PARTNER

April 28, 2025

Kelvin Koh
CapRock Partners
1300 Dove Street, Suite 200
Newport Beach, California 92660

Subject: Noise Impact Report
Valley Centre Business Park
Project Address
City of Industry, California 91748
Partner Project No. 24-449354.2

Dear Kelvin Koh:

Partner Engineering and Science, Inc. (Partner), is pleased to provide the *Noise Impact Report* for the abovementioned address (the "subject property"). This survey was performed in general conformance with the scope and limitations as detailed in our fee proposal.

Assumptions and Limitations

No warranties expressed or implied, are made by Partner, or their employees as to the use of any information, apparatus, product or process disclosed in this report. Every reasonable effort has been made to assure correctness. If any discrepancies are found in this report as it relates to current site conditions or newly discovered site conditions should be brought to the immediate attention of Partner.

State-of-the-art practices have been employed to perform this survey. The services consist of professional opinions and recommendations made in accordance with generally accepted engineering principles/practices. These services are designed to provide an analytical tool to assist the client. Partner and their employees/representatives bear no responsibility for the actual condition of the structure or safety of this site regardless of the actions taken by the survey team or the client.

We appreciate the opportunity to provide environmental services to CapRock Partners. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at 978-335-8995.

Sincerely,
Partner Engineering and Science, Inc.

Leo Bertolino
Client Manager

Noise Impact Study for Industrial Park Redevelopment in the City of Industry

Partner Engineering and Science, Inc.

184 South 6th Street City of Industry, CA 91746

April 2025

Prepared by:

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Prepared for:

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List of Acronyms and Abbreviations

APN	Assessor's Parcel Number
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-Weighted Decibel
DOT	United States Department of Transportation
FHWA	Federal Highway Administration
ft	Feet
FTA	Federal Transit Administration
HVAC	Heating Ventilation Air Conditioning
Hz	Hertz
in/sec	Inches per Second
L_{dn}	Day-Night Noise Level
L_{eq}	Equivalent Energy Level
L_{max}	Maximum Level of Noise
OPR	California Office of Planning and Research
PPV	Peak Particle Velocity
RMS	Root Mean Squared
TNM	Traffic Noise Model

Noise Impact Study for Industrial Park Redevelopment

1.0 INTRODUCTION

1.1 Purpose and Objectives

Yorke Engineering, LLC (Yorke) has been retained by Partner Engineering and Science, Inc. to complete a Noise Impact Study for the proposed redevelopment of an existing 6.47-acre multi-building industrial park. The project address is 184 South 6th Street in the City of Industry, CA (the City), and includes Assessor's Parcel Numbers (APNs) 8206-027-058 and 8206-027-080. The site plan shows a single, new 140,720-square-foot building that will replace six existing buildings with a total of 191 parking stalls. Annexation of APN 8206-027-080 from the County of Los Angeles (the County) to the City is required for the project.

Yorke has evaluated the potential for adverse noise impacts on nearest residential receptors during construction and operation of the proposed project. This report contains:

- A review of the State of California 2017 General Plan Guidelines;
- A review of the City of Industry's General Plan and Municipal Noise Ordinance;
- The results of ambient noise measurements taken on July 17, 2024;
- A noise and vibration impacts analysis for project construction; and
- Environmental noise modeling results for the operational phase of the project.

1.2 Facility Description, Location, and Zoning

The project address is 184 South 6th Street and includes APNs 8206-027-058 and 8206-027-080. The facility is located in an Industrial Zone. Figure 1-1 is satellite imagery showing the location of the proposed facility, the surrounding area, highways, and the nearest sensitive receptors. The project will redevelop a 6.47-acre industrial park currently comprising multiple industrial buildings. The proposed redevelopment involves constructing a new 140,720-square-foot building that will replace the existing structures on the site. A total of 191 parking stalls will be developed. Additionally, the annexation of parcel number 8206-027-080 from the County to the City is a prerequisite for the project's completion.

Figure 1-1: Proposed Project Location Diagram

2.0 NOISE AND VIBRATION FUNDAMENTALS

2.1 Definition and Measurement of Noise

Sound is a pressure wave created by a moving or vibrating source that travels through a fluid medium such as air or water. Noise is defined as a sound or aggregated sounds that are perceived as dissonant, irritating, objectionable, intrusive, and/or disruptive to the quality of daily life. Sound is measured on a logarithmic scale of sound pressure level known as the decibel (dB) scale. A-weighted decibels (dBA) approximate the subjective response of the human ear to broad frequency sound sources by discriminating against very low and very high frequencies of the audible spectrum. The dBA scale is weighted to reflect only those frequencies which are audible to the human ear, generally defined as a range of 20 to 20,000 Hertz (Hz). Figure 2-1 presents a range of noise levels associated with common indoor and outdoor activities.

Figure 2-1: Typical Noise Levels and Effects on People

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	80	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawnmower, 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
Quiet rural nighttime		Bedroom at night, concert hall (background)
	20	
		Broadcast/recording studio
	10	
	0	

Source: California Department of Transportation, Technical Noise Supplement, September 2013.

2.2 Noise Descriptors

Environmental noise descriptors are generally based on time weighted averages. Noise levels emitted by various sources are often expressed as equivalent energy level (L_{eq}). Maximum Level of Noise (L_{max}) is the root mean squared (RMS) maximum level of a noise source or environment measured on a sound level meter during a designated time interval (e.g., 15, 30, or 60 minutes).

Because sound levels at a particular location typically vary over the course of the day and because people tend to be more sensitive to noise in the evening and at night than during the morning and afternoon, sound levels are commonly averaged over a 24-hour period, weighted for night and evening sensitivity by adding a 5 dBA penalty for noise occurring in the evening (7 p.m.-10 p.m.) and a 10 dBA penalty for nighttime noise (10 p.m.-7 a.m.) for the Community Noise Equivalent Level (CNEL) and only a nighttime penalty for the Day-Night Noise Level (L_{dn}). These two expressions of average sound levels are nearly equivalent, and while this Noise Element usually refers to CNEL, standards cited from certain State and federal regulations may use L_{dn}.

2.3 Noise Range

Decibel scales are logarithmic, such that an increase from 30 to 40 dB represents a tenfold increase in sound level, while an increase from 30 to 50 dB represents a hundredfold increase. Human perception of sound loudness, however, is subjective. Everyday sounds normally range

from 30 dBA (very quiet, such as a soft whisper) to 100 dBA (very loud, such as the noise produced by a jet takeoff at a distance of 200 feet).

2.4 Human Response to Changes in Noise Levels

In general, the healthy human ear is most sensitive to sounds between 1,000 Hz and 5,000 Hz, and it perceives a sound within that range as being more intense than a sound with a higher or lower frequency with the same magnitude. For purposes of this report as well as with most environmental documents, overall sound levels are determined by applying frequency weighted adjustments to spectral sound levels. The A-scale weighting scale is used to mimic human hearing response; therefore, sound is reported in terms of dBA. Typically, the human ear can barely perceive a change in noise level of 3 dBA. A change in noise level of 5 dBA is readily perceptible, and a change of 10 dBA is perceived as being twice or half as loud.

2.5 Sound Propagation

Sound is transmitted in the air by pressure variations from its source to the surroundings. While absorption by air is one of the factors attributing to the weakening of a sound during transmission, distance plays a more important role in noise reduction during transmission. Depending on the source of the sound, for every doubling of distance, the level will be reduced between 3 and 6 dB. The reduction of a sound is called attenuation. Other factors for noise attenuation are terrain absorption and shielding (insertion loss).

To attenuate the line-of-sight noise transmission, sound walls between a noise source and a receiver (receptor) are often used for noise control, e.g., along freeways. Additional barriers such as interceding buildings, rough terrain, hills, and heavy vegetation can also reduce noise levels. Typically, sound walls will reduce noise levels by 5 to 10 dB. The higher the wall is, the greater the noise reduction will be. Effective noise barriers can reduce noise levels by 10 to 15 dB. A sound barrier is most effective when placed close to the noise source or receiver.

2.6 Vibration

Vibration is a form of oscillatory motion within a solid medium, where the amplitude of the motion can be described by displacement, velocity, or acceleration. Typically associated with activities like railroads or vibration-heavy stationary sources, it also arises from construction equipment such as jackhammers, pile drivers, and hydraulic hammers. Displacement refers to how far a point on a surface moves from its original position, velocity describes the speed at which this point moves, and acceleration measures the rate of change of velocity. These parameters are crucial for assessing human response, building damage, and acceptable equipment vibration levels.

During construction, equipment operations can induce groundborne vibrations. In the operational phase, receptors may experience vibrations that can cause annoyance due to noise generated by structural vibrations or items within structures. Analysis of such vibrations typically involves measuring velocity and acceleration.

Groundborne vibrations propagate in three main wave types: surface or Rayleigh waves, compression or P-waves, and shear or S-waves.

- Surface or Rayleigh waves travel along the ground surface, carrying energy along an expanding cylindrical wave front with particle motion perpendicular to the propagation direction;

- Compression or P-waves are body waves that propagate energy along an expanding spherical wave front with particle motion in a push-pull, longitudinal direction; and
- Shear or S-waves are also body waves, but with particle motion transverse to the direction of propagation along an expanding spherical wave front.

Peak particle velocity (PPV) or RMS velocity are commonly used to quantify vibration amplitudes. PPV measures the maximum instantaneous peak of the vibration signal, which is crucial for assessing potential building damage and human response. Units for PPV velocity are typically inches per second (in/sec), although vibrations are often discussed in dB to simplify the range of values, relative to one microinch per second.

Construction activities, such as blasting and demolition, typically generate high groundborne vibrations. Heavy trucks also contribute, with vibration levels varying based on factors like vehicle type, weight, and pavement conditions. Anomalies such as potholes and pavement joints amplify vibration levels from vehicle traffic. Generally, construction-related vibrations are more concerning than those from normal traffic on well-maintained roads and freeways. Trains, due to their engines, steel wheels, and heavy loads, generate substantial vibration.

