Hour Vo	lume:	3,379 vehicle	es		Hea	avy Truck	s (3+	Axles):	15		
Vehicle S	peed:	55 mph			Vehicle N	/liv					
Near/Far Lane Dist	ance:	93 feet				cleType	Т	Dav	Evening	Night	Daily
Site Data							itos:	74.1%			,
Barrier He	iodet	0.0 feet			Ме	edium Tru		69.0%			
Barrier Type (0-Wall, 1-E		0.0 feet			H	leavy Tru	cks:	82.1%	3.9%	13.9%	3.62%
Centerline Dist. to B		74.0 feet									
Centerline Dist. to Obs		74.0 feet			Noise So		_		eet)		
Barrier Distance to Obs	erver:	0.0 feet				Autos:		0.000			
Observer Height (Above	Pad):	5.0 feet				n Trucks:		2.297	0	-ti	
Pad Elev		0.0 feet			Heav	y Trucks:		3.004	Grade A	djustment	. 0.0
Road Elev	ation:	0.0 feet			Lane Equ	ıivalent E	Dista	nce (in	feet)		
Road G	rade:	0.0%				Autos:	5	7.782			
Left	View:	-90.0 degre	ees		Mediun	n Trucks:	5	7.629			
Right	View:	90.0 degre	ees		Heav	y Trucks:	5	7.644			
FHWA Noise Model Calc	ulation	s									
VehicleType REI	ΛEL	Traffic Flow	Di	stance	Finite	Road	Fre	snel	Barrier At	ten Ber	m Atten
Autos:	71.78	2.0	9	-1.	05	-1.20		-4.73	0.	.000	0.000
Medium Trucks:	82.40	-8.9	1	-1.0	03	-1.20		-4.88	0.	.000	0.000
Heavy Trucks:	86.40	-11.8	1	-1.0	03	-1.20		-5.25	0.	.000	0.000
Unmitigated Noise Level	s (with	out Topo and	l barri	er atte	nuation)						
VehicleType Leq Pe	eak Hou	ır Leq Da	ay .	Leq I	vening	Leq N	ight		Ldn	CI	NEL
Autos:	71		69.5		67.0		64		71.	-	72.0
Medium Trucks:	71		68.9		65.0		65		72		72.6
Heavy Trucks:	72		70.7		63.5		64		72		72.2
Vehicle Noise:	76	.5	74.5		70.2		69	.4	76	.8	77.1
Centerline Distance to N	oise Co	ontour (in fee	t)								
			L		dBA	65 dl		(60 dBA		dBA
			Ldn:		111	455			980	,	110
		(ONEL:	2	19	472	2		1,017	2,	192

	FHV	VA-RD-77-108	HIGHW.	AY NOI	SE PI	REDICTI	ON MC	DEL			
Road Nam	io: HY+P ne: Archibald A nt: s/o Ontario					Project Job N	Name: umber:		stead		
	SPECIFIC IN	IPUT DATA		04					L INPUT	s	
Peak H Ve	Traffic (Adt): Percentage: lour Volume: hicle Speed: ne Distance:	41,113 vehicle 10% 4,111 vehicle 55 mph 93 feet			Me He nicle I	ditions of dium Truces of the di	ıcks (2	Autos: Axles):	15 15	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.38%
Barrier Type (0-W		0.0 feet 0.0 74.0 feet				Heavy Tr				13.9%	
Ros	to Observer: to Observer:		٨	flediu Heav	Autos Autos m Trucks ry Trucks uivalent Autos	s: 0 s: 2 s: 8 Distar	.000 .297 .004	Grade Ad	ljustmen	t: 0.0	
	Left View: Right View:	-90.0 degree		٨		m Trucks vy Trucks		.629 .644			
FHWA Noise Mode		-									
VehicleType Autos: Medium Trucks:	71.78 82.40	Traffic Flow 2.94 -8.08	Distar	-1.05 -1.03	-inite	-1.20 -1.20	Fres	-4.73 -4.88		000 000	0.000 0.000
Heavy Trucks: Unmitigated Noise	86.40	-11.06	harrior s	-1.03	ion)	-1.20		-5.25	0.0	000	0.000
VehicleType	Lea Peak Hou			eq Even		l ea	Night	T	Ldn		NEL
Autos:	72	. , . ,	70.4	04 E10//	67.8	204	64.	9	72.		72.9
Medium Trucks:	72	.1	69.7		65.8		66.	3	73.	3	73.5
Heavy Trucks:	73	.1	71.5		64.3		65.	0	72.	8	73.0
Vehicle Noise:	77	.4	75.3		71.0		70.	2	77.	6	77.9
Centerline Distance	ce to Noise Co	ontour (in feet)								
				70 dBA		65 (60 dBA		5 dBA
			Ldn:	239		51			1,111		,394
		Ci	VEL:	249		53	36		1,154	2	,487

