



SAGECREST
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Olson Townhomes - Planning Application No. 2021-0084

Appendix H

Noise Impact Analysis, February 2022

NOISE IMPACT ANALYSIS
NEWLAND AND TALBERT RESIDENTIAL PROJECT
CITY OF HUNTINGTON BEACH

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February 12, 2022

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ACRONYMS AND ABBREVIATIONS

ANSI	American National Standards Institute
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
City	City of Huntington Beach
cmu	concrete masonry unit
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	A-weighted decibels
DOT	Department of Transportation
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
EPA	Environmental Protection Agency
Hz	Hertz
Ldn	Day-night average noise level
Leq	Equivalent sound level
Lmax	Maximum noise level
OSHA	Occupational Safety and Health Administration
PPV	Peak particle velocity
RMS	Root mean square
SEL	Single Event Level or Sound Exposure Level
STC	Sound Transmission Class
VdB	Vibration velocity level in decibels

1.0 INTRODUCTION

1.1 Purpose of Analysis and Study Objectives

This Noise Impact Analysis has been prepared to determine the noise impacts associated with the proposed Newland and Talbert Residential project (proposed project). The following is provided in this report:

- A description of the study area and the proposed project;
- Information regarding the fundamentals of noise;
- Information regarding the fundamentals of vibration;
- A description of the local noise guidelines and standards;
- An evaluation of the current noise environment;
- An analysis of the potential short-term construction-related noise and vibration impacts from the proposed project; and
- An analysis of long-term operations-related noise and vibration impacts from the proposed project.

1.2 Site Location and Study Area

The project site is located on the eastern edge of the City of Huntington Beach (City), on the northwest corner of the intersection of Newland Street and Talbert Avenue. The 2.43 gross acre project site currently consists of three single-family homes with supporting structures that total approximately 11,600 square feet of building space and approximately 12,000 square feet of paved area. The project site is bounded by single-family homes to the north, Newland Street and single-family homes to the east, Talbert Avenue and single-family homes to the south, and a church to the west. The project study area is shown in Figure 1.

Sensitive Receptors in Project Vicinity

The nearest sensitive receptors to the project site are single-family homes that are located as near as 12 feet north of the project site. The nearest church structure is located as near as 60 feet west of the project site. The nearest K-12 school is Futon Middle School, which is located as near as 0.3 mile northeast of the project site.

1.3 Proposed Project Description

The proposed project would redevelop this infill site with 34 attached townhome units that range from two to three stories. Each townhome would have a two-car garage and the total gross floor area of all townhomes would be 67,830 square feet with 57,690 square feet of conditioned area. The proposed project would include an onsite road system with 19 surface parking spaces for guests that would result in 28,758 square feet of pavement on the project site. The proposed project would also include both private and common open space that would cover 31,142 square feet of the project site. The proposed site plan is shown in Figure 2.

The proposed project would include construction of a 5 foot 6 inch high concrete masonry unit (cmu) wall on the north and west sides of the project. The south side of the project site that is adjacent to Talbert Avenue and the east side of the project site that is adjacent to Newland Street would have a variety of wall conditions that include 4 foot high cmu walls around the perimeter of the private open space areas and 5 foot 6 inch high cmu walls located at the ends of the proposed internal driveways. The proposed wall plan is shown in Figure 3.

1.4 Executive Summary

Standard Noise Regulatory Conditions

The proposed project will be required to comply with the following regulatory conditions from the City and State of California (State).

City of Huntington Beach Noise and Vibration Regulations

The following lists the noise and vibration regulations from the City of Huntington Beach Municipal Code that are applicable, but not limited to the proposed project.

- Section 8.40.050 – Exterior noise standards
- Section 8.40.090(D) – Construction noise standards
- Section 8.40.113 – Vibration standards

State of California Noise Regulations

The following lists the State of California noise regulations that are applicable, but not limited to the proposed project.

- California Vehicle Code Section 27200-27207 – On Road Vehicle Noise Limits
- California Vehicle Code Section 38365-38350 – Off-Road Vehicle Noise Limits

Summary of Analysis Results

The following is a summary of the proposed project's impacts with regard to the State CEQA Guidelines noise checklist questions.

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?

Less than significant impact.

Generation of excessive groundborne vibration or groundborne noise levels?

Less than significant impact.

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?

Less than significant impact.

1.5 Project Design Features Incorporated into the Proposed Project

This analysis was based on implementation of the following project design features that are either already depicted on the proposed project architectural plans and/or are required from City and State Regulations.

Project Design Feature 1:

The project applicant shall provide a “windows closed” condition for each proposed townhome. A “window closed” condition requires a means of mechanical ventilation per Chapter 12, Section 1202 of the Uniform Building Code. This shall be achieved with a standard forced air conditioning and heating system with a filtered outside air intake vent for each townhome.

1.6 Mitigation Measures for the Proposed Project

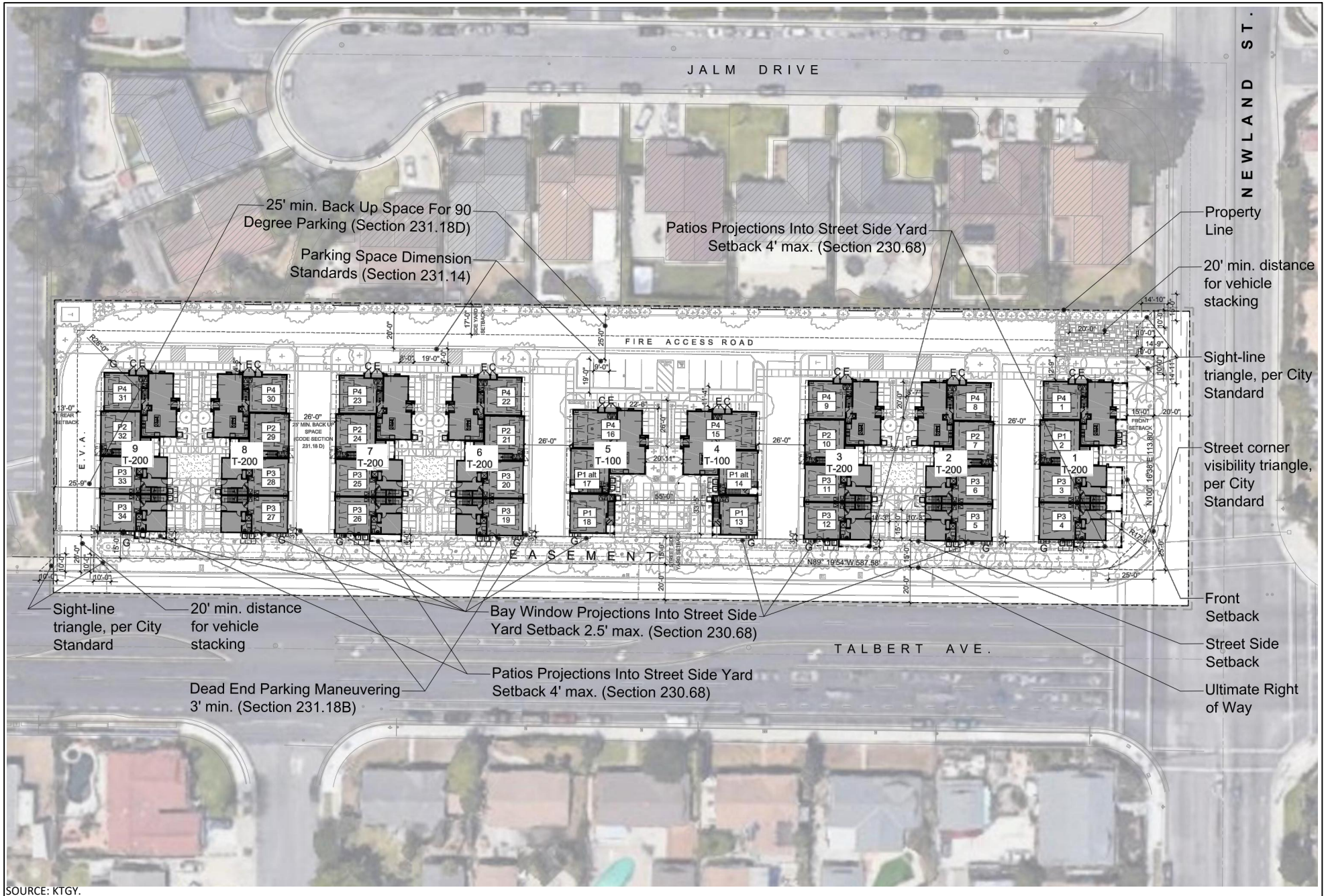
This analysis found that through adherence to the noise and vibration regulations detailed in Section 1.4 and through implementation of Project Design Feature 1 detailed in Section 1.5 above were adequate to limit all noise and vibration impacts to less than significant levels. No mitigation measures are required for the proposed project with respect to noise and vibration impacts.



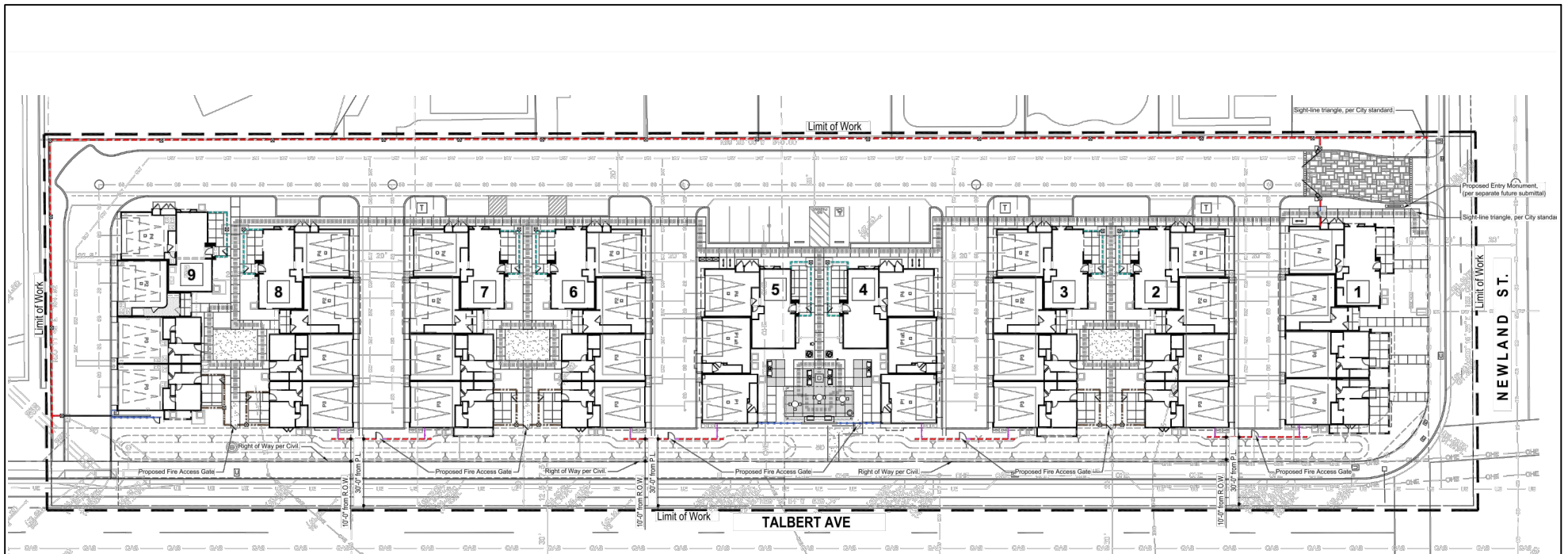
SOURCE: Google Maps.



Figure 1
Project Location Map



SOURCE: KTG.

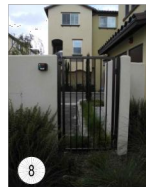


WALL LEGEND

- 1 - 5'-6" High stucco over CMU perimeter wall, with flat stucco cap.
 - 2 - 5'-0" High stucco over CMU patio wall, with flat stucco cap.
 - 3 - 4'-0" High stucco over CMU patio wall, with flat stucco cap.
 - 4 - 5'-6" High vinyl fence (tan color).
 - 5 - 5'-6" High tubular steel fence (black paint color).
 - 6 - 6'-0" High stucco over CMU block pilaster, with precast cap.
 - 7 - 5'-6" High vinyl fire access gates (tan color).
 - 8 - 5'-6" High metal fire access gates (black paint color).
 - 9 - 6'-0" High metal pedestrian gates (black paint color).
 - 10 - 4'-0" High metal patio gates (black paint color).
 - 11 - ±6'-0" High metal vehicular swing gate. (black paint color).
 - 12 - ±8'-0" High entry portal with trellis.
 - 13 - ±6'-0" High Exit ONLY sliding gate.
- ADA Path of Travel



*Conceptual images (provided herein are conceptual and subject to change)



SOURCE: KTGy.

2.0 NOISE FUNDAMENTALS

Noise is 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. Sound is produced by the vibration of sound pressure waves in the air. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels. The decibel (dB) is a logarithmic unit which expresses the ratio of the sound pressure level being measured to a standard reference level. A-weighted decibels (dBA) approximate the subjective response of the human ear to a 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.

2.1 Noise Descriptors

Noise 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 (Leq) represents a steady state sound level containing the same total energy as a time varying signal over a given sample period. The worst-hour traffic Leq is the noise metric used by California Department of Transportation (Caltrans) for analyzing traffic noise impacts.

The Day-Night Average Level (Ldn or DNL) 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 ten decibels to sound levels at night between 10 p.m. and 7 a.m. While the Community Noise Equivalent Level (CNEL) is similar to the Ldn, except that it has another addition of 4.77 decibels to sound levels during the evening hours between 7 p.m. and 10 p.m. These additions are made to the sound levels at these time periods because during the evening and nighttime hours, when compared to daytime hours, there is a decrease in the ambient noise levels, which creates an increased sensitivity to sounds. For this reason, the sound appears louder in the evening and nighttime hours and is weighted accordingly. The City of Huntington Beach relies on the CNEL noise standard to assess transportation-related impacts on noise sensitive land uses.

2.2 Tone Noise

A pure tone noise is a noise produced at a single frequency and laboratory tests have shown that humans are more perceptible to changes in noise levels of a pure tone. For a noise source to contain a “pure tone,” there must be a significantly higher A-weighted sound energy in a given frequency band than in the neighboring bands, thereby causing the noise source to “stand out” against other noise sources. A pure tone occurs if the sound pressure level in the one-third octave band with the tone exceeds the average of the sound pressure levels of the two contiguous one-third octave bands by:

- 5 dB for center frequencies of 500 hertz (Hz) and above
- 8 dB for center frequencies between 160 and 400 Hz
- 15 dB for center frequencies of 125 Hz or less

2.3 Noise Propagation

From the noise source to the receiver, noise changes both in level and frequency spectrum. The most obvious is the decrease in level of noise as the distance from the source increases. The manner in which the noise level reduces with distance depends on whether the source is a point or line source as well as ground absorption, atmospheric effects and refraction, and shielding by natural and manmade features.

Sound from point sources, such as air conditioning condensers, radiate uniformly outward as it travels away from the source in a spherical pattern. The noise drop-off rate associated with this geometric spreading is 6 dBA per each doubling of the distance (dBA/DD) between source and receiver. Transportation noise sources such as roadways are typically analyzed as line sources, since at any given moment the receiver may be impacted by noise from multiple vehicles at various locations along the roadway. Because of the geometry of a line source, the noise drop-off rate associated with the geometric spreading of a line source is 3 dBA/DD.

2.4 Ground Absorption

The sound drop-off rate is highly dependent on the conditions of the land between the noise source and receiver. To account for this ground-effect attenuation (absorption), two types of site conditions are commonly used in traffic noise models, soft-site and hard-site conditions. Soft-site conditions account for the sound propagation loss over natural surfaces such as normal earth and ground vegetation. For point sources, a drop-off rate of 7.5 dBA/DD is typically observed over soft ground with landscaping, as compared with a 6.0 dBA/DD drop-off rate over hard ground such as asphalt, concrete, stone and very hard packed earth. For line sources a 4.5 dBA/DD is typically observed for soft-site conditions compared to the 3.0 dBA/DD drop-off rate for hard-site conditions. Caltrans research has shown that the use of soft-site conditions is more appropriate for the application of the Federal Highway Administration (FHWA) traffic noise prediction model used in this analysis.

3.0 GROUND-BORNE VIBRATION FUNDAMENTALS

Ground-borne vibrations consist of rapidly fluctuating motions within the ground that have an average motion of zero. The effects of ground-borne vibrations typically only cause a nuisance to people, but at extreme vibration levels damage to buildings may occur. Although ground-borne vibration can be felt outdoors, it is typically only an annoyance to people indoors where the associated effects of the shaking of a building can be notable. Ground-borne noise is an effect of ground-borne vibration and only exists indoors, since it is produced from noise radiated from the motion of the walls and floors of a room and may also consist of the rattling of windows or dishes on shelves.

3.1 Vibration Descriptors

There are several different methods that are used to quantify vibration amplitude such as the maximum instantaneous peak in the vibrations velocity, which is known as the peak particle velocity (PPV) or the root mean square (rms) amplitude of the vibration velocity. Due to the typically small amplitudes of vibrations, vibration velocity is often expressed in decibels and is denoted as (L_v) and is based on the rms velocity amplitude. A commonly used abbreviation is “VdB”, which in this text, is when L_v is based on the reference quantity of 1 micro inch per second.

3.2 Vibration Perception

Typically, developed areas are continuously affected by vibration velocities of 50 VdB or lower. These continuous vibrations are not noticeable to humans whose threshold of perception is around 65 VdB. Off-site sources that may produce perceptible vibrations are usually caused by construction equipment, steel-wheeled trains, and traffic on rough roads, while smooth roads rarely produce perceptible ground-borne noise or vibration.

3.3 Vibration Propagation

The propagation of ground-borne vibration is not as simple to model as airborne noise. This is due to the fact that noise in the air travels through a relatively uniform medium, while ground-borne vibrations travel through the earth which may contain significant geological differences. There are three main types of vibration propagation; surface, compression, and shear waves. Surface waves, or Rayleigh waves, travel along the ground’s surface. These waves carry most of their energy along an expanding circular wave front, similar to ripples produced by throwing a rock into a pool of water. P-waves, or compression waves, are body waves that carry their energy along an expanding spherical wave front. The particle motion in these waves is longitudinal (i.e., in a “push-pull” fashion). P-waves are analogous to airborne sound waves. S-waves, or shear waves, are also body waves that carry energy along an expanding spherical wave front. However, unlike P-waves, the particle motion is transverse or “side-to-side and perpendicular to the direction of propagation.”

As vibration waves propagate from a source, the vibration energy decreases in a logarithmic nature and the vibration levels typically decrease by 6 VdB per doubling of the distance from the vibration source. As stated above, this drop-off rate can vary greatly depending on the soil but has been shown to be effective enough for screening purposes, in order to identify potential vibration impacts that may need to be studied through actual field tests.

4.0 REGULATORY SETTING

The project site is located in the City of Huntington Beach. Noise regulations are addressed through the efforts of various federal, state, and local government agencies. The agencies responsible for regulating noise are discussed below.

4.1 Federal Regulations

The adverse impact of noise was officially recognized by the federal government in the Noise Control Act of 1972, which serves three purposes:

- Promulgating noise emission standards for interstate commerce
- Assisting state and local abatement efforts
- Promoting noise education and research

The Federal Office of Noise Abatement and Control (ONAC) was initially tasked with implementing the Noise Control Act. However, the ONAC has since been eliminated, leaving the development of federal noise policies and programs to other federal agencies and interagency committees. For example, the Occupational Safety and Health Administration (OSHA) agency prohibits exposure of workers to excessive sound levels. The Department of Transportation (DOT) assumed a significant role in noise control through its various operating agencies. The Federal Aviation Administration (FAA) regulates noise of aircraft and airports. Surface transportation system noise is regulated by a host of agencies, including the Federal Transit Administration (FTA), which regulates transit noise, while freeways that are part of the interstate highway system are regulated by the Federal Highway Administration (FHWA). Finally, the federal government actively advocates that local jurisdictions use their land use regulatory authority to arrange new development in such a way that “noise sensitive” uses are either prohibited from being sited adjacent to a highway or, alternately that the developments are planned and constructed in such a manner that potential noise impacts are minimized.

Although the proposed project is not under the jurisdiction of the FTA, the *Transit Noise and Vibration Impact Assessment Manual* (FTA Manual), prepared by the FTA, September 2018, is the only guidance document from a government agency that has defined what constitutes a significant noise impact from implementing a project. The FTA standards are based on extensive studies by the FTA and other governmental agencies on the human effects and reaction to noise and a summary of the FTA findings are provided below in Table A.

Table A – FTA Project Effects on Cumulative Noise Exposure

Existing Noise Exposure (dBA Leq or Ldn)	Allowable Noise Impact Exposure dBA Leq or Ldn		
	Project Only	Combined	Noise Exposure Increase
45	51	52	+7
50	53	55	+5
55	55	58	+3
60	57	62	+2
65	60	66	+1
70	64	71	+1
75	65	75	0

Source: Federal Transit Administration, 2018.

Since the federal government has preempted the setting of standards for noise levels that can be emitted by the transportation sources, the City is restricted to regulating the noise generated by the transportation system through nuisance abatement ordinances and land use planning.

4.2 State Regulations

Noise Standards

California Department of Health Services Office of Noise Control

Established in 1973, the California Department of Health Services Office of Noise Control (ONC) was instrumental in developing regularity tools to control and abate noise for use by local agencies. One significant model is the “Land Use Compatibility for Community Noise Environments Matrix,” which allows the local jurisdiction to clearly delineate compatibility of sensitive uses with various incremental levels of noise.

California Noise Insulation Standards

Title 24, Chapter 1, Article 4 of the California Administrative Code (California Noise Insulation Standards) requires noise insulation in new hotels, motels, apartment houses, and dwellings (other than single-family detached housing) that provides an annual average noise level of no more than 45 dBA CNEL. When such structures are located within a 60-dBA CNEL (or greater) noise contour, an acoustical analysis is required to ensure that interior levels do not exceed the 45-dBA CNEL annual threshold. In addition, Title 21, Chapter 6, Article 1 of the California Administrative Code requires that all habitable rooms, hospitals, convalescent homes, and places of worship shall have an interior CNEL of 45 dB or less due to aircraft noise.

Government Code Section 65302

Government Code Section 65302 mandates that the legislative body of each county and city in California adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines published by the State Department of Health Services. The guidelines rank noise land use compatibility in terms of normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable.

California Vehicle Code Section 27200-27207 – On-Road Vehicle Noise

California Vehicle Code Section 27200-27207 provides noise limits for vehicles operated in California. For vehicles over 10,000 pounds noise is limited to 88 dB for vehicles manufactured before 1973, 86 dB for vehicles manufactured before 1975, 83 dB for vehicles manufactured before 1988, and 80 dB for vehicles manufactured after 1987. All measurements are based at 50 feet from the vehicle.

California Vehicle Section 38365-38380 – Off-Road Vehicle Noise

California Vehicle Code Section 38365-38380 provides noise limits for off-highway motor vehicles operated in California. 92 dBA for vehicles manufactured before 1973, 88 dBA for vehicles manufactured before 1975, 86 dBA for vehicles manufactured before 1986, and 82 dBA for vehicles manufactured after December 31, 1985. All measurements are based at 50 feet from the vehicle.

Vibration Standards

Title 14 of the California Administrative Code Section 15000 requires that all state and local agencies implement the California Environmental Quality Act (CEQA) Guidelines, which requires the analysis of exposure of persons to excessive groundborne vibration. However, no statute has been adopted by the state that quantifies the level at which excessive groundborne vibration occurs.

The *Transportation- and Construction Vibration Guidance Manual*, prepared by Caltrans, April 2020, provides practical guidance to Caltrans engineers, planners, and consultants who must address vibration issues associated with the construction, operation, and maintenance of Caltrans projects. However, this manual is also used as a reference point by many lead agencies and CEQA practitioners throughout California, as it provides numeric thresholds for vibration impacts. Thresholds are established for continuous (construction-related) and transient (transportation-related) sources of vibration, which found that the human response becomes distinctly perceptible at 0.25 inch per second PPV for transient sources and 0.04 inch per second PPV for continuous sources.

4.3 Local Regulations – City of Huntington Beach

The *City of Huntington Beach General Plan* (General Plan), adopted October 2017, and the *Huntington Beach Charter and Codes Huntington Beach, California* (Municipal Code), December 2, 2021, establishes the following applicable policies related to noise and vibration.

General Plan

The following applicable goals and policies to the proposed project are from the Noise Element of the General Plan.

Goal N-1: Noise-sensitive land uses are protected in areas with acceptable noise levels.

Policies

- A: Maintain acceptable stationary noise levels at existing noise-sensitive land uses such as schools, residential areas, and open spaces.
- B: Incorporate design and construction features into residential, mixed-use, commercial, and industrial projects that shield noise-sensitive land uses from excessive noise.

Goal N-2: Land use patterns are compatible with current and future noise levels.

