

NWC Telegraph and SFS Industrial

NOISE AND VIBRATION IMPACT ANALYSIS CITY OF SANTA FE SPRINGS

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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
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
Hz	Hertz
INCE	Institute of Noise Control Engineering
L _{eq}	Equivalent continuous (average) sound level
L _{max}	Maximum level measured over the time interval
mph	Miles per hour
OPR	Office of Planning and Research
PPV	Peak Particle Velocity
Project	NWC Telegraph and SFS Industrial
REMEL	Reference Energy Mean Emission Level
RMS	Root-mean-square
VdB	Vibration Decibels

EXECUTIVE SUMMARY

Urban Crossroads, Inc. has prepared this Noise and Vibration Impact Analysis to determine the potential noise and vibration impacts and the necessary mitigation measures, if any, for the proposed NWC Telegraph and SFS Industrial ("Project"). The proposed Project is to consist of two warehouse buildings totaling 584,678 square feet. This study has been prepared to satisfy applicable City of Santa Fe Springs standards and thresholds of significance based on guidance provided by Appendix G Guidelines for Implementation of the California Environmental Quality Act (State CEQA Guidelines). (1)

The results of this NWC Telegraph and SFS Industrial Noise and Vibration Impact Analysis are summarized below based on the significance criteria in Section 4 of this report. Table ES-1 shows the findings of significance for each potential noise and/or vibration impact under CEQA before and after any required mitigation measures.

Anchuin	Report Section	Significance Findings		
Analysis		Unmitigated	Mitigated	
Off-Site Traffic Noise	7	Less Than Significant	-	
Operational Noise	9	Less Than Significant	-	
Construction Noise	10	Less Than Significant	-	
Construction Vibration	10	Less Than Significant	-	

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

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1 INTRODUCTION

This Noise and Vibration Impact Analysis has been completed to determine the noise impacts associated with the development of the NWC Telegraph and SFS Industrial ("Project"). This noise and vibration analysis briefly describes the Project, provides information regarding noise fundamentals, sets out the local regulatory setting, presents the study methods and procedures for noise analysis, evaluates the future exterior noise environment, potential off-site traffic impacts, the Project-related long-term stationary-source operational noise, and Project-related short-term construction noise and vibration impacts.

1.1 SITE LOCATION

The proposed project is located at the northwest corner (NWC) Telegraph Road & Santa Fe Springs Road (APN: 8005-015-051) in the City of Santa Fe Springs as shown on Exhibit 1-A. The Project site encompasses a single parcel totaling approximately 26.77 acres. There are over 100 active, plugged, idle, and/or cancelled oil wells on the subject property, with six active pump-jacks along with tanks, pipes and associated infrastructure. The subject property consists of one, single-story office building on the western edge of the subject property, the remainder of the subject property parcel consists of vacant land utilized for oil production. The office building on the site is utilized by a construction company. The Project site is bounded by Telegraph Road to the south, Santa Fe Springs Road followed by industrial properties to the north, vacant lots to the east, a vacant lot and industrial property to the south, and industrial properties to the west.

1.2 PROJECT DESCRIPTION

The proposed Project includes development of two (2) buildings totaling 584,678 square feet (SF) as shown on Exhibit 1-B. Both buildings would be designated for 80 percent warehousing, with 10 high-cube cold storage, and 10 percent manufacturing. Additional improvements include parking lots, loading docks, decorative landscaping, associated on-site infrastructure, and construction of a cul-de-sac driveway. This report assumes the Project will operate 24 hours a day for seven days per week. At the time this noise analysis was prepared, the future tenants of the proposed Project were unknown, however any tenant would operate consistent with industrial use.



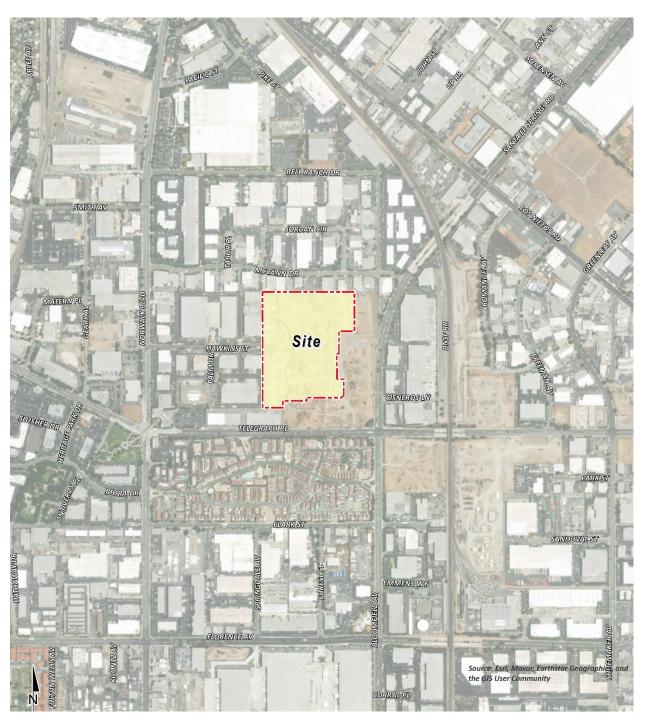
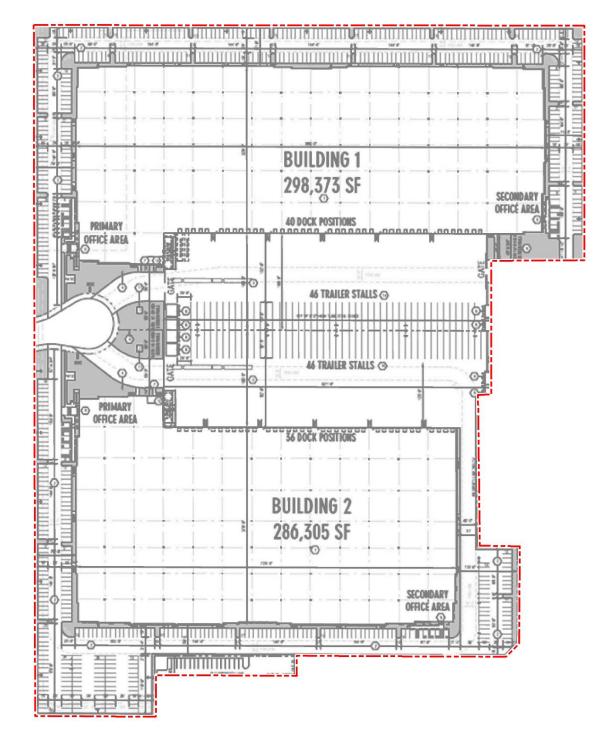


EXHIBIT 1-A: LOCATION MAP



EXHIBIT 1-B: SITE PLAN





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2 FUNDAMENTALS

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

COMMON OUTDOOR ACTIVITIES	COMMON INDOOR ACTIVITIES	A - WEIGHTED SOUND LEVEL dBA	SUBJECTIVE LOUDNESS	EFFECTS OF NOISE	
THRESHOLD OF PAIN		140	\mathbf{X}		
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		SPEECH INTERFERENCE	
DIESEL TRUCK AT 15m (50 ft), at 80 km/hr (50 mph)	FOOD BLENDER AT 1m (3 ft)	80			
NOISY URBAN AREA, DAYTIME	VACUUM CLEANER AT 3m (10 ft)	70	LOUD		
HEAVY TRAFFIC AT 90m (300 ft)	NORMAL SPEECH AT 1m (3 ft)	60			
QUIET URBAN DAYTIME	LARGE BUSINESS OFFICE	50	MODERATE	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		NO EFFECT	
LOWEST THRESHOLD OF HUMAN HEARING	LOWEST THRESHOLD OF HUMAN HEARING	0	VERT FAINT		

EXHIBIT 2-A: TYPICAL NOISE LEVELS

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

2.1 RANGE OF NOISE

Since the range of intensities that the human ear can detect is so large, the scale frequently used to measure intensity is a scale based on multiples of 10, the logarithmic scale. The scale for measuring intensity is the decibel scale. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. (2) The most common sounds vary between 40 dBA (very quiet) to 100 dBA (very loud). Normal conversation at three feet is roughly at 60 dBA, while loud jet engine noises equate to 110 dBA

at approximately 1,000 feet, which can cause serious discomfort. (3) Another important aspect of noise is the duration of the sound and the way it is described and distributed in time.

2.2 NOISE DESCRIPTORS

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

Peak hour or average noise levels, while useful, do not completely describe a given noise environment. Noise levels lower than peak hour may be disturbing if they occur during times when quiet is most desirable, namely evening and nighttime (sleeping) hours. To account for this, the Community Noise Equivalent Level (CNEL), representing a composite 24-hour noise level is utilized. The CNEL is the weighted average of the intensity of a sound, with corrections for time of day, and averaged over 24 hours. The time-of-day corrections require the addition of 5 decibels to dBA L_{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 noise can become more intrusive. CNEL does not represent the actual sound level heard at any time, but rather represents the total sound exposure. The City of Santa Fe Springs relies on the 24-hour CNEL level to assess land use compatibility with transportation related noise sources.

2.3 SOUND PROPAGATION

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

2.3.1 GEOMETRIC SPREADING

Sound from a localized source (i.e., a stationary point source) propagates uniformly outward in a spherical pattern. The sound level attenuates (or decreases) at a rate of 6 dB for each doubling of distance from a point source. Highways consist of several localized noise sources on a defined path and hence can be treated as a line source, which approximates the effect of several point sources. Noise from a line source propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of 3 dB for each doubling of distance from a line source. (2)

2.3.2 GROUND ABSORPTION

The propagation path of noise from a highway to a receiver is usually very close to the ground. Noise attenuation from ground absorption and reflective wave canceling adds to the attenuation associated with geometric spreading. Traditionally, the excess attenuation has also been



expressed in terms of attenuation per doubling of distance. This approximation is usually sufficiently accurate for distances of less than 200 ft. For acoustically hard sites (i.e., sites with a reflective surface between the source and the receiver, such as a parking lot or body of water), no excess ground attenuation is assumed. For acoustically absorptive or soft sites (i.e., those sites with an absorptive ground surface between the source and the receiver and the receiver such as soft dirt, grass, or scattered bushes and trees), an excess ground attenuation value of 1.5 dB per doubling of distance is normally assumed. When added to the cylindrical spreading, the excess ground attenuation results in an overall drop-off rate of 4.5 dB per doubling of distance from a line source. (4)

2.3.3 ATMOSPHERIC EFFECTS

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

2.3.4 SHIELDING

A large object or barrier in the path between a noise source and a receiver can substantially attenuate noise levels at the receiver. The amount of attenuation provided by shielding depends on the size of the object and the frequency content of the noise source. Shielding by trees and other such vegetation typically only has an "out of sight, out of mind" effect. That is, the perception of noise impact tends to decrease when vegetation blocks the line-of-sight to nearby residents. However, for vegetation to provide a substantial, or even noticeable, noise reduction, the vegetation area must be at least 15 feet in height, 100 feet wide and dense enough to completely obstruct the line-of-sight between the source and the receiver. This size of vegetation may provide up to 5 dBA of noise reduction. The Federal Highway Administration (FHWA) does not consider the planting of vegetation to be a noise abatement measure. (5)

2.4 NOISE CONTROL

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

2.5 Noise Barrier Attenuation

Effective noise barriers can reduce noise levels by 10 to 15 dBA, cutting the loudness of traffic noise in half. A noise barrier is most effective when placed close to the noise source or receiver. Noise barriers, however, do have limitations. For a noise barrier to work, it must block the line-of-sight path of sound from the noise source.





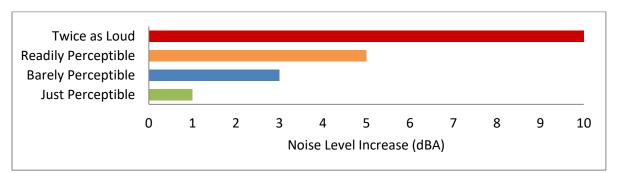
2.6 LAND USE COMPATIBILITY WITH NOISE

Some land uses are more tolerant of noise than others. For example, schools, hospitals, churches, and residences are more sensitive to noise intrusion than are commercial or industrial developments and related activities. As ambient noise levels affect the perceived amenity or livability of a development, so too can the mismanagement of noise impacts impair the economic health and growth potential of a community by reducing the area's desirability as a place to live, shop and work. For this reason, land use compatibility with the noise environment is an important consideration in the planning and design process. The FHWA encourages State and Local government to regulate land development in such a way that noise-sensitive land uses are either prohibited from being located adjacent to a highway, or that the developments are planned, designed, and constructed in such a way that noise impacts are minimized. (6)

2.7 COMMUNITY RESPONSE TO NOISE

Approximately sixteen percent of the population has a very low tolerance for noise and will object to any noise not of their making. Consequently, even in the quietest environment, some complaints may occur. Twenty to thirty percent of the population will not complain even in very severe noise environments. (7 pp. 8-6) Thus, a variety of reactions can be expected from people exposed to any given noise environment.

Surveys have shown that community response to noise varies from no reaction to vigorous action for newly introduced noises averaging from 10 dB below existing to 25 dB above existing. (8) According to research originally published in the Noise Effects Handbook (7), the percentage of high annoyance ranges from approximately 0 percent at 45 dB or less, 10 percent are highly annoyed around 60 dB, and increases rapidly to approximately 70 percent being highly annoyed at approximately 85 dB or greater. Despite this variability in behavior on an individual level, the population can be expected to exhibit the following responses to changes in noise levels as shown on Exhibit 2-B. A change of 3 dBA is considered barely perceptible, and changes of 5 dBA are considered readily perceptible. (4)







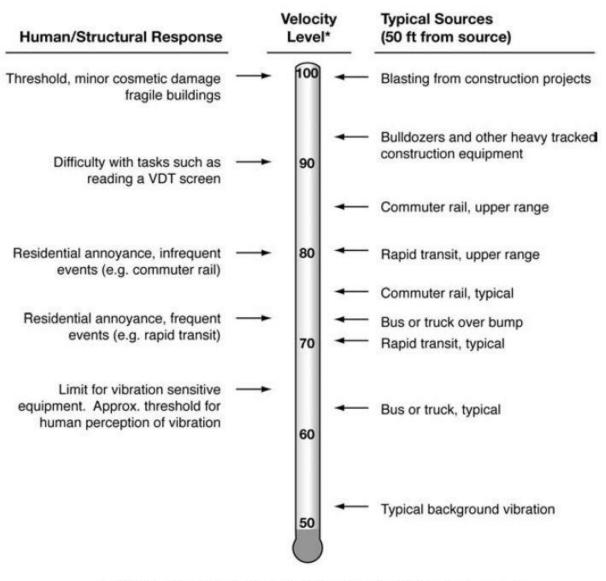
2.8 VIBRATION

Per the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual, 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. Additionally, in contrast to airborne noise, ground-borne vibration outdoors is not a common environmental problem and annoyance from ground-borne vibration is almost exclusively an indoor phenomenon (8). Therefore, the effects of vibrations should only be evaluated at a structure and the effects of the building structure on the vibration should be considered. Wood-frame buildings, such as typical residential structures, are more easily excited by ground vibration than heavier buildings. In contrast, large masonry buildings with spread footings have a low response to ground vibration (8). In general, the heavier a building is, the lower the response will be to the incident vibration energy. However, all structurers reduce vibration levels due to the coupling of the building to the soil.

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 (8). 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 (8). However, the RMS amplitude and PPV are related mathematically, and the RMS amplitude of equipment is typically calculated from the PPV reference level. The RMS amplitude is approximately 70% of the PPV (9). Thus, either can be used in the description of vibration impacts.

While not universally accepted, vibration decibel notation (VdB) is another vibration notation developed and used by the FTA in their guidance manual to describe vibration levels and provide a background of common vibration levels and set vibration limits. (8) Decibel notation (VdB) serves to reduce the range of numbers used to describe vibration levels and is used in this report to describe vibration levels. As stated in the FTA guidance manual, 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





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



3 REGULATORY SETTING

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). (10) The purpose of the Noise Element is to *limit the exposure of the community to excessive noise levels*. In addition, the California Environmental Quality Act (CEQA) requires that all known environmental effects of a project be analyzed, including environmental noise impacts.

3.2 CITY OF SANTA FE SPRINGS GENERAL PLAN NOISE ELEMENT

The City of Santa Fe Springs *General Plan Noise Element* establishes a *comprehensive program for including noise control in the planning process*. (11) The *Noise Element* provides land use compatibility guidelines and transportation noise standards for future development and the future noise contour boundaries for major roadways in the City of Santa Fe Springs. The noise criteria identified in the City of Santa Fe Springs Noise Element (Table N-1) are guidelines to evaluate the land use compatibility of transportation-related noise. The compatibility guidelines provide the city with a planning tool to gauge the compatibility of land uses relative to existing and future exterior noise levels.

The *Noise Land Use Compatibility Guidelines* identify maximum exterior CNEL noise levels at the property line. For industrial land uses, such as the Project site, Table N-1 identifies a maximum exterior noise level of 75 dBA CNEL. For noise-sensitive residential land uses, the maximum exterior noise level is 65 dBA CNEL.



3.3 OPERATIONAL NOISE STANDARDS

To analyze noise impacts originating from a designated fixed location or private property such as the NWC Telegraph and SFS Industrial Project, stationary-source (operational) noise such as the expected loading dock activity, tractor trailer storage activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity and truck movements are typically evaluated against standards established under a jurisdiction's Municipal Code. The City of Santa Fe Springs Municipal Code base exterior noise level standards are shown on Table 3-1.

Jurisdiction	Receiving Land Use	Exterior Noise Level Standard (dBA L _{eq}) ²		
		Daytime	Nighttime	
	Any school, church, or hospital	45	45	
	A-1, R-1 or R-3 Zone	50	45	
City of Santa Fe Springs ¹	C-1 or C-4 Zone	60	55	
Santa i e Springs	ML, PF or BP Zone	60	60	
	M-1 or M-2 Zone	70	70	

TABLE 3-1: OPERATIONAL NOISE LEVEL STANDARDS

¹ Source: City of Santa Fe Springs, Section 155.424 (Appendix 3.1).

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

The City of Santa Fe Springs Municipal Code, Section 155.424, establishes exterior noise level limits by receiving land uses. For noise-sensitive residential properties, the Municipal Code identifies operational noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 50 dBA L_{50} and 45 dBA L_{50} during the nighttime (10:00 p.m. to 7:00 a.m.) hours. (12) In addition, Section 155.424[B] indicates that if the existing ambient noise levels already exceed any of the exterior noise level limit categories, then the standard can be adjusted to reflect the ambient conditions. Appendix 3.1 includes the City of Santa Fe Springs Municipal Code noise standards.

3.4 CONSTRUCTION NOISE STANDARDS

The City of Santa Fe Springs has set restrictions to control noise impacts associated with construction. Section 155.425[B] of the Municipal Code states that *it shall be unlawful for any person within a residential zone, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day.* (13) While the City establishes limits to the hours during which construction activity may take place, it does not identify specific noise level limits for construction noise levels at potentially affected receiver locations for CEQA analysis purposes. Therefore, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts, as discussed below.



According to the FTA, local noise ordinances are typically not very useful in evaluating construction noise. They usually relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. Project construction noise criteria should account for the existing noise environment, the absolute noise levels during construction activities, the duration of the construction, and the adjacent land use. Due to the lack of standardized construction noise thresholds, the FTA provides guidelines that can be considered reasonable criteria for construction noise assessment. The FTA considers a daytime exterior construction noise level of 80 dBA Leq as a reasonable threshold for noise sensitive residential land use. (8 p. 179)

3.5 VIBRATION STANDARDS

Construction activity can result in varying degrees of ground-borne vibration, depending on the equipment and methods used, distance to the affected structures and soil type. (8) Construction vibration is generally associated with pile driving and rock blasting. Other construction equipment, such as air compressors, light trucks, hydraulic loaders, etc., generates little or no ground vibration. Occasionally large bulldozers and loaded trucks can cause perceptible vibration levels at close proximity. To analyze vibration impacts originating from the operation and construction of the NWC Telegraph and SFS Industrial, vibration-generating activities are appropriately evaluated against standards established under the Municipal Code if such standards exist. However, the City of Santa Fe Springs does not identify specific construction vibration level limits. Therefore, for analysis purposes, the Caltrans Transportation and Construction Vibration Guidance Manual, (9 p. 38) Table 19, vibration damage are used in this noise study to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).



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4 SIGNIFICANCE CRITERIA

The following significance criteria are based on currently adopted guidance provided by Appendix G of the State 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?

4.1 Noise Level Increases (Threshold A)

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 baseline 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 a noise impact significant*. (15) 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 level exceeds the previously existing ambient noise level, the less acceptable the new noise level will typically be judged.

Sensitive receivers are areas where humans are participating in activities that may be subject to the stress of significant interference from noise and often include residential dwellings, mobile homes, hotels, motels, hospitals, nursing homes, educational facilities, and libraries. Other receivers include office and industrial buildings, which are not considered as sensitive as single-family homes, but are still protected by the City of Santa Fe Springs land use compatibility standards, as discussed below.

4.1.1 NOISE-SENSITIVE RECEIVERS

The Federal Interagency Committee on Noise (FICON) (16) 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 a noise impact significant*, based on a 2008 California Court of Appeal ruling on Gray v. County of Madera. (15) 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, a *readily perceptible* 5 dBA or greater project-related noise level increase is considered a significant impact when the without project noise levels are below 60 dBA. Per the FICON, in areas where the without project noise levels range from 60 to 65 dBA, a 3 dBA *barely perceptible* noise level increase appears to be appropriate for most people. When the without project noise levels already exceed 65 dBA, any increase in community noise louder than 1.5 dBA or greater is considered a significant impact if the noise criteria for a given land use is exceeded, since it likely contributes to an existing noise exposure exceedance.

The FICON guidance provides an established source of criteria to assess the impacts of substantial temporary or permanent increase in baseline ambient noise levels. Based on the FICON criteria, the amount to which a given noise level increase is considered acceptable is reduced when the without Project (baseline) noise levels are already shown to exceed certain land-use specific exterior noise level criteria. The specific levels are based on typical responses to noise level increases of 5 dBA or *readily perceptible*, 3 dBA or *barely perceptible*, and 1.5 dBA depending on the underlying without Project noise levels for noise-sensitive uses. These levels of increases and their perceived acceptance at noise sensitive receiver locations are consistent with guidance provided by both the Federal Highway Administration (4 p. 9) and Caltrans (17 p. 2_48).

4.1.2 Non-Noise-Sensitive Receivers

The City of Santa Fe Springs General Plan Noise Element, *Noise Land Use Compatibility Guidelines* was used to establish the satisfactory noise levels of significance for non-noise-sensitive land uses in the Project study area. For industrial land uses, such as the Project site, Table N-1 identifies a maximum exterior noise level of 75 dBA CNEL. To determine if Project-related traffic noise level increases are significant at off-site non-noise-sensitive land uses, a *barely perceptible* 3 dBA criteria is used. When the without Project noise levels are greater than the 75 dBA CNEL land use compatibility guidelines, a *barely perceptible* 3 dBA or greater noise level increase is considered a significant impact since the noise level guideline 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 City of Santa Fe Springs General Plan, *Noise Land Use Compatibility Guidelines* 75 dBA CNEL exterior noise level criteria.

4.2 VIBRATION (THRESHOLD B)

As described in Section 3.5, the vibration impacts originating from the construction of the NWC Telegraph and SFS Industrial Project, vibration-generating activities are appropriately evaluated using the Caltrans vibration damage thresholds to assess potential temporary construction-related impacts at adjacent building locations. The nearest noise sensitive buildings adjacent to



the Project site can best be described as "older residential structures" with a maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec).

4.3 CEQA GUIDELINES NOT FURTHER ANALYZED (THRESHOLD C)

CEQA Noise Threshold C applies when there are nearby public and private airports and/or air strips and focuses on land use compatibility of the Project to nearby airports and airstrips. The Project site is not located within two miles of an airport or airstrip. The closest airport is the Long Beach Airport (LGB) located roughly 9.7 miles southwest of the Project site. 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 Appendix G to the CEQA Guidelines, Noise Threshold C.

4.4 SIGNIFICANCE CRITERIA SUMMARY

Noise impacts shall be considered significant if any of the following occur as a direct result of the proposed Project. Table 4-1 shows the significance criteria summary matrix that includes the allowable criteria used to identify potentially significant incremental noise level increases.

Analysia	Receiving	Condition(s)	Significance Criteria		
Analysis	Land Use	Condition(s)	Daytime	Nighttime	
	Noise- Sensitive ¹	If ambient is < 60 dBA CNEL	≥ 5 dBA CNEL Project increase		
		If ambient is 60 - 65 dBA CNEL	≥ 3 dBA CNEL Project increase		
Off-Site		If ambient is > 65 dBA CNEL	≥ 1.5 dBA CNE	L Project increase	
Traffic	Non- Noise- Sensitive ²	If ambient is > 75 dBA CNEL	≥ 3 dBA CNEL Project increase		
	Noise- – Sensitive	Exterior Noise Level Standards ³	See 1	able 3-1	
Operational		If ambient is < 60 dBA L_{eq}^1	≥ 5 dBA L _{eq} Project increase		
Operational				Project increase	
		If ambient is > 65 dBA L_{eq}^1	≥ 1.5 dBA L _{eq}	Project increase	
		Unlawful between the hours of 7:00 p.m. to 7:00 a.m. ⁴			
Construction		Noise Level Threshold ⁵ 80 dBA		dBA L _{eq}	
		Vibration Level Threshold ⁶	0.3 PP	V (in/sec)	

TABLE 4-1: SIGNIFICANCE CRITERIA SUMMARY

¹ FICON, 1992.

² City of Santa Fe Springs General Plan Noise Element Table N-1.

³ City of Santa Fe Springs Municipal Code, Section 155.424. If the existing ambient noise levels already exceed any of the exterior noise level limit categories, then the standard can be adjusted to reflect the ambient conditions (Section 155.424[B]).

⁴ City of Santa Fe Springs Municipal Code Section 155.425[B].

⁵ Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual.

⁶ Caltrans Transportation and Construction Vibration Manual, April 2020 Table 19.

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



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5 EXISTING NOISE LEVEL MEASUREMENTS

To assess the existing noise level environment, 24-hour noise level measurements were taken at three locations in the Project study area. The noise level measurement 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 Thursday, May 30, 2024. 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 equivalent 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. (18)

5.2 NOISE MEASUREMENT LOCATIONS

The long-term noise level measurements were positioned as close to the nearest sensitive receiver locations as possible to assess the existing ambient hourly noise levels surrounding the Project site. Both Caltrans and the FTA recognize that it is not reasonable to collect noise level measurements that can fully represent every part of a private yard, patio, deck, or balcony normally used for human activity when estimating impacts for new development projects. This is demonstrated in the Caltrans general site location guidelines which indicate that *sites must be free of noise contamination by sources other than sources of interest. Avoid sites located near sources such as barking dogs, lawnmowers, pool pumps, and air conditioners unless it is the express intent of the analyst to measure these sources. (2) Further, FTA guidance states, that it is not necessary nor recommended that existing noise exposure be determined by measuring at every noise-sensitive location in the project area. Rather, the recommended approach is to characterize the noise environment for clusters of sites based on measurements or estimates at representative locations in the community. (8)*

Based on recommendations of Caltrans and the FTA, it is not necessary to collect measurements at each individual building or residence, because each receiver measurement represents a group of buildings that share acoustical equivalence. (8) In other words, the area represented by the receiver shares similar shielding, terrain, and geometric relationship to the reference noise source. Receivers represent a location of noise sensitive areas and are used to estimate the future noise level impacts. Collecting reference ambient noise level measurements at the 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.

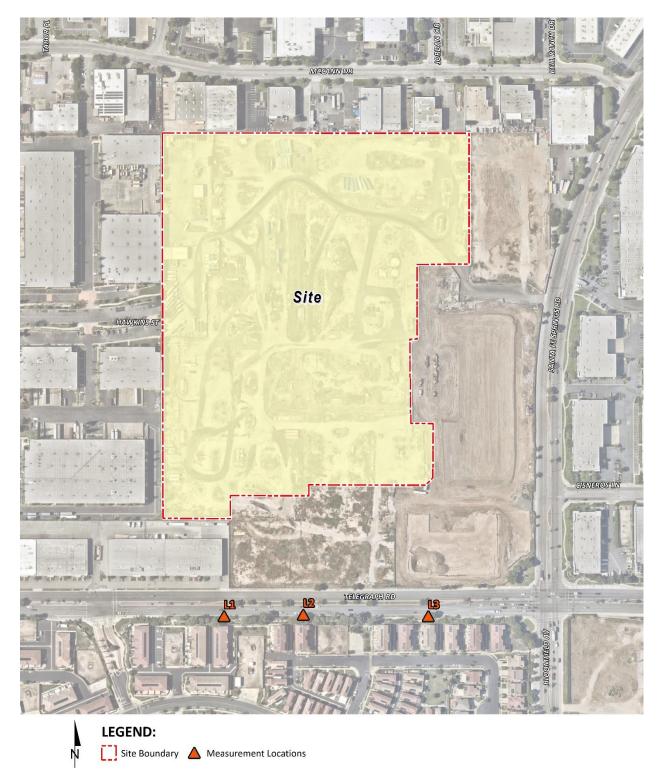


EXHIBIT 5-A: NOISE MEASUREMENT LOCATIONS



5.3 NOISE MEASUREMENT RESULTS

The noise measurements presented below focus on the equivalent or the energy average hourly 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.

Location ¹	Description	Energy Average Noise Level (dBA L _{eq}) ²	
		Daytime	Nighttime
L1	Located south of the site near the residence at 10404 Sycamore Ln.	67.8	65.1
L2	L2 Located south of the site near the residence at 1410 Orchid Way.		65.7
L3	Located south of the site near the residence at 10404 Satinwood Ct.	66.9	64.0

TABLE 5-1: AMBIENT NOISE LEVEL MEASUREMENTS

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

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

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

Table 5-1 provides the equivalent 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.



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6 TRAFFIC NOISE METHODS AND PROCEDURES

The following section outlines the methods and procedures used to estimate and analyze the future traffic noise environment. Consistent with the *Noise Land Use Compatibility Guidelines*, all transportation related noise levels are presented in terms of the 24-hour CNEL's. Unlike a simple arithmetic average noise level, CNEL represents the logarithmic summation of the equivalent hourly noise levels with evening and nighttime noise penalties recognizing that noise may have different impacts on people depending on when it occurs.

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. (19) This methodology is commonly used to describe the off-site traffic noise levels throughout southern California. The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL) by vehicle type. REMEL represents the maximum sound level (L_{max}) of individual vehicle "pass by" events by vehicle type when measured at a "reference distance" of 50 feet from the center of the travel lane.

In California the national REMELs are substituted with the California Vehicle Noise (Calveno) Emission Levels. (20) 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. (21)

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 12 off-site study area roadway segments, the distance from the centerline to the adjacent land use based on the functional roadway classifications per the City of Santa Fe Springs General Plan, and the vehicle speeds. It is expected that the Project related off-site traffic noise level contributions on other roadway segments outside the Project study area will dissipate as traffic disperses on the roadway network. The analysis below provides off-site roadway segment analysis for the following traffic scenarios.



- Existing
- Existing with Project
- Opening Year Cumulative (OYC) (2026) without Project
- Opening Year Cumulative (OYC) (2026) with Project

To describe the Project off-site traffic impacts, the receiving land use adjacent to each roadway segment is identified as a sensitive or non-sensitive land use. Sensitive land uses are limited to the existing noise sensitive residential uses based on a review of aerial imagery. It is expected that only the existing noise sensitive receivers will experience a change in the ambient noise levels over time.

ID	Roadway	Segment	Classification ¹	Receiving Land Use ²	Distance from Centerline to Receiving Land Use (Feet) ³	Vehicle Speed (mph)
1	Norwalk Blvd.	n/o Telegraph Rd.	Major-4 Lane	Non-Sensitive	50'	40
2	Norwalk Blvd.	s/o Telegraph Rd.	Major-4 Lane	Sensitive	50'	40
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Major-4 Lane	Non-Sensitive	50'	40
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Major-4 Lane	Non-Sensitive	50'	40
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Major-4 Lane	Sensitive	50'	40
6	Telegraph Rd.	w/o Heritage Park Dr.	Major-6 Lane	Non-Sensitive	60'	45
7	Telegraph Rd.	w/o Norwalk Blvd.	Major-6 Lane	Non-Sensitive	60'	45
8	Telegraph Rd.	e/o Norwalk Blvd.	Major-6 Lane	Sensitive	60'	45
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Major-6 Lane	Sensitive	60'	45
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Major-6 Lane	Non-Sensitive	60'	45
11	Telegraph Rd.	e/o Greenleaf Av.	Major-6 Lane	Non-Sensitive	60'	45
12	Hawkins St.	e/o Norwalk Blvd.	Local	Non-Sensitive	30'	40

TABLE 6-1: OFF-SITE ROADWAY PARAMETERS

 $^{\rm 1}\,\rm NWC$ Telegraph and SFS Industrial Traffic Impact Analysis, EPD Solutions, Inc.

² Based on a review of existing aerial imagery.

³ Distance to receiving land use is based upon the right-of-way distances.

The ADT volumes used in this study area presented on Table 6-2 are based on *NWC Telegraph and SFS Industrial Traffic Impact Analysis*, prepared by EPD Solutions, Inc. (22) The ADT volumes vary for each roadway segment based on the existing traffic volumes and the combination of project traffic distributions. To quantify the off-site noise levels, the Project related truck trips (actual 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.



			Average Daily Traffic Volumes ¹				
ID	Deadaras	Sogmont	Exis	ting	Opening Year Cumulative (OYC)		
	Roadway	Segment	Without Project	With Project	Without Project	With Project	
1	Norwalk Blvd.	n/o Telegraph Rd.	11,780	12,687	15,590	16,496	
2	Norwalk Blvd.	s/o Telegraph Rd.	15,570	15,668	16,330	16,428	
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	22,780	22,926	23,830	23,976	
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	22,040	22,284	23,940	24,184	
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	19,190	19,239	21,780	21,829	
6	Telegraph Rd.	w/o Heritage Park Dr.	26,760	27,667	28,120	29,026	
7	Telegraph Rd.	w/o Norwalk Blvd.	25,600	26,506	26,900	27,807	
8	Telegraph Rd.	e/o Norwalk Blvd.	23,250	23,347	24,720	24,818	
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	22,990	23,088	26,930	27,027	
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	19,620	19,815	24,890	25,085	
11	Telegraph Rd.	e/o Greenleaf Av.	16,360	16,555	17,140	17,335	
12	Hawkins St.	e/o Norwalk Blvd.	150	1,056	1,010	1,916	

TABLE 6-2: AVERAGE DAILY TRAFFIC VOLUMES

¹ NWC Telegraph and SFS Industrial Traffic Impact Analysis, EPD Solutions, Inc.

Table 6-3 provides the time of day (daytime, evening, and nighttime) vehicle splits. The unadjusted 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 *NWC Telegraph and SFS Industrial Traffic Analysis*. Table 6-3 presents the traffic flow by vehicle type (vehicle mix) used for all without Project traffic scenarios, and Tables 6-4 to 6-5 show the vehicle mixes used for the with Project traffic scenarios.

TABLE 6-3: TIME OF DAY VEHICLE SPLITS

Time of Davi		Time of Day		
Time of Day	Autos	Medium Trucks	Heavy Trucks	Split
Daytime	75.50%	1.56%	0.64%	77.70%
Evening	12.57%	0.09%	0.02%	12.68%
Nighttime	9.35%	0.19%	0.08%	9.62%
Daily	97.42%	1.84%	0.74%	100.00%

"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.



			With Project ¹					
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²		
1	Norwalk Blvd.	n/o Telegraph Rd.	94.30%	2.82%	2.88%	100.00%		
2	Norwalk Blvd.	s/o Telegraph Rd.	97.44%	1.83%	0.74%	100.00%		
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	97.44%	1.83%	0.74%	100.00%		
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	97.45%	1.82%	0.73%	100.00%		
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	97.43%	1.84%	0.74%	100.00%		
6	Telegraph Rd.	w/o Heritage Park Dr.	95.99%	2.29%	1.72%	100.00%		
7	Telegraph Rd.	w/o Norwalk Blvd.	95.93%	2.31%	1.76%	100.00%		
8	Telegraph Rd.	e/o Norwalk Blvd.	97.43%	1.83%	0.74%	100.00%		
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	97.43%	1.83%	0.74%	100.00%		
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	97.45%	1.82%	0.73%	100.00%		
11	Telegraph Rd.	e/o Greenleaf Av.	97.45%	1.82%	0.73%	100.00%		
12	Hawkins St.	e/o Norwalk Blvd.	59.97%	13.61%	26.42%	100.00%		

TABLE 6-4: EXISTING WITH PROJECT VEHICLE MIX

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.

				With P	roject ¹	
ID	Roadway	Segment	Autos	Medium Trucks	Heavy Trucks	Total ²
1	Norwalk Blvd.	n/o Telegraph Rd.	95.02%	2.59%	2.38%	100.00%
2	Norwalk Blvd.	s/o Telegraph Rd.	97.44%	1.83%	0.74%	100.00%
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	97.44%	1.83%	0.74%	100.00%
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	97.45%	1.82%	0.73%	100.00%
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	97.43%	1.84%	0.74%	100.00%
6	Telegraph Rd.	w/o Heritage Park Dr.	96.06%	2.27%	1.67%	100.00%
7	Telegraph Rd.	w/o Norwalk Blvd.	96.00%	2.29%	1.72%	100.00%
8	Telegraph Rd.	e/o Norwalk Blvd.	97.43%	1.83%	0.74%	100.00%
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	97.43%	1.83%	0.74%	100.00%
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	97.44%	1.83%	0.73%	100.00%
11	Telegraph Rd.	e/o Greenleaf Av.	97.45%	1.82%	0.73%	100.00%
12	Hawkins St.	e/o Norwalk Blvd.	76.78%	8.33%	14.90%	100.00%

TABLE 6-5: OYC (2026) WITH PROJECT VEHICLE MIX

¹ Total of vehicle mix percentage values rounded to the nearest one-hundredth.



7 OFF-SITE TRAFFIC NOISE ANALYSIS

As described in Section 4.1, the off-site traffic noise impacts are evaluated based on noise level increases resulting from the Project. 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. To assess the off-site transportation CNEL noise level impacts associated with development of the Project, noise contours were developed for each of the Project conditions outlined in the *NWC Telegraph and SFS Industrial Traffic Impact Analysis* prepared by EPD Solutions, Inc. (22)

7.1 TRAFFIC NOISE CONTOURS

Noise contours were used to assess the Project's incremental 24-hour dBA CNEL traffic-related noise impacts at land uses adjacent to roadways conveying Project traffic. The noise contours included in Appendix 7.1 represent the distance to noise levels of a constant value and are measured from the center of the roadway for the 70, 65, and 60 dBA CNEL noise levels. The noise contours do not consider the effect of any existing noise barriers or topography that may attenuate ambient noise levels. In addition, because the noise contours reflect modeling of vehicular noise on area roadways, they appropriately do not include noise contributions from the surrounding stationary noise sources within the Project study area. Tables 7-1 to 7-4 present a summary of the exterior traffic noise levels for each traffic condition.

ID	Road	Segment	Receiving	CNEL at Receiving		ce to Contour from nterline (Feet)	
			Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	60 dBA CNEL	
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	68.1	56	122	262
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.3	RW	111	240
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	70.9	RW	75	161
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	70.8	75	162	350
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.2	75	161	347
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	72.2	170	367	790
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	72.0	166	358	770
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.6	166	358	771
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	71.6	314	677	1459
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	70.9	269	579	1248
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.1	262	564	1215
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	50.5	247	533	1147

TABLE 7-1: EXISTING WITHOUT PROJECT CONTOURS

¹ Based on a review of existing aerial imagery.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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



ID	Road	Segment	Receiving	CNEL at Receiving		ce to Contour from nterline (Feet)	
			Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	70.6	55	118	253
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.3	RW	97	208
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	70.9	58	124	268
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	70.8	57	122	263
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.2	51	111	239
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	73.4	101	218	469
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	73.2	99	213	458
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.6	77	166	357
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	71.6	76	164	354
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	70.9	69	148	319
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.1	61	131	283
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	68.4	RW	51	110

TABLE 7-2: EXISTING WITH PROJECT NOISE CONTOURS

¹ Based on a review of existing aerial imagery.