	FH\	WA-RD-77-108	HIGH	WAY N	OISE PI	REDICTI	ON M	ODEL			
Road Nam	io: HY+P ne: Archibald A nt: s/o Merrill A					Project Job N		Home 11968			
SITE	SPECIFIC IN	IPUT DATA				N	OISE	MODE	L INPUT	s	
Highway Data				S	ite Con	ditions	Hard:	= 10, S	oft = 15)		
Average Daily	Traffic (Adt):	43,762 vehicle	es					Autos	15		
Peak Hour	Percentage:	10%			Me	dium Tru	icks (2	Axles)	15		
Peak H	lour Volume:	4,376 vehicle	S		He	avy Truc	ks (3+	Axles)	15		
Ve	hicle Speed:	55 mph		V	ehicle l	Miv					
Near/Far La	ne Distance:	93 feet		-		icleType	T	Dav	Evening	Night	Daily
Site Data							utos:	74.19		15.6	
Pa	rrier Height:	0.0 feet			М	edium Tı	ucks:	69.09	6 7.1%	23.8	% 7.03%
Barrier Type (0-W		0.0			1	Heavy Tr	ucks:	82.19	3.9%	13.9	% 3.53%
Centerline Di		74.0 feet		-							
Centerline Dist.	to Observer:	74.0 feet		^	ioise Sc	ource El			eet)		
Barrier Distance	to Observer:	0.0 feet				Autos		0.000			
Observer Height	(Above Pad):	5.0 feet				m Trucks	-	2.297 3.004	Grade A	divotmo	m4: 0.0
Pi	ad Elevation:	0.0 feet			Heat	y Trucks	s: e	3.004	Grade At	ijusime.	т. 0.0
Ro	ad Elevation:	0.0 feet		L	ane Eq	uivalent	Dista	nce (in	feet)		
	Road Grade:	0.0%				Autos	s: 57	7.782			
	Left View:	-90.0 degree	es		Mediu	m Trucks	3: 57	7.629			
	Right View:	90.0 degree	es		Heav	y Trucks	3: 57	7.644			
FHWA Noise Mod											
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier At		erm Atten
Autos:	71.78			-1.05		-1.20		-4.73		000	0.00
Medium Trucks:	82.40			-1.03		-1.20		-4.88	-	000	0.000
Heavy Trucks:				-1.03		-1.20		-5.25	0.	000	0.000
Unmitigated Noise			_					_		_	
VehicleType	Leq Peak Hou			Leq Ev		Leq	Vight	<u> </u>	Ldn		CNEL
Autos: Medium Trucks:	72 72		70.7 69.9		68.1 66.1		65 66		72. 73.		73. ⁻
	73		71.7		64.5		65		73.	-	73.
Heavy Trucks: Vehicle Noise:		7.6	75.6		71.3		70	-	77.		78.
Centerline Distant	ce to Noise C	ontour (in feet)								
		,		70 d	'BA	65 (1BA		60 dBA	5	5 dBA
			Ldn:	24	9	53	36		1,155		2,489
			259 557 1,200 2,585								

	FHW	A-RD-77-108	HIGH	WAY I	NOISE P	REDICT	ION MC	DEL			
Road Nam	io: HY+P ne: Archibald Av nt: s/o Eucalypt						t Name: Number:		stead		
	SPECIFIC INF	PUT DATA							L INPUT	s	
Highway Data					Site Cor	ditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt): 4	40,879 vehicle	es					Autos:	15		
Peak Hour	Percentage:	10%			Me	edium Ti	rucks (2	Axles):	15		
Peak H	lour Volume:	4,088 vehicles	3		He	eavy Tru	icks (3+	Axles):	15		
Ve	hicle Speed:	55 mph		F	Vehicle	Mix					
Near/Far La	ne Distance:	93 feet		H		icleType	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	-	15.6%	,
Rai	rrier Height:	0.0 feet			М	edium 7	rucks:	69.0%	7.1%	23.8%	7.06%
Barrier Type (0-W		0.0				Heavy 7	rucks:	82.1%	3.9%	13.9%	3.56%
Centerline Dis		74.0 feet		ŀ	Noise S		lovotion	o (in f	2041		
Centerline Dist.	to Observer:	74.0 feet		ŀ	Noise 3	Auto		000	et)		
Barrier Distance	to Observer:	0.0 feet			14-45	Auto m Truck	-	297			
Observer Height ((Above Pad):	5.0 feet				vy Truck		.004	Grade Ad	iuetmant	. 0 0
Pa	ad Elevation:	0.0 feet			неа	vy Truci	(S: 8	.004	Grade Au	justinent	. 0.0
Ros	ad Elevation:	0.0 feet			Lane Eq	uivalen	t Distan	ce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 57	.782			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 57	.629			
	Right View:	90.0 degree	es		Hear	vy Truck	s: 57	.644			
FHWA Noise Mode	el Calculations										
VehicleType		Traffic Flow	Dist	tance		Road	Fres		Barrier Att	_	m Atten
Autos:	71.78	2.92		-1.0		-1.20		-4.73		000	0.00
Medium Trucks:	82.40	-8.11		-1.0	-	-1.20		-4.88		000	0.00
Heavy Trucks:	86.40	-11.08		-1.0	03	-1.20		-5.25	0.0	000	0.00
Unmitigated Noise			barrie	r atter	nuation)			_			
VehicleType	Leq Peak Hour			Leq E	vening		Night		Ldn		NEL
Autos:	72.5		70.4		67.8		64.		72.5		72.
Medium Trucks:	72.		69.7		65.8		66.	-	73.2	-	73.
Heavy Trucks:	73.		71.4		64.3		65.	-	72.8		73. 77.
Vehicle Noise:	77.3		75.3		71.0		70.	2	77.6)	77.
Centerline Distanc	ce to Noise Coi	ntour (in feet)		70	dBA	65	dBA		60 dBA	55	dBA
			l dn:		38		14		1.107		385
			VFI:	_	48	_	34		1.150		477
		Oi.							.,,,,,,,	۷,	