Policies

- A: Require acoustical study for proposed projects in areas where the existing or projected noise level exceeds or would exceed the maximum allowable levels identified in Table N-2 (see Table B). The acoustical study shall be performed in accordance with the requirements set forth in this Noise Element.

Table B – City of Huntington Beach Land Use Noise Compatibility Standards

General Plan Land Use Designation	Proposed Uses	Exterior Normally Acceptable ¹	Exterior Conditionally Acceptable ²	Exterior Normally Unacceptable ³	Interior Acceptable ⁴
Residential					
Low Density	Single-family, mobile home, senior housing	Up to 60	61-65	≥66	45
Medium Density, Medium High Density, High Density	Attached single-family, duplex, townhomes, multi-family, condominiums, apartments	Up to 65	66-70	≥71	45

Notes:

All noise levels shown in this Table are designated CNEL.

¹ Normally Acceptable means that land uses may be established in areas with the stated ambient noise level, absent any unique noise circumstances.

² Conditionally Acceptable means that land uses should be established in areas with the stated ambient noise level only when exterior areas are omitted from the project or noise levels in exterior areas can be mitigated to the normally acceptable level. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

³ Normally Unacceptable means that land uses should generally not be established in areas with the stated ambient noise level. If the benefits of the project in addressing other General Plan goals and policies outweigh concerns about noise, the use should be established only where exterior areas are omitted from the project or where exterior areas are located and shielded from noise sources to mitigate noise to the maximum extent feasible. Where the location of outdoor activity areas is unknown, the exterior noise level standard shall be applied to the property line of the receiving land use. Where it is not practical to mitigate exterior noise levels at patio or balconies of apartment complexes, a common area such as a pool or recreation area may be designated as the outdoor activity area.

⁴ Interior Acceptable means that the building must be constructed so that interior noise levels do not exceed the stated maximum, regardless of the exterior noise level. Stated maximums are as determined for a typical worst-case hour during periods of use.

Source: City of Huntington Beach, 2017.

B: Allow a higher exterior noise level standard for infill projects in existing residential areas adjacent to major arterials if no feasible mechanisms exist to meet exterior noise standards.

Goal N-3: The community is not disturbed by excessive noise from mobile sources such as vehicles, rail traffic, and aircraft.

Policies

B: Prioritize use of site planning and project design techniques to mitigate excessive noise. The use of noise barriers shall be considered a means of achieving the noise standards only after all other practical design-related noise mitigation measures have been integrated into the project.

C: Employ noise-reducing technologies such as rubberized asphalt, fronting homes to the roadway, or sound walls to reduce the effects of roadway noise on noise-sensitive land uses.

Goal N-4: Noise from construction activities associated with discretionary projects, maintenance vehicles, special events, and other nuisances is minimized in residential areas and near noise-sensitive land uses.

Policies

A: Reduce construction, maintenance, and nuisance noise at the source as the first and preferred strategy to reduce noise conflicts.

- C: Encourage shielding for construction activities to reduce noise levels and protect adjacent noise-sensitive land uses.
- D: Limit allowable hours for construction activities and maintenance operations located adjacent to noise-sensitive land uses.

City of Huntington Beach Municipal Code

The City of Huntington Beach Municipal Code establishes the following applicable standards related to noise.

Chapter 8.40.050 Exterior noise standards

A. The following exterior noise standards shall apply to the applicable land use. It is unlawful for any person at any location within the incorporated area of the City to create any noise due to a fixed noise source (or any mobile source not pre-empted by State or Federal laws), or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured at the property line of any residential, hotel, motel, public institutional, recreational, or commercial property, either within or outside the City, to exceed the applicable noise standards:

Table C – City of Huntington Beach Exterior Noise Standards

Land Use	Leq Noise Level dBA	Lmax Noise Level dBA	Time Period
Low-Density Residential	55	75	7 a.m. – 10 p.m.
	50	70	10 p.m. – 7 a.m.
Medium-, High-Density Residential, Hotels, Motels	60	80	7 a.m. – 10 p.m.
	50	70	10 p.m. – 7 a.m.
Schools	55	75	Hours of Operation
Hospitals, Churches, Cultural, Museum, Library, Public Park, Recreational	60	80	Hours of Operation
	65	85	Hours of Operation
Commercial/Office	65	85	Hours of Operation

Source: City of Huntington Beach Municipal Code Chapter 8.40.050.

- B. The above standard does not apply to the establishment of multifamily residence private balconies and patios. Multifamily development with balconies or patios that do not meet noise standards are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
- C. The above daytime (7:00 a.m. – 10:00 p.m.) standards for hotels, motels and commercial uses shall apply only to active outdoor use areas such as a pool or outdoor courtyard.
- D. In the event the alleged offensive noise consists entirely of impact or impulsive noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five dBA.
- E. If the alleged offense affects a property outside the City’s jurisdiction, the exterior noise standards shall be enforced at the City boundary.

F. In the event the measured ambient noise level exceeds any of the noise limit categories above, the noise limit shall be increased to reflect said ambient noise level.

G. In the event that the noise source and the affected property are within different land use categories, the noise standards of the affected property shall apply.

8.40.090 Special Provisions

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

D. Noise sources associated with construction, repair, remodeling, or grading of any real property; provided that (1) the City has issued a building, grading or similar permit for such activities; (2) said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or a Federal holiday; and (3) the average construction noise levels do not exceed 80 dBA Leq at nearby noise-sensitive land uses. If outdoor construction activities are permitted by the City after 7:00 p.m. or before 7:00 a.m., the average construction Noise Levels at nearby noise-sensitive land uses shall be limited to 50 dBA Leq.

F. Noise sources associated with the maintenance of real property and use of domestic power tools provided said activities take place between the hours of 8:00 a.m. and 7:00 p.m. Monday through Saturday or between the hours of 9:00 a.m. and 6:00 p.m. on Sunday or a Federal holiday. Noise from typical and occasional property maintenance and the use of domestic power tools which does not require a building permit shall not be subject to the noise limits in subsection D of this section.

8.40.100 Schools, Hospitals and Churches – Special Provisions

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while same is in use, to exceed the noise limits specified for exterior noise standards in Section 8.40.050, or which noise level unreasonably interferes with the use of such institutions, including, unreasonably disturbs or annoys persons at a school, hospital or church, provided conspicuous signs are displayed in three separate locations within one-tenth of a mile of the institution indicating the presence of a school, hospital or church.

8.40.113 Vibration

Notwithstanding other sections of this chapter, it is unlawful for any person to create, maintain or cause any operational ground vibration on any property which exceeds 72 VdB at nearby vibration-sensitive land uses. The vibration limit at vibration-sensitive uses with high sensitivity such as operations conducting medical research and imaging shall be 65 VdB.

5.0 EXISTING NOISE CONDITIONS

To determine the existing noise levels, noise measurements have been taken in the vicinity of the project site. The field survey noted that noise within the proposed project area is generally characterized by vehicle traffic on Talbert Avenue that is adjacent to the south side of the project site and from Newland Street that is adjacent to the east side of the project site. The following describes the measurement procedures, measurement locations, noise measurement results, and the modeling of the existing noise environment.

5.1 Noise Measurement Equipment

The noise measurements were taken using three Larson Davis Model LXT1 Class 1 sound level meters programmed in “slow” mode to record the sound pressure level at 1-second intervals for 24 hours in “A” weighted form. In addition, the L_{eq} averaged over the entire measuring time and L_{max} were recorded with the three sound level meters. The sound level meters and microphones were mounted on trees and fences, were placed between four and six feet above the ground and were equipped with windscreens during all measurements. The noise meters were calibrated before and after the monitoring using a Larson Davis Cal200 calibrator. All noise level measurement equipment meets American National Standards Institute (ANSI) specifications for sound level meters (ANSI S1.4-2014 standard).

Noise Measurement Locations

The noise monitoring locations were selected in order to obtain noise levels on the project site. Descriptions of the noise monitoring sites are provided below in Table D and are shown in Figure 4. Appendix A includes a photo index of the study area and noise level measurement locations.

Noise Measurement Timing and Climate

The noise measurements were recorded between 1:48 p.m. on Thursday, October 28, 2021 and 1:59 p.m. on Friday, October 29, 2021. When the noise measurements were started the sky was clear (no clouds), the temperature was 83 degrees Fahrenheit, the humidity was 39 percent, barometric pressure was 29.88 inches of mercury, and the wind was blowing around five miles per hour. Overnight, the temperature dropped to 55 degrees Fahrenheit and the humidity peaked at 99 percent. At the conclusion of the noise measurements, the sky was clear, the temperature was 84 degrees Fahrenheit, the humidity was 37 percent, barometric pressure was 29.80 inches of mercury, and the wind was blowing around four miles per hour.

5.2 Noise Measurement Results

The results of the noise level measurements are presented in Table D. The measured sound pressure levels in dBA have been used to calculate the minimum and maximum L_{eq} averaged over 1-hour intervals. Table D also shows the L_{eq} , L_{max} , and CNEL, based on the entire measurement time. The CNEL was calculated through use of the hourly L_{eq} that was entered into Equation 2-23 from *Technical Noise Supplement to the Traffic Noise Analysis Protocol (TeNS)*, prepared by Caltrans, September 2013. The noise monitoring data printouts are included in Appendix B. Figure 5 shows a graph of the 24-hour noise measurements.

Table D – Existing (Ambient) Noise Level Measurements

Site No.	Site Description	Average (dBA L _{eq})		1-hr Average (dBA L _{eq} /Time)		24-hr dBA CNEL
		Daytime ¹	Nighttime ²	Minimum	Maximum	
1	Located on a fence approximately 20 feet south the northeast corner of the project site and approximately 40 feet west of Newland Street centerline.	69.4	64.0	57.1 2:35 a.m.	73.0 9:01 a.m.	72.1
2	Located on a palm tree near the middle of the southern side of the project site and approximately 90 feet north of Talbert Avenue centerline.	59.2	53.7	47.5 2:34 a.m.	60.5 11:39 a.m.	57.7
3	Located on a eucalyptus tree approximately 40 feet south of the northwest corner of the project site and approximately 150 feet north of Talbert Avenue centerline.	55.3	50.2	44.2 2:18 a.m.	57.5 11:33 a.m.	58.2

Notes:

¹ Daytime defined as 7:00 a.m. to 10:00 p.m. (Section 8.40.050 of the Municipal Code)

² Nighttime define as 10:00 p.m. to 7:00 a.m. (Section 8.40.050 of the Municipal Code)

Source: Noise measurements taken between Thursday, October 28, 2021 and Friday, October 29, 2021.

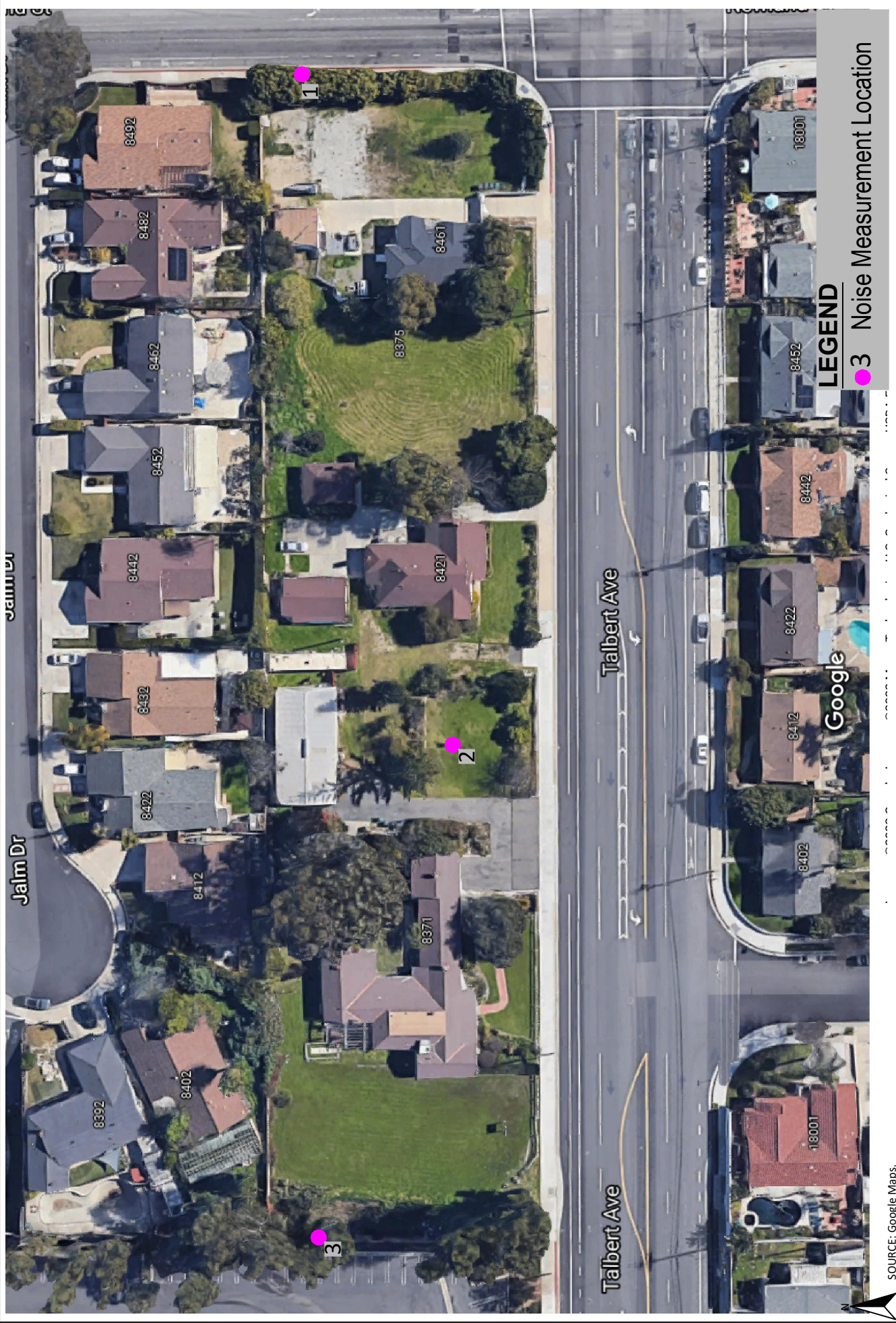
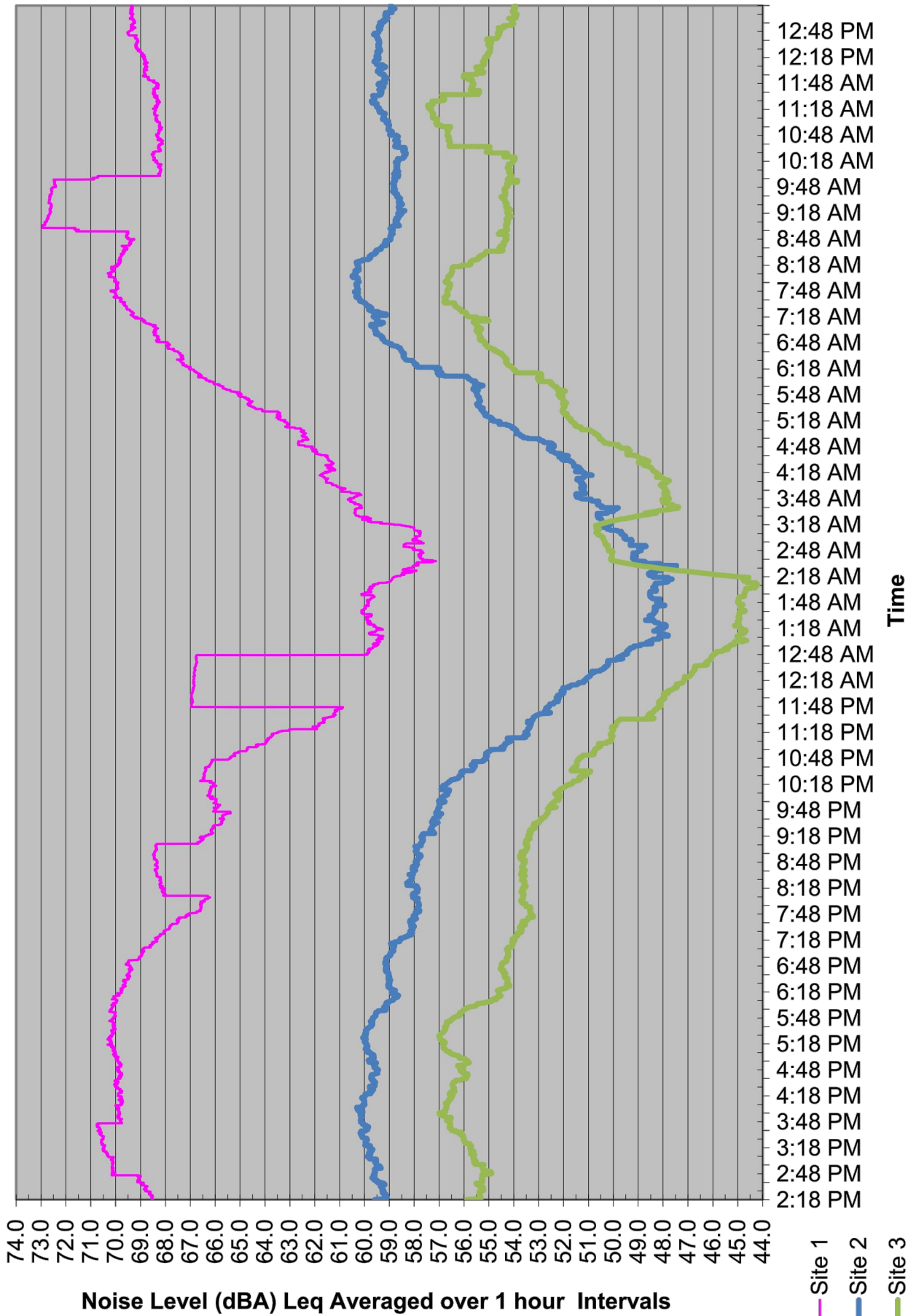


Figure 4
Field Noise Monitoring Locations



SOURCE: Three Larson Davis Model LXT1, Type 1 Sound Level Meters.



Figure 5
Field Noise Measurements Graph

6.0 MODELING PARAMETERS AND ASSUMPTIONS

6.1 Construction Noise

The noise impacts from construction of the proposed project have been analyzed through use of the FHWA's Roadway Construction Noise Model (RCNM). The FHWA compiled noise measurement data regarding the noise generating characteristics of several different types of construction equipment used during the Central Artery/Tunnel project in Boston. Table E below provides a list of the construction equipment anticipated to be used for each phase of construction that was obtained from the *Air Quality, Energy, and Greenhouse Gas Impact Analysis Newland and Talbert Residential Project* (Air Quality Analysis), prepared by Vista Environmental, January 24, 2022.

Table E – Construction Equipment Noise Emissions and Usage Factors

Equipment Description	Number of Equipment	Acoustical Use Factor ¹ (percent)	Spec 721.560 Lmax at 50 feet ² (dBA, slow ³)	Actual Measured Lmax at 50 feet ⁴ (dBA, slow ³)
Demolition				
Concrete/Industrial Saw	1	20	90	90
Rubber Tired Dozer	1	40	85	82
Tractor	1	40	84	N/A
Front End Loader	1	40	80	79
Backhoe	1	40	80	78
Site Preparation				
Grader	1	40	85	83
Scraper	1	40	85	84
Tractor	1	40	84	N/A
Grading				
Grader	1	40	85	83
Rubber Tired Dozer	1	40	85	82
Tractor	1	40	84	N/A
Front End Loader	1	40	80	79
Building Construction				
Crane	1	16	85	81
Forklift (Gradall)	2	40	85	83
Generator	1	50	82	81
Tractor	1	40	84	N/A
Welders	3	40	73	74
Paving				
Cement and Mortar Mixer	1	40	85	79
Paver	1	50	85	77
Paving Equipment	1	50	85	77
Rollers	2	20	85	80
Tractor	1	40	84	N/A
Architectural Coating				
Air Compressor	1	40	80	78

Notes:

¹ Acoustical use factor is the percentage of time each piece of equipment is operational during a typical workday.

² Spec 721.560 is the equipment noise level utilized by the RCNM program.

³ The "slow" response averages sound levels over 1-second increments. A "fast" response averages sound levels over 0.125-second increments.

⁴ Actual Measured is the average noise level measured of each piece of equipment during the Central Artery/Tunnel project in Boston, Massachusetts primarily during the 1990s.

Source: Federal Highway Administration, 2006.

Table E shows the associated measured noise emissions for each piece of equipment from the RCNM model and measured percentage of typical equipment use per day. Construction noise impacts to the nearby sensitive receptors have been calculated according to the equipment noise levels and usage factors listed Table E and through use of the RCNM. For each phase of construction, all construction equipment was analyzed based on being placed in the middle of the project site, which is based on the analysis methodology detailed in FTA Manual for a General Assessment. However, in order to provide a conservative analysis, all equipment was analyzed, instead of just the two noisiest pieces of equipment as detailed in the FTA Manual. In order to account for the existing 6 foot high concrete masonry unit (cmu) wall on the north side of the project site, 5 dB of estimated shielding was added to the RCNM model for the homes to the north. The RCNM model printouts are provided in Appendix C.

6.2 Operations-Related Noise

FHWA Model Methodology

The proposed project would result in increases in traffic noise to the nearby roadways as well as introduce new sensitive receptors to the project site. The project impacts to the offsite roadways were analyzed through use of the FHWA Traffic Noise Prediction Model - FHWA-RD-77-108 (FHWA Model). The FHWA Model arrives at a predicted noise level through a series of adjustments to the Reference Energy Mean Emission Level (REMEL). Adjustments are then made to the reference energy mean emission level to account for: 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) and the percentage of ADT which flows during the day, evening and night, the travel speed, the vehicle mix on the roadway, which is a percentage of the volume of automobiles, medium trucks and heavy trucks, the roadway grade, the angle of view of the observer exposed to the roadway and site conditions ("hard" or "soft" relates to the absorption of the ground, pavement or landscaping). The following section provides a discussion of the software and modeling input parameters used in this analysis and a discussion of the resultant existing noise model.

FHWA Model Traffic Noise Prediction Model Inputs

The roadway parameters used for this study are presented in Table F. The roadway classifications are based on the City's General Plan Circulation Element. The roadway speeds are based on the posted speed limits. The distance to the nearest sensitive receptor was determined by measuring the distance from the roadway centerline to the nearest residence. Since the study area is located in a suburban environment and landscaping or natural vegetation exists along the sides of the nearby roads, soft site conditions were modeled.

Table F – FHWA Model Roadway Parameters

Roadway	Segment	General Plan Classification	Vehicle Speed (MPH)	Distance to Nearest Receptor ¹ (feet)
Beach Boulevard	North of Talbert Avenue	Smart Street Arterial	40	185
Beach Boulevard	South of Talbert Avenue	Smart Street Arterial	40	85
Newland Street	North of Project Access 1	Secondary	45	50
Newland Street	South of Project Access 1	Secondary	45	55
Newland Street	South of Talbert Avenue	Secondary	45	60
Talbert Avenue	West of Project Access 2	Primary	45	65
Talbert Avenue	East of Project Access 2	Primary	45	60
Talbert Avenue	East of Newland Street	Primary	45	45

Notes:

¹ Distance measured from nearest offsite residential structure to centerline of roadway.

Source: City of Huntington Beach, 2017; Vista Environmental.

The average daily traffic (ADT) volumes were obtained from the *Newland and Talbert Residential Project Traffic Impact Study (Traffic Study)*, prepared by RK Engineering Group, Inc., December 15, 2021. The ADT volumes were calculated by multiplying the PM peak hour intersection volumes by 12 and are shown in Table G.

Table G – Average Daily Traffic Volumes

Roadway	Segment	Average Daily Traffic Volumes			
		Existing (Year 2021)	Existing + Project	Year 2024 No Project	Year 2024 + Project
Beach Boulevard	North of Talbert Avenue	46,730	46,755	48,120	48,145
Beach Boulevard	South of Talbert Avenue	46,820	46,845	48,230	48,255
Newland Street	North of Project Access 1	18,220	18,270	18,770	18,820
Newland Street	South of Project Access 1	18,220	18,351	18,830	18,961
Newland Street	South of Talbert Avenue	17,880	17,930	18,400	18,450
Talbert Avenue	West of Project Access 2	17,600	17,650	18,130	18,180
Talbert Avenue	East of Project Access 2	17,600	17,681	18,130	18,211
Talbert Avenue	East of Newland Street	19,940	20,040	20,530	20,630

Source: City of La Quinta, 2013; Linscott Law & Greenspan, 2021.

The vehicle mixes used in the FHWA-RD-77-108 Model are shown in Table H and the vehicle mix for Beach Boulevard (State Route 39) was obtained from *2020 Annual Average Daily Truck Traffic on the California State Highway System*, prepared by Caltrans. The vehicle mixes for Newland Street and Talbert Avenue were obtained from the *Noise Technical Report Draft City of Huntington Beach General Plan*, July 30, 2014. The vehicle mixes provide the hourly distribution percentages of automobiles, medium trucks, and heavy trucks for input into the FHWA model.