3.0 NOISE STANDARDS

3.1 State of California

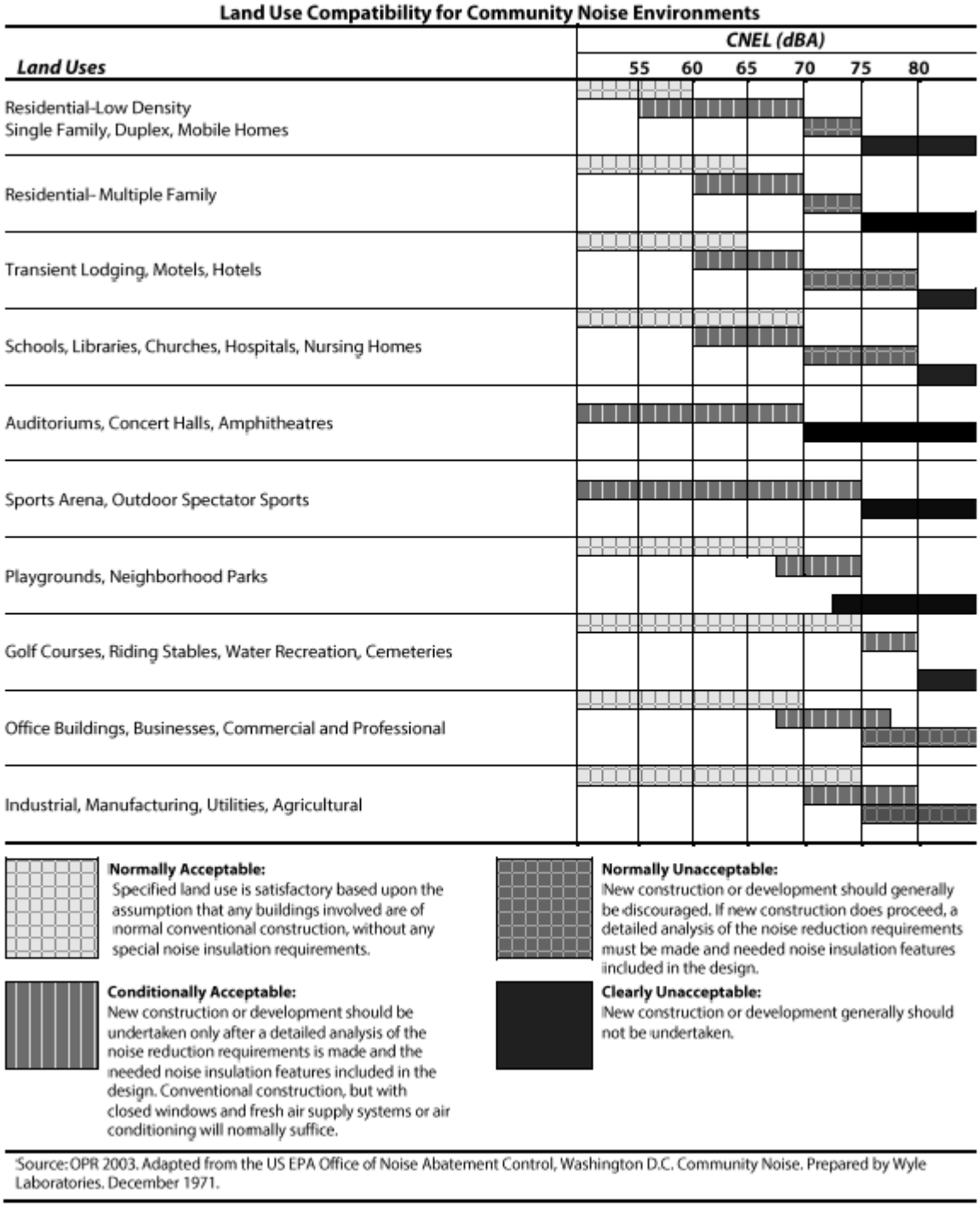
3.1.1 Building Code

California's noise insulation standards are codified in the California Building Code and apply to new construction for the purpose of ensuring compatibility between interior and exterior noise sources. The regulations specify that acoustical studies must be prepared when noise-sensitive structures, such as residential buildings, schools, or hospitals, are located near major transportation noise sources, and where such noise sources create an exterior noise level of 65 dBA CNEL or higher. Acoustical studies that accompany building plans for these uses must demonstrate that the structure has been designed to limit interior noise in habitable rooms to acceptable noise levels. For new residential buildings, schools, and hospitals, the acceptable interior noise limit for new construction is 45 dBA CNEL.

3.1.2 Land Use Compatibility Criteria

Figure 3-1 presents a land use compatibility chart for community noise adopted by the State of California as part of its general plan guidelines. This figure provides a tool to gauge the compatibility of new land uses relative to noise levels. This figure identifies normally acceptable, conditionally acceptable, and clearly unacceptable noise levels for various land uses. A normally acceptable designation means that standard construction can occur with no special noise reduction requirements. A conditionally acceptable designation implies new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements for each land use is made and needed noise insulation features are incorporated in the design.

Figure 3-1: Land Use Compatibility for Community Noise Environment



3.2 City of Industry General Plan, Safety Element

The City of Industry is devoted to industrial and commercial uses that are less sensitive to noise than other uses. Certain land uses are particularly sensitive to noise and vibration, including residential, school, and open space/recreation areas where quiet environments are necessary for

enjoyment, public health, and safety. Excessive noise levels are not only a potential annoyance but can constitute a health threat resulting in temporary or permanent hearing loss and mental distress. Despite its industrial and commercial focus, the City of Industry does not contain land uses or businesses that generate excessive noise levels that impact surrounding sensitive land uses.

The City of Industry has adopted the State of California Building Code and Land Use Compatibility Criteria discussed in Section 3.1. Furthermore, the City of Industry regulates noise nuisances under the City's Municipal Code as discussed in Section 3.3 of this report.

3.3 CEQA Checklist Questions

According to Appendix G of the California Environmental Quality Act (CEQA) Guidelines, a project will normally have a significant adverse environmental impact related to noise if it would result in:

- 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.
- Generation of excessive groundborne vibration or groundborne noise levels.
- 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, if the project would expose people residing or working in the project area to excessive noise level.

3.4 City of Industry Municipal Code, Noise Control

Based on the Noise Element of the General Plan, the City of Industry regulates noise nuisances under Chapter 1.30, which addresses public nuisances, and under Chapter 17.12, which addresses noise from entertainment uses. The City of Industry has not adopted many noise limits within their Municipal Code. The most relevant quantitative noise limits for industrial uses have been adopted in Chapter 17.52 Recycling Facilities. Section 17.52.040(B)(9) states no use permit shall be granted by the planning director unless the proposed small collection facilities comply with the several conditions stated in that section along with the following for noise: "It does not exceed noise levels of 60 dBA as measured at the property line of any residentially zoned or occupied property and otherwise does not exceed 70 dBA."

4.0 EXISTING LAND USES AND SENSITIVE RECEPTORS

4.1 Sensitive Receptors

Sensitive noise receptors (receivers) are defined as types of uses that are interrupted by relatively low levels of noise. Such receptors include residential uses, schools, hospitals, places of worship, and similar uses. The project facility is located within a heavily industrialized area with no noise sensitive uses located proximate to the project site. The nearest sensitive receptor is a single-family residential use located approximately 750 feet to the southwest of the project site. The next closest noise sensitive uses are homes located in the City of La Puente approximately 1,200 feet to the northeast of the project site. For the analysis of potential project related noise and vibration impacts all distances are measured from the project site boundary closest to the edge of the nearby sensitive receptor locations. Other sensitive land uses in the project study

area that are located at greater distances than those identified in this noise study and will experience lower noise levels than those presented in this report due to the additional attenuation from distance, topography, and the shielding of intervening structures. Attenuation distance is measured in a straight line from the project boundary for each phase to the nearest sensitive receptor location.

5.0 EXISTING AMBIENT NOISE ENVIRONMENT

5.1 Background Noise Measurements

On July 17, 2024, Yorke conducted short-term noise measurements at four locations along the project site's property lines as indicated on Figure 5-1. A Quest SoundPro SE/DL Type 2 sound level meter was used to document the noise levels. Raw data are included in Appendix A.

Figure 5-1: Noise Measurement Locations

Table 5-1: Summary of Noise Measurements

Sample Location	Time Start	Time End	Minimum (L_{min} dBA)	Average (L_{eq} dBA)	Maximum (L_{max} dBA)	Descriptions
L1 – Northwest Project Boundary	10:54 a.m.	11:14 a.m.	63	67	82	The primary noise source was a truck parked near the measurement location with its engine running. A secondary noise source included power tools operating occasionally across the street. There was constant traffic from cars and trucks.
L2 – Northeast Project Boundary	11:45 a.m.	12:05 a.m.	52	75	99	Trucks and cars frequently pass along Valley Boulevard, though there were rare moments when the street was quiet with no passing vehicles.
L3 – Southeast Project Boundary	12:42 a.m.	1:02 p.m.	49	54	66	The sample location is relatively quiet. A car engine is on in the background but was located more than 40 feet away. There was some occasional truck noise operating from about 50 feet away from the measurement location.
L4 – Southwest Project Boundary	1:21 p.m.	1:41 p.m.	59	62	78	An engine was operating approximately 80 feet south of the measurement location throughout the entire measurement period. Additionally, there was constant activity nearby, with people working, talking, and operating a forklift approximately 30 to 100 feet from the measurement location.

6.0 METHODOLOGY

6.1 Construction Noise Analysis Methodology

The noise analysis for project construction was completed based on methodology developed by the U.S. Department of Transportation Federal Highway Administration (DOT FHWA) at the John A. Volpe National Transportation Systems Center. The DOT FHWA methodology uses actual noise measurement data collected during the Boston "Big Dig" project (1991-2006) as reference levels for a wide variety of construction equipment in common use, such as on the proposed project.

The FHWA noise model provides relatively conservative predictions because it does not account for site-specific geometry, dimensions of nearby structures, and local environmental conditions that can affect sound transmission, reflection, and attenuation. As a result, actual measured sound levels at receptors may vary somewhat from predictions, typically lower. Additionally, the impacts of noise upon receptors (persons) are subjective because of differences in individual sensitivities and perceptions.

Noise impacts are evaluated against community noise standards contained in the City General Plan, Municipal Code, or other State or federal agency as applicable to the vicinity of the project site. Project-generated noise is evaluated in relation to established thresholds of significance. Additionally, the same methods are used to determine noise impacts on the nearest sensitive receptor. There is no numerical standard in the Municipal Code for construction activities; however, the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment provides an 8-hour construction noise level threshold of 80 dBA L_{eq} during the daytime at residential (noise-sensitive) uses and 85 dBA during the daytime at commercial uses. Therefore, noise impacts for the proposed project are evaluated against the FTA noise standards.