 $^{\rm 2}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

TABLE 7-3:	OYC (2026) WITHOUT PROJECT NOISE CONTOURS
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ID	Road	Segment	Receiving	CNEL at Receiving		e to Contour from nterline (Feet)	
			Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	69.3	RW	96	208
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.5	RW	99	214
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	71.1	59	128	275
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	71.1	60	128	276
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.7	56	120	259
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	72.4	87	188	404
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	72.2	85	182	392
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.9	80	172	371
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	72.2	85	182	393
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	71.9	80	173	373
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.3	63	135	290
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	58.7	RW	RW	RW

¹ Based on a review of existing aerial imagery.

² The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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



ID	Road	Comment	Receiving	CNEL at Receiving	Distance to Contour from Centerline (Feet)		
		Segment	Land Use ¹	Land Use (dBA) ²	70 dBA CNEL	65 dBA CNEL	60 dBA CNEL
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	71.3	61	131	283
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.5	RW	100	215
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	71.1	59	128	276
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	71.2	60	129	277
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.7	56	121	260
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	73.6	104	223	481
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	73.4	101	218	470
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.9	80	172	371
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	72.2	85	183	393
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	71.9	81	174	374
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.3	63	136	292
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	68.8	RW	54	116

TABLE 7-4: OYC (2026) WITH PROJECT CONTOURS

¹ Based on a review of existing aerial imagery.

 $^{\rm 2}$ The CNEL is calculated at the boundary of the right-of-way of the receiving adjacent land use.

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

7.2 EXISTING PROJECT NOISE LEVEL INCREASES

An analysis of existing traffic noise levels plus traffic noise generated by the proposed Project has been included in this report to fully analyze all the existing traffic scenarios identified in the *NWC Telegraph and SFS Industrial Traffic Impact Analysis*. This condition is provided solely for informational purposes and will not occur, since the Project will not be fully developed and occupied under Existing conditions. Table 7-1 shows the Existing without Project conditions CNEL noise levels. The Existing without Project exterior noise levels are expected to range from 50.5 to 72.2 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 68.4 to 73.4 dBA CNEL. Table 7-5 shows that the Project off-site traffic noise level impacts will range from 0.0 to 17.9 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, the land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to existing with Project-related traffic noise level increases.

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, off-site traffic impacts are limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of up to 17.9 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase is largely due to the low traffic volumes that currently exist.



7.3 OYC (2026) PROJECT TRAFFIC NOISE LEVEL INCREASES

Table 7-3 shows the OYC without Project conditions CNEL noise levels. The OYC without Project exterior noise levels are expected to range from 58.7 to 72.4 dBA CNEL, without accounting for any noise attenuation features such as noise barriers or topography. Table 7-4 shows that the OYC with Project conditions will range from 68.8 to 73.6 dBA CNEL. Table 7-6 shows that the OYC Project off-site traffic noise level impacts will range from 0.0 to 10.1 dBA CNEL. Based on the significance criteria for off-site traffic noise presented in Table 4-1, the land uses adjacent to the study area roadway segments would experience *less than significant* noise level impacts due to existing with Project-related traffic noise level increases.

For an off-site traffic noise level impact to be considered significant, receivers need to perceive an increase of traffic noise levels over time. Therefore, off-site traffic impacts are limited to noise sensitive residential receivers that are likely to perceive this increase. While the analysis shows that the non-sensitive industrial uses will experience an off-site traffic noise level increase of up to 10.1 dBA CNEL, this is not considered a significant noise level impact since there are no adjacent receivers that will experience this increase over time. In addition, the Project-related off-site traffic noise level increase is largely due to the low traffic volumes that currently exist.



ID	Baad	d Segment			EL at Receiv nd Use (dB/	-	Incremental Noise Level Increase Threshold ²	
	Road	Segment	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	68.1	70.6	2.5	n/a	No
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.3	69.3	0.0	1.5	No
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	70.9	70.9	0.0	n/a	No
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	70.8	70.8	0.0	n/a	No
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.2	70.2	0.0	1.5	No
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	72.2	73.4	1.2	n/a	No
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	72.0	73.2	1.2	n/a	No
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.6	71.6	0.0	1.5	No
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	71.6	71.6	0.0	1.5	No
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	70.9	70.9	0.0	n/a	No
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.1	70.1	0.0	n/a	No
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	50.5	68.4	17.9	n/a	No

TABLE 7-5: EXISTING WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

¹Based on a review of existing aerial imagery.

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

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?



	ID Road	Coment	Segment Receiving		EL at Receiv nd Use (dB/	0	Incremental Noise Level Increase Threshold ²	
U	Koad	Segment	Land Use ¹	No Project	With Project	Project Addition	Limit	Exceeded?
1	Norwalk Blvd.	n/o Telegraph Rd.	Non-Sensitive	69.3	71.3	2.0	n/a	No
2	Norwalk Blvd.	s/o Telegraph Rd.	Sensitive	69.5	69.5	0.0	1.5	No
3	Santa Fe Springs Rd.	s/o Los Nietos Rd.	Non-Sensitive	71.1	71.1	0.0	n/a	No
4	Santa Fe Springs Rd.	n/o Telegraph Rd.	Non-Sensitive	71.1	71.2	0.1	n/a	No
5	Santa Fe Springs Rd.	s/o Telegraph Rd.	Sensitive	70.7	70.7	0.0	1.5	No
6	Telegraph Rd.	w/o Heritage Park Dr.	Non-Sensitive	72.4	73.6	1.2	n/a	No
7	Telegraph Rd.	w/o Norwalk Blvd.	Non-Sensitive	72.2	73.4	1.2	n/a	No
8	Telegraph Rd.	e/o Norwalk Blvd.	Sensitive	71.9	71.9	0.0	1.5	No
9	Telegraph Rd.	w/o Santa Fe Springs Rd.	Sensitive	72.2	72.2	0.0	1.5	No
10	Telegraph Rd.	e/o Santa Fe Springs Rd.	Non-Sensitive	71.9	71.9	0.0	n/a	No
11	Telegraph Rd.	e/o Greenleaf Av.	Non-Sensitive	70.3	70.3	0.0	n/a	No
12	Hawkins St.	e/o Norwalk Blvd.	Non-Sensitive	58.7	68.8	10.1	n/a	No

 TABLE 7-6: OYC (2026) WITH PROJECT TRAFFIC NOISE LEVEL INCREASES

¹Based on a review of existing aerial imagery.

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

³ Does the Project create an incremental noise level increase exceeding the significance criteria (Table 4-1)?



8 **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, outpatient clinics, cemeteries, golf courses, country clubs, athletic/tennis clubs, and equestrian clubs. Land uses that are considered relatively insensitive to noise include business, commercial, and professional developments. Land uses that are typically not affected by noise include: industrial, manufacturing, utilities, agriculture, undeveloped land, parking lots, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals.

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

- R1: Location R1 represents the existing noise sensitive residence at 10404 Sycamore Lane, approximately 358 feet south of the Project site. A 24-hour noise measurement was taken near this location, L1, to describe the existing ambient noise environment.
- R2: Location R2 represents the existing noise sensitive residence at 1410 Orchid Way, approximately 437 feet south of the Project site. A 24-hour noise measurement was taken near this location, L2, to describe the existing ambient noise environment.
- R3: Location R3 represents the existing noise sensitive residence at 10404 Satinwood Court, approximately 474 feet south of the Project site. A 24-hour noise measurement was taken near this location, L3, to describe the existing ambient noise environment.



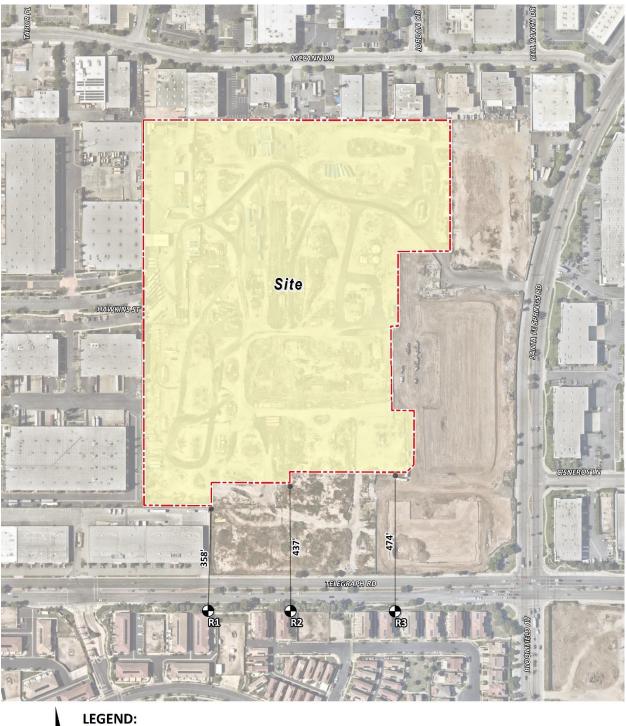


EXHIBIT 8-A: RECEIVER LOCATIONS

N L

🛄 Site Boundary ④ Receiver Locations 🧈 Distance from receiver to Project site boundary (in feet)



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 the operation of the proposed NWC Telegraph and SFS Industrial Project. To conservatively describe the potential worst-case noise environment, Exhibit 9-A presents the noise source activities used to assess the operational noise levels.

9.1 OPERATIONAL NOISE SOURCES

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

9.2 REFERENCE NOISE LEVELS

To estimate the Project operational noise impacts, reference noise level measurements were collected from similar types of activities to represent the noise levels expected with the development of the proposed Project. This section provides a detailed description of the reference noise level measurements shown on Table 9-1 used to estimate the Project operational noise impacts. It is important to note that the following projected noise levels assume the worst-case noise environment with the loading dock activity, tractor trailer storage activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity and truck movements all operating at the same time. These sources of noise activity 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 precision 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. (18)



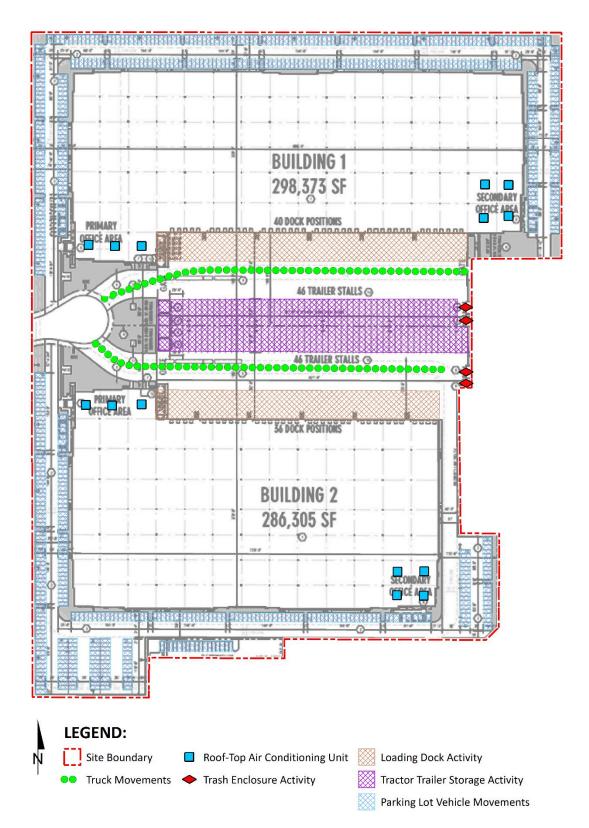


EXHIBIT 9-A: OPERATIONAL NOISE SOURCE LOCATIONS



Reference	Noise Source		n./ ur ¹	Reference Noise Level	Sound Power
Noise Source	Height (Feet)	Day	Night	(dBA L _{eq}) @ 50 Feet	Level (dBA)²
Loading Dock Activity	8'	60	60	65.7	111.5
Tractor Trailer Storage Activity	8'	60	60	62.8	103.4
Roof-Top Air Conditioning Units	5'	39	28	57.2	88.9
Parking Lot Vehicle Movements	5'	60	60	52.6	81.1
Trash Enclosure Activity	5'	60	30	57.3	89.0
Truck Movements	8'	60	60	59.8	93.2

TABLE 9-1: REFERENCE NOISE LEVEL MEASUREMENTS

¹Anticipated duration (minutes within the hour) of noise activity during typical hourly conditions expected at the Project site. "Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

²Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings. Sound power levels calculated using the CadnaA noise model at the reference distance to the noise source. Numbers may vary due to size differences between point and area noise sources.

9.2.2 LOADING DOCK ACTIVITY

The reference loading dock activities are intended to describe the typical outdoor operational noise activities associated with the Project. This includes truck idling, reefer activity (refrigerator truck/cold storage), deliveries, backup alarms, trailer docking including a combination of tractor trailer semi-trucks, two-axle delivery trucks, and background operation activities. Since the noise levels generated by cold storage loading dock activity can be slightly higher due to the use of refrigerated trucks or reefers, this reference noise level conservatively assumes that all loading dock activity is associated with cold storage facilities. The reference noise level measurement was taken in the center of the loading dock activity area and represents multiple concurrent noise sources resulting in a combined noise level of 65.7 dBA Leq at a uniform distance of 50 feet. Specifically, the reference noise level measurement represents one truck located approximately 30 feet from the noise level meter with another truck passing by to park roughly 20 feet away, both with their engines idling. Throughout the reference noise level measurement, a separate docked and running reefer truck was located approximately 50 feet east of the measurement location. Additional background noise sources included truck pass-by noise, truck drivers talking to each other next to docked trucks, and air brake release noise when trucks parked.

9.2.3 TRACTOR TRAILER STORAGE ACTIVITY

To evaluate the noise levels associated with truck idling, backup alarms, tractor trailer movements and storage activities, Urban Crossroads collected a reference noise level measurement at an existing parcel hub facility to describe the potential operational noise levels associated with Project tractor trailer storage activities. The measured reference noise level at 50 feet from activity was measured at 62.8 dBA L_{eq}. The reference noise level measurement includes a semi-truck with trailer pass-by event, background switcher cab trailer towing, drop-off, idling, and backup alarm events. Tractor trailer activity is estimated during all the daytime, evening, and nighttime hours.



9.2.4 ROOF-TOP AIR CONDITIONING UNITS

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

9.2.5 PARKING LOT VEHICLE MOVEMENTS

To describe the on-site parking lot activity, a long-term 29-hour reference noise level measurement was collected in the center of activity within the staff parking lot of a warehouse distribution center. At 50 feet from the center of activity, the parking lot produced a reference noise level of 52.6 dBA L_{eq}. Parking activities are expected to take place during the full hour (60 minutes) throughout the daytime and evening hours. The parking lot noise levels are mainly due to cars pulling in and out of parking spaces in combination with car doors opening and closing.

9.2.6 TRASH ENCLOSURE ACTIVITY

To describe the noise levels associated with a trash enclosure activity, Urban Crossroads collected a reference noise level measurement at an existing trash enclosure containing two dumpster bins. The trash enclosure noise levels describe metal gates opening and closing, metal scraping against concrete floor sounds, dumpster movement on metal wheels, and trash dropping into the metal dumpster. The reference noise levels describe trash enclosure noise activities when trash is dropped into an empty metal dumpster, as would occur at the Project Site. The measured reference noise level at the uniform 50-foot reference distance is 57.3 dBA L_{eq} for the trash enclosure activity. The reference noise level describes the expected noise source activities associated with the trash enclosures for the Project's proposed building.

9.2.7 TRUCK MOVEMENTS

The truck movements reference noise level measurement was collected over a period of 1 hour and 28 minutes and represent multiple heavy trucks entering and exiting the outdoor loading dock area producing a reference noise level of 59.8 dBA L_{eq} at 50 feet. The noise sources included at this measurement location account for trucks entering and existing the Project driveways and maneuvering in and out of the outdoor loading dock activity area.





9.3 CADNAA NOISE PREDICTION MODEL

To fully describe the exterior operational noise levels from the Project, Urban Crossroads, Inc. developed a noise prediction model using the CadnaA (Computer Aided Noise Abatement) computer program. CadnaA can analyze multiple types of noise sources using the spatially accurate Project site plan, georeferenced Nearmap aerial imagery, topography, buildings, and barriers in its calculations to predict outdoor noise levels. Using the ISO 9613-2 protocol, CadnaA will calculate the distance from each noise source to the noise receiver locations, using the ground absorption, distance, and barrier/building attenuation inputs to provide a summary of noise level at each receiver and the partial noise level contributions by noise source.

Consistent with the ISO 9613-2 protocol, the CadnaA noise prediction model relies on the reference sound power level (L_w) to describe individual noise sources. While sound pressure levels (e.g., L_{eq}) quantify in decibels the intensity of given sound sources at a reference distance, sound power levels (L_w) are connected to the sound source and are independent of distance. Sound pressure levels vary substantially with distance from the source and diminish because of intervening obstacles and barriers, air absorption, wind, and other factors. Sound power is the acoustical energy emitted by the sound source and is an absolute value that is not affected by the environment. The operational noise level calculations provided in this noise study account for the distance attenuation provided due to geometric spreading, when sound from a localized stationary source (i.e., a point source) propagates uniformly outward in a spherical pattern. A default ground attenuation factor of 0.5 was used in the noise analysis to account for mixed ground representing a combination of hard and soft surfaces. Appendix 9.1 includes the detailed noise dBA L_{eq} model inputs used to estimate the Project operational noise levels presented in this section.

9.4 PROJECT OPERATIONAL NOISE LEVELS

Using the reference noise levels to represent the proposed Project operations that include loading dock activity, tractor trailer storage activity, roof-top air conditioning units, parking lot vehicle movements, trash enclosure activity and truck 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. Table 9-2 shows the Project operational noise levels during the daytime hours of 7:00 a.m. to 10:00 p.m. The daytime hourly noise levels at the off-site receiver locations are expected to range from 38.2 to 42.6 dBA L_{eq} at the existing noise sensitive receiver locations.

Noise Source ¹	Operational Nois	Operational Noise Levels by Receiver Location (dBA Leq)					
Noise Source-	R1	R2	R3				
Loading Dock Activity	33.2	33.2	39.9				
Tractor Trailer Storage Activity	22.2	22.3	31.3				
Roof-Top Air Conditioning Units	34.2	35.6	36.3				
Parking Lot Vehicle Movements	32.1	31.1	29.6				
Trash Enclosure Activity	12.2	14.1	32.0				
Truck Movements	14.9	15.0	21.6				
Total (All Noise Sources)	38.2	38.6	42.6				

TABLE 9-2: DAYTIME PROJECT OPERATIONAL NOISE LEVELS

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

Table 9-3 shows the Project operational noise levels during the nighttime hours of 10:00 p.m. to 7:00 a.m. The nighttime hourly noise levels at the off-site receiver locations are expected to range from 37.3 to 41.8 dBA L_{eq} at the existing noise sensitive receiver locations. The differences between the daytime and nighttime noise levels are largely related to the estimated duration of noise activity as outlined in Table 9-1 and Appendix 9.1.

Noise Source ¹	Operational Noise Levels by Receiver Location (dBA Leq)					
Noise Source	R1	R2	R3			
Loading Dock Activity	33.2	33.2	39.9			
Tractor Trailer Storage Activity	22.2	22.3	31.3			
Roof-Top Air Conditioning Units	31.8	33.2	33.9			
Parking Lot Vehicle Movements	32.1	31.1	29.6			
Trash Enclosure Activity	8.2	10.1	28.1			
Truck Movements	14.9	15.0	21.6			
Total (All Noise Sources)	37.3	37.5	41.8			

TABLE 9-3: NIGHTTIME PROJECT OPERATIONAL NOISE LEVELS

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

9.5 PROJECT OPERATIONAL NOISE LEVEL COMPLIANCE

To demonstrate compliance with local noise regulations, the Project-only operational noise levels are evaluated against exterior noise level thresholds based on the City of Santa Fe Springs exterior noise level standards at nearby noise-sensitive receiver locations. Table 9-4 shows the operational noise levels associated with the Project will not exceed the City of Santa Fe Springs exterior noise level standards. Therefore, the stationary operational noise impacts are considered *less than significant* at the nearest noise-sensitive receiver locations.



Receiver Location ¹	Measurement Location		perational s (dBA Leq) ²	Noise Leve (dBA	l Standards Leq) ³		l Standards ded? ⁴
Location	Location	Daytime	Nighttime	Daytime	Nighttime	Daytime	Nighttime
R1	L1	38.2	37.3	50	45	No	No
R2	L2	38.6	37.5	50	45	No	No
R3	L3	42.6	42.6 41.8		45	No	No

TABLE 9-4: OPERATIONAL NOISE LEVEL COMPLIANCE

¹ See Exhibit 8-A for the receiver locations.

 $^{\rm 2}$ Proposed Project operational noise levels as shown on Tables 9-2 and 9-3.

³ City of Santa Fe Springs Municipal Code, Section 155.424.

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

"Daytime" = 7:00 a.m. - 10:00 p.m.; "Nighttime" = 10:00 p.m. - 7:00 a.m.

9.6 PROJECT OPERATIONAL NOISE LEVEL INCREASES

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

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

Where "SPL1," "SPL2," etc. are equal to the sound pressure levels being combined, or in this case, the Project-operational and existing ambient noise levels. The difference between the combined Project and ambient noise levels describes the Project noise level increases to the existing ambient noise environment. 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 9-5 and 9-6, respectively. As indicated on Tables 9-5 and 9-6, the Project will not generate a measurable daytime or nighttime operational noise level increase and the Project-related operational noise level increases will not exceed the increase significance criteria presented in Table 4-1. Therefore, Project related operational noise level increases at the sensitive receiver locations will be *less than significant*.



Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	38.2	L1	67.8	67.8	0.0	1.5	No
R2	38.6	L2	68.5	68.5	0.0	1.5	No
R3	42.6	L3	66.9	66.9	0.0	1.5	No

TABLE 9-5: DAYTIME PROJECT OPERATIONAL NOISE LEVEL INCREASES

¹ See Exhibit 8-A for the receiver locations.

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

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

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

⁵ Represents the combined ambient conditions plus the Project activities.

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

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

TABLE 9-6: NIGHTTIME OPERATIONAL NOISE LEVEL INCREASES

Receiver Location ¹	Total Project Operational Noise Level ²	Measurement Location ³	Reference Ambient Noise Levels ⁴	Combined Project and Ambient ⁵	Project Increase ⁶	Increase Criteria ⁷	Increase Criteria Exceeded?
R1	37.3	L1	65.1	65.1	0.0	1.5	No
R2	37.5	L2	65.7	65.7	0.0	1.5	No
R3	41.8	L3	64.0	64.0	0.0	5.0	No

¹ See Exhibit 8-A for the receiver locations.

² Total Project nighttime 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 increase criteria as shown on Table 4-1.



10 CONSTRUCTION ANALYSIS

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 activity boundaries in relation to the nearest sensitive receiver locations previously described in Section 6. Section 155.425[B] of the Municipal Code states that *it shall be unlawful for any person within a residential zone, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day. (13)*

In addition, since neither the City of Santa Fe Springs General Plan or Municipal Code establish numeric maximum acceptable construction source noise levels at potentially affected receivers for CEQA analysis purposes, a numerical construction threshold based on Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual is used for analysis of daytime construction impacts. The FTA considers a daytime exterior construction noise level of 80 dBA Leq as a reasonable threshold for noise sensitive residential land use. (8 p. 179)

10.1 CONSTRUCTION NOISE LEVELS

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

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

10.2 CONSTRUCTION REFERENCE NOISE LEVELS

To describe construction noise activities, this construction noise analysis was prepared using reference construction equipment noise levels from the Federal Highway Administration (FHWA) published the Roadway Construction Noise Model (RCNM), which includes a national database of construction equipment reference noise emission levels. (23) The RCNM equipment database, provides a comprehensive list of the noise generating characteristics for specific types of construction equipment. In addition, the database provides an acoustical usage factor to estimate the fraction of time each piece of construction equipment is operating at full power (i.e., its loudest condition) during a construction operation.



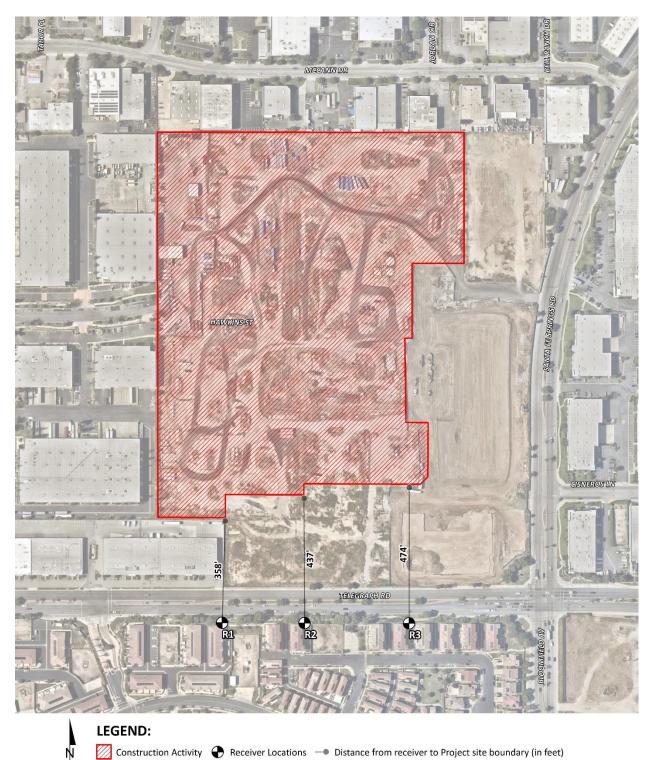


EXHIBIT 10-A: CONSTRUCTION NOISE SOURCE LOCATIONS



10.3 CONSTRUCTION NOISE ANALYSIS

Using the reference construction equipment noise levels and the CadnaA noise prediction model, calculations of the Project construction noise level impacts at the nearby sensitive receiver locations were completed. Consistent with FTA guidance for detailed construction noise assessment, Table 10-1 presents the combined noise levels for the loudest construction equipment, assuming all equipment operates at the same time. To account for the dynamic nature of construction activities, the CadnaA construction noise analysis evaluates the equipment as multiple moving point sources within the construction area (Project site boundary). Construction impacts are based on the highest noise level calculated at each receiver location. As shown in Table 10-2, the construction noise levels are expected to range from 52.8 to 64.2 dBA L_{eq} at the nearby receiver locations. Appendix 8.1 includes the detailed CadnaA construction noise model inputs.

Construction Stage	Reference Construction Equipmnet ¹	Reference Noise Level @ 50 Feet (dBA L _{eq})	Composite Reference Noise Level (dBA L _{eq}) ²	Reference Power Level (dBA L _w) ³	
	Concrete Saw	83			
Demolition/ Crushing	Grapple (on backhoe)	83	86.8	118.4	
Clusining	Gradall	79			
	Tractor	80			
Site Preparation	Backhoe	74	84.0	115.6	
Freparation	Grader	81			
	Scraper	80		114.9	
Grading	Excavator	77	83.3		
	Dozer	78			
	Crane	73			
Building Construction	Generator	78	80.6	112.2	
construction	Front End Loader	75			
	Paver	74			
Paving	Dump Truck	72	77.8	109.5	
	Roller	73			
	Man Lift	68			
Architectural Coating	Compressor (air)	74	76.2	107.8	
Coating	Generator (<25kVA)	70			

TABLE 10-1: CONSTRUCTION REFERENCE NOISE LEVELS

¹ FHWA Road Construction Noise Model.

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

³ Sound power level represents the total amount of acoustical energy (noise level) produced by a sound source independent of distance or surroundings.



Dessions		Construction Noise Levels (dBA Leq)									
Receiver Location ¹	Demolition/ Crushing	Site Preparation	Grading		Paving	Architectural Coating	Highest Levels ²				
R1	64.2	64.2	60.7	58.0	55.2	53.6	64.2				
R2	64.2	64.2	60.7	58.0	55.2	53.6	64.2				
R3	63.4	63.4	59.9	57.2	54.4	52.8	63.4				

¹Construction noise source and receiver locations are shown on Exhibit 10-A.

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

10.4 CONSTRUCTION NOISE LEVEL COMPLIANCE

To evaluate whether the Project will generate potentially significant short-term noise levels at the nearest receiver locations, a construction-related daytime noise level threshold of 80 dBA L_{eq} is used as a reasonable threshold to assess the daytime construction noise level impacts. The construction noise analysis shows that the nearest receiver locations will not exceed the reasonable daytime 80 dBA L_{eq} significance threshold during Project construction activities as shown in Table 10-3. Therefore, the noise impacts due to Project construction noise are considered *less than significant* at all receiver locations.

	Construction Noise Levels (dBA Leq)							
Receiver Location ¹	Highest Construction Noise Levels ²	Threshold ³	Threshold Exceeded? ⁴					
R1	64.2	80	No					
R2	64.2	80	No					
R3	63.4	80	No					

TABLE 10-3: CONSTRUCTION NOISE LEVEL COMPLIANCE

¹Construction noise source and receiver locations are shown on Exhibit 10-A.

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

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

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

10.5 CONSTRUCTION VIBRATION ANALYSIS

Construction activity can result in varying degrees of ground vibration, depending on the equipment and methods employed. The operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Ground vibration levels associated with various types of construction equipment are summarized in Table 10-4. 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. To calculate the vibration levels, the FTA provides the following equation: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$



Equipment	PPV (in/sec) at 25 feet
Small bulldozer	0.003
Jackhammer	0.035
Loaded Trucks	0.076
Large bulldozer	0.089
Vibratory Roller	0.210

Federal Transit Administration, Transit Noise and Vibration Impact Assessment Manual

Table 10-5 presents the expected Project related vibration levels at the nearby receiver locations. At distances ranging from 358 to 474 feet from Project construction activities, construction vibration velocity levels are estimated to range from 0.003 to 0.004 in/sec PPV. Based on maximum acceptable continuous vibration threshold of 0.3 PPV (in/sec), the typical Project construction vibration levels will fall below the building damage thresholds at all the sensitive locations. Therefore, the Project-related vibration impacts are considered *less than significant* during typical construction activities at the Project site. Moreover, the vibration levels reported at the sensitive receiver locations are unlikely to be sustained during the entire construction period but will occur rather only during the times that heavy construction equipment is operating adjacent to the Project site perimeter.

	Distance to Const.		Typical	Thresholds	Thresholds				
Location ¹ Activity (Feet) ²	Small bulldozer	Jack- hammer	Loaded Trucks	Large bulldozer	Vibratory Roller	Highest Vibration Level	PPV (in/sec)⁴	Exceeded? ⁵	
R1	358'	0.000	0.001	0.001	0.002	0.004	0.004	0.3	No
R2	437'	0.000	0.000	0.001	0.001	0.003	0.003	0.3	No
R3	474'	0.000	0.000	0.001	0.001	0.003	0.003	0.3	No

¹Construction noise source and receiver locations are shown on Exhibit 10-A.

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

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

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

⁵ Does the peak vibration exceed the acceptable vibration thresholds?

"PPV" = Peak Particle Velocity



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11 REFERENCES

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

- 21. EPD Solutions, Inc. NWC Telegraph and SFS Industrial Traffic Impact Analysis. July 2024.
- 22. U.S. Department of Transportation, Federal Highway Administration, Office of Environment and Planning. *FHWA Roadway Construction Noise Model*. January, 2006.



12 CERTIFICATIONS

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

Bill Lawson, P.E., INCE Principal URBAN CROSSROADS, INC. 1133 Camelback #8329 Newport Beach, CA 92658 (949) 581-3148 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 San Diego • March, 2018 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 SANTA FE SPRINGS MUNICIPAL CODE



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§ 155.421 DECLARATION OF POLICY PERTAINING TO NOISE.

It is hereby declared to be the policy of the city to prohibit unnecessary, excessive, and annoying noises from all sources subject to its police power. At certain levels noises are detrimental to the health and welfare of the citizenry and in the public interest shall be systematically proscribed.

('64 Code, § 52.30) (Am. Ord. 712, passed 6-11-87)

§ 155.422 EXEMPTIONS FROM NOISE CONTROL PROVISIONS.

The following activities shall be exempt from noise control provisions of this subchapter:

(A) Activities conducted on public parks, public playgrounds and public or private school grounds including but not limited to school athletics and school entertainment events.

(B) Occasional outdoor gatherings, public dancing shows and sporting and entertainment events provided said events are conducted pursuant to any required permit or City Council authorization.

(C) Any mechanical device, apparatus or equipment when used, related to or connected with emergency work.

(D) Any activity to the extent regulation thereof has been preempted by state or federal law.

('64 Code, § 52.31) (Am. Ord. 712, passed 6-11-87)

§ 155.423 NOISE LEVEL MEASUREMENT PROCEDURES.

Any noise level measurement made pursuant to the provisions of this subchapter shall be measured with a sound level meter in accordance with the following:

(A) Measurements shall be made in decibels (dB) using the A-weighted scale with slow response, following the manufacturer's instructions, except the fast response shall be used for impulsive sounds.

(B) Outdoor noise shall be measured at the lot line and/or at any point with the land parcel receiving the noise, where possible, the microphone shall be positioned at least 10 feet from the nearest reflective surface. For the purpose of this measurement the boundaries of any lease agreement, or operating unit or group of contiguous fee properties operated as a unit, shall be considered as the lot line.

(C) Measurements shall be made with the microphone at a height not less than five feet above the ground or floor level for outdoor measurements and for measurements within a building or on a balcony or deck, respectively.

(D) Measurements within a building for determining the noise level from exterior noises shall be made with the microphone five feet from the window (closed) and/or wall of the structure.

(E) The ambient noise level shall be measured while the alleged intruding noise source is inoperative. If for any reason the alleged intruding noise source cannot be turned off, the ambient noise level shall be estimated, if possible, by performing a measurement in the same general area of the alleged intruding noise source but a sufficient distance such that the noise from the alleged intruding noise source is at least 10 dB below the ambient noise level in order that only the actual ambient noise level be measured. If a difference of 10 dB as specified in the preceding sentence cannot be obtained within the same general area, but the alleged intruding noise source is five to 10 dB below the ambient, then the level of the ambient noise level itself may be reasonably determined by subtracting a one decibel correction to account for the contribution of the alleged intruding noise source.

('64 Code, § 52.32) (Am. Ord. 712, passed 6-11-87)

§ 155.424 PERMITTED NOISE LEVELS.

(A) The noise level caused by any device, instrument, vehicle, machinery, operation, use or activity shall not exceed the levels set forth in the table set out in division (E) of this section except as further provided in this chapter.

(B) In the event the ambient noise level exceeds a permitted noise level set forth in division (E) of this section, the permissible noise level for the corresponding duration and receiving area shall be the ambient level.

(C) Noise of impulsive character (hammering, and the like) or that contains a pure tone (such as a whine, screech, or hum), shall only be permitted at levels five dB(A) less than the permitted levels determined under this section.

(D) At a lot line separating properties with different permitted noise levels, the applicable permitted outdoor noise level shall be the arithmetic mean of the permitted outdoor noise levels set forth in division (E) of this section for the receiving areas on opposite sides of said lot line.

(E) Noise level table.

A-Weighted Sound Level in Decibe	els (dB(A))
Daytime	Nighttime
(7:00 a.m. to 10:00 p.m.)	(10:00 p.m. to 7:00 a.m.)
57 57	

|--|

	Daytime (7:00 a.m. to 10:00 p.m.) Maximum Cumulative Minutes Duration in Any 1-Hour Period				Nighttime (10:00 p.m. to 7:00 a.m.)						
						Maximum Cumulative Minutes Duration in Any 1- Hour Period				Absolute Maximum	
Receiving Area	30	15	5	1	-	30	15	5	1		
Outdoor Noise at Lot Line Of:											
Any school, church or hospital	45	50	55	60	65	45	50	55	60	65	
Any other use											
In the A-1, R-1 or R-3 Zone	50	55	60	65	70	45	50	55	60	65	
In the C-1 or C-4 Zone	60	65	70	75	80	55	60	65	70	75	
1 In the ML, PF or BP Zone	60	65	70	75	80	60	65	70	75	80	
In the M-1 or M-2 Zone	70	75	80	85	90	70	75	80	85	90	
Residential Building Interior:											
In the A-1 or R-1 Zone	45	50	55	60	65	45	50	55	60	65	
In the R-3 Zone	45	50	55	60	65	45	50	55	60	65	

('64 Code, § 52.34) (Am. Ord. 712, passed 6-11-87) Penalty, see §10.97

§ 155.425 SPECIAL NOISE SOURCES.

The following additional provisions shall apply to certain special noise sources:

(A) Radios, television sets, and similar devices. It shall be unlawful for any person within the city to use or operate any radio receiving set, musical instrument, phonograph, television set, or other similar device for the producing or reproducing of sound in any manner or to use bells, whistles, or any device conveying speech content or music as may be generated by sound amplifying equipment so as to create any noise which would cause the noise level to exceed the ambient noise level a maximum of five dB(A) at the boundary of any property within a residential zone or at the boundary of any private residential open space, or within the common outdoor area of any multiple residential development.

(B) Construction of buildings and projects. It shall be unlawful for any person within a residential zone, or within a radius of 500 feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or any other construction type device between the hours of 7:00 p.m. of one day and 7:00 a.m. of the next day.

(C) Maintenance. It shall be unlawful for any person, including city and utility crews, to perform maintenance of real property, other than emergency work, between 7:00 p.m. on one day and 7:00 a.m. of the following day, if such maintenance activity produces noise above the ambient level at any lot line of property within a residential zone.

('64 Code, § 52.35) (Am. Ord. 712, passed 6-11-87) Penalty, see §10.97

§ 155.426 PROPOSED DEVELOPMENT PROJECT.

If at any time the Director of Planning and Development has reason to believe that a new development project, addition, modification, or any other changes thereto may not conform with the permitted noise level standards of this chapter, the Director of Planning and Development may require as a "condition of approval" an acoustical analysis (noise study) as part of the building permit process or other approval procedures.

('64 Code, § 52.37) (Am. Ord. 712, passed 6-11-87)

§ 155.427 WAIVERS FROM NOISE REQUIREMENTS.

(A) Waivers from the noise control requirements of this chapter may be authorized by a conditional use permit granted in

accordance with the provisions of §§ 155.710 through 155.724 for a period not to exceed two years subject to reasonable terms, conditions, and requirements. A waiver may be granted only if the Planning Commission makes the findings that:

(1) Additional time is necessary for the applicant to alter or modify his activity, operation or noise source to comply with this chapter; or

(2) The activity, operation or noise source cannot feasibly be carried on in a manner that would comply with the provisions of this chapter and no other reasonable alternative is available to the applicant.

(B) In granting a waiver, the Planning Commission may prescribe any conditions or requirements it deems necessary to minimize adverse effects upon the community or the surrounding neighborhood.

(C) In granting waivers, the Planning Commission shall consider the magnitude of adverse effect caused by the offensive noise, the uses of property within the area affected by the noise, operations carried on under existing regulations and codes, the time factors related to study, design, financing and construction of remedial work, the economic factors related to age and useful life of the equipment, the general public interest, health and welfare, the feasibility of plans submitted for corrections, and the effect on the community if the waiver is denied.

('64 Code, § 52.38) (Am. Ord. 712, passed 6-11-87)

§ 155.428 VIBRATIONS.

Every use shall be so operated that the ground vibration generated by said use is not harmful or injurious to the use or development of surrounding properties. No vibration shall be permitted which is perceptible without instruments at any use alone the property line on which said use is located. For the purpose of this determination, the boundary of any lease agreement or operating unit or properties operating as a unit shall be considered the same as the property line.