Table H – Roadway Vehicle Mixes

Vehicle Type	Traffic Flow Distributions			Overall
	Day (7 a.m. to 7 p.m.)	Evening (7 p.m. to 10 p.m.)	Night (10 p.m. to 7 a.m.)	
Newland Street and Talbert Avenue				
Automobiles	75.76%	12.38%	9.36%	97.50%
Medium Trucks	1.57%	0.09%	0.14%	1.80%
Heavy Trucks	0.62%	0.02%	0.06%	0.70%
Beach Boulevard (State Route 39)				
Automobiles	76.86%	12.56%	9.50%	98.92%
Medium Trucks	0.62%	0.04%	0.05%	0.71%
Heavy Trucks	0.33%	0.01%	0.03%	0.37%

Source: Caltrans, 2020; City of Huntington Beach, 2014.

FHWA Model Source Assumptions

To assess the roadway noise generation in a uniform manner, all vehicles are analyzed at the single lane equivalent acoustic center of the roadway being analyzed. In order to determine the height above the road grade where the noise is being emitted from, each type of vehicle has been analyzed independently with autos at road grade, medium trucks at 2.3 feet above road grade, and heavy trucks at 8 feet above road grade. These elevations were determined through a noise-weighted average of the elevation of the exhaust pipe, tires and mechanical parts in the engine, which are the primary noise emitters from a vehicle.

6.3 Vibration

Construction activity can result in varying degrees of ground vibration, depending on the equipment used on the site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to damage at the highest levels. Table I gives approximate vibration levels for particular construction activities. The data in Table I provides a reasonable estimate for a wide range of soil conditions.

Table I – Vibration Source Levels for Construction Equipment

Equipment		Peak Particle Velocity (inches/second)	Approximate Vibration Level (L_v)at 25 feet
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
Vibratory Roller		0.210	94
Hoe Ram		0.089	87
Large bulldozer		0.089	87
Caisson drill		0.089	87
Loaded trucks		0.076	86
Jackhammer		0.035	79
Small bulldozer		0.003	58

Source: Federal Transit Administration, 2018.

The construction-related vibration impacts have been calculated through the vibration levels shown above in Table I and through typical vibration propagation rates. The equipment assumptions were based on the equipment lists provided above in Table E.

7.0 IMPACT ANALYSIS

7.1 CEQA Thresholds of Significance

Consistent with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines, a significant impact related to noise would occur if a proposed project is determined to 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; or
- 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.

7.2 Generation of Noise Levels in Excess of Standards

The proposed project would not generate 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. The following section calculates the potential noise emissions associated with the temporary construction activities and long-term operations of the proposed project and compares the noise levels to the City standards.

Construction-Related Noise

The construction activities for the proposed project are anticipated to include demolition of the existing three single-family homes with supporting structures, site preparation and grading of the 2.43 gross acre project site, building construction of the 34 townhomes, paving of the onsite roads and surface parking spaces and application of architectural coatings.

Noise impacts from construction activities associated with the proposed project would be a function of the noise generated by construction equipment, equipment location, sensitivity of nearby land uses, and the timing and duration of the construction activities. The nearest sensitive receptors to the project site are single-family homes that are located as near as 12 feet north of the project site, in addition, the nearest church structure is located as near as 60 feet west of the project site.

Section 8.40.090(E) of the City's Municipal Code exempts construction noise from the City noise standards provided that (1) the City has issued a building, grading or similar permit for such activities; (2) said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or a Federal holiday; and (3) the average construction noise levels do not exceed 80 dBA Leq at nearby noise-sensitive land uses. If outdoor construction activities are permitted by the City after 7:00 p.m. or before 7:00 a.m., the average construction Noise Levels at nearby noise-sensitive land uses shall be limited to 50 dBA Leq.

The project applicant has committed to obtaining all necessary permits for construction of the project and has committed to limiting all construction to between the hours of 7:00 a.m. and 7:00 p.m. between Monday through Saturday. In order to determine if construction noise levels to the nearby sensitive receptors would be within the 80 dBA Leq noise standard, the construction noise levels have been

calculated through use of the RCNM and the parameters and assumptions utilized are detailed in Section 6.1 of this report. In order to account for the existing 6 foot high concrete masonry unit (cmu) wall on the north side of the project site, 5 dB of estimated shielding was added to the RCNM model for the homes to the north. The results are shown below in Table J and the RCNM printouts are provided in Appendix C.

Table J – Construction Noise Levels at the Nearest Sensitive Receptors

Construction Phase	Construction Noise Level (dBA Leq) at:	
	Nearest Homes to the North ¹	Church to the West ²
Demolition	75	67
Site Preparation	75	66
Grading	75	66
Building Construction	75	67
Paving	73	64
Painting	63	55
City Construction Noise Threshold⁴	80	80
Exceed Threshold?	No	No

¹ The nearest homes to the north are located as near as 95 feet from the center of the project site. 5 dB of estimated shielding was included to account for the 6-foot high cmu wall on the north side of the project site.

² The nearest church structure to the west is located as near as 450 feet from the center of the project site.

⁴ The City Construction noise threshold obtained from Section 8.40.090(E) of the City's Municipal Code.

Source: RCNM, Federal Highway Administration, 2006

Table J shows that the greatest noise impacts would occur during the demolition and building construction phases, with a noise level as high as 75 dBA Leq at the homes to the north and 67 dBA Leq at the church to the west. Table J also shows that none of the construction phases would exceed the City's 80 dBA Leq noise standard at the nearby homes or school. Therefore, through adherence to the allowable construction times detailed in Section 8.40.090(E) of the Municipal Code, the proposed project would not create a substantial temporary increase in ambient noise levels from construction of the proposed project. Impacts would be less than significant.

Operational-Related Noise

The proposed project would consist of a residential development with 34 townhomes. Potential noise impacts associated with the operations of the proposed project would be from project-generated vehicular traffic on the nearby roadways. In addition, the proposed development would be adjacent to Talbert Avenue and Newland Street, which may create exterior and interior noise levels in excess of City standards at the proposed townhomes. The noise impacts to the nearby existing homes and proposed townhomes have been analyzed separately below.

Roadway Vehicular Noise Impact to Nearby Homes

Vehicle noise is a combination of the noise produced by the engine, exhaust and tires. The level of traffic noise depends on three primary factors (1) the volume of traffic, (2) the speed of traffic, and (3) the number of trucks in the flow of traffic. The proposed project does not propose any uses that would require a substantial number of truck trips and the proposed project would not alter the speed limit on any existing roadway so the proposed project's potential offsite noise impacts have been focused on the noise impacts associated with the change of volume of traffic that would occur with development of the proposed project.

Neither the General Plan nor the Municipal Code defines what constitutes a “substantial permanent increase to ambient noise levels”. As such, this impact analysis has utilized guidance from the Federal Transit Administration for a moderate impact that has been detailed above in Table A that shows that the project contribution to the noise environment can range between 0 and 7 dB, which is dependent on the existing roadway noise levels.

The potential offsite traffic noise impacts created by the on-going operations of the proposed project have been analyzed through utilization of the FHWA model and parameters described above in Section 6.2 and the FHWA model traffic noise calculation spreadsheets are provided in Appendix D. The proposed project’s potential offsite traffic noise impacts have been analyzed for the existing year and opening year 2024 scenarios that are discussed separately below.

Existing Year Conditions

The proposed project’s potential offsite traffic noise impacts have been calculated through a comparison of the Existing scenario to the Existing With Project scenario. The results of this comparison are shown in Table K.

Table K – Existing Year Project Traffic Noise Contributions

Roadway	Segment	dBA CNEL at Nearest Receptor ¹			Increase Threshold ²
		Existing	Existing Plus Project	Project Contribution	
Beach Boulevard	North of Talbert Avenue	62.5	62.5	0.0	+2 dBA
Beach Boulevard	South of Talbert Avenue	68.6	68.6	0.0	+1 dBA
Newland Street	North of Project Access 1	69.1	69.1	0.0	+1 dBA
Newland Street	South of Project Access 1	68.3	68.3	0.0	+1 dBA
Newland Street	South of Talbert Avenue	67.5	67.5	0.0	+1 dBA
Talbert Avenue	West of Project Access 2	67.4	67.4	0.0	+1 dBA
Talbert Avenue	East of Project Access 2	68.2	68.2	0.0	+1 dBA
Talbert Avenue	East of Newland Street	72.5	72.5	0.0	+1 dBA

Notes:

¹ Distance to nearest residential use shown in Table F, does not take into account existing noise barriers.

² Increase Threshold obtained from the FTA’s allowable noise impact exposures detailed above in Table A.

Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table K shows that the proposed project’s permanent roadway noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the FTA’s allowable increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient noise levels for the existing conditions. Impacts would be less than significant.

Opening Year 2024 Conditions

The proposed project’s potential offsite traffic noise impacts have been calculated through a comparison of the opening year 2024 scenario to the opening year 2024 with project scenario. The results of this comparison are shown in Table L.

Table L – Opening Year 2024 Project Traffic Noise Contributions

Roadway	Segment	dBA CNEL at Nearest Receptor ¹			Increase Threshold ²
		Year 2024	Year 2024 Plus Project	Project Contribution	
Beach Boulevard	North of Talbert Avenue	62.7	62.7	0.0	+2 dBA
Beach Boulevard	South of Talbert Avenue	68.7	68.7	0.0	+1 dBA
Newland Street	North of Project Access 1	69.3	69.3	0.0	+1 dBA
Newland Street	South of Project Access 1	68.4	68.5	0.1	+1 dBA
Newland Street	South of Talbert Avenue	67.6	67.6	0.0	+1 dBA
Talbert Avenue	West of Project Access 2	67.6	67.6	0.0	+1 dBA
Talbert Avenue	East of Project Access 2	68.3	68.4	0.1	+1 dBA
Talbert Avenue	East of Newland Street	72.6	72.7	0.1	+1 dBA

Notes:

¹ Distance to nearest residential use shown in Table F, does not take into account existing noise barriers.

² Increase Threshold obtained from the FTA's allowable noise impact exposures detailed above in Table A.

Source: FHWA Traffic Noise Prediction Model FHWA-RD-77-108.

Table L shows that the proposed project's permanent roadway noise increases to the nearby homes from the generation of additional vehicular traffic would not exceed the FTA's allowable increase thresholds detailed above. Therefore, the proposed project would not result in a substantial permanent increase in ambient noise levels for the opening year 2024 conditions. Impacts would be less than significant.

Roadway Noise Impacts to the Proposed Townhomes

The proposed project would consist of a residential development with 34 townhomes. General Plan Goal N-2 Policy A requires new multi-family developments to meet the Normally Acceptable exterior noise standard of 65 dBA CNEL and interior noise standard of 45 dBA CNEL. It is anticipated that the primary source of noise impacts to the project site will be traffic noise from Talbert Avenue that is adjacent to the south side of the project site and from Newland Street that is adjacent to east side of the project site. The FHWA traffic noise prediction model parameters used in this analysis are discussed above in detail in Section 6.2 and the FHWA model printouts are provided in Appendix E. The exterior and interior noise impacts to the proposed townhomes have been analyzed separately below.

Exterior Noise Impacts

Table M shows the calculated roadway noise levels at the private patio areas of the proposed townhomes. The calculated exterior noise levels shown in Table M account for the noise reduction provided by the 4-foot high cmu walls around the perimeter of the private patio areas as depicted on the Wall Plan (see Figure 3, above).

Table M – Proposed Townhomes Exterior Private Patio Area Roadway Noise Levels

Building Number	Roadway	Exterior Noise Levels at Private Patio Areas ¹ (dBA CNEL)	Exceed City's 65 dBA CNEL Exterior Noise Standard?
1	Newland Street	63.2	No
1	Talbert Avenue	63.1	No
3	Talbert Avenue	63.4	No
5	Talbert Avenue	62.7	No
7	Talbert Avenue	62.8	No
9	Talbert Avenue	62.3	No

Notes:

¹ Exterior noise levels account for the noise reduction provided by the provided by the 4 foot high cmu walls around the perimeter of the private patio areas as depicted on the Wall Plan

Source: FHWA RD-77-108 Model.

Table M shows that the exterior noise levels at the private patio areas that are adjacent to Newland Street and Talbert Avenue would be within the General Plan Goal N-2 Policy A Normally Acceptable exterior noise standard of 65 dBA CNEL. Therefore, the roadway noise impacts at the exterior of the proposed townhomes would be less than significant.

Interior Noise Impacts

For the interior noise levels of the proposed townhomes, the General Plan Noise Element details that new residential buildings that are constructed consistent with the Title 24 building standards typically provide 15 dBA exterior to interior noise level reduction with windows open and 25 dBA on noise level reduction with windows closed. Project Design Feature 1 has been included in this analysis to ensure that each townhome has a forced air heating and air conditioning system so that windows may be kept in the closed position. The anticipated noise levels have been calculated at the, first and second floor facades and interior of the nearest proposed townhomes to Newland Street and Talbert Avenue and the results are shown below in Table N.

Table N – Proposed Townhomes Interior Noise Levels from Roadway Noise

Building Number/ Roadway	Floor	Road Noise Level at facade of Townhomes (dBA CNEL)	Townhomes Interior Noise Level ¹ (dBA CNEL)	Exceed City's 45 dBA CNEL Interior Noise Standard?
1 / Newland Street	First	61.8	36.8	No
	Second	66.5	41.5	No
1 / Talbert Avenue	First	62.1	37.1	No
	Second	66.5	41.5	No
3 / Talbert Avenue	First	62.2	37.2	No
	Second	66.5	41.5	No
5 / Talbert Avenue	First	61.3	36.3	No
	Second	65.9	40.9	No
7 / Talbert Avenue	First	61.5	36.5	No
	Second	65.9	40.9	No
9 / Talbert Avenue	First	60.9	35.9	No
	Second	65.3	40.3	No

Notes:

¹ Interior noise level based on a 25 dB exterior to interior noise reduction rate (City of Huntington Beach, 2017)

Table N shows that the interior noise levels at the proposed townhomes that are adjacent to Newland Street and Talbert Avenue would be within the General Plan Goal N-2 Policy A interior noise standard of 45 dBA CNEL. Therefore, the roadway noise impacts at the interior of the proposed townhomes would be less than significant.

Level of Significance

Less than significant impact.

7.3 Generation of Excessive Groundborne Vibration

The proposed project would not expose persons to or generation of excessive groundborne vibration or groundborne noise levels. The following section analyzes the potential vibration impacts associated with the construction and operations of the proposed project.

Construction-Related Vibration Impacts

The construction activities for the proposed project are anticipated to include demolition of the existing three single-family homes with supporting structures, site preparation and grading of the 2.43 gross acre project site, building construction of the 34 townhomes, paving of the onsite roads and surface parking spaces and application of architectural coatings. Vibration impacts from construction activities associated with the proposed project would typically be created from the operation of heavy off-road equipment. The nearest sensitive receptors to the project site are single-family homes that are located as near as 12 feet north of the project site.

Section 8.40.113 of the Municipal Code limits vibration levels to 72 VdB at the nearby vibration-sensitive land uses that include the nearby homes. However, Section 8.40.090(E) of the City's Municipal Code exempts construction activities from the City standards provided that (1) the City has issued a building, grading or similar permit for such activities; (2) said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or a Federal holiday. Since neither the Municipal nor the General Plan provide a quantifiable vibration threshold for temporary construction activities, guidance from the *Transportation and Construction-Induced Vibration Guidance Manual*, prepared by Caltrans, April 2020, has been utilized, which defines the threshold of perception from transient sources such as off-road construction equipment at 0.25 inch per second peak particle velocity (PPV).

The primary source of vibration during construction would be from the operation of a bulldozer. From Table I above a large bulldozer would create a vibration level of 0.089 inch per second PPV at 25 feet. Based on typical propagation rates, the vibration level at the nearest homes (12 feet to the north) would be 0.20 inch per second PPV. The vibration level at the nearest offsite structure would be below the 0.25 inch per second PPV threshold detailed above. Impacts would be less than significant.

Operations-Related Vibration Impacts

The proposed project would consist of the development of a residential community. The on-going operation of the proposed project would not include the operation of any known vibration sources other than typical onsite vehicle operations for a residential development. Therefore, a less than significant vibration impact is anticipated from operation of the proposed project.

Level of Significance

Less than significant impact.

7.4 Aircraft Noise

The proposed project may expose people residing in the project area to excessive noise levels from aircraft. The Natural and Environmental Hazards Element of the General Plan analyzed the potential impacts (including noise impacts) from aircraft and from the nearby airports, which found the following:

While there are no airports in the planning area, there are multiple airports in the vicinity, including John Wayne Airport, Long Beach Airport, and Los Angeles International Airport, as well as the military Joint Forces Training Center in nearby Los Alamitos. Studies have found that aircraft departing from or arriving at these airports may pass lower than 2,000 feet above the planning area, which can generate noise in excess of 70 dBA. There are also multiple heliports within the planning area.

Although, the above statement is true for many parts of the City, no aircraft overflights were observed while taking noise measurements on the project site and the 24-hour noise measurements taken on the project site (see Section 5.2, above) measured noise levels as low as 57.7 dBA CNEL near the middle of the project site (Noise Measurement Site No. 2) and 58.2 dBA CNEL on the west side of the project site (Noise Measurement Site No. 3), which are both within the Normally Acceptable exterior noise standard of 65 dBA CNEL from General Plan Goal N-2 Policy A. Since aircraft noise would come from above the project site, it would impact the entire project site relatively evenly. As such, it can be reasonably concluded that the proposed townhomes would not be exposed to excessive aircraft noise. Impacts would be less than significant.

Level of Significance

Less than significant impact.

8.0 REFERENCES

California Department of Transportation, *2016 Annual Average Daily Truck Traffic on the California State Highway System*, 2018.

California Department of Transportation (Caltrans), *Technical Noise Supplement to the Traffic Noise Analytics Protocol*, September 2013.

California Department of Transportation, *Transportation- and Construction Vibration Guidance Manual*, April 2020.

City of Huntington Beach, *Huntington Beach Charter and Codes*, December 2, 2021.

City of Huntington Beach, *City of Huntington Beach General Plan*, adopted October 2017.

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

RK Engineering Group, Inc., *Newland & Talbert Residential Project Traffic Study*, December 15, 2021.

U.S. Department of Transportation, *FHWA Roadway Construction Noise Model User's Guide*, January, 2006.

U.S. Department of Transportation, *Highway Traffic Noise: Analysis and Abatement Guidance*, December, 2011.

Vista Environmental, *Air Quality, Energy, and Greenhouse Gas Emissions Impact Analysis Newland and Talbert Residential Project*, January 24, 2022.

APPENDIX A

Field Noise Measurements Photo Index



Noise Measurement Site 1 - looking north



Noise Measurement Site 1 - looking northeast



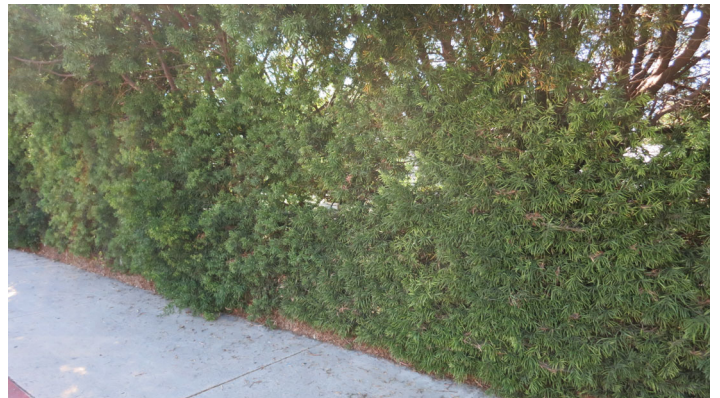
Noise Measurement Site 1 - looking east



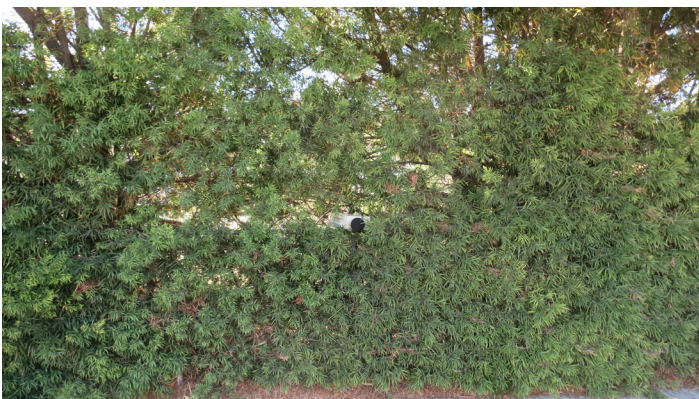
Noise Measurement Site 1 - looking southeast



Noise Measurement Site 1 - looking south



Noise Measurement Site 1 - looking southwest



Noise Measurement Site 1 - looking west



Noise Measurement Site 1 - looking northwest



Noise Measurement Site 2 - looking north



Noise Measurement Site 2 - looking northeast



Noise Measurement Site 2 - looking east



Noise Measurement Site 2 - looking southeast



Noise Measurement Site 2 - looking south



Noise Measurement Site 2 - looking southwest



Noise Measurement Site 2 - looking west



Noise Measurement Site 2 - looking northwest



Noise Measurement Site 3 - looking north



Noise Measurement Site 3 - looking northeast



Noise Measurement Site 3 - looking east



Noise Measurement Site 3 - looking southeast



Noise Measurement Site 3 - looking south



Noise Measurement Site 3 - looking southwest



Noise Measurement Site 3 - looking west



Noise Measurement Site 3 - looking northwest

APPENDIX B

Field Noise Measurements Printouts

Site 1 - On East Side of Project Site
October 28, 2021 1:48:09 PM Leq Daytime = 69.4
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 64.0
Record Num = 86401 CNEL(24hr) = 72.1
Ldn(24hr) = 71.7
Leq = 68.1 Min Leq hr at 2:35 AM 57.1
Min = 37.5 Max Leq hr at 9:01 AM 73.0
Max = 98.3