6.2 Construction Vibration Analysis Methodology

During construction activities, the project would generate noise and vibration due to operation of off-road equipment, portable equipment, and vehicles at or near the project site. No strong sources of vibrations (e.g., hard rock-breaking, large pile-driving) are planned to be used during the construction of the project. FTA has published standard vibration velocities for construction equipment operations. Generally, a PPV vibration threshold of approximately 0.3 in/sec is sufficient to avoid physical damage to engineered structures and 0.2 for non-engineered timber and masonry buildings (FTA 2018). The types of construction vibration impacts include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. Table 6-1 presents average source levels in terms of velocity for different types of construction equipment. Table 6-2 presents the human response to different levels of ground-borne vibration and noise (Caltrans 2013). A vibration threshold of 0.2 PPV which corresponds to "annoying" was selected as the significance threshold.

The vibration source level (PPV_{ref}) for each piece of equipment at a reference distance of 25 feet was determined per Table 6-1. The following equation was then used to apply the propagation adjustment to the source reference level to account for the distance from the equipment to the receiver:

$$PPV_{equip} = PPV_{ref} \times (\frac{25}{D})^{1.5}$$

where:

PPV_{equip} = the peak particle velocity of the equipment adjusted for distance, in/sec
PPV_{ref} = the source reference vibration level at 25 ft, in/sec
D = distance from the equipment to the receiver, ft

Table 6-1: FTA Vibration Source Levels for Construction Equipment

Equipment		PPV at 25 feet (in/sec)	LV at 25 feet (V_{dB})[1]
Pile Driver (Impact)	Upper Range	1.518	112
	Typical	0.644	104
Pile Driver (Sonic)	Upper Range	0.734	105
	Typical	0.170	93
Clam Shovel Drop (slurry wall)		0.202	94
Hydromill (slurry wall)	In Soil	0.008	66
	In Rock	0.017	75
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large Bulldozer		0.089	87
Caisson Drilling		0.089	87
Loaded Trucks		0.076	86
Jackhammer		0.035	79
Small Bulldozer		0.003	58

Source: FTA 2018

Notes:

[1] RMS velocity in decibels, VdB ref. 1 micro-in/sec

25 feet = 7.62 meters

Table 6-2: Human Response to Continuous Vibration from Traffic

PPV (in/sec)	Human Response
0.4-0.6	Unpleasant
0.2	Annoying
0.1	Begins to annoy
0.08	Readily perceptible
0.006-0.019	Threshold of perception

Source: Caltrans 2013

6.3 Traffic Noise Analysis Methodology

The project's traffic noise analysis was completed based on methodology developed by DOT FHWA for the Traffic Noise Model (TNM). Traffic noise is dependent on factors such as the

volume of traffic, vehicle types, average vehicle speeds, and the distance the roadway is from a receptor.

6.4 On-Site Noise Analysis Methodology

On-site noise sources such as from Heating Ventilation Air Conditioning (HVAC) equipment, forklifts, and other machinery and activities are regulated by the City. The Inverse Square Law was used to estimate sound pressure level at the nearest sensitive receptor. To determine the sound attenuation over a distance using the inverse square law, an idealization needs to be made in which there are no reflective surfaces or barriers between the source and the location at which the sound level is being determined. According to the inverse square law, it can be shown that for each doubling of distance from a point source, the sound pressure level decreases by approximately 6 dB.

7.0 ANALYSIS OF NOISE IMPACTS

A project would normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's General Plan Safety Element and its Municipal Code.

The following Appendix G CEQA checklist questions, previously discussed in Section 3.3, address whether project related noise and vibration impacts would exceed the limits identified within the adopted ordinances, General Plan, or adopted threshold used by other governmental agencies or industry accepted approaches. Would the project result in:

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?

7.1 Construction Noise Impacts

Temporary construction noise would be limited to the City's allowable daytime hours and would permanently cease upon completion of construction. Most construction noise would occur during the demolition, site preparation, grading, building construction, trenching, and paving phases when heavy equipment would be operating.

During each of the construction phases there would be a different mix of equipment operating, and cumulative noise levels would vary based on the amount of equipment in operation and the location of each activity at the project site. In general, use of off-road equipment and portable equipment would generate noise due to engine mechanicals, engine exhaust, driveline mechanicals, shaft-driven devices and accessories, hydraulics operation, ground friction and displacement, and gravity drops (dumping, unloading).

The Project is expected to require up to approximately 1 year of planned work activities (i.e., from mobilization to substantial completion) comprising six construction phases:

1. Demolition
2. Site preparation;
3. Grading;

4. Building construction;
5. Paving; and
6. Architectural coating;

Table 7-1 shows a comparison of FHWA estimated daytime exterior noise impacts for peak project construction activities at the nearest receptors with respect to the FTA thresholds. If the thresholds are not exceeded, then a project should be considered to result in less than significant noise impacts.

Table 7-1: Estimated Peak Activity Construction Noise Impacts at the Nearest Sensitive Receptor

Construction Phase	Modeled Noise Level (L_{eq} dBA)	Significance Threshold[1] (L_{eq} dBA)	Exceeds Threshold? (Yes/No)
Demolition	64	80	No
Site Preparation	61	80	No
Grading	63	80	No
Building Construction	60	80	No
Paving	62	80	No
Architectural Coating	56	80	No

Sources: FHWA 2006, FTA 2018.

[1] FTA Noise Limits for Construction

The nearest noise sensitive use is located approximately 750 feet to the southwest of the project site. As shown in Table 7-1, the aggregated average construction noise would be below the 80 dBA FTA noise level threshold at nearby noise sensitive receptors. Therefore, temporary impacts on ambient noise levels in excess of applicable standards during construction would be less than significant.

PROJECTED IMPACT: Less than significant

7.2 Operational Noise Impacts

Project-related noise produced during the operations phase would occur from on-site sources as well as off-site from project related vehicle traffic. On-site noise sources attributable to the project would affect land uses proximate to the project site whereas project traffic would affect roadways taken to the project site.

7.2.1 On-Site Project Noise Sources

Operational noise sources associated with the proposed Project would include, but are not limited to, mechanical equipment (e.g., forklifts, HVAC units), truck loading activities, landscape maintenance equipment, and parking lot activities. All these uses would be subject to the noise nuisance regulations discussed under Chapter 1.30. Compliance with these noise regulations are required for the project and surrounding industrial uses.

Forklifts noise levels at 50 feet can vary but typically range from 80 to 100 dBA, depending on type and size. Landscaping equipment can produce noise levels of 65 to

80 dBA at 50 feet. Delivery trucks at loading docks would generate noise levels of approximately 71 dBA and parking lot noise levels typically are about 40 dBA at 50 feet.

Operational HVAC noise levels are based on manufacturer sound pressure levels, which range from 25-57 dBA Leq measured at a distance of 50 feet from the source (Lennox 2023). The seven roof-mounted HVAC units would result in noise levels of 10-42 dBA Leq at the nearest sensitive receptor, which is located approximately 750 feet from the above-mentioned sources. Intervening structures would attenuate the noise levels by 5-20 dB.

In order to be conservative, it was assumed that seven trucks, two forklifts, and one piece of landscaping equipment would be operated onsite at any one time. The combined noise levels from the proposed Project at the nearest sensitive receptor would be approximately 55 dBA, which is below the City's noise limit of 60 dBA Leq. As such, noise impacts from on-site stationary sources would be less than significant and no mitigation is required.

7.2.2 Off-Site Noise Generated by Project Traffic

Project-related off-site noise sources (i.e., roadway traffic noise) have the potential to increase noise levels on local roadways proximate to the Project site. The determination of whether traffic related noise impacts would occur is based on whether project-related off-site noise sources (i.e., roadway traffic noise) cause the ambient noise levels proximate to the local roadways to result in an audible increase (3 dBA). Based on the trip generation calculated for the project, operation of the proposed Project would decrease traffic volumes as compared to existing uses. As shown in Table 7-2, the existing uses generate 322 vehicle trips per day while the proposed Project is estimated to generate a total of 240 vehicle trips per day. The net difference between vehicle trips generated between existing and project uses is a decrease of 82 trips per day. However, as shown in Table 7-2, the number of trucks associated with the project is expected to increase above the existing uses. Trucks generate more noise than cars so the net change in noise levels for all vehicle types needs to be quantified.

Table 7-2: Existing and Project Trip Generation

Land Use	Cars	Trucks	Total
Existing Uses	268	54	322
Proposed Project Uses	156	84	240
Net Difference	-112	30	-82

Source: ITE, 2021.

To determine the change in noise levels associated with the increase in truck use related to the project, the FHWA's TNM was used to compare overall vehicle noise between the existing and proposed Project uses. Table 7-3 shows the change in noise levels associated with the project over existing uses. Despite the project generating less average daily trips, the project would result in a 1 dBA CNEL increase in noise levels as compared to vehicle trips occurring under the existing uses due to the project's increase in truck trips. Increases in noise of less than 1 dBA is not discernable to human hearing, even under laboratory conditions. A measurement of 3 dBA is considered to be the minimum change that is needed for humans to detect a change in noise levels in outdoor environments. A

3 dBA increase occurs when traffic volumes double or a project increases the percentage of noisy trucks on roadways. As such, the proposed Project would not result in a substantial permanent change in noise levels and would result in less than significant noise impacts related to traffic noise.

Table 7-3: Traffic Noise

Traffic Noise Levels (dBA CNEL)	
Existing Uses	57
Proposed Project Uses	58
Net Difference	+1

Source: FHWA Traffic Noise Model, 2024.

PROJECTED IMPACT: Less than significant

7.3 Vibration Impacts

b) Generation of excessive groundborne vibration or groundborne noise levels?

Potential vibration generated from the project would primarily occur from the construction phase when heavy construction equipment is used for demolition and construction activities. During construction activities, the project would generate minor levels of vibration due to operation of off-road equipment, portable equipment, and vehicles at or near the project site. Vibration levels for project related construction activities assumes that equipment would operate at the closest point on the property to the nearest offsite buildings in each cardinal direction. Vibration exposure levels at the nearest off-site buildings from construction equipment are shown in Table 7-4. Because these off-site facilities are industrial buildings, it is assumed that they are engineered concrete and masonry structures with a construction vibration damage criteria of 0.3 PPV.