('64 Code, § 52.40) (Am. Ord. 712, passed 6-11-87) Penalty, see §10.97

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APPENDIX 5.1:

STUDY AREA PHOTOS



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JN:15643



15643_L1_B 1.North 33, 56' 30.310000", 118, 4' 3.400000"



15643_L1_B 2.South 33, 56' 30.280000", 118, 4' 3.370000"

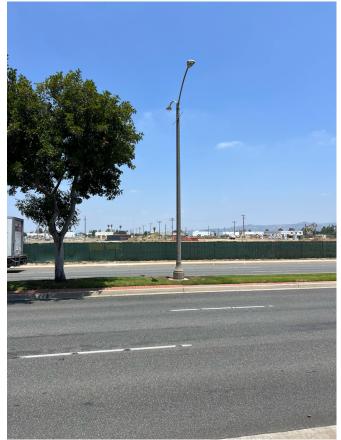


15643_L1_B 3.East 33, 56' 30.230000", 118, 4' 3.320000"



15643_L1_B 4.West 33, 56' 30.220000", 118, 4' 3.350000"

JN:15643



15643_L2_C 1.North 33, 56' 30.330000", 118, 4' 1.230000"



15643_L2_C 2.South 33, 56' 30.280000", 118, 4' 1.150000"



15643_L2_C 3.East 33, 56' 30.240000", 118, 4' 1.070000"



15643_L2_C 4.West 33, 56' 30.220000", 118, 4' 1.070000"

JN:15643



15643_L3_D 1.North 33, 56' 30.340000", 118, 3' 56.870000"



15643_L3_D 2.South 33, 56' 30.340000", 118, 3' 56.870000"



15643_L3_D 3.East 33, 56' 30.340000", 118, 3' 56.890000"



15643_L3_D 4.West 33, 56' 30.330000", 118, 3' 56.890000"

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APPENDIX 5.2:

NOISE LEVEL MEASUREMENT WORKSHEETS





						24-Ho	ur Noise Le	evel Meas	urement Si	ummary						
Date:	Thursday, N	May 30, 2024			Location	: L1 - Located	south of the	site near the	e residence at	t 10404	Meter:	Piccolo II			JN:	15643
Project:	Telegraph a	and Santa Fe	Springs		Source	: Sycamore Ln									Analyst:	Z. Ibrahim
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
85.	0								1 1							
85.0 80.0 75.0 70.0 65.0 65.0 60.0	0															
5 70.	0															
60. 55 ح	0 0 0 0	N		65.6 68.5	68.7	<mark>68.5</mark>		67.0	67.5	68.7	67.0 67.3		66.9 66.8	<u>67.0</u>	69.1	63.3
A J I N I N I N I N I N I N I N I N I N I N I N I I I I I I I I I I	62	59.9 61.										·			63	03
- 40.0	0 ++													+ $+$		
35.	0 ++ 0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	3 14	15 10	5 17	18 19	20	21 22	23
	0	1 2	5	+ J	0	, 0	5 1		eginning	5 14	15 1	5 17	10 15	20	21 22	25
Timeframe	Hour	L _{eq}	L _{max}	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	62.8 59.9	74.3 69.5	48.3	73.9 69.3	73.1	70.0 67.3	67.8	61.5 59.9	55.6 53.0	49.1 43.0	48.6 41.9	48.4 41.2	62.8 59.9	10.0 10.0	72.8
	1 2	59.9 61.2	69.5 71.2	41.0 41.0	69.3 70.9	68.8 70.5	67.3	65.8 66.6	59.9 61.1	53.0 54.4	43.0	41.9 41.8	41.2	59.9 61.2	10.0	69.9 71.2
Night	3	63.5	72.7	45.6	72.4	72.0	70.3	68.9	63.9	58.0	48.9	47.3	46.0	63.5	10.0	73.5
U	4	65.6	74.0	48.5	73.7	73.3	71.8	70.6	66.8	61.8	51.2	49.7	48.7	65.6	10.0	75.6
	5	68.5	77.4	52.0	77.0	76.6	74.6	72.8	69.3	65.7	56.6	54.5	52.4	68.5	10.0	78.5
	6	68.7	75.8	56.1	75.5	75.1	73.5	72.4	70.2	67.2	59.1	57.4	56.3	68.7	10.0	78.7
	7 8	68.6 68.5	75.1 75.4	57.2 56.8	74.9 75.1	74.5 74.6	73.2 73.2	72.4 72.3	70.1 69.9	67.3 67.2	60.4 60.0	58.6 58.5	57.4 57.1	68.6 68.5	0.0 0.0	68.6 68.5
	9	68.3	76.6	55.7	76.2	75.6	73.8	72.6	69.2	66.1	58.8	57.3	56.0	68.3	0.0	68.3
	10	67.2	74.8	55.2	74.4	73.8	72.2	71.2	68.4	65.5	58.0	56.5	55.4	67.2	0.0	67.2
	11	67.0	74.6	54.3	74.3	73.7	71.9	70.8	68.3	65.5	57.6	56.1	54.5	67.0	0.0	67.0
	12	67.5	75.6	55.2	75.1	74.4	72.2	71.0	68.5	66.0	59.4	57.5	55.6	67.5	0.0	67.5
Dav	13	67.0	73.3	54.7	73.0	72.6	71.5	70.7	68.4	66.0	58.6	56.8	54.9	67.0	0.0	67.0
Day	14 15	68.7 67.3	79.7 75.3	55.1 55.2	79.2 75.0	78.2 74.5	74.5 72.4	71.7 71.1	68.5 68.3	65.7 65.5	58.6 58.5	56.6 57.0	55.3 55.4	68.7 67.3	0.0 0.0	68.7 67.3
	15	67.0	73.7	56.0	73.4	72.8	71.5	70.6	68.2	65.9	59.3	57.5	56.2	67.0	0.0	67.0
	17	68.3	78.0	55.3	77.6	76.9	74.6	72.4	68.4	65.6	58.7	57.3	55.7	68.3	0.0	68.3
	18	66.9	74.6	54.5	74.2	73.6	71.9	70.9	68.2	65.2	57.7	56.2	54.7	66.9	0.0	66.9
	19	66.8	75.0	53.8	74.6	74.0	72.0	70.7	67.9	65.0	56.6	55.0	54.0	66.8	5.0	71.8
	20	67.0	78.2	54.1	77.5	76.5	72.9	70.5	67.1	63.7	56.8	55.6	54.3	67.0	5.0	72.0
	21 22	69.1 63.5	81.5 71.4	50.7 48.4	80.7 71.0	79.9 70.5	76.5 69.1	73.1 68.3	67.3 65.0	63.0 60.2	54.4 51.0	52.6 49.6	51.0 48.6	69.1 63.5	5.0 10.0	74.1
Night	22	63.3	72.2	48.4	71.0	71.4	69.8	68.5	63.9	59.2	51.0	50.4	48.0	63.3	10.0	73.3
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour		(dBA)
Day	Min	66.8	73.3	50.7	73.0	72.6	71.5	70.5	67.1	63.0	54.4	52.6	51.0	CNEL	Daytime	Nighttime
,	Max	69.1	81.5	57.2	80.7	79.9	76.5	73.1	70.1	67.3	60.4	58.6	57.4	CIVEE	(7am-10pm)	(10pm-7am)
Energy	Average Min	67.8 59.9	69.5	erage: 41.0	75.7 69.3	75.0 68.8	73.0 67.3	71.5 65.8	<u>68.4</u> 59.9	65.5 53.0	58.2 42.8	56.6 41.8	55.2 41.2	72.4	67.8	65.1
Night	Max	68.7	77.4	56.1	77.0	76.6	74.6	72.8	70.2	67.2	59.1	57.4	56.3	/ 2.4	07.0	05.1
Energy	Average	65.1		erage:	72.9	72.4	70.6	69.1	64.6	59.4	50.3	49.0	48.0			



						24-Ho	our Noise Le	evel Meas	urement S	ummary						
		May 30, 2024				L2 - Located	south of the	site near the	residence at	t 1410	Meter:	Piccolo II				15643
Project:	Telegraph a	and Santa Fe	Springs		Source	Orchid Way.		194 9 11	(); ()						Analyst:	Z. Ibrahir
							Hourly L _{eq} d	dBA Readings	(unadjusted)							
85.0	2															
8 75.0	2 ++															
0.0 65.0 פ קיים 65.0	ž			6.3	69.4	- <mark></mark>		N - N	- <mark></mark> - ,	- <u>9</u>	_ <mark>ບ່</mark> ດ		<mark></mark>	•	6 <mark>9.1</mark>	
۵۵.0 ۲ <u>۲</u> 55.0	62.2	50.3 61.6	64.2	66.3	69	- <mark>- 69</mark>	<mark>- 69</mark> - 6	8 8	68.6 68.6	08. 68	<mark>- 89</mark> - 89		67.	<mark>67.</mark>	69.	65.1
A Jun 5 45.0 45.0 40.0		60	; • • -				\mp \mp					+ +		+ +		
± 40.0 35.0							+							+		
	0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	.3 14	15 16	5 17	18 19	20	21 22	23
									eginning							
neframe	Hour	L _{eq}	L _{max}	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj.
	0 1	62.2 60.3	73.3 70.7	45.1 42.7	72.9 70.4	72.3 69.9	69.7 68.1	67.7 66.2	61.1 59.4	54.4 52.0	46.2 44.3	45.7 43.5	45.2 42.9	62.2 60.3	10.0 10.0	72. 70.
	2	61.6	72.1	42.5	71.8	71.4	69.2	67.2	61.0	54.0	44.5	43.4	42.6	61.6	10.0	71.
Night	3	64.2	74.5	45.8	74.1	73.5	71.3	69.7	63.9	57.3	47.7	46.7	45.9	64.2	10.0	74
	4	66.3	75.4	48.3	75.0	74.4	72.3	71.2	67.5	61.9	51.0	49.4	48.6	66.3	10.0	76
	5	68.9	78.3	52.5	77.9	77.1	74.6	73.0	69.9	66.3	56.1	54.0	52.7	68.9	10.0	78.
	6	69.4 69.7	76.9	55.8 57.6	76.4	75.9 76.6	74.2 74.5	73.4 73.4	71.0	67.7 68.0	59.2 60.2	57.5 58.9	56.1 57.8	69.4 69.7	10.0 0.0	79. 69.
	8	69.3	76.1	58.1	75.8	75.3	73.8	72.9	70.5	67.9	60.8	59.5	58.3	69.3	0.0	69.
	9	69.3	78.8	55.9	78.3	77.2	75.4	73.3	69.9	66.8	59.3	57.4	56.2	69.3	0.0	69.
	10	68.2	75.9	54.8	75.4	74.8	73.1	72.3	69.6	66.4	58.4	56.8	55.2	68.2	0.0	68.
	11	68.2	76.0	55.2	75.6	74.9	73.1	72.2	69.5	66.4	58.2	56.7	55.5	68.2	0.0	68
	12 13	68.6 68.1	76.8 75.0	55.9 55.1	76.3 74.6	75.5 74.0	73.4 72.7	72.2 72.0	69.7 69.4	67.1 66.8	59.5 59.2	57.5 57.3	56.1 55.4	68.6 68.1	0.0 0.0	68. 68.
Day	13	68.6	75.0	55.2	74.0	75.3	74.0	72.0	69.8	66.8	58.8	56.9	55.4	68.6	0.0	68
-,	15	68.5	77.0	55.6	76.6	76.0	73.5	72.2	69.7	66.6	59.2	57.2	55.9	68.5	0.0	68
	16	68.0	74.6	56.5	74.3	73.8	72.5	71.7	69.3	66.8	60.0	58.4	56.8	68.0	0.0	68
	17	69.0	79.2	54.8	78.7	77.9	74.9	72.9	69.1	66.3	58.1	56.4	55.1	69.0	0.0	69
	18 19	67.8 67.6	74.8 75.3	54.6 54.0	74.5 74.9	74.0 74.4	72.9 72.7	72.1 71.7	69.1 69.1	66.1 65.8	57.8 57.0	56.1 55.8	54.8 54.3	67.8 67.6	0.0 5.0	67 72
	19 20	67.6 67.0	75.3 76.0	54.0 53.7	74.9 75.6	74.4 74.9	72.7	71.7	69.1 68.0	65.8 64.1	57.0	55.8 55.1	54.3 54.0	67.6 67.0	5.0 5.0	72
	20	69.1	80.8	50.7	80.2	79.5	75.8	73.5	68.2	63.4	53.4	52.0	50.9	69.1	5.0	74
Night	22	64.3	72.9	49.2	72.6	72.1	70.5	69.4	65.4	60.3	52.0	50.9	49.5	64.3	10.0	74
0	23	65.1	74.2	55.2	73.9	73.5	71.8	70.4	65.1	60.9	55.9	55.6	55.3	65.1	10.0	75.
eframe	Hour Min	L _{eq} 67.0	L _{max} 74.6	L _{min} 50.7	L1%	L2%	L5% 72.5	<i>L8%</i> 71.1	L25% 68.0	L50% 63.4	L90% 53.4	L95% 52.0	L99% 50.9	24-Hour	Leq (Daytime	(dBA) Night
Day	Max	67.0 69.7	74.6 80.8	50.7	74.3 80.2	73.8 79.5	72.5	71.1	68.0 70.9	63.4 68.0	53.4 60.8	52.0 59.5	50.9	CNEL	(7am-10pm)	Night: (10pm-
Energy	Average	68.5		erage:	76.3	75.6	73.7	73.3	69.5	66.4	58.4	56.8	55.4			
Night	Min	60.3	70.7	42.5	70.4	69.9	68.1	66.2	59.4	52.0	44.3	43.4	42.6	73.0	68.5	65
•	Max	69.4	78.3	55.8	77.9	77.1	74.6	73.4	71.0	67.7	59.2	57.5	56.1		_	
Energy	Average	65.7	Ave	erage:	73.9	73.3	71.3	69.8	64.9	59.4	50.8	49.6	48.7			



						24-Ho	ur Noise Le	evel Meas	urement S	ummary						
Date:	Thursday, N	/lay 30, 2024				L3 - Located		site near the	e residence at	t 10404	Meter:	Piccolo II				15643
Project:	Telegraph a	and Santa Fe	Springs		Source:	Satinwood C	t.								Analyst:	Z. Ibrahim
							Hourly L _{eq} d	IBA Readings	(unadjusted)							
85.0	0															
₹ ^{80.0}																
B 70.0	0 +															
- 65.0 - 60.0	0		. 9	64.7	68.0	<mark>68.5</mark> 67.8	68.1 68.1	00./	<mark></mark>	67.1	66.4	67.4	6.5		66.6	
λμηση 55.0 50.0 45.0 40.0	60.2	58.8	62.6	- ⁶					9 - 3	<mark>6 6</mark>		5 - 0 -	<mark></mark>	<mark></mark>	62.	62.
- 40.0	0 ++	_ v					+ +					+ +		+ +		
35.0	0 + + 0	1 2	3	4 5	6	7 8	9 1	.0 11	12 1	.3 14	15 10	6 17	18 19	20	21 22	23
	0	1 2	J	+ J	0	, 0	5 1		eginning	.5 14	15 1	0 17	10 15	20	21 22	23
Timeframe	Hour	L _{eq}	L _{max}	L min	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	L _{eq}	Adj.	Adj. L _{eq}
	0	60.2 58.8	71.6 69.4	42.0	71.3 69.0	70.6 68.4	67.8 66.5	65.4 64.7	58.7 57.8	51.9 50.4	43.2 43.8	42.6 43.4	42.1 43.0	60.2 58.8	10.0	70.2
	2	60.5	71.5	42.8 41.7	71.0	70.3	67.9	65.9	57.8	50.4	43.8	43.4	43.0	58.8 60.5	10.0 10.0	68.8 70.5
Night	3	62.6	73.0	43.8	72.6	72.0	69.7	68.1	62.5	56.0	45.7	44.7	44.0	62.6	10.0	72.6
Ŭ	4	64.7	74.8	47.0	74.3	73.4	71.0	69.6	65.3	59.9	49.4	48.2	47.2	64.7	10.0	74.7
	5	66.7	75.3	52.1	74.8	74.2	72.4	71.4	67.9	63.8	55.4	54.0	52.5	66.7	10.0	76.7
	6	68.0	77.7	54.1	77.0	75.8	73.3	71.9	69.0	65.6	57.7	55.9	54.2	68.0	10.0	78.0
	7 8	68.5 67.8	78.6 76.7	55.1 56.2	77.8 76.3	76.6 75.6	74.2 73.1	72.6 71.5	69.1 68.6	66.0 65.7	58.2 59.0	56.6 57.6	55.4 56.4	68.5 67.8	0.0 0.0	68.5 67.8
	9	68.1	78.7	54.2	70.3	73.0	73.1	72.1	68.2	64.9	57.7	56.1	54.5	68.1	0.0	68.1
	10	66.7	75.6	52.5	75.0	74.2	71.9	70.9	67.8	64.4	55.5	53.9	52.7	66.7	0.0	66.7
	11	66.6	75.7	53.2	75.1	74.3	71.9	70.5	67.4	64.3	56.5	54.7	53.4	66.6	0.0	66.6
	12	66.8	75.6	53.8	75.1	74.4	72.1	70.8	67.6	64.8	57.3	55.3	54.1	66.8	0.0	66.8
	13	66.1	74.0	54.0	73.5	72.7	71.0	70.1	67.2	64.4	57.4	55.9	54.2	66.1	0.0	66.1
Day	14 15	67.1 66.4	77.2 75.2	53.9 54.1	76.4 74.8	75.5 74.0	72.6 71.7	70.5 70.4	67.7 67.3	64.8 64.0	57.0 56.9	55.4 55.4	54.2 54.3	67.1 66.4	0.0 0.0	67.1 66.4
	15 16	66.4 66.7	75.2	54.1 55.8	74.8 74.5	74.0	71.7	70.4	67.3 67.4	64.0 64.6	56.9 58.6	55.4 57.4	54.3 56.0	66.4 66.7	0.0	66.4 66.7
	17	67.4	78.3	52.1	77.9	77.3	73.8	71.4	67.3	64.3	55.7	53.7	52.3	67.4	0.0	67.4
	18	66.5	75.9	53.2	75.4	74.6	72.1	70.4	67.2	63.9	56.5	54.8	53.5	66.5	0.0	66.5
	19	66.2	75.6	52.3	75.2	74.3	71.8	70.1	67.2	63.7	55.5	53.9	52.7	66.2	5.0	71.2
	20	65.1	74.9	50.9	74.4	73.7	71.0	69.6	65.8	61.7	54.2	52.7	51.2	65.1	5.0	70.1
	21 22	66.6 62.2	78.6	48.4	77.8	76.9 70.6	73.2	70.9 67.2	65.8	61.2 57.9	51.1	49.6	48.6 47.3	66.6	5.0 10.0	71.6
Night	22	62.2	71.7	47.1 47.9	71.3	70.6	68.3 69.7	67.2 68.6	63.0 62.9	57.9	49.9 50.2	48.6 49.2	47.3	62.2 62.9	10.0	72.2
Timeframe	Hour	L _{eq}	L max	L _{min}	L1%	L2%	L5%	L8%	L25%	L50%	L90%	L95%	L99%	24-Hour		(dBA)
Day	Min	65.1	74.0	48.4	73.5	72.7	71.0	69.6	65.8	61.2	51.1	49.6	48.6	24-Hour CNEL	Daytime	Nighttime
,	Max	68.5	78.7	56.2	78.1	77.3	74.2	72.6	69.1	66.0	59.0	57.6	56.4	CNEE	(7am-10pm)	(10pm-7an
Energy	Average Min	<u>66.9</u> 58.8	69.4	rage: 41.7	75.8 69.0	74.9 68.4	72.4 66.5	70.8 64.7	67.5 57.8	<u>64.2</u> 50.4	56.5 43.2	54.9 42.5	53.6 41.8	71.3	66.9	64.0
Night	Max	58.8 68.0	69.4 77.7	41.7 54.1	69.0 77.0	58.4 75.8	73.3	64.7 71.9	57.8 69.0	50.4 65.6	43.2 57.7	42.5 55.9	41.8 54.2	1.2	00.9	04.0
Energy	Average	64.0		rage:	72.6	71.9	69.6	68.1	63.0	57.3	48.8	47.7	46.7			





APPENDIX 7.1:

OFF-SITE TRAFFIC NOISE LEVEL CALCULATIONS





		0-77-108 HIGH	WAY NO	ISE PREI						
Scenario Road Name	o: E e: Norwalk Bl∖	vd.				t Name: 1 Number: 1		elegraph a	and SFS	
Road Segmen	t: n/o Telegra	ph Rd.								
	PECIFIC IN	PUT DATA						L INPUTS	3	
Highway Data				Site C	onditions	(Hard =	10, So	ft = 15)		
Average Daily 1	raffic (Adt):	11,780 vehicle	s				Autos:	15		
Peak Hour H	Percentage:	10.00%			Medium Ti	rucks (2 A	(xles)	15		
Peak Ho	our Volume:	1,178 vehicles			Heavy Tru	icks (3+ A	(xles):	15		
Veh	icle Speed:	40 mph		Vehic	e Mix					
Near/Far Lan	e Distance:	70 feet			ehicleTyp	e .	Dav	Evening	Night	Daily
Site Data							77.5%	•	9.6%	,
Bar	rier Height:	0.0 feet			Medium 1	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa	•	0.0			Heavy 1	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	50.0 feet		Noise	Source E	levations	: (in fe	et)		
Centerline Dist. t	o Observer:	50.0 feet			Auto		000			
Barrier Distance t	o Observer:	0.0 feet		Me	lium Truck		297			
Observer Height (A	Above Pad):	5.0 feet			avy Truci		004	Grade Adj	ustment	0.0
	d Elevation:	0.0 feet								
	d Elevation:	0.0 feet		Lane	Equivalen			feet)		
R	oad Grade:	0.0%			Auto					
	Left View:	-90.0 degree			lium Truck					
	Right View:	90.0 degree	s	H	eavy Truci	(s: 35.)	333			
FHWA Noise Mode	I Calculation:	5								
VehicleType	REMEL	Traffic Flow	Distan		ite Road	Fresn		Barrier Atte	-	m Atten
Autos:	66.51	-0.73		2.03	-1.20		-4.65	0.0		0.00
Medium Trucks:	77.72	-17.97		2.07	-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-21.92		2.07	-1.20		-5.43	0.0	00	0.00
Unmitigated Noise					<i>,</i>					
	Leq Peak Hou			q Evening		Night		Ldn		VEL
Autos:	66		64.7		2.9	56.9		65.5		66.
Medium Trucks:	60		59.1		2.8	51.2		59.7		59.
Heavy Trucks:	61		50.5 C. 0		.5	52.7		61.1		61.
Vehicle Noise:	68		6.9	6	8.6	59.1		67.6		68.
Centerline Distance	e to Noise Co	ntour (in feet)								
			∟	70 dBA		dBA	6	0 dBA	55	dBA
			Ldn: IEL:		85 87	75 80		161 172		346 371

	FHWA-RD-	77-108 HIGHW	AY NC	DISE PREDIC		IODEL (9/12/2	021)		
Scenario:	EP							Telegraph	and SFS	
Road Name:					Job I	lumber:	15643			
Road Segment:	n/o Telegraph	n Rd.								
SITE SP	ECIFIC INP	UT DATA			I	NOISE N	IODE	L INPUT	S	
Highway Data				Site Cor	nditions	(Hard =	10, Sc	oft = 15)		
Average Daily Tra	affic (Adt): 1	2,687 vehicles					Autos:	15		
Peak Hour Pe	rcentage: 1	0.00%		Me	edium Tr	ucks (2 A	Axles):	15		
Peak Hou	r Volume: 1	,269 vehicles		He	eavy Tru	cks (3+ A	Axles):	15		
Vehic	le Speed:	40 mph		Vehicle	Mix					
Near/Far Lane	Distance:	70 feet			icleType	e	Dav	Evenina	Night	Dailv
Site Data							77.5%	12.9%	9.6%	94.30
Barrie	r Height:	0.0 feet		М	ledium T	rucks:	84.8%	4.9%	10.3%	2.829
Barrier Type (0-Wall,	•	0.0 1001			Heavy T	rucks:	86.5%	2.7%	10.8%	2.88
Centerline Dist.	,	50.0 feet		Noise S	ourco E	lovation	r (in fr	oot		
Centerline Dist. to	Observer:	50.0 feet		140/36 3	Auto		000	eey		
Barrier Distance to	Observer:	0.0 feet		Modiu	m Truck		297			
Observer Height (Ab	ove Pad):	5.0 feet			vy Truck		207	Grade Ad	iustment	
Pad	Elevation:	0.0 feet		neu	vy mach		-00	0,000,10	aotinoin	. 0.0
Road	Elevation:	0.0 feet		Lane Eq	uivalen	t Distand	ce (in i	feet)		
Ro	ad Grade:	0.0%			Auto					
	Left View:	-90.0 degrees			m Truck					
R	ight View:	90.0 degrees		Hea	vy Truck	s: 35.	833			
FHWA Noise Model (Calculations									
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	-0.55		2.03	-1.20		-4.65	0.0	000	0.00
Medium Trucks:	77.72	-15.79		2.07	-1.20		-4.87	0.0	000	0.00
Heavy Trucks:	82.99	-15.70		2.07	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise L	evels (withou	It Topo and b	arrier a	ttenuation)						
VehicleType Le	q Peak Hour	Leq Day	Le	eq Evening	Leq	Night		Ldn	CI	NEL
Autos:	66.8		4.9	63.1		57.1		65.		66
Medium Trucks:	62.8		1.3	54.9		53.4		61.		62
Heavy Trucks:	68.2		6.7	57.7		59.0		67.3		67
Vehicle Noise:	71.2	6	9.6	64.7		61.8	3	70.3	3	70
Centerline Distance	o Noise Con	tour (in feet)								
				70 dBA	65	dBA		60 dBA		dBA
			dn:	52		112		242		52
		CN	- 1 · ·	55		118		253		546

Tuesday, July 30, 2024

			TION MODE				
Scenario: OYC			Project Nan			and SFS	
Road Name: Norwalk Blvd.			Job Numb	er: 15643			
Road Segment: n/o Telegraph Rd.							
SITE SPECIFIC INPUT DATA					L INPUTS	5	
Highway Data		Site Con	ditions (Har	d = 10, So	oft = 15)		
Average Daily Traffic (Adt): 15,590 vehicles				Autos:			
Peak Hour Percentage: 10.00%		Me	dium Trucks	(2 Axles):	15		
Peak Hour Volume: 1,559 vehicles		He	avy Trucks (3+ Axles):	15		
Vehicle Speed: 40 mph		Vehicle	Mix				
Near/Far Lane Distance: 70 feet			icleType	Day	Evening	Night	Daily
Site Data			Autos	: 77.5%	12.9%	9.6%	97.429
Barrier Height: 0.0 feet		м	edium Trucks	: 84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm): 0.0		I	Heavy Trucks	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barrier: 50.0 feet		Noise So	ource Elevat	ions (in f	eet)		
Centerline Dist. to Observer: 50.0 feet			Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heav	y Trucks:	8.004	Grade Adj	ustment.	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Eq	uivalent Dis		feet)		
Road Grade: 0.0%			Autos:	36.056			
Left View: -90.0 degrees			m Trucks:	35.809			
Right View: 90.0 degrees		Heat	y Trucks:	35.833			
FHWA Noise Model Calculations							
	Distance			resnel	Barrier Atte		m Atten
Autos: 66.51 0.49	-	.03	-1.20	-4.65	0.0		0.00
Medium Trucks: 77.72 -16.75	-	.07	-1.20	-4.87	0.0		0.00
Heavy Trucks: 82.99 -20.71	2	.07	-1.20	-5.43	0.0	00	0.00
Unmitigated Noise Levels (without Topo and ba			Les Allerte		Ldn		VEL
VehieleTupe Lee Deak Hour Lee Dev		Evening 64.2	Leq Nigh	58.1	66.7		VEL 67
VehicleType Leq Peak Hour Leq Day		04.2		52.4	60.9		61
Autos: 67.8 65		54 O			00.9		62
Autos: 67.8 65 Medium Trucks: 61.8 60	.3	54.0		52.0	62.2		
Autos: 67.8 65 Medium Trucks: 61.8 60 Heavy Trucks: 63.2 61	.3 .7	52.7		53.9	62.3		
Autos: 67.8 65 Medium Trucks: 61.8 60 Heavy Trucks: 63.2 61 Vehicle Noise: 69.8 68	.3 .7			53.9 60.3	62.3 68.8		
Autos: 67.8 65 Medium Trucks: 61.8 60 Heavy Trucks: 63.2 61	.3 .7 .1	52.7		60.3		1	
Autos: 67.8 65 Medium Trucks: 61.8 60 Heavy Trucks: 63.2 61 Vehicle Noise: 69.8 68	.3 .7 .1	52.7 64.8		60.3	68.8	1	69.

	FHWA-RI	D-77-108 HIGH	WAY NO	DISE	PREDICTIC	ON MODEL	(9/12/2	:021)		
	io: OYCP					oject Name:			and SFS	
Road Nan	e: Norwalk Bl	vd.			J	ob Number:	15643	1		
Road Segme	nt: n/o Telegra	iph Rd.								
SITE	SPECIFIC IN	IPUT DATA				NOISE	MOD	EL INPUTS	5	
Highway Data				S	ite Conditi	ons (Hard =	: 10, S	oft = 15)		
Average Daily	Traffic (Adt):	16,497 vehicle	es				Autos	: 15		
Peak Hour	Percentage:	10.00%			Mediur	n Trucks (2	Axles)	: 15		
Peak H	lour Volume:	1,650 vehicle	s		Heavy	Trucks (3+	Axles)	: 15		
Ve	hicle Speed:	40 mph		V	ehicle Mix					
Near/Far La	ne Distance:	70 feet		-	Vehicle	Type	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	-		95.029
Ba	rrier Height:	0.0 feet			Mediu	m Trucks:	84.89		10.3%	2.59
Barrier Type (0-W	•	0.0			Hea	vy Trucks:	86.5%	6 2.7%	10.8%	2.389
	st. to Barrier:	50.0 feet			laiaa Caure	e Elevation	o (in i	in nti		
Centerline Dist.	to Observer:	50.0 feet		/1				eel)		
Barrier Distance	to Observer:	0.0 feet			Medium T		.000 .297			
Observer Height	(Above Pad):	5.0 feet			Heavy T		.297 .004	Grade Adj	uctmont	
P	ad Elevation:	0.0 feet			neavy i	10083. 0	.004	Orade Auj	usiment	0.0
Ro	ad Elevation:	0.0 feet		L	ane Equiva	alent Distan	ce (in	feet)		
	Road Grade:	0.0%				Autos: 36	.056			
	Left View:	-90.0 degre	es		Medium T	rucks: 35	.809			
	Right View:	90.0 degree	es		Heavy T	rucks: 35	.833			
FHWA Noise Mod	el Calculation	s								
VehicleType	REMEL	Traffic Flow	Distar	псе	Finite Ro	ad Fres	nel	Barrier Atte	en Ber	m Atten
Autos:	66.51	0.63		2.03	i -1	.20	-4.65	0.0	00	0.00
Medium Trucks:	77.72	-15.01		2.07	'-1	.20	-4.87	0.0	00	0.00
				2.07			-5.43	0.0	00	0.00
Heavy Trucks:	82.99	-15.38		2.07	-1	.20	0.70			
						.20	0.10			
Unmitigated Noise VehicleType	e Levels (with Leq Peak Hou	out Topo and Ir Leq Day	barrier a	attenu	iation) ening	Leq Night		Ldn		VEL
Unmitigated Noise VehicleType Autos:	e Levels (with Leq Peak Hou 68	out Topo and Ir Leq Day	<i>barrier a</i> / Lo 66.1	attenu	ening 64.3	Leq Night 58.	2	66.9)	67.
Unmitigated Noise VehicleType Autos: Medium Trucks:	e Levels (with Leq Peak Hou 68 63	out Topo and ur Leq Day 3.0	barrier a / Lo 66.1 62.1	attenu	ening 64.3 55.7	Leq Night 58. 54.	2	66.9 62.6)	67. 62.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	e Levels (with Leq Peak Hou 68 63 63	out Topo and ur Leq Day 0.0 0.6 0.5	barrier a / L 66.1 62.1 67.1	attenu	ening 64.3	Leq Night 58.	2	66.9 62.6 67.6) ; ;	67. 62. 67.
Unmitigated Noise VehicleType Autos: Medium Trucks:	e Levels (with Leq Peak Hou 68 63 63	out Topo and ur Leq Day 0.0 0.6 0.5	barrier a / Lo 66.1 62.1	attenu	ening 64.3 55.7	Leq Night 58. 54.	2 2 3	66.9 62.6) ; ;	67. 62. 67.
Unmitigated Nois VehicleType Autos: Medium Trucks: Heavy Trucks:	e Levels (with Leg Peak Hou 68 63 68 71	out Topo and Ir Leq Day 0.0 0.6 0.5 .9	barrier a / Lo 66.1 62.1 67.1 70.3	attenu eq Evi	ening 64.3 55.7 58.0 65.7	Leq Night 58. 54. 59. 62.	2 2 3 5	66.9 62.6 67.6 71.0) ;)	67. 62. 67. 71.
Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hou 68 63 68 71	out Topo and Ir Leq Day 1.0 1.5 1.5 1.9 Dontour (in feet	barrier a 66.1 62.1 67.1 70.3)	attenu	ening 64.3 55.7 58.0 65.7 BA	Leq Night 58. 54. 59. 62. 65 dBA	2 2 3 5	66.9 62.6 67.6 71.0) ;)	67. 62. 67. 71. dBA
Unmitigated Nois Vehicle Type Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hou 68 63 68 71	out Topo and r Leq Day 1.0 1.6 1.5 1.5 1.5 1.5 1.5 1.5 1.5 1.5	barrier a / Lo 66.1 62.1 67.1 70.3	attenu eq Evi	ening 64.3 55.7 58.0 65.7	Leq Night 58. 54. 59. 62.	2 2 3 5	66.9 62.6 67.6 71.0) ;)	67. 62. 67. 71.

	FHWA-RD	0-77-108 HIGH	WAY NC	ISE PREDI		IODEL (S	9/12/2	021)		
Scenario: Road Name: Road Segment:	Norwalk Blv					t Name: 1 lumber: 1		Telegraph a	and SFS	
	PECIFIC IN	IPUT DATA						L INPUTS	3	
Highway Data				Site Co.	nditions	(Hard =	10, So	oft = 15)		
Average Daily Tra	affic (Adt):	15,570 vehicle	s				Autos:	15		
Peak Hour Pe	ercentage:	10.00%		М	edium Tr	ucks (2 A	(xles)	15		
Peak Hou	ır Volume:	1,557 vehicles	5	н	eavy Tru	cks (3+ A	(xles):	15		
	cle Speed:	40 mph		Vehicle	Mix					
Near/Far Lane	Distance:	70 feet			hicleType		Day	Evening	Night	Daily
Site Data				-			77.5%	•	9.6%	97.429
Barrie	er Heiaht:	0.0 feet		٨	1edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall	, 1-Berm):	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.	to Barrier:	50.0 feet		Noico S	ourco E	levations	(in f	noti		
Centerline Dist. to	Observer:	50.0 feet		NOISE 3	Auto		000	eeij		
Barrier Distance to	Observer:	0.0 feet		Medii	Im Truck		297			
Observer Height (Ab	ove Pad):	5.0 feet			vy Truck		004	Grade Adj	ustment	0.0
Pad	Elevation:	0.0 feet			·					
Road	Elevation:	0.0 feet		Lane Ed		t Distanc		feet)		
	ad Grade:	0.0%			Auto					
	Left View:	-90.0 degree			ım Truck					
R	Right View:	90.0 degree	s	Hea	vy Truck	s: 35.0	333			
FHWA Noise Model	Calculation	s								
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	e Road	Fresn	-	Barrier Atte	en Ber	m Atten
Autos:	66.51	0.48		2.03	-1.20		-4.65	0.0		0.00
Medium Trucks:	77.72	-16.75		2.07	-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-20.71		2.07	-1.20		-5.43	0.0	00	0.00
Unmitigated Noise L				,						
	eq Peak Hou			q Evening		Night		Ldn		VEL
Autos:	67		65.9	64.2	-	58.1		66.7		67.3
Medium Trucks:	61		60.3	54.0	-	52.4		60.9		61.
Heavy Trucks:	63		61.7	52.		53.9		62.3		62.4
Vehicle Noise:	69	.8	68.1	64.8	5	60.3	1	68.8		69.3
Centerline Distance	to Noise Co	ontour (in feet)	_				_			
			ட	70 dBA		dBA		60 dBA	55	dBA
			Ldn:	42		90		194		417
		~	IEL:	45		96		207		447

FHV	A-RD-/	7-108 HIGH	WAT	NUISE	PREDIC		NODEL (9/12/2	021)		
Scenario: EP									Telegraph	and SFS	
Road Name: Norwa						Job I	Number:	15643			
Road Segment: s/o Te	elegraph	Rd.									
SITE SPECIF	IC INP	UT DATA							L INPUT	S	
Highway Data					Site Cond	ditions	; (Hard =	10, Se	oft = 15)		
Average Daily Traffic (A	dt): 15	5,668 vehicle	es					Autos:	15		
Peak Hour Percenta	age: 10	0.00%			Med	dium T	rucks (2)	Axles):	15		
Peak Hour Volu	me: 1,	567 vehicle	s		Hea	avy Tru	ıcks (3+)	Axles):	15		
Vehicle Spe	ed:	40 mph		1	Vehicle N	lix					
Near/Far Lane Distar	nce:	70 feet		Ē		cleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%		9.6%	97.449
Barrier Hei	aht:	0.0 feet			Me	dium 1	Trucks:	84.8%	4.9%	10.3%	1.839
Barrier Type (0-Wall, 1-Be		0.0			H	leavy T	rucks:	86.5%	5 2.7%	10.8%	0.74
Centerline Dist. to Bar		50.0 feet		-	Noise So	uree E	Invotion	a (in f	a a fi		
Centerline Dist. to Obser	ver:	50.0 feet		ŕ	voise 30	Auto		000	eelj		
Barrier Distance to Obser	ver:	0.0 feet			Mediun			297			
Observer Height (Above P	ad):	5.0 feet				y Truci		257	Grade Ad	iustment	· 0.0
Pad Elevat	ion:	0.0 feet								Juotinioni	. 0.0
Road Elevat		0.0 feet		1	Lane Equ				feet)		
Road Gra	ade:	0.0%				Auto		056			
Left Vi		-90.0 degree			Mediun			809			
Right V	iew:	90.0 degree	es		Heav	y Truci	ks: 35.	833			
FHWA Noise Model Calcul	ations										
VehicleType REME	L T	raffic Flow	Di	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atten
Autos:	6.51	0.51		2.0	3	-1.20		-4.65	0.0	000	0.00
	77.72	-16.75		2.0		-1.20		-4.87		000	0.00
Heavy Trucks:	32.99	-20.71		2.0	7	-1.20		-5.43	0.0	000	0.00
Unmitigated Noise Levels	(withou	t Topo and	barri	ier atten	uation)						
VehicleType Leq Pea		Leq Day		Leq E	vening	Leq	Night		Ldn		NEL
Autos:	67.8		66.0		64.2		58.		66.		67.
Medium Trucks:	61.8		60.3		54.0		52.4		60.9		61.
Heavy Trucks:	63.2		61.7		52.7		53.9		62.		62
Vehicle Noise:	69.9		68.1		64.9		60.3	3	68.	В	69.
Centerline Distance to Noi	se Cont	our (in feet,)			_			-		
			L	70 0	dBA	65	dBA		50 dBA		dBA
			Ldn:		42		90		194		41
			NEL :		45		97		208		44