Site 1 - On East Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
65.6	13:48:09	65.6	65.6	65.6
65.2	13:48:10	65.2	65.2	65.2
63.6	13:48:11	63.6	63.6	63.6
66.6	13:48:12	66.6	66.6	66.6
64.6	13:48:13	64.6	64.6	64.6
62.7	13:48:14	62.7	62.7	62.7
77.0	13:48:15	77.0	77.0	77.0
78.7	13:48:16	78.7	78.7	78.7
76.0	13:48:17	76.0	76.0	76.0
72.3	13:48:18	72.3	72.3	72.3
69.4	13:48:19	69.4	69.4	69.4
69.6	13:48:20	69.6	69.6	69.6
75.0	13:48:21	75.0	75.0	75.0
77.5	13:48:22	77.5	77.5	77.5
73.5	13:48:23	73.5	73.5	73.5
73.3	13:48:24	73.3	73.3	73.3
75.4	13:48:25	75.4	75.4	75.4
71.7	13:48:26	71.7	71.7	71.7
68.0	13:48:27	68.0	68.0	68.0
64.6	13:48:28	64.6	64.6	64.6
65.6	13:48:29	65.6	65.6	65.6
65.7	13:48:30	65.7	65.7	65.7
63.2	13:48:31	63.2	63.2	63.2
62.1	13:48:32	62.1	62.1	62.1
62.7	13:48:33	62.7	62.7	62.7
61.7	13:48:34	61.7	61.7	61.7
61.5	13:48:35	61.5	61.5	61.5
63.8	13:48:36	63.8	63.8	63.8
65.0	13:48:37	65.0	65.0	65.0
66.8	13:48:38	66.8	66.8	66.8
65.6	13:48:39	65.6	65.6	65.6
64.8	13:48:40	64.8	64.8	64.8
64.5	13:48:41	64.5	64.5	64.5
65.3	13:48:42	65.3	65.3	65.3
67.7	13:48:43	67.7	67.7	67.7
70.6	13:48:44	70.6	70.6	70.6
67.1	13:48:45	67.1	67.1	67.1
65.5	13:48:46	65.5	65.5	65.5
65.7	13:48:47	65.7	65.7	65.7
67.4	13:48:48	67.4	67.4	67.4
69.2	13:48:49	69.2	69.2	69.2
70.5	13:48:50	70.5	70.5	70.5
72.1	13:48:51	72.1	72.1	72.1
72.7	13:48:52	72.7	72.7	72.7
73.8	13:48:53	73.8	73.8	73.8
73.9	13:48:54	73.9	73.9	73.9
72.9	13:48:55	72.9	72.9	72.9
71.2	13:48:56	71.2	71.2	71.2
69.9	13:48:57	69.9	69.9	69.9
69.9	13:48:58	69.9	69.9	69.9
71.1	13:48:59	71.1	71.1	71.1
71.7	13:49:00	71.7	71.7	71.7
72.4	13:49:01	72.4	72.4	72.4
70.0	13:49:02	70.0	70.0	70.0
67.0	13:49:03	67.0	67.0	67.0
64.4	13:49:04	64.4	64.4	64.4
61.7	13:49:05	61.7	61.7	61.7
60.6	13:49:06	60.6	60.6	60.6
61.1	13:49:07	61.1	61.1	61.1
66.1	13:49:08	66.1	66.1	66.1
63.1	13:49:09	63.1	63.1	63.1
61.4	13:49:10	61.4	61.4	61.4
64.4	13:49:11	64.4	64.4	64.4
68.8	13:49:12	68.8	68.8	68.8
70.1	13:49:13	70.1	70.1	70.1
69.9	13:49:14	69.9	69.9	69.9
69.6	13:49:15	69.6	69.6	69.6
69.6	13:49:16	69.6	69.6	69.6
70.2	13:49:17	70.2	70.2	70.2
68.6	13:49:18	68.6	68.6	68.6
67.1	13:49:19	67.1	67.1	67.1
66.5	13:49:20	66.5	66.5	66.5
65.6	13:49:21	65.6	65.6	65.6
65.0	13:49:22	65.0	65.0	65.0
64.7	13:49:23	64.7	64.7	64.7
67.8	13:49:24	67.8	67.8	67.8
70.4	13:49:25	70.4	70.4	70.4
72.4	13:49:26	72.4	72.4	72.4
69.0	13:49:27	69.0	69.0	69.0
67.4	13:49:28	67.4	67.4	67.4
63.6	13:49:29	63.6	63.6	63.6
62.1	13:49:30	62.1	62.1	62.1
59.8	13:49:31	59.8	59.8	59.8
57.2	13:49:32	57.2	57.2	57.2
56.2	13:49:33	56.2	56.2	56.2
56.7	13:49:34	56.7	56.7	56.7
58.0	13:49:35	58.0	58.0	58.0
60.8	13:49:36	60.8	60.8	60.8
61.8	13:49:37	61.8	61.8	61.8
62.3	13:49:38	62.3	62.3	62.3
62.0	13:49:39	62.0	62.0	62.0
62.9	13:49:40	62.9	62.9	62.9
65.2	13:49:41	65.2	65.2	65.2
65.8	13:49:42	65.8	65.8	65.8
65.8	13:49:43	65.8	65.8	65.8
65.0	13:49:44	65.0	65.0	65.0
63.4	13:49:45	63.4	63.4	63.4
62.8	13:49:46	62.8	62.8	62.8
63.7	13:49:47	63.7	63.7	63.7
65.5	13:49:48	65.5	65.5	65.5
67.0	13:49:49	67.0	67.0	67.0
61.2	13:49:50	61.2	61.2	61.2
66.2	13:49:51	66.2	66.2	66.2
65.1	13:49:52	65.1	65.1	65.1
64.7	13:49:53	64.7	64.7	64.7
64.7	13:49:54	64.7	64.7	64.7
65.0	13:49:55	65.0	65.0	65.0
64.3	13:49:56	64.3	64.3	64.3
64.8	13:49:57	64.8	64.8	64.8
64.2	13:49:58	64.2	64.2	64.2
63.9	13:49:59	63.9	63.9	63.9
64.3	13:50:00	64.3	64.3	64.3
65.0	13:50:01	65.0	65.0	65.0
64.6	13:50:02	64.6	64.6	64.6
63.7	13:50:03	63.7	63.7	63.7
64.3	13:50:04	64.3	64.3	64.3
67.0	13:50:05	67.0	67.0	67.0
71.0	13:50:06	71.0	71.0	71.0
78.7	13:50:07	78.7	78.7	78.7
79.5	13:50:08	79.5	79.5	79.5
77.0	13:50:09	77.0	77.0	77.0
75.5	13:50:10	75.5	75.5	75.5
73.3	13:50:11	73.3	73.3	73.3
70.9	13:50:12	70.9	70.9	70.9
69.4	13:50:13	69.4	69.4	69.4
66.3	13:50:14	66.3	66.3	66.3
64.1	13:50:15	64.1	64.1	64.1
62.3	13:50:16	62.3	62.3	62.3
61.4	13:50:17	61.4	61.4	61.4
61.3	13:50:18	61.3	61.3	61.3
62.6	13:50:19	62.6	62.6	62.6
63.5	13:50:20	63.5	63.5	63.5
63.0	13:50:21	63.0	63.0	63.0
61.9	13:50:22	61.9	61.9	61.9
60.9	13:50:23	60.9	60.9	60.9
59.8	13:50:24	59.8	59.8	59.8
58.8	13:50:25	58.8	58.8	58.8
57.9	13:50:26	57.9	57.9	57.9
56.9	13:50:27	56.9	56.9	56.9
55.7	13:50:28	55.7	55.7	55.7
54.7	13:50:29	54.7	54.7	54.7
54.6	13:50:30	54.6	54.6	54.6
55.7	13:50:31	55.7	55.7	55.7
60.1	13:50:32	60.1	60.1	60.1
57.8	13:50:33	57.8	57.8	57.8
56.7	13:50:34	56.7	56.7	56.7
56.2	13:50:35	56.2	56.2	56.2
56.1	13:50:36	56.1	56.1	56.1
57.0	13:50:37	57.0	57.0	57.0
59.6	13:50:38	59.6	59.6	59.6
58.8	13:50:39	58.8	58.8	58.8
58.2	13:50:40	58.2	58.2	58.2
57.8	13:50:41	57.8	57.8	57.8
57.5	13:50:42	57.5	57.5	57.5
59.3	13:50:43	59.3	59.3	59.3
59.3	13:50:44	59.3	59.3	59.3
62.1	13:50:45	62.1	62.1	62.1
67.4	13:50:46	67.4	67.4	67.4
69.1	13:50:47	69.1	69.1	69.1
67.1	13:50:48	67.1	67.1	67.1
65.4	13:50:49	65.4	65.4	65.4
66.2	13:50:50	66.2	66.2	66.2
66.8	13:50:51	66.8	66.8	66.8
67.9	13:50:52	67.9	67.9	67.9
69.3	13:50:53	69.3	69.3	69.3

Site 2 - On South Side of Project Site (Middle)
October 28, 2021 1:53:09 PM Leq Daytime = 59.2
Sampling Time = 1 sec Freq Weighting=A Leq Nighttime = 53.7
Record Num = 86401 CNEL(24hr) = 61.9
Ldn(24hr) = 61.4
Leq = 57.8 Min Leq hr at 2:34 AM 47.5
Min = 36.6 Max Leq hr at 8:09 AM 60.5
Max = 79.3

Site 2 - On South Side of Project Site (Middle)

SPL	Time	Leq (1 hour Avg.)	Ldn	CNEL
64.3	13:53:09	64.3	64.3	64.3
66.9	13:53:10	66.9	66.9	66.9
67.2	13:53:11	67.2	67.2	67.2
67.2	13:53:12	67.2	67.2	67.2
63.4	13:53:13	63.4	63.4	63.4
63.4	13:53:14	63.4	63.4	63.4
70.2	13:53:15	70.2	70.2	70.2
68.8	13:53:16	68.8	68.8	68.8
70.5	13:53:17	70.5	70.5	70.5
66.5	13:53:18	66.5	66.5	66.5
62.6	13:53:19	62.6	62.6	62.6
60.2	13:53:20	60.2	60.2	60.2
60.0	13:53:21	60.0	60.0	60.0
60.0	13:53:22	60.0	60.0	60.0
59.3	13:53:23	59.3	59.3	59.3
60.2	13:53:24	60.2	60.2	60.2
60.2	13:53:25	60.2	60.2	60.2
61.3	13:53:26	61.3	61.3	61.3
62.7	13:53:27	62.7	62.7	62.7
63.0	13:53:28	63.0	63.0	63.0
64.7	13:53:29	64.7	64.7	64.7
69.2	13:53:31	69.2	69.2	69.2
71.1	13:53:32	71.1	71.1	71.1
70.5	13:53:33	70.5	70.5	70.5
71.6	13:53:34	71.6	71.6	71.6
72.8	13:53:35	72.8	72.8	72.8
71.2	13:53:36	71.2	71.2	71.2
71.3	13:53:37	71.3	71.3	71.3
70.6	13:53:38	70.6	70.6	70.6
68.1	13:53:39	68.1	68.1	68.1
68.7	13:53:40	68.7	68.7	68.7
68.6	13:53:41	68.6	68.6	68.6
69.6	13:53:42	69.6	69.6	69.6
66.7	13:53:43	66.7	66.7	66.7
64.4	13:53:44	64.4	64.4	64.4
62.0	13:53:45	62.0	62.0	62.0
61.5	13:53:46	61.5	61.5	61.5
63.5	13:53:47	63.5	63.5	63.5
67.0	13:53:48	67.0	67.0	67.0
67.4	13:53:49	67.4	67.4	67.4
65.1	13:53:50	65.1	65.1	65.1
62.8	13:53:51	62.8	62.8	62.8
62.9	13:53:52	62.9	62.9	62.9
63.4	13:53:53	63.4	63.4	63.4
62.1	13:53:54	62.1	62.1	62.1
61.7	13:53:55	61.7	61.7	61.7
61.5	13:53:56	61.5	61.5	61.5
61.2	13:53:57	61.2	61.2	61.2
59.8	13:53:58	59.8	59.8	59.8
62.9	13:53:59	62.9	62.9	62.9
62.2	13:54:00	62.2	62.2	62.2
62.5	13:54:01	62.5	62.5	62.5
61.1	13:54:02	61.1	61.1	61.1
60.5	13:54:03	60.5	60.5	60.5
61.3	13:54:04	61.3	61.3	61.3
60.0	13:54:05	60.0	60.0	60.0
57.8	13:54:06	57.8		

Site 1 - On East Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
70.8	13:50:54	70.8	70.8
70.9	13:50:55	70.9	70.9
70.9	13:50:56	70.9	70.9
71.5	13:50:57	71.5	71.5
71.9	13:50:58	71.9	71.9
71.9	13:50:59	71.9	71.9
71.7	13:51:00	71.7	71.7
72.0	13:51:01	72.0	72.0
72.2	13:51:02	72.2	72.2
72.2	13:51:03	72.2	72.2
72.2	13:51:04	72.2	72.2
71.5	13:51:05	71.5	71.5
70.5	13:51:06	70.5	70.5
71.5	13:51:07	71.5	71.5
73.1	13:51:08	73.1	73.1
74.6	13:51:09	74.6	74.6
73.7	13:51:10	73.7	73.7
72.3	13:51:11	72.3	72.3
71.3	13:51:12	71.3	71.3
71.1	13:51:13	71.1	71.1
75.2	13:51:14	75.2	75.2
74.7	13:51:15	74.7	74.7
71.3	13:51:16	71.3	71.3
67.7	13:51:17	67.7	67.7
65.2	13:51:18	65.2	65.2
65.8	13:51:19	65.8	65.8
66.0	13:51:20	66.0	66.0
63.7	13:51:21	63.7	63.7
60.9	13:51:22	60.9	60.9
58.3	13:51:23	58.3	58.3
56.2	13:51:24	56.2	56.2
55.5	13:51:25	55.5	55.5
54.5	13:51:26	54.5	54.5
53.2	13:51:27	53.2	53.2
52.4	13:51:28	52.4	52.4
52.0	13:51:29	52.0	52.0
51.9	13:51:30	51.9	51.9
52.1	13:51:31	52.1	52.1
53.6	13:51:32	53.6	53.6
56.2	13:51:33	56.2	56.2
59.9	13:51:34	59.9	59.9
63.4	13:51:35	63.4	63.4
66.7	13:51:36	66.7	66.7
68.2	13:51:37	68.2	68.2
67.7	13:51:38	67.7	67.7
66.4	13:51:39	66.4	66.4
64.6	13:51:40	64.6	64.6
63.7	13:51:41	63.7	63.7
63.4	13:51:42	63.4	63.4
64.1	13:51:43	64.1	64.1
65.8	13:51:44	65.8	65.8
67.7	13:51:45	67.7	67.7
68.2	13:51:46	68.2	68.2
66.9	13:51:47	66.9	66.9
65.8	13:51:48	65.8	65.8
65.0	13:51:49	65.0	65.0
65.0	13:51:50	65.0	65.0
64.9	13:51:51	64.9	64.9
63.8	13:51:52	63.8	63.8
62.5	13:51:53	62.5	62.5
61.1	13:51:54	61.1	61.1
60.0	13:51:55	60.0	60.0
59.9	13:51:56	59.9	59.9
60.3	13:51:57	60.3	60.3
59.8	13:51:58	59.8	59.8
59.2	13:51:59	59.2	59.2
59.7	13:52:00	59.7	59.7
60.0	13:52:01	60.0	60.0
60.5	13:52:02	60.5	60.5
61.5	13:52:03	61.5	61.5
62.3	13:52:04	62.3	62.3
64.4	13:52:05	64.4	64.4
67.5	13:52:06	67.5	67.5
67.2	13:52:07	67.2	67.2
64.3	13:52:08	64.3	64.3
61.6	13:52:09	61.6	61.6
61.0	13:52:10	61.0	61.0
63.0	13:52:11	63.0	63.0
63.6	13:52:12	63.6	63.6
62.8	13:52:13	62.8	62.8
61.8	13:52:14	61.8	61.8
61.9	13:52:15	61.9	61.9
60.9	13:52:16	60.9	60.9
59.5	13:52:17	59.5	59.5
58.4	13:52:18	58.4	58.4
58.2	13:52:19	58.2	58.2
59.5	13:52:20	59.5	59.5
62.4	13:52:21	62.4	62.4
62.9	13:52:22	62.9	62.9
62.3	13:52:23	62.3	62.3
62.5	13:52:24	62.5	62.5
61.5	13:52:25	61.5	61.5
60.6	13:52:26	60.6	60.6
60.3	13:52:27	60.3	60.3
60.1	13:52:28	60.1	60.1
60.3	13:52:29	60.3	60.3
59.8	13:52:30	59.8	59.8
59.3	13:52:31	59.3	59.3
58.9	13:52:32	58.9	58.9
58.0	13:52:33	58.0	58.0
57.2	13:52:34	57.2	57.2
56.9	13:52:35	56.9	56.9
56.4	13:52:36	56.4	56.4
56.2	13:52:37	56.2	56.2
56.0	13:52:38	56.0	56.0
56.7	13:52:39	56.7	56.7
59.9	13:52:40	59.9	59.9
63.8	13:52:41	63.8	63.8
66.6	13:52:42	66.6	66.6
68.3	13:52:43	68.3	68.3
68.3	13:52:44	68.3	68.3
67.8	13:52:45	67.8	67.8
67.1	13:52:46	67.1	67.1
67.4	13:52:47	67.4	67.4
68.6	13:52:48	68.6	68.6
69.4	13:52:49	69.4	69.4
69.3	13:52:50	69.3	69.3
69.6	13:52:51	69.6	69.6
70.5	13:52:52	70.5	70.5
71.2	13:52:53	71.2	71.2
70.8	13:52:54	70.8	70.8
70.5	13:52:55	70.5	70.5
71.0	13:52:56	71.0	71.0
74.6	13:52:57	74.6	74.6
76.3	13:52:58	76.3	76.3
75.1	13:52:59	75.1	75.1
73.7	13:53:00	73.7	73.7
72.5	13:53:01	72.5	72.5
71.9	13:53:02	71.9	71.9
72.1	13:53:03	72.1	72.1
72.0	13:53:04	72.0	72.0
71.1	13:53:05	71.1	71.1
69.3	13:53:06	69.3	69.3
67.1	13:53:07	67.1	67.1
64.8	13:53:08	64.8	64.8
62.7	13:53:09	62.7	62.7
61.2	13:53:10	61.2	61.2
60.6	13:53:11	60.6	60.6
60.7	13:53:12	60.7	60.7
61.4	13:53:13	61.4	61.4
62.5	13:53:14	62.5	62.5
64.4	13:53:15	64.4	64.4
66.8	13:53:16	66.8	66.8
67.9	13:53:17	67.9	67.9
68.5	13:53:18	68.5	68.5
69.1	13:53:19	69.1	69.1
67.9	13:53:20	67.9	67.9
67.4	13:53:21	67.4	67.4
66.7	13:53:22	66.7	66.7
66.0	13:53:23	66.0	66.0
65.7	13:53:24	65.7	65.7
65.8	13:53:25	65.8	65.8
65.2	13:53:26	65.2	65.2
64.1	13:53:27	64.1	64.1
64.6	13:53:28	64.6	64.6
60.0	13:53:29	60.0	60.0
66.5	13:53:30	66.5	66.5
66.6	13:53:31	66.6	66.6
67.6	13:53:32	67.6	67.6
67.6	13:53:33	67.6	67.6
67.4	13:53:34	67.4	67.4
66.7	13:53:35	66.7	66.7
65.7	13:53:36	65.7	65.7
64.6	13:53:37	64.6	64.6
63.8	13:53:38	63.8	63.8
63.4	13:53:39	63.4	63.4
63.2	13:53:40	63.2	63.2
62.4	13:53:41	62.4	62.4
61.7	13:53:42	61.7	61.7
61.3	13:53:43	61.3	61.3
60.9	13:53:44	60.9	60.9
60.6	13:53:45	60.6	60.6
60.2	13:53:46	60.2	60.2
59.8	13:53:47	59.8	59.8
59.1	13:53:48	59.1	59.1
58.4	13:53:49	58.4	58.4

Site 2 - On South Side of Project Site (Middle)

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
53.0	13:55:54	53.0	53.0
53.8	13:55:55	53.8	53.8
54.9	13:55:56	54.9	54.9
56.1	13:55:57	56.1	56.1
56.8	13:55:58	56.8	56.8
56.3	13:55:59	56.3	56.3
56.5	13:56:00	56.5	56.5
56.1	13:56:01	56.1	56.1
55.9	13:56:02	55.9	55.9
55.6	13:56:03	55.6	55.6
55.2	13:56:04	55.2	55.2
54.2	13:56:05	54.2	54.2
53.3	13:56:06	53.3	53.3
52.5	13:56:07	52.5	52.5
51.7	13:56:08	51.7	51.7
51.6	13:56:09	51.6	51.6
51.1	13:56:10	51.1	51.1
50.4	13:56:11	50.4	50.4
52.2	13:56:12	52.2	52.2
55.5	13:56:13	55.5	55.5
57.4	13:56:14	57.4	57.4
57.9	13:56:15	57.9	57.9
59.4	13:56:16	59.4	59.4
58.5	13:56:17	58.5	58.5
56.8	13:56:18	56.8	56.8
56.2	13:56:19	56.2	56.2
56.1	13:56:20	56.1	56.1
55.1	13:56:21	55.1	55.1
54.3	13:56:22	54.3	54.3
53.7	13:56:23	53.7	53.7
53.4	13:56:24	53.4	53.4
53.3	13:56:25	53.3	53.3
53.5	13:56:26	53.5	53.5
53.2	13:56:27	53.2	53.2
52.6	13:56:28	52.6	52.6
52.0	13:56:29	52.0	52.0
55.0	13:56:30	55.0	55.0
58.1	13:56:31	58.1	58.1
60.6	13:56:32	60.6	60.6
62.1	13:56:33	62.1	62.1
63.9	13:56:34	63.9	63.9
62.5	13:56:35	62.5	62.5
60.5	13:56:36	60.5	60.5
59.8	13:56:37	59.8	59.8
59.7	13:56:38	59.7	59.7
56.5	13:56:39	56.5	56.5
60.5	13:56:40	60.5	60.5
61.3	13:56:41	61.3	61.3
61.7	13:56:42	61.7	61.7
61.7	13:56:43	61.7	61.7
61.8	13:56:44	61.8	61.8
62.1	13:56:45	62.1	62.1
62.4	13:56:46	62.4	62.4
62.7	13:56:47	62.7	62.7
63.0	13:56:48	63.0	63.0
63.3	13:56:49	63.3	63.3
63.0	13:56:50	63.0	63.0
63.1	13:56:51	63.1	63.1
62.8	13:56:52	62.8	62.8
62.0	13:56:53	62.0	62.0
62.7	13:56:54	62.7	62.7
64.5	13:56:55	64.5	64.5
65.1	13:56:56	65.1	65.1
65.5	13:56:57	65.5	65.5
64.2	13:56:58	64.2	64.2
61.8	13:56:59	61.8	61.8
60.2	13:57:00	60.2	60.2
59.7	13:57:01	59.7	59.7
60.4	13:57:02	60.4	60.4
62.0	13:57:03	62.0	62.0
61.0	13:57:04	61.0	61.0
60.1	13:57:05	60.1	60.1
59.7	13:57:06	59.7	59.7
58.7	13:57:07	58.7	58.7
58.0	13:57:08	58.0	58.0
57.9	13:57:09	57.9	57.9
57.6	13:57:10	57.6	57.6
57.1	13:57:11	57.1	57.1
57.3	13:57:12	57.3	57.3
57.8	13:57:13	57.8	57.8
56.4	13:57:14	56.4	56.4
55.7	13:57:15	55.7	55.7
55.4	13:57:16	55.4	55.4
55.2	13:57:17	55.2	55.2
54.6	13:57:18	54.6	54.6
54.4	13:57:19	54.4	54.4
56.2	13:57:20	56.2	56.2
58.3	13:57:21	58.3	58.3
59.8	13:57:22	59.8	59.8
60.4	13:57:23	60.4	60.4
60.4	13:57:24	60.4	60.4
60.6	13:57:25	60.6	60.6
60.6	13:57:26	60.6	60.6

Site 1 - On East Side of Project Site

Site 2 - On South Side of Project Site (Middle)