Table 7-4 also shows the vibration levels of construction equipment at the nearest sensitive receptor and compares them to the human annoyance and building damage thresholds. Based on the information presented above and in Table 7-4, the nearest offsite structures would be exposed to a PPV well below 0.3 in/sec, which is the threshold at which physical damage to engineered buildings may occur. Workers at the nearby industrial uses are not considered to be vibration sensitive so annoyance was assessed at the nearest vibration sensitive residential use. Similarly, the nearest vibration receptor would be exposed to vibration levels well below 0.2 in/sec, which is the annoyance threshold. As shown in Table 7-4, vibration levels from construction activities would be below the annoyance threshold at the nearest vibration sensitive use.

Table 7-4: Construction Vibration Levels at Nearest Offsite Buildings

Equipment	Vibration Levels at Nearest Offsite Buildings (PPV)				
	Northwest Industrial Building	Northeast Industrial Building	Southeast Industrial Building	Southwest Industrial Building	Nearest Sensitive Residential Use
	(PPV @ 70 ft)	(PPV @ 245 ft)	(PPV @ 35 ft)	(PPV @ 65 ft)	(PPV @ 750 ft)
Vibratory Roller/Compactor	0.04	0.01	0.13	0.05	0.00
Hoe Ram/Hydraulic Breaker	0.02	0.00	0.05	0.02	0.00
Large Bulldozer/Crawler Tractor	0.02	0.00	0.05	0.02	0.00
Loaded Dump Trucks	0.02	0.00	0.05	0.02	0.00
Jackhammer (pneumatic)	0.01	0.00	0.02	0.01	0.00
Small Bulldozer/Excavator/ Backhoe	0.00	0.00	0.00	0.00	0.00
Maximum Vibration Level	**0.04**	**0.01**	**0.13**	**0.05**	**0.00**
Human Annoyance Criteria	**-**	**-**	**-**	**-**	**0.2**
Exceeds Criteria?	**-**	**-**	**-**	**-**	**No**
Building Damage Criteria	**0.3**	**0.3**	**0.3**	**0.3**	**0.3**
Exceeds Criteria?	**No**	**No**	**No**	**No**	**No**

Source: FTA 2018 (Calculations can be found in Appendix B).

The operations phase of the proposed warehousing project is not anticipated to involve substantial sources of vibration due to the nature of the operation. In addition, intense sources of vibration decrease substantially within 30-50 feet of the source and would occur well within the project site. As such, vibration associated with project's operations would result in less than significant impacts.

PROJECTED IMPACT: Less than significant

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?*

The Project site is not located within 2 miles of an airport. The nearest airport is the San Gabriel Valley Airport, which is located approximately 5 miles southeast of the project site. The project site is also located well outside the existing and projected 65-dBA CNEL noise contour of this and any airport. The project site is not located within the vicinity of a private airstrip. Aircraft overflights do not significantly contribute to the noise environment at the project site and the project is not considered to be a noise sensitive use. Therefore, there would be no impact.

PROJECTED IMPACT: No impact

8.0 CONCLUSIONS

Noise and vibration attributable to the project was evaluated against applicable noise and vibration limits and those adopted for use by the City. Both the construction and operations phases of the project were evaluated at the nearest sensitive receptor for excessive noise and at the nearest uses for vibration exposure. Temporary construction noise would be limited to daylight hours and would permanently cease upon completion of construction. Aggregated average construction noise will be below the FTA noise level threshold. Therefore, Construction-related noise was found to result in less than significant noise exposure at the nearest noise sensitive uses.

The operations phase of the project would entail typical on-site equipment consistent with surrounding industrial uses. These uses would comply with the City's noise limits identified for nuisance noise. Compliance with these requirements and the relatively large distance between the project and the nearest noise sensitive uses would result in less than significant noise impacts from on-site equipment use at the project site. Off-site noise from project related vehicle trips was also evaluated. While overall project related vehicle trips are estimated to be less than existing uses, the project was assessed to result in more truck trips that would result in a noise increase of 1 dBA over vehicle trips from existing uses. This increase in traffic noise levels would not result in an audible change, which generally requires a minimum of 3 dBA. As such, off-site traffic noise increases were found to result in less than significant traffic noise increases.

Vibration was also assessed for construction of the project and found to not result in excessive exposure to vibration related to building damage or human annoyance at the nearest off-site buildings. The operations phase of the proposed warehousing uses would not involve activities that generate substantive levels of vibration that would affect off-site uses.

In conclusion, the project would not result in excessive levels of noise or vibration at off-site receptors and no mitigation measures are necessary nor recommended.

9.0 REFERENCES

California Department of Transportation (Caltrans). 2020. Transportation and Construction Vibration Guidance Manual. Website (https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf).

California Governor's Office of Planning and Research (OPR), State of California 2017 General Plan Guidelines, 2017; Website (https://opr.ca.gov/docs/OPR_COMPLETE_7.31.17.pdf).

City of Industry General Plan. Website (https://www.cityofindustry.org/home/showpublisheddocument/1693/636422096213600000)

City of Industry Municipal Code, Title 6, Division 8, Chapter 2, Noise; Website (https://ecode360.com/IN4941/search?query=construction&scope=all&sortOrder=relevance&selections=)

Institute of Traffic Engineering. Trip Generation Manual. 2021. Website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/)

U.S. Department of Transportation – Federal Highway Administration (FHWA). 2006. Roadway Construction Noise Model User's Guide. Website (https://www.fhwa.dot.gov/Environment/noise/construction_noise/rcnm/).

U.S. Department of Transportation – Federal Transit Authority (FTA). 2018. Transit Noise and Vibration Impact Assessment. Website (https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf).

APPENDIX A – NOISE MEASUREMENTS AND FIELD NOTES

Yorke ENGINEERING, LLC
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Noise Measurement Data Form

Client:	Partner Engineering	Sampled by: Kent Bourgoing	Date: 7/17/2024
Contact/PM:	Tin Cheung	Notes: The sample was taken on the grassy area at the edge of the parking lot adjacent to S 6th Avenue, north west of the Partners Engineering building. The sampling point was approximately 4 feet 9 inches from the street. The primary noise source was a truck parked about 17 meters away from the measurement location with its engine running. There was constant traffic from cars and trucks.	
Site:	184 South 6th Street in the City of Industry, CA 91746		

Client No.:		1959		Calibrator Make/Model: Quest AC-300 Calibrator			Calibrator Cal Exp Date: 12/18/2024		
Sound Level Meter Make/Model:		Quest SoundPro SE/DL Type 2		Sound Level Meter Serial Number: BIU070007		Calibrator Serial Number:	AC300013570		
Sample Location Name:		**Location 1**		Sample Location Description:					
Microphone Height (ft):		5		The sample was taken on the grassy area at the edge of the parking lot adjacent to S 6th Avenue. The sampling point was approximately 4 feet 9 inches from the street. The primary noise source was a truck parked near the measurement location with its engine running. A secondary noise source included a jigsaw operating ocasionally across the street. There was constant traffic from cars and trucks.		Weather			
Weighting:	A	Calibrated?:	Yes		Temperature (°F):	Wind (MPH):	Sky:	Barometric Pressure:	Humidity:
Response Time:	Slow	Calibration value:	114 dB, 1000 Hz		79	5 SW	Cloudy	29.95 inHg	62%

Sample No.	Time On	Time Off	Range (in dBA)	Notes
#1 (Meter Sample ID S245)	10:54	11:14	63.8 - 70.3	- 10:53:10 AM : Truck engine is on - 10:54:10 AM : Truck drove past the street - 10:54:30 AM: Two cars - 10:54:49 AM: Truck passed - 10:55:14 AM: Grabage truck passed - 10:55:47 AM: Car passed - 10:56:34 AM: Tracktor passed - 10:56:54 AM: Truck engine is still on - 10:57:27 AM: Car passed - 10:57:39 AM: Loud hunk -10:57:52 AM: Car passed -10:58:01 AM: Car passed -10:58:35 AM: Car passed - 10:59:10 AM: Cars passed - 11:00:00 AM: Two cars passed - 11:00:28 AM: Car passed - 11:00:41 AM: Car passed - 11:01:05 AM: Car passed - 11:01:18 AM: Truck passed - 11:01:43 AM: Two trucks passed - 11:01:59 AM: Two cars passed - 11:02:50 AM: Car passed - 11:03:07 AM: Car passed - 11:03:24 am: Man in bicycle passed - 11:03:44 AM: Truck passed - 11:04:09 AM: Car passed - 11:04:40 AM: Two cars passed - 11:04:55 AM: Car passed - 11:05:25 AM: Garbage Truck passed and parked - 11:07:12 AM: Several cars and Trucks passed - 11:05:55 AM: Car passed - 11:07:50 AM: Truck passed - 11:08:15 AM: Two cars passed - 11:08:30 AM: Two cars passed - 11:08:47 AM: Two cars passed - 11:09:55 AM: Car passed - 11:10:18 AM: Car passed - 11:10:33 AM: The truck from the beginning still has the engine on - 11:10:55 AM: Truck passed - 11:12:26 AM: Truck passed - 11:12:37 AM: Car passed - 11:12:50 AM: Truck passed - 11:13:03 AM: Truck passed - 11:13:14 AM: Several cars and trucks passed

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Noise Measurement Data Form

Client:		Partner Engineering	Sampled by: Kent Bourgoing		Date: 7/17/2024				
Contact/PM:		Tin Cheung	Notes:The sample was taken on the grassy area at the edge of the parking lot adjacent to Valley Blvd, norht of the Partners Engineering building. The sample point was approximately 5 feet 11 inches from the street. Trucks and cars frequently pass along Valley Blvd, though there were rare moments when the street was quiet with no passing vehicles.						
Site:		184 South 6th Street in the City of Industry, CA 91746							
Client No.:		1959	Calibrator Make/Model: Quest AC-300 Calibrator			Calibrator Cal Exp Date: 12/18/2024			
Sound Level Meter Make/Model:		Quest SoundPro SE/DL Type 2	Sound Level Meter Serial Number: BIU070007			Calibrator Serial Number:	AC300013570		
Sample Location Name:		**Location 2**	Sample Location Description:						
Microphone Height (ft):		5	The sample was taken along the edge of the parking lot adjacent to Valley Blvd. The sample point was approximately 5 feet 11 inches from the street. Trucks and cars frequently pass along Valley Blvd, though there were rare moments when the street was quiet with no passing vehicles.			Weather			
Weighting:	A	Calibrated?:	Yes			Temperature (°F):	Wind (MPH):	Sky:	Barometric Pressure:	Humidity:
Response Time:	Slow	Calibration value:	114 dB, 1000 Hz			82	5 SW	Cloudy	29.94 inHg	57%