Tuesday, July 30, 2024

FHWA	RD-	77-108 HIGH\	٧A١	Y NOISI	E PI	REDIC		IODEL (9/12/2	2021)	_		
Scenario: OYC Road Name: Norwalk Road Segment: s/o Teleg								Name: lumber:			aph and	1 SFS	
SITE SPECIFIC	INP	UT DATA					Ν	IOISE I	NOD	EL INP	UTS		
Highway Data					Sit	e Con	ditions	(Hard =	10, S	oft = 15	5)		
Average Daily Traffic (Adt)	: 1	6,330 vehicle	s						Autos				
Peak Hour Percentage	: 1	0.00%				Me	dium Tr	ucks (2	4xles)	: 15			
Peak Hour Volume	: 1	,633 vehicles				He	avy Tru	cks (3+ ,	Axles)	: 15			
Vehicle Speed	2	40 mph			Ve	hicle l	Mix						
Near/Far Lane Distance	:	70 feet					icleType		Day	Eveni	ing N	light	Daily
Site Data								Autos:	77.5%	6 12.9	9%	9.6%	97.429
Barrier Height		0.0 feet				М	edium T	rucks:	84.8%	6 4.9	9% 1	0.3%	1.84%
Barrier Type (0-Wall, 1-Berm)	:	0.0				ŀ	Heavy T	rucks:	86.5%	6 2.3	7% 1	0.8%	0.74%
Centerline Dist. to Barrier		50.0 feet			No	ise So	ource E	levation	s (in t	feet)			
Centerline Dist. to Observer		50.0 feet					Auto		000	,			
Barrier Distance to Observer		0.0 feet				Mediu	m Truck		297				
Observer Height (Above Pad)		5.0 feet					vy Truck		004	Grade	Adjus	tment:	0.0
Pad Elevation		0.0 feet					·						
Road Elevation		0.0 feet			La	ne Eq		t Distan		feet)			
Road Grade		0.0%					Auto	- 00	056				
Left View Right View	-	-90.0 degrees 90.0 degrees					m Truck vy Truck		809 833				
FHWA Noise Model Calculati		oo.o dogroo											
VehicleType REMEL		Traffic Flow	Di	istance		Finite	Road	Fresi	nel	Barrier	r Atten	Berr	n Atten
Autos: 66.	51	0.69		2.0	03		-1.20		-4.65		0.000)	0.00
Medium Trucks: 77.	72	-16.55		2.0	07		-1.20		-4.87		0.000)	0.00
Heavy Trucks: 82.	99	-20.50		2.0	07		-1.20		-5.43		0.000)	0.00
Unmitigated Noise Levels (wi	ithou	It Topo and b	arri	ier attei	nua	tion)							
VehicleType Leq Peak F		Leq Day		Leq E	Eve	•	Leq	Night		Ldn		CN	IEL
	68.0		6.1			64.4		58.			66.9		67.
	62.0		0.5			54.2		52.			61.1		61.
	63.4		1.9			52.9		54.			62.5		62.
Vehicle Noise:	70.1		8.3			65.0		60.	2		69.0		69.
Centerline Distance to Noise	Con	tour (in feet)		70	dB,	٨	65	dBA		60 dBA			dBA
		,	.dn:		uB,	A 43	00	<i>ава</i> 93	_		200	55	ава 431
			EL:			43		93			200		43
		Ch				40		33			214		40

		0-77-108 HIGH					,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	5/ TL/L	021)		
Scenar	rio: OYCP					Project I	Vame: I	NWC	Telegraph	and SFS	
Road Nan	ne: Norwalk Bl	/d.				Job Nu	mber:	15643			
Road Segme	e <i>nt:</i> s/o Telegra	ph Rd.									
SITE	SPECIFIC IN	IPUT DATA							LINPUT	S	
Highway Data				5	Site Cond	ditions (l	Hard =	10, Se	oft = 15)		
Average Daily	Traffic (Adt):	16,428 vehicle	es					Autos:	15		
Peak Hour	r Percentage:	10.00%			Med	dium Tru	cks (2 A	Axles):	15		
Peak H	Hour Volume:	1,643 vehicles	5		Hea	avy Truck	ks (3+ A	Axles):	15		
Ve	ehicle Speed:	40 mph		1	Vehicle N	lix					
Near/Far La	ane Distance:	70 feet		F		cleType		Day	Evening	Night	Daily
Site Data						A	utos:	77.5%	12.9%	9.6%	97.44%
Ba	arrier Height:	0.0 feet			Me	dium Tru	icks:	84.8%	4.9%	10.3%	1.83%
Barrier Type (0-V	•	0.0			h	leavy Tru	icks:	86.5%	2.7%	10.8%	0.74%
Centerline D	ist. to Barrier:	50.0 feet			Noise So	urco Elo	vation	s (in fi	oof)		
Centerline Dist.	to Observer:	50.0 feet		ŕ	10/30 00	Autos.		000			
Barrier Distance	to Observer:	0.0 feet			Madium	n Trucks.		297			
Observer Height	(Above Pad):	5.0 feet				y Trucks.		297 D04	Grade Ad	iustment	0.0
P	ad Elevation:	0.0 feet			neav.	y mucks.	0.	JU4	Orade Au	ustinent.	0.0
Ro	ad Elevation:	0.0 feet		L	Lane Equ	ivalent l	Distand	ce (in	feet)		
	Road Grade:	0.0%				Autos.	36.	056			
	Left View:	-90.0 degree	es		Mediun	n Trucks.	35.	809			
	Right View:	90.0 degree	es		Heav	y Trucks.	35.	833			
FHWA Noise Mod	lel Calculation	s									
VehicleType											
venicierype	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Autos:	66.51	Traffic Flow 0.72	Dista	nce 2.03		Road -1.20		el -4.65		en Ben 000	
Autos: Medium Trucks:	66.51 77.72	0.72 -16.55	Dista	2.03	3 7	-1.20 -1.20		-4.65 -4.87	0.0	000	0.00 0.00
Autos:	66.51 77.72	0.72	Dista	2.03	3 7	-1.20		-4.65	0.0	000	0.00 0.00
Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois	66.51 77.72 82.99 82.99	0.72 -16.55 -20.50 put Topo and	barrier	2.03 2.07 2.07 attent	3 7 7 uation)	-1.20 -1.20 -1.20		-4.65 -4.87	0.0 0.0 0.0	000	0.00 0.00 0.00
Autos: Medium Trucks: Heavy Trucks: Jnmitigated Nois VehicleType	66.51 77.72 82.99 e Levels (with Leq Peak Hou	0.72 -16.55 -20.50 Dut Topo and Ir Leq Day	barrier	2.03 2.07 2.07 attent	3 7 7 uation) vening	-1.20 -1.20	light	-4.65 -4.87 -5.43	0.0 0.0 0.0	000 000 000 <i>CI</i>	0.00 0.00 0.00 VEL
Autos: Medium Trucks: Heavy Trucks: Unmitigated Nois VehicleType Autos:	66.51 77.72 82.99 e Levels (with Leq Peak Hou 68	0.72 -16.55 -20.50 out Topo and r Leq Day .1	barrier L	2.03 2.07 2.07 attent	3 7 7 <i>uation)</i> <i>vening</i> 64.4	-1.20 -1.20 -1.20	light 58.3	-4.65 -4.87 -5.43	0.0 0.0 0.0 <i>Ldn</i> 67.0	000 000 000 <i>CI</i>	0.00 0.00 0.00 <u>VEL</u> 67.
Autos: Medium Trucks: Heavy Trucks: Jnmitigated Nois: VehicleType Autos: Medium Trucks:	66.51 77.72 82.99 e Levels (with Leq Peak Hou 68 68	0.72 -16.55 -20.50 out Topo and ir Leq Day .1 .0	barrier L 66.2 60.5	2.03 2.07 2.07 attent	3 7 7 <i>uation)</i> <i>vening</i> 64.4 54.2	-1.20 -1.20 -1.20	light 58.3 52.6	-4.65 -4.87 -5.43	0.0 0.0 0.0 <u>Ldn</u> 67.0 61.1	000 000 000 000 <i>C1</i>	0.00 0.00 0.00 <u>VEL</u> 67. 61.
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks:	66.51 77.72 82.99 e Levels (with Leg Peak Hou 68 62 63	0.72 -16.55 -20.50 out Topo and ir Leq Day .1 .0 .4	barrier 66.2 60.5 61.9	2.03 2.07 2.07 attent	3 7 7 <i>vening</i> 64.4 54.2 52.9	-1.20 -1.20 -1.20	light 58.3 52.6 54.1	-4.65 -4.87 -5.43	0.0 0.0 0.0 <u>Ldn</u> 67.0 61. ⁻ 62.8	000 000 000 000 000 000 00 0 1 5	0.00 0.00 0.00 VEL 67. 61. 62.
Autos: Medium Trucks: Heavy Trucks: Jnmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hou 68 63 63 63 70	0.72 -16.55 -20.50 Dut Topo and <i>I</i> .0 .0 .4 .1	barrier 1 66.2 60.5 61.9 68.3	2.03 2.07 2.07 attent	3 7 7 <i>uation)</i> <i>vening</i> 64.4 54.2	-1.20 -1.20 -1.20	light 58.3 52.6	-4.65 -4.87 -5.43	0.0 0.0 0.0 <u>Ldn</u> 67.0 61.1	000 000 000 000 000 000 00 0 1 5	0.00 0.00 0.00 VEL 67. 61. 62.
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks:	e Levels (with Leg Peak Hou 68 63 63 63 70	0.72 -16.55 -20.50 Dut Topo and <i>I</i> .0 .0 .4 .1	barrier 1 66.2 60.5 61.9 68.3	2.03 2.07 2.07 attent .eq Ev	3 7 7 <i>vening</i> 64.4 54.2 52.9 65.1	-1.20 -1.20 -1.20 <i>Leq N</i>	light 58.3 52.6 54.1 60.5	-4.65 -4.87 -5.43	0.0 0.0 0.0 67.0 61. 62.5 69.0	000 000 000 000 1 5 0	0.00 0.00 0.00 <u>VEL</u> 67. 61. 62. 69.
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hou 68 63 63 63 70	0.72 -16.55 -20.50 but Topo and <i>r</i> Leq Day .1 .0 .4 .1 .1 .0 .1	barrier 6 66.2 60.5 61.9 68.3	2.03 2.07 2.07 attent	3 7 7 <i>vening</i> 64.4 54.2 52.9 65.1	-1.20 -1.20 -1.20	light 58.3 52.6 54.1 60.5 BA	-4.65 -4.87 -5.43	0.0 0.0 0.0 67.0 67.0 61.1 62.3 69.0	000 000 000 000 1 5 5 55	0.000 0.000 NEL 67.1 61.3 62.1 69.3
Autos: Medium Trucks: Heavy Trucks: Unmitigated Noiss VehicleType Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	e Levels (with Leg Peak Hou 68 63 63 63 70	0.72 -16.55 -20.50 <i>out Topo and</i> <i>r</i> Leq Day .1 .0 .4 .1 .1	barrier 1 66.2 60.5 61.9 68.3	2.03 2.07 2.07 attent .eq Ev	3 7 7 <i>vening</i> 64.4 54.2 52.9 65.1	-1.20 -1.20 -1.20 <i>Leq N</i>	light 58.3 52.6 54.1 60.5	-4.65 -4.87 -5.43	0.0 0.0 0.0 67.0 61. 62.5 69.0	000 000 000 1 5 0 55	0.000 0.000 VEL 67.6 61.3 62.6 69.3

	FHWA-RD	-77-108 HIGH	WAY NO	ISE PREDI		IODEL (S	9/12/20	021)		
Scenario Road Name Road Segmen	e: Santa Fe S					t Name: N lumber: 1		Telegraph a	and SFS	
	SPECIFIC IN	PUT DATA						L INPUTS	3	
Highway Data				Site Co	nditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	22,780 vehicle	s				Autos:	15		
Peak Hour I	Percentage:	10.00%		M	edium Tr	ucks (2 A	xles):	15		
Peak Ho	our Volume:	2,278 vehicles		h	eavy Tru	cks (3+ A	xles):	15		
	icle Speed:	40 mph		Vehicle	Mix					
Near/Far Lar	ne Distance:	70 feet			hicleType		Dav	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.42%
Bar	rier Height:	0.0 feet			1edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wa	•	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	t. to Barrier:	50.0 feet		Noico	ourco E	levations	(in fo	nof)		
Centerline Dist. t	o Observer:	50.0 feet		Noise	Auto		000	eij		
Barrier Distance t	o Observer:	0.0 feet		Medi	um Truck		297			
Observer Height (/	Above Pad):	5.0 feet			wy Truck		004	Grade Adj	ustment	0.0
Pa	d Elevation:	0.0 feet			·					
	d Elevation:	0.0 feet		Lane E		t Distanc		feet)		
F	Road Grade:	0.0%			Auto					
	Left View:	-90.0 degree			um Truck					
	Right View:	90.0 degree	s	Hea	wy Truck	s: 35.8	333			
FHWA Noise Mode	I Calculations									
VehicleType	REMEL	Traffic Flow	Distand		e Road	Fresn	-	Barrier Atte		m Atten
Autos:	66.51	2.14		2.03	-1.20		-4.65	0.0		0.00
Medium Trucks:	77.72	-15.10		2.07	-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-19.06		2.07	-1.20		-5.43	0.0	00	0.00
Unmitigated Noise			-	,			•			
	Leq Peak Hou			q Evening		Night		Ldn		NEL
Autos:	69		67.6	65.	-	59.8		68.4		69.
Medium Trucks:	63		52.0	55.	-	54.1		62.5		62.
Heavy Trucks:	64		53.4	54.		55.6		63.9		64.
Vehicle Noise:	71	.5	69.8	66.	C	61.9		70.5)	70.9
Centerline Distanc	e to Noise Co	ntour (in feet)	1				-			
				70 dBA		dBA	6	0 dBA	55	dBA
			Ldn: IEL:	54		116 124		250		538
		Cr	IEL:	58		124		267		576

FHW	A-RD-I	77-108 HIGH	WAI	NUISE	PREDIC		NODEL (9/12/2	021)		
Scenario: EP									Telegraph	and SFS	
Road Name: Santa						Job I	Number:	15643			
Road Segment: s/o Lo	s Nieto:	s Rd.									
SITE SPECIFI	C INP	UT DATA							L INPUT	S	
Highway Data					Site Cond	litions	; (Hard =	10, So	oft = 15)		
Average Daily Traffic (A	dt): 2	2,926 vehicle	es					Autos:			
Peak Hour Percenta	ge: 1	0.00%					rucks (2 /				
Peak Hour Volun		,293 vehicle:	s		Hea	avy Tru	ıcks (3+)	(xles)	15		
Vehicle Spe		40 mph			Vehicle N	lix					
Near/Far Lane Distan	ce:	70 feet			Vehic	cleTyp	е	Day	Evening	Night	Daily
Site Data							Autos:	77.5%	12.9%	9.6%	97.449
Barrier Heig	ht:	0.0 feet			Me	dium 1	Frucks:	84.8%	4.9%	10.3%	1.83
Barrier Type (0-Wall, 1-Ber		0.0			н	eavy 1	rucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barr	ier:	50.0 feet		5	Noise So	urce F	levation	s (in fi	eef)		
Centerline Dist. to Observ	er:	50.0 feet		F	10.00 00	Auto		000			
Barrier Distance to Observ	er:	0.0 feet			Mediun			297			
Observer Height (Above Pa	·	5.0 feet				/ Truci		004	Grade Ad	justment	: 0.0
Pad Elevati		0.0 feet		-							
Road Elevati		0.0 feet		4	Lane Equ				feet)		
Road Gra		0.0%				Auto		056			
Left Vie		-90.0 degree			Mediun	r Truci 7 Truci		809 833			
Right Vie	ew:	90.0 degree	es		neav	y muci	(5. 30.	033			
FHWA Noise Model Calcula	tions			î							
VehicleType REME	L 1	Fraffic Flow	Di	stance	Finite I	Road	Fresr	el	Barrier Att	en Ber	m Atten
Autos: 6	6.51	2.16		2.0	3	-1.20		-4.65	0.	000	0.00
	7.72	-15.10		2.0		-1.20		-4.87		000	0.00
Heavy Trucks: 8	2.99	-19.06		2.0	7	-1.20		-5.43	0.	000	0.00
Unmitigated Noise Levels (withou	t Topo and	barri	ier atten	uation)						
VehicleType Leq Peak	Hour	Leq Day	(Leq E	vening	Leq	Night		Ldn	C	NEL
Autos:	69.5		67.6		65.8		59.8	3	68.	4	69.
Medium Trucks:	63.5		62.0		55.6		54.1		62.		62
Heavy Trucks:	64.8		63.4		54.3		55.6		63.		64
Vehicle Noise:	71.5		69.8		66.5		62.0)	70.	5	70
Centerline Distance to Nois	e Con	tour (in feet,)								
				70 (dBA	65	dBA	(60 dBA	55	dBA
			Ldn:		54		116		250		53
			NEL:		58		124		268		571

Tuesday, July 30, 2024

	FHWA-RD	-77-108 HIGH	NAY NO	DISE	PREDIC		ODEL (S	9/12/20	021)		
Scenario									Felegraph	and SI	FS
	e: Santa Fe Sp					Job Ni	imber: 1	5643			
Road Segmen	t: s/o Los Niet	tos Rd.									
	PECIFIC IN	PUT DATA							L INPUT	5	
Highway Data				S	ite Con	ditions (Hard =	10, Sc	oft = 15)		
Average Daily 1	raffic (Adt):	23,830 vehicle	s					Autos:	15		
Peak Hour F	Percentage:	10.00%				dium Tru					
Peak Ho	our Volume:	2,383 vehicles			He	avy Truc	ks (3+ A	xles):	15		
Veh	icle Speed:	40 mph		V	ehicle I	Mix					
Near/Far Lan	e Distance:	70 feet		-		icleType		Dav	Evening	Nigh	t Daily
Site Data								77.5%	•	9.6	,
Bar	rier Height:	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	10.3	% 1.84
Barrier Type (0-Wa	•	0.0			ŀ	leavy Tr	ucks:	86.5%	2.7%	10.8	% 0.74
Centerline Dis	. ,	50.0 feet			laiaa Ca	ource Ele	votions	lin fe	a fl		
Centerline Dist. t	o Observer:	50.0 feet		N	use su	Autos		000	el)		
Barrier Distance t	o Observer:	0.0 feet				Autos n Trucks		97			
Observer Height (#	Above Pad):	5.0 feet				v Trucks		004	Grade Ad	iustma	nt: 0.0
Pa	d Elevation:	0.0 feet			neav	y mucha	. 0.0	104	Orade Au	Justine	
Roa	d Elevation:	0.0 feet		L	ane Equ	uivalent	Distanc	e (in i	feet)		
R	oad Grade:	0.0%				Autos)56			
	Left View:	-90.0 degree	s		Mediur	n Trucks	: 35.8	309			
	Right View:	90.0 degree	s		Heav	y Trucks	35.8	333			
FHWA Noise Mode	Calculations	5									
VehicleType	REMEL	Traffic Flow	Distar	nce	Finite	Road	Fresn	e/	Barrier Att	en E	Berm Attei
Autos:	66.51	2.33		2.03		-1.20		-4.65	0.0	000	0.0
Medium Trucks:	77.72	-14.91		2.07		-1.20		-4.87	0.0	000	0.0
Heavy Trucks:	82.99	-18.86		2.07		-1.20		-5.43	0.0	000	0.0
Unmitigated Noise	Levels (with	out Topo and I	arrier a	ttenu	ation)						
VehicleType	Leq Peak Hou	r Leq Day	Le	eq Eve	ening	Leq I	Vight		Ldn		CNEL
Autos:	69		67.8		66.0		60.0		68.0		69
Medium Trucks:	63		32.2		55.8		54.3		62.		63
Heavy Trucks:	65	-	63.6		54.5		55.8		64.		64
Vehicle Noise:	71	.7	0.0		66.7		62.1		70.	7	71
Centerline Distance	e to Noise Co	ntour (in feet)									
				70 dl	RA	65 c	IBA	6	i0 dBA	1 -	55 dBA
				70 01		000					
			dn: IEL:	70 01	55 59	000	119		257 275		55

Site Data Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.83 Barrier Type (0-Wall, 1-Berm): 0.0 Medium Trucks: 84.8% 4.9% 10.3% 1.83 Centerline Dist. to Barrier: 50.0 feet Meavy Trucks: 86.5% 2.7% 10.3% 1.83 Dobserver 50.0 feet Noise Source Elevations (in feet) Autos: 0.00 Medium Trucks: 2.297 Observer 90.0 feet Autos: 36.056 Medium Trucks: 35.83 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Atten Autos: 77.2 -14.91 2.07 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.2 -14.91 2.07 -1.20 -4.65 0.000 0.0 Medium Trucks: 82.99 -18.86 2.07 -1.20 -4.65		FHWA-RI	0-77-108 HIGH	WAY N	OISE	PREDIC	TION M	ODEL (9/12/2	021)		
Road Segment: slo Los Nietos Rd. Site Specific INPUT DATA NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 23,976 vehicles Autos: 15 Autos: 15 Peak Hour Porcentage: 10.00% Medium Trucks (2 Axles): 15 Vehicle Speciet: 40 mph Vehicle Type Day Evening Night Noise Soureer </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th>Felegraph</th> <th>and SFS</th> <th></th>										Felegraph	and SFS	
Site SPECIFIC INPUT DATA NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Autos:: 15 Average Daily Traffic (Adt): 23,976 vehicles Autos:: 15 Peak Hour Pecentage: 10,00% Medium Trucks (2 Akes): 15 Peak Hour Volume: 2,398 vehicles Medium Trucks (2 Akes): 15 Vehicle Speed: 40 mph Vehicle Type Day Evening Night Dails Site Data 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.7 Barrier Height: 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.7 Centerline Dist. to Dserver: 50.0 feet Autos: 0.000 Medium Trucks: 2.297 Abdes Observer: 0.0 feet Road Grade 0.0% Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Left View: -90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Finite Road Fresnel Barrier Atten Berner Atten <t< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th>Job N</th><th>umber:</th><th>15643</th><th></th><th></th><th></th></t<>							Job N	umber:	15643			
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 23,976 vehicles Autos: 15 Peak Hour Percentage: 10.00% Medium Trucks (2 Aktes): 15 Peak Hour Volume: 2,399 vehicles Medium Trucks (2 Aktes): 15 Vehicle Speed: 40 mph Medium Trucks (2 Aktes): 15 Site Data Vehicle Mix Vehicle Mix Vehicle Mix Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.83 Barrier Jiste to Dbserver: 50.0 feet Medium Trucks: 86.5% 2.7% 10.8% 0.7 Observer Height (Above Pad): 5.0 feet Autos: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 Pad Elevation: 0.0 feet Road Grade: 0.0% Lat View: 36.056 Medium Trucks: 35.809 Heavy Trucks: 35.809 Heavy Trucks: 35.833 FHWA Noise Model Calculations Finite Road Fresnel Barrier Atten Berner Atten Medium Trucks: 35.809	Road Segme	nt: s/o Los Nie	tos Rd.									
Average Daily Traffic (Adi): 23,976 vehicles Autos: 15 Peak Hour Percentage: 10,00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2,398 vehicles Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Heavy Trucks (3 + Axles): 15 Site Data Autos: 70 feet Vehicle Type Day Evening Night Daily Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 97.44 Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Autos: 8.65% 2.7% 10.8% 0.74 Barrier Distance to Observer: 0.0 feet Autos: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Autos: 36.056 Heavy Trucks: 35.809 Heavy Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.0 Medium Trucks: 82.99 -18.86 2.07 -1.20 -4.87 0.000 0.0	SITE	SPECIFIC IN	IPUT DATA								s	
Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2.398 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Mix Vehicle Mix Vehicle Mix Site Data Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Autos: 77.5% 10.3% 1.83 Barrier Distance to Observer: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Noise Source Ilevation: 0.0 Road Grade: 0.0% Lane Equivalent Distance (in feet) Medium Trucks: 35.80 Right View: -90.0 degrees Heavy Trucks: 35.83 12.0% 0.0 Road Grade: 0.0% Lane Equivalent Distance (in feet) Medium Trucks: 35.83 VehicleType REMEL Traffic Flo	Highway Data				S	ite Con	ditions (Hard =	10, Sc	oft = 15)		
Beak Hour Volume: 2,336 vehicles Vehicle Speed: 40 mph Near/Far Lane Distance: 70 feet Barrier Height: 0.0 feet Barrier Height: 0.0 feet Barrier Jype (0-Wall, 1-Berm): 0.0 Centerline Dist. to Deserver: 50.0 feet Barrier Distance to Observer: 0.0 feet Road Grade: 0.0% Laft View: 80.04 Grade Adjustment: 0.0 Medium Trucks: 8.004 Grade Adjustment: 0.0 Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Laft View: 90.0 degrees Medium Trucks: 35.809 Heavy Trucks: 35.809 Right View: 90.0 degrees Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 2.36 2.07 -1.20 -4.87	Average Daily	Traffic (Adt):	23,976 vehicle	s					Autos:	15		
Vehicle Speed: Near/Far Lane Distance: 40 mph 70 feet Vehicle Mix Site Data Autos: 70,5% 12,9% 9.6% 97.4% Barrier Height: 0.0 feet Autos: 77.5% 12,9% 9.6% 97.4% Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 48.4% 4.9% 0.3% 1.83 Barrier Dist. to Darrier: 50.0 feet Moise Source Elevations (in feet) 0.8% 0.74 Centerline Dist. to Diserver: 0.0 feet Autos: 0.00% 1.8% 0.9% 0.74 Barrier Distance to Observer: 0.0 feet Autos: 0.00 0.74 10.8% 0.74 Road Elevation: 0.0 feet Autos: 36.056 4400 1.40 65.0% 1.40 0.00 0.0 Road Grade: 0.0% Distance Finite Road Fresnel Barrier Atten Berner Atten Matos: 35.833 FHWA Noise Model Calculations Vehicle/yee REMEL Traffic Flow Distance Finite Road Fresnel	Peak Hour	Percentage:	10.00%			Me	dium Tru	icks (2 A	Axles):	15		
Near/Far Lane Distance: 70 feet Vehicle Wix Day Evening Night Dail Site Data Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 97.44 Barrier Type (O-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Medium Trucks: 86.5% 2.7% 10.8% 0.7 Centerline Dist. to Dserver: 50.0 feet Noise Source Elevations (in feet) Autos: 0.000 0.000 Medium Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0 feet Autos: 36.056 Medium Trucks: 35.809 Heavy Trucks: 35.809 Heavy Trucks: 35.809 Heavy Trucks: 35.809 0.0 <	Peak F	lour Volume:	2,398 vehicles			Hei	avy Truc	ks (3+ A	Axles):	15		
Near/Far Lane Distance: 70 feet Vehicle Type Day Evening Night Dail Site Data Autos: 77.5% 12.9% 9.6% 97.4% Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 10.8% 0.74 Centerline Dist. to Diserver: 50.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Diserver Height (Above Pad): 5.0 feet Autos: 0.00 Medium Trucks: 2.297 Road Elevation: 0.0 feet Autos: 0.00 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Autos: 36.056 Heavy Trucks: 35.809 Right View: 90.0 degrees Right View: 90.0 degrees Finite Road Fresnel Barrier Atten Berrier Atten Autos: 66.51 2.36 2.07 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.0	Ve	hicle Speed:	40 mph		v	ehicle A	Nix					
Site Data Autos: 77.5% 12.9% 9.6% 97.44 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.88 Barrier Type (0-Wall, 1-Berm): 0.0 Medium Trucks: 84.8% 4.9% 10.3% 1.88 Centerline Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) Noise Source Clevations (in feet) Noise Model Calculations Lane Equivalent Distance (in feet) Autos: 35.83 FHWA Noise Model Calculations Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrer Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.7 -14.91 2.07 -1.20 -4.65 0.000 0.0 Motise Model Calculations Ushicle Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 2.36 2.07 -1.20 -4.65 0.000 0.0	Near/Far La	ne Distance:	70 feet		Ė				Dav	Evenina	Niaht	Daily
Barrier Type (IV-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Centerline Dist. to Diserver: 50.0 feet Moise Source Elevations (in feet) Autos: 0.00 Noise Source Elevations (in feet) Noise Source Interviews (in feet) Noise Sour	Site Data							utos:	77.5%	•		
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Centerline Dist. to Desriver: 50.0 feet Noise Source Elevations (in feet) Noise Source (in feet)	Ba	rrier Height	0.0 feet			Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.83%
Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Observer: 50.0 feet Barrier Distance to Observer: 0.0 feet Observer Height (Above Pad): 5.0 feet Pad Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees PHWA Noise Model Calculations Dostance Vehicle Type REMEL Traffic Flow Distance Autos: 66.51 2.36 2.03 Heavy Trucks: 82.09 Medium Trucks: 77.72 -14.91 2.07 Heavy Trucks: 82.09 Medium Trucks: 65.7 2.07 -1.20 Heavy Trucks: 82.99 Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Vehicle Type Leq Peak Hour Leq Day Leq Evening Medium Trucks: 63.7 62.0 63.6 Medium Trucks: 63.7 63.7 62.2 <t< td=""><td></td><td></td><td></td><td></td><td></td><td>H</td><td>leavy Tr</td><td>ucks:</td><td>86.5%</td><td>2.7%</td><td>10.8%</td><td>0.74%</td></t<>						H	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Observer: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Autos: 0.000 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 2.297 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Left View: -90.0 degrees Medium Trucks: 35.809 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berner Atten Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnet Barrier Atten Berner Atten Vehicle Type Rede (vithout Topo and barrier attenuation) Vehicle Type Lag Day Lag Evening Leq Night Ldn CNEL Medium Trucks: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 62 Autos: 69.7 67.8 66.0 </td <td></td> <td>. ,</td> <td>50.0 feet</td> <td></td> <td></td> <td>loiso So</td> <td>urco Ek</td> <td>wation</td> <td>r (in fr</td> <td>of</td> <td></td> <td></td>		. ,	50.0 feet			loiso So	urco Ek	wation	r (in fr	of		
Barrier Distance to Observer: 0.0 feet Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Pad Elevation: 0.0 feet Late Equivalent Distance (in feet) Late Equivalent Distance (in feet) Road Elevation: 90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Medium Trucks: 35.809 PHWA Noise Model Calculations Frittle Flow Distance Finite Road Fresnel Barrier Atten Bern Atte Autos: 6.65.1 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -5.43 0.000 0.0 Unnitigated Noise Levels (without Topo and barrier attenuation) Use Elevels (without Topo and barrier attenuation) Use Elevels CNEL VehicleType Leg Day Leg Evening Leg Night Ldn CNEL Autos: 65.0 63.6 54.5 55.8 64.1 64 Medium Trucks	Centerline Dist.	to Observer:	50.0 feet		N	ioise 30				el)		
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 0.04 Grade Adjustment: 0.0 Pad Elevation: 0.0 feet Let View: 90.0 degrees Autos: 36.056 Lett View: 90.0 degrees Right View: 90.0 degrees Medium Trucks: 35.809 FHWA Noise Model Calculations Distance Finite Road Fresnel Barrier Atten Berner Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -5.43 0.000 0.0 Urhicitype Leg Deak Hour Leg Day Leg Viewing Leg Night Ldn CNEL Vehicle Type Leg Deak Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atten Autos: 66.51 2.36 2.07 -1.20 -4.65 0.000 0.0 Jumitigated Noise Levels (without Topo and barrier attenuation) Vehicle Noise 69.7 67.8 66.0 60.0 <td>Barrier Distance</td> <td>to Observer:</td> <td>0.0 feet</td> <td></td> <td></td> <td>Madium</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Barrier Distance	to Observer:	0.0 feet			Madium						
Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Glevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 36.056 Left View: -90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Medium Trucks: 35.809 FHWA Noise Model Calculations Distance Finite Road Fresnel Barrier Atten Berm Atten Vehicle Type REMEL Traffic Flow Distance 1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -5.43 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 65.0 63.6 54	Observer Height	(Above Pad):	5.0 feet							Grade Ad	iustment	
Road Grade: 0.0% Autos: 36.056 Left View: -90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Medium Trucks: 35.809 FHWA Noise Model Calculations Finite Road Fresnel Barrier Atten VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.00 Medium Trucks: 82.99 -18.86 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 64.1 64	P	ad Elevation:	0.0 feet			neav	y mucha	. 0.1	004	Orade Au	usiment	. 0.0
Left View: -90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Heavy Trucks: 35.809 FHWA Noise Model Calculations Employee Employee Employee VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.67 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 68.6 66 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 65 Medium Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 </td <td>Ro</td> <td>ad Elevation:</td> <td>0.0 feet</td> <td></td> <td>L</td> <td>ane Equ</td> <td>uivalent</td> <td>Distand</td> <td>ce (in i</td> <td>feet)</td> <td></td> <td></td>	Ro	ad Elevation:	0.0 feet		L	ane Equ	uivalent	Distand	ce (in i	feet)		
Right View: 90.0 degrees Heavy Trucks: 35.833 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -14.91 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Deak Hour Leq Day Leq Roight Ldn CNEL VehicleType 65.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 67 Medium Trucks: 65.0 63.6 54.5 55.8 64.1 66 Medium Trucks: 65.0 63.6 54.5 55.8 64.1 66 Medium Trucks: 65.0 65.0 60.0 68.6 66 66 Vehicle Noise: 71.		Road Grade:	0.0%				Autos	36.	056			
FHWA Noise Model Calculations Finite Road Freshel Barrier Atten Berm Atten VehicleType REMEL Traffic Flow Distance Finite Road Freshel Barrier Atten Berm Atten Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.87 0.000 0.0 Heavy Trucks: 82.99 -18.86 2.07 -1.20 -5.43 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) <td></td> <td>Left View:</td> <td>-90.0 degree</td> <td>s</td> <td></td> <td>Mediur</td> <td>n Trucks</td> <td>: 35.</td> <td>809</td> <td></td> <td></td> <td></td>		Left View:	-90.0 degree	s		Mediur	n Trucks	: 35.	809			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atte Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.0 Heavy Trucks: 82.99 -18.86 2.07 -1.20 -5.43 0.000 0.0 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 62 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet)		Right View:	90.0 degree	s		Heav	y Trucks	35.	833			
Autos: 66.51 2.36 2.03 -1.20 -4.65 0.000 0.0 Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.65 0.000 0.0 Heavy Trucks: 82.99 -18.86 2.07 -1.20 -4.67 0.000 0.0 Unmitigated Mosie Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 66.0 66.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 67.9 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64.1 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet)	FHWA Noise Mod	el Calculation	s									
Medium Trucks: 77.72 -14.91 2.07 -1.20 -4.87 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) -1.20 -5.43 0.000 0.00 VehicleType Leq Peak Hour Leq Day Leq Rolph Ldn CNEL Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 65 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (In feet)	VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresn	el	Barrier Att	en Ber	m Atten
Heavy Trucks: 82.99 -18.86 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Day Leq Evening Leq Night Ldn CNEL Vehicle Type Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Matos: 69.7 67.8 66.0 68.6 66.7 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 67.7 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 66.7 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 77 Centerline Distance to Noise Contour (in feet)	Autos:	66.51	2.36				-1.20		-4.65	0.0	000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 66 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (In feet)	Medium Trucks:	77.72	-14.91		2.07	,	-1.20		-4.87	0.0	000	0.00
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 66 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet)	Heavy Trucks:	82.99	-18.86		2.07	,	-1.20		-5.43	0.0	000	0.00
Autos: 69.7 67.8 66.0 60.0 68.6 66 Medium Trucks: 63.7 62.2 55.8 54.3 62.7 66 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 66 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 56 120 258 55												
Medium Trucks: 63.7 62.2 55.8 54.3 62.7 66 Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 66 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet)		,			.eq Ev		Leq I					
Heavy Trucks: 65.0 63.6 54.5 55.8 64.1 64 Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 56 120 258 55												69.: 63.
Vehicle Noise: 71.7 70.0 66.7 62.2 70.7 7 Centerline Distance to Noise Contour (in feet)												
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 56 120 258 55			-									64.3
70 dBA 65 dBA 60 dBA 55 dBA Ldn: 56 120 258 55						66.7		62.2	-	70.1	ſ	71.
Ldn: 56 120 258 55	Centerline Distan	ce to Noise Co	ontour (in feet)		70 d	RΔ	65 (RΔ	F	0 dBA	55	dBA
				l dn'	,00		001					556
014LL. 39 120 210 3												595
			0,1			00		120		270		000

	FHWA-RD	0-77-108 HIGH	WAY NO	ISE PR	EDIC	TION M	ODEL (S)/12/20	021)		
Scenario: Road Name: Road Segment:	Santa Fe S						Name: 1 umber: 1		Felegraph a	and SFS	
	PECIFIC IN	IPUT DATA							L INPUTS	3	
Highway Data				Site	Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily Tr	affic (Adt):	22,040 vehicle	es					Autos:	15		
Peak Hour Pe	ercentage:	10.00%			Mee	dium Tri	ucks (2 A	xles):	15		
Peak Hou	ır Volume:	2,204 vehicle	s		Hea	avy Truc	cks (3+ A	xles):	15		
Vehio	cle Speed:	40 mph		Veh	icle N	lix					
Near/Far Lane	Distance:	70 feet				cleType		Dav	Evening	Night	Daily
Site Data								77.5%	•	9.6%	
Barri	er Height:	0.0 feet			Me	dium Ti	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wal	•	0.0			E	leavy Ti	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dist.	. ,	50.0 feet		Noi		uree El	evations	lin fe	ati		
Centerline Dist. to	Observer:	50.0 feet		NOI	se 30	Auto:		000	el)		
Barrier Distance to	Observer:	0.0 feet			lodiur	n Truck		297			
Observer Height (Al	bove Pad):	5.0 feet				y Truck		004	Grade Adj	ustment	· 0.0
Pad	Elevation:	0.0 feet									
	Elevation:	0.0 feet		Lan	e Equ		Distanc		feet)		
Ro	ad Grade:	0.0%				Auto					
F	Left View: Right View:	-90.0 degree 90.0 degree				n Truck y Truck					
FHWA Noise Model	Calculation	-									
VehicleType	REMEL	Traffic Flow	Distan	ce F	inite	Road	Fresn	e/	Barrier Atte	en Ber	m Atten
Autos:	66.51	1.99		2.03		-1.20		-4.65	0.0	00	0.00
Medium Trucks:	77.72	-15.25		2.07		-1.20		-4.87	0.0	00	0.00
Heavy Trucks:	82.99	-19.20		2.07		-1.20		-5.43	0.0	00	0.00
Unmitigated Noise L								1			
VehicleType Le Autos:	eq Peak Hou		67.4	q Even	ng 65.7	Leq	Night		Ldn		VEL
Autos: Medium Trucks:	69 63		61.8		55.5		59.6 53.9		68.2 62.4		68. 62.
Heavy Trucks:	64		63.2		54.2		55.5		63.8		63.
Vehicle Noise:	71		69.6		66.3		61.8		70.3		70.
Centerline Distance	to Noise Co	ontour (in feet)								
				70 dBA		65	dBA	6	i0 dBA	55	dBA
											500
			Ldn:		53		113		244		526

Scena	rio: EP				Project	t Name:	NWC	Telegraph :	and SFS	
	ne: Santa Fe Sp	rinas Rd				lumber:		reiegraphi		
	ent: n/o Telegrap				000 /		10010			
SITE	SPECIFIC IN	PUT DATA			•	NOISE	NODE		5	
Highway Data				Site Con	ditions	(Hard =	10, Sc	oft = 15)		
Average Daily	Traffic (Adt):	22,284 vehicles					Autos:	15		
Peak Hou	Percentage:	10.00%		Me	dium Tr	ucks (2 /	Axles):	15		
Peak I	Hour Volume:	2,228 vehicles		He	avy Tru	cks (3+ /	Axles):	15		
Ve	ehicle Speed:	40 mph		Vehicle I	Mix					
Near/Far La	ane Distance:	70 feet		Veh	icleType	9	Day	Evening	Night	Daily
Site Data						Autos:	77.5%		9.6%	97.459
Ba	rrier Height:	0.0 feet		M	edium T	rucks:	84.8%	4.9%	10.3%	1.82
Barrier Type (0-V	•	0.0		1	Heavy T	rucks:	86.5%	2.7%	10.8%	0.73
Centerline D	ist. to Barrier:	50.0 feet		Noise So	ource F	levation	s (in fi	ef)		
Centerline Dist.	to Observer:	50.0 feet			Auto		000			
Barrier Distance		0.0 feet		Mediu	m Truck		297			
Observer Height	, ,	5.0 feet		Heav	y Truck		004	Grade Ad	iustment	: 0.0
	ad Elevation:	0.0 feet		Lana Fr		. Distan				
Ro	ad Elevation:	0.0 feet		Lane Eq	Auto		ce (In 056	reet)		
	Road Grade: Left View:	0.0% -90.0 degrees		Madiu	Auto m Truck		056 809			
	Right View:	90.0 degrees			vy Truck		833			
	ragit view.	50.0 degrees		//64	<i>y m</i> aon		000			
FHWA Noise Moa	lel Calculations									
VehicleType	REMEL		Distanc		Road	Fresr	-	Barrier Atte		m Atten
Autos:		2.04		2.03	-1.20		-4.65		000	0.00
Medium Trucks.		-15.25		2.07	-1.20		-4.87		000	0.00
Heavy Trucks:	82.99	-19.20		2.07	-1.20		-5.43	0.0	000	0.00
Unmitigated Nois			-	,						
VehicleType	Leq Peak Hour			r Evening	Leq	Night		Ldn		NEL
Autos:				65.7		59.		68.3		68
Medium Trucks			-	55.5		53.9		62.4		62.
Heavy Trucks: Vehicle Noise			-	54.2 66.4		55.5 61.8		63.8 70.4		63. 70.
			'	00.4		01.0	,	70.2	·	70.
Centerline Distan	ce to Noise Co	ntour (in feet)								10.4
		Ld		70 dBA 53	65	dBA 114		0 dBA 245		dBA 52