Site 3 - On West Side of Project Site. Next to Church

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
58.2	13:53:50	58.2	58.2	58.6	13:58:50	58.6	58.6	52.1	14:05:37	52.1	52.1
57.9	13:53:51	57.9	57.9	58.9	13:58:51	58.9	58.9	52.5	14:05:38	52.5	52.5
57.1	13:53:52	57.1	57.1	59.2	13:58:52	59.2	59.2	52.9	14:05:39	52.9	52.9
56.8	13:53:53	56.8	56.8	59.2	13:58:53	59.2	59.2	55.2	14:05:40	55.2	55.2
56.8	13:53:54	56.8	56.8	59.2	13:58:54	59.2	59.2	56.2	14:05:41	56.2	56.2
56.9	13:53:55	56.9	56.9	59.5	13:58:55	59.5	59.5	56.5	14:05:42	56.5	56.5
56.8	13:53:56	56.8	56.8	59.5	13:58:56	59.5	59.5	54.9	14:05:43	54.9	54.9
56.8	13:53:57	56.8	56.8	59.5	13:58:57	59.5	59.5	54.1	14:05:44	54.1	54.1
56.9	13:53:58	56.9	56.9	59.4	13:58:58	59.4	59.4	54.4	14:05:45	54.4	54.4
57.1	13:53:59	57.1	57.1	59.7	13:58:59	59.7	59.7	54.7	14:05:46	54.7	54.7
57.8	13:54:00	57.8	57.8	59.3	13:59:00	59.3	59.3	55.4	14:05:47	55.4	55.4
58.5	13:54:01	58.5	58.5	58.9	13:59:01	58.9	58.9	55.4	14:05:48	55.4	55.4
58.8	13:54:02	58.8	58.8	58.8	13:59:02	58.8	58.8	54.8	14:05:49	54.8	54.8
58.3	13:54:03	58.3	58.3	58.6	13:59:03	58.6	58.6	54.9	14:05:50	54.9	54.9
60.1	13:54:04	60.1	60.1	59.2	13:59:04	59.2	59.2	56.3	14:05:51	56.3	56.3
63.9	13:54:05	63.9	63.9	60.0	13:59:05	60.0	60.0	56.7	14:05:52	56.7	56.7
67.6	13:54:06	67.6	67.6	59.7	13:59:06	59.7	59.7	56.7	14:05:53	56.7	56.7
67.9	13:54:07	67.9	67.9	58.9	13:59:07	58.9	58.9	56.8	14:05:54	56.8	56.8
67.4	13:54:08	67.4	67.4	59.3	13:59:08	59.3	59.3	56.9	14:05:55	56.9	56.9
65.0	13:54:09	65.0	65.0	58.0	13:59:09	58.0	58.0	57.1	14:05:56	57.1	57.1
63.3	13:54:10	63.3	63.3	58.5	13:59:10	58.5	58.5	56.8	14:05:57	56.8	56.8
62.4	13:54:11	62.4	62.4	58.8	13:59:11	58.8	58.8	56.5	14:05:58	56.5	56.5
61.1	13:54:12	61.1	61.1	59.0	13:59:12	59.0	59.0	55.5	14:05:59	55.5	55.5
61.0	13:54:13	61.0	61.0	59.2	13:59:13	59.2	59.2	56.0	14:06:00	56.0	56.0
61.8	13:54:14	61.8	61.8	59.4	13:59:14	59.4	59.4	56.5	14:06:01	56.5	56.5
62.7	13:54:15	62.7	62.7	59.1	13:59:15	59.1	59.1	56.3	14:06:02	56.3	56.3
64.0	13:54:16	64.0	64.0	59.2	13:59:16	59.2	59.2	56.9	14:06:03	56.9	56.9
65.4	13:54:17	65.4	65.4	59.2	13:59:17	59.2	59.2	56.6	14:06:04	56.6	56.6
65.6	13:54:18	65.6	65.6	58.6	13:59:18	58.6	58.6	57.1	14:06:05	57.1	57.1
66.4	13:54:19	66.4	66.4	58.0	13:59:19	58.0	58.0	56.4	14:06:06	56.4	56.4
68.5	13:54:20	68.5	68.5	57.8	13:59:20	57.8	57.8	56.3	14:06:07	56.3	56.3
71.0	13:54:21	71.0	71.0	56.4	13:59:21	56.4	56.4	57.4	14:06:08	57.4	57.4
72.2	13:54:22	72.2	72.2	54.8	13:59:22	54.8	54.8	57.6	14:06:09	57.6	57.6
72.5	13:54:23	72.5	72.5	53.0	13:59:23	53.0	53.0	56.5	14:06:10	56.5	56.5
72.6	13:54:24	72.6	72.6	52.0	13:59:24	52.0	52.0	56.4	14:06:11	56.4	56.4
72.3	13:54:25	72.3	72.3	52.6	13:59:25	52.6	52.6	57.6	14:06:12	57.6	57.6
71.8	13:54:26	71.8	71.8	52.5	13:59:26	52.5	52.5	57.7	14:06:13	57.7	57.7
71.7	13:54:27	71.7	71.7	54.7	13:59:27	54.7	54.7	56.5	14:06:14	56.5	56.5
71.6	13:54:28	71.6	71.6	56.8	13:59:28	56.8	56.8	55.4	14:06:15	55.4	55.4
70.9	13:54:29	70.9	70.9	57.9	13:59:29	57.9	57.9	54.7	14:06:16	54.7	54.7
70.2	13:54:30	70.2	70.2	58.0	13:59:30	58.0	58.0	53.7	14:06:17	53.7	53.7
70.3	13:54:31	70.3	70.3	57.5	13:59:31	57.5	57.5	52.6	14:06:18	52.6	52.6
70.9	13:54:32	70.9	70.9	57.7	13:59:32	57.7	57.7	52.5	14:06:19	52.5	52.5
71.1	13:54:33	71.1	71.1	56.5	13:59:33	56.5	56.5	53.1	14:06:20	53.1	53.1
71.4	13:54:34	71.4	71.4	56.4	13:59:34	56.4	56.4	53.6	14:06:21	53.6	53.6
71.4	13:54:35	71.4	71.4	57.4	13:59:35	57.4	57.4	53.8	14:06:22	53.8	53.8
71.3	13:54:36	71.3	71.3	57.1	13:59:36	57.1	57.1	52.8	14:06:23	52.8	52.8
70.8	13:54:37	70.8	70.8	56.9	13:59:37	56.9	56.9	52.9	14:06:24	52.9	52.9
70.7	13:54:38	70.7	70.7	57.0	13:59:38	57.0	57.0	52.8	14:06:25	52.8	52.8
71.0	13:54:39	71.0	71.0	57.8	13:59:39	57.8	57.8	52.5	14:06:26	52.5	52.5
70.8	13:54:40	70.8	70.8	58.0	13:59:40	58.0	58.0	52.3	14:06:27	52.3	52.3
69.7	13:54:41	69.7	69.7	57.9	13:59:41	57.9	57.9	52.1	14:06:28	52.1	52.1
68.0	13:54:42	68.0	68.0	57.7	13:59:42	57.7	57.7	51.7	14:06:29	51.7	51.7
66.7	13:54:43	66.7	66.7	58.8	13:59:43	58.8	58.8	51.3	14:06:30	51.3	51.3
66.0	13:54:44	66.0	66.0	58.6	13:59:44	58.6	58.6	51.1	14:06:31	51.1	51.1
65.4	13:54:45	65.4	65.4	58.5	13:59:45	58.5	58.5	50.1	14:06:32	50.1	50.1
64.6	13:54:46	64.6	64.6	57.7	13:59:46	57.7	57.7	49.5	14:06:33	49.5	49.5
64.8	13:54:47	64.8	64.8	56.8	13:59:47	56.8	56.8	48.9	14:06:34	48.9	48.9
65.6	13:54:48	65.6	65.6	56.2	13:59:48	56.2	56.2	48.3	14:06:35	48.3	48.3
66.3	13:54:49	66.3	66.3	56.4	13:59:49	56.4	56.4	48.1	14:06:36	48.1	48.1
65.9	13:54:50	65.9	65.9	57.8	13:59:50	57.8	57.8	47.6	14:06:37	47.6	47.6
65.5	13:54:51	65.5	65.5	58.6	13:59:51	58.6	58.6	47.4	14:06:38	47.4	47.4
65.4	13:54:52	65.4	65.4	60.0	13:59:52	60.0	60.0	47.5	14:06:39	47.5	47.5
65.0	13:54:53	65.0	65.0	61.8	13:59:53	61.8	61.8	47.8	14:06:40	47.8	47.8
64.9	13:54:54	64.9	64.9	62.4	13:59:54	62.4	62.4	47.6	14:06:41	47.6	47.6
65.7	13:54:55	65.7	65.7	62.7	13:59:55	62.7	62.7	47.2	14:06:42	47.2	47.2
67.0	13:54:56	67.0	67.0	62.6	13:59:56	62.6	62.6	47.3	14:06:43	47.3	47.3
68.8	13:54:57	68.8	68.8	61.4	13:59:57	61.4	61.4	47.7	14:06:44	47.7	47.7
70.4	13:54:58	70.4	70.4	59.5	13:59:58	59.5	59.5	47.3	14:06:45	47.3	47.3
71.9	13:54:59	71.9	71.9	57.7	13:59:59	57.7	57.7	47.1	14:06:46	47.1	47.1
71.8	13:55:00	71.8	71.8	56.5	14:00:00	56.5	56.5	47.1	14:06:47	47.1	47.1
70.8	13:55:01	70.8	70.8	55.3	14:00:01	55.3	55.3	47.3	14:06:48	47.3	47.3
69.1	13:55:02	69.1	69.1	54.1	14:00:02	54.1	54.1	47.4	14:06:49	47.4	47.4
67.4	13:55:03	67.4	67.4	53.5	14:00:03	53.5	53.5	47.7	14:06:50	47.7	47.7
65.7	13:55:04	65.7	65.7	53.3	14:00:04	53.3	53.3	47.6	14:06:51	47.6	47.6
64.4	13:55:05	64.4	64.4	52.4	14:00:05	52.4	52.4	47.6	14:06:52	47.6	47.6
65.6	13:55:06	65.6	65.6	52.3	14:00:06	52.3	52.3	47.7	14:06:53	47.7	47.7
68.5	13:55:07	68.5	68.5	51.4	14:00:07	51.4	51.4	48.0	14:06:54	48.0	48.0
66.4	13:55:08	66.4	66.4	50.7	14:00:08	50.7	50.7	48.1	14:06:55	48.1	48.1
64.7	13:55:09	64.7	64.7	49.7	14:00:09	49.7	49.7	47.7	14:06:56	47.7	47.7
63.7	13:55:10	63.7	63.7	48.7	14:00:10	48.7	48.7	47.6	14:06:57	47.6	47.6
63.0	13:55:11	63.0	63.0	49.5	14:00:11	49.5	49.5	47.9	14:06:58	47.9	47.9
62.9	13:55:12	62.9	62.9	48.5	14:00:12	48.5	48.5	48.8	14:06:59	48.8	48.8
62.6	13:55:13	62.6	62.6	48.1	14:00:13	48.1	48.1	50.0	14:07:00	50.0	50.0
61.3	13:55:14	61.3	61.3	47.6	14:00:14	47.6	47.6	50.9	14:07:01	50.9	50.9
59.9	13:55:15	59.9	59.9	47.6	14:00:15	47.6	47.6	51.2	14:07:02	51.2	51.2
58.9	13:55:16	58.9	58.9	46.9	14:00:16	46.9	46.9	51.7	14:07:03	51.7	51.7
58.8	13:55:17	58.8	58.8	46.9	14:00:17	46.9	46.9	52.5	14:07:04	52.5	52.5
59.1	13:55:18	59.1	59.1	46.8	14:00:18	46.8	46.8	52.5	14:07:05	52.5	52.5
58.9	13:55:19	58.9	58.9	47.4	14:00:19	47.4	47.4	52.2	14:07:06	52.2	52.2
59.7	13:55:20	59.7	59.7	47.4	14:00:20	47.4	47.4	52.8	14:07:07	52.8	52.8
59.6	13:55:21	59.6	59.6	47.1	14:00:21	47.1	47.1	53.1	14:07:08	53.1	53.1
59.4	13:55:22	59.4	59.4	46.8	14:00:22	46.8	46.8	53.7	14:07:09	53.7	53.7
59.3	13:55:23	59.3	59.3	47.2	14:00:23	47.2	47.2	54.7	14:07:10	54.7	54.7
59.3	13:55:24	59.3	59.3	48.0	14:00:24	48.0	48.0	55.4	14:07:11	55.4	55.4
59.1	13:55:25	59.1	59.1	50.3	14:00:25	50.3	50.3	56.5	14:07:12	56.5	56.5
58.9	13:55:26	58.9	58.9	52.5	14:00:26	52.5	5				

Site 1 - On East Side of Project Site

Table with 5 columns: SPL, Time, Leq (1 hour Avg), Ldn CNEL. Contains 975 rows of noise data for Site 1.

Site 2 - On South Side of Project Site (Middle)

Table with 5 columns: SPL, Time, Leq (1 hour Avg), Ldn CNEL. Contains 975 rows of noise data for Site 2.

Site 3 - On West Side of Project Site. Next to Church

Table with 5 columns: SPL, Time, Leq (1 hour Avg), Ldn CNEL. Contains 975 rows of noise data for Site 3.

Site 1 - On East Side of Project Site

Site 2 - On South Side of Project Site (Middle)

Site 3 - On West Side of Project Site. Next to Church

SPL	Time	Leq (1 hour Avg)	Ldn CNEL	SPL	Time	Leq (1 hour Avg)	Ldn CNEL	SPL	Time	Leq (1 hour Avg)	Ldn CNEL
64.6	14:00:10	64.6	64.6	51.1	14:05:10	51.1	51.1	53.7	14:11:57	53.7	53.7
64.0	14:00:11	64.0	64.0	51.8	14:05:11	51.8	51.8	53.0	14:11:58	53.0	53.0
66.1	14:00:12	66.1	66.1	54.2	14:05:12	54.2	54.2	56.7	14:11:59	56.7	56.7
69.4	14:00:13	69.4	69.4	57.7	14:05:13	57.7	57.7	63.9	14:12:00	63.9	63.9
72.8	14:00:14	72.8	72.8	59.2	14:05:14	59.2	59.2	67.4	14:12:01	67.4	67.4
74.2	14:00:15	74.2	74.2	59.1	14:05:15	59.1	59.1	67.0	14:12:02	67.0	67.0
74.7	14:00:16	74.7	74.7	57.0	14:05:16	57.0	57.0	61.4	14:12:03	61.4	61.4
76.4	14:00:17	76.4	76.4	55.8	14:05:17	55.8	55.8	59.4	14:12:04	59.4	59.4
75.7	14:00:18	75.7	75.7	56.0	14:05:18	56.0	56.0	51.3	14:12:05	51.3	51.3
74.1	14:00:19	74.1	74.1	57.1	14:05:19	57.1	57.1	57.1	14:12:06	57.1	57.1
73.0	14:00:20	73.0	73.0	57.6	14:05:20	57.6	57.6	51.6	14:12:07	51.6	51.6
72.4	14:00:21	72.4	72.4	56.1	14:05:21	56.1	56.1	51.2	14:12:08	51.2	51.2
72.0	14:00:22	72.0	72.0	54.8	14:05:22	54.8	54.8	50.6	14:12:09	50.6	50.6
71.5	14:00:23	71.5	71.5	54.6	14:05:23	54.6	54.6	50.1	14:12:10	50.1	50.1
71.4	14:00:24	71.4	71.4	55.4	14:05:24	55.4	55.4	49.6	14:12:11	49.6	49.6
72.2	14:00:25	72.2	72.2	56.2	14:05:25	56.2	56.2	49.4	14:12:12	49.4	49.4
74.3	14:00:26	74.3	74.3	57.7	14:05:26	57.7	57.7	49.3	14:12:13	49.3	49.3
73.4	14:00:27	73.4	73.4	57.7	14:05:27	57.7	57.7	50.4	14:12:14	50.4	50.4
72.4	14:00:28	72.4	72.4	56.9	14:05:28	56.9	56.9	51.1	14:12:15	51.1	51.1
72.8	14:00:29	72.8	72.8	56.7	14:05:29	56.7	56.7	51.4	14:12:16	51.4	51.4
73.0	14:00:30	73.0	73.0	57.1	14:05:30	57.1	57.1	51.9	14:12:17	51.9	51.9
73.5	14:00:31	73.5	73.5	57.5	14:05:31	57.5	57.5	51.9	14:12:18	51.9	51.9
73.0	14:00:32	73.0	73.0	57.8	14:05:32	57.8	57.8	51.9	14:12:19	51.9	51.9
73.0	14:00:33	73.0	73.0	58.7	14:05:33	58.7	58.7	51.6	14:12:20	51.6	51.6
74.0	14:00:34	74.0	74.0	60.4	14:05:34	60.4	60.4	51.6	14:12:21	51.6	51.6
73.6	14:00:35	73.6	73.6	61.4	14:05:35	61.4	61.4	51.4	14:12:22	51.4	51.4
73.8	14:00:36	73.8	73.8	60.7	14:05:36	60.7	60.7	51.3	14:12:23	51.3	51.3
74.2	14:00:37	74.2	74.2	60.2	14:05:37	60.2	60.2	51.3	14:12:24	51.3	51.3
73.4	14:00:38	73.4	73.4	59.9	14:05:38	59.9	59.9	52.0	14:12:25	52.0	52.0
71.7	14:00:39	71.7	71.7	59.2	14:05:39	59.2	59.2	52.4	14:12:26	52.4	52.4
70.0	14:00:40	70.0	70.0	59.2	14:05:40	59.2	59.2	52.6	14:12:27	52.6	52.6
67.9	14:00:41	67.9	67.9	59.5	14:05:41	59.5	59.5	52.8	14:12:28	52.8	52.8
66.1	14:00:42	66.1	66.1	60.1	14:05:42	60.1	60.1	52.4	14:12:29	52.4	52.4
65.4	14:00:43	65.4	65.4	60.1	14:05:43	60.1	60.1	52.1	14:12:30	52.1	52.1
66.7	14:00:44	66.7	66.7	60.8	14:05:44	60.8	60.8	52.1	14:12:31	52.1	52.1
69.8	14:00:45	69.8	69.8	61.0	14:05:45	61.0	61.0	52.7	14:12:32	52.7	52.7
74.3	14:00:46	74.3	74.3	60.1	14:05:46	60.1	60.1	53.5	14:12:33	53.5	53.5
75.0	14:00:47	75.0	75.0	60.0	14:05:47	60.0	60.0	54.2	14:12:34	54.2	54.2
72.9	14:00:48	72.9	72.9	58.9	14:05:48	58.9	58.9	54.4	14:12:35	54.4	54.4
71.4	14:00:49	71.4	71.4	57.5	14:05:49	57.5	57.5	54.3	14:12:36	54.3	54.3
70.2	14:00:50	70.2	70.2	57.2	14:05:50	57.2	57.2	53.9	14:12:37	53.9	53.9
68.3	14:00:51	68.3	68.3	57.2	14:05:51	57.2	57.2	53.0	14:12:38	53.0	53.0
66.2	14:00:52	66.2	66.2	57.0	14:05:52	57.0	57.0	52.0	14:12:39	52.0	52.0
64.5	14:00:53	64.5	64.5	57.4	14:05:53	57.4	57.4	51.3	14:12:40	51.3	51.3
64.8	14:00:54	64.8	64.8	58.6	14:05:54	58.6	58.6	50.7	14:12:41	50.7	50.7
67.7	14:00:55	67.7	67.7	59.8	14:05:55	59.8	59.8	50.2	14:12:42	50.2	50.2
70.8	14:00:56	70.8	70.8	59.6	14:05:56	59.6	59.6	50.8	14:12:43	50.8	50.8
69.7	14:00:57	69.7	69.7	59.5	14:05:57	59.5	59.5	51.5	14:12:44	51.5	51.5
67.3	14:00:58	67.3	67.3	58.5	14:05:58	58.5	58.5	52.5	14:12:45	52.5	52.5
67.1	14:00:59	67.1	67.1	58.0	14:05:59	58.0	58.0	53.3	14:12:46	53.3	53.3
68.1	14:01:00	68.1	68.1	57.8	14:06:00	57.8	57.8	54.2	14:12:47	54.2	54.2
69.4	14:01:01	69.4	69.4	58.2	14:06:01	58.2	58.2	54.5	14:12:48	54.5	54.5
67.4	14:01:02	67.4	67.4	58.7	14:06:02	58.7	58.7	54.9	14:12:49	54.9	54.9
69.0	14:01:03	69.0	69.0	59.7	14:06:03	59.7	59.7	54.7	14:12:50	54.7	54.7
68.3	14:01:04	68.3	68.3	59.1	14:06:04	59.1	59.1	54.4	14:12:51	54.4	54.4
65.2	14:01:05	65.2	65.2	53.1	14:06:05	53.1	53.1	53.9	14:12:52	53.9	53.9
61.1	14:01:06	61.1	61.1	51.4	14:06:06	51.4	51.4	53.7	14:12:53	53.7	53.7
60.5	14:01:07	60.5	60.5	50.1	14:06:07	50.1	50.1	54.1	14:12:54	54.1	54.1
60.1	14:01:08	60.1	60.1	48.8	14:06:08	48.8	48.8	54.4	14:12:55	54.4	54.4
59.8	14:01:09	59.8	59.8	47.9	14:06:09	47.9	47.9	54.0	14:12:56	54.0	54.0
60.0	14:01:10	60.0	60.0	47.4	14:06:10	47.4	47.4	54.7	14:12:57	54.7	54.7
61.4	14:01:11	61.4	61.4	47.4	14:06:11	47.4	47.4	55.4	14:12:58	55.4	55.4
64.1	14:01:12	64.1	64.1	47.2	14:06:12	47.2	47.2	56.3	14:12:59	56.3	56.3
66.0	14:01:13	66.0	66.0	47.0	14:06:13	47.0	47.0	56.3	14:13:00	56.3	56.3
66.6	14:01:14	66.6	66.6	46.8	14:06:14	46.8	46.8	56.3	14:13:01	56.3	56.3
67.2	14:01:15	67.2	67.2	46.7	14:06:15	46.7	46.7	56.2	14:13:02	56.2	56.2
67.0	14:01:16	67.0	67.0	46.5	14:06:16	46.5	46.5	57.3	14:13:03	57.3	57.3
67.1	14:01:17	67.1	67.1	46.3	14:06:17	46.3	46.3	57.9	14:13:04	57.9	57.9
66.3	14:01:18	66.3	66.3	45.9	14:06:18	45.9	45.9	58.3	14:13:05	58.3	58.3
64.7	14:01:19	64.7	64.7	45.6	14:06:19	45.6	45.6	57.8	14:13:06	57.8	57.8
64.3	14:01:20	64.3	64.3	45.3	14:06:20	45.3	45.3	56.5	14:13:07	56.5	56.5
64.3	14:01:21	64.3	64.3	46.2	14:06:21	46.2	46.2	56.1	14:13:08	56.1	56.1
64.2	14:01:22	64.2	64.2	47.2	14:06:22	47.2	47.2	55.7	14:13:09	55.7	55.7
65.0	14:01:23	65.0	65.0	47.6	14:06:23	47.6	47.6	55.0	14:13:10	55.0	55.0
66.7	14:01:24	66.7	66.7	48.8	14:06:24	48.8	48.8	54.8	14:13:11	54.8	54.8
68.1	14:01:25	68.1	68.1	48.9	14:06:25	48.9	48.9	53.9	14:13:12	53.9	53.9
70.3	14:01:26	70.3	70.3	49.4	14:06:26	49.4	49.4	55.7	14:13:13	55.7	55.7
71.0	14:01:27	71.0	71.0	49.8	14:06:27	49.8	49.8	56.5	14:13:14	56.5	56.5
68.5	14:01:28	68.5	68.5	49.4	14:06:28	49.4	49.4	56.4	14:13:15	56.4	56.4
65.7	14:01:29	65.7	65.7	49.5	14:06:29	49.5	49.5	56.1	14:13:16	56.1	56.1
64.0	14:01:30	64.0	64.0	50.1	14:06:30	50.1	50.1	57.9	14:13:17	57.9	57.9
65.0	14:01:31	65.0	65.0	49.3	14:06:31	49.3	49.3	58.4	14:13:18	58.4	58.4
66.6	14:01:32	66.6	66.6	48.8	14:06:32	48.8	48.8	59.2	14:13:19	59.2	59.2
68.7	14:01:33	68.7	68.7	48.7	14:06:33	48.7	48.7	59.6	14:13:20	59.6	59.6
68.7	14:01:34	68.7	68.7	48.7	14:06:34	48.7	48.7	59.0	14:13:21	59.0	59.0
66.8	14:01:35	66.8	66.8	48.8	14:06:35	48.8	48.8	57.2	14:13:22	57.2	57.2
65.4	14:01:36	65.4	65.4	49.2	14:06:36	49.2	49.2	55.8	14:13:23	55.8	55.8
65.2	14:01:37	65.2	65.2	50.6	14:06:37	50.6	50.6	55.1	14:13:24	55.1	55.1
66.7	14:01:38	66.7	66.7	52.7	14:06:38	52.7	52.7	54.4	14:13:25	54.4	54.4
67.3	14:01:39	67.3	67.3	53.4	14:06:39	53.4	53.4	53.1	14:13:26	53.1	53.1
67.0	14:01:40	67.0	67.0	53.4	14:06:40	53.4	53.4	53.1	14:13:27	53.1	53.1
67.0	14:01:41	67.0	67.0	53.9	14:06:41	53.9	53.9	52.2	14:13:28	52.2	52.2
65.7	14:01:42	65.7	65.7	54.4	14:06:42	54.4	54.4	52.0	14:13:29	52.0	52.0
64.2	14:01:43	64.2	64.2	55.6	14:06:43	55.6	55.6	52.7	14:13:30	52.7	52.7
63.4	14:01:44	63.4	63.4	56.7	14:06:44	56.7	56.7	54.0	14:13:31	54.0	54.0
63.1	14:01:45	63.1	63.1	58.2	14:06:45	58.2	58.2	54.3	14:13:32	54.3	54.3
61.9	14:01:46	61.9	61.9	59.0	14:06:46	59.0	59.0</				