Thursday, August 8, 2019

F	HWA-I	RD-77-108	HIGHV	VAY	NOISE PF	REDICTI	ON M	ODEL			
Scenario: HY+P Road Name: Archibal Road Segment: s/o Limo						Project Job No		: Home: : 11968	stead		
SITE SPECIFIC	INPU	T DATA							L INPUT	s	
lighway Data					Site Con	ditions (Hard	= 10, S	oft = 15)		
Average Daily Traffic (Adt)): 44,	797 vehicle	S					Autos:	15		
Peak Hour Percentage	2.	10%			Me	dium Tru	cks (2	Axles):	15		
Peak Hour Volume	: 4,4	80 vehicles			He	avy Truc	ks (3+	- Axles):	15		
Vehicle Speed	l:	50 mph		ŀ	Vehicle I	Miss					
Near/Far Lane Distance	2	78 feet		-		icleTvpe		Dav	Evening	Night	Dailv
Site Data				\rightarrow	VCIII	,,	utos:	74.1%	-	15.6%	. ,
					1.4	edium Tr		69.0%		23.8%	
Barrier Heigh		0.0 feet				Heavy Tr				13.9%	
Barrier Type (0-Wall, 1-Berm		0.0			,	icavy II	ucns.	02.17	3.570	13.57	3.3570
Centerline Dist. to Barrie		6.0 feet			Noise Sc	ource Ele	evatio	ns (in f	eet)		
Centerline Dist. to Observe		6.0 feet				Autos	: (0.000			
Barrier Distance to Observe		0.0 feet			Mediur	m Trucks	: 1	2.297			
Observer Height (Above Pad		5.0 feet			Heav	y Trucks	: 8	3.004	Grade Ad	ljustmen	t: 0.0
Pad Elevation		0.0 feet		-	Lane Equ	uhalont	Diete	naa (in	foot)		
Road Elevation		0.0 feet		-	Lane Equ			5.422	ieei)		
Road Grade		0.0%				Autos	-				
Left Viev		0.0 degree				m Trucks	-	5.286			
Right View	<i>r</i> : 9	0.0 degree	S		Heav	y Trucks	: 6:	5.299			
HWA Noise Model Calculati	ons										
VehicleType REMEL	Tra	affic Flow	Dista	ance	Finite	Road	Fre	snel	Barrier Att	ten Be	rm Atten
Autos: 70.	20	3.74		-1.8	35	-1.20		-4.73	0.0	000	0.000
Medium Trucks: 81.	00	-7.33		-1.8	34	-1.20		-4.88	0.0	000	0.000
Heavy Trucks: 85.	38	-10.47		-1.8	34	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise Levels (w	ithout	Topo and I	arrier	atter	nuation)						
VehicleType Leq Peak I	lour	Leq Day		Leq E	vening	Leq I	light		Ldn	C	NEL
Autos:	70.9	6	8.8		66.2		63	1.3	70.9	9	71.3
Medium Trucks:	70.6	6	88.2		64.4		64	.9	71.8	8	72.0
Heavy Trucks:	71.9	7	0.2		63.1		63	8.8	71.0	6	71.8
Vehicle Noise:	75.9	7	73.9		69.5		68	1.8	76.	2	76.5
	Conto	ur (in feet)									
Centerline Distance to Noise											
Centerline Distance to Noise			L	70	dBA	65 c	IBA_	- (60 dBA	55	dBA
Centerline Distance to Noise		ı	dn:		dBA 97	65 d		(917		975

	FH\	WA-RD-77-108	HIGH	WAY N	IOISE PI	REDICT	ON MC	DEL			
Road Nam	io: HY+P ne: Archibald A nt: s/o 65th St.					Project Job N	Name: umber:		stead		
	SPECIFIC IN	IPUT DATA							L INPUT	s	
	Traffic (Adt): Percentage: lour Volume:	36,580 vehicle 10% 3,658 vehicle			Ме	edium Trueavy True	ucks (2	Autos: Axles):	15 15		
	hicle Speed:	50 mph		1	Vehicle I	Mix					
	ne Distance:	78 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data Barrier Type (0-W	rrier Height: /all, 1-Berm):	0.0 feet 0.0				ledium Ti Heavy Ti		74.1% 69.0% 82.1%	7.1%	15.6% 23.8% 13.9%	6.97%
Centerline Di		76.0 feet		1	Voise S	ource El	evation	s (in fe	eet)		
Centerline Dist. Barrier Distance Observer Height	to Observer:	76.0 feet 0.0 feet 5.0 feet			Mediu	Auto: m Truck: vy Truck:	s: 0 s: 2	000 297 004	Grade Ad	liustmen	#: 0.0
P	ad Elevation:	0.0 feet								justinon	. 0.0
	ad Elevation: Road Grade: Left View: Right View:	0.0 feet 0.0% -90.0 degree 90.0 degree			Mediu	Auto: m Truck: vy Truck:	s: 65 s: 65	ce (in : .422 .286 .299	leet)		
FHWA Noise Mode	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dist	tance	Finite	Road	Fres	nel	Barrier Att	en Be	rm Atten
Autos:	70.20	2.87		-1.8		-1.20		-4.73		000	0.000
Medium Trucks:	81.00	-8.23		-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-11.47		-1.8		-1.20		-5.25	0.0	000	0.000
Unmitigated Noise								1			N.E.
VehicleType Autos:	Leq Peak Hou	- 1 - 7	67.9	Leq E	ening 65.4		Night 62	4	Ldn 70.0		70.4
Medium Trucks:	69		67.3		63.5		64		70.9	-	71.1
Heavy Trucks:	70		69.2		62.1		62.	-	70.6	-	70.8
Vehicle Noise:	75	i.0	73.0		68.6	i	67.	9	75.3	3	75.5
Centerline Distant	ce to Noise Co	ontour (in feet)								
				70 c	1BA	65	dBA	6	60 dBA	55	5 dBA
			Ldn:	17	1	36	39		795	1	,714
		C	NEL:	17	78	38	33		826	1	,780

	FH	WA-RD-77-108	HIGH	WAY I	NOISE PI	REDICTIO	N MC	DDEL			
	o: HY+P					Project N			stead		
	e: Limonite A					Job Nu	mber:	11968			
Road Segme	nt: e/o Helima	n Av.									
	SPECIFIC II	NPUT DATA							L INPUT	S	
Highway Data					Site Con	ditions (F	lard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	34,440 vehicle	s					Autos:			
Peak Hour	Percentage:	10%				dium Truc		,			
Peak H	our Volume:	3,444 vehicles	3		He	avy Truck	s (3+	Axles):	15		
Ve	hicle Speed:	50 mph		F	Vehicle I	Mix					
Near/Far La	ne Distance:	78 feet		t		icleType		Dav	Evening	Night	Daily
Site Data							itos:	74.1%		15.69	-
Par	rier Heiaht:	0.0 feet			М	edium Tru	cks:	69.0%	7.1%	23.89	6.99%
Barrier Type (0-W		0.0			1	Heavy Tru	cks:	82.1%	3.9%	13.99	6 3.44%
Centerline Di	. ,	76.0 feet		-							
Centerline Dist.		76.0 feet		-	Noise So	ource Ele			eet)		
Barrier Distance		0.0 feet				Autos:	-	.000			
Observer Height (5.0 feet				m Trucks:		.297			
	ad Flevation:	0.0 feet			Heav	y Trucks:	8	.004	Grade Ad	justmer	it: 0.0
Roa	ad Elevation:	0.0 feet			Lane Eq	uivalent E	Distar	ice (in	feet)		
	Road Grade:	0.0%				Autos:	65	.422			
	Left View:	-90.0 degree	s		Mediu	m Trucks:	65	.286			
	Right View:	90.0 degree			Heav	y Trucks:	65	.299			
HWA Noise Mode					1						
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		erm Atten
Autos:	70.20			-1.8	-	-1.20		-4.73		000	0.000
Medium Trucks:	81.00			-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38	-11.56		-1.8	4	-1.20		-5.25	0.0	000	0.000
Inmitigated Noise	Levels (with	out Topo and	barrie	r atter	nuation)						
VehicleType	Leq Peak Ho	ur Leq Day		Leq E	vening	Leq N	ight		Ldn	(NEL
Autos:	69	9.7	67.7		65.1		62.	.1	69.8	3	70.1
Medium Trucks:			67.1		63.2		63.		70.7		70.9
Heavy Trucks:			69.1		62.0		62.		70.5		70.7
Vehicle Noise:	74	1.8	72.8		68.4		67	.7	75.	1	75.3
Centerline Distanc	e to Noise C	ontour (in feet)								
		•		70	dBA	65 dE	ЗА	6	60 dBA	5	5 dBA
			Ldn:	1	66	358	3		771	1	,662