Sample No.	Time On	Time Off	Range (in dBA)	Notes
#2 (Meter Sample ID S246)	11:45	12:05	65.6 - 82.9	- 11:45:24 AM: Very loud hunk from a truck - 11:45:40 AM: Trucks and cars constantly passing - 11:46:09 AM: Truck and car passed - 11:46:41 AM: Car and truck passed - 11:47:02 AM: Cars and trucks passing - 11:47:25 AM: Cars passing - 11:47:42 AM: Cars passing - 11:47:55 AM: Cars passing - 11:48:08 AM: Truck passed - 11:48:25 AM: Truck passed - 11:48:40 AM: Cars passed - 11:48:53 AM: Cars passed - 11:49:11 AM: Cars passed - 11:49:25 AM: Cars passed - 11:49:50 AM: Trucl and cars passed - 11:50:08 AM: Car in the parking lot passed - 11:50:29 AM: Truck passed - 11:50:35 AM: Loud engine - 11:50:53 AM: Cars passed - 11:51:12 AM: Cars and trucks passed - 11:51:26 AM: Cars and trucks passed -11:51:57 AM: Several cars passed - 11:52:30 AM: Cars passed - 11:52:43 AM: Truck and cars passed - 11:53:03 AM: Helicopter passed above - 11:53:21 AM: Several cars passed - 11:53:37 AM: More cars passed - 11:54:00 AM: Motorcycle engine passed (very loud) - 11:54:49 AM: Cars passed - 11:55:05 AM: Several cars passed - 11:55:22 AM: Several cars passed - 11:55:39 AM: Several cars passed - 11:55:55 AM: Several cars passed - 11:56:19 AM: Car and truck passed - 11:56:38 AM: Cars passed - 11:57:05 AM: Several cars passed - 11:57:20 AM: Several cars passed - 11:57:40 AM: Several cars passed - 11:57:54 AM: Several cars passed - 11:58:07 AM: Trucks and cars passed - 11:58:22 AM: Cars and trucks passed - 11:58:40 AM: Car passed - 11:59:00: Car passed - 11:59:10: Car passed - 11:59:15: Truck and car passed - 11:59:34: Cars and trucks passed - 11:59:51 AM: Trucks and cars passed - 12:00:35 PM: Car passed - 12:00:50 PM: Car passed - 12:01:02 PM: Several cars and trucks passed - 12:01:28 PM: Several cars passed - 12:02:37 PM: Several cars passed - 12:03:03 PM: Car passed - 12:03:16 PM: Car passed - 12:03:33 PM: Car passed - 12:03:54 PM: Several cars passed - 12:04:10 PM: Several cars passed - 12:04:30 PM: Truck passed and cars - 12:04:49 PM: Several cars passed

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Noise Measurement Data Form

Client:	Partner Engineering	Sampled by: Kent Bourgoing	Date: 7/17/2024
Contact/PM:	Tin Cheung	Notes: The sample was taken between the closed gate of a concrete area and a building, east of the Partners Engineering building. The sampling location is relatively quiet. A car engine was running in the background, approximately 50 meters west from the sampling point. Additionally, there was occasional truck noise from about 65 meters to the east.	
Site:	184 South 6th Street in the City of Industry, CA 91746		

Client No.:	1959	Calibrator Make/Model: Quest AC-300 Calibrator	Calibrator Cal Exp Date: 12/18/2024
Sound Level Meter Make/Model:	Quest SoundPro SE/DL Type 2	Sound Level Meter Serial Number: BIU070007	Calibrator Serial Number: AC300013570
Sample Location Name:	**Location 3**	Sample Location Description:	
Microphone Height (ft):	5	Sample was taken between the closed gate of concrete area and a building. The sample location is relatvely quite. An car engine is on in the background, but is more than 40 feet apart. There was some truck noise ocasionally operating from about 50 feet away from the sample point.	
Weighting: A	Calibrated?: Yes		
Response Time: Slow	Calibration value: 114 dB, 1000 Hz		

Weather				
Temperature (°F):	Wind (MPH):	Sky:	Barometric Pressure:	Humidity:
85	6 SW	Partly Cloudy	29.93 inHg	52%

Sample No.	Time On	Time Off	Range (in dBA)	Notes
#3 (Meter Sample ID S247)	12:42	13:02	50.9 - 57.5	- 12:42:50 PM: Truck noise (about 65 meters away) - 12:43:10 PM: Birds chirped - 12:43:32 PM: Car hunk from far away - 12:44:08 PM: Car passed in the background (quietly) - 12:44:42 PM: Wind noise - 12:45:10 PM: Birds chirping - 12:45:25 PM: More birds chirping - 12:45:49 PM: Truck is making noise (about 65 meters away) - 12:46:57 PM: Truck engine from far (about 65 meters away) - 12:47:25 PM: Truck noise (about 65 meters away) - 12:48:04 PM: More truck nouse (about 65 meters away) - 12:48:20 PM: Crow noise - 12:48:40 PM: More crow noise - 12:49:00 PM: More crow noise - 12:49:35 PM: Birds chirped - 12:50:04 PM: More birds chirping - 12:50:30 PM: Truck (the one from 65 meters away) drove away - 12:51:33 PM: Birds chirping - 12:51:50 PM: Someone closed the trunck of a car and made low noise - 12:52:30 PM: Jigsaw started operating again (far from the sample point) - 12:53:21 PM: Car engine started (about 50 meters away) - 12:54:30 PM: Truck is making noise (65 meters away) - 12:54:50 PM: More truck noise (from 65 meters away) - 12:55:20 PM: More truck noise (from 65 meters away) -12:55:51 PM: Truck (from 65 meters away) drove away - 12:57:20 PM: Birds chirping - 12:58:10 PM: Truck noise(from 65 meters away) - 12:58:35 PM: More birds chirping - 12:59:23 PM: Truck noise (from 65 meters away) - 12:59:50 PM: More truck noise (from 65 meters away)k - 1:00:20 PM: Truck (from 65 meters away) drove away - 1:02:00 PM: Engine noise (from 65 meters away) - 1:02:30 PM: Truck noise (from 65 meters away)

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Noise Measurement Data Form

Client:	Partner Engineering	Sampled by: Kent Bourgoing	Date: 7/17/2024
Contact/PM:	Tin Cheung	Notes: The sample was taken between two buildings, southwest of the Partners Engineering building. An engine was operating 27 meters south of the sampling location throughout the entire measurement period, producing moderate noise. Additionally, there was constant activity nearby, with people working, talking, and operating a forklift approximately 10 to 30 meters from the sampling location.	
Site:	184 South 6th Street in the City of Industry, CA 91746		

Client No.:	1959	Calibrator Make/Model: Quest AC-300 Calibrator			Calibrator Cal Exp Date: 12/18/2024			
Sound Level Meter Make/Model:	Quest SoundPro SE/DL Type 2	Sound Level Meter Serial Number: BIU070007		Calibrator Serial Number:	AC300013570			
Sample Location Name:	**Location 4**	Sample Location Description:		Weather				
Microphone Height (ft):	5	The sample was taken between two buildings, southwest of the Partners Engineering building. An engine was operating 27 meters south of the sampling location throughout the entire measurement period, producing moderate noise. Additionally, there was constant activity nearby, with people working, talking, and operating a forklift approximately 10 to 30 meters from the sampling location.		Temperature (°F):	Wind (MPH):	Sky:	Barometric Pressure:	Humidity:
Weighting: A	Calibrated?: Yes			87	7 SW	Mostly Cloudy	29.92 inHg	49%
Response Time: Slow	Calibration value: 114 dB, 1000 Hz							

Sample No.	Time On	Time Off	Range (in dBA)	Notes
#4 (Meter Sample ID S248)	13:21	13:41	59.8 - 65.7	- 1:21:30 PM: forklift is operating(about 30 meters away) - 1:22:05 PM: The forklift is still operating - 1:22:38 PM: People are talking (30 meters away) - 1:23:59 PM: forklift engine noise (30 meters away) - 1:24:30 PM: People talking - 1:24:59 PM: Tracotr engine noise - 1:25:15 PM: More forklift engine noise -1:27:10 PM: Slight forklift noise - 1:27:25 PM: More slight forklift noise - 1:27:59 PM: Jigsaw noise (about 50 meters away) - 1:28:27 PM: More jigsaw noise(about 50 meters away) - 1:28:58 PM: More forklift noise (about 30 meters away) - 1:29:27 PM: Jigsaw noise continuous - 1:30:00 PM: Jigsaw noise continuous. - 1:30:25 PM: Truck noise (about 50 meters away) - 1:30:57 PM: Music from car starts playing. - 1:31:24 PM: Car is very close from sample point (about 8 meters away) with loud music. - 1:32:25 PM: Car passes close to sample point (about 10 meters away) - 1:33:13 PM: People are talking (about 25 meters away) - 1:33:52 PM: More forklift noise (about 25 meters away) - 1:34:45 PM: More forklift noise (about 25 meters away) - 1:35:20 PM: More forklift noise (about 25 meters away) - 1:36:10 PM: Jigsaw noise continuous (about 50 meters away) - 1:36:50 PM: People keep talking (about 25 meters away) - 1:37:31 PM: forklift parked with engine running (about 30 meters away) - 1:38:04 PM: forklift operating close by - 1:38:20 PM: More forklift operation noise - 1:38:55 PM: More forklift operation noise - 1:39:16 PM: forklift still operating (from 50 meters away) - 1:40:20 PM: forklift operating close by - 1:41:05 PM: More noise from people working (50 meters away)