Tuesday, July 30, 2024

	FHWA-RD)-77-108 HIGH\	NAY N	OISE	PREDIC	TION MO	DDEL (9/1	2/2021)		
Scenario: (Road Name: \$ Road Segment: r	Santa Fe S						lame: NW mber: 156	/C Telegra 343	aph and	SFS
SITE SPE	CIFIC IN	PUT DATA				N	DISE MO	DEL INP	UTS	
Highway Data					Site Con	ditions (l	Hard = 10	Soft = 1	5)	
Average Daily Trat Peak Hour Per Peak Hour	centage:	23,940 vehicle 10.00% 2,394 vehicles					Au cks (2 Axk ks (3+ Axk	es): 15		
Vehicle	e Speed:	40 mph		-	Vehicle N	lix				
Near/Far Lane D	Distance:	70 feet		-		cleType	Da	y Even	ina Ni	ght Dai
Site Data							utos: 77	.5% 12.		9.6% 97.4
Barrier	Height:	0.0 feet			Me	dium Tru	icks: 84	.8% 4.	9% 1	0.3% 1.8
Barrier Type (0-Wall,		0.0			E	leavy Tru	icks: 86	.5% 2.	7% 1	0.8% 0.7
Centerline Dist. to		50.0 feet		-	Naina Ca	uree Ele	vations (i	n faat)		
Centerline Dist. to C	bserver:	50.0 feet		- F	Noise 30	Autos				
Barrier Distance to C	bserver:	0.0 feet			Madium	Autos: n Trucks.				
Observer Height (Abo	ve Pad):	5.0 feet				y Trucks.			Adjust	ment: 0.0
Pad E	levation:	0.0 feet		_						
	levation:	0.0 feet		2	Lane Equ		Distance			
	d Grade:	0.0%				Autos:	00.000			
-	eft View: ht View:	-90.0 degree 90.0 degree				n Trucks. y Trucks:				
FHWA Noise Model C		ů	-							
	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresnel	Barrie	r Atten	Berm Att
Autos:	66.51	2.35		2.0	13	-1.20	-4.	65	0.000	0.
Medium Trucks:	77.72	-14.89		2.0	7	-1.20	-4	87	0.000	0.
moundin maone.	11.12	-14.00		2.0		=1.20	-4.			0.
Heavy Trucks:	82.99	-18.84		2.0		-1.20	-5.	43	0.000	0.
Heavy Trucks: Unmitigated Noise Le	82.99 vels (witho	-18.84 out Topo and L		2.0 atten	7 nuation)	-1.20	-5.	-	0.000	0.
Heavy Trucks: Unmitigated Noise Le VehicleType Leq	82.99 vels (without Peak Hout	-18.84 out Topo and L r Leq Day	L	2.0 atten	n uation) Evening		-5. light	Ldn		0. CNEL
Heavy Trucks: Unmitigated Noise Lee VehicleType Leo Autos:	82.99 vels (witho Peak Hou 69	-18.84 out Topo and L r Leq Day .7 6	67.8	2.0 atten	vening 66.0	-1.20	-5. light 60.0	Ldn	68.6	0. CNEL
Heavy Trucks: Unmitigated Noise Le VehicleType Leq Autos: Medium Trucks:	82.99 vels (witho Peak Hou 69 63	-18.84	2.2 L	2.0 atten	7 wening 66.0 55.8	-1.20	-5. light 60.0 54.3	Ldn	68.6 62.7	CNEL
Heavy Trucks: Unmitigated Noise Lee VehicleType Leo Autos: Medium Trucks: Heavy Trucks:	82.99 vels (witho Peak Hou 69 63 65	-18.84 -18.84 out Topo and L r Leq Day .7 6 .7 6 .0 6	2.2 53.6	2.0 atten	7 ivening 66.0 55.8 54.6	-1.20	-5. light 60.0 54.3 55.8	Ldn	68.6 62.7 64.2	CNEL
Heavy Trucks: Unmitigated Noise Lee VehicleType Lee Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	82.99 vels (without 1 Peak Hout 69 63 65 71	-18.84	2.2 L	2.0 atten	7 wening 66.0 55.8	-1.20	-5. light 60.0 54.3	Ldn	68.6 62.7	CNEL
Heavy Trucks: Unmitigated Noise Lee VehicleType Leo Autos: Medium Trucks: Heavy Trucks:	82.99 vels (without 1 Peak Hout 69 63 65 71	-18.84	2.2 53.6	2.0 atten .eq E	7 vening 66.0 55.8 54.6 66.7	-1.20	-5. light 60.0 54.3 55.8 62.2	Ldn	68.6 62.7 64.2 70.7	0. <u>CNEL</u>
Heavy Trucks: Unmitigated Noise Lee VehicleType Lee Autos: Medium Trucks: Heavy Trucks: Vehicle Noise:	82.99 vels (without 1 Peak Hout 69 63 65 71	-18.84 r Leq Day 7 C C C C C C C C C	2.2 53.6	2.0 atten .eq E	7 ivening 66.0 55.8 54.6	-1.20	-5. light 60.0 54.3 55.8 62.2	Ldn	68.6 62.7 64.2 70.7	CNEL

FH ¹	WA-RD-	77-108 HIGHV	/AY NO	ISE PREDIC	TION MC	DEL (9/12	2/2021)	
Scenario: OYC Road Name: Sant Road Segment: n/o T	a Fe Spi					lame: NW nber: 156	C Telegraph ar 43	nd SFS
SITE SPECI	FIC INF	PUT DATA			NC	ISE MO	DEL INPUTS	
Highway Data				Site Con	ditions (H	lard = 10,	Soft = 15)	
Average Daily Traffic (4,184 vehicles				Aut		
Peak Hour Percent	age: 1	10.00%				ks (2 Axle		
Peak Hour Vol	ume: 2	2,418 vehicles		He	avy Truck	s (3+ Axle	s): 15	
Vehicle Sp		40 mph		Vehicle I	Mix			
Near/Far Lane Dista	nce:	70 feet		Veh	icleType	Da	Evening I	Night Daily
Site Data					AL	tos: 77.	-	9.6% 97.45
Barrier He	ight:	0.0 feet		M	edium Tru	cks: 84.	8% 4.9%	10.3% 1.82
Barrier Type (0-Wall, 1-Be	erm):	0.0		1	Heavy Tru	cks: 86.	5% 2.7%	10.8% 0.73
Centerline Dist. to Ba		50.0 feet		Noise So	ource Elev	ations (ii	n feet)	
Centerline Dist. to Obse		50.0 feet			Autos:	0.000	,	
Barrier Distance to Obse		0.0 feet		Mediu	m Trucks:	2.297		
Observer Height (Above F		5.0 feet		Heav	vy Trucks:			stment: 0.0
Pad Eleva		0.0 feet						
Road Eleva		0.0 feet		Lane Eq		Distance (
Road Gr		0.0%			Autos:	00.000		
Left		-90.0 degrees			m Trucks:			
Right \	lew:	90.0 degrees		Heav	y Trucks:	35.833		
FHWA Noise Model Calcu	lations							
VehicleType REM	EL	Traffic Flow	Distan		Road	Fresnel	Barrier Atter	
Autos:	66.51	2.40		2.03	-1.20	-4.6		
Medium Trucks:	77.72	-14.89		2.07	-1.20	-4.8		
Heavy Trucks:	82.99	-18.84		2.07	-1.20	-5.4	43 0.00	0.0
Unmitigated Noise Levels								
	ak Hour			q Evening	Leq N		Ldn	CNEL
Autos:	69.7	-	7.8	66.1		60.0	68.6	69
Medium Trucks:	63.7	-	2.2	55.8		54.3	62.7	63
Heavy Trucks:	65.0		3.6	54.6		55.8	64.2	64
Vehicle Noise:	71.7		0.0	66.7		62.2	70.7	71
Centerline Distance to No		tour (in feet)						
	ise Cor	itour (in reet)						
	ise Con	, ,		70 dBA	65 dE		60 dBA	55 dBA
	ise Con	, ,	dn:	70 dBA 56 60	65 dE	3A 120 129	60 dBA 259 277	55 dBA 55 59

: Santa Fe S i/o Telegra	orinas Rd.				Project	Name N		Felegraph a	and OFC	
						umber: 1		relegiapii	inu oro	
					JOD N	umber:	5043			
			-							
CIFIC IN	IPUT DATA			Site Con					5	
E - (A -44).	19.190 vehicl			one oon	unions			15		
fic (Adt):	.,	es		Me	dium Tri		Autos:			
							,			
	1	5				x3 (0 · 7	1003).	10		
nstance.	70 1000			Veh				•		Daily
Height:	0.0 feet									
,	0.0			,	Heavy Tr	ucks:	86.5%	2.7%	10.8%	0.74
				Noise So	ource El	evations	; (in fe	et)		
					Autos	s: 0.0	000			
				Mediu	m Trucks	s: 2.2	297			
,				Heav	y Trucks	s: 8.0	004	Grade Adj	ustment	: 0.0
			H	l ano Ea	uivalont	Dictor	o (in i	foot)		
			-					eel)		
		~		Mediu						
alculation	s									
REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresn	e/	Barrier Atte	en Ber	m Atter
66.51	1.39		2.0	3	-1.20		-4.65	0.0	00	0.00
77.72	-15.85		2.0	7	-1.20		-4.87	0.0	00	0.00
82.99	-19.80		2.0	7	-1.20		-5.43	0.0	00	0.00
							1			
			Leq E		Leq					NEL
										68
										62
										63
				65.7		61.2		69.7		70
Noise Co	ontour (in feet	9	70	dBΔ	65	1BA	6	0 dBA	55	dBA
		I dn:	701		031		L 6		35	UDA 48
	0	NEL:		40 51						40) 514
	REMEL 66.51 77.72 82.99 vels (with Peak Hot 68 62 64 70	Volume: 1,919 vehicle Speed: 40 mph Distance: 70 feet Height: 0.0 feet 1-Bernip: 0.0 parrier: 50.0 feet bbserver: 50.0 feet bbserver: 0.0 feet ievation: 0.0 feet Grade: 0.0% ft/View: 90.0 degre alculations 77.72 rt.158 90.0 vels (without Topo and Peak Hour Leq Da 68.7 62.7 64.1 70.8 volse Contour (in feet	Volume: 1,919 vehicles 5 Speed: 40 mph Distance: 70 feet Height: 0.0 feet 1-Bern): 0.0 bBarrier: 50.0 feet bbserver: 50.0 feet bbserver: 50.0 feet iverver: 0.0 feet ideration: 0.0 feet ideration: 0.0 feet ideration: 0.0 degrees alculations 66.51 1.39 ideration: 19.80 vels (without Tope and barrier Peak Hour Peak Hour Leq Day 68.7 66.8 62.7 61.2 64.1 62.6 70.8 69.0 ohsise Contour (in feet) Lun:	Volume: 1,919 vehicles Speed: 40 mph jistance: 70 feet Height: 0.0 feet 1-Berm): 0.0 p Barrier: 50.0 feet bbserver: 50.0 feet bbserver: 50.0 feet levation: 0.0 feet levation: 0.0 feet levation: 0.0 feet d Grade: 0.0% eff View: 90.0 degrees alcutations 2.00 REMEL Traffic Flow Distance 66.51 1.39 2.00 77.72 -15.85 2.00 vels (without Topo and barrier attem Peak Hour Leg Day Peak Hour Leg Day Leg E 64.1 62.6 70.8 69.0 oNside Contour (in feet)	Volume: 1,919 vehicles He Volume: 1,919 vehicles He Speed: 40 mph Vehicle I Volume: 70 feet Vehicle I Height: 0.0 feet Moissone Height: 0.0 feet Moissone Jearnip: 50.0 feet Mediu bbserver: 50.0 feet Mediu Hevation: 0.0 feet Lane Eq d Grade: 0.0% Hetiview: eft View: 90.0 degrees Mediu ht View: 90.0 degrees 2.07 vels (without Topo and barrier attenuation) Peak Hour Leg Day Peak Hour Leg Day Leg Evening 64.1 62.6 53.6 <td>Notame: 1,919 vehicles Heavy Truck Speed: 40 mph Vehicle Mix Velistance: 70 feet Vehicle Mix Height: 0.0 feet Medium Truck Height: 0.0 feet Medium Truck bisterver: 50.0 feet Moise Source EI biserver: 50.0 feet Medium Truck biserver: 0.0 feet Medium Truck levation: 9.0 degrees Medium Truck levations 2.03 -1.20 82.99 -1.98 2.07 -1.20 82.99 -1.80 2.07 -1.20 82.7 66.8 65.1</td> <td>Notime: 1,919 vehicles Heavy Trucks (3+ A Speed: 40 mph Vehicle Mix Autos: Nistance: 70 feet Vehicle Mix Autos: Height: 0.0 feet Autos: Heavy Trucks: 1-Berm): 0.0 Heavy Trucks: Medium Trucks: 2 Barrier: 50.0 feet Autos: Medium Trucks: 1-Berwip: 0.0 feet Autos: Medium Trucks: 2. Veradion: 0.0 feet Autos: 0. Medium Trucks: 3. Ievation: 0.0 feet Lane Equivalent Distance Autos: 36. Ievation: 0.0 feet Lane Equivalent Distance Medium Trucks: 3.5. Ievation: 9.0 degrees Medium Trucks: 3.6. Heavy Trucks: 3.6. Int View: 90.0 degrees Finite Road Fresn 66.51 1.39 2.03 -1.20 REMEL Traffic Flow Distance Finite Road Fresn 66.51 5.0 66.51 1.39 2</td> <td>Volume: 1,919 vehicles Heavy Trucks (3+ Axles): Speed: 40 mph Vehicle Mix Vistance: 70 feet Vehicle Mix Height: 0.0 feet Autos: 77.5% Height: 0.0 feet Autos: 78.84.8% 1-Berm): 0.0 Heavy Trucks: 84.8% beserver: 50.0 feet Moise Source Elevations (in feitherations) Moise Source Televations (in feitherations) Barrier: 50.0 feet Moise Source Elevations (in feitherations) Moise Source Ilevations (in feitherations) 0.000 Medium Trucks: 2.297 Heavy Trucks: 35.809 pht View: 90.0 degrees Medium Trucks: 35.833 alculations 2.07 -1.20 -4.67 REMEL Traffic Flow Distance Finite Road Fresnel 66.51 1.39 2.03 -1.20 -4.67 82.99 19.80 2.07 -1.20 -4.67 84 Without Topo and barrier attenuation) Peak Hour Fee Roing Leq Night <</td> <td>Volume: 1,919 vehicles Speed: 40 mph bistance: 70 feet Height: 0.0 feet Height: 0.0 feet Height: 0.0 feet Barrier: 50.0 feet bisterver: 50.0 feet bisterver: 50.0 feet bisterver: 50.0 feet bisterver: 0.0 feet Height: 0.0 feet bisterver: 50.0 feet bisterver: 0.0 feet Heavy Trucks: 8.004 Grade: 0.0 feet Heavy Trucks: 35.009 Heavy Trucks: 35.833 alculations 1.39 2.03 -1.20 4.07 file 1.39 2.03 -1.20 7.72 -15.85 2.07 -1.20 66.51 1.39 66.8 65.1 62.7 61.2 64.1 62.6 64.1 62.6 64.1</td> <td>Volume: 1,919 vehicles Speed: 40 mph Jistance: 70 feet Height: 0.0 feet Height: 0.0 feet Heavy Trucks: 84.8% Heavy Trucks: 84.8% Height: 0.0 feet Heavy Trucks: 84.8% Barrier: 50.0 feet Bisterver: 50.0 feet Weradion: 0.0 feet Heavy Trucks: 8.04 Grade: 0.0 feet Heavy Trucks: 8.004 Grade: 0.0 feet Heavy Trucks: 35.809 Heavy Trucks: 35.833</td>	Notame: 1,919 vehicles Heavy Truck Speed: 40 mph Vehicle Mix Velistance: 70 feet Vehicle Mix Height: 0.0 feet Medium Truck Height: 0.0 feet Medium Truck bisterver: 50.0 feet Moise Source EI biserver: 50.0 feet Medium Truck biserver: 0.0 feet Medium Truck levation: 9.0 degrees Medium Truck levations 2.03 -1.20 82.99 -1.98 2.07 -1.20 82.99 -1.80 2.07 -1.20 82.7 66.8 65.1	Notime: 1,919 vehicles Heavy Trucks (3+ A Speed: 40 mph Vehicle Mix Autos: Nistance: 70 feet Vehicle Mix Autos: Height: 0.0 feet Autos: Heavy Trucks: 1-Berm): 0.0 Heavy Trucks: Medium Trucks: 2 Barrier: 50.0 feet Autos: Medium Trucks: 1-Berwip: 0.0 feet Autos: Medium Trucks: 2. Veradion: 0.0 feet Autos: 0. Medium Trucks: 3. Ievation: 0.0 feet Lane Equivalent Distance Autos: 36. Ievation: 0.0 feet Lane Equivalent Distance Medium Trucks: 3.5. Ievation: 9.0 degrees Medium Trucks: 3.6. Heavy Trucks: 3.6. Int View: 90.0 degrees Finite Road Fresn 66.51 1.39 2.03 -1.20 REMEL Traffic Flow Distance Finite Road Fresn 66.51 5.0 66.51 1.39 2	Volume: 1,919 vehicles Heavy Trucks (3+ Axles): Speed: 40 mph Vehicle Mix Vistance: 70 feet Vehicle Mix Height: 0.0 feet Autos: 77.5% Height: 0.0 feet Autos: 78.84.8% 1-Berm): 0.0 Heavy Trucks: 84.8% beserver: 50.0 feet Moise Source Elevations (in feitherations) Moise Source Televations (in feitherations) Barrier: 50.0 feet Moise Source Elevations (in feitherations) Moise Source Ilevations (in feitherations) 0.000 Medium Trucks: 2.297 Heavy Trucks: 35.809 pht View: 90.0 degrees Medium Trucks: 35.833 alculations 2.07 -1.20 -4.67 REMEL Traffic Flow Distance Finite Road Fresnel 66.51 1.39 2.03 -1.20 -4.67 82.99 19.80 2.07 -1.20 -4.67 84 Without Topo and barrier attenuation) Peak Hour Fee Roing Leq Night <	Volume: 1,919 vehicles Speed: 40 mph bistance: 70 feet Height: 0.0 feet Height: 0.0 feet Height: 0.0 feet Barrier: 50.0 feet bisterver: 50.0 feet bisterver: 50.0 feet bisterver: 50.0 feet bisterver: 0.0 feet Height: 0.0 feet bisterver: 50.0 feet bisterver: 0.0 feet Heavy Trucks: 8.004 Grade: 0.0 feet Heavy Trucks: 35.009 Heavy Trucks: 35.833 alculations 1.39 2.03 -1.20 4.07 file 1.39 2.03 -1.20 7.72 -15.85 2.07 -1.20 66.51 1.39 66.8 65.1 62.7 61.2 64.1 62.6 64.1 62.6 64.1	Volume: 1,919 vehicles Speed: 40 mph Jistance: 70 feet Height: 0.0 feet Height: 0.0 feet Heavy Trucks: 84.8% Heavy Trucks: 84.8% Height: 0.0 feet Heavy Trucks: 84.8% Barrier: 50.0 feet Bisterver: 50.0 feet Weradion: 0.0 feet Heavy Trucks: 8.04 Grade: 0.0 feet Heavy Trucks: 8.004 Grade: 0.0 feet Heavy Trucks: 35.809 Heavy Trucks: 35.833

Scenari	o: EP				Projec	t Name -		Felegraph a	and SES	
	e: Santa Fe Sp	rinas Rd				l warne: 1 Jumber: 1		eegraph a	110 050	
	t: s/o Telegrap				0001		.5045			
SITE	SPECIFIC IN	PUT DATA			1	NOISE	IODE		5	
Highway Data				Site Co	nditions	(Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	19,239 vehicles					Autos:	15		
Peak Hour	Percentage:	10.00%		М	ledium Ti	ucks (2 A	Axles):	15		
Peak H	our Volume:	1,924 vehicles		н	leavy Tru	cks (3+ A	Axles):	15		
Vei	hicle Speed:	40 mph		Vehicle	Mix					
Near/Far La	ne Distance:	70 feet			hicleType	e.	Day	Evening	Night	Daily
Site Data							77.5%	•	9.6%	
	rier Height:	0.0 feet			Aedium 1	rucks:	84.8%	4.9%	10.3%	1.849
Barrier Type (0-W	•	0.0			Heavy T	rucks:	86.5%	2.7%	10.8%	0.749
Centerline Dis	. ,	50.0 feet		Noise	Cource F	levation	n (in fo	of		
Centerline Dist.	to Observer:	50.0 feet		Noise S	Auto		s (<i>in r</i> e 200	eu)		
Barrier Distance	to Observer:	0.0 feet		Madi	um Truck		297			
Observer Height (Above Pad):	5.0 feet			avy Truck		004	Grade Adj	ustment	0.0
	d Elevation:	0.0 feet								
	d Elevation:	0.0 feet		Lane E		t Distand		feet)		
F	Road Grade:	0.0%			Auto		056			
	Left View:	-90.0 degrees			um Truck		809			
	Right View:	90.0 degrees		Hea	avy Truck	(S.' 35.	833			
FHWA Noise Mode	l Calculations			_						
VehicleType	REMEL	Traffic Flow	Distan	ce Finit	e Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos:	66.51	1.40		2.03	-1.20		-4.65	0.0		0.00
Medium Trucks:	77.72	-15.85		2.07	-1.20		-4.87	0.0		0.00
Heavy Trucks:	82.99	-19.80		2.07	-1.20		-5.43	0.0	00	0.00
Unmitigated Noise	Levels (witho	ut Topo and b	arrier at	ttenuation)						
	Leq Peak Hour			q Evening		Night		Ldn		VEL
Autos:	68.7	-	6.8	65.		59.0		67.6		68.
Medium Trucks:	62.7		1.2	54.		53.3		61.8		62.
Heavy Trucks:	64.1		2.6	53.		54.8		63.2		63.
Vehicle Noise:	70.8	3 6	9.0	65.	7	61.2	2	69.7	,	70.
Centerline Distanc	e to Noise Cor	ntour (in feet)		-				-		
				70 dBA		dBA	-	0 dBA	55	dBA
		L	dn:	48		103		223		480
		CN		51		111		239		514

Tuesday, July 30, 2024

	FHWA-RD	-77-108 HIGHV	7AY NO	ISE PREDI		DEL (9/12/	2021)	
Scenario	: OYC				Project N	ame: NWC	Telegraph a	and SFS
	e: Santa Fe Sp				Job Nun	nber: 1564	3	
Road Segmen	t: s/o Telegrap	ph Rd.						
	SPECIFIC IN	PUT DATA			-		EL INPUTS	5
Highway Data				Site Cor	nditions (H	ard = 10, S	Soft = 15)	
Average Daily	Traffic (Adt):	21,780 vehicles				Autos		
Peak Hour I		10.00%			edium Truci			
Peak Ho	our Volume:	2,178 vehicles		He	eavy Trucks	(3+ Axles): 15	
	nicle Speed:	40 mph		Vehicle	Mix			
Near/Far Lar	e Distance:	70 feet			nicleType	Day	Evening	Night Dail
Site Data					Au	os: 77.5	% 12.9%	9.6% 97.42
Bar	rier Heiaht:	0.0 feet		N	ledium Truc	ks: 84.8	% 4.9%	10.3% 1.84
Barrier Type (0-Wa		0.0			Heavy Truc	ks: 86.5	% 2.7%	10.8% 0.74
Centerline Dis	t. to Barrier:	50.0 feet		Noise S	ource Elev	ations (in	feet)	
Centerline Dist. t	o Observer:	50.0 feet			Autos:	0.000		
Barrier Distance t	o Observer:	0.0 feet		Mediu	m Trucks:	2,297		
Observer Height (/	Above Pad):	5.0 feet			vv Trucks:	8.004	Grade Adi	ustment: 0.0
Pa	d Elevation:	0.0 feet			,			
	d Elevation:	0.0 feet		Lane Eq	uivalent D		i feet)	
F	Road Grade:	0.0%			Autos:	36.056		
	Left View:	-90.0 degrees			m Trucks:	35.809		
	Right View:	90.0 degrees		Hea	vy Trucks:	35.833		
FHWA Noise Mode	I Calculations	3						
VehicleType	REMEL	Traffic Flow	Distan			Fresnel	Barrier Atte	
Autos:	66.51	1.94		2.03	-1.20	-4.65		0.0 0.0
Medium Trucks:	77.72	-15.30		2.07	-1.20	-4.87		0.0 0.0
Heavy Trucks:	82.99	-19.25		2.07	-1.20	-5.43	3 0.0	0.0 0.0
Unmitigated Noise								
	Leq Peak Hou			q Evening	Leq Ni		Ldn	CNEL
Autos:	69.		7.4	65.6		59.6	68.2	
Medium Trucks:	63.		1.8	55.4		53.9	62.3	
Heavy Trucks:	64.		3.2	54.2		55.4	63.8	
Vehicle Noise:	71.	.3 6	9.6	66.3		61.7	70.3	3 7
Conterline Distance	e to Noise Co	ntour (in feet)						I.
Centernine Distanc				70 dBA	65 dB	Δ	60 dBA	55 dBA
Centernine Distanc					00 00			
Centernine Distanc		L	dn:	52 56	00 02	112 120	242	5

Average Delity Traffic (Adt): 21,829 vehicles Autos: 15 Peak Hour Percentage: 10,00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2,183 vehicles Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Yehicle Speed: 40 mph Near/Far Lane Distance: 70 feet Vehicle Type Day Evening Night Daily Site Data Autos: 75% 12.9% 9.6% 97.43 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 Get Medium Trucks: 84.8% 4.9% 10.3% 1.84 Barrier Dist. to Desrever: 50.0 feet Autos: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 Centerline Dist. to Observer: 0.0 feet Autos: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Left View: 90.0 degrees Heavy Trucks: 36.056 WehicleType REMEL Traffic Flow Distance Finite Road Fresel <t< th=""><th></th><th>FHWA-RI</th><th>0-77-108 HIGH</th><th>WAY</th><th>NOISE</th><th>PREDIC</th><th>TION M</th><th>ODEL (9</th><th>/12/20</th><th>021)</th><th></th><th></th></t<>		FHWA-RI	0-77-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9	/12/20	021)		
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adi): 21,829 vehicles Autos: 15 Peak Hour Percentage: 10.00% Autos: 15 Peak Hour Percentage: 40 mph Medium Trucks (2 Akles): 15 Near/Far Lane Distance: 70 feet Vehicle Type Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 97.43 Barrier Height: 0.0 feet Autos: 77.5% 12.9% 9.6% 97.43 Barrier Dist. to Barrier: 50.0 feet Medium Trucks: 86.5% 2.7% 10.8% 0.74 Centerline Dist. to Observer: 50.0 feet Autos: 0.000 Medium Trucks: 2.297 Barrier Jistance to Observer: 0.0 feet Autos: 0.46 Autos: 0.00 Road Grade: 0.0% Left View: -90.0 degrees Medium Trucks: 35.83 FHWA Noise Model Calculations Keb51 1.95 2.03 -1.20 -4.65 0.000	Road Nan	ne: Santa Fe S								Telegraph :	and SFS	
Average Daily Traffic (Adt): 21,829 vehicles Autos: 15 Peak Hour Percentage: 10,00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2,183 vehicles Medium Trucks (2 Axles): 15 Vehicle Speed: 40 mph Near/Far Lane Distance: 70 feet Vehicle Type Day Evening Night Daily Site Data Autos: 70 feet Vehicle Type Day Evening Night Daily Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Diserver: 50.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.84 Barrier Distance to Observer: 50.0 feet Autos: 0.00 Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Autos: 0.00 Medium Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Autos: 36.056 Medium Trucks: 58.09 Heavy Trucks: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Truc	SITE	SPECIFIC IN	IPUT DATA				N	OISE M	ODE	L INPUT	s	
Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 2,183 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Mix Vehicle Mix Vehicle Mix Site Data Autos: 70 feet Vehicle Mix Vehicle Mix Autos: 77.5% 12.9% 9.6% 97.43 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.84 Barrier Distance to Observer: 50.0 feet Medium Trucks: 86.5% 2.7% 10.8% 0.74 Observer Height (Above Pad): 5.0 feet Matos: 0.000 Medium Trucks: 35.809 Heavy Trucks: 35.809 Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Autos: 0.000 0.00 Road Grade: 0.0% Lane Equivalent Distance (in feet) Autos: 35.809 Heavy Trucks: 35.83 VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter	Highway Data				5	Site Con	ditions (Hard = :	10, So	oft = 15)		
Peak Hour Volume: 2,183 vehicles Vehicle Speed: Heavy Trucks (3 + Axles): 15 Vehicle Speed: 40 mph Vehicle Mix Vehicle Mix Vehicle Mix Site Data Of eet Vehicle Mix Vehicle Mix Vehicle Mix Barrier Height: 0.0 feet Night Daily Night Daily Barrier Type (0-Wail, 1-Berm): 0.0 10.0 Heavy Trucks: 84.8% 4.9% 10.3% 1.84 Centerline Dist. to Dserver: 50.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Observer Height (Above Pad): 5.0 feet Autos: 0.000 Medium Trucks: 2.297 Road Grade: 0.0% Left View: -90.0 degrees Heavy Trucks: 35.809 FHWA Noise Model Calculations Vehicle Type Traffic Flow Distance Finite Road Fresnel Barrier Atten Berr Vehicle Type Left View: -90.0 degrees Finite Road Fresnel Barrier Atten Berm Atter Road Grade: 0.99 1.95	Average Daily	Traffic (Adt):	21,829 vehicle	es				A	utos:	15		
Vehicle Speed: Near/Far Lane Distance: 40 mph 70 feet Vehicle Type Vehicle Type Day Evening Night Daily Site Data Autos: 70 feet Autos: 75% 12.9% 9.6% 97.43 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 44.8% 4.9% 10.8% 0.7% 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 48.8% 4.9% 10.8% 0.74 Centerline Dist. to Deserver: 50.0 feet Autos: 0.00 Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Autos: 36.056 Medium Trucks: 4.80 4.9% 10.8% 0.0 Road Grade: 0.0% Left View: 90.0 degrees Heavy Trucks: 35.09 Heavy Trucks: 35.09 Right View: 90.0 degrees Finite Road Fresnel Barrier Atten Bern Atten Wehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten	Peak Hour	Percentage:	10.00%			Me	dium Tru	icks (2 A	xles):	15		
Near/Far Lane Distance: 70 fet Vehicle MiX Levening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 97.43 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.44 Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 84.8% 4.9% 10.3% 1.44 Barrier Dist. to Barrier: 50.0 feet Moise Source Elevations (in feet) 0.00 0.74 Centerline Dist. to Observer: 0.0 feet Autos: 0.000 Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Medium Trucks: 35.809 Heavy Trucks: 35.809 Road Grade: 0.0% Lane Equivalent Distance (in feet) 0.000 0.00 Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Mutati Elevation: 1.95 2.03 -1.20 -5.43 </td <td>Peak H</td> <td>our Volume:</td> <td>2,183 vehicle</td> <td>s</td> <td></td> <td>Hei</td> <td>avy Truc</td> <td>ks (3+ A</td> <td>xles):</td> <td>15</td> <td></td> <td></td>	Peak H	our Volume:	2,183 vehicle	s		Hei	avy Truc	ks (3+ A	xles):	15		
Near/Far Lane Distance: 70 feet VehicleType Day Evening Night Daily Site Data Autos: 77.5% 12.9% 9.6% 97.43 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 feet Medium Trucks: 84.8% 4.9% 10.8% 0.74 Centerline Dist. to Doserver: 50.0 feet Autos: 0.00 Medium Trucks: 2.297 Observer Height (Above Pad): 5.0 feet Autos: 0.00 Medium Trucks: 2.297 Road Elevation: 0.0 feet Autos: 36.056 Medium Trucks: 36.056 Left View: 90.0 degrees Read Clevations: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.87 0.000 0.00 Medium Trucks: 82.99 -19.25 2.07 -1.20 <t< td=""><td>Ve</td><td>hicle Speed:</td><td>40 mph</td><td></td><td>1</td><td>Vehicle N</td><td>Nix</td><td></td><td></td><td></td><td></td><td></td></t<>	Ve	hicle Speed:	40 mph		1	Vehicle N	Nix					
Site Data Autos: 77.5% 12.9% 9.6% 97.43 Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1.84 Barrier Type (0-Wall, 1-Berm): 0.0 Noise Medium Trucks: 86.5% 2.7% 10.3% 1.84 Barrier Dist. to Barrier: 50.0 feet Noise Source Elevations (in feet) Noise Source Elevations (in feet) 0.74 Observer Height (Above Pad): 5.0 feet Autos: 0.000 Medium Trucks: 2.297 Road Grade: 0.0% et Lane Equivalent Distance (in feet) Autos: 36.066 Road Grade: 0.0% et Lane Equivalent Distance (in feet) Autos: 35.809 Wehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Atten Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.7 -15.30 2.07 -1.20 -5.43 0.000 0.00 Medium Trucks:	Near/Far La	ane Distance:	70 feet		F				Dav	Evenina	Night	Daily
Barrier Height: 0.0 feet Barrier Type (0-Wall, 1-Berm): 0.0 Centerline Dist. to Barrier: 50.0 feet Centerline Dist. to Observer: 50.0 feet Barrier Height: 0.0 feet Deserver Height (Above Pad): 50.0 feet Barrier Distance to Observer: 0.0 feet Road Elevation: 0.0 feet Road Grade: 0.0% Left View: -90.0 degrees Right View: 90.0 degrees FHWA Noise Model Calculations Finite Road Fresnel Vehicle Type REMEL Traffic Flow Distance Vehicle Type Leq Vehiv 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 68.51 1.95 2.07 -1.20 -5.43 0.000 0.00 Medium Trucks: 63.3 67.4 65.6 59.6 66.2 66 <td>Site Data</td> <td></td> <td></td> <td></td> <td></td> <td>10/11</td> <td></td> <td></td> <td></td> <td>•</td> <td>•</td> <td></td>	Site Data					10/11				•	•	
Barrier Type (0-Wall, 1-Berm): 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.74 Centerline Dist. to Diserver: 50.0 feet Autos: 0.000 Noise Source Elevations (in feet) Autos: 0.000 0.000 Autos: 0.000 0.000 Autos: 0.000 0.000 Autos: 0.000 0.000 Autos: 6.6.1 1.95 2.07 -1.20 -4.65 <t< td=""><td></td><td>rrior Hoight:</td><td>0.0 foot</td><td></td><td></td><td>Me</td><td></td><td></td><td></td><td></td><td></td><td>1.84%</td></t<>		rrior Hoight:	0.0 foot			Me						1.84%
Banker Type (of thins Dist, to Barrier: 50.0 feet Noise Source Elevations (in feet) Centerline Dist, to Deserver: 50.0 feet Autos: 0.000 Barrier Distance to Observer: 0.0 feet Autos: 0.000 Deserver Height (Above Pad): 5.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Left Wew: -90.0 degrees Medium Trucks: 35.809 FHWA Noise Model Calculations Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berrier Atten Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Medium Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Evening Leq Evening Leq Night <td< td=""><td></td><td>•</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>0.74%</td></td<>		•										0.74%
Centerline Dist. to Observer: 50.0 feet Noise Source Elevations (in feet) Barrier Distance to Observer: 0.0 feet Autos: 0.000 Diserver Height (Above Pac): 50.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Lane Equivalent Distance (in feet) Lane Equivalent Distance (in feet) Road Grade: 0.0% Lane Equivalent Distance (in feet) Medium Trucks: 35.809 Right View: 90.0 degrees Heavy Trucks: 35.809 Heavy Trucks: 35.809 FHWA Noise Model Calculations Traffic Flow Distance Finite Road Fresnel Barrier Atten Bern Atter Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Unititigated Noise Levels (without Topo and barrier attenuation) Ure VericeType Eq. Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 <td< td=""><td></td><td></td><td></td><td></td><td>Ļ</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>					Ļ							
Barrier Distance to Observer: 0.0 feet Autos: 0.000 Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Elevation: 0.0 feet Lew View: 90.0 degrees Medium Trucks: 36.056 Medium Trucks: 90.0 degrees Medium Trucks: 35.809 Heavy Trucks: 35.833 FHWA Noise Model Calculations Venicle Type REMEL Traffic Flow Distance Finite Road Frenel Barrier Atten Bern Atter Autos: 66.51 1.95 2.07 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Umitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Eq Deving Leg Night Ldn CNEL Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 <td< td=""><td></td><td></td><td></td><td></td><td>1</td><td>Noise So</td><td></td><td></td><td></td><td>eet)</td><td></td><td></td></td<>					1	Noise So				eet)		
Observer Height (Above Pad): 5.0 feet Medium Trucks: 2.297 Pad Elevation: 0.0 feet Heavy Trucks: 8.004 Grade Adjustment: 0.0 Road Grade: 0.0% Left View: -90.0 degrees Autos: 36.056 Left View: -90.0 degrees Medium Trucks: 35.809 Heavy Trucks: 35.809 FHWA Noise Model Calculations VeniceType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berma Atter VehicleType REMEL Traffic Flow Distance 1.20 -4.65 0.000 0.00 Medium Trucks: 82.99 -19.25 2.07 -1.20 -4.67 0.000 0.00 Medium Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levets (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Revening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 55.4 63.8 63 </td <td></td>												
Pad Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Elevation: 0.0 feet Road Calculation: 0.0 feet Left View: -90.0 degrees Right View: 90.0 degrees PHWA Noise Model Calculations Fersenel Barrier Atten Vehicle Type REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.65 0.000 0.00 Untitigated Noise Levels (without Topo and barrier attenuation) Leq Evening Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 53.9 62.3 62.3 Heavy Trucks: 63.3 61.8 55.4 63.8 63.3 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3										Oursels Ad		
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet) Road Grade: 0.0% Autos: 36.056 Left View: 90.0 degrees Medium Trucks: 35.809 PHWA Noise Model Calculations Finite Road Frent Road Frent Barrier Atten Berr Atten Vehicle Type REMEL Traffic Flow Distance Finite Road Frent Barrier Atten Berr Atten Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) Vehicle Type Eq Peak Hour Leg Day Leg Reving Leg Night Ldn CNEL Autos: 60.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 63.9 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3	•	. ,				Heav	y Trucks	8.0	04	Grade Ad	justment	0.0
Left View: -90.0 degrees Medium Trucks: 35.809 Right View: 90.0 degrees Heavy Trucks: 35.809 FHWA Noise Model Calculations Emite Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.67 0.000 0.00 Medium Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Revening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62.3 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3	Ro	ad Elevation:			1	Lane Equ	uivalent	Distanc	e (in f	feet)		
Right View: 90.0 degrees Heavy Trucks: 35.833 FHWA Noise Model Calculations VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Attern VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Attern Autos: 66.51 1.95 2.07 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Deak Hour Leq Dey Leq Revining Leq Night Ldn CNEL VehicleType Lag Peak Hour Leq Dey 54 55.9 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 62.3 60.4 Heavy Trucks: 64.6 63.2 64.6 66.3 61.8 70.3 70 Cente		Road Grade:	0.0%				Autos	s: 36.0	56			
FHWA Noise Model Calculations Freshol Barrier Atten Berm Atter VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline D		Left View:	-90.0 degree	es		Mediur	n Trucks	: 35.8	09			
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm Atter Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.67 0.000 0.00 Heavy Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Qay Leq Evening Leq Night Ldn CNEL Medium Trucks: 63.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)		Right View:	90.0 degree	es		Heav	y Trucks	35.8	33			
Autos: 66.51 1.95 2.03 -1.20 -4.65 0.000 0.00 Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Mose Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Medium Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)	FHWA Noise Mod	el Calculation	s									
Medium Trucks: 77.72 -15.30 2.07 -1.20 -4.87 0.000 0.00 Heavy Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.00 Unmitigated Noise Levels (without Topo and barrier attenuation)	VehicleType	REMEL	Traffic Flow	Dis	tance	Finite	Road	Fresne	e/	Barrier Att	en Ber	m Atten
Heavy Trucks: 82.99 -19.25 2.07 -1.20 -5.43 0.000 0.000 Unmitigated Noise Levels (without Topo and barrier attenuation) Leq Night Leq Night Ldn CNEL VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Matos: 69.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)	Autos:	66.51	1.95		2.03	3	-1.20		4.65	0.0	000	0.00
Unmitigated Noise Levels (without Topo and barrier attenuation) VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 65.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)	Medium Trucks:	77.72	-15.30		2.0	7	-1.20	-	4.87	0.0	000	0.000
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 69.3 67.4 66.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)	Heavy Trucks:	82.99	-19.25		2.0	7	-1.20		-5.43	0.0	000	0.00
Autos: 69.3 67.4 66.6 59.6 68.2 68 Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62.3 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 52 113 242 52												
Medium Trucks: 63.3 61.8 55.4 53.9 62.3 62 Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)					Leq Ev		Leq I	•				
Heavy Trucks: 64.6 63.2 54.2 55.4 63.8 63 Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet)												
Vehicle Noise: 71.3 69.6 66.3 61.8 70.3 70 Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 52 113 242 52												
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA Ldn: 52 113 242 52			-								-	
						00.3		8.10		70.3	0	70.
Ldn: 52 113 242 52	Centerline Distan	ce to Noise Co	ontour (in feet)	70 /	18A	65 /	IRA	F	0 dBA	55	dBA
				I dn	,00		001					522
0121 200 00												559
			0.	•===:		50		121		200		000