		/A-RD-77-108	IIIGII	WAL I	IOIOL F						
	o: HY+P						t Name:		stead		
	e: Kimball Av.	_				Job I	Number:	11968			
Road Segmer	nt: w/o Hellmar	ı Av.									
	SPECIFIC IN	PUT DATA							L INPUT	S	
Highway Data					Site Cor	nditions	(Hard =	: 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	27,202 vehicle	es					Autos:			
Peak Hour	Percentage:	10%					rucks (2				
Peak H	our Volume:	2,720 vehicles	3		He	eavy Tru	icks (3+	Axles):	15		
Ve	hicle Speed:	50 mph		1	Vehicle	Mix					
Near/Far Lai	ne Distance:	51 feet			Veh	icleTyp	9	Day	Evening	Night	Daily
Site Data							Autos:	74.1%	10.3%	15.6%	89.51
Rar	rier Height:	0.0 feet			M	ledium 1	rucks:	69.0%	7.1%	23.8%	7.01
Barrier Type (0-W		0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.48
Centerline Dis	t. to Barrier:	49.0 feet		,	Noise S	ource E	levation	ns (in fe	eet)		
Centerline Dist.	to Observer:	49.0 feet		F		Auto		.000	,		
Barrier Distance	to Observer:	0.0 feet			Madii	m Truck		297			
Observer Height (Above Pad):	5.0 feet				vy Truci		.004	Grade Ad	iustment	. 0 0
Pa	d Elevation:	0.0 feet		L		•				,	- 0.0
Roa	d Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distan	ce (in	feet)		
I	Road Grade:	0.0%				Auto	s: 42	.140			
	Left View:	-90.0 degree	es		Mediu	m Truck	s: 41	.929			
	Right View:	90.0 degree	es		Hea	vy Truci	rs: 41	.950			
FHWA Noise Mode	l Calculations										
VehicleType	REMEL	Traffic Flow	Dis	tance		Road	Fres		Barrier Att		m Atter
Autos:	70.20	1.57		1.0		-1.20		-4.64		000	0.00
Medium Trucks:	81.00	-9.49		1.04		-1.20		-4.87		000	0.00
Heavy Trucks:	85.38	-12.53		1.04	4	-1.20		-5.44	0.0	000	0.00
Unmitigated Noise	•										
	Leq Peak Hou			Leq E			Night		Ldn		NEL
Autos:	71.	-	69.5		66.9		64.	-	71.6	-	72 72
Medium Trucks:	71.	-	69.0		65.1		65.	-	72.5	-	
Heavy Trucks: Vehicle Noise:	72. 76		71.0 74.7		63.9 70.3		64. 69.	-	72.4 77.0		72 77
Centerline Distance		-						-		-	- ''
Come mie Distant	6 10 HOISE CO	incour (III leet,		70 c	iBA	65	dBA	(60 dBA	55	dBA
			I dn:	14	10	-	108		663	- 1	429
			Lun.	14	13	٠	100		003	1,	423

Thursday, August 8, 2019

		VA-RD-77-108	HIGHW	/AY N							
Scenario						Project N					
	: Limonite Av					Job Nur	nber: 119	68			
Road Segment	t: e/o Archiba	ld Av.									
	PECIFIC IN	IPUT DATA						DEL INF			
Highway Data				5	ite Cond	ditions (H	lard = 10,	Soft = 1	5)		
Average Daily T	raffic (Adt):	54,746 vehicle	s				Aut	os: 15			
Peak Hour F	Percentage:	10%			Med	dium Truc	ks (2 Axle	es): 15			
Peak Ho	ur Volume:	5,475 vehicles			Hea	avy Truck	s (3+ Axle	es): 15			
Veh	icle Speed:	50 mph		,	/ehicle N	Niv					
Near/Far Lan	e Distance:	78 feet		۲.		cleType	Da	y Even	ina Ni	ght	Daily
Site Data				-	*0///					5.6%	89.49%
					Ma	adium Truc				3.8%	7.02%
	ier Height:	0.0 feet				leavy Truc				3.9%	3.49%
Barrier Type (0-Wa		0.0				icavy irac	JAG. 02.	170 0.	570 10	J.J 70	0.4070
Centerline Dist		76.0 feet		٨	loise So	urce Elev	rations (i	n feet)			
Centerline Dist. to		76.0 feet				Autos:	0.000				
Barrier Distance to		0.0 feet			Mediun	n Trucks:	2.297				
Observer Height (A		5.0 feet			Heav	y Trucks:	8.004	Grade	e Adjusti	ment:	0.0
	d Elevation:	0.0 feet		,	one Fee	iivalent D	lotonoo	in foot)			
	d Elevation:	0.0 feet			ane Equ						
R	oad Grade:	0.0%				Autos:	65.422				
	Left View:	-90.0 degree				n Trucks:	65.286				
	Right View:	90.0 degree	S		Heav	y Trucks:	65.299	,			
FHWA Noise Model	Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista		Finite I		Fresnel		r Atten	Berr	n Atten
Autos:	70.20	4.61		-1.85		-1.20	-4.	73	0.000		0.000
Medium Trucks:	81.00	-6.45		-1.84		-1.20	-4.		0.000		0.000
Heavy Trucks:	85.38	-9.49		-1.84	ļ	-1.20	-5	25	0.000		0.000
Unmitigated Noise	Levels (with	out Topo and	barrier	atteni	uation)						
,,	∟eq Peak Hoι			eq Ev		Leq Ni	~	Ldn		C١	IEL
Autos:	71		39.7		67.1		64.2		71.8		72.2
Medium Trucks:	71		39.1		65.3		65.7		72.7		72.9
Heavy Trucks:	72	.8	71.2		64.0		64.7		72.6		72.7
Vehicle Noise:	76	.8	74.9		70.4		69.7		77.1		77.4
Centerline Distance	to Noise Co	ontour (in feet)									
				70 a	IBA	65 dE	BA .	60 dBA	١	55	dBA
			.dn:	22	7	489	•	1,055		2,2	272
		CI	IEL:	23	6	508		1,095		2,3	358