Noise Measurement Location L1 – Northwest Project Boundary

S245_BIU070007_17072024_112441: Statistics Chart

dB	%
0.00	0.00
1.00	0.00
2.00	0.00
3.00	0.00
4.00	0.00
5.00	0.00
6.00	0.00
7.00	0.00
8.00	0.00
9.00	0.00
10.00	0.00
11.00	0.00
12.00	0.00
13.00	0.00
14.00	0.00
15.00	0.00
16.00	0.00
17.00	0.00
18.00	0.00
19.00	0.00
20.00	0.00
21.00	0.00
22.00	0.00
23.00	0.00
24.00	0.00
25.00	0.00
26.00	0.00
27.00	0.00
28.00	0.00
29.00	0.00
30.00	0.00
31.00	0.00
32.00	0.00
33.00	0.00
34.00	0.00
35.00	0.00
36.00	0.00
37.00	0.00
38.00	0.00
39.00	0.00
40.00	0.00
41.00	0.00
42.00	0.00
43.00	0.00
44.00	0.00
45.00	0.00
46.00	0.00
47.00	0.00
48.00	0.00
49.00	0.00
50.00	0.00
51.00	0.00
52.00	0.00
53.00	0.00
54.00	0.00
55.00	0.00
56.00	0.00
57.00	0.00
58.00	0.00
59.00	0.00
60.00	0.00
61.00	0.00
62.00	0.00
63.00	42.29
64.00	25.48
65.00	8.90
66.00	5.26
67.00	4.29
68.00	2.77
69.00	2.11
70.00	1.85
71.00	1.43
72.00	1.16
73.00	1.21
74.00	0.97
75.00	0.81
76.00	0.52
77.00	0.30
78.00	0.23
79.00	0.14
80.00	0.11
81.00	0.16

S245_BIU070007_17072024_112441: Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		76.70	75.10	74.10	73.20	72.40	71.60	70.90	70.30	69.80
10%	69.30	68.90	68.40	68.10	67.80	67.50	67.30	67.10	66.90	66.70
20%	66.50	66.20	66.10	65.90	65.80	65.60	65.50	65.40	65.30	65.10
30%	65.00	65.00	64.90	64.80	64.70	64.60	64.60	64.50	64.40	64.40
40%	64.30	64.30	64.20	64.20	64.20	64.10	64.10	64.10	64.10	64.00
50%	64.00	64.00	64.00	63.90	63.90	63.90	63.90	63.90	63.80	63.80
60%	63.80	63.80	63.80	63.70	63.70	63.70	63.70	63.70	63.70	63.60
70%	63.60	63.60	63.60	63.60	63.60	63.50	63.50	63.50	63.50	63.50
80%	63.50	63.40	63.40	63.40	63.40	63.40	63.40	63.40	63.30	63.30
90%	63.30	63.30	63.30	63.20	63.20	63.20	63.20	63.10	63.10	63.00
100%	62.90									

S245_BIU070007_17072024_112441: Logged Data Table

Date/Time	L10-1	L90-1	Leq-1	Lmax-1	Lmin-1	Lpk-1
7/17/2024 9:55:02	72.70	63.80	68.10	76.90	63.40	88.80
7/17/2024 9:56:02	72.00	63.90	68.40	77.20	63.50	90.00
7/17/2024 9:57:02	72.30	64.00	69.60	79.80	63.50	92.80
7/17/2024 9:58:02	71.40	64.30	67.40	73.20	63.80	86.00
7/17/2024 9:59:02	68.10	64.00	66.50	75.70	63.70	89.60
7/17/2024 10:00:02	68.00	63.90	65.40	70.60	63.60	88.40
7/17/2024 10:01:02	65.50	63.30	64.40	69.90	63.00	83.60
7/17/2024 10:02:02	67.50	63.40	65.60	75.10	63.00	89.00
7/17/2024 10:03:02	73.60	63.60	68.70	75.50	63.00	89.80
7/17/2024 10:04:02	65.40	63.40	64.10	67.20	63.00	80.10
7/17/2024 10:05:02	66.90	63.40	65.70	73.80	63.10	86.90
7/17/2024 10:06:02	66.50	63.30	64.70	70.30	63.00	85.00
7/17/2024 10:07:02	71.10	63.60	68.00	77.80	63.30	95.50
7/17/2024 10:08:02	72.40	63.70	70.30	81.80	63.40	94.70
7/17/2024 10:09:02	73.40	63.70	70.10	81.80	63.30	93.80
7/17/2024 10:10:02	67.10	63.60	65.20	70.80	63.30	86.00
7/17/2024 10:11:02	66.30	63.30	64.80	70.90	63.00	88.20
7/17/2024 10:12:02	69.70	63.60	67.10	76.70	63.30	90.70
7/17/2024 10:13:02	64.10	63.50	63.80	64.60	63.30	78.30
7/17/2024 10:14:02	72.00	64.40	68.80	75.20	64.00	91.60

Min	63
Leq	67
Max	82

Noise Measurement Location L2 – Northeast Project Boundary

S246_BIU070007_17072024_121650: Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
52.00	0.01	0.07	0.04	0.03	0.06	0.14	0.22	0.15	0.39	0.34	1.46
53.00	0.30	0.16	0.13	0.15	0.11	0.09	0.08	0.10	0.08	0.08	1.27
54.00	0.07	0.06	0.06	0.06	0.05	0.05	0.10	0.06	0.08	0.08	0.67
55.00	0.07	0.07	0.07	0.05	0.09	0.14	0.10	0.14	0.11	0.10	0.95
56.00	0.10	0.11	0.06	0.13	0.15	0.15	0.18	0.20	0.20	0.15	1.43
57.00	0.14	0.09	0.14	0.17	0.20	0.18	0.17	0.17	0.15	0.14	1.55
58.00	0.16	0.14	0.15	0.12	0.17	0.20	0.17	0.18	0.22	0.22	1.73
59.00	0.25	0.26	0.20	0.14	0.18	0.18	0.20	0.15	0.18	0.18	1.94
60.00	0.17	0.19	0.16	0.19	0.21	0.20	0.18	0.20	0.21	0.19	1.89
61.00	0.17	0.20	0.18	0.19	0.19	0.22	0.23	0.25	0.26	0.23	2.12
62.00	0.33	0.33	0.28	0.18	0.39	0.26	0.29	0.28	0.27	0.29	2.90
63.00	0.29	0.30	0.23	0.23	0.25	0.29	0.21	0.25	0.21	0.20	2.46
64.00	0.26	0.26	0.22	0.20	0.18	0.18	0.20	0.21	0.22	0.26	2.18
65.00	0.26	0.38	0.38	0.25	0.39	0.36	0.35	0.35	0.41	0.36	3.48
66.00	0.45	0.34	0.30	0.35	0.30	0.37	0.44	0.39	0.38	0.50	3.82
67.00	0.44	0.55	0.44	0.41	0.49	0.42	0.37	0.39	0.53	0.50	4.54
68.00	0.53	0.51	0.50	0.35	0.52	0.52	0.61	0.55	0.56	0.48	5.14
69.00	0.49	0.50	0.44	0.47	0.58	0.59	0.62	0.65	0.65	0.56	5.55
70.00	0.50	0.57	0.72	0.77	0.82	0.82	0.76	0.77	0.95	0.89	7.57
71.00	1.01	1.07	0.98	0.65	0.71	0.64	0.83	0.61	0.67	0.69	7.86
72.00	0.90	0.84	0.69	0.64	0.63	0.60	0.68	0.81	0.68	0.75	7.23
73.00	0.75	0.73	0.59	0.62	0.59	0.56	0.61	0.57	0.65	0.63	6.31
74.00	0.68	0.67	0.71	0.44	0.61	0.59	0.69	0.66	0.69	0.68	6.41
75.00	0.71	0.69	0.69	0.82	0.68	0.67	0.67	0.61	0.58	0.51	6.64
76.00	0.51	0.53	0.59	0.55	0.54	0.44	0.42	0.42	0.45	0.48	4.92
77.00	0.33	0.30	0.36	0.26	0.23	0.22	0.23	0.18	0.23	0.22	2.56
78.00	0.15	0.15	0.14	0.14	0.15	0.18	0.17	0.19	0.16	0.20	1.62
79.00	0.15	0.19	0.23	0.12	0.10	0.11	0.15	0.12	0.14	0.15	1.47
80.00	0.12	0.08	0.09	0.06	0.07	0.09	0.17	0.11	0.10	0.08	0.97
81.00	0.10	0.03	0.02	0.03	0.03	0.04	0.03	0.02	0.02	0.02	0.34
82.00	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.02	0.02	0.01	0.23
83.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.07
84.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.05
85.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.05
86.00	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.05
87.00	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.05
88.00	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.00	0.01	0.05
89.00	0.00	0.01	0.01	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.05
90.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.04
91.00	0.00	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.00	0.01	0.05
92.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.00	0.01	0.01	0.05
93.00	0.01	0.01	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.05
94.00	0.00	0.01	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.05
95.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.06
96.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.00	0.06
97.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
98.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03

S246_BIU070007_17072024_121650: Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		81.90	80.20	79.40	78.70	78.10	77.60	77.10	76.80	76.60
10%	76.40	76.20	76.00	75.80	75.60	75.50	75.30	75.20	75.10	74.90
20%	74.80	74.60	74.50	74.30	74.10	74.00	73.80	73.70	73.50	73.30
30%	73.20	73.00	72.90	72.80	72.60	72.50	72.30	72.20	72.00	71.90
40%	71.80	71.60	71.50	71.30	71.20	71.10	71.00	70.90	70.80	70.70
50%	70.50	70.40	70.30	70.20	70.00	69.80	69.70	69.50	69.30	69.20
60%	68.90	68.70	68.60	68.40	68.20	68.00	67.80	67.60	67.30	67.10
70%	66.90	66.70	66.40	66.10	65.80	65.60	65.30	65.00	64.60	64.10
80%	63.70	63.30	62.90	62.50	62.20	61.80	61.40	60.90	60.40	59.90
90%	59.30	58.80	58.30	57.60	57.00	56.40	55.50	54.30	53.10	52.70
100%	51.90									