Site 1 - On East Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
58.8	14:03:03	58.8	58.8
58.4	14:03:04	58.4	58.4
59.3	14:03:05	59.3	59.3
60.9	14:03:06	60.9	60.9
63.2	14:03:07	63.2	63.2
65.3	14:03:08	65.3	65.3
67.7	14:03:09	67.7	67.7
69.3	14:03:10	69.3	69.3
69.7	14:03:11	69.7	69.7
70.1	14:03:12	70.1	70.1
73.0	14:03:13	73.0	73.0
77.3	14:03:14	77.3	77.3
75.9	14:03:15	75.9	75.9
72.7	14:03:16	72.7	72.7
69.5	14:03:17	69.5	69.5
67.7	14:03:18	67.7	67.7
67.0	14:03:19	67.0	67.0
66.0	14:03:20	66.0	66.0
65.0	14:03:21	65.0	65.0
64.5	14:03:22	64.5	64.5
64.0	14:03:23	64.0	64.0
63.4	14:03:24	63.4	63.4
63.1	14:03:25	63.1	63.1
64.7	14:03:26	64.7	64.7
65.4	14:03:27	65.4	65.4
65.5	14:03:28	65.5	65.5
66.5	14:03:29	66.5	66.5
67.0	14:03:30	67.0	67.0
67.1	14:03:31	67.1	67.1
66.2	14:03:32	66.2	66.2
64.3	14:03:33	64.3	64.3
63.0	14:03:34	63.0	63.0
64.0	14:03:35	64.0	64.0
65.9	14:03:36	65.9	65.9
69.1	14:03:37	69.1	69.1
68.2	14:03:38	68.2	68.2
65.5	14:03:39	65.5	65.5
63.3	14:03:40	63.3	63.3
63.1	14:03:41	63.1	63.1
63.7	14:03:42	63.7	63.7
64.3	14:03:43	64.3	64.3
65.1	14:03:44	65.1	65.1
64.9	14:03:45	64.9	64.9
65.0	14:03:46	65.0	65.0
64.8	14:03:47	64.8	64.8
64.4	14:03:48	64.4	64.4
63.7	14:03:49	63.7	63.7
63.4	14:03:50	63.4	63.4
63.9	14:03:51	63.9	63.9
66.1	14:03:52	66.1	66.1
70.7	14:03:53	70.7	70.7
72.4	14:03:54	72.4	72.4
71.0	14:03:55	71.0	71.0
67.8	14:03:56	67.8	67.8
65.0	14:03:57	65.0	65.0
63.3	14:03:58	63.3	63.3
61.8	14:03:59	61.8	61.8
61.1	14:04:00	61.1	61.1
62.4	14:04:01	62.4	62.4
64.0	14:04:02	64.0	64.0
66.1	14:04:03	66.1	66.1
65.9	14:04:04	65.9	65.9
65.0	14:04:05	65.0	65.0
62.8	14:04:06	62.8	62.8
61.0	14:04:07	61.0	61.0
59.1	14:04:08	59.1	59.1
57.7	14:04:09	57.7	57.7
57.2	14:04:10	57.2	57.2
57.3	14:04:11	57.3	57.3
57.3	14:04:12	57.3	57.3
57.3	14:04:13	57.3	57.3
57.4	14:04:14	57.4	57.4
57.1	14:04:15	57.1	57.1
56.4	14:04:16	56.4	56.4
55.8	14:04:17	55.8	55.8
55.8	14:04:18	55.8	55.8
55.9	14:04:19	55.9	55.9
55.5	14:04:20	55.5	55.5
55.4	14:04:21	55.4	55.4
56.9	14:04:22	56.9	56.9
58.8	14:04:23	58.8	58.8
60.1	14:04:24	60.1	60.1
61.0	14:04:25	61.0	61.0
61.9	14:04:26	61.9	61.9
62.7	14:04:27	62.7	62.7
63.4	14:04:28	63.4	63.4
63.8	14:04:29	63.8	63.8
65.9	14:04:30	65.9	65.9
68.4	14:04:31	68.4	68.4
70.3	14:04:32	70.3	70.3
71.3	14:04:33	71.3	71.3
71.3	14:04:34	71.3	71.3
71.2	14:04:35	71.2	71.2
71.3	14:04:36	71.3	71.3
70.8	14:04:37	70.8	70.8
70.1	14:04:38	70.1	70.1
69.4	14:04:39	69.4	69.4
68.8	14:04:40	68.8	68.8
68.5	14:04:41	68.5	68.5
68.3	14:04:42	68.3	68.3
67.0	14:04:43	67.0	67.0
64.8	14:04:44	64.8	64.8
62.9	14:04:45	62.9	62.9
61.1	14:04:46	61.1	61.1
60.5	14:04:47	60.5	60.5
63.9	14:04:48	63.9	63.9
69.2	14:04:49	69.2	69.2
73.1	14:04:50	73.1	73.1
72.4	14:04:51	72.4	72.4
70.0	14:04:52	70.0	70.0
68.2	14:04:53	68.2	68.2
71.1	14:04:54	71.1	71.1
73.8	14:04:55	73.8	73.8
72.1	14:04:56	72.1	72.1
68.4	14:04:57	68.4	68.4
64.8	14:04:58	64.8	64.8
61.4	14:04:59	61.4	61.4
58.1	14:05:00	58.1	58.1
54.7	14:05:01	54.7	54.7
51.9	14:05:02	51.9	51.9
49.9	14:05:03	49.9	49.9
48.7	14:05:04	48.7	48.7
49.0	14:05:05	49.0	49.0
49.1	14:05:06	49.1	49.1
49.7	14:05:07	49.7	49.7
51.6	14:05:08	51.6	51.6
53.8	14:05:09	53.8	53.8
57.8	14:05:10	57.8	57.8
61.7	14:05:11	61.7	61.7
65.3	14:05:12	65.3	65.3
67.6	14:05:13	67.6	67.6
67.9	14:05:14	67.9	67.9
67.5	14:05:15	67.5	67.5
67.8	14:05:16	67.8	67.8
68.1	14:05:17	68.1	68.1
67.5	14:05:18	67.5	67.5
67.9	14:05:19	67.9	67.9
68.4	14:05:20	68.4	68.4
68.5	14:05:21	68.5	68.5
67.2	14:05:22	67.2	67.2
65.0	14:05:23	65.0	65.0
62.3	14:05:24	62.3	62.3
60.2	14:05:25	60.2	60.2
60.7	14:05:26	60.7	60.7
61.0	14:05:27	61.0	61.0
61.4	14:05:28	61.4	61.4
62.0	14:05:29	62.0	62.0
61.8	14:05:30	61.8	61.8
61.6	14:05:31	61.6	61.6
61.4	14:05:32	61.4	61.4
61.1	14:05:33	61.1	61.1
60.4	14:05:34	60.4	60.4
58.7	14:05:35	58.7	58.7
57.3	14:05:36	57.3	57.3

Site 2 - On South Side of Project Site (Middle)

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
54.3	14:08:03	54.3	54.3
54.1	14:08:04	54.1	54.1
55.1	14:08:05	55.1	55.1
56.6	14:08:06	56.6	56.6
58.5	14:08:07	58.5	58.5
58.0	14:08:08	58.0	58.0
58.5	14:08:09	58.5	58.5
59.1	14:08:10	59.1	59.1
59.7	14:08:11	59.7	59.7
58.2	14:08:12	58.2	58.2
57.8	14:08:13	57.8	57.8
58.1	14:08:14	58.1	58.1
57.6	14:08:15	57.6	57.6
57.2	14:08:16	57.2	57.2
57.0	14:08:17	57.0	57.0
56.3	14:08:18	56.3	56.3
55.7	14:08:19	55.7	55.7
54.9	14:08:20	54.9	54.9
54.2	14:08:21	54.2	54.2
53.0	14:08:22	53.0	53.0
52.2	14:08:23	52.2	52.2
52.4	14:08:24	52.4	52.4
51.5	14:08:25	51.5	51.5
50.5	14:08:26	50.5	50.5
49.9	14:08:27	49.9	49.9
49.2	14:08:28	49.2	49.2
48.3	14:08:29	48.3	48.3
47.7	14:08:30	47.7	47.7
48.3	14:08:31	48.3	48.3
50.7	14:08:32	50.7	50.7
53.1	14:08:33	53.1	53.1
54.9	14:08:34	54.9	54.9
55.6	14:08:35	55.6	55.6
56.2	14:08:36	56.2	56.2
57.7	14:08:37	57.7	57.7
58.9	14:08:38	58.9	58.9
61.4	14:08:39	61.4	61.4
63.5	14:08:40	63.5	63.5
65.3	14:08:41	65.3	65.3
66.9	14:08:42	66.9	66.9
67.7	14:08:43	67.7	67.7
68.2	14:08:44	68.2	68.2
66.5	14:08:45	66.5	66.5
65.8	14:08:46	65.8	65.8
68.4	14:08:47	68.4	68.4
71.4	14:08:48	71.4	71.4
71.7	14:08:49	71.7	71.7
69.4	14:08:50	69.4	69.4
67.4	14:08:51	67.4	67.4
65.5	14:08:52	65.5	65.5
63.4	14:08:53	63.4	63.4
61.9	14:08:54	61.9	61.9
61.0	14:08:55	61.0	61.0
59.3	14:08:56	59.3	59.3
57.9	14:08:57	57.9	57.9
56.9	14:08:58	56.9	56.9
54.7	14:08:59	54.7	54.7
52.3	14:09:00	52.3	52.3
51.0	14:09:01	51.0	51.0
49.7	14:09:02	49.7	49.7
48.7	14:09:03	48.7	48.7
48.4	14:09:04	48.4	48.4
48.3	14:09:05	48.3	48.3
50.6	14:09:06	50.6	50.6
53.0	14:09:07	53.0	53.0
54.9	14:09:08	54.9	54.9
55.4	14:09:09	55.4	55.4
55.4	14:09:10	55.4	55.4
54.3	14:09:11	54.3	54.3
53.2	14:09:12	53.2	53.2
52.2	14:09:13	52.2	52.2
51.0	14:09:14	51.0	51.0
50.0	14:09:15	50.0	50.0
49.4	14:09:16	49.4	49.4
50.8	14:09:17	50.8	50.8
51.3	14:09:18	51.3	51.3
50.5	14:09:19	50.5	50.5
49.9	14:09:20	49.9	49.9
49.5	14:09:21	49.5	49.5
50.1	14:09:22	50.1	50.1
51.1	14:09:23	51.1	51.1
51.8	14:09:24	51.8	51.8
53.2	14:09:25	53.2	53.2
52.7	14:09:26	52.7	52.7
52.4	14:09:27	52.4	52.4
53.1	14:09:28	53.1	53.1
53.6	14:09:29	53.6	53.6
53.8	14:09:30	53.8	53.8
54.2	14:09:31	54.2	54.2
55.2	14:09:32	55.2	55.2
56.8	14:09:33	56.8	56.8
58.6	14:09:34	58.6	58.6
56.8	14:09:35	56.8	56.8
55.3	14:09:36	55.3	55.3
54.4	14:09:37	54.4	54.4
53.7	14:09:38	53.7	53.7
53.1	14:09:39	53.1	53.1
51.9	14:09:40	51.9	51.9
50.5	14:09:41	50.5	50.5
49.3	14:09:42	49.3	49.3
52.1	14:09:43	52.1	52.1
53.9	14:09:44	53.9	53.9
55.4	14:09:45	55.4	55.4
56.5	14:09:46	56.5	56.5
56.8	14:09:47	56.8	56.8
56.6	14:09:48	56.6	56.6
58.0	14:09:49	58.0	58.0
59.2	14:09:50	59.2	59.2
58.7	14:09:51	58.7	58.7
58.4	14:09:52	58.4	58.4
59.3	14:09:53	59.3	59.3
58.9	14:09:54	58.9	58.9
59.6	14:09:55	59.6	59.6
60.2	14:09:56	60.2	60.2
61.4	14:09:57	61.4	61.4

Site 1 - On East Side of Project Site

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
58.9	14:05:37	58.9	58.9
61.0	14:05:38	61.0	61.0
59.7	14:05:39	59.7	59.7
57.8	14:05:40	57.8	57.8
56.9	14:05:41	56.9	56.9
56.3	14:05:42	56.3	56.3
56.7	14:05:43	56.7	56.7
57.7	14:05:44	57.7	57.7
59.4	14:05:45	59.4	59.4
63.1	14:05:46	63.1	63.1
65.8	14:05:47	65.8	65.8
67.0	14:05:48	67.0	67.0
65.2	14:05:49	65.2	65.2
63.2	14:05:50	63.2	63.2
64.1	14:05:51	64.1	64.1
67.7	14:05:52	67.7	67.7
67.1	14:05:53	67.1	67.1
66.6	14:05:54	66.6	66.6
66.1	14:05:55	66.1	66.1
65.7	14:05:56	65.7	65.7
64.4	14:05:57	64.4	64.4
65.1	14:05:58	65.1	65.1
64.7	14:05:59	64.7	64.7
64.7	14:06:00	64.7	64.7
64.9	14:06:01	64.9	64.9
64.2	14:06:02	64.2	64.2
63.7	14:06:03	63.7	63.7
63.2	14:06:04	63.2	63.2
62.6	14:06:05	62.6	62.6
62.3	14:06:06	62.3	62.3
61.9	14:06:07	61.9	61.9
61.3	14:06:08	61.3	61.3
61.6	14:06:09	61.6	61.6
63.1	14:06:10	63.1	63.1
66.6	14:06:11	66.6	66.6
68.7	14:06:12	68.7	68.7
68.5	14:06:13	68.5	68.5
68.4	14:06:14	68.4	68.4
68.1	14:06:15	68.1	68.1
68.9	14:06:16	68.9	68.9
68.3	14:06:17	68.3	68.3
68.2	14:06:18	68.2	68.2
68.2	14:06:19	68.2	68.2
69.3	14:06:20	69.3	69.3
69.9	14:06:21	69.9	69.9
70.4	14:06:22	70.4	70.4
70.3	14:06:23	70.3	70.3
69.8	14:06:24	69.8	69.8
71.1	14:06:25	71.1	71.1
72.6	14:06:26	72.6	72.6
76.5	14:06:27	76.5	76.5
80.3	14:06:28	80.3	80.3
81.4	14:06:29	81.4	81.4
79.8	14:06:30	79.8	79.8
77.7	14:06:31	77.7	77.7
76.0	14:06:32	76.0	76.0
73.5	14:06:33	73.5	73.5
70.7	14:06:34	70.7	70.7
67.7	14:06:35	67.7	67.7
66.3	14:06:36	66.3	66.3
67.3	14:06:37	67.3	67.3
71.2	14:06:38	71.2	71.2
71.9	14:06:39	71.9	71.9
70.7	14:06:40	70.7	70.7
69.1	14:06:41	69.1	69.1
69.4	14:06:42	69.4	69.4
70.9	14:06:43	70.9	70.9
70.0	14:06:44	70.0	70.0
69.0	14:06:45	69.0	69.0
68.3	14:06:46	68.3	68.3
67.5	14:06:47	67.5	67.5
66.4	14:06:48	66.4	66.4
67.0	14:06:49	67.0	67.0
68.8	14:06:50	68.8	68.8
70.0	14:06:51	70.0	70.0
70.8	14:06:52	70.8	70.8
71.3	14:06:53	71.3	71.3
70.9	14:06:54	70.9	70.9
69.6	14:06:55	69.6	69.6
67.3	14:06:56	67.3	67.3
64.7	14:06:57	64.7	64.7
62.2	14:06:58	62.2	62.2
60.6	14:06:59	60.6	60.6
58.9	14:07:00	58.9	58.9
58.4	14:07:01	58.4	58.4
57.8	14:07:02	57.8	57.8
57.5	14:07:03	57.5	57.5
57.4	14:07:04	57.4	57.4
56.3	14:07:05	56.3	56.3
64.3	14:07:06	64.3	64.3
69.5	14:07:07	69.5	69.5
71.9	14:07:08	71.9	71.9
71.1	14:07:09	71.1	71.1
69.7	14:07:10	69.7	69.7
68.9	14:07:11	68.9	68.9
68.3	14:07:12	68.3	68.3
67.8	14:07:13	67.8	67.8
67.2	14:07:14	67.2	67.2
65.7	14:07:15	65.7	65.7
64.3	14:07:16	64.3	64.3
62.9	14:07:17	62.9	62.9
61.7	14:07:18	61.7	61.7
61.9	14:07:19	61.9	61.9
61.3	14:07:20	61.3	61.3
61.3	14:07:21	61.3	61.3
60.8	14:07:22	60.8	60.8
60.5	14:07:23	60.5	60.5
60.8	14:07:24	60.8	60.8
61.7	14:07:25	61.7	61.7
63.4	14:07:26	63.4	63.4
65.4	14:07:27	65.4	65.4
66.0	14:07:28	66.0	66.0
66.2	14:07:29	66.2	66.2
66.9	14:07:30	66.9	66.9
68.5	14:07:31	68.5	68.5
70.2	14:07:32	70.2	70.2
68.4	14:07:33	68.4	68.4
65.2	14:07:34	65.2	65.2
63.6	14:07:35	63.6	63.6
65.6	14:07:36	65.6	65.6
66.4	14:07:37	66.4	66.4
63.8	14:07:38	63.8	63.8
60.4	14:07:39	60.4	60.4
61.7	14:07:40	61.7	61.7
55.4	14:07:41	55.4	55.4
55.1	14:07:42	55.1	55.1
56.0	14:07:43	56.0	56.0
56.6	14:07:44	56.6	56.6
57.6	14:07:45	57.6	57.6
58.6	14:07:46	58.6	58.6
59.9	14:07:47	59.9	59.9
61.4	14:07:48	61.4	61.4
63.2	14:07:49	63.2	63.2
64.0	14:07:50	64.0	64.0
62.9	14:07:51	62.9	62.9
61.9	14:07:52	61.9	61.9
60.8	14:07:53	60.8	60.8
60.9	14:07:54	60.9	60.9
61.0	14:07:55	61.0	61.0
61.3	14:07:56	61.3	61.3
60.1	14:07:57	60.1	60.1
58.6	14:07:58	58.6	58.6
57.2	14:07:59	57.2	57.2
57.0	14:08:00	57.0	57.0
57.3	14:08:01	57.3	57.3
58.2	14:08:02	58.2	58.2
60.1	14:08:03	60.1	60.1
60.3	14:08:04	60.3	60.3
58.3	14:08:05	58.3	58.3
56.0	14:08:06	56.0	56.0
54.4	14:08:07	54.4	54.4
54.1	14:08:08	54.1	54.1
54.9	14:08:09	54.9	54.9
56.6	14:08:10	56.6	56.6

Site 2 - On South Side of Project Site (Middle)

SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
62.1	14:10:37	62.1	62.1
62.0	14:10:38	62.0	62.0
61.3	14:10:39	61.3	61.3
60.5	14:10:40	60.5	60.5
60.1	14:10:41	60.1	60.1
59.3	14:10:42	59.3	59.3
58.7	14:10:43	58.7	58.7
58.6	14:10:44	58.6	58.6
58.4	14:10:45	58.4	58.4
58.4	14:10:46	58.4	58.4
58.3	14:10:47	58.3	58.3
57.8	14:10:48	57.8	57.8
57.7	14:10:49	57.7	57.7
57.5	14:10:50	57.5	57.5
56.8	14:10:51	56.8	56.8
56.0	14:10:52	56.0	56.0
55.5	14:10:53	55.5	55.5
55.7	14:10:54	55.7	55.7
55.9	14:10:55	55.9	55.9
56.3	14:10:56	56.3	56.3
56.4	14:10:57	56.4	56.4
56.1	14:10:58	56.1	56.1
55.7	14:10:59	55.7	55.7
55.5	14:11:00	55.5	55.5
55.0	14:11:01	55.0	55.0
54.3	14:11:02	54.3	54.3
53.3	14:11:03	53.3	53.3
52.4	14:11:04	52.4	52.4
52.3	14:11:05	52.3	52.3
53.3	14:11:06	53.3	53.3
53.3	14:11:07	53.3	53.3
52.9	14:11:08	52.9	52.9
52.4	14:11:09	52.4	52.4
52.1	14:11:10	52.1	52.1
52.0	14:11:11	52.0	52.0
52.8	14:11:12	52.8	52.8
53.7	14:11:13	53.7	53.7
54.1	14:11:14	54.1	54.1
54.7	14:11:15	54.7	54.7
53.4	14:11:16	53.4	53.4
51.4	14:11:17	51.4	51.4
50.8	14:11:18	50.8	50.8
51.3	14:11:19	51.3	51.3
52.5	14:11:20	52.5	52.5
53.3	14:11:21	53.3	53.3
54.1	14:11:22	54.1	54.1
55.6	14:11:23	55.6	55.6
55.8	14:11:24	55.8	55.8
56.4	14:11:25	56.4	56.4
56.8	14:11:26	56.8	56.8
57.3	14:11:27	57.3	57.3
58.0	14:11:28	58.0	58.0
57.6	14:11:29	57.6	57.6
56.6	14:11:30	56.6	56.6
55.4	14:11:31	55.4	55.4
54.0	14:11:32	54.0	54.0
53.0	14:11:33	53.0	53.0
52.4	14:11:34	52.4	52.4
51.3	14:11:35	51.3	51.3
50.5	14:11:36	50.5	50.5
50.0	14:11:37	50.0	50.0
50.1	14:11:38	50.1	50.1
50.3	14:11:39	50.3	50.3
50.1	14:11:40	50.1	50.1
50.3	14:11:41	50.3	50.3
49.9	14:11:42	49.9	49.9
49.0	14:11:43	49.0	49.0
48.6	14:11:44	48.6	48.6
48.2	14:11:45	48.2	48.2
47.8	14:11:46	47.8	47.8
47.5	14:11:47	47.5	47.5
47.1	14:11:48	47.1	47.1
47.1	14:11:49	47.1	47.1
47.7	14:11:50	47.7	47.7
48.6	14:11:51	48.6	48.6
48.8	14:11:52	48.8	48.8
49.2	14:11:53	49.2	49.2
50.1	14:11:54	50.1	50.1
50.2	14:11:55	50.2	50.2
51.0	14:11:56	51.0	51.0
51.9	14:11:57	51.9	51.9
51.9	14:11:58	51.9	51.9
52.6	14:11:59	52.6	52.6
52.7	14:12:00	52.7	52.7
52.5	14:12:01	52.5	52.5
52.8	14:12:02	52.8	52.8
52.9	14:12:03	52.9	52.9
53.7	14:12:04	53.7	53.7
54.5	14:12:05	54.5	54.5
54.5	14:12:06	54.5	54.5
54.8	14:12:07	54.8	54.8
54.6	14:12:08	54.6	54.6
55.6	14:12:09	55.6	55.6
55.5	14:12:10	55.5	55.5
55.8	14:12:11	55.8	55.8
56.6	14:12:12	56.6	56.6
57.8	14:12:13	57.8	57.8
58.0	14:12:14	58.0	58.0
58.7	14:12:15	58.7	58.7
59.2	14:12:16	59.2	59.2
59.6	14:12:17	59.6	59.6
60.2	14:12:18	60.2	60.2
60.0	14:12:19	60.0	60.0
60.0	14:12:20	60.0	60.0
60.0	14:12:21	60.0	60.0
59.7	14:12:22	59.7	59.7
58.4	14:12:23	58.4	58.4
56.9	14:12:24	56.9	56.9
57.2	14:12:25	57.2	57.2
57.4	14:12:26	57.4	57.4
57.9	14:12:27	57.9	57.9
58.0	14:12:28	58.0	58.0
57.9	14:12:29	57.9	57.9
59.5	14:12:30	59.5	59.5
60.6	14:12:31	60.6	60.6