	FHW	/A-RD-77-108	HIGHV	VAY N	IOISE PI	REDICTION	ON MO	DEL			
Road Nan	io: HY+P ne: Limonite Av nt: e/o Harrisor					Project I Job Nu			stead		
SITE	SPECIFIC IN	PUT DATA				N	DISE I	MODE	L INPUT	s	
Highway Data					Site Con	ditions (i	Hard =	10, S	oft = 15)		
	Percentage:	56,437 vehicle 10% 5,644 vehicle				edium Truci eavy Truci	cks (2 .		15		
	hicle Speed:	50 mph		-	Vehicle	Mix					
Near/Far La	ne Distance:	78 feet			Veh	icleType		Day	Evening	Night	Daily
Site Data						A	utos:	74.1%	10.3%	15.6%	89.49%
Ba	rrier Height:	0.0 feet			М	edium Tru	ıcks:	69.0%	7.1%	23.8%	7.02%
Barrier Type (0-V	/all, 1-Berm):	0.0				Heavy Tru	icks:	82.1%	3.9%	13.9%	3.48%
Centerline Di		76.0 feet		1	Noise S	ource Ele	vation	s (in f	eet)		
Centerline Dist.		76.0 feet				Autos.	: 0.	000			
Barrier Distance		0.0 feet			Mediu	m Trucks.	2.	297			
Observer Height		5.0 feet			Hear	y Trucks.	8.	004	Grade Ad	ljustmen	t: 0.0
	ad Elevation:	0.0 feet		- H	l ana Fa	uivalent i	Dioton	oo (in	foot)		
	ad Elevation: Road Grade:	0.0 feet		H.	Lane Eq	Autos		422	ieei)		
	Road Grade: Left View:	0.0%			Modiu	m Trucks.		286			
	Right View:	-90.0 degree				n Trucks. vy Trucks.		286 299			
FHWA Noise Mod	-1.0-11										
VehicleType	REMEL	Traffic Flow	Dista	0000	Finito	Road	Fresi	201	Barrier Att	lon Do	rm Atten
Autos:	70.20	4.74	Disto	-1.8		-1.20	11031	-4.73		000	0.000
Medium Trucks:		-6.31		-1.8		-1.20		-4.88		000	0.000
Heavy Trucks:		-9.36		-1.8		-1.20		-5.25		000	0.000
Unmitigated Noise	e Levels (with	out Topo and	barrier	atten	uation)						
VehicleType	Leg Peak Hou				vening	Leg N	light		Ldn	(NEL
Autos:	71.	9	69.8		67.2	,	64.3	3	71.	9	72.3
Medium Trucks:	71.	6	69.2		65.4		65.9	9	72.	8	73.0
Heavy Trucks:	73.	0	71.3		64.2		64.9	9	72.	7	72.9
Vehicle Noise:	77.	0	75.0		70.6		69.	3	77.	3	77.5
Centerline Distant	ce to Noise Co	ntour (in feet)								
				70 (dBA	65 d	BA	- (60 dBA	55	5 dBA
			Ldn:	23	32	49	9		1,076	2	,318
		C	NEL:	24	41	51	9		1,117	2	,407

	FHI	WA-RD-77-108 I	HIGHW	AY N	OISE PI	REDICTION	ON MC	DDEL			
	o: HY+P e: Limonite A nt: e/o Schola					Project N Job Nu			stead		
SITE S	SPECIFIC IN	IPUT DATA							L INPUT	s	
Highway Data				S	ite Con	ditions (l	Hard =	= 10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	43,821 vehicles	3					Autos:			
	Percentage:	10%				dium Truc		,			
Peak H	our Volume:	4,382 vehicles			He	avy Truck	rs (3+	Axles):	15		
Ve	hicle Speed:	50 mph		ν	ehicle l	Wix					
Near/Far Lai	ne Distance:	78 feet				icleType		Day	Evening	Night	Daily
Site Data						A	ıtos:	74.1%	10.3%	15.6%	89.43%
Rar	rier Heiaht:	0.0 feet			M	edium Tru	icks:	69.0%	7.1%	23.8%	7.04%
Barrier Type (0-W		0.0			- 1	Heavy Tru	icks:	82.1%	3.9%	13.9%	3.53%
Centerline Dis		76.0 feet		_	Inian Ca	ource Ele	votio	an (in f	0.041		
Centerline Dist.	to Observer:	76.0 feet		^	ioise sc	Autos:		.000	eel)		
Barrier Distance	to Observer:	0.0 feet			Modiu	m Trucks:	-	297			
Observer Height (Above Pad):	5.0 feet				vy Trucks:	_	.004	Grade Ad	iuetman	t- 0.0
Pa	d Elevation:	0.0 feet								ustricii	. 0.0
Roa	ad Elevation:	0.0 feet		L	ane Eq	uivalent l	Distar	nce (in	feet)		
F	Road Grade:	0.0%				Autos:		.422			
	Left View:	-90.0 degrees	3			m Trucks:		.286			
	Right View:	90.0 degrees	8		Heav	y Trucks:	65	.299			
FHWA Noise Mode	l Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista			Road	Fres		Barrier Atte		rm Atten
Autos:	70.20	3.64		-1.85		-1.20		-4.73	0.0		0.000
Medium Trucks:	81.00			-1.84		-1.20		-4.88		000	0.000
Heavy Trucks:	85.38			-1.84		-1.20		-5.25	0.0	000	0.000
Unmitigated Noise											
,,	Leq Peak Ho			.eq Ev		Leq N	_		Ldn		NEL
Autos:			8.7		66.1		63.	_	70.8		71.2
Medium Trucks:			8.2		64.3		64.	-	71.7		71.9
Heavy Trucks: Vehicle Noise:			3.9		63.1 69.5		63 68	-	71.7 76.2		71.8 76.4
Centerline Distanc								-	. 0.2		
Jenner mile Distant	C 10 11013E C	ontour (III leet)		70 d	BA	65 d	ВА	-	60 dBA	55	i dBA
		L	dn:	19	7	424	4		912	1	,966
		CN		20							