S246_BIU070007_17072024_121650: Logged Data Table

Date/Time	L10-1	L90-1	Leq-1	Lmax-1	Lmin-1	Lpk-1
7/17/2024 10:46:53	81.60	68.40	82.90	98.80	66.90	119.10
7/17/2024 10:47:53	72.80	56.40	68.60	73.90	54.60	88.60
7/17/2024 10:48:53	76.10	67.90	72.90	81.60	65.50	95.30
7/17/2024 10:49:53	74.00	61.00	71.10	79.90	57.40	94.00
7/17/2024 10:50:53	76.40	63.10	73.00	80.80	60.30	95.00
7/17/2024 10:51:53	76.50	62.40	72.50	80.70	61.00	95.30
7/17/2024 10:52:53	77.40	68.90	74.70	80.00	64.60	93.50
7/17/2024 10:53:53	73.70	56.70	70.20	75.90	52.90	89.10
7/17/2024 10:54:53	80.70	70.20	82.00	96.70	66.50	112.00
7/17/2024 10:55:53	72.50	54.00	72.80	88.80	52.00	90.20
7/17/2024 10:56:53	78.40	70.30	75.70	82.90	62.00	97.10
7/17/2024 10:57:53	69.10	54.10	65.60	73.20	52.40	89.80
7/17/2024 10:58:53	76.40	72.40	74.80	78.10	69.40	93.60
7/17/2024 10:59:53	75.50	58.70	70.80	79.70	56.40	93.30
7/17/2024 11:00:53	78.00	67.20	74.70	81.00	63.90	93.80
7/17/2024 11:01:53	74.70	52.90	67.80	76.90	52.40	90.20
7/17/2024 11:02:53	76.60	69.00	73.50	79.30	66.80	93.80
7/17/2024 11:03:53	72.00	60.20	68.40	73.80	57.40	87.30
7/17/2024 11:04:53	75.40	62.30	71.90	77.50	60.40	91.90
7/17/2024 11:05:53	76.80	61.60	72.80	80.00	58.40	93.10

Min	52
Leq	75
Max	99

Noise Measurement Location L3 – Southeast Project Boundary

S247_BIU070007_17072024_130835: Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
48.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
49.00	0.05	0.17	0.31	0.28	0.60	0.77	0.69	0.79	0.97	1.07	5.69
50.00	0.94	1.12	0.95	1.12	1.05	1.81	2.33	2.48	2.27	2.23	16.32
51.00	2.61	2.32	3.08	2.64	2.63	2.76	2.31	1.86	1.87	1.95	24.05
52.00	2.21	2.51	2.60	2.29	2.07	2.12	1.91	2.01	2.12	2.20	22.03
53.00	1.97	1.97	1.24	1.57	1.29	0.93	1.01	0.90	0.86	0.78	12.53
54.00	0.72	0.65	0.81	0.91	0.60	0.55	0.47	0.65	0.60	0.51	6.45
55.00	0.45	0.49	0.50	0.36	0.32	0.36	0.29	0.37	0.33	0.33	3.80
56.00	0.33	0.26	0.18	0.23	0.26	0.27	0.25	0.22	0.23	0.23	2.44
57.00	0.24	0.20	0.18	0.22	0.23	0.31	0.26	0.20	0.17	0.21	2.21
58.00	0.23	0.21	0.16	0.13	0.15	0.12	0.11	0.13	0.13	0.13	1.50
59.00	0.14	0.14	0.13	0.11	0.17	0.14	0.15	0.14	0.15	0.09	1.36
60.00	0.10	0.08	0.06	0.06	0.05	0.05	0.05	0.06	0.06	0.06	0.61
61.00	0.06	0.11	0.10	0.10	0.08	0.06	0.04	0.03	0.04	0.03	0.64
62.00	0.05	0.04	0.04	0.02	0.03	0.04	0.02	0.01	0.01	0.01	0.27
63.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
64.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
65.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03

S247_BIU070007_17072024_130835: Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		60.80	59.50	58.80	58.10	57.60	57.20	56.70	56.30	55.90
10%	55.60	55.30	55.00	54.80	54.70	54.50	54.30	54.20	54.00	53.90
20%	53.80	53.70	53.50	53.40	53.30	53.30	53.20	53.10	53.00	53.00
30%	52.90	52.90	52.80	52.80	52.80	52.70	52.70	52.60	52.60	52.50
40%	52.50	52.40	52.40	52.30	52.30	52.20	52.20	52.10	52.10	52.10
50%	52.00	52.00	51.90	51.90	51.80	51.80	51.70	51.70	51.60	51.60
60%	51.50	51.50	51.40	51.40	51.40	51.30	51.30	51.30	51.20	51.20
70%	51.10	51.10	51.10	51.10	51.00	51.00	50.90	50.90	50.80	50.80
80%	50.80	50.70	50.70	50.60	50.60	50.50	50.50	50.50	50.40	50.40
90%	50.30	50.20	50.10	50.00	49.90	49.80	49.70	49.60	49.40	49.30
100%	48.80									

S247_BIU070007_17072024_130835: Logged Data Table

Date/Time	L10-1	L90-1	Leq-1	Lmax-1	Lmin-1	Lpk-1
7/17/2024 11:44:10	54.60	50.60	53.00	62.10	49.80	79.20
7/17/2024 11:45:10	52.80	49.70	51.30	53.90	49.10	66.40
7/17/2024 11:46:10	51.90	50.40	51.20	52.80	49.90	65.90
7/17/2024 11:47:10	56.50	50.70	54.70	65.80	50.40	85.40
7/17/2024 11:48:10	53.40	51.50	52.40	54.60	51.10	77.60
7/17/2024 11:49:10	54.70	51.10	53.70	62.00	50.70	78.80
7/17/2024 11:50:10	54.40	50.10	52.50	56.50	49.70	73.10
7/17/2024 11:51:10	55.10	52.10	53.40	56.70	51.50	73.60
7/17/2024 11:52:10	54.20	51.50	53.20	58.50	51.00	75.10
7/17/2024 11:53:10	52.10	49.60	50.90	54.50	49.30	75.40
7/17/2024 11:54:10	54.60	50.90	52.90	55.50	50.20	68.70
7/17/2024 11:55:10	52.40	50.50	51.30	53.00	49.50	66.50
7/17/2024 11:56:10	59.70	53.80	57.50	62.80	52.00	74.20
7/17/2024 11:57:10	57.90	49.60	54.80	62.40	49.00	83.80
7/17/2024 11:58:10	53.10	50.20	51.60	53.50	49.10	67.50
7/17/2024 11:59:10	59.90	53.00	56.20	61.50	52.20	77.10
7/17/2024 12:00:10	52.80	50.20	52.20	61.50	49.80	72.10
7/17/2024 12:01:10	58.60	51.40	55.90	62.90	50.00	84.40
7/17/2024 12:02:10	53.60	49.70	52.10	59.00	48.90	76.50
7/17/2024 12:03:10	53.20	50.90	52.20	54.40	50.30	70.20

Min	49
Leq	54
Max	66

Noise Measurement Location L4 – Southwest Project Boundary

S248_BIU070007_17072024_134836: Statistics Table

dB	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	%
59.00	0.02	0.51	0.73	1.02	2.30	4.27	4.89	5.55	4.61	5.38	29.28
60.00	5.97	5.43	4.43	3.72	3.88	3.28	3.07	2.44	2.86	2.35	37.42
61.00	2.49	2.36	2.15	1.86	1.71	1.18	1.16	1.03	0.91	0.85	15.72
62.00	0.77	0.91	0.66	0.36	0.58	0.48	0.53	0.51	0.50	0.43	5.73
63.00	0.55	0.55	0.54	0.40	0.34	0.31	0.36	0.27	0.26	0.19	3.76
64.00	0.18	0.19	0.20	0.16	0.16	0.15	0.14	0.18	0.17	0.19	1.73
65.00	0.30	0.28	0.28	0.15	0.20	0.18	0.12	0.12	0.15	0.19	1.98
66.00	0.14	0.12	0.09	0.10	0.09	0.11	0.13	0.12	0.18	0.17	1.26
67.00	0.17	0.15	0.15	0.13	0.13	0.21	0.15	0.14	0.11	0.06	1.39
68.00	0.08	0.07	0.07	0.03	0.06	0.05	0.05	0.10	0.09	0.11	0.72
69.00	0.09	0.08	0.05	0.06	0.07	0.07	0.06	0.07	0.04	0.03	0.60
70.00	0.04	0.03	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.14
71.00	0.01	0.02	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.06
72.00	0.01	0.00	0.01	0.00	0.00	0.01	0.00	0.01	0.01	0.00	0.04
73.00	0.01	0.00	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.00	0.05
74.00	0.01	0.01	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.04
75.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
76.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
77.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.03
78.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01

S248_BIU070007_17072024_134836: Exceedance Table

	0%	1%	2%	3%	4%	5%	6%	7%	8%	9%
0%		68.90	67.60	66.90	66.20	65.40	65.00	64.50	63.90	63.50
10%	63.20	63.00	62.80	62.60	62.40	62.20	62.00	61.90	61.80	61.70
20%	61.60	61.50	61.40	61.30	61.30	61.20	61.20	61.10	61.10	61.00
30%	61.00	60.90	60.90	60.90	60.80	60.80	60.70	60.70	60.70	60.60
40%	60.60	60.50	60.50	60.50	60.50	60.40	60.40	60.40	60.30	60.30
50%	60.30	60.30	60.20	60.20	60.20	60.10	60.10	60.10	60.10	60.10
60%	60.00	60.00	60.00	60.00	60.00	59.90	59.90	59.90	59.90	59.90
70%	59.90	59.80	59.80	59.80	59.80	59.80	59.80	59.70	59.70	59.70
80%	59.70	59.60	59.60	59.60	59.60	59.60	59.60	59.50	59.50	59.50
90%	59.50	59.50	59.40	59.40	59.40	59.40	59.30	59.30	59.20	59.10
100%	58.90									