Site 1 - On East Side of Project Site				Site 2 - On South Side of Project Site (Middle)				Site 3 - On West Side of Project Site. Next to Church			
SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL	SPL	Time	Leq (1 hour Avg.)	Ldn CNEL
59.4	14:08:11	59.4	59.4	58.1	14:13:11	58.1	58.1	53.1	14:19:58	53.1	53.1
63.1	14:08:12	63.1	63.1	56.8	14:13:12	56.8	56.8	53.4	14:19:59	53.4	53.4
67.0	14:08:13	67.0	67.0	57.1	14:13:13	57.1	57.1	52.8	14:20:00	52.8	52.8
69.0	14:08:14	69.0	69.0	59.5	14:13:14	59.5	59.5	51.9	14:20:01	51.9	51.9
69.8	14:08:15	69.8	69.8	64.1	14:13:15	64.1	64.1	51.4	14:20:02	51.4	51.4
70.7	14:08:16	70.7	70.7	68.2	14:13:16	68.2	68.2	51.1	14:20:03	51.1	51.1
71.8	14:08:17	71.8	71.8	69.8	14:13:17	69.8	69.8	50.9	14:20:04	50.9	50.9
72.8	14:08:18	72.8	72.8	68.5	14:13:18	68.5	68.5	51.1	14:20:05	51.1	51.1
73.7	14:08:19	73.7	73.7	65.7	14:13:19	65.7	65.7	50.7	14:20:06	50.7	50.7
74.3	14:08:20	74.3	74.3	63.3	14:13:20	63.3	63.3	52.8	14:20:07	52.8	52.8
74.3	14:08:21	74.3	74.3	61.3	14:13:21	61.3	61.3	53.9	14:20:08	53.9	53.9
73.7	14:08:22	73.7	73.7	60.0	14:13:22	60.0	60.0	54.2	14:20:09	54.2	54.2
73.4	14:08:23	73.4	73.4	59.0	14:13:23	59.0	59.0	53.4	14:20:10	53.4	53.4
72.6	14:08:24	72.6	72.6	58.1	14:13:24	58.1	58.1	52.1	14:20:11	52.1	52.1
72.3	14:08:25	72.3	72.3	57.6	14:13:25	57.6	57.6	52.9	14:20:12	52.9	52.9
72.4	14:08:26	72.4	72.4	56.7	14:13:26	56.7	56.7	53.2	14:20:13	53.2	53.2
73.1	14:08:27	73.1	73.1	55.8	14:13:27	55.8	55.8	53.4	14:20:14	53.4	53.4
74.4	14:08:28	74.4	74.4	56.4	14:13:28	56.4	56.4	53.6	14:20:15	53.6	53.6
73.8	14:08:29	73.8	73.8	55.0	14:13:29	55.0	55.0	53.3	14:20:16	53.3	53.3
72.5	14:08:30	72.5	72.5	59.1	14:13:30	59.1	59.1	52.2	14:20:17	52.2	52.2
71.5	14:08:31	71.5	71.5	59.8	14:13:31	59.8	59.8	51.7	14:20:18	51.7	51.7
71.0	14:08:32	71.0	71.0	59.7	14:13:32	59.7	59.7	51.1	14:20:19	51.1	51.1
72.4	14:08:33	72.4	72.4	58.7	14:13:33	58.7	58.7	50.2	14:20:20	50.2	50.2
73.5	14:08:34	73.5	73.5	58.0	14:13:34	58.0	58.0	49.6	14:20:21	49.6	49.6
74.4	14:08:35	74.4	74.4	57.2	14:13:35	57.2	57.2	49.2	14:20:22	49.2	49.2
74.1	14:08:36	74.1	74.1	55.7	14:13:36	55.7	55.7	48.7	14:20:23	48.7	48.7
72.8	14:08:37	72.8	72.8	54.2	14:13:37	54.2	54.2	48.7	14:20:24	48.7	48.7
70.6	14:08:38	70.6	70.6	53.2	14:13:38	53.2	53.2	49.5	14:20:25	49.5	49.5
68.7	14:08:39	68.7	68.7	52.2	14:13:39	52.2	52.2	48.7	14:20:26	48.7	48.7
68.3	14:08:40	68.3	68.3	51.4	14:13:40	51.4	51.4	49.4	14:20:27	49.4	49.4
68.9	14:08:41	68.9	68.9	50.1	14:13:41	50.1	50.1	49.0	14:20:28	49.0	49.0
69.5	14:08:42	69.5	69.5	48.9	14:13:42	48.9	48.9	50.1	14:20:29	50.1	50.1
70.7	14:08:43	70.7	70.7	48.1	14:13:43	48.1	48.1	50.2	14:20:30	50.2	50.2
72.2	14:08:44	72.2	72.2	47.2	14:13:44	47.2	47.2	49.5	14:20:31	49.5	49.5
72.3	14:08:45	72.3	72.3	48.0	14:13:45	48.0	48.0	49.7	14:20:32	49.7	49.7
70.5	14:08:46	70.5	70.5	47.9	14:13:46	47.9	47.9	49.7	14:20:33	49.7	49.7
68.1	14:08:47	68.1	68.1	47.7	14:13:47	47.7	47.7	49.8	14:20:34	49.8	49.8
66.6	14:08:48	66.6	66.6	47.9	14:13:48	47.9	47.9	52.1	14:20:35	52.1	52.1
65.4	14:08:49	65.4	65.4	50.4	14:13:49	50.4	50.4	51.0	14:20:36	51.0	51.0
65.7	14:08:50	65.7	65.7	52.1	14:13:50	52.1	52.1	50.4	14:20:37	50.4	50.4
65.3	14:08:51	65.3	65.3	53.3	14:13:51	53.3	53.3	51.3	14:20:38	51.3	51.3
65.5	14:08:52	65.5	65.5	52.7	14:13:52	52.7	52.7	51.5	14:20:39	51.5	51.5
66.4	14:08:53	66.4	66.4	52.8	14:13:53	52.8	52.8	53.0	14:20:40	53.0	53.0
66.8	14:08:54	66.8	66.8	52.2	14:13:54	52.2	52.2	52.8	14:20:41	52.8	52.8
67.4	14:08:55	67.4	67.4	52.7	14:13:55	52.7	52.7	53.0	14:20:42	53.0	53.0
67.1	14:08:56	67.1	67.1	51.7	14:13:56	51.7	51.7	53.7	14:20:43	53.7	53.7
66.0	14:08:57	66.0	66.0	50.2	14:13:57	50.2	50.2	53.1	14:20:44	53.1	53.1
64.4	14:08:58	64.4	64.4	49.1	14:13:58	49.1	49.1	52.7	14:20:45	52.7	52.7
62.7	14:08:59	62.7	62.7	48.7	14:13:59	48.7	48.7	48.4	14:20:46	48.4	48.4
61.4	14:09:00	61.4	61.4	48.4	14:14:00	48.4	48.4	53.4	14:20:47	53.4	53.4
60.2	14:09:01	60.2	60.2	48.8	14:14:01	48.8	48.8	54.3	14:20:48	54.3	54.3
60.8	14:09:02	60.8	60.8	50.3	14:14:02	50.3	50.3	55.1	14:20:49	55.1	55.1
61.8	14:09:03	61.8	61.8	52.2	14:14:03	52.2	52.2	57.1	14:20:50	57.1	57.1
62.9	14:09:04	62.9	62.9	53.1	14:14:04	53.1	53.1	58.1	14:20:51	58.1	58.1
63.9	14:09:05	63.9	63.9	53.9	14:14:05	53.9	53.9	59.0	14:20:52	59.0	59.0
65.2	14:09:06	65.2	65.2	54.5	14:14:06	54.5	54.5	58.4	14:20:53	58.4	58.4
66.2	14:09:07	66.2	66.2	53.5	14:14:07	53.5	53.5	57.5	14:20:54	57.5	57.5
67.5	14:09:08	67.5	67.5	52.2	14:14:08	52.2	52.2	57.1	14:20:55	57.1	57.1
68.4	14:09:09	68.4	68.4	50.8	14:14:09	50.8	50.8	57.5	14:20:56	57.5	57.5
68.2	14:09:10	68.2	68.2	49.2	14:14:10	49.2	49.2	57.4	14:20:57	57.4	57.4
68.4	14:09:11	68.4	68.4	48.0	14:14:11	48.0	48.0	56.8	14:20:58	56.8	56.8
70.4	14:09:12	70.4	70.4	47.1	14:14:12	47.1	47.1	56.3	14:20:59	56.3	56.3
69.7	14:09:13	69.7	69.7	47.0	14:14:13	47.0	47.0	56.2	14:21:00	56.2	56.2
69.0	14:09:14	69.0	69.0	47.2	14:14:14	47.2	47.2	56.9	14:21:01	56.9	56.9
70.1	14:09:15	70.1	70.1	46.9	14:14:15	46.9	46.9	57.9	14:21:02	57.9	57.9
71.3	14:09:16	71.3	71.3	47.0	14:14:16	47.0	47.0	58.7	14:21:03	58.7	58.7
69.1	14:09:17	69.1	69.1	47.2	14:14:17	47.2	47.2	58.5	14:21:04	58.5	58.5
69.6	14:09:18	69.6	69.6	47.4	14:14:18	47.4	47.4	59.0	14:21:05	59.0	59.0
74.1	14:09:19	74.1	74.1	47.2	14:14:19	47.2	47.2	58.1	14:21:06	58.1	58.1
72.6	14:09:20	72.6	72.6	48.5	14:14:20	48.5	48.5	59.2	14:21:07	59.2	59.2
69.7	14:09:21	69.7	69.7	49.0	14:14:21	49.0	49.0	58.7	14:21:08	58.7	58.7
68.5	14:09:22	68.5	68.5	50.4	14:14:22	50.4	50.4	58.4	14:21:09	58.4	58.4
67.4	14:09:23	67.4	67.4	53.1	14:14:23	53.1	53.1	57.9	14:21:10	57.9	57.9
64.8	14:09:24	64.8	64.8	56.3	14:14:24	56.3	56.3	57.5	14:21:11	57.5	57.5
62.0	14:09:25	62.0	62.0	58.7	14:14:25	58.7	58.7	56.7	14:21:12	56.7	56.7
59.6	14:09:26	59.6	59.6	60.2	14:14:26	60.2	60.2	56.8	14:21:13	56.8	56.8
57.8	14:09:27	57.8	57.8	61.0	14:14:27	61.0	61.0	57.0	14:21:14	57.0	57.0
56.6	14:09:28	56.6	56.6	61.6	14:14:28	61.6	61.6	56.7	14:21:15	56.7	56.7
55.7	14:09:29	55.7	55.7	61.7	14:14:29	61.7	61.7	56.9	14:21:16	56.9	56.9
55.1	14:09:30	55.1	55.1	62.1	14:14:30	62.1	62.1	56.5	14:21:17	56.5	56.5
54.9	14:09:31	54.9	54.9	62.3	14:14:31	62.3	62.3	56.5	14:21:18	56.5	56.5
55.3	14:09:32	55.3	55.3	62.1	14:14:32	62.1	62.1	56.1	14:21:19	56.1	56.1
55.1	14:09:33	55.1	55.1	61.7	14:14:33	61.7	61.7	55.8	14:21:20	55.8	55.8
55.9	14:09:34	55.9	55.9	61.3	14:14:34	61.3	61.3	56.3	14:21:21	56.3	56.3
56.1	14:09:35	56.1	56.1	60.9	14:14:35	60.9	60.9	56.2	14:21:22	56.2	56.2
55.8	14:09:36	55.8	55.8	61.5	14:14:36	61.5	61.5	56.0	14:21:23	56.0	56.0
56.7	14:09:37	56.7	56.7	61.4	14:14:37	61.4	61.4	55.6	14:21:24	55.6	55.6
57.3	14:09:38	57.3	57.3	61.3	14:14:38	61.3	61.3	55.2	14:21:25	55.2	55.2
58.8	14:09:39	58.8	58.8	61.1	14:14:39	61.1	61.1	54.6	14:21:26	54.6	54.6
61.7	14:09:40	61.7	61.7	60.9	14:14:40	60.9	60.9	54.0	14:21:27	54.0	54.0
63.7	14:09:41	63.7	63.7	60.3	14:14:41	60.3	60.3	53.6	14:21:28	53.6	53.6
63.4	14:09:42	63.4	63.4	60.3	14:14:42	60.3	60.3	53.4	14:21:29	53.4	53.4
60.6	14:09:43	60.6	60.6	60.5	14:14:43	60.5	60.5	52.2	14:21:30	52.2	52.2
57.3	14:09:44	57.3	57.3	60.3	14:14:44	60.3	60.3	51.5	14:21:31	51.5	51.5
54.8	14:09:45	54.8	54.8	61.2	14:14:45	61.2	61.2	50.8	14:21:32	50.8	50.8
52.9	14:09:46	52.9	52.9	61.0	14:14:46	61.0	61.0	50.3	14:21:33	50.3	50.3
52.0	14:09:47	52.0	52.0	61.3	14:14:47	61.3	61.3	50.1	14:21:34	50.1	50.1
51.0	14:09:48	51									

Site 1 - On East Side of Project Site

Table with 4 columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data for Site 1.

Site 2 - On South Side of Project Site (Middle)

Table with 4 columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data for Site 2.

Site 3 - On West Side of Project Site. Next to Church

Table with 4 columns: SPL, Time, Leq (1 hour Avg.), Ldn CNEL. Contains 973 rows of noise data for Site 3.

Site 1 - On East Side of Project Site

SPL	Time	Leq (1 hour Avg)	Ldn CNEL
62.4	14:13:19	62.4	62.4
61.6	14:13:20	61.6	61.6
61.3	14:13:21	61.3	61.3
60.8	14:13:22	60.8	60.8
60.8	14:13:23	60.8	60.8
61.2	14:13:24	61.2	61.2
62.3	14:13:25	62.3	62.3
61.9	14:13:26	61.9	61.9
61.2	14:13:27	61.2	61.2
60.6	14:13:28	60.6	60.6
59.9	14:13:29	59.9	59.9
59.7	14:13:30	59.7	59.7
59.8	14:13:31	59.8	59.8
59.9	14:13:32	59.9	59.9
60.9	14:13:33	60.9	60.9
61.8	14:13:34	61.8	61.8
61.3	14:13:35	61.3	61.3
60.8	14:13:36	60.8	60.8
60.3	14:13:37	60.3	60.3
60.7	14:13:38	60.7	60.7
62.0	14:13:39	62.0	62.0
61.6	14:13:40	61.6	61.6
61.9	14:13:41	61.9	61.9
62.9	14:13:42	62.9	62.9
62.7	14:13:43	62.7	62.7
61.6	14:13:44	61.6	61.6
63.9	14:13:45	63.9	63.9
68.9	14:13:46	68.9	68.9
69.5	14:13:47	69.5	69.5
69.7	14:13:48	69.7	69.7
69.9	14:13:49	69.9	69.9
69.7	14:13:50	69.7	69.7
69.6	14:13:51	69.6	69.6
69.7	14:13:52	69.7	69.7
69.2	14:13:53	69.2	69.2
68.6	14:13:54	68.6	68.6
67.5	14:13:55	67.5	67.5
67.6	14:13:56	67.6	67.6
68.8	14:13:57	68.8	68.8
69.6	14:13:58	69.6	69.6
70.5	14:13:59	70.5	70.5
71.0	14:14:00	71.0	71.0
71.7	14:14:01	71.7	71.7
72.7	14:14:02	72.7	72.7
74.1	14:14:03	74.1	74.1
74.6	14:14:04	74.6	74.6
75.7	14:14:05	75.7	75.7
75.6	14:14:06	75.6	75.6
74.8	14:14:07	74.8	74.8
73.9	14:14:08	73.9	73.9
73.8	14:14:09	73.8	73.8
73.4	14:14:10	73.4	73.4
73.0	14:14:11	73.0	73.0
73.1	14:14:12	73.1	73.1
73.1	14:14:13	73.1	73.1
73.1	14:14:14	73.1	73.1
73.3	14:14:15	73.3	73.3
73.2	14:14:16	73.2	73.2
72.9	14:14:17	72.9	72.9
72.3	14:14:18	72.3	72.3
71.5	14:14:19	71.5	71.5
71.0	14:14:20	71.0	71.0
69.4	14:14:21	69.4	69.4
67.5	14:14:22	67.5	67.5
67.1	14:14:23	67.1	67.1
68.0	14:14:24	68.0	68.0
69.7	14:14:25	69.7	69.7
71.6	14:14:26	71.6	71.6
72.2	14:14:27	72.2	72.2
71.3	14:14:28	71.3	71.3
69.2	14:14:29	69.2	69.2
67.3	14:14:30	67.3	67.3
66.2	14:14:31	66.2	66.2
67.0	14:14:32	67.0	67.0
71.1	14:14:33	71.1	71.1
74.0	14:14:34	74.0	74.0
74.2	14:14:35	74.2	74.2
72.6	14:14:36	72.6	72.6
69.8	14:14:37	69.8	69.8
66.8	14:14:38	66.8	66.8
64.9	14:14:39	64.9	64.9
64.5	14:14:40	64.5	64.5
64.9	14:14:41	64.9	64.9
65.9	14:14:42	65.9	65.9
66.7	14:14:43	66.7	66.7
68.1	14:14:44	68.1	68.1
69.5	14:14:45	69.5	69.5
70.0	14:14:46	70.0	70.0
69.3	14:14:47	69.3	69.3
68.9	14:14:48	68.9	68.9
70.3	14:14:49	70.3	70.3
71.2	14:14:50	71.2	71.2
70.1	14:14:51	70.1	70.1
67.5	14:14:52	67.5	67.5
65.3	14:14:53	65.3	65.3
63.8	14:14:54	63.8	63.8
64.3	14:14:55	64.3	64.3
64.5	14:14:56	64.5	64.5
63.5	14:14:57	63.5	63.5
62.9	14:14:58	62.9	62.9
62.6	14:14:59	62.6	62.6
62.9	14:15:00	62.9	62.9
63.2	14:15:01	63.2	63.2
62.6	14:15:02	62.6	62.6
61.0	14:15:03	61.0	61.0
58.9	14:15:04	58.9	58.9
57.7	14:15:05	57.7	57.7
57.4	14:15:06	57.4	57.4
58.6	14:15:07	58.6	58.6
60.8	14:15:08	60.8	60.8
62.3	14:15:09	62.3	62.3
61.9	14:15:10	61.9	61.9
60.7	14:15:11	60.7	60.7
60.3	14:15:12	60.3	60.3
60.0	14:15:13	60.0	60.0
59.4	14:15:14	59.4	59.4
58.9	14:15:15	58.9	58.9
58.4	14:15:16	58.4	58.4
58.6	14:15:17	58.6	58.6
59.5	14:15:18	59.5	59.5
60.1	14:15:19	60.1	60.1
61.1	14:15:20	61.1	61.1
60.9	14:15:21	60.9	60.9
60.6	14:15:22	60.6	60.6
60.3	14:15:23	60.3	60.3
59.8	14:15:24	59.8	59.8
58.8	14:15:25	58.8	58.8
58.2	14:15:26	58.2	58.2
58.3	14:15:27	58.3	58.3
57.8	14:15:28	57.8	57.8
58.8	14:15:29	58.8	58.8
59.6	14:15:30	59.6	59.6
63.0	14:15:31	63.0	63.0
63.1	14:15:32	63.1	63.1
61.9	14:15:33	61.9	61.9
60.9	14:15:34	60.9	60.9
59.7	14:15:35	59.7	59.7
58.9	14:15:36	58.9	58.9
59.3	14:15:37	59.3	59.3
59.7	14:15:38	59.7	59.7
62.8	14:15:39	62.8	62.8
62.7	14:15:40	62.7	62.7
61.2	14:15:41	61.2	61.2
60.1	14:15:42	60.1	60.1
59.1	14:15:43	59.1	59.1
58.6	14:15:44	58.6	58.6
58.4	14:15:45	58.4	58.4
58.6	14:15:46	58.6	58.6
58.6	14:15:47	58.6	58.6
58.6	14:15:48	58.6	58.6
58.5	14:15:49	58.5	58.5
58.2	14:15:50	58.2	58.2
57.7	14:15:51	57.7	57.7
57.7	14:15:52	57.7	57.7

Site 2 - On South Side of Project Site (Middle)

SPL	Time	Leq (1 hour Avg)	Ldn CNEL
58.7	14:18:19	58.7	58.7
58.9	14:18:20	58.9	58.9
59.8	14:18:21	59.8	59.8
60.0	14:18:22	60.0	60.0
61.4	14:18:23	61.4	61.4
61.6	14:18:24	61.6	61.6
61.9	14:18:25	61.9	61.9
62.2	14:18:26	62.2	62.2
62.0	14:18:27	62.0	62.0
62.1	14:18:28	62.1	62.1
61.6	14:18:29	61.6	61.6
62.2	14:18:30	62.2	62.2
63.3	14:18:31	63.3	63.3
64.1	14:18:32	64.1	64.1
65.3	14:18:33	65.3	65.3
65.7	14:18:34	65.7	65.7
66.6	14:18:35	66.6	66.6
67.0	14:18:36	67.0	67.0
67.5	14:18:37	67.5	67.5
67.4	14:18:38	67.4	67.4
65.9	14:18:39	65.9	65.9
64.9	14:18:40	64.9	64.9
64.6	14:18:41	64.6	64.6
63.6	14:18:42	63.6	63.6
62.9	14:18:43	62.9	62.9
62.9	14:18:44	62.9	62.9
64.4	14:18:45	64.4	64.4
64.6	14:18:46	64.6	64.6
64.7	14:18:47	64.7	64.7
64.0	14:18:48	64.0	64.0
63.0	14:18:49	63.0	63.0
62.5	14:18:50	62.5	62.5
62.2	14:18:51	62.2	62.2
61.0	14:18:52	61.0	61.0
60.6	14:18:53	60.6	60.6
60.1	14:18:54	60.1	60.1
59.8	14:18:55	59.8	59.8
60.2	14:18:56	60.2	60.2
59.3	14:18:57	59.3	59.3
59.2	14:18:58	59.2	59.2
58.5	14:18:59	58.5	58.5
57.8	14:19:00	57.8	57.8
57.2	14:19:01	57.2	57.2
57.2	14:19:02	57.2	57.2
56.6	14:19:03	56.6	56.6
56.3	14:19:04	56.3	56.3
55.4	14:19:05	55.4	55.4
54.4	14:19:06	54.4	54.4
53.2	14:19:07	53.2	53.2
57.4	14:19:08	57.4	57.4
58.6	14:19:09	58.6	58.6
58.1	14:19:10	58.1	58.1
57.5	14:19:11	57.5	57.5
56.9	14:19:12	56.9	56.9
56.6	14:19:13	56.6	56.6
57.1	14:19:14	57.1	57.1
56.9	14:19:15	56.9	56.9
56.1	14:19:16	56.1	56.1
55.9	14:19:17	55.9	55.9
55.7	14:19:18	55.7	55.7
56.1	14:19:19	56.1	56.1
56.3	14:19:20	56.3	56.3
56.4	14:19:21	56.4	56.4
57.1	14:19:22	57.1	57.1
57.0	14:19:23	57.0	57.0
57.6	14:19:24	57.6	57.6
57.7	14:19:25	57.7	57.7
58.2	14:19:26	58.2	58.2
58.2	14:19:27	58.2	58.2
57.1	14:19:28	57.1	57.1
56.1	14:19:29	56.1	56.1
55.6	14:19:30	55.6	55.6
55.2	14:19:31	55.2	55.2
54.3	14:19:32	54.3	54.3
55.4	14:19:33	55.4	55.4
55.8	14:19:34	55.8	55.8
56.4	14:19:35	56.4	56.4
55.8	14:19:36	55.8	55.8
55.7	14:19:37	55.7	55.7
55.7	14:19:38	55.7	55.7
55.8	14:19:39	55.8	55.8
56.3	14:19:40	56.3	56.3
56.6	14:19:41	56.6	56.6
56.4	14:19:42	56.4	56.4
56.6	14:19:43	56.6	56.6
56.3	14:19:44	56.3	56.3
56.4	14:19:45	56.4	56.4
55.6	14:19:46	55.6	55.6
54.2	14:19:47	54.2	54.2
53.9	14:19:48	53.9	53.9
53.8	14:19:49	53.8	53.8
54.3	14:19:50	54.3	54.3
54.8	14:19:51	54.8	54.8
54.4	14:19:52	54.4	54.4
54.0	14:19:53	54.0	54.0
54.1	14:19:54	54.1	54.1
55.4	14:19:55	55.4	55.4
55.0	14:19:56	55.0	55.0
54.2	14:19:57	54.2	54.2
52.8	14:19:58	52.8	52.8
51.8	14:19:59	51.8	51.8
50.8	14:20:00	50.8	50.8
50.4	14:20:01	50.4	50.4
49.9	14:20:02	49.9	49.9
49.6	14:20:03	49.6	49.6
49.3	14:20:04	49.3	49.3
49.0	14:20:05	49.0	49.0
48.7	14:20:06	48.7	48.7
48.5	14:20:07	48.5	48.5
48.1	14:20:08	48.1	48.1
48.1	14:20:09	48.1	48.1
47.8	14:20:10	47.8	47.8
48.2	14:20:11	48.2	48.2
48.0	14:20:12	48.0	48.0
48.3	14:20:13	48.3	48.3

Site 1 - On East Side of Project Site

Site 2 - On South Side of Project Site (Middle)

Site 3 - On West Side of Project Site. Next to Church

Table with 12 columns: SPL, Time, Leq (1 hour Avg), Ldn CNEL, SPL, Time, Leq (1 hour Avg), Ldn CNEL, SPL, Time, Leq (1 hour Avg), Ldn CNEL. Rows contain noise level data for various times and locations across the three sites.