						REDICT					
Scenario: I							Name:		stead		
Road Name: I						Job ∧	lumber:	11968			
Road Segment: e	e/o Sumner A	ıV.									
	ECIFIC INP	UT DATA			04- 0				L INPUTS	3	
lighway Data				- 1	Site Con	aitions	•				
Average Daily Tra	. ,	5,043 vehicle:	3					Autos:			
Peak Hour Per		10%					ucks (2 /				
Peak Hour		,504 vehicles			He	avy Tru	cks (3+ /	(xles	15		
Vehicl	e Speed:	50 mph		- 1	Vehicle I	Mix					
Near/Far Lane I	Distance:	78 feet			Veh	icleType)	Day	Evening	Night	Daily
ite Data							Autos:	74.1%	10.3%	15.6%	89.449
Barrie	r Height:	0.0 feet			М	edium T	rucks:	69.0%	7.1%	23.8%	7.039
Barrier Type (0-Wall,	-	0.0				Heavy T	rucks:	82.1%	3.9%	13.9%	3.529
Centerline Dist. to		76.0 feet									
Centerline Dist. to 0	Observer:	76.0 feet		1	Noise So				eet)		
Barrier Distance to 0	Observer:	0.0 feet				Auto		000			
Observer Height (Abo	ove Pad):	5.0 feet				m Truck		297			
	Elevation:	0.0 feet			Heav	y Truck	s: 8.	004	Grade Adj	ustment	0.0
Road E	Elevation:	0.0 feet		1	Lane Eq	uivalen	t Distan	e (in	feet)		
Roa	d Grade:	0.0%				Auto	s: 65.	422			
L	eft View:	-90.0 degree:	3		Mediu	m Truck	s: 65.	286			
Ri	ght View:	90.0 degree			Heav	y Truck	s: 65.	299			
HWA Noise Model C	alculations										
		raffic Flow	Dista			Road	Fresr		Barrier Atte		m Atten
Autos:	70.20	3.76		-1.8	5	-1.20		-4.73	0.0	100	0.00
Medium Trucks:	81.00	-7.29		-1.8	4	-1.20		-4.88	0.0	100	0.00
Heavy Trucks:	85.38	-10.29		-1.8	4	-1.20		-5.25	0.0	000	0.00
Inmitigated Noise Le	•										
	q Peak Hour	Leq Day		Leq E	vening	Leq	Night		Ldn		VEL
Autos:	70.9		8.8		66.3		63.3		70.9		71.
Medium Trucks:	70.7	-	8.3		64.4		64.9		71.8		72.
Heavy Trucks: Vehicle Noise:	72.0 76.0		0.4		63.2 69.6		64.0		71.8 76.3		71. 76.
Centerline Distance to			7.0		03.0		00.8		70.0	,	10.
	o ivoise com	tour (in reet)		70	10.4	05	dBA		60 dBA		-10.4
onto mo protano t				70 d	3BA	60	UDM		ou aba	22	dBA
onto mio piotario t		L	.dn:	20			31		929		000

Thursday, August 8, 2019

	FHWA	-RD-77-108 HI	GHWAY	NOISE PF	REDICTIO	N MODEL			
Scenario: HY+P					Project Na	ame: Home	stead		
Road Name: Limoni					Job Nun	nber: 11968			
Road Segment: e/o Ha	mner A	V.							
SITE SPECIFI	C INP	JT DATA				ISE MODE		s	
Highway Data				Site Con	ditions (H	ard = 10, S	oft = 15)		
Average Daily Traffic (A	dt): 65	5,651 vehicles				Autos	15		
Peak Hour Percenta	ge:	10%		Me	dium Truci	ks (2 Axles)	: 15		
Peak Hour Volur	ne: 6,	565 vehicles		Hei	avy Trucks	(3+ Axles)	: 15		
Vehicle Spe	ed:	45 mph		Vehicle I	Aiv				
Near/Far Lane Distan	ce:	78 feet			cleType	Dav	Evening	Night	Daily
Site Data					Aut	.,			89.49%
	4.4.	0.0.64		Me	edium Truc				7.04%
Barrier Heig Barrier Type (0-Wall, 1-Ber		0.0 feet 0.0			leavy Truc				3.47%
Centerline Dist. to Barr		76.0 feet							
Centerline Dist. to Observ		76.0 feet		Noise So		ations (in f	eet)		
Barrier Distance to Observ		0.0 feet			Autos:	0.000			
Observer Height (Above Pa		5.0 feet		Mediur	n Trucks:	2.297			
Pad Flevati		0.0 feet		Heav	y Trucks:	8.004	Grade Ad	djustment.	0.0
Road Flevati		0.0 feet		Lane Equ	ıivalent D	istance (in	feet)		
Road Gra		0.0%			Autos:	65.422	,		
I eft Vie		90.0 degrees		Madiur	n Trucks:	65.286			
Right Vie		90.0 degrees			y Trucks:	65.299			
right vie	7 VV.	50.0 degrees		11cav	y Trucks.	00.200			
FHWA Noise Model Calcula	tions								
VehicleType REME	L T	raffic Flow	Distance	Finite	Road	Fresnel	Barrier At	ten Ber	m Atten
Autos: 6	8.46	5.85	-1.	.85	-1.20	-4.73	0.	000	0.000
Medium Trucks: 7	9.45	-5.19	-1.	.84	-1.20	-4.88	0.	000	0.000
Heavy Trucks: 8	4.25	-8.26	-1.	.84	-1.20	-5.25	0.	000	0.000
Unmitigated Noise Levels (withou	t Topo and ba	rrier atte	enuation)					
VehicleType Leq Peal	Hour	Leq Day	Leg	Evening	Leg Nig	ght	Ldn	CI	VEL
Autos:	71.3	69	.2	66.6		63.7	71.	3	71.7
Medium Trucks:	71.2	68	.8	65.0		65.5	72.	4	72.6
Heavy Trucks:	72.9	71	.3	64.1		64.9	72.	7	72.8
Vehicle Noise:	76.7	74	.7	70.1		69.5	76.	9	77.2
Centerline Distance to Nois	e Cont	our (in feet)							
			70) dBA	65 dB	Α	60 dBA	55	dBA
		Ld	n:	220	474		1,022	2,2	201
		CNE	L: :	228	492		1,060	2,3	284