S248_BIU070007_17072024_134836: Logged Data Table

Date/Time	L10-1	L90-1	Leq-1	Lmax-1	Lmin-1	Lpk-1
7/17/2024 12:22:53	61.30	60.20	60.70	61.90	59.70	75.70
7/17/2024 12:23:53	61.80	60.00	60.70	62.50	59.50	79.00
7/17/2024 12:24:53	60.80	59.50	60.20	62.40	59.10	75.40
7/17/2024 12:25:53	61.10	59.50	60.20	61.40	59.20	73.90
7/17/2024 12:26:53	62.60	59.70	61.70	71.10	59.40	90.40
7/17/2024 12:27:53	60.10	59.50	59.80	60.20	59.10	74.40
7/17/2024 12:28:53	60.50	59.70	60.10	62.90	59.30	79.10
7/17/2024 12:29:53	60.80	59.70	60.30	64.00	59.00	80.80
7/17/2024 12:30:53	60.90	59.60	60.20	61.90	59.30	74.50
7/17/2024 12:31:53	60.80	59.40	60.00	63.70	59.00	78.40
7/17/2024 12:32:53	68.80	60.90	65.70	70.20	60.20	87.00
7/17/2024 12:33:53	63.70	60.70	62.50	65.70	60.20	78.50
7/17/2024 12:34:53	62.30	60.70	61.30	63.20	60.30	77.00
7/17/2024 12:35:53	62.60	60.40	61.60	68.40	59.90	94.70
7/17/2024 12:36:53	61.00	59.70	60.30	62.30	59.20	77.70
7/17/2024 12:37:53	60.90	59.50	60.10	61.90	59.00	78.50
7/17/2024 12:38:53	66.80	60.70	65.30	78.10	60.00	102.60
7/17/2024 12:39:53	66.80	61.10	64.40	74.30	60.20	98.00
7/17/2024 12:40:53	61.50	60.00	60.90	68.10	59.60	91.60
7/17/2024 12:41:53	66.70	60.10	63.40	69.80	59.70	88.50

Min	59
Leq	62
Max	78

APPENDIX B – CONSTRUCTION VIBRATION CALCULATIONS

Yorke ENGINEERING, LLC
www.YorkeEngr.com

Construction Phase	CalEEMod Construction Equipment and Vehicles	FHWA Construction Equipment and Vehicles	Ref.	Usage	L_{REF}	Quantity	D	TC	IL	WL	Estimated Attenuated Sound Levels at Receptor (dBA) RMS		SPL	
				Factor	dBA		ft	dBA/m	dBA	dBA	L_{MAX}	L_{EQ}	L_{MAX}	L_{EQ}
Demolition	Excavators	Excavator (hydraulic)	1	40%	85	3	750	0	0	0	1.4E+06	1.7E+06	61.5	62.3
Demolition	Crawler Tractors	Dozer (crawler tractor)	1	40%	85	2	750	0	0	0	1.4E+06	1.1E+06	61.5	60.5
Site Preparation	Crawler Tractors	Dozer (crawler tractor)	1	40%	85	1	750	0	0	0	1.4E+06	5.6E+05	61.5	57.5
Site Preparation	Excavators	Excavator (hydraulic)	1	40%	85	1	750	0	0	0	1.4E+06	5.6E+05	61.5	57.5
Grading	Crawler Tractors	Dozer (crawler tractor)	1	40%	85	1	750	0	0	0	1.4E+06	5.6E+05	61.5	57.5
Grading	Scrapers	Scraper	1	40%	85	2	750	0	0	0	1.4E+06	1.1E+06	61.5	60.5
Grading	Tractors/Loaders/Backhoes	Backhoe (with loader) 1	1	40%	80	2	750	0	0	0	4.4E+05	3.6E+05	56.5	55.5
Building Construction	Cranes	Crane	1	16%	85	2	750	0	0	0	1.4E+06	4.5E+05	61.5	56.5
Building Construction	Forklifts	Forklift	1	40%	80	1	750	0	0	0	4.4E+05	1.8E+05	56.5	52.5
Building Construction	Tractors/Loaders/Backhoes	Backhoe (with loader) 1	1	40%	80	2	750	0	0	0	4.4E+05	3.6E+05	56.5	55.5
Paving	Cement and Mortar Mixers	Slurry Plant	1	100%	78	1	750	0	0	0	2.8E+05	2.8E+05	54.5	54.5
Paving	Pavers	Paver (asphalt)	1	50%	85	1	750	0	0	0	1.4E+06	7.0E+05	61.5	58.5
Paving	Rollers	Roller	1	20%	85	1	750	0	0	0	1.4E+06	2.8E+05	61.5	54.5
Paving	Tractors/Loaders/Backhoes	Backhoe (with loader) 1	1	40%	80	1	750	0	0	0	4.4E+05	1.8E+05	56.5	52.5
Architectural Coating	Air Compressors	Compressor (air)	1	40%	80	2	750	0	0	0	4.4E+05	3.6E+05	56.5	55.5

Estimated Peak Vibration Levels					
Construction Equipment	**Northwest**	**Northeast**	**Southeast**	**Southwest**	**Nearest Sensitive Receptor**
Receptor Distance (ft)	70	245	35	65	750
Vibratory Roller/Compactor	0.04	0.01	0.13	0.05	0.00
Hoe Ram/Hydraulic Breaker	0.02	0.00	0.05	0.02	0.00
Large Bulldozer/Crawler Tractor	0.02	0.00	0.05	0.02	0.00
Loaded Dump Trucks	0.02	0.00	0.05	0.02	0.00
Jackhammer (pneumatic)	0.01	0.00	0.02	0.01	0.00
Small Bulldozer/Excavator/Backhoe	0.00	0.00	0.00	0.00	0.00
Maximum	0.04	0.01	0.13	0.05	0.00
Building Damage Significance Threshold	0.3	0.3	0.3	0.3	0.2
Exceeds Building Damage Significance Threshold?	No	No	No	No	No
Human Annoyance Significance Threshold					0.2
Exceeds Human Annoyance Significance Threshold?					No

APPENDIX C – TRAFFIC NOISE MODELING

REPORT:	**INPUT TRAFFIC FOR TNM VEHICLES (Lden)**		
TNM VERSION:	3.2.8741.34338	REPORT DATE:	19 July 2024
CALCULATED WITH:	TNM v3.2.8741.34338	CALCULATION DATE:	7/19/2024 10:28:49 AM
CASE:	Partners Engineering - Existing Uses	ORGANIZATION:	Yorke Engineering
PATH:		ANALYSIS BY:	Tin Cheung
CALCULATION SEQUENCE NUMBER:		TNM SERIAL NUMBER:	
		PROJECT/CONTRACT:	Partners Engineering

Roadway Name	Road Segment			Auto				Medium Truck				Heavy Truck				Bus				Motorcycle			
	Start Point		ADT	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed
	Name	No.																					
			[Veh/24 hr]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]
Valley Blvd	Point-0	0	322	0	0	0	64	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0
	Point-1	1	322	0	0	0	64	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0

REPORT:	**Results: Sound Levels - No Barrier Objects**		
TNM VERSION	3.2.8741.34338	REPORT DATE:	2 August 2024
CALCULATED WITH:	TNM v3.2.8741.34338	CALCULATION DATE:	8/2/2024 10:49:52 AM
CASE:	Industry Valley Center - Existing Conditions	ORGANIZATION:	Yorke Engineering
UNITS:	Metric	ANALYSIS BY:	Tin Cheung
DEFAULT GROUND TYPE:	Pavement	PROJECT/CONTRACT	
ATMOSPHERICS:	20°C, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
				Lden		Increase over Existing		
Name	No.	Nb. R.R.	Existing Lden	Calc.	Absolute Criterion	Calc.	Relative Criterion	Type of Impact
			dBA	dBA	dBA	dBA	dBA	
Receiver-1	1	1	---	57.1	0.0	---	---	Sound Level

REPORT: **Sound-level Input: Receivers**

TNM VERSION:	3.2.8741.34338	REPORT DATE:	19 July 2024
CALCULATED WITH:	TNM v3.2.8741.34338	CALCULATION DATE:	7/19/2024 10:31:45 AM
CASE:	Partners Engineering - Existing Uses	ORGANIZATION:	Yorke Engineering
ANALYSIS BY:	Tin Cheung	PROJECT/CONTRACT:	Partners Engineering

Receiver Name	Sequence Number	Nb. R.R.	Coordinates (ground)			Height above Ground	Input Sound Levels and Criteria				Active in Calc.	Notes
			X	Y	Z		Existing Lden	Absolute Criterion	Relative Criterion	Noise Reduction Goal		
			[m]	[m]	[m]	[m]	[dBA]	[dBA]	[dBA]	[dBA]		
Receiver-1	1	1	409736.40	13766680.00	0.00	1.50	---	0	---	8	Y	

REPORT:	**INPUT TRAFFIC FOR TNM VEHICLES (Lden)**		
TNM VERSION:	3.2.8741.34338	REPORT DATE:	1 August 2024
CALCULATED WITH:	TNM v3.2.8741.34338	CALCULATION DATE:	8/1/2024 4:56:26 PM
CASE:	Industry Valley Center - Project Conditions	ORGANIZATION:	Yorke Engineering
PATH:		ANALYSIS BY:	Tin Cheung
CALCULATION SEQUENCE NUMBER:		TNM SERIAL NUMBER:	
		PROJECT/CONTRACT:	

Roadway Name	Road Segment			Auto				Medium Truck				Heavy Truck				Bus				Motorcycle			
	Start Point		ADT	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed	D	E	N	Speed
	Name	No.																					
			[Veh/24 hr]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]	[%]	[%]	[%]	[km/h]
Valley Blvd	Point-0	2	240	0	0	0	64	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0
	Point-1	3	240	0	0	0	64	0	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0

REPORT:	**Results: Sound Levels - No Barrier Objects**		
TNM VERSION	3.2.8741.34338	REPORT DATE:	1 August 2024
CALCULATED WITH:	TNM v3.2.8741.34338	CALCULATION DATE:	8/1/2024 4:56:26 PM
CASE:	Industry Valley Center - Project Conditions	ORGANIZATION:	Yorke Engineering
UNITS:	Metric	ANALYSIS BY:	Tin Cheung
DEFAULT GROUND TYPE:	Pavement	PROJECT/CONTRACT	
ATMOSPHERICS:	20°C, 50%	Average pavement type shall be used unless a state highway agency substantiates the use of a different type with approval FHWA.	
PAVEMENT TYPE(S) USED:	Average		

Receiver				Modeled Traffic Noise Levels				
				Lden		Increase over Existing		
Name	No.	Nb. R.R.	Existing Lden	Calc.	Absolute Criterion	Calc.	Relative Criterion	Type of Impact
			dBA	dBA	dBA	dBA	dBA	
Receiver-1	1	1	---	58.2	0.0	---	---	Sound Level