FHWA	RD-77-108 HI	GHWAY	NOISE	PREDIC		IODEL (9/12/20)21)		
Scenario: E Road Name: Telegrap Road Segment: w/o Heri						Name: I lumber: 1		elegraph a	and SFS	
SITE SPECIFIC	INPUT DAT	A						L INPUTS	5	
Highway Data			5	Site Con	ditions	(Hard =	10, So	ft = 15)		
Average Daily Traffic (Adt,	: 26,760 veh	icles					Autos:	15		
Peak Hour Percentage	10.00%			Me	dium Tr	ucks (2 A	xles):	15		
Peak Hour Volume	2,676 vehi	cles		He	avy Tru	cks (3+ A	xles):	15		
Vehicle Speed	2 45 mph		1	Vehicle I	Mix					
Near/Far Lane Distance	90 feet		-		icleType		Dav	Evening	Night	Daily
Site Data							77.5%	12.9%	9.6%	
Barrier Heigh	: 0.0 fee	ł		Me	edium T	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wall, 1-Berm		•		ŀ	leavy T	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist. to Barrie			-	Naina Ca	uree El	evations	(in fo	a#1		
Centerline Dist. to Observe	:: 60.0 feet		'	voise sc	Auto		000	el)		
Barrier Distance to Observe	r: 0.0 feet			Madiu	n Truck		297			
Observer Height (Above Pad	: 5.0 feel				y Truck		004	Grade Adj	iuctmont	
Pad Elevation	.: 0.0 feel			neav	y muck	3. 0.0	104	Orade Auj	usunon	. 0.0
Road Elevation	: 0.0 feet		L	Lane Equ	uivalent	Distanc	e (in f	ieet)		
Road Grade	e: 0.0%				Auto	s: 40.0	000			
Left View	-90.0 deg	rees		Mediur	n Truck	s: 39.	778			
Right View	.: 90.0 deg	rees		Heav	y Truck	s: 39.	300			
FHWA Noise Model Calculati										
VehicleType REMEL	Traffic Flow		tance	Finite		Fresn	-	Barrier Atte		m Atten
Autos: 68.		32	1.3	-	-1.20		-4.69	0.0		0.00
Medium Trucks: 79.		•••	1.39	-	-1.20		-4.88	0.0		0.00
Heavy Trucks: 84.	25 -18.	87	1.38	8	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (w		· · ·		/						
VehicleType Leq Peak I			Leq E	•	Leq	Night		Ldn		VEL
Autos:	70.9	69.0		67.3		61.2		69.8		70.4
Medium Trucks:	64.7	63.2		56.9		55.3		63.8		64.
Heavy Trucks: Vehicle Noise:	65.6 72.8	64.1 71.0		55.1 67.9		56.4 63.2		64.7 71.8		64. 72.3
				67.9		63.2		/1.8	5	72.2
Centerline Distance to Noise	Contour (in fe	eet)	70 0	HRA I	65	dBA	6	0 dBA	55	dBA
		Ldn:	701	лын 79	05	169	0	364	- 55	06A 785
		CNEL:		79 84		181		364 391		785 842
		UNLL.		04		101		331		042

Scenario: EP Road Name: Telegraph Rd.				me: NWC ber: 1564	Telegraph a	and SFS	
Road Segment: w/o Heritage Park Dr.		1					
SITE SPECIFIC INPUT DATA Highway Data		Site Con	ditions (Ha		EL INPUT	5	
Average Daily Traffic (Adt): 27,667 vehicle		0.00 000	4110110 (114	Autos	,		
Peak Hour Percentage: 10.00%	55	Me	dium Truck				
Peak Hour Volume: 2.767 vehicle			avy Trucks	· · ·			
Vehicle Speed: 45 mph	5			(01 AXICS,	. 10		
Near/Far Lane Distance: 90 feet		Vehicle					
		Veh	icleType	Day	Evening	Night	Daily
Site Data			Auto			9.6%	
Barrier Height: 0.0 feet			edium Truck	01.0		10.3%	2.29
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Truck	s: 86.5	% 2.7%	10.8%	1.729
Centerline Dist. to Barrier: 60.0 feet		Noise Se	ource Eleva	tions (in	feet)		
Centerline Dist. to Observer: 60.0 feet			Autos:	0.000	,		
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet			vy Trucks:	8.004	Grade Ad	iustment	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Eq	uivalent Di		feet)		
Road Grade: 0.0%			Autos:	40.000			
Left View: -90.0 degree			m Trucks:	39.778			
Right View: 90.0 degree	es	Heat	y Trucks:	39.800			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flow	Distand	ce Finite	Road F	resnel	Barrier Atte	en Ber	m Atten
Autos: 68.46 2.40		1.35	-1.20	-4.69	0.0	000	0.00
Medium Trucks: 79.45 -13.82		1.39	-1.20	-4.88		000	0.00
Heavy Trucks: 84.25 -15.06		1.38	-1.20	-5.34	0.0	000	0.00
Unmitigated Noise Levels (without Topo and	barrier at	tenuation)					
VehicleType Leq Peak Hour Leq Day		q Evening	Leq Nig		Ldn		VEL
Autos: 71.0	69.1	67.3		61.3	69.9		70
	64.3	57.9		56.4	64.9		65
Heavy Trucks: 69.4	68.0	58.9		60.2	68.5		68
Vehicle Noise: 74.0	72.3	68.3		64.5	73.0)	73
Centerline Distance to Noise Contour (in feet)						
		70 dBA	65 dBA		60 dBA		dBA
	Ldn:	95		205	442		95
C	NEL:	101		218	469		1,010

Tuesday, July 30, 2024

			TION MODE				
Scenario: OYC			Project Nam		elegraph a	and SFS	
Road Name: Telegraph Rd. Road Segment: w/o Heritage Park Dr.			Job Numbe	r: 15643			
• •							
SITE SPECIFIC INPUT DATA					LINPUTS	6	
Highway Data		Site Cor	ditions (Hard	i = 10, So			
Average Daily Traffic (Adt): 28,120 vehicl	es			Autos:	15		
Peak Hour Percentage: 10.00%			dium Trucks (
Peak Hour Volume: 2,812 vehicle	s	He	avy Trucks (3	+ Axles):	15		
Vehicle Speed: 45 mph		Vehicle	Mix				
Near/Far Lane Distance: 90 feet		Veh	icleType	Day	Evening	Night	Daily
Site Data			Autos	77.5%	12.9%	9.6%	97.42
Barrier Height: 0.0 feet		М	edium Trucks.	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier: 60.0 feet		Noise Se	ource Elevati	ons (in fe	et)		
Centerline Dist. to Observer: 60.0 feet			Autos:	0.000	,		
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Hea	vy Trucks:	8.004	Grade Adj	ustment.	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Eq	uivalent Dist		'eet)		
Road Grade: 0.0%				10.000			
Left View: -90.0 degre				39.778			
Right View: 90.0 degre	es	Hea	y Trucks:	39.800			
FHWA Noise Model Calculations			T				
VehicleType REMEL Traffic Flow	Distan				Barrier Atte		m Atter
Autos: 68.46 2.54		1.35	-1.20	-4.69	0.0		0.00
Medium Trucks: 79.45 -14.70		1.39	-1.20	-4.88	0.0		0.00
Heavy Trucks: 84.25 -18.66		1.38	-1.20	-5.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo and VehicleType Leg Peak Hour Leg Da		g Evening	Leg Night		Ldn	CI	VEL
Autos: 71.2	69.3	67.5		1.4	70.1	-	70
Medium Trucks: 64.9	63.4	57.1	-	5.5	64.0		64
Heavy Trucks: 65.8	64.4	55.3		6.6	64.9		65
Vehicle Noise: 73.0	71.3	68.1		3.4	72.0		72
	9						
Centerline Distance to Noise Contour (in fee					0 dBA	55	dBA
Centerline Distance to Noise Contour (in fee		70 dBA	65 dBA	6	UUDA	55	UDA
Centerline Distance to Noise Contour (in fee	Ldn:	70 dBA 81		75	377	55	81

	FHWA-RI	D-77-108 HIGH	WAY N	OISE	PREDIC	TION M	ODEL (9/	12/20	021)		
Scenar	io: OYCP					Project	Name: N	WC	Felegraph a	and SFS	
Road Nan	ne: Telegraph	Rd.				Job N	umber: 18	5643			
Road Segme	nt: w/o Heritag	je Park Dr.									
	SPECIFIC IN	NPUT DATA							L INPUTS	3	
Highway Data				S	Site Cond	ditions	(Hard = 1	0, So	ft = 15)		
Average Daily	Traffic (Adt):	29,027 vehicle	es				A	utos:	15		
Peak Hour	Percentage:	10.00%			Med	dium Tru	ucks (2 Ax	(les):	15		
Peak F	lour Volume:	2,903 vehicles	8		Hea	avy Truc	cks (3+ A)	(les):	15		
	hicle Speed:	45 mph		v	/ehicle N	lix					
Near/Far La	ne Distance:	90 feet		F		cleType	D	ay	Evening	Night	Daily
Site Data								7.5%		9.6%	
Ba	rrier Height:	0.0 feet			Me	edium Ti	rucks: 8	4.8%	4.9%	10.3%	2.27%
Barrier Type (0-W	•	0.0			h	leavy Tr	rucks: 8	6.5%	2.7%	10.8%	1.67%
Centerline Di	st. to Barrier:	60.0 feet			loise So	urce Fl	evations	(in fe	ef)		
Centerline Dist.	to Observer:	60.0 feet		-		Auto:					
Barrier Distance	to Observer:	0.0 feet			Medium	n Truck					
Observer Height	(Above Pad):	5.0 feet				y Truck			Grade Adj	ustment	: 0.0
P	ad Elevation:	0.0 feet									
Ro	ad Elevation:	0.0 feet		L	ane Equ	iivalent	Distance	e (in f	feet)		
	Road Grade:	0.0%				Auto					
	Left View:	-90.0 degree	es			n Truck					
	Right View:	90.0 degree	es		Heav	y Truck	s: 39.8	00			
FHWA Noise Mod	el Calculation	s									
VehicleType	REMEL	Traffic Flow	Dista	nce	Finite	Road	Fresne	1	Barrier Atte	en Ber	m Atten
Autos:	68.46	2.62		1.35	5	-1.20	-1	4.69	0.0	00	0.00
Medium Trucks:	79.45	-13.65		1.39	9	-1.20	-4	4.88	0.0	00	0.00
Heavy Trucks:	84.25	-14.97		1.38	3	-1.20		5.34	0.0	00	0.00
Unmitigated Nois	e Levels (with	out Topo and	barrier	attenu	uation)						
VehicleType	Leq Peak Ho			.eq Ev	•	Leq	Night		Ldn		NEL
Autos:			69.3		67.6		61.5		70.1		70.
Medium Trucks:			64.5		58.1		56.6		65.0		65.
Heavy Trucks:			68.0		59.0		60.3		68.6		68.
Vehicle Noise:	74	1.2	72.5		68.5		64.7		73.2		73.
Centerline Distan	ce to Noise C	ontour (in feet)	1								
				70 d	IBA 🛛	65 (dBA	6	i0 dBA	55	dBA
			Ldn:		98		210		453		976

	FHWA-RD	-77-108 HIGH	NAY NO	ISE PREDI	CTION M	ODEL (S	9/12/20	021)		
Scenario: Road Name: Road Segment:	- Telegraph F					Name: N umber: 1		Telegraph a	and SFS	
SITE SI	PECIFIC IN	PUT DATA			N	IOISE N	IODE	L INPUTS	3	
Highway Data				Site Co	nditions	(Hard =	10, So	ft = 15)		
Average Daily Tr	affic (Adt):	25,600 vehicle	s				Autos:	15		
Peak Hour Pe	ercentage:	10.00%		М	edium Tri	ucks (2 A	xles):	15		
Peak Hou	ır Volume:	2,560 vehicles		н	eavy Tru	cks (3+ A	xles):	15		
Vehic	cle Speed:	45 mph		Vehicle	Mix					
Near/Far Lane	Distance:	90 feet			hicleType		Dav	Evening	Night	Daily
Site Data							77.5%	•	9.6%	
Barri	er Height:	0.0 feet		٨	Aedium Ti	rucks:	84.8%	4.9%	10.3%	1.84%
Barrier Type (0-Wal	•	0.0			Heavy Ti	rucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dist.	. ,	60.0 feet								
Centerline Dist. to		60.0 feet		Noise S	ource El			et)		
Barrier Distance to	Observer:	0.0 feet		11-15	Auto m Truck		000 297			
Observer Height (Al	bove Pad):	5.0 feet			vy Truck		297 004	Grade Adj	votmont	
Pad	Elevation:	0.0 feet		nea	ivy muck	5. 0.0	104	Grade Auj	usuneni	. 0.0
Road	Elevation:	0.0 feet		Lane E	quivalent	Distanc	e (in f	feet)		
Ro	ad Grade:	0.0%			Auto	s: 40.0	000			
	Left View:	-90.0 degree	s	Medi	um Truck	s: 39.7	778			
F	Right View:	90.0 degree	s	Hea	wy Truck	s: 39.8	300			
FHWA Noise Model	Calculations	5								
VehicleType	REMEL	Traffic Flow	Distand	e Finit	e Road	Fresn	e/	Barrier Atte	en Ber	m Atten
Autos:	68.46	2.13		1.35	-1.20		-4.69	0.0		0.00
Medium Trucks:	79.45	-15.11		1.39	-1.20		-4.88	0.0		0.00
Heavy Trucks:	84.25	-19.06		1.38	-1.20		-5.34	0.0	00	0.00
Unmitigated Noise L					1					
	eq Peak Hou			q Evening		Night		Ldn		NEL
Autos:	70.		8.8	67.		61.0		69.6		70.3
Medium Trucks:	64.		63.0	56.		55.1		63.6		63.
Heavy Trucks:	65.		64.0	54.		56.2		64.5		64.
Vehicle Noise:	72.	6	70.8	67.	(63.0		71.6	•	72.
Centerline Distance	to Noise Co	ntour (in feet)								
				70 dBA		dBA	6	0 dBA	55	dBA
		-	dn:	76		164		354		762
		CN	IEL:	82		176		380		818

	FHWA-RD-7	7-108 HIGHW	AY NO	ISE PREDI		NODEL	(9/12/2	021)		
Scenario: I Road Name:						t Name: Number:		Telegraph a	and SFS	
Road Segment:	w/o Norwalk B	lvd.								
SITE SPI	ECIFIC INPU	JT DATA							5	
Highway Data				Site Col	nditions	(Hard =	= 10, So	oft = 15)		
Average Daily Tra	ffic (Adt): 26	,507 vehicles					Autos:	15		
Peak Hour Per	rcentage: 10	.00%		M	edium Ti	rucks (2	Axles):	15		
Peak Hour	Volume: 2,6	651 vehicles		H	eavy Tru	icks (3+	Axles):	15		
Vehicl	e Speed:	45 mph		Vehicle	Mix					
Near/Far Lane I	Distance:	90 feet			nicleType	e	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	÷	9.6%	
Barrie	r Heiaht:	0.0 feet		N	1edium 1	rucks:	84.8%	4.9%	10.3%	2.319
Barrier Type (0-Wall,		0.0			Heavy 1	rucks:	86.5%	2.7%	10.8%	1.769
Centerline Dist. to	,	60.0 feet		Noise O			- (in f	4		
Centerline Dist. to C		60.0 feet		Noise S				eet)		
Barrier Distance to C	Observer:	0.0 feet		11-16	Auto Im Truck		.000			
Observer Height (Abo	ove Pad):	5.0 feet			vy Truck		.297 .004	Grade Ad	iustmont	
Pad E	levation:	0.0 feet		пеа	vy muci	(S. 0	.004	Graue Auj	usiment	0.0
Road E	levation:	0.0 feet		Lane Eq	uivalen	t Distan	ce (in	feet)		
Roa	d Grade: 0	.0%			Auto	os: 40	.000			
L	.eft View: -	90.0 degrees			ım Truck		.778			
Ri	ght View:	90.0 degrees		Hea	vy Trucł	ks: 39	.800			
FHWA Noise Model C										
		affic Flow	Distan		e Road	Fres	-	Barrier Atte		m Atten
Autos:	68.46	2.22		1.35	-1.20		-4.69		000	0.00
Medium Trucks:	79.45	-13.97		1.39	-1.20		-4.88		000	0.00
Heavy Trucks:	84.25	-15.14		1.38	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Le			-	,	1		1			
	q Peak Hour	Leq Day		q Evening		Night		Ldn		VEL
Autos:	70.8		1.9	67.2		61.		69.7		70.
Medium Trucks:	65.7	-	.2	57.8		56.	-	64.7		64.
Heavy Trucks: Vehicle Noise:	69.3 73.9		'.9 2.2	58.8		60. 64.		68.4		68. 73.
			Z	08.2	<u>-</u>	64.	4	72.8	,	73.
Centerline Distance to	o Noise Conte	our (in feet)		70 dBA	65	dBA		60 dBA	55	dBA
		10	in:	93		20		432		93 [.]
						20		432		33

Tuesday, July 30, 2024

/A-RD	-77-108 HIGHV	VAY NO	ISE	PREDIC	TION M	ODEL (9/	12/20)21)		_
								elegraph a	nd SFS	
			_							
	PUT DATA			Cite Con					i	
ge: ne:	10.00% 2,690 vehicles	3		Me	dium Tru	A cks (2 A)	utos: (les):	15 15 15 15		
			1	Vehicle I	<i>lix</i>					
ce:	90 feet			Vehi	cleType	Ľ	Day	Evening	Night	Daily
									9.6%	97.429
ht:	0.0 feet									1.849
	0.0			F	leavy Tr	ucks: 8	6.5%	2.7%	10.8%	0.74%
	60.0 feet		1	Noise So	urce Ele	vations	(in fe	et)		-
					Autos	: 0.0	00			
				Mediur	n Trucks	: 2.2	97			
				Heav	y Trucks	: 8.0	04	Grade Adju	stment:	0.0
			H	l ano Equ	uivalant	Dictoro	(in f	inati		
			Ľ,	Lane Ly				eelj		
				Mediur						
ations	1									
L	Traffic Flow	Distan	се	Finite	Road	Fresne	1 1	Barrier Atte	n Ben	m Atten
8.46	2.35		1.3	5	-1.20		4.69	0.0	00	0.00
9.45	-14.89		1.3	9	-1 20		4.88	0.0	00	0.00
				-	1.20					
4.25	-18.85		1.3	8	-1.20		5.34	0.0	00	0.00
witho	ut Topo and b		tten	uation)	-1.20					
witho k Hou	ut Topo and b	Le	tten	uation) vening		light		Ldn		IEL
witho k Hou 71.	ut Topo and b Leq Day 0 6	9.1	tten	vening 67.3	-1.20	light 61.2		Ldn 69.9	CI	<i>IEL</i> 70.
witho k Hou 71. 64.	ut Topo and b Leq Day 0 6 7 6	9.1 3.2	tten	vening 67.3 56.9	-1.20	light 61.2 55.3		Ldn 69.9 63.8	CI	<i>IEL</i> 70. 64.
witho k Hou 71. 64. 65.	Leq Day C Leq Day C 6 7 6 6 6	Le 9.1 3.2 4.2	tten	vening 67.3 56.9 55.1	-1.20	<i>light</i> 61.2 55.3 56.4		Ldn 69.9 63.8 64.7	CI	<i>IEL</i> 70. 64. 64.
witho k Hou 71. 64. 65. 72.	ut Topo and b r Leq Day 0 6 7 6 6 6 8 7	9.1 3.2	tten	vening 67.3 56.9	-1.20	light 61.2 55.3		Ldn 69.9 63.8	CI	<i>IEL</i> 70. 64. 64.
witho k Hou 71. 64. 65. 72.	Leq Day C Leq Day C 6 7 6 6 6	<i>Le</i> 9.1 3.2 4.2 1.1	q E	uation) vening 67.3 56.9 55.1 67.9	-1.20	light 61.2 55.3 56.4 63.2		Ldn 69.9 63.8 64.7 71.8	CI	VEL 70. 64. 64. 72.
witho k Hou 71. 64. 65. 72.	Leq Day Leq Day 0 6 7 6 6 6 8 7 ntour (in feet)	<i>Le</i> 9.1 3.2 4.2 1.1	q E	vening 67.3 56.9 55.1	-1.20	light 61.2 55.3 56.4 63.2		Ldn 69.9 63.8 64.7	CI	0.00 VEL 70. 64. 64. 72. dBA 788
	raph R forwalk dt): gge: me: eed: free: fr	raph Rd. corwalk Blvd. IC INPUT DATA dt): 26,900 vehicles gg: 10.00% me: 2,690 vehicles ed: 45 mph oce: 90 feet tht: 0.0 feet off:r: 60.0 feet ver: 0.0 feet ad): 5.0 feet ion: 0.0 feet wer: 60.0 feet wer: 0.0 feet do: 0.0% ew: 90.0 degrees attoms 21 Traffic Flow 88.46	raph Rd. icr INPUT DATA dt): 26,900 vehicles ge: 10.00% me: 2,690 vehicles ed: 45 mph bc: 90 feet tht: 0.0 feet eff: 60.0 feet ever: 60.0 feet ad2): 5.0 feet ion: 0.0 feet ever: 60.0 feet ever: 0.0 feet ever: 9.0 feet ion: 0.0 feet ever: 90.0 degrees ew: 90.0 degrees ations 2.35	raph Rd. onwalk Blvd. IC INPUT DATA dt): 26,900 vehicles ge: 10.00% me: 2,690 vehicles ed: 45 mph nce: 90 feet pht: 0.0 feet mp: 60.0 feet wer: 60.0 feet ion: 0.0 degrees ew: 90.0 degrees ew: 90.0 degrees itL Traffic Flow Distance 8.46 2.35 1.3	Ice InPUT DATA Site Conversion IC INPUT DATA Site Conversion dt): 26,900 vehicles Menter ge: 10,00% Menter me: 2,6300 vehicles Henter ed: 45 mph Vehicle N inter: 0.0 feet Weithicle N inter: 60.0 feet Noise So inter: 0.0 feet Mediur inter: 0.0 feet Mediur int: 0.0 feet Mediur int: 0.0 feet Mediur int: 0.0 feet Mediur int: 0.0 feet Lane Equities inter: 90.0 degrees Mediur ew: 90.0 degrees Mediur itable: Traffic Flow Distance Finite 846 2.35 1.35 Stance	Project Job NL Icraph Rd. Job NL onwalk Blvd. Job NL Icraph Rd. Site Conditions (d): 26,900 vehicles Medium Tru ge: 10.00% Medium Tru medium Tru Heavy Truc ed: 45 mph Vehicle Mix ver: 60.0 feet Medium Tru mht: 0.0 feet Medium Tru err 60.0 feet ver: 60.0 feet Medium Trucks ad): 5.0 feet Heavy Trucks ion: 0.0 feet Medium Trucks ion: 0.0 feet Medium Trucks ion: 0.0 feet Medium Trucks ion: 0.0 feet Heavy Trucks ion: 0.0 feet Heavy Trucks ion: 0.0 feet Lane Equivalent ion: 0.0 feet Lane Equivalent ion: 0.0 feet Heavy Trucks ion: 0.0 feet Heavy Trucks ion: 0.0 feet Lane Equivalent ion: 0.0 degrees Heavy Trucks ew: 90.0 degrees Heavy Trucks itoms Distance ital Traffic Flow Distance ital 7.20 1.35	Project Name: Norwalk Blvd. Project Name: Norwalk Blvd. Icc INPUT DATA NOISE M Ict INPUT DATA Site Conditions (Hard = 1 dt): 26,900 vehicles A ge: 10,00% Medium Trucks (2 A) medium Trucks (2 A) Heavy Trucks (3 A) ved: 45 mph Vehicle Mix ved: 90 feet Vehicle Mix mp: 0.0 feet Medium Trucks: 0 mp: 0.0 feet Medium Trucks: 0 mp: 0.0 feet Medium Trucks: 8.0 ier: 60.0 feet Medium Trucks: 8.0 ion: 0.0 feet Heavy Trucks: 8.0 ion: 0.0 feet Heavy Trucks: 8.0 ion: 0.0 feet Heavy Trucks: 3.0 ion: 0.0 feet Heavy Trucks: 3.0 ion: 0.0 feet Medium Trucks: 2.2 wer: 90.0 degrees Medium Trucks: 3.9.7 ew: 90.0 degrees Heavy Trucks: 3.9.8 itline Traffic Flow Distance Finite Road Fresne <	Project Name: NWC T raph Rd. Job Number: 15643 Job Number: 15643 Job Number: 15643 IC INPUT DATA NOISE MODE Site Conditions (Hard = 10, So Autos: dt): 26,900 vehicles Medium Trucks (2 Axles): ge: 10,00% Medium Trucks (2 Axles): ed: 45 mph Vehicle Mix vee: 90 feet Vehicle Mix wer: 60.0 feet Noise Source Elevations (in fever: 60.0 feet wer: 60.0 feet Noise Source Elevations (in fever) add: 5.0 feet Medium Trucks: 2.297 Heavy Trucks: 8.004 Medium Trucks: 2.297 Heavy Trucks: 39.778 Heavy Trucks: 39.778 wer: 90.0 degrees Heavy Trucks: 39.778 Heavy Trucks: 39.00 Medium Trucks: 39.778 Heavy Trucks: 39.00 Medium Trucks: 39.778 Heavy Trucks: 39.00 Medium Trucks: 39.778 Beavy Trucks: 39.00 Medium Trucks: 39.778 Beavy Trucks: 39.00 States: 4.00	traph Rd. Job Number: 15643 tic INPUT DATA NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15) Site Conditions (Hard = 10, Soft = 15) dt): 26,900 vehicles Autos: 15 ge: 10,00% Medium Trucks (2 Axles): 15 me: 2,6800 vehicles Autos: 17.5% ed: 45 mph Vehicle Mix vee: 90 feet Vehicle Mix filt: 0.0 feet Medium Trucks (3 + Axles): 15 ref: 60.0 feet Medium Trucks: 86.5% 2.7% filt: 0.0 feet Medium Trucks: 86.5% 2.7% mp: 5.0 feet Autos: 77.5% 12.9% filt: 0.0 feet Autos: 0.000 Medium Trucks: 2.297 mer: 0.0 feet Autos: 40.000 Medium Trucks: 2.297 filt: 0.0 feet Autos: 40.000 Medium Trucks: 3.9.778 wer: 90.0 degrees Heavy Trucks: 39.800 Medium Trucks: 39.778 wer: 90.0 degrees Heavy Trucks: 39.800 Medium Trucks: 4.69 0.00 stator	Project Name: NWC Telegraph and SFS Job Number: 15643 Project Name: NWC Telegraph and SFS Job Number: 15643 Site Conditions (Hard = 10, Soft = 15) Autos: 15 Medium Trucks (2 Axles): 15 dt): 26,900 vehicles ge: 10,00% Autos: 15 Medium Trucks (2 Axles): 15 Vehicle Mix ver: 2,690 vehicles ed: 45 mph Vehicle Mix Vehicle Mix vehicle Mix ver: 0.0 feet wer: 60.0 feet Nofeet Vehicle Mix ver: 60.0 feet Noise Source Elevations (in feet) ver: 0.0 feet Medium Trucks: 8.004 Grade Adjustment: Medium Trucks: 39.778 Heavy Trucks: 39.778 Heavy Trucks: 39.778 ew: 90.0 degrees Heavy Trucks: 39.778 Barrier Atten Barrier Atten Autos: 7.75% Autos: 0.000 Medium Trucks: 30.04 Autos: 0.000

	FHWA-RD	-77-108 HIGHV	VAY NO	ISE PREDIC	TION MC	DEL (9/12/	2021)		
	b: OYCP e: Telegraph F t: w/o Norwalk					lame: NWC nber: 1564	C Telegraph a 3	nd SFS	
SITE S	PECIFIC IN	PUT DATA			NC	ISE MOD	EL INPUTS		
Highway Data				Site Con	ditions (H	lard = 10, 3	Soft = 15)		
Average Daily 1	raffic (Adt):	27,807 vehicles	3			Auto	s: 15		
Peak Hour I	Percentage:	10.00%		Me	dium Truc	ks (2 Axles): 15		
Peak Ho	our Volume:	2,781 vehicles		He	avy Truck	s (3+ Axles	;): 15		
Veh	icle Speed:	45 mph		Vehicle I	Mix				
Near/Far Lan	e Distance:	90 feet			icleType	Day	Evening	Night [Daily
Site Data						itos: 77.5	-	9.6% 96	
Bar	rier Height:	0.0 feet		M	edium Tru	cks: 84.8	% 4.9%	10.3%	2.29%
Barrier Type (0-Wa	•	0.0		ŀ	Heavy Tru	cks: 86.5	% 2.7%	10.8%	1.72%
Centerline Dis	t. to Barrier:	60.0 feet		Noise Sc	ource Elev	ations (in	feet)		
Centerline Dist. t	o Observer:	60.0 feet			Autos:				
Barrier Distance t	o Observer:	0.0 feet		Mediu	m Trucks:				
Observer Height (/	Above Pad):	5.0 feet			vy Trucks:		Grade Adju	istment: 0.	.0
	d Elevation:	0.0 feet							
	d Elevation:	0.0 feet		Lane Eq		Distance (ii	n feet)		
F	oad Grade:	0.0%			Autos:	40.000			
	Left View:	-90.0 degree:			m Trucks:				
	Right View:	90.0 degrees	6	Heav	y Trucks:	39.800			
FHWA Noise Mode	I Calculations	;		1					
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	Road	Fresnel	Barrier Atte	n Berm /	Atten
Autos:	68.46	2.43		1.35	-1.20	-4.6	9 0.00	00	0.00
Medium Trucks:	79.45	-13.80		1.39	-1.20	-4.8	8 0.00	00	0.00
Heavy Trucks:	84.25	-15.05		1.38	-1.20	-5.3	4 0.00	00	0.00
Unmitigated Noise									
	Leq Peak Hou			q Evening	Leq N	•	Ldn	CNEL	
Autos:	71.		9.1	67.4		61.3	69.9		70.
Medium Trucks:	65.		4.3	58.0		56.4	64.9		65.
Heavy Trucks:	69.		8.0	58.9		60.2	68.5		68.
Vehicle Noise:	74.	.0 7	2.3	68.4		64.5	73.0		73.
Centerline Distance	e to Noise Co	ntour (in feet)	1		0				
			1	70 dBA	65 dE	BA	60 dBA	55 dB.	
		-	dn: EL:	95 101		206 218	443 470		955 1.013

FHWA-RD	-77-108 HIGHWA	NOISE	PREDICT		DEL (9/12/	2021)	
Scenario: E Road Name: Telegraph R Road Segment: e/o Norwalk			F		ame: NWC aber: 1564	Telegraph a 3	and SFS
SITE SPECIFIC IN	PUT DATA					EL INPUT	5
Highway Data		5	Site Cond	itions (H	ard = 10, S	Soft = 15)	
Average Daily Traffic (Adt):	23,250 vehicles				Autos	s: 15	
Peak Hour Percentage:	10.00%		Medi	ium Truck	is (2 Axles): 15	
Peak Hour Volume:	2,325 vehicles		Hear	vy Trucks	(3+ Axles): 15	
Vehicle Speed:	45 mph		Vehicle Mi	iv.			
Near/Far Lane Distance:	90 feet	F		a leType	Dav	Evening	Night Daily
Site Data				Aut			9.6% 97.429
Barrier Height:	0.0 feet		Med	dium Truc	ks: 84.8	% 4.9%	10.3% 1.84%
Barrier Type (0-Wall, 1-Berm):	0.0		He	eavy Truc	ks: 86.5	% 2.7%	10.8% 0.74%
Centerline Dist. to Barrier:	60.0 feet	L.	Voise Sou	ree Elev	ationa (in	fact	
Centerline Dist. to Observer:	60.0 feet	ť	10/36 300	Autos:	0.000	ieeij	
Barrier Distance to Observer:	0.0 feet		Medium		2.297		
Observer Height (Above Pad):	5.0 feet			Trucks:	8.004	Grade Ad	iustment: 0.0
Pad Elevation:	0.0 feet	L	neavy	macks.	0.004	0/000/10	doumonia 0.0
Road Elevation:	0.0 feet	1	ane Equi	valent D	istance (ir	i feet)	
Road Grade:	0.0%			Autos:	40.000		
Left View:	-90.0 degrees		Medium		39.778		
Right View:	90.0 degrees		Heavy	Trucks:	39.800		
FHWA Noise Model Calculations							
VehicleType REMEL		stance	Finite R		Fresnel	Barrier Atte	
Autos: 68.46	1.71	1.3	-	-1.20	-4.69		
Medium Trucks: 79.45	-15.53	1.39	-	-1.20	-4.88		
Heavy Trucks: 84.25	-19.48	1.3	В	-1.20	-5.34	¢ 0.0	00.00
Unmitigated Noise Levels (witho			,				
VehicleType Leq Peak Hour		Leq E		Leq Nig		Ldn	CNEL
Autos: 70.			66.7		60.6	69.2	
Medium Trucks: 64.			56.2		54.7	63.2	
Heavy Trucks: 65.			54.5		55.7	64.1	
Vehicle Noise: 72.	2 70.4		67.3		62.6	71.1	71.
Centerline Distance to Noise Col	ntour (in feet)						
		70 c		65 dB.		60 dBA	55 dBA
	Ldn:		72		154 165	332 356	71:
	CNEL		77				

	FHWA-RD	-77-108 HIGH	WAY	NOISE	PREDIC	TION M	ODEL (9/12/2	021)		
Scenario:									Felegraph	and SFS	
Road Name: Road Segment:						Job N	umber:	15643			
		PUT DATA				N	OISE			s	
Highway Data				s	ite Con					•	
Average Daily Tra	ffic (Adt)	23.348 vehicle	20					Autos:	15		
Peak Hour Pe	. ,	10.00%			Me	dium Tru					
Peak Hour	•	2.335 vehicle:	•			avy Truc	,				
	e Speed:	45 mph	-				. (.	,	-		
Near/Far Lane		90 feet		v	ehicle N		- 1	0	Evening	Manhak	Deile
Site Data					veni	cleType	utos:	Day 77.5%	•	Night 9.6%	Daily 97.43
					14	ہ dium Ti		84.8%			
	r Height:	0.0 feet				leavy Ti		84.8%		10.3% 10.8%	1.83 ^o 0.74 ^o
Barrier Type (0-Wall,	,	0.0				ieavy II	UCKS:	00.5%	2.7%	10.8%	0.74
Centerline Dist. t		60.0 feet		۸	loise So	urce El	evation	s (in fe	eet)		
Centerline Dist. to (60.0 feet				Auto	s: 0.	000			
Barrier Distance to (0.0 feet			Mediur	n Truck	s: 2.	297			
Observer Height (Abo	,	5.0 feet			Heav	y Truck:	s: 8.	004	Grade Ad	justment	0.0
	Elevation: Elevation:	0.0 feet 0.0 feet		,	ane Equ	uivalont	Dicton	o (in	foot)		
	=levation: ad Grade:	0.0 reet		-	ane Lyi	Auto		000	eeŋ		
	left View:	-90.0 degree			Mediur	n Truck:		778			
	ght View:	90.0 degree				y Truck		800			
FHWA Noise Model C	alculations	;									
VehicleType	REMEL	Traffic Flow	Di	stance	Finite	Road	Fresr	nel	Barrier Att	en Ber	m Atter
Autos:	68.46	1.73		1.35		-1.20		-4.69	0.0	000	0.00
Medium Trucks:	79.45	-15.53		1.39		-1.20		-4.88	0.0	000	0.00
Heavy Trucks:	84.25	-19.48		1.38	1	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Le			<u> </u>		<u> </u>			1			
	q Peak Hou			Leq Ev		Leq	Night		Ldn		VEL
Autos: Medium Trucks:	70. 64		68.4 62.6		66.7 56.2		60.0	-	69.2 63.2	-	69 63
Medium Trucks: Heavy Trucks:	64. 65.	-	62.6 63.5		56.2 54.5		54. 55.		63.2	-	63 64
Vehicle Noise:	65. 72.		70.4		54.5 67.3		55. 62.0		64. 71.2		71
					07.3		02.0	,	/ 1.4	2	71
Centerline Distance t	o Noise Co	ntour (in feet,	, 	70 d	BA	65 (dBA	6	0 dBA	55	dBA
			Ldn:		72		154		332	1	71
							166		357		76

Tuesday, July 30, 2024

Scenario	· OVC				Project No.	ne: NWC	Telegraph a	and SES	
	: Telegraph R	d			Job Numb			inu oro	
Road Segment					300 Wum	Jer. 13040	,		
	PECIFIC IN			1	NO		EL INPUTS		
Highway Data				Site Con	ditions (Ha				
Average Daily T	raffic (Adt):	24,720 vehicles				Autos	: 15		
Peak Hour F	ercentage:	10.00%		Me	dium Trucks	(2 Axles)	: 15		
Peak Ho	ur Volume:	2,472 vehicles		He	avy Trucks	(3+ Axles)	: 15		
Veh	cle Speed:	45 mph		Vehicle	Mix				
Near/Far Lan	e Distance:	90 feet			icleTvpe	Dav	Evening	Night	Dailv
Site Data					Auto	s: 77.5%	-	9.6%	97.429
Rarr	ier Height:	0.0 feet		м	edium Truck	s: 84.89	6 4.9%	10.3%	1.849
Barrier Type (0-Wa	•	0.0			Heavy Truck	s: 86.5%	6 2.7%	10.8%	0.749
Centerline Dist		60.0 feet		Noise Se	ource Eleva	tions (in f	feet)		
Centerline Dist. to		60.0 feet			Autos:	0.000	,		
Barrier Distance to	Observer:	0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (A	bove Pad):	5.0 feet			vy Trucks:	8.004	Grade Adj	ustment.	0.0
	l Elevation:	0.0 feet							
	l Elevation:	0.0 feet		Lane Eq	uivalent Dis		feet)		
R	oad Grade:	0.0%			Autos:	40.000			
	Left View:	-90.0 degrees			m Trucks:	39.778			
	Right View:	90.0 degrees		Hea	vy Trucks:	39.800			
FHWA Noise Model	Calculations								
VehicleType	REMEL	Traffic Flow	Distance	e Finite	Road F	resnel	Barrier Atte	en Ber	m Atten
Autos:	68.46	1.98		.35	-1.20	-4.69			0.00
Medium Trucks:	79.45	-15.26		.39	-1.20	-4.88			0.00
Heavy Trucks:	84.25	-19.21	1	.38	-1.20	-5.34	0.0	00	0.00
					I				
Unmitigated Noise		 Leg Day 	lea	Evening	Leq Nigl		Ldn		VEL
VehicleType L	eq Peak Hour						69.5)	70.
VehicleType L Autos:	70.	6 6	3.7	66.9		60.9			
VehicleType L Autos: Medium Trucks:	70. 64.	6 61 4 62	3.7 2.9	56.5		55.0	63.4		
VehicleType L Autos: Medium Trucks: Heavy Trucks:	70. 64. 65.	6 61 4 62 2 63	3.7 2.9 3.8	56.5 54.8		55.0 56.0	63.4 64.4		64.
VehicleType L Autos: Medium Trucks: Heavy Trucks:_ Vehicle Noise:	70. 64. 65. 72.	6 61 4 62 2 63 4 71	3.7 2.9	56.5		55.0	63.4		64
VehicleType L Autos: Medium Trucks: Heavy Trucks:	70. 64. 65. 72.	6 61 4 62 2 63 4 71	3.7 2.9 3.8).7	56.5 54.8 67.5		55.0 56.0 62.9	63.4 64.4 71.4		64 71
VehicleType L Autos: Medium Trucks: Heavy Trucks:_ Vehicle Noise:	70. 64. 65. 72.	6 6 4 6 2 6 4 7 1 ntour (in feet)	3.7 2.9 3.8).7	56.5 54.8		55.0 56.0 62.9	63.4 64.4		63. 64. 71. dBA 74:

FHWA-RD-77-108 HIGHV	VAY NOI	SE PREDIO	CTION MO	DDEL (9/1	12/2021)	
Scenario: OYCP			Project I	Vame: NV	VC Telegraph a	nd SFS
Road Name: Telegraph Rd.			Job Ni	mber: 15	643	
Road Segment: e/o Norwalk Blvd.						
SITE SPECIFIC INPUT DATA					DEL INPUTS	5
Highway Data		Site Cor	ditions (Hard = 10), Soft = 15)	
Average Daily Traffic (Adt): 24,818 vehicles	S			Au	tos: 15	
Peak Hour Percentage: 10.00%		Me	edium Tru	cks (2 Axl	les): 15	
Peak Hour Volume: 2,482 vehicles		He	eavy Truci	ks (3+ Axl	les): 15	
Vehicle Speed: 45 mph		Vehicle	Mix			
Near/Far Lane Distance: 90 feet			icleType	Da	ay Evening	Night Dail
Site Data			A	utos: 77	.5% 12.9%	9.6% 97.43
Barrier Height: 0.0 feet		М	ledium Tru	icks: 84	.8% 4.9%	10.3% 1.83
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Tru	<i>icks:</i> 86	6.5% 2.7%	10.8% 0.74
Centerline Dist. to Barrier: 60.0 feet		Noise S	ource Ele	vations (in foot)	
Centerline Dist. to Observer: 60.0 feet		10/30 0	Autos			
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks			
Observer Height (Above Pad): 5.0 feet			vy Trucks			ustment: 0.0
Pad Elevation: 0.0 feet			·			
Road Elevation: 0.0 feet		Lane Eq		Distance		
Road Grade: 0.0%			Autos	10.00		
Left View: -90.0 degrees			m Trucks		-	
Right View: 90.0 degrees	S	Hea	vy Trucks	39.80	0	
FHWA Noise Model Calculations						
VehicleType REMEL Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Atte	n Berm Atte
Autos: 68.46 2.00		1.35	-1.20	-4	.69 0.00	0.0 0.0
Medium Trucks: 79.45 -15.26		1.39	-1.20	-4	.88 0.00	0.0 0.0
Heavy Trucks: 84.25 -19.21		1.38	-1.20	-5	.34 0.00	00 0.0
Unmitigated Noise Levels (without Topo and b	arrier at	tenuation)				
VehicleType Leq Peak Hour Leq Day		q Evening	Leq N		Ldn	CNEL
Autos: 70.6 6	8.7	66.9		60.9	69.5	7
	2.9	56.5		55.0	63.4	-
				56.0	64.4	6
Heavy Trucks: 65.2 6	3.8	54.8				
Heavy Trucks: 65.2 6		54.8 67.6		62.9	71.4	7
Heavy Trucks: 65.2 6 Vehicle Noise: 72.4 7	3.8				71.4	7
Heavy Trucks: 65.2 6	3.8 0.7			62.9	71.4 60 dBA	7 55 dBA
Heavy Trucks: 65.2 6 Vehicle Noise: 72.4 7 Centerline Distance to Noise Contour (in feet)	3.8 0.7	67.6		62.9		

		0-77-108 HIGH			REDIO						
Scenario: E									elegraph a	and SFS	
Road Name: T Road Segment: w						JOD N	umber: 1	5643			
Ţ.										_	
	CIFIC IN	IPUT DATA					OISE N (Hard =			3	
Highway Data				3	ne con	aitions			,		
Average Daily Traf	• •	22,990 vehicle	es			diana Tar		Autos:	15		
Peak Hour Perc		10.00%					icks (2 A	,	15		
Peak Hour		2,299 vehicle	5		не	avy iruc	:ks (3+ A	xies):	15		
Venicie Near/Far Lane D	Speed:	45 mph		V	ehicle N	Nix					
Near/Far Lane L	istance:	90 feet			Vehi	icleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	97.42
Barrier	Height:	0.0 feet				edium Tr		84.8%		10.3%	1.84
Barrier Type (0-Wall,	1-Berm):	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to	Barrier:	60.0 feet		N	oise So	ource Ele	evations	in fe	et)		
Centerline Dist. to O	bserver:	60.0 feet		-		Autos		000			
Barrier Distance to O		0.0 feet			Mediur	n Trucks	: 2.2	297			
Observer Height (Abo	,	5.0 feet			Heav	y Trucks	s: 8.0	004	Grade Adj	ustment	: 0.0
	levation:	0.0 feet		Ŀ	_						
	levation:	0.0 feet		Li	ane Equ		Distanc		eet)		
	Grade:	0.0%				Autos n Trucks					
	eft View:	-90.0 degree				т Trucks y Trucks					
Rig	ht View:	90.0 degree	es		neav	y mucks	5. 39.0	500			
FHWA Noise Model Ca	lculation	s									
VehicleType R	EMEL	Traffic Flow	Distar	ice	Finite	Road	Fresn	e/	Barrier Atte	en Ber	m Atter
Autos:	68.46	1.66		1.35		-1.20		-4.69	0.0	00	0.00
Medium Trucks:	79.45	-15.57		1.39		-1.20		-4.88	0.0	00	0.00
Heavy Trucks:	84.25	-19.53		1.38		-1.20		-5.34	0.0	00	0.00
Unmitigated Noise Lev	els (with	out Topo and	barrier a	ttenu	ation)						
	Peak Hou			eq Eve		Legi	Night		Ldn	CI	VEL
Autos:	70	.3	68.4		66.6		60.6		69.2	2	69
Medium Trucks:	64	.1	62.6		56.2		54.6		63.1		63
Heavy Trucks:	64	.9	63.5		54.4		55.7		64.1		64
Vehicle Noise:	72	.1	70.4		67.2		62.6		71.1		71
	Noise Co	ontour (in feet)								
Centerline Distance to			1			05	'BA	6	0 dBA	66	dBA
Centerline Distance to				70 dE	BA I	65 0	JDA	C	U UDA	- 55	UDA
Centerline Distance to			Ldn:	70 dE	3A 71	65 (153	6	329	55	71

	FHWA-RD	0-77-108 HIGH	WAY NO	DISE PR	REDICTION	MODEL (9/12/20	021)		
Scenari Road Nam Road Segmer	e: Telegraph F					ct Name: Number:		Felegraph a	and SFS	
SITE	SPECIFIC IN	IPUT DATA				NOISE	NODE	L INPUT	5	
Highway Data				Sit	e Conditions	s (Hard =	10, So	ft = 15)		
Average Daily	Traffic (Adt):	23,088 vehicle	es				Autos:	15		
Peak Hour	Percentage:	10.00%			Medium T	rucks (2	Axles):	15		
	our Volume:	2,309 vehicles	s		Heavy Tr	ucks (3+)	Axles):	15		
	hicle Speed:	45 mph		Ve	hicle Mix					
Near/Far Lar	ne Distance:	90 feet			VehicleTyp	e	Day	Evening	Night	Daily
Site Data						Autos:	77.5%	12.9%	9.6%	97.439
Bar	rier Height:	0.0 feet			Medium	Trucks:	84.8%	4.9%	10.3%	1.83%
Barrier Type (0-W	all, 1-Berm):	0.0			Heavy	Trucks:	86.5%	2.7%	10.8%	0.74%
Centerline Dis	st. to Barrier:	60.0 feet		No	ise Source E	levation	s (in fe	et)		
Centerline Dist.		60.0 feet			Aut		000			
Barrier Distance		0.0 feet		1	Medium Truc	ks: 2.	297			
Observer Height (,	5.0 feet			Heavy Truc	ks: 8.	004	Grade Adj	ustment	0.0
	ad Elevation: ad Elevation:	0.0 feet 0.0 feet		1 21	ne Equivaler	nt Distan	co (in t	feet)		
	Road Grade:	0.0%		Lui	Aut		000	001		
r	Left View:	-90.0 degree	20		Adium Truc		778			
	Right View:	90.0 degree			Heavy Truc	ks: 39.	800			
FHWA Noise Mode		-								
VehicleType	REMEL	Traffic Flow	Distar		Finite Road	Fresr		Barrier Atte		m Atten
Autos:	68.46	1.68		1.35	-1.20		-4.69	0.0		0.00
Medium Trucks:	79.45	-15.57		1.39	-1.20		-4.88	0.0		0.00
Heavy Trucks:	84.25	-19.53		1.38	-1.20		-5.34	0.0	00	0.00
Unmitigated Noise					,				T	
	Leq Peak Hou			eq Ever		Night		Ldn		VEL
Autos:	70		68.4		66.6	60.0		69.2		69.
Medium Trucks: Heavy Trucks:	64 64		62.6 63.5		56.2 54.4	54.0 55.1		63.1 64.1		63. 64.
Vehicle Noise:	72	-	70.4		67.2	62.0		71.1		71
Centerline Distanc					07.2	02.	·			
contentine Distant		(in ieel)	,	70 dB/	A 65	5 dBA	6	0 dBA	55	dBA
			Ldn:		71	153	1	330	1	71
			NEL:		76	164		354		763

Tuesday, July 30, 2024

			TION MODE				
Scenario: OYC			Project Nam		Felegraph a	and SFS	
Road Name: Telegraph Rd.			Job Numbe	er: 15643			
Road Segment: w/o Santa Fe Springs Rd.							
SITE SPECIFIC INPUT DATA					L INPUTS	6	
Highway Data		Site Con	ditions (Hare	1 = 10, So	ft = 15)		
Average Daily Traffic (Adt): 26,930 vehicle	s			Autos:	15		
Peak Hour Percentage: 10.00%		Me	dium Trucks	(2 Axles):	15		
Peak Hour Volume: 2,693 vehicles		He	avy Trucks (3	+ Axles):	15		
Vehicle Speed: 45 mph		Vehicle I	Nix				
Near/Far Lane Distance: 90 feet			cleType	Dav	Evening	Night	Daily
Site Data			Autos	77.5%	•	9.6%	
Barrier Height: 0.0 feet		Me	edium Trucks	84.8%	4.9%	10.3%	1.849
Barrier Type (0-Wall, 1-Berm): 0.0		ŀ	leavy Trucks	86.5%	2.7%	10.8%	0.749
Centerline Dist. to Barrier: 60.0 feet		Noise Sc	urce Elevati	ons (in fe	et)		
Centerline Dist. to Observer: 60.0 feet			Autos:	0.000	.,		
Barrier Distance to Observer: 0.0 feet		Mediu	n Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Heav	v Trucks:	8.004	Grade Adj	ustment.	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Equ	ivalent Dist		'eet)		
Road Grade: 0.0%				40.000			
Left View: -90.0 degree				39.778			
Right View: 90.0 degree	3	Heav	y Trucks:	39.800			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flow	Distance				Barrier Atte		m Atten
Autos: 68.46 2.35		35	-1.20	-4.69	0.0		0.00
Medium Trucks: 79.45 -14.89		39	-1.20	-4.88	0.0		0.00
Heavy Trucks: 84.25 -18.84	1.	.38	-1.20	-5.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo and L			L Alimbe		Ldn		VEL
VehicleType Leq Peak Hour Leq Day Autos: 71.0	59.1	Evening 67.3	Leq Night	1.2	Lan 69.9	-	VEL 70
Autos. 71.0 6	9.1 3.2	67.3 56.9	-	5.3	63.8		70 64
Madium Trucka: 64.7		56.9		6.4	63.8		64 64
		SS.1			• · · ·		72
Heavy Trucks: 65.6 6	34.2	67.0					
Heavy Trucks: 65.6 6 Vehicle Noise: 72.8 7	34.2 71.1	67.9	6	3.2	71.8		12
Heavy Trucks: 65.6 6	71.1	67.9) dBA	65 dBA		71.8		dBA
Heavy Trucks: 65.6 6 Vehicle Noise: 72.8 7 Centerline Distance to Noise Contour (in feet)	71.1		65 dBA				

		D-77-108 HIGH	in the				, i	
	io: OYCP						C Telegraph a	nd SFS
	ne: Telegraph				Job Nu	mber: 156	43	
Road Segme	nt: w/o Santa I	-e Springs Rd.						
	SPECIFIC IN	IPUT DATA					DEL INPUTS	
Highway Data				Site Con	ditions (l	Hard = 10,	Soft = 15)	
Average Daily	Traffic (Adt):	27,028 vehicle	S			Auto	os: 15	
Peak Hour	Percentage:	10.00%		Me	dium Tru	cks (2 Axle	s): 15	
Peak F	lour Volume:	2,703 vehicles		He	avy Truck	ks (3+ Axle	s): 15	
	hicle Speed:	45 mph		Vehicle	Mix			
Near/Far La	ne Distance:	90 feet			icleTvpe	Da	/ Evening	Night Daily
Site Data					A	utos: 77.		9.6% 97.43
Ba	rrier Height:	0.0 feet		М	edium Tru	icks: 84.	8% 4.9%	10.3% 1.83
Barrier Type (0-W	-	0.0			Heavy Tru	icks: 86.	5% 2.7%	10.8% 0.74
	st. to Barrier:	60.0 feet		Noine C	Suraa Ela	vations (ii	a faat)	
Centerline Dist.	to Observer:	60.0 feet		NUISe 30				
Barrier Distance	to Observer:	0.0 feet		14-16-	Autos. m Trucks			
Observer Height	(Above Pad):	5.0 feet			m Trucks. /y Trucks.			istment: 0.0
P	ad Elevation:	0.0 feet		Tical	ry mucks.	0.004	Orace Auja	Siment. 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent l	Distance (in feet)	
	Road Grade:	0.0%			Autos.	40.000		
	Left View:	-90.0 degree	S	Mediu	m Trucks.	39.778		
	Right View:	90.0 degree	S	Hear	/y Trucks.	39.800		
FHWA Noise Mod	el Calculation	s		1				
VehicleType	REMEL	Traffic Flow	Distan	ce Finite	Road	Fresnel	Barrier Atte	n Berm Atter
Autos:	68.46	2.37		1.35	-1.20	-4.0		0.00
Medium Trucks:				1.39	-1.20	-4.8		
Heavy Trucks:	84.25	-18.84		1.38	-1.20	-5.3	34 0.00	0.00
Unmitigated Nois								
VehicleType	Leq Peak Hou			q Evening	Leq N	•	Ldn	CNEL
Autos:	71		9.1	67.3		61.3	69.9	70
Medium Trucks:			3.2	56.9		55.3	63.8	
Heavy Trucks:	65		4.2	55.1		56.4	64.7	
Vehicle Noise:			'1.1	67.9		63.2	71.8	72
Centerline Distan	ce to Noise Co	ontour (in feet)	-	70 - 10 4			00 -10 4	cc ./D *
			dn:	70 dBA 79	65 d	170	60 dBA 367	55 dBA
			EL:	79		183	393	84

		0-77-108 HIGH	WAY N	OISE	PREDIC						
Scenario:	_								Felegraph a	and SFS	
Road Name: Road Segment:						JOD N	umber: 1	5643			
•										_	
SITE SP Highway Data	ECIFIC IN	PUT DATA					OISE N (Hard =		L INPUTS	3	
				3	ne con	uluons			,		
Average Daily Tra	, ,	19,620 vehicle	es			diana Tar		lutos:	15		
Peak Hour Pe	•	10.00%					icks (2 A	,	15 15		
Peak Hour		1,962 vehicle	s		не	avy iruc	:ks (3+ A	xies):	15		
Venici Near/Far Lane	e Speed:	45 mph		ν	'ehicle N	Nix					
Near/Far Lane	Distance:	90 feet			Vehi	icleType		Day	Evening	Night	Daily
Site Data								77.5%		9.6%	97.42
Barrie	r Height:	0.0 feet			Me	edium Tr		84.8%		10.3%	1.84
Barrier Type (0-Wall,	1-Berm):	0.0			F	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. t	o Barrier:	60.0 feet		٨	loise So	ource Ele	evations	(in fe	et)		
Centerline Dist. to (Observer:	60.0 feet		-		Autos		00	,		
Barrier Distance to (0.0 feet			Mediur	n Trucks	: 2.2	97			
Observer Height (Ab	,	5.0 feet			Heav	y Trucks	s: 8.0	04	Grade Adj	ustment	: 0.0
	evation:	0.0 feet		-	_						
	levation:	0.0 feet		L	ane Equ		Distanc		reet)		
	d Grade:	0.0%			1 4 m all 1 m	Autos n Trucks					
-	.eft View:	-90.0 degree				т Trucks y Trucks					
RI	ght View:	90.0 degree	es		neav	y mucks	5. 39.0	000			
FHWA Noise Model C	alculations										
	REMEL	Traffic Flow	Dista		Finite		Fresn		Barrier Atte		m Atter
Autos:	68.46	0.98		1.35		-1.20		4.69	0.0		0.00
Medium Trucks:	79.45	-16.26		1.39		-1.20		4.88	0.0		0.00
Heavy Trucks:	84.25	-20.22		1.38	3	-1.20		-5.34	0.0	00	0.00
Unmitigated Noise Le	vels (witho	out Topo and	barrier	attenu	uation)						
VehicleType Le	q Peak Hou	r Leq Day	′ L	Leq Ev	ening	Leq I	Night		Ldn	CI	VEL
Autos:	69		67.7		65.9		59.9		68.5		69
Medium Trucks:	63		61.9		55.5		54.0		62.4		62
Heavy Trucks:	64		62.8		53.8		55.0		63.4		63
Vehicle Noise:	71	.4	69.7		66.5		61.9		70.4		70
Centerline Distance t	o Noise Co	ntour (in feet)								
				70 d		65 0		6	60 dBA	55	dBA
			Ldn:		64		138		296		63
			NEL		68		148		318		68

FHWA-RD-77-108 HIG									
Scenario: EP			1				Felegraph a	and SFS	
Road Name: Telegraph Rd.				Job N	lumber:	15643			
Road Segment: e/o Santa Fe Springs Ro	1.								
SITE SPECIFIC INPUT DAT	1						L INPUTS	3	
Highway Data		Si	ite Cond	litions	(Hard =	10, So	ft = 15)		
Average Daily Traffic (Adt): 19,815 vehi	cles					Autos:	15		
Peak Hour Percentage: 10.00%			Med	lium Tr	ucks (2 A	Axles):	15		
Peak Hour Volume: 1,982 vehic	es		Hea	vy Tru	cks (3+ A	(xles)	15		
Vehicle Speed: 45 mph		V	ehicle M	ix					
Near/Far Lane Distance: 90 feet		-		leType		Dav	Evening	Night	Daily
Site Data						77.5%		9.6%	
Barrier Height: 0.0 feet			Me	dium T	rucks:	84.8%	4.9%	10.3%	1.829
Barrier Type (0-Wall, 1-Berm): 0.0			н	eavy T		86.5%		10.8%	0.739
Centerline Dist. to Barrier: 60.0 feet				-					
Centerline Dist. to Observer: 60.0 feet		N	oise Sou				eet)		
Barrier Distance to Observer: 0.0 feet				Auto		000			
Observer Height (Above Pad): 5.0 feet			Medium			297	~		
Pad Elevation: 0.0 feet			Heavy	Truck	's: 8.0	004	Grade Adj	ustment	0.0
Road Elevation: 0.0 feet		La	ane Equ	ivalen	t Distand	e (in t	feet)		
Road Grade: 0.0%				Auto	s: 40.	000			
Left View: -90.0 degr	ees		Medium	Truck	s: 39.	778			
Right View: 90.0 degr	ees		Heavy	Truck	s: 39.	800			
FHWA Noise Model Calculations									
VehicleType REMEL Traffic Flow	Distar	nce	Finite F	Road	Fresn	el	Barrier Atte	en Ber	m Atten
Autos: 68.46 1.0	2	1.35		-1.20		-4.69	0.0	00	0.00
Medium Trucks: 79.45 -16.2	6	1.39		-1.20		-4.88	0.0	00	0.00
Heavy Trucks: 84.25 -20.2	2	1.38		-1.20		-5.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo an									
VehicleType Leq Peak Hour Leq D		eq Eve		Leq	Night		Ldn		VEL
Autos: 69.6	67.7		66.0		59.9		68.5		69.
Medium Trucks: 63.4	61.9		55.5		54.0		62.4		62
Heavy Trucks: 64.2	62.8		53.8		55.0		63.4		63
Vehicle Noise: 71.5	69.7		66.6		61.9		70.4		70
Centerline Distance to Noise Contour (in fe	et)							-	
		70 dE		65	dBA	6	i0 dBA	55	dBA
	Ldn:		64		138		298		64
	CNEL:		69		148		319		688

Tuesday, July 30, 2024

FHWA-RD-77-108 HIG							
Scenario: OYC			Project Nam		Felegraph a	and SFS	
Road Name: Telegraph Rd.			Job Numbe	r: 15643			
Road Segment: e/o Santa Fe Springs Rd							
SITE SPECIFIC INPUT DATA					L INPUTS	5	
Highway Data		Site Cor	ditions (Harc	l = 10, So	ft = 15)		
Average Daily Traffic (Adt): 24,890 vehic	les			Autos:	15		
Peak Hour Percentage: 10.00%		Me	edium Trucks (2 Axles):	15		
Peak Hour Volume: 2,489 vehicle	es	He	avy Trucks (3	+ Axles):	15		
Vehicle Speed: 45 mph		Vehicle	Mix				
Near/Far Lane Distance: 90 feet			icleType	Day	Evening	Night	Daily
Site Data			Autos	77.5%	12.9%	9.6%	97.42
Barrier Height: 0.0 feet		М	edium Trucks	84.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks.	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier: 60.0 feet		Noise Se	ource Elevati	ons (in fe	et)		
Centerline Dist. to Observer: 60.0 feet			Autos:	0.000			
Barrier Distance to Observer: 0.0 feet		Mediu	m Trucks:	2.297			
Observer Height (Above Pad): 5.0 feet		Hear	vy Trucks:	8.004	Grade Adj	ustment.	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Eq	uivalent Dist		eet)		
Road Grade: 0.0%		A.4 - 15-		10.000 39.778			
Left View: -90.0 degre							
Right View: 90.0 degre	es	неа	vy Trucks: ;	39.800			
FHWA Noise Model Calculations							
VehicleType REMEL Traffic Flow					Barrier Atte		m Atter
Autos: 68.46 2.0		1.35	-1.20	-4.69	0.0		0.00
Medium Trucks: 79.45 -15.2	-	1.39	-1.20	-4.88	0.0		0.00
Heavy Trucks: 84.25 -19.18		1.38	-1.20	-5.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo and VehicleType Leg Peak Hour Leg Da		ttenuation) g Evening	Leg Night		Ldn	C	VEL
Autos: 70.6	68.7	67.0		0.9	69.5	-	70
Medium Trucks: 64.4	62.9	56.5	-	5.0	63.5		63
Heavy Trucks: 65.3	63.8	54.8	-	6.0	64.4		64
Vehicle Noise: 72.5	70.7	67.6		2.9	71.4		71
Centerline Distance to Noise Contour (in fee	t)						
Centernine Distance to Noise Contour (in ree		70 /04	65 dBA	6	0 dBA	55	dBA
		70 dBA	00 UDA		0 000	00	
· · ·	Ldn:	70 dBA 75 80	1	61 73	347	00	74

		D-77-108 HIGH	in the filles			•	,	
	io: OYCP						C Telegraph a	nd SFS
	ne: Telegraph				Job Ni	imber: 156	43	
Road Segme	nt: e/o Santa F	e Springs Rd.						
	SPECIFIC IN	IPUT DATA					DEL INPUTS	
Highway Data				Site Con	ditions (Hard = 10,	Soft = 15)	
Average Daily	Traffic (Adt):	25,085 vehicles	6			Aut		
Peak Hour	Percentage:	10.00%				cks (2 Axle	., .	
Peak F	lour Volume:	2,509 vehicles		He	avy Truc	ks (3+ Axle	es): 15	
	hicle Speed:	45 mph		Vehicle I	Mix			
Near/Far La	ne Distance:	90 feet			icleTvpe	Da	y Evening	Night Dailv
Site Data					A	utos: 77	.5% 12.9%	9.6% 97.44
Ba	rrier Height:	0.0 feet		M	edium Tri	ucks: 84	.8% 4.9%	10.3% 1.83
Barrier Type (0-W	-	0.0		1	Heavy Tri	ucks: 86	.5% 2.7%	10.8% 0.73
	st. to Barrier:	60.0 feet		Noiso Se		vations (i	n foot)	
Centerline Dist.	to Observer:	60.0 feet		140/36 30	Autos		,	
Barrier Distance	to Observer:	0.0 feet		Madiu	m Trucks			
Observer Height	(Above Pad):	5.0 feet			vy Trucks			istment: 0.0
P	ad Elevation:	0.0 feet		Tieat	y mucks	. 0.004	. Orade Adja	istinent. 0.0
Ro	ad Elevation:	0.0 feet		Lane Eq	uivalent	Distance ((in feet)	
	Road Grade:	0.0%			Autos	: 40.000)	
	Left View:	-90.0 degree:	5	Mediu	m Trucks	: 39.778	3	
	Right View:	90.0 degrees	6	Heav	y Trucks	: 39.800)	
FHWA Noise Mod	el Calculation	s						
VehicleType	REMEL	Traffic Flow	Distanc	e Finite	Road	Fresnel	Barrier Atte	n Berm Atter
Autos:	68.46	2.04		1.35	-1.20	-4.		0.00
Medium Trucks:				1.39	-1.20	-4.		
Heavy Trucks:	84.25	-19.18		1.38	-1.20	-5.	34 0.00	0.0 00
Unmitigated Nois								
VehicleType	Leq Peak Hou			l Evening	Leq N	•	Ldn	CNEL
Autos:	70		8.8	67.0		60.9	69.6	70
Medium Trucks:	-		2.9	56.5		55.0	63.5	
Heavy Trucks:			3.8	54.8		56.0	64.4	
Vehicle Noise:	72	2.5 7	0.7	67.6		62.9	71.5	71
	ce to Noise Co	ontour (in feet)						
Centerline Distan				70 dBA	65 a	BA	60 dBA	55 dBA
Centerline Distan								
Centerline Distan		-	dn: FL:	75 81		162 174	349 374	75 80

Scenario: E Road Name: Telegraph Rd. Road Segment: elo Greeenleaf Av. Project Name: NWC Telegraph and SFS Job Number: 15643 Site Specific INPUT DATA NOISE MODEL INPUTS Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 16,360 vehicles Peak Hour Percentage: 10,00% Medium Trucks (2 Axles): 15 Vehicle Speed: 45 mph Near/Far Lane Distance: 90 feet Vehicle Mix Stre Data Autos: 77.5% 12.9% Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% Barrier Dype (0-Wall, 1-Bermi): 0.0 Centerline Dist. to Barrier: 60.0 feet Medium Trucks: 86.5% 2.7%
Highway Data Site Conditions (Hard = 10, Soft = 15) Average Daily Traffic (Adt): 16,360 vehicles Autos: 15 Peak Hour Porcentage: 10,00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 1,636 vehicles Medium Trucks (2 Axles): 15 Vehicle Speed: 45 mph Yehicle Mix Vehicle Type Day Evening Night Da Site Data Vehicle Type Day Evening Night Da Night Da Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0-Wail, 1-Berm): 0.0 feavy Trucks: 86.5% 2.7% 10.8% 0.
Average Daily Traffic (Adt): 16,360 vehicles Autos: 15 Peak Hour Volume: 1.0.0% Medium Trucks (2 Axles): 15 Peak Hour Volume: 1.636 vehicles Heavy Trucks (2 Axles): 15 Vehicle Speed: 45 mph Vehicle Mix Vehicle Type Day Evening Night Da Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Data Bearrier 0.0 feet Medium Trucks: 86.5% 2.7% 10.8% 0.
Peak Hour Percentage: 10.00% Medium Trucks (2 Axles): 15 Peak Hour Volume: 1,836 vehicles Heavy Trucks (3 + Axles): 15 Vehicle Speed: 45 mph Vehicle Mix Vehicle Type Day Evening Night Da Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Peak Hour Volume: 1,636 vehicles Heavy Trucks (3+ Axles): 15 Vehicle Speed: 45 mph Yehicle Mix Vehicle Type Day Evening Night Da Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0-Wail, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Vehicle Speed: Near/Far Lane Distance: 45 mph 90 feet Vehicle Mix Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Dype (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Near/Far Lane Distance: 90 feet Venicle Nix Day Evening Night Day Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Near/Far Lane Distance: 90 feet VehicleType Day Evening Night Day Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Site Data Autos: 77.5% 12.9% 9.6% 97. Barrier Height: 0.0 feet Medium Trucks: 84.8% 4.9% 10.3% 1. Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Barrier Type (0-Wall, 1-Bernier, 0.0 feet Heavy Trucks: 86.5% 2.7% 10.8% 0.
Barrier Type (0-Wall, 1-Berm): 0.0 Heavy Trucks: 86.5% 2.7% 10.8% 0.
Contenting Dist to Reminer 60.0 fast
Centerline Dist to Observer: 60.0 foot
Barrier Distance to Observer: 0.0 feet Autos: 0.000 Medium Trucks: 2.297
Observer Height (Above Pad): 5.0 feet Heavy Trucks: 2.297 Heavy Trucks: 8.004 Grade Adjustment: 0.0
Pad Elevation: 0.0 feet
Road Elevation: 0.0 feet Lane Equivalent Distance (in feet)
Road Grade: 0.0% Autos: 40.000
Left View: -90.0 degrees Medium Trucks: 39.778
Right View: 90.0 degrees Heavy Trucks: 39.800
FHWA Noise Model Calculations
VehicleType REMEL Traffic Flow Distance Finite Road Fresnel Barrier Atten Berm At
Autos: 68.46 0.19 1.35 -1.20 -4.69 0.000 0
Medium Trucks: 79.45 -17.05 1.39 -1.20 -4.88 0.000 0
Heavy Trucks: 84.25 -21.01 1.38 -1.20 -5.34 0.000 0
Unmitigated Noise Levels (without Topo and barrier attenuation)
VehicleType Leq Peak Hour Leq Day Leq Evening Leq Night Ldn CNEL Autos: 68.8 66.9 65.1 59.1 67.7
Autos: 68.8 66.9 65.1 59.1 67.7 Medium Trucks: 62.6 61.1 54.7 53.2 61.6
Medium Trucks: 62.6 61.1 54.7 53.2 61.6 Heavy Trucks: 63.4 62.0 53.0 54.2 62.6
Vehicle Noise: 70.6 68.9 65.7 61.1 69.6
Centerline Distance to Noise Contour (in feet) 70 dBA 65 dBA 60 dBA 55 dBA
Ldn: 57 122 263
CNEL: 61 131 282

Scenario: EP Road Name: Telegr Road Segment: e/o Gru							t Name: Number:		Telegraph	and SFS	
SITE SPECIFI										e	
Highway Data	•				Site Cond					-	
Average Daily Traffic (Ad	#): 16	5555 vehicle	es					Autos:	15		
Peak Hour Percentag	·	0.00%			Med	dium Ti	rucks (2)				
Peak Hour Volun	ne: 1,	656 vehicle	s		Hea	avy Tru	icks (3+)	Axles):	15		
Vehicle Spee	ed:	45 mph		ŀ	Vehicle N						
Near/Far Lane Distan	ce:	90 feet		-		leType	•	Dav	Evenina	Night	Daily
Site Data					VCIII		Autos:	77.5%		•	97.45%
	h	0.0 feet			Me		rucks:	84.8%		10.3%	1.829
Barrier Heig Barrier Type (0-Wall, 1-Ben		0.0 feet 0.0					rucks:	86.5%		10.8%	
Centerline Dist. to Barr	·	60.0 feet		-							
Centerline Dist. to Observ		60.0 feet		ļ	Noise So				eet)		
Barrier Distance to Observ		0.0 feet				Auto		000			
Observer Height (Above Pa	d):	5.0 feet			Mediun			297	Outrade Ad		
Pad Elevati	·	0.0 feet			Heav	y Trucł	(S.' 8.	004	Grade Ad	usiment	0.0
Road Elevati	on:	0.0 feet			Lane Equ	iivalen	t Distan	ce (in	feet)		
Road Gra	de: (0.0%		[Auto	os: 40.	000			
Left Vie	W: ·	90.0 degree	es		Mediun	n Truck	(s: 39.	778			
Right Vie	?W.'	90.0 degree	es		Heav	y Truck	(s: 39.	800			
FHWA Noise Model Calcula											
VehicleType REME		raffic Flow	Di	stance	Finite		Fresr		Barrier Att		m Atten
	8.46	0.24		1.3		-1.20		-4.69		000	0.00
	9.45	-17.05		1.3		-1.20		-4.88		000	0.00
Heavy Trucks: 8	4.25	-21.01		1.3	8	-1.20		-5.34	0.0	000	0.00
Unmitigated Noise Levels (1 -	
VehicleType Leq Peak		Leq Day		Leq E	vening	Leq	Night		Ldn		VEL
Autos:	68.9		67.0		65.2		59.		67.		68
Medium Trucks: Heavy Trucks:	62.6 63.4		61.1 62.0		54.7 53.0		53. 54.		61. 62.		61. 62.
Vehicle Noise:	70.7		68.9		53.0 65.8		54. 61.		62.		62. 70.
					05.0		01.		03.		70.
Centerline Distance to Nois	e Cont	our (in feet	,	70	dBA	65	dBA		50 dBA	55	dBA
			Ldn:		57	50	123		264		56
			NEL:		01		120		204		00.