APPENDIX 9.1:

OPERATIONAL STATIONARY-SOURCE NOISE CALCULATIONS



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Observer Location: R1 Project Name: The Homestead

> Source: Roof-Top Air Conditioning Unit Job Number: 11965 Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,263.0 feet Barrier Height: 6.0 feet Noise Source Height: 5.0 feet Noise Distance to Barrier: 1,253.0 feet Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet

Noise Source Elevation: 30.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS											
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax				
Reference (Sample)	5.0	77.2	0.0	76.1	0.0	0.0	78.2				
Distance Attenuation	1,263.0	-48.0	-48.0	-48.0	-48.0	-48.0	-48.0				
Shielding (Barrier Attenuation)	1,253.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3				
Raw (Distance + Barrier)		23.9	-53.3	22.8	-53.3	-53.3	24.9				
60 Minute Hourly Adjustmen	nt	23.9	-53.3	22.8	-53.3	-53.3	24.9				

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

Drop Off Coefficient:

8/7/2019

20.0

Project Name: The Homestead Observer Location: R1

> Source: Truck Unloading/Docking Activity Job Number: 11965 Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 732.0 feet Barrier Height: 6.0 feet Noise Distance to Barrier: 722.0 feet Noise Source Height: 8.0 feet Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet 20.0

Drop Off Coefficient: Noise Source Elevation: 0.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	30.0	67.2	0.0	67.2	0.0	0.0	80.0			
Distance Attenuation	732.0	-27.7	-27.7	-27.7	-27.7	-27.7	-27.7			
Shielding (Barrier Attenuation)	722.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5			
Raw (Distance + Barrier)		34.0	-33.2	34.0	-33.2	-33.2	46.8			
60 Minute Hourly Adjustmen	nt	34.0	-33.2	34.0	-33.2	-33.2	46.8			

Observer Location: R1 Project Name: The Homestead

> Source: Parking Lot Vehicle Movements Job Number: 11965 Condition: Operational Analyst: A. Wolfe

> > **NOISE MODEL INPUTS**

Noise Distance to Observer 746.0 feet Barrier Height: 6.0 feet Noise Source Height: 5.0 feet Noise Distance to Barrier: 736.0 feet Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet

Drop Off Coefficient: 20.0 Noise Source Elevation: 0.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	10.0	52.2	0.0	50.0	0.0	0.0	71.9		
Distance Attenuation	746.0	-37.5	-37.5	-37.5	-37.5	-37.5	-37.5		
Shielding (Barrier Attenuation)	736.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5		
Raw (Distance + Barrier)		9.2	-43.0	7.0	-43.0	-43.0	28.9		
60 Minute Hourly Adjustmer	nt	9.2	-43.0	7.0	-43.0	-43.0	28.9		

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

8/7/2019

Project Name: The Homestead Observer Location: R2

> Job Number: 11965 Source: Roof-Top Air Conditioning Unit Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 512.0 feet Barrier Height: 6.0 feet 502.0 feet Noise Source Height: 5.0 feet Noise Distance to Barrier: Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet 20.0

Drop Off Coefficient: Noise Source Elevation: 30.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	77.2	0.0	76.1	0.0	0.0	78.2			
Distance Attenuation	512.0	-40.2	-40.2	-40.2	-40.2	-40.2	-40.2			
Shielding (Barrier Attenuation)	502.0	-5.1	-5.1	-5.1	-5.1	-5.1	-5.1			
Raw (Distance + Barrier)		31.9	-45.3	30.8	-45.3	-45.3	32.9			
60 Minute Hourly Adjustmer	nt	31.9	-45.3	30.8	-45.3	-45.3	32.9			

Observer Location: R2 Project Name: The Homestead

Source: Truck Unloading/Docking Activity

Job Number: 11965

Condition: Operational

Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 438.0 feet Barrier Height: 428.0 feet Noise Source Height: 8.0 feet Barrier Distance to Observer: 10.0 feet Observer Height: 5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 0.0 feet Drop Off Coefficient: 20.0

Barrier Elevation: 0.0 feet 20 = 6 dBA per doubling of distance 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	30.0	67.2	0.0	67.2	0.0	0.0	80.0			
Distance Attenuation	438.0	-23.3	-23.3	-23.3	-23.3	-23.3	-23.3			
Shielding (Barrier Attenuation)	428.0	-5.4	-5.4	-5.4	-5.4	-5.4	-5.4			
Raw (Distance + Barrier)		38.5	-28.7	38.5	-28.7	-28.7	51.3			
60 Minute Hourly Adjustmen	nt	38.5	-28.7	38.5	-28.7	-28.7	51.3			

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

8/7/2019

Observer Location: R2 Project Name: The Homestead

Source: Parking Lot Vehicle Movements

Job Number: 11965

Condition: Operational

Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer281.0 feetBarrier Height:6.0 feetNoise Distance to Barrier:271.0 feetNoise Source Height:5.0 feetBarrier Distance to Observer:10.0 feetObserver Height:5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 0.0 feet Drop Off Coefficient: 20.0

Barrier Elevation: 0.0 feet 20 = 6 dBA per doubling of distance 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	10.0	52.2	0.0	50.0	0.0	0.0	71.9			
Distance Attenuation	281.0	-29.0	-29.0	-29.0	-29.0	-29.0	-29.0			
Shielding (Barrier Attenuation)	271.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5			
Raw (Distance + Barrier)		17.7	-34.5	15.5	-34.5	-34.5	37.4			
60 Minute Hourly Adjustmen	nt	17.7	-34.5	15.5	-34.5	-34.5	37.4			

8/7/2019

20.0

Observer Location: R3 Project Name: The Homestead

Source: Roof-Top Air Conditioning Unit Job Number: 11965
Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,644.0 feet
Noise Distance to Barrier: 1,634.0 feet
Noise Distance to Barrier: 1,634.0 feet
Noise Source Height: 5.0 feet
Observer Height: 5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 30.0 feet