Tuesday, July 30, 2024

Querrate: QVQ			Designed Al	- NUMC 7	- I		
Scenario: OYC			Project Name Job Numbe		elegraph a	and SFS	
Road Name: Telegraph Rd. Road Segment: e/o Greeenleaf Av.			Job Numbe	15643			
		-					
SITE SPECIFIC INPUT DATA		0			LINPUTS	5	
Highway Data		Site Con	ditions (Hard				
Average Daily Traffic (Adt): 17,140 vehic	les			Autos:	15		
Peak Hour Percentage: 10.00%			dium Trucks (
Peak Hour Volume: 1,714 vehicl	es	He	avy Trucks (3	+ Axles):	15		
Vehicle Speed: 45 mph		Vehicle	Mix				
Near/Far Lane Distance: 90 feet		Veh	icleType	Day	Evening	Night	Daily
Site Data			Autos:	77.5%	12.9%	9.6%	97.42
Barrier Height: 0.0 feet		М	edium Trucks:	84.8%	4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Berm): 0.0			Heavy Trucks:	86.5%	2.7%	10.8%	0.74
Centerline Dist. to Barrier: 60.0 feet		Noise Se	ource Elevatio	ons (in fe	et)		
Centerline Dist. to Observer: 60.0 feet				0.000	.,		
Barrier Distance to Observer: 0.0 feet		Mediu		2.297			
Observer Height (Above Pad): 5.0 feet				8.004	Grade Adj	ustment.	0.0
Pad Elevation: 0.0 feet							
Road Elevation: 0.0 feet		Lane Eq	uivalent Dista		feet)		
Road Grade: 0.0%				0.000			
Left View: -90.0 degr				9.778			
Right View: 90.0 degr	ees	Hea	y Trucks: 3	9.800			
FHWA Noise Model Calculations	1		T			1	
VehicleType REMEL Traffic Flow					Barrier Atte		m Atter
Autos: 68.46 0.3	-	1.35	-1.20	-4.69	0.0		0.00
Medium Trucks: 79.45 -16.8	-	1.39	-1.20	-4.88	0.0		0.00
Heavy Trucks: 84.25 -20.8		1.38	-1.20	-5.34	0.0	00	0.00
Unmitigated Noise Levels (without Topo and VehicleType Leg Peak Hour Leg Da		tenuation) g Evening	Leg Night	1	Ldn	CI	VEL
Autos: 69.0	67.1	65.3		9.3	67.9	-	68
Medium Trucks: 62.8	61.3	54.9	-	3.4	61.8		62
Heavy Trucks: 63.6	62.2	53.2	-	4.4	62.8		62
Vehicle Noise: 70.8	69.1	65.9		1.3	69.8		70
	ef)						
Centerline Distance to Noise Contour (in fee							
Centerline Distance to Noise Contour (in fee	,	70 dBA	65 dBA	6	0 dBA	55	dBA
Centerline Distance to Noise Contour (in fee	,	70 dBA 58		26	0 dBA 271 290	55	<i>ава</i> 58

	FHWA-RD	D-77-108 HIGH	WAY NO	ISE PREDIO	CTION M	ODEL (9/1	2/2021)	
Scenario							VC Telegraph	and SFS
Road Name. Road Segment	Telegraph F				Job N	umber: 15	643	
•					N		DEL INPUT	2
Highway Data		FUIDAIA		Site Cor			, Soft = 15)	3
Average Daily Ti	affic (Adt):	17,335 vehicle	s			Au	tos: 15	
Peak Hour P	. ,	10.00%		Me	edium Tru	ucks (2 Axl	es): 15	
Peak Ho	ur Volume:	1,734 vehicles		He	avy Truc	cks (3+ Axl	es): 15	
Vehi	cle Speed:	45 mph		Vehicle	Mix			
Near/Far Lane	e Distance:	90 feet			nicleType	Da	y Evening	Night Dai
Site Data							.5% 12.9%	9.6% 97.4
Barri	er Height:	0.0 feet		м	ledium Ti	ucks: 84	.8% 4.9%	10.3% 1.8
Barrier Type (0-Wa		0.0			Heavy Tr	rucks: 86	.5% 2.7%	10.8% 0.7
Centerline Dist.	to Barrier:	60.0 feet		Noise S	ource El	evations (in feet)	
Centerline Dist. to	Observer:	60.0 feet			Auto:			
Barrier Distance to	Observer:	0.0 feet		Mediu	m Truck			
Observer Height (A	,	5.0 feet			vy Truck			iustment: 0.0
	Elevation:	0.0 feet			·		-	
	Elevation:	0.0 feet		Lane Eq		Distance	. ,	
Ro	oad Grade:	0.0%			Auto			
	Left View:	-90.0 degree			m Truck			
,	Right View:	90.0 degree	S	неа	vy Truck:	s: 39.80	0	
FHWA Noise Model	Calculation	S						
VehicleType	REMEL	Traffic Flow	Distan		Road	Fresnel	Barrier Atte	
Autos:	68.46	0.44		1.35	-1.20			000 0.
Medium Trucks:	79.45	-16.85		1.39	-1.20			00 0.
Heavy Trucks:	84.25	-20.81		1.38	-1.20	-5	.34 0.0	000 0.
Unmitigated Noise I				tenuation)				
	eq Peak Hou			q Evening		Night	Ldn	CNEL
Autos:	69		67.2	65.4		59.3	68.0	
Medium Trucks:	62		51.3	54.9		53.4	61.8	
Heavy Trucks:	63	-	52.2	53.2		54.4	62.8	
Vehicle Noise:	70	.9	69.1	66.0		61.3	69.9) 7
Centerline Distance	to Noise Co	ontour (in feet)						
				70 dBA	65 (dBA	60 dBA	55 dBA
			Ldn: IEL :	59		126	272	-
				63		136	292	6

FHWA-RD-77-108 HIGHWA	Y NOISE F	PREDIC	TION M	ODEL (9	/12/20	021)				
Scenario: E Road Name: Hawkins St. Road Segment: e/o Norwalk Blvd.				Name: N umber: 1		Telegraph a	and SFS			
SITE SPECIFIC INPUT DATA		NOISE MODEL INPUTS Site Conditions (Hard = 10, Soft = 15)								
Highway Data	S	ite Con	ditions (Hard =	10, So	ft = 15)				
Average Daily Traffic (Adt): 150 vehicles				A	Autos:	15				
Peak Hour Percentage: 10.00%			dium Tru			15				
Peak Hour Volume: 15 vehicles		He	avy Truc	ks (3+ A	xles):	15				
Vehicle Speed: 40 mph	V	ehicle I	Nix							
Near/Far Lane Distance: 16 feet		Veh	icleType	1	Day	Evening	Night	Daily		
Site Data				utos:	77.5%	•	9.6%	,		
Barrier Height: 0.0 feet		Me	edium Tr	ucks:	84.8%	4.9%	10.3%	1.84%		
Barrier Type (0-Wall, 1-Berm): 0.0		ŀ	leavy Tr	ucks:	86.5%	2.7%	10.8%	0.74%		
Centerline Dist. to Barrier: 30.0 feet			ource Ele		(in f	- 41				
Centerline Dist. to Observer: 30.0 feet	N	oise sc	Autos			et)				
Barrier Distance to Observer: 0.0 feet		Madiu	Autos n Trucks							
Observer Height (Above Pad): 5.0 feet			v Trucks			Grade Ad	iustment	. 0 0		
Pad Elevation: 0.0 feet		neav	y mucha	. 0.0	104	Orade Auj	usunen	. 0.0		
Road Elevation: 0.0 feet	L	ane Equ	uivalent	Distanc	e (in f	feet)				
Road Grade: 0.0%			Autos							
Left View: -90.0 degrees			n Trucks							
Right View: 90.0 degrees		Heav	y Trucks	: 29.0)69					
FHWA Noise Model Calculations	1									
	Distance	Finite		Fresne		Barrier Atte		m Atten		
Autos: 66.51 -19.68	3.37		-1.20		4.49	0.0		0.00		
Medium Trucks: 77.72 -36.92	3.44		-1.20		4.86		000	0.00		
Heavy Trucks: 82.99 -40.87	3.43		-1.20		-5.77	0.0	000	0.00		
Unmitigated Noise Levels (without Topo and bar		/					1			
VehicleType Leq Peak Hour Leq Day	Leq Eve	•	Leq I	•		Ldn		NEL		
Autos: 49.0 47.		45.3		39.3		47.9		48.		
Medium Trucks: 43.0 41.	-	35.2		33.6		42.1		42.3		
Heavy Trucks: 44.4 42.		33.9		35.1		43.5		43.		
Vehicle Noise: 51.0 49.	5	46.0		41.5		50.0)	50.		
Centerline Distance to Noise Contour (in feet)										
	70 dl		65 c		6	0 dBA		dBA		
Ldr		1		3		6		14		
CNEL		1		3		7		15		

Scenario: EP Road Name: Haw Road Segment: e/o		Blud					t Name: lumber:		Telegraph	and SFS	
SITE SPECI							NOISE	IODE		s	
Highway Data					Site Con					-	
Average Daily Traffic	(Adt):	1.057 vehicle	s					Autos:	15		
Peak Hour Percen	tage: 1	0.00%			Me	dium Tr	ucks (2 /	Axles):	15		
Peak Hour Vo	lume:	106 vehicles	3		Hei	avy Tru	cks (3+ /	(xles	15		
Vehicle S	peed:	40 mph		-	Vehicle N	Niv					
Near/Far Lane Dist	ance:	16 feet		H		cleType	9	Dav	Evening	Night	Daily
Site Data							Autos:	77.5%	÷		59.979
Barrier He	iaht.	0.0 feet			Me			84.8%			13.619
Barrier Type (0-Wall, 1-B	•	0.0 1001			H	leavy T	rucks:	86.5%	2.7%	10.8%	26.429
Centerline Dist. to Ba		30.0 feet		H	Noise So		lovatic	. /in *	a a fi		
Centerline Dist. to Obs		30.0 feet		Ľ	voise So	Auto		s (<i>in t</i>i 000	ee()		
Barrier Distance to Obs	erver:	0.0 feet			Mediur			297			
Observer Height (Above	Pad):	5.0 feet				y Truck		207	Grade Ad	iustment	0.0
Pad Elev		0.0 feet								Juotinioni	0.0
Road Elev		0.0 feet		1	Lane Equ				feet)		
Road G		0.0%				Auto		343			
		-90.0 degree			Mediur			040			
Right	View:	90.0 degree	s		Heav	y Truck	(S. 29.	069			
FHWA Noise Model Calc	ulations										
VehicleType REN	1EL 1	Fraffic Flow	Di	stance	Finite	Road	Fresr	el	Barrier Att	en Ber	m Atten
Autos:	66.51	-13.31		3.3		-1.20		-4.49		000	0.00
Medium Trucks:	77.72	-19.75		3.4		-1.20		-4.86		000	0.00
Heavy Trucks:	82.99	-16.87		3.4	3	-1.20		-5.77	0.0	000	0.00
Unmitigated Noise Level	s (withou	t Topo and	barri	er atten	uation)						
	eak Hour	Leq Day		Leq E		Leq	Night		Ldn		VEL
Autos:	55.4		53.5		51.7		45.		54.		54
Medium Trucks:	60.2		58.7		52.3		50.8		59.3		59
Heavy Trucks: Vehicle Noise:	68.4 69.2		66.9 67.7		57.9 59.7		59.1 59.9		67. 68.		67. 68.
					59.7		59.5	,	08.	3	68.
Centerline Distance to N	oise Con	tour (in feet)		70 0		65	dBA		50 dBA	55	dBA
			Iday	100	зва 23	05	<i>dBA</i> 50		50 dBA 107		ава 23
			Ldn:				50		107		23

Tuesday, July 30, 2024

		9-77-108 HIGHV								
Scenario: OYC								C Telegraph	and SFS	
Road Name: Hawk						Job Nu	nber: 156	43		
Road Segment: e/o N	orwaik	Biva.								
SITE SPECIF	IC IN	PUT DATA						DEL INPUT	S	
Highway Data					Site Cond	ditions (H	lard = 10,	Soft = 15)		
Average Daily Traffic (A	dt):	1,010 vehicles	6				Aut			
Peak Hour Percenta	ige:	10.00%			Med	dium Truc	ks (2 Axle	es): 15		
Peak Hour Volu	me:	101 vehicles			Hea	avy Truck	s (3+ Axle	es): 15		
Vehicle Spe	ed:	40 mph		-	Vehicle N	lix				
Near/Far Lane Distar	nce:	16 feet		F	Vehi	cleType	Da	y Evening	Night	Daily
Site Data							tos: 77	.5% 12.9%	9.6%	97.42
Barrier Heig	vht.	0 0 feet			Me	dium Tru	cks: 84	.8% 4.9%	10.3%	1.84
Barrier Type (0-Wall, 1-Be		0.0			H	leavy Tru	cks: 86	.5% 2.7%	10.8%	0.74
Centerline Dist. to Ban	,	30.0 feet		_		,				
Centerline Dist. to Obser	ver:	30.0 feet		-	Noise So					
Barrier Distance to Obser	ver:	0.0 feet				Autos:				
Observer Height (Above P	ad):	5.0 feet				n Trucks:				~ ~
Pad Elevat	,	0.0 feet			Heav	y Trucks:	8.004	Grade Ad	justment:	0.0
Road Elevat	ion:	0.0 feet			Lane Equ	ivalent D)istance ('in feet)		
Road Gra	ade:	0.0%		1		Autos:	29.343	3		
Left Vi	ew:	-90.0 degrees	5		Mediun	n Trucks:	29.040)		
Right Vi	iew:	90.0 degrees	3		Heav	y Trucks:	29.069)		
FHWA Noise Model Calcul	ations	5								
VehicleType REME	EL	Traffic Flow	Distar	nce	Finite	Road	Fresnel	Barrier Att	en Berr	n Attei
	6.51	-11.40		3.3	37	-1.20	-4.	49 0.0	000	0.0
Medium Trucks:	77.72	-28.63		3.4	4	-1.20	-4.	86 0.0	000	0.0
Heavy Trucks:	32.99	-32.59		3.4	13	-1.20	-5.	77 0.0	000	0.0
Unmitigated Noise Levels										
VehicleType Leq Pea				eq E	vening	Leq N	•	Ldn 56.3	CN	
Autos: Medium Trucks:	57. 51		5.4 9.8		53.6 43.4		47.6 41.9	56.	-	56 50
	51.		9.8 1.2		43.4		41.9	50.4		
	52. 59.						43.4		-	51 58
Heavy Trucks:		.3 5	7.6		54.3		49.8	58.3	3	58
Vehicle Noise:										
Vehicle Noise:		ntour (in feet)		70	dBA	65 dF	84	60 dBA	55 /	dRA
		, ,	dn:	70	dBA 5	65 dE	BA 11	60 dBA 23	55 0	dBA 5

	FHWA-RD	-77-108 HIGHWA	Y NOISE	E PREDIC	TION MO	ODEL (9/	12/20	21)		
Road Nam	io: OYCP ne: Hawkins St. nt: e/o Norwalk	Plud				Vame: N\ mber: 15		elegraph a	and SFS	
	SPECIFIC IN				N		ODEI	. INPUTS		
Highway Data	SPECIFIC IN	POIDATA		Site Cond					,	
Average Daily	. ,	1,917 vehicles 10.00%					utos:	15 15		
	four Volume:	192 vehicles				ks (3+ Ax		15		
	hicle Speed:	40 mph				10 10 - 7 17		10		
	ne Distance:	16 feet		Vehicle N						
	no Biolanoo.	10 1000		Vehi	cleType			Evening	Night	Daily
Site Data							7.5%	12.9%	9.6%	
	rrier Height:	0.0 feet			dium Tru		4.8%	4.9%	10.3%	8.33
Barrier Type (0-W	. ,	0.0			eavy Tru	ICKS: 8	6.5%	2.7%	10.8%	14.90
Centerline Di		30.0 feet		Noise So	urce Ele	vations	(in fee	et)		
Centerline Dist.		30.0 feet			Autos	: 0.00	00			
Barrier Distance		0.0 feet		Mediun	n Trucks	2.29	97			
Observer Height		5.0 feet		Heav	/ Trucks	8.00)4 (Grade Adj	ustment	0.0
	ad Elevation:	0.0 feet	-			Di-4	11 m F			
	ad Elevation:	0.0 feet	ŀ	Lane Equ	Autos			et)		
	Road Grade:	0.0%		Marthur	Autos 1 Trucks	20.0				
	Left View: Right View:	-90.0 degrees 90.0 degrees			/ Trucks					
FHWA Noise Mod	el Calculations									
VehicleType	REMEL	Traffic Flow D	listance	Finite	Road	Fresne	I E	Barrier Atte	en Ber	m Atter
Autos:	66.51	-9.65	3.3	37	-1.20	-4	1.49	0.0	00	0.0
Medium Trucks:	77.72	-19.30	3.4	14	-1.20	-4	1.86	0.0	00	0.00
Heavy Trucks:	82.99	-16.77	3.4	13	-1.20	-5	5.77	0.0	00	0.00
Unmitigated Noise						r				
VehicleType	Leq Peak Hour			ivening	Leq N			Ldn		VEL
Autos: Medium Trucks:	59.0 60.1			55.4 52.8		49.3 51.2		57.9 59.7		58 59
				52.8 58.0		51.2 59.2		59.7 67.6		59 67
Heavy Trucks: Vehicle Noise				58.0 60.7		59.2 60.2		68.6		68
				60.7		60.2		68.6		68
Centerline Distan	ce to Noise Coi	ntour (in feet)	70	dBA	65 d	BA	60) dBA	55	dBA
		Ldn		24		52		113		24
		CNEL		25		54		116		25

APPENDIX 9.1:

CADNAA OPERATIONAL NOISE MODEL INPUTS



15643 - NWC Telegraph and SFS Industrial CadnaA Noise Prediction Model: 15643-02.cna

CadnaA Noise Prediction Model: 15643-02.cna Date: 30.07.24 Analyst: B. Lawson

Calculation Configuration

ParameterValueGeneral	Configurat	tion
Max. Error (dB)0.00Max. Search Radius (#(Unit,LEN))2000.01Min. Dist Src to Rcvr0.00PartitionRaster FactorRaster Factor0.50Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (#(Unit,LEN))1.01Min. Length of Section (#(Unit,LEN))1.01Min. Length of Section (#(Unit,LEN))0.00Proj. Line SourcesOnProj. Area SourcesOnRef. Time0.00Daytime Penalty (dB)5.00Night-time Penalty (dB)10.00DTM0.00DTM0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Search Radius Rcvr100.00Min. Distance Source - Reflector0.10Min. Distance Source - Reflector0.10Industrial (ISO 9613)100.00Lateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)Enterse	Parameter	Value
Max. Search Radius (#(Unit,LEN))2000.01Min. Dist Src to Rcvr0.00PartitionRaster FactorRaster Factor0.50Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (#(Unit,LEN))0.00Proj. Line SourcesOnProj. Line SourcesOnRef. Time	General	
Min. Dist Src to Rcvr0.00Partition	Max. Error (dB)	0.00
PartitionDescriptionRaster Factor0.50Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (#(Unit,LEN))1.01Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Line SourcesOnRef. Time0.00Daytime Penalty (dB)0.00Rer. Time Penalty (dB)10.00DTM5tandard Height (m)Standard Height (m)0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Max. Order of Reflection2Search Radius Ror1000.00Min. Distance Source - Rcvr1000.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)1.01Lateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TNM)Railways (FTA/FRA)Aircraft (???)1	Max. Search Radius (#(Unit,LEN))	2000.01
Raster Factor0.50Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Line SourcesOnRef. TimeDaytime Penalty (dB)Daytime Penalty (dB)0.00Rer. Time Penalty (dB)10.00DTMDTMStandard Height (m)0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Max. Order of Reflection2Search Radius Src100.00Min. Distance Source - Rcvr1000.00 1000.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Incl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)Incl. Ground Att. Cover Supersonal Supers	Min. Dist Src to Rcvr	0.00
Max. Length of Section (#(Unit,LEN))999.99Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Line SourcesOnRef. TimeDaytime Penalty (dB)Daytime Penalty (dB)5.00Night-time Penalty (dB)10.00DTMStandard Height (m)Standard Height (m)0.00ReflectionZSearch Radius Src100.00Search Radius Rcvr100.00Min. Distance Source - Reflector1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Some ObjLateral DiffractionSome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)Industri (??)	Partition	
Min. Length of Section (#(Unit,LEN))1.01Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Line SourcesOnRef. Time0.00Daytime Penalty (dB)0.00Ref. Time Penalty (dB)5.00Night-time Penalty (dB)10.00DTM0.00Standard Height (m)0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Search Radius Rcvr100.00Min. Distance Source - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)100.00Lateral DiffractionSome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over BarrierDaytime (4(Unit,TEMP))10renperature (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)10	Raster Factor	0.50
Min. Length of Section (%)0.00Proj. Line SourcesOnProj. Area SourcesOnRef. TimeDaytime Penalty (dB)0.00Recr. Time Penalty (dB)5.00Night-time Penalty (dB)10.00DTMStandard Height (m)0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Max. Order of Reflection2Search Radius Rovr100.00Min. Distance Source - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Lateral DiffractionSome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)	Max. Length of Section (#(Unit,LEN))	999.99
Proj. Line SourcesOnProj. Line SourcesOnRef. TimeDaytime Penalty (dB)Daytime Penalty (dB)5.00Night-time Penalty (dB)10.00DTMStandard Height (m)Standard Height (m)0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Max. Distance Source - Rcvr100.00Min. Distance Source - Reflector1.00Ind. Distance Source - Reflector0.10Industrial (ISO 9613)Lateral DiffractionScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit, TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)E	Min. Length of Section (#(Unit,LEN))	1.01
Proj. Area SourcesOnRef. Time	Min. Length of Section (%)	0.00
Ref. Time0.00Daytime Penalty (dB)0.00Recr. Time Penalty (dB)5.00Night-time Penalty (dB)10.00DTM0.00Model of TerrainTriangulationReflection2Search Radius Src100.00Max. Order of Reflection2Search Radius Src100.00Max. Distance Source - Rcvr1000.00 1000.00Min. Distance Source - Reflector1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Some ObjLateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TIM)Railways (FTA/FRA)Aircraft (???)Inter State (%)	Proj. Line Sources	On
Daytime Penalty (dB)0.00Recr. Time Penalty (dB)5.00Night-time Penalty (dB)10.00DTM	Proj. Area Sources	On
Recr. Time Penalty (dB)5.00Night-time Penalty (dB)10.00DTMStandard Height (m)Standard Height (m)0.00Model of TerrainTriangulationReflection2search Radius Src100.00Search Radius Rcvr100.00Max. Distance Source - Rcvr1000.00 1000.00Min. Distance Source - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Lateral DiffractionSorreeningIncl. Ground Att. over Barrier D zwith limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)Incl. Caround Att. Carour Airce (?)	Ref. Time	
Night-time Penalty (dB)10.00DTMStandard Height (m)0.00Model of TerrainTriangulationReflection2search Radius Src100.00Search Radius Rcvr1000.00Max. Distance Source - Rcvr1000.00Min. Distance Source - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)DostLateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over Barrier Dz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)E	Daytime Penalty (dB)	0.00
DTM 0.00 Standard Height (m) 0.00 Model of Terrain Triangulation Reflection 2 max. Order of Reflection 2 Search Radius Src 100.00 Max. Distance Source - Revr 1000.00 Min. Distance Source - Reflector 1.00 1.00 Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) 1.00 1.00 Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Darrier Coefficients C1,2,3 Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit, TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Aircraft (???) International state	Recr. Time Penalty (dB)	5.00
Standard Height (m) 0.00 Model of Terrain Triangulation Reflection 2 Search Radius Src 100.00 Search Radius Rvr 1000.00 Max. Distance Source - Rcvr 1000.00 Min. Distance Source - Reflector 1.00 Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) 1 Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Dz Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) I	Night-time Penalty (dB)	10.00
Model of Terrain Triangulation Reflection 2 search Radius Src 100.00 Search Radius Rovr 100.00 Max. Distance Source - Rcvr 1000.00 1000.00 Min. Distance Rvcr - Reflector 1.00 1.00 Min. Distance Rvcr - Reflector 0.10 Industrial (ISO 9613) 2 Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Darrier Coefficients C1,2,3 Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) 2	DTM	
Reflection 2 max. Order of Reflection 2 Search Radius Src 100.00 Search Radius Revr 100.00 Max. Distance Source - Revr 1000.00 1000.00 Min. Distance Source - Reflector 1.00 1.00 Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) 1 Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Darrier Coefficients C1,2,3 Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) 10	Standard Height (m)	0.00
max. Order of Reflection2Search Radius Src100.00Search Radius Rcvr100.00Max. Distance Source - Rcvr1000.00 1000.00Min. Distance Rource - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Lateral DiffractionLateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over BarrierDz with limit (20/25)Destrier Coefficients C1,2,3Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit,TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TTM)Railways (FTA/FRA)Aircraft (???)Eather State Stat	Model of Terrain	Triangulation
Search Radius Src 100.00 Search Radius Rcvr 1000.00 Max. Distance Source - Rcvr 1000.00 1000.00 Min. Distance Source - Reflector 1.00 1.00 Industrial (ISO 9613) Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Also	Reflection	
Search Radius Rcvr100.00Max. Distance Source - Rcvr1000.00 1000.00Min. Distance Source - Reflector1.00 1.00Min. Distance Source - Reflector0.10Industrial (ISO 9613)Industrial (ISO 9613)Lateral Diffractionsome ObjObst. within Area Src do not shieldOnScreeningIncl. Ground Att. over BarrierDzDz with limit (20/25)Barrier Coefficients C1,2,33.0 20.0 0.0Temperature (#(Unit, TEMP))10rel. Humidity (%)70Ground Absorption G0.50Wind Speed for Dir. (#(Unit,SPEED))3.0Roads (TMM)Railways (FTA/FRA)Aircraft (???)Internet and the state of the state	max. Order of Reflection	2
Max. Distance Source - Rcvr 1000.00 1000.00 Min. Distance Rvcr - Reflector 1.00 1.00 Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) Industrial (ISO 9613) Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit, TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Aircraft (???) Integration (Integration (Integratin (Integration (Integration (Integratin (Integration (Int	Search Radius Src	100.00
Min. Distance Rvcr - Reflector 1.00 1.00 Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) some Obj Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of the c	Search Radius Rcvr	100.00
Min. Distance Source - Reflector 0.10 Industrial (ISO 9613) some Obj Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Railways (FTA/FRA) Aircraft (???)	Max. Distance Source - Rcvr	1000.00 1000.00
Industrial (ISO 9613) some Obj Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Railways (FTA/FRA) Aircraft (???)	Min. Distance Rvcr - Reflector	1.00 1.00
Lateral Diffraction some Obj Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Radas (TNM) Railways (FTA/FRA) Aircraft (???) Intervalue (*(Intervalue))	Min. Distance Source - Reflector	0.10
Obst. within Area Src do not shield On Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Aircraft (???) Intervalue of the second	Industrial (ISO 9613)	
Screening Incl. Ground Att. over Barrier Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of the compar	Lateral Diffraction	some Obj
Dz with limit (20/25) Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TMM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of the comparison of th	Obst. within Area Src do not shield	On
Barrier Coefficients C1,2,3 3.0 20.0 0.0 Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of Compar	Screening	Incl. Ground Att. over Barrier
Temperature (#(Unit,TEMP)) 10 rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???) Image: Comparison of the second		Dz with limit (20/25)
rel. Humidity (%) 70 Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Barrier Coefficients C1,2,3	3.0 20.0 0.0
Ground Absorption G 0.50 Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Temperature (#(Unit,TEMP))	10
Wind Speed for Dir. (#(Unit,SPEED)) 3.0 Roads (TNM)	rel. Humidity (%)	70
Roads (TNM) Railways (FTA/FRA) Aircraft (???)	Ground Absorption G	0.50
Railways (FTA/FRA) Aircraft (???)	Wind Speed for Dir. (#(Unit,SPEED))	3.0
Aircraft (???)	Roads (TNM)	
	Railways (FTA/FRA)	
Strictly acc. to AzB	Aircraft (???)	
	Strictly acc. to AzB	

Receiver Noise Levels

Name	М.	ID		Level Lr		Lir	nit. Valı	ue		Land	Use	Height	:	Co	oordinates	
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	38.2	37.3	44.0	50.0	45.0	0.0				5.00	а	6541157.05	1801152.98	5.00
RECEIVERS		R2	38.6	37.6	44.2	50.0	45.0	0.0				5.00	а	6541438.30	1801152.11	5.00
RECEIVERS		R3	42.6	41.9	48.5	50.0	45.0	0.0				5.00	а	6541794.21	1801151.24	5.00

Point Source(s)

		-(-/														
Name	М.	ID	R	esult. PW	/L		Lw/L	i	Ope	erating Ti	ime	Heigh	t	C	oordinates	-
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		AC01	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541043.49	1802089.46	50.00
POINTSOURCE		AC02	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541095.45	1802088.66	50.00
POINTSOURCE		AC03	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541153.80	1802091.05	50.00
POINTSOURCE		AC04	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541049.09	1802405.99	50.00
POINTSOURCE		AC05	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541101.04	1802403.59	50.00
POINTSOURCE		AC06	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541153.80	1802403.59	50.00
POINTSOURCE		AC07	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541658.17	1801760.14	50.00
POINTSOURCE		AC08	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541710.93	1801760.94	50.00
POINTSOURCE		AC09	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541710.13	1801712.98	50.00
POINTSOURCE		AC10	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541657.37	1801713.78	50.00
POINTSOURCE		AC11	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541830.82	1802525.09	50.00
POINTSOURCE		AC12	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541877.18	1802524.29	50.00
POINTSOURCE		AC13	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541877.18	1802462.74	50.00
POINTSOURCE		AC14	88.9	88.9	88.9	Lw	88.9		585.00	0.00	252.00	5.00	g	6541828.43	1802458.74	50.00
POINTSOURCE		TRASH01	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	а	6541793.26	1802132.62	5.00
POINTSOURCE		TRASH02	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	а	6541793.26	1802155.00	5.00
POINTSOURCE		TRASH03	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	а	6541793.26	1802256.51	5.00

Name	М.	ID	R	esult. PW	/L		Lw/L	i	Ope	erating Ti	me	Height	t	Co	ordinates	
			Day	Evening	Night	Туре	Value	norm.	Day	Special	Night			Х	Y	Z
			(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	(ft)		(ft)	(ft)	(ft)
POINTSOURCE		TRASH04	89.0	89.0	89.0	Lw	89		900.00	0.00	270.00	5.00	а	6541792.46	1802282.89	5.00

Line Source(s)

Name	М.	ID	R	esult. PW	'L	R	esult. PW	Ľ		Lw / L	i	Op	erating Ti	me	Moving Pt. Src				Heig	ht
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night		Number		Speed		
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)	Day	Evening	Night	(mph)	(ft)	
LINESOURCE		TRUCK01	93.2	93.2	93.2	69.7	69.7	69.7	Lw	93.2									8	а
LINESOURCE		TRUCK02	93.2	93.2	93.2	69.9	69.9	69.9	Lw	93.2									8	а

Name	ID	ł	lei	ght		Coordinat	es	
		Begin		End	x	У	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
LINESOURCE	TRUCK01	8.00	а		6541791.66	1802353.23	8.00	0.00
					6541295.28	1802356.43	8.00	0.00
					6541266.81	1802354.69	8.00	0.00
					6541238.56	1802350.76	8.00	0.00
					6541210.69	1802344.67	8.00	0.00
					6541183.37	1802336.45	8.00	0.00
					6541145.91	1802324.33	8.00	0.00
					6541108.87	1802311.00	8.00	0.00
					6541072.27	1802296.48	8.00	0.00
LINESOURCE	TRUCK02	8.00	а		6541745.30	1802159.80	8.00	0.00
					6541142.61	1802166.19	8.00	0.00
					6541130.67	1802167.42	8.00	0.00
					6541119.03	1802170.35	8.00	0.00
					6541107.93	1802174.92	8.00	0.00
					6541097.60	1802181.04	8.00	0.00
					6541088.26	1802188.57	8.00	0.00
					6541057.08	1802215.75	8.00	0.00

Area Source(s)

Name	М.	ID	R	esult. PW	'L	R	esult. PW	L''		Lw/L	i	Op	erating Ti	me	Heigh	t
			Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		Τ
AREASOURCE		DRY01	103.4	103.4	103.4	65.8	65.8	65.8	Lw	103.4					8	а
AREASOURCE		COLD01	111.5	111.5	111.5	76.4	76.4	76.4	Lw	111.5					8	а
AREASOURCE		COLD02	111.5	111.5	111.5	76.8	76.8	76.8	Lw	111.5					8	а
AREASOURCE		CAR01	81.1	81.1	81.1	56.4	56.4	56.4	Lw	81.1					5	а
AREASOURCE		CAR02	81.1	81.1	81.1	56.5	56.5	56.5	Lw	81.1					5	а
AREASOURCE		CAR03	81.1	81.1	81.1	50.5	50.5	50.5	Lw	81.1					5	а
AREASOURCE		CAR04	81.1	81.1	81.1	56.6	56.6	56.6	Lw	81.1					5	а
AREASOURCE		CAR05	81.1	81.1	81.1	58.7	58.7	58.7	Lw	81.1					5	а
AREASOURCE		CAR06	81.1	81.1	81.1	55.3	55.3	55.3	Lw	81.1					5	а
AREASOURCE		CAR07	81.1	81.1	81.1	55.6	55.6	55.6	Lw	81.1					5	а
AREASOURCE		CAR08	81.1	81.1	81.1	52.9	52.9	52.9	Lw	81.1					5	а
AREASOURCE		CAR09	81.1	81.1	81.1	49.9	49.9	49.9	Lw	81.1					5	а
AREASOURCE		CAR10	81.1	81.1	81.1	51.8	51.8	51.8	Lw	81.1					5	а
AREASOURCE		CAR11	81.1	81.1	81.1	53.6	53.6	53.6	Lw	81.1					5	а
AREASOURCE		CAR12	81.1	81.1	81.1	49.4	49.4	49.4	Lw	81.1					5	а
AREASOURCE		CAR13	81.1	81.1	81.1	48.9	48.9	48.9	Lw	81.1					5	а
AREASOURCE		CAR14	81.1	81.1	81.1	53.6	53.6	53.6	Lw	81.1					5	а
AREASOURCE		CAR15	81.1	81.1	81.1	53.8	53.8	53.8	Lw	81.1					5	а

Name	ID	ł	lei	ght		Coordinat	es	
		Begin		End	x	У	z	Ground
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)
AREASOURCE	DRY01	8.00	а		6541187.37	1802298.08	8.00	0.00
					6541776.47	1802298.88	8.00	0.00
					6541775.67	1802244.52	8.00	0.00
					6541795.65	1802242.93	8.00	0.00
					6541798.05	1802192.57	8.00	0.00
					6541185.77	1802195.77	8.00	0.00
AREASOURCE	COLD01	8.00	а		6541182.27	1802432.03	8.00	0.00
					6541795.66	1802430.92	8.00	0.00
					6541794.05	1802374.01	8.00	0.00
					6541183.56	1802373.91	8.00	0.00
AREASOURCE	COLD02	8.00	а		6541179.69	1802119.49	8.00	0.00
					6541741.30	1802117.43	8.00	0.00
					6541740.18	1802060.09	8.00	0.00
					6541180.98	1802062.67	8.00	0.00
AREASOURCE	CAR01	5.00	а		6541825.82	1801828.87	5.00	0.00
					6541844.42	1801828.66	5.00	0.00
					6541844.63	1801645.14	5.00	0.00
					6541828.71	1801645.14	5.00	0.00
AREASOURCE	CAR02	5.00	а		6541782.00	1801805.10	5.00	0.00

Name	ID	ŀ	lei	ght			Coordinat	es	
		Begin		End		x	у	z	Ground
		(ft)	Π	(ft)		(ft)	(ft)	(ft)	(ft)
			Π			6541802.46	1801804.28	5.00	0.00
						6541801.84	1801652.78	5.00	0.00
						6541781.38	1801654.02	5.00	0.00
AREASOURCE	CAR03	5.00	a			6541724.95	1801676.76	5.00	0.00
						6541724.95	1801659.94	5.00	0.00
			Π			6541013.48	1801662.74	5.00	0.00
						6541013.48	1801680.68	5.00	0.00
AREASOURCE	CAR04	5.00	a			6541189.53	1801622.94	5.00	0.00
			Η			6541334.17	1801623.50	5.00	0.00
			Π			6541333.61	1801602.75	5.00	0.00
			Π			6541188.41	1801602.19	5.00	0.00
AREASOURCE	CAR05	5.00	a			6541134.02	1801627.98	5.00	0.00
		0.00	-			6541134.58	1801525.95	5.00	0.00
			H			6541115.52	1801528.19	5.00	0.00
			H			6541116.08	1801627.98	5.00	0.00
AREASOURCE	CAR06	5.00	a			6541051.61	1801629.10	5.00	0.00
		2.50	-		-	6541091.97	1801630.23	5.00	0.00
			Η			6541091.41	1801527.63	5.00	0.00
			H			6541050.49	1801529.31	5.00	0.00
AREASOURCE	CAR07	5.00	a			6540988.25	1801628.54	5.00	0.00
/	0, 110,	5.00	Ľ			6541026.38	1801627.98	5.00	0.00
			H		-	6541026.38	1801527.63	5.00	0.00
			Η			6540987.69	1801528.19	5.00	0.00
AREASOURCE	CAROS	5.00	2			6540988.25	1802070.90	5.00	0.00
AREASOURCE	CAROO	5.00	ŭ			6541007.88	1802072.02	5.00	0.00
			\square			6541007.88	1801691.90	5.00	0.00
			Η			6540989.94	1801691.50	5.00	0.00
AREASOURCE	CAROO	5.00	a			6540943.30	1802153.39	5.00	0.00
ANLAGOUNCE	CANOS	5.00	a			6540963.61	1802153.91	5.00	0.00
			Н		-	6540966.74	1802133.91	5.00	0.00
			Н			6540942.78	1801519.02	5.00	0.00
AREASOURCE	CAR10	5.00	a			6540943.30	1801318.50	5.00	0.00
ANLAGOUNCE	CANIO	5.00	a			6540941.74	1802340.02	5.00	0.00
			Η			6540962.57	1802802.87	5.00	0.00
			\square			6540962.57	1802802.87	5.00	0.00
AREASOURCE	CAD11	5.00	a			6540988.09	1802340.10	5.00	0.00
AREAGOURCE	CANII	3.00	a			6541008.40	1802743.30	5.00	0.00
			H			6541005.28	1802742.40	5.00	0.00
			H		-	6540987.57	1802422.00	5.00	0.00
AREASOURCE	CAP12	5.00			-	6541013.78	1802424.23	5.00	0.00
ANEAGOURCE	CARIZ	3.00	а		-	6541013.78	1802773.36	5.00	0.00
			H		-	6541900.94	1802769.89	5.00	0.00
			H		-	6541012.92	1802752.52	5.00	0.00
AREASOURCE	CAD12	5.00	a		-	6541012.92	1802755.13	5.00	0.00
ANEAGOURCE	CAUT2	3.00	ď		-	6540967.78	1802821.10	5.00	0.00
			\vdash		-				
			H		-	6541960.83	1802798.53	5.00	0.00
	CAD14	F 00	$\left \right $		-	6540966.04	1802804.61	5.00	0.00
AREASOURCE	CAR14	5.00	а		-	6541961.70	1802795.93	5.00	0.00
			H		-	6541978.19	1802799.40	5.00	0.00
			\parallel		-	6541976.46	1802429.61	5.00	
ADE 40011005	CADIE	F 00	$\left \right $		-	6541959.96	1802430.48	5.00	0.00
AREASOURCE	CAR15	5.00	а		_	6541915.69	1802749.92	5.00	0.00
			\mid			6541932.19	1802747.32	5.00	0.00
			\square			6541934.79	1802431.34	5.00	0.00
						6541914.83	1802431.34	5.00	0.00

Building(s)

	.01.													
Name	Sel. M.		ID	RB	Residents	Absorption	Height	:	Coordinates					
							Begin		х	У	z	Ground		
							(ft)		(ft)	(ft)	(ft)	(ft)		
BUILDING			BUILDING00001	x	0		45.00	a	6541019.55	1802744.56	45.00	0.00		
									6541904.20	1802743.27	45.00	0.00		
									6541897.74	1802430.74	45.00	0.00		
									6541182.27	1802432.03	45.00	0.00		
									6541183.56	1802373.91	45.00	0.00		
									6541022.13	1802377.79	45.00	0.00		
BUILDING			BUILDING00002	x	0		45.00	a	6541018.26	1802116.91	45.00	0.00		
									6541179.69	1802119.49	45.00	0.00		
									6541180.98	1802062.67	45.00	0.00		
									6541740.18	1802060.09	45.00	0.00		
									6541735.02	1801694.60	45.00	0.00		
									6541016.96	1801693.31	45.00	0.00		



APPENDIX 10.1:

CADNAA CONSTRUCTION NOISE MODEL INPUTS





15643 - NWC Telegraph and SFS Industrial

CadnaA Noise Prediction Model: 15643-02_Construction.cna Date: 30.07.24 Analyst: B. Lawson

Calculation Configuration

Parameter Value General 0.00 Max. Error (dB) 0.00 Max. Search Radius (#(Unit,LEN)) 2000.01 Min. Dist Src to Rcvr 0.00 Partition 7 Raster Factor 0.50 Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00 Proj. Line Sources On
Max. Error (dB) 0.00 Max. Search Radius (#(Unit,LEN)) 2000.01 Min. Dist Src to Rcvr 0.00 Partition Raster Factor Raster Factor 0.50 Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Max. Search Radius (#(Unit,LEN)) 2000.01 Min. Dist Src to Rcvr 0.00 Partition Raster Factor Raster Factor 0.50 Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Min. Dist Src to Rcvr 0.00 Partition
Partition 0.50 Raster Factor 0.50 Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Raster Factor 0.50 Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Max. Length of Section (#(Unit,LEN)) 999.99 Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Min. Length of Section (#(Unit,LEN)) 1.01 Min. Length of Section (%) 0.00
Min. Length of Section (%) 0.00
Proj. Line Sources On
Proj. Area Sources On
Ref. Time
Daytime Penalty (dB) 0.00
Recr. Time Penalty (dB) 5.00
Night-time Penalty (dB) 10.00
DTM
Standard Height (m) 0.00
Model of Terrain Triangulation
Reflection
max. Order of Reflection 2
Search Radius Src 100.00
Search Radius Rcvr 100.00
Max. Distance Source - Rcvr 1000.00 1000.00
Min. Distance Rvcr - Reflector 1.00 1.00
Min. Distance Source - Reflector 0.10
Industrial (ISO 9613)
Lateral Diffraction some Obj
Obst. within Area Src do not shield On
Screening Incl. Ground Att. over Barrie
Dz with limit (20/25)
Barrier Coefficients C1,2,3 3.0 20.0 0.0
Temperature (#(Unit,TEMP)) 10
rel. Humidity (%) 70
Ground Absorption G 0.50
Wind Speed for Dir. (#(Unit,SPEED)) 3.0
Roads (TNM)
Railways (FTA/FRA)
Aircraft (???)
Strictly acc. to AzB

Receiver Noise Levels

Name	M.	ID		Level Lr		Lir	nit. Valı	ue		Use	Height		Coordinates			
			Day	Night	CNEL	Day	Night	CNEL	Туре	Auto	Noise Type			Х	Y	Z
			(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)				(ft)		(ft)	(ft)	(ft)
RECEIVERS		R1	64.2	-42.8	61.2	50.0	45.0	0.0				5.00	а	6541157.05	1801152.98	5.00
RECEIVERS		R2	64.2	-42.8	61.2	50.0	45.0	0.0				5.00	а	6541438.30	1801152.11	5.00
RECEIVERS		R3	63.4	-43.6	60.4	50.0	45.0	0.0				5.00	а	6541794.21	1801151.24	5.00

Area Source(s)

	Name	М.	ID	R	Result. PWL			Result. PWL"			Lw / Li			Operating Time			nt
				Day	Evening	Night	Day	Evening	Night	Туре	Value	norm.	Day	Special	Night	(ft)	П
				(dBA)	(dBA)	(dBA)	(dBA)	(dBA)	(dBA)			dB(A)	(min)	(min)	(min)		
S	ITEBOUNDARY		CONSTRUCTION	125.4	18.4	18.4	75.1	-31.9	-31.9	PWL-Pt	118.4					8	а

Name	ID	F	lei	ght						
		Begin		End		х	У	z	Ground	
		(ft)		(ft)		(ft)	(ft)	(ft)	(ft)	
SITEBOUNDARY	CONSTRUCTION	8.00	а			6540935.79	1802825.90	8.00	0.00	
						6541981.50	1802824.87	8.00	0.00	
						6541981.50	1802378.90	8.00	0.00	
						6541804.63	1802377.82	8.00	0.00	
						6541804.63	1802123.91	8.00	0.00	
						6541779.68	1802122.83	8.00	0.00	
						6541782.93	1801836.37	8.00	0.00	
						6541858.89	1801835.28	8.00	0.00	
						6541857.80	1801650.13	8.00	0.00	
						6541832.80	1801625.13	8.00	0.00	
						6541434.88	1801627.21	8.00	0.00	
						6541435.58	1801589.02	8.00	0.00	

Name	ID	ŀ	lei	ght	Coordinates					
		Begin	Begin		х	У	z	Ground		
		(ft)		(ft)	(ft)	(ft)	(ft)	(ft)		
					6541168.22	1801590.40	8.00	0.00		
					6541167.52	1801511.24	8.00	0.00		
					6540938.36	1801512.63	8.00	0.00		

Building(s)

		01-		_							
Name	Sel.	М.	ID	RB	Residents	Absorption	Height				
							Begin	х	У	z	Ground
							(ft)	(ft)	(ft)	(ft)	(ft)