Barrier Elevation: 0.0 feet 20 = 6 dBA per doubling of distance 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	77.2	0.0	76.1	0.0	0.0	78.2			
Distance Attenuation	1,644.0	-50.3	-50.3	-50.3	-50.3	-50.3	-50.3			
Shielding (Barrier Attenuation)	1,634.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3			
Raw (Distance + Barrier)		21.6	-55.6	20.5	-55.6	-55.6	22.6			
60 Minute Hourly Adjustmen	nt	21.6	-55.6	20.5	-55.6	-55.6	22.6			

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

Drop Off Coefficient:

Observer Location: R3 Project Name: The Homestead

Source: Truck Unloading/Docking Activity

Job Number: 11965

Condition: Operational

Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,695.0 feet
Noise Distance to Barrier: 1,685.0 feet

Barrier Distance to Observer: 10.0 feet

Noise Distance to Observer: 10.0 feet

Observer Height: 6.0 feet
Noise Source Height: 8.0 feet

Observer Height: 5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 0.0 feet Drop Off Coefficient: 20.0

Barrier Elevation:0.0 feet20 = 6 dBA per doubling of distance15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	30.0	67.2	0.0	67.2	0.0	0.0	80.0			
Distance Attenuation	1,695.0	-35.0	-35.0	-35.0	-35.0	-35.0	-35.0			
Shielding (Barrier Attenuation)	1,685.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5			
Raw (Distance + Barrier)		26.7	-40.5	26.7	-40.5	-40.5	39.5			
60 Minute Hourly Adjustmer	nt	26.7	-40.5	26.7	-40.5	-40.5	39.5			

Observer Location: R3 Project Name: The Homestead

> Source: Parking Lot Vehicle Movements Job Number: 11965

Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,436.0 feet Barrier Height: 6.0 feet Noise Source Height: 5.0 feet Noise Distance to Barrier: 1,426.0 feet Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet

Drop Off Coefficient: Noise Source Elevation: 0.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	10.0	52.2	0.0	50.0	0.0	0.0	71.9			
Distance Attenuation	1,436.0	-43.1	-43.1	-43.1	-43.1	-43.1	-43.1			
Shielding (Barrier Attenuation)	1,426.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5			
Raw (Distance + Barrier)		3.6	-48.6	1.4	-48.6	-48.6	23.3			
60 Minute Hourly Adjustmen	nt	3.6	-48.6	1.4	-48.6	-48.6	23.3			

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

8/7/2019

20.0

Project Name: The Homestead Observer Location: R4

> Job Number: 11965 Source: Roof-Top Air Conditioning Unit Condition: Operational Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,454.0 feet Barrier Height: 6.0 feet Noise Source Height: 5.0 feet Noise Distance to Barrier: 1,444.0 feet Observer Height: 5.0 feet Barrier Distance to Observer: 10.0 feet

Barrier Type (0-Wall, 1-Berm): 0 Observer Elevation: 0.0 feet

Drop Off Coefficient: 20.0 Noise Source Elevation: 30.0 feet

20 = 6 dBA per doubling of distance Barrier Elevation: 0.0 feet 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS										
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax			
Reference (Sample)	5.0	77.2	0.0	76.1	0.0	0.0	78.2			
Distance Attenuation	1,454.0	-49.3	-49.3	-49.3	-49.3	-49.3	-49.3			
Shielding (Barrier Attenuation)	1,444.0	-5.3	-5.3	-5.3	-5.3	-5.3	-5.3			
Raw (Distance + Barrier)		22.6	-54.6	21.5	-54.6	-54.6	23.6			
60 Minute Hourly Adjustmen	nt	22.6	-54.6	21.5	-54.6	-54.6	23.6			

Observer Location: R4 Project Name: The Homestead

Source: Truck Unloading/Docking Activity

Job Number: 11965

Condition: Operational

Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer 1,350.0 feet
Noise Distance to Barrier: 1,340.0 feet
Noise Distance to Observer: 10.0 feet

Noise Source Height: 6.0 feet
Noise Source Height: 5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 0.0 feet Drop Off Coefficient:

Barrier Elevation: 0.0 feet 20 = 6 dBA per doubling of distance 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	30.0	67.2	0.0	67.2	0.0	0.0	80.0		
Distance Attenuation	1,350.0	-33.1	-33.1	-33.1	-33.1	-33.1	-33.1		
Shielding (Barrier Attenuation)	1,340.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5		
Raw (Distance + Barrier)		28.6	-38.6	28.6	-38.6	-38.6	41.4		
60 Minute Hourly Adjustmen	nt	28.6	-38.6	28.6	-38.6	-38.6	41.4		

STATIONARY SOURCE NOISE PREDICTION MODEL 8/7/2019

8/7/2019

20.0

Observer Location: R4 Project Name: The Homestead

Source: Parking Lot Vehicle Movements

Job Number: 11965

Condition: Operational

Analyst: A. Wolfe

NOISE MODEL INPUTS

Noise Distance to Observer1,362.0 feetBarrier Height:6.0 feetNoise Distance to Barrier:1,352.0 feetNoise Source Height:5.0 feetBarrier Distance to Observer:10.0 feetObserver Height:5.0 feet

Observer Elevation: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0

Noise Source Elevation: 0.0 feet Drop Off Coefficient: 20.0

Barrier Elevation: 0.0 feet 20 = 6 dBA per doubling of distance 15 = 4.5 dBA per doubling of distance

NOISE MODEL PROJECTIONS									
Noise Level	Distance (feet)	Leq	L50	L25	L8	L2	Lmax		
Reference (Sample)	10.0	52.2	0.0	50.0	0.0	0.0	71.9		
Distance Attenuation	1,362.0	-42.7	-42.7	-42.7	-42.7	-42.7	-42.7		
Shielding (Barrier Attenuation)	1,352.0	-5.5	-5.5	-5.5	-5.5	-5.5	-5.5		
Raw (Distance + Barrier)		4.0	-48.2	1.8	-48.2	-48.2	23.7		
60 Minute Hourly Adjustmen	nt	4.0	-48.2	1.8	-48.2	-48.2	23.7		