APPENDIX C

RCNM Model Construction Noise Calculation Printouts

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Demolition

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		Night
		Daytime	Evening	
Nearest Homes to North	Residential	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	95	5
Dozer	No	40		81.7	95	5
Tractor	No	40	84		95	5
Front End Loader	No	40		79.1	95	5
Backhoe	No	40		77.6	95	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Leq	Evening Lmax	Leq
Concrete Saw	79.0	72.0	N/A	N/A	N/A	N/A
Dozer	71.1	67.1	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.6	N/A	N/A	N/A	N/A
Backhoe	67.0	63.0	N/A	N/A	N/A	N/A
Total	79	75	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Demolition

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Church to West	Commercial	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Concrete Saw	No	20		89.6	450	0
Dozer	No	40		81.7	450	0
Tractor	No	40	84		450	0
Front End Loader	No	40		79.1	450	0
Backhoe	No	40		77.6	450	0

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Noise Limits (dBA)			
			Day Lmax	Day Leq	Evening Lmax	Evening Leq
Concrete Saw	70.5	64	N/A	N/A	N/A	N/A
Dozer	62.6	58.6	N/A	N/A	N/A	N/A
Tractor	64.9	60.9	N/A	N/A	N/A	N/A
Front End Loader	60.0	56.0	N/A	N/A	N/A	N/A
Backhoe	58.5	54.5	N/A	N/A	N/A	N/A
Total	71	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Site Preparation

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Grader	No	40	85		95	5
Scraper	No	40		83.6	95	5
Tractor	No	40	84		95	5

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening	Leq
			Lmax	Leq	Lmax	Leq
Grader	74.4	70.4	N/A	N/A	N/A	N/A
Scraper	73.0	69.0	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A
Total	74	75	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Church to West	Commercial	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment Spec	Actual	Receptor	Estimated
			Lmax (dBA)	Lmax (dBA)	Distance (feet)	Shielding (dBA)
Grader	No	40	85		450	0
Scraper	No	40		83.6	450	0
Tractor	No	40	84		450	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day	Leq	Evening	Leq
			Lmax	Leq	Lmax	Leq
Grader	65.9	61.9	N/A	N/A	N/A	N/A
Scraper	64.5	60.5	N/A	N/A	N/A	N/A
Tractor	64.9	60.9	N/A	N/A	N/A	N/A
Total	66	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Grading

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Grader	No	40	85		95	5
Dozer	No	40		81.7	95	5
Tractor	No	40	84		95	5
Front End Loader	No	40		79.1	95	5

Results

Equipment	Calculated (dBA)		Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Grader	74.4	70.4	N/A	N/A	N/A	N/A
Dozer	71.1	67.1	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A
Front End Loader	68.5	64.6	N/A	N/A	N/A	N/A
Total	74	75	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Grading

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Church to West	Commercial	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Grader	No	40	85		450	0
Dozer	No	40		81.7	450	0
Tractor	No	40	84		450	0
Front End Loader	No	40		79.1	450	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day Lmax	Day Leq	Evening Lmax	Evening Leq
Grader	65.9	61.9	N/A	N/A	N/A	N/A
Dozer	62.6	58.6	N/A	N/A	N/A	N/A
Tractor	64.9	60.9	N/A	N/A	N/A	N/A
Front End Loader	60.0	56.0	N/A	N/A	N/A	N/A
Total	66	66	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Building Construction

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment			
			Spec Lmax (dBA)	Actual Lmax (dBA)	Receptor Distance (feet)	Estimated Shielding (dBA)
Crane	No	16		80.6	95	5
Gradall	No	40		83.4	95	5
Gradall	No	40		83.4	95	5
Generator	No	50		80.6	95	5
Tractor	No	40	84		95	5
Welder / Torch	No	40		74.0	95	5
Welder / Torch	No	40		74.0	95	5
Welder / Torch	No	40		74.0	95	5

Equipment	Calculated (dBA)		Results				
	*Lmax	Leq	Day		Noise Limits (dBA)		
			Lmax	Leq	Evening Lmax	Evening Leq	
Crane	70	62	N/A	N/A	N/A	N/A	N/A
Gradall	72.8	68.8	N/A	N/A	N/A	N/A	N/A
Gradall	72.8	68.8	N/A	N/A	N/A	N/A	N/A
Generator	70.1	67.0	N/A	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63.4	59.4	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63.4	59.4	N/A	N/A	N/A	N/A	N/A
Welder / Torch	63.4	59.4	N/A	N/A	N/A	N/A	N/A
Total	73	75	N/A	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Building Construction

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Church to West	Commercial	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Crane	No	16		80.6	450	0
Gradall	No	40		83.4	450	0
Gradall	No	40		83.4	450	0
Generator	No	50		80.6	450	0
Tractor	No	40	84		450	0
Welder / Torch	No	40		74.0	450	0
Welder / Torch	No	40		74.0	450	0
Welder / Torch	No	40		74.0	450	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Crane	61.5	53.5	N/A	N/A	N/A	N/A
Gradall	64.3	60.3	N/A	N/A	N/A	N/A
Gradall	64.3	60.3	N/A	N/A	N/A	N/A
Generator	61.5	58.5	N/A	N/A	N/A	N/A
Tractor	64.9	60.9	N/A	N/A	N/A	N/A
Welder / Torch	54.9	50.9	N/A	N/A	N/A	N/A
Welder / Torch	54.9	50.9	N/A	N/A	N/A	N/A
Welder / Torch	54.9	50.9	N/A	N/A	N/A	N/A
Total	65	67	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Paving

---- Receptor #1 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Nearest Homes to North	Residential	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Mixer Truck	No	40		78.8	95	5
Paver	No	50		77.2	95	5
Paver	No	50		77.2	95	5
Roller	No	20		80	95	5
Roller	No	20		80	95	5
Tractor	No	40	84		95	5

Equipment	Calculated (dBA)		Results			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	68.2	64.2	N/A	N/A	N/A	N/A
Paver	66.6	63.6	N/A	N/A	N/A	N/A
Paver	66.6	63.6	N/A	N/A	N/A	N/A
Roller	69.4	62.4	N/A	N/A	N/A	N/A
Roller	69.4	62.4	N/A	N/A	N/A	N/A
Tractor	73.4	69.4	N/A	N/A	N/A	N/A
Total	73	73	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM),Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Paving

---- Receptor #2 ----

Description	Land Use	Baselines (dBA)		
		Daytime	Evening	Night
Church to West	Commercial	55.3	55.3	50.2

Description	Impact Device	Usage(%)	Equipment		Receptor Distance (feet)	Estimated Shielding (dBA)
			Spec Lmax (dBA)	Actual Lmax (dBA)		
Concrete Mixer Truck	No	40		78.8	450	0
Paver	No	50		77.2	450	0
Paver	No	50		77.2	450	0
Roller	No	20		80.0	450	0
Roller	No	20		80.0	450	0
Tractor	No	40		84	450	0

Equipment	Calculated (dBA)		Results Noise Limits (dBA)			
	*Lmax	Leq	Day		Evening	
			Lmax	Leq	Lmax	Leq
Concrete Mixer Truck	59.7	55.7	N/A	N/A	N/A	N/A
Paver	58.1	55.1	N/A	N/A	N/A	N/A
Paver	58.1	55.1	N/A	N/A	N/A	N/A
Roller	60.9	53.9	N/A	N/A	N/A	N/A
Roller	60.9	53.9	N/A	N/A	N/A	N/A
Tractor	64.9	60.9	N/A	N/A	N/A	N/A
Total	65	64	N/A	N/A	N/A	N/A

*Calculated Lmax is the Loudest value.

Roadway Construction Noise Model (RCNM), Version 1.1

Report date: 1/25/2022
 Case Description: Newland & Talbert Residential - Painting

---- Receptor #1 ----

		Baselines (dBA)						
Description	Land Use	Daytime	Evening	Night				
Nearest Homes to North	Residential	55.3	55.3	50.2				
					Equipment			
		Impact			Spec	Actual	Receptor	Estimated
Description		Device	Usage(%)		Lmax	Lmax	Distance	Shielding
Compressor (air)		No	40		(dBA)	(dBA)	(feet)	(dBA)
						77.7	95	5
					Results			
		Calculated (dBA)		Noise Limits (dBA)				
				Day	Evening			
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	
Compressor (air)		67.1	63.1	N/A	N/A	N/A	N/A	
	Total	67	63	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

---- Receptor #2 ----

		Baselines (dBA)						
Description	Land Use	Daytime	Evening	Night				
Church to West	Commercial	55.3	55.3	50.2				
					Equipment			
		Impact			Spec	Actual	Receptor	Estimated
Description		Device	Usage(%)		Lmax	Lmax	Distance	Shielding
Compressor (air)		No	40		(dBA)	(dBA)	(feet)	(dBA)
						77.7	450	0
					Results			
		Calculated (dBA)		Noise Limits (dBA)				
				Day	Evening			
Equipment		*Lmax	Leq	Lmax	Leq	Lmax	Leq	
Compressor (air)		58.6	54.6	N/A	N/A	N/A	N/A	
	Total	59	55	N/A	N/A	N/A	N/A	

*Calculated Lmax is the Loudest value.

APPENDIX D

FHWA Model Offsite Traffic Noise Calculation Printouts

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Newland)			Vehicle Mix 2 (Talbert)			Vehicle Mix 3 (SR 39)					
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night			
Automobiles	75.76%	12.38%	9.36%	97.50%	75.76%	12.38%	9.36%	97.50%	76.86%	12.56%	9.50%	98.92%
Medium Trucks	1.57%	0.09%	0.14%	1.80%	1.57%	0.09%	0.14%	1.80%	0.62%	0.04%	0.05%	0.71%
Heavy Trucks	0.62%	0.02%	0.06%	0.70%	0.62%	0.02%	0.06%	0.70%	0.33%	0.01%	0.03%	0.37%

Road Name: Beach Boulevard **Segment: North of Talbert Avenue**

Average Daily Traffic: 46730 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial							
NOISE PARAMETERS AT 185 FEET FROM CENTERLINE (Equiv. Lane Dist: 178.93 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	5.32	-8.41	-1.20	63.07	61.14	59.29	53.31	61.93	62.53	70 dBA:	54	59
Medium Trucks	76.31	-16.11	-8.41	-1.20	50.60	27.75	21.38	18.34	27.56	27.84	65 dBA:	116	127
Heavy Trucks	81.16	-18.97	-8.41	-1.20	52.58	26.95	18.00	17.76	26.81	26.96	60 dBA:	249	273
Total:				63.66	61.14	59.29	53.31	61.93	62.53	62.53	55 dBA:	536	588

Road Name: Beach Boulevard **Segment: South of Talbert Avenue**

Average Daily Traffic: 46820 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial							
NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 70.82 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	5.33	-2.37	-1.20	69.12	67.18	65.34	59.35	67.97	68.57	70 dBA:	62	68
Medium Trucks	76.31	-16.10	-2.37	-1.20	56.64	33.79	27.43	24.39	33.61	33.88	65 dBA:	134	147
Heavy Trucks	81.16	-18.96	-2.37	-1.20	58.63	32.99	24.05	23.81	32.85	33.01	60 dBA:	289	317
Total:				69.71	67.19	65.34	59.36	67.98	68.57	68.57	55 dBA:	623	683

Road Name: Newland Street

Segment: North of Project Access 1

Average Daily Traffic: 18220 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1		Roadway Classification: Secondary							
NOISE PARAMETERS AT 50 FEET FROM CENTERLINE (Equiv. Lane Dist: 42.71 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	69.34	0.66	0.92	-1.20	69.73	67.73	65.88	59.90	68.52	69.12	70 dBA:	40	44
Medium Trucks	77.62	-16.68	0.92	-1.20	60.67	41.84	35.48	32.44	41.66	41.94	65 dBA:	86	94
Heavy Trucks	82.14	-20.78	0.92	-1.20	61.08	38.24	29.30	29.06	38.10	38.25	60 dBA:	185	203
Total:				70.73	67.74	65.89	59.91	68.53	69.13	69.13	55 dBA:	399	437

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

**Project: Newland & Talbert Residential
Site Conditions: Soft**

Road Name: Newland Street		Segment: South of Project Access 1		Roadway Classification: Secondary					
Average Daily Traffic: 18220 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1					
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 48.47 ft)									
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)		
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	69.34	0.66	-1.20	68.90	66.90	65.06	59.07	67.69	68.29
Medium Trucks	77.62	-16.68	0.10	59.84	41.02	34.66	31.61	40.84	41.11
Heavy Trucks	82.14	-20.78	0.10	60.26	37.42	28.47	28.23	37.28	37.43
Total:				69.91	66.92	65.06	59.08	67.71	68.30
				70 dBA:		70 dBA:		39	
				65 dBA:		65 dBA:		83	
				60 dBA:		60 dBA:		180	
				55 dBA:		55 dBA:		387	
				Centerline Distance to		Centerline Distance to		Ldn	
				Noise Contour (in feet)		Noise Contour (in feet)		CNEL	

Road Name: Newland Street		Segment: South of Talbert Avenue		Roadway Classification: Secondary					
Average Daily Traffic: 17880 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1					
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.07 ft)									
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)		
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	69.34	0.58	-1.20	68.11	66.11	64.26	58.28	66.90	67.50
Medium Trucks	77.62	-16.76	0.10	59.05	40.22	33.86	30.82	40.04	40.32
Heavy Trucks	82.14	-20.86	0.10	59.47	36.62	27.68	27.44	36.48	36.63
Total:				69.11	66.13	64.27	58.29	66.91	67.51
				70 dBA:		70 dBA:		37	
				65 dBA:		65 dBA:		80	
				60 dBA:		60 dBA:		173	
				55 dBA:		55 dBA:		374	
				Centerline Distance to		Centerline Distance to		Ldn	
				Noise Contour (in feet)		Noise Contour (in feet)		CNEL	

Road Name: Talbert Avenue		Segment: West of Project Access 2		Roadway Classification: Primary					
Average Daily Traffic: 17600 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2					
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.12 ft)									
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)		
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	69.34	0.51	-1.20	68.03	66.04	64.19	58.20	66.83	67.42
Medium Trucks	77.62	-16.83	0.10	58.97	40.15	33.79	30.75	39.97	40.24
Heavy Trucks	82.14	-20.93	0.10	59.39	36.55	27.60	27.36	36.41	36.56
Total:				69.04	66.05	64.19	58.21	66.84	67.43
				70 dBA:		70 dBA:		40	
				65 dBA:		65 dBA:		86	
				60 dBA:		60 dBA:		186	
				55 dBA:		55 dBA:		400	
				Centerline Distance to		Centerline Distance to		Ldn	
				Noise Contour (in feet)		Noise Contour (in feet)		CNEL	

Road Name: Talbert Avenue		Segment: East of Project Access 2		Roadway Classification: Primary					
Average Daily Traffic: 17600 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2					
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 48 ft)									
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)		
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL
Automobiles	69.34	0.51	-1.20	68.81	66.82	64.97	58.99	67.61	68.20
Medium Trucks	77.62	-16.83	0.10	59.76	40.93	34.57	31.53	40.75	41.02
Heavy Trucks	82.14	-20.93	0.10	60.17	37.33	28.39	28.14	37.19	37.34
Total:				69.82	66.83	64.98	59.00	67.62	68.22
				70 dBA:		70 dBA:		42	
				65 dBA:		65 dBA:		90	
				60 dBA:		60 dBA:		193	
				55 dBA:		55 dBA:		416	
				Centerline Distance to		Centerline Distance to		Ldn	
				Noise Contour (in feet)		Noise Contour (in feet)		CNEL	

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Road Name: Talbert Avenue		Segment: East of Newland Street		Roadway Classification: Primary						
Average Daily Traffic: 19940 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2						
NOISE PARAMETERS AT 45 FEET FROM CENTERLINE (Equiv. Lane Dist: 27 ft)										
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)			
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Centerline Distance to
Automobiles	69.34	1.05	-1.20	73.11	71.11	69.26	63.28	71.90	72.49	70 dBA: 60
Medium Trucks	77.62	-16.29	-1.20	64.05	45.22	38.86	35.82	45.04	45.31	65 dBA: 130
Heavy Trucks	82.14	-20.39	-1.20	64.46	41.62	32.68	32.44	41.48	41.63	60 dBA: 280
Total:				74.11	71.12	69.27	63.29	71.91	72.51	55 dBA: 603

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Newland)			Vehicle Mix 2 (Talbert)			Vehicle Mix 3 (SR 39)					
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night			
Automobiles	75.76%	12.38%	9.36%	97.50%	75.76%	12.38%	9.36%	97.50%	76.86%	12.56%	9.50%	98.92%
Medium Trucks	1.57%	0.09%	0.14%	1.80%	1.57%	0.09%	0.14%	1.80%	0.62%	0.04%	0.05%	0.71%
Heavy Trucks	0.62%	0.02%	0.06%	0.70%	0.62%	0.02%	0.06%	0.70%	0.33%	0.01%	0.03%	0.37%

Road Name: Beach Boulevard Segment: North of Talbert Avenue

Average Daily Traffic: 46755 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial							
NOISE PARAMETERS AT 185 FEET FROM CENTERLINE (Equiv. Lane Dist: 178.93 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	5.33	-8.41	-1.20	63.08	61.14	59.30	53.31	61.93	62.53	70 dBA:	54	59
Medium Trucks	76.31	-16.10	-8.41	-1.20	50.60	27.75	21.39	18.34	27.57	27.84	65 dBA:	116	127
Heavy Trucks	81.16	-18.97	-8.41	-1.20	52.58	26.95	18.01	17.76	26.81	26.96	60 dBA:	249	273
Total:				63.67	61.14	59.30	53.31	61.93	62.53	55 dBA:	536	588	

Road Name: Beach Boulevard Segment: South of Talbert Avenue

Average Daily Traffic: 46845 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial							
NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 70.82 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	67.36	5.33	-2.37	-1.20	69.12	67.19	65.34	59.36	67.98	68.57	70 dBA:	62	68
Medium Trucks	76.31	-16.10	-2.37	-1.20	56.65	33.79	27.43	24.39	33.61	33.89	65 dBA:	134	147
Heavy Trucks	81.16	-18.96	-2.37	-1.20	58.63	33.00	24.05	23.81	32.86	33.01	60 dBA:	289	317
Total:				69.71	67.19	65.34	59.36	67.98	68.58	55 dBA:	623	683	

Road Name: Newland Street Segment: North of Project Access 1

Average Daily Traffic: 18270 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1		Roadway Classification: Secondary							
NOISE PARAMETERS AT 50 FEET FROM CENTERLINE (Equiv. Lane Dist: 42.71 ft)													
Noise Adjustments				Unmitigated Noise Levels									
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL				
Automobiles	69.34	0.67	0.92	-1.20	69.74	67.74	65.89	59.91	68.53	69.13	70 dBA:	40	44
Medium Trucks	77.62	-16.67	0.92	-1.20	60.68	41.86	35.49	32.45	41.67	41.95	65 dBA:	86	94
Heavy Trucks	82.14	-20.77	0.92	-1.20	61.10	38.25	29.31	29.07	38.11	38.27	60 dBA:	186	203
Total:				70.74	67.76	65.90	59.92	68.54	69.14	55 dBA:	400	438	

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Road Name: Newland Street		Segment: South of Project Access 1		Roadway Classification: Secondary		
Average Daily Traffic: 18351 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1		
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 48.47 ft)						
Noise Adjustments			Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Night
Automobiles	69.34	0.69	-1.20	68.93	66.94	65.09
Medium Trucks	77.62	-16.65	0.10	59.87	41.05	34.69
Heavy Trucks	82.14	-20.75	0.10	60.29	37.45	28.50
Total:				69.94	66.95	65.10
				67.74	68.33	67.51
				Centerline Distance to		Leq CNEL
				Noise Contour (in feet)		Ldn CNEL
				70 dBA:		39
				65 dBA:		84
				60 dBA:		180
				55 dBA:		389
						426

Road Name: Newland Street		Segment: South of Talbert Avenue		Roadway Classification: Secondary		
Average Daily Traffic: 17930 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1		
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.07 ft)						
Noise Adjustments			Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Night
Automobiles	69.34	0.59	-1.20	68.12	66.12	64.28
Medium Trucks	77.62	-16.75	-0.61	59.06	40.24	33.87
Heavy Trucks	82.14	-20.85	-0.61	59.48	36.64	27.69
Total:				69.13	66.14	64.28
				66.92	68.30	67.52
				Centerline Distance to		Leq CNEL
				Noise Contour (in feet)		Ldn CNEL
				70 dBA:		37
				65 dBA:		81
				60 dBA:		174
				55 dBA:		374
						410

Road Name: Talbert Avenue		Segment: West of Project Access 2		Roadway Classification: Primary		
Average Daily Traffic: 17650 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2		
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.12 ft)						
Noise Adjustments			Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Night
Automobiles	69.34	0.52	-1.20	68.05	66.05	64.20
Medium Trucks	77.62	-16.82	-0.62	58.99	40.16	33.80
Heavy Trucks	82.14	-20.92	-0.62	59.40	36.56	27.62
Total:				69.05	66.06	64.21
				68.85	68.23	67.45
				Centerline Distance to		Leq CNEL
				Noise Contour (in feet)		Ldn CNEL
				70 dBA:		40
				65 dBA:		86
				60 dBA:		186
				55 dBA:		401
						439

Road Name: Talbert Avenue		Segment: East of Project Access 2		Roadway Classification: Primary		
Average Daily Traffic: 17681 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2		
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 48 ft)						
Noise Adjustments			Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Night
Automobiles	69.34	0.53	-1.20	68.83	66.84	64.99
Medium Trucks	77.62	-16.81	0.16	59.78	40.95	34.59
Heavy Trucks	82.14	-20.91	0.16	60.19	37.35	28.41
Total:				69.84	66.85	65.00
				67.64	69.02	67.45
				Centerline Distance to		Leq CNEL
				Noise Contour (in feet)		Ldn CNEL
				70 dBA:		42
				65 dBA:		90
				60 dBA:		194
				55 dBA:		418
						458

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: EXISTING WITH PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Road Name: Talbert Avenue		Segment: East of Newland Street		Roadway Classification: Primary									
Average Daily Traffic: 20040 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2									
NOISE PARAMETERS AT 45 FEET FROM CENTERLINE		(Equiv. Lane Dist: 27 ft)		Centerline Distance to									
Noise Adjustments		Unmitigated Noise Levels				Noise Contour (in feet)							
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Ldn	CNEL		
Automobiles	69.34	1.07	3.91	-1.20	73.13	71.13	69.28	63.30	71.92	72.52	70 dBA:	61	66
Medium Trucks	77.62	-16.27	3.91	-1.20	64.07	45.24	38.88	35.84	45.06	45.34	65 dBA:	130	143
Heavy Trucks	82.14	-20.37	3.91	-1.20	64.48	41.64	32.70	32.46	41.50	41.65	60 dBA:	281	308
Total:				74.13	71.15	69.29	63.31	71.93	72.53	55 dBA:	605	663	

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITHOUT PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Newland)			Vehicle Mix 2 (Talbert)			Vehicle Mix 3 (SR 39)					
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night			
Automobiles	75.76%	12.38%	9.36%	97.50%	75.76%	12.38%	9.36%	97.50%	76.86%	12.56%	9.50%	98.92%
Medium Trucks	1.57%	0.09%	0.14%	1.80%	1.57%	0.09%	0.14%	1.80%	0.62%	0.04%	0.05%	0.71%
Heavy Trucks	0.62%	0.02%	0.06%	0.70%	0.62%	0.02%	0.06%	0.70%	0.33%	0.01%	0.03%	0.37%

Road Name: Beach Boulevard **Segment:** North of Talbert Avenue

Average Daily Traffic: 48120 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 3 Roadway Classification: Smart Street Arterial
NOISE PARAMETERS AT 185 FEET FROM CENTERLINE (Equiv. Lane Dist: 178.93 ft)

Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)												
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL										
Automobiles	67.36	5.45	-8.41	-1.20	63.20	61.27	59.42	53.43	62.06	62.65	70 dBA:	55							
Medium Trucks	76.31	-15.98	-8.41	-1.20	50.72	27.87	21.51	18.47	27.69	27.97	65 dBA:	118							
Heavy Trucks	81.16	-18.84	-8.41	-1.20	52.71	27.08	18.13	17.89	26.94	27.09	60 dBA:	254							
Total:											63.79	61.27	59.42	53.44	62.06	62.66	55 dBA:	547	599

Road Name: Beach Boulevard **Segment:** South of Talbert Avenue

Average Daily Traffic: 48230 Vehicles Vehicle Speed: 40 MPH Vehicle Mix: 3 Roadway Classification: Smart Street Arterial
NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 70.82 ft)

Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)												
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL										
Automobiles	67.36	5.46	-2.37	-1.20	69.25	67.31	65.47	59.48	68.10	68.70	70 dBA:	64							
Medium Trucks	76.31	-15.97	-2.37	-1.20	56.77	33.92	27.56	24.52	33.74	34.01	65 dBA:	137							
Heavy Trucks	81.16	-18.83	-2.37	-1.20	58.76	33.12	24.18	23.94	32.98	33.13	60 dBA:	295							
Total:											69.84	67.32	65.47	59.48	68.11	68.70	55 dBA:	636	697

Road Name: Newland Street

Segment: North of Project Access 1

Average Daily Traffic: 18770 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 1 Roadway Classification: Secondary
NOISE PARAMETERS AT 50 FEET FROM CENTERLINE (Equiv. Lane Dist: 42.71 ft)

Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)												
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL										
Automobiles	69.34	0.79	0.92	-1.20	69.86	67.86	66.01	60.03	68.65	69.24	70 dBA:	41							
Medium Trucks	77.62	-16.55	0.92	-1.20	60.80	41.97	35.61	32.57	41.79	42.06	65 dBA:	88							
Heavy Trucks	82.14	-20.65	0.92	-1.20	61.21	38.37	29.43	29.19	38.23	38.38	60 dBA:	189							
Total:											70.86	67.87	66.02	60.04	68.66	69.26	55 dBA:	407	446

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITHOUT PROJECT CONDITIONS

**Project: Newland & Talbert Residential
Site Conditions: Soft**

Road Name: Newland Street		Segment: South of Project Access 1		Roadway Classification: Secondary					
Average Daily Traffic: 18830 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1					
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 48.47 ft)									
Noise Adjustments			Unmitigated Noise Levels						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)
Automobiles	69.34	0.80	-1.20	69.05	67.05	65.20	67.84	68.43	70 dBA: 40
Medium Trucks	77.62	-16.54	0.10	59.99	41.16	34.80	31.76	40.98	65 dBA: 85
Heavy Trucks	82.14	-20.64	0.10	60.40	37.56	28.62	28.38	37.42	60 dBA: 184
Total:				70.05	67.06	65.21	67.85	68.45	55 dBA: 395

Road Name: Newland Street		Segment: South of Talbert Avenue		Roadway Classification: Secondary					
Average Daily Traffic: 18400 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1					
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.07 ft)									
Noise Adjustments			Unmitigated Noise Levels						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)
Automobiles	69.34	0.70	-1.20	68.23	66.23	64.39	58.40	67.02	70 dBA: 38
Medium Trucks	77.62	-16.64	0.10	59.17	40.35	33.99	30.94	40.17	65 dBA: 82
Heavy Trucks	82.14	-20.74	0.10	59.59	36.75	27.80	27.56	36.61	60 dBA: 177
Total:				69.24	66.25	64.39	58.41	67.04	55 dBA: 381

Road Name: Talbert Avenue		Segment: West of Project Access 2		Roadway Classification: Primary					
Average Daily Traffic: 18130 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2					
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.12 ft)									
Noise Adjustments			Unmitigated Noise Levels						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)
Automobiles	69.34	0.64	-1.20	68.16	66.16	64.32	58.33	66.95	70 dBA: 41
Medium Trucks	77.62	-16.70	0.10	59.10	40.28	33.92	30.87	40.10	65 dBA: 88
Heavy Trucks	82.14	-20.80	0.10	59.52	36.68	27.73	27.49	36.54	60 dBA: 189
Total:				69.17	66.18	64.32	58.34	66.97	55 dBA: 408

Road Name: Talbert Avenue		Segment: East of Project Access 2		Roadway Classification: Primary					
Average Daily Traffic: 18130 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2					
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 48 ft)									
Noise Adjustments			Unmitigated Noise Levels						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve. Night	Ldn	CNEL	Centerline Distance to Noise Contour (in feet)
Automobiles	69.34	0.64	-1.20	68.94	66.95	65.10	59.11	67.74	70 dBA: 42
Medium Trucks	77.62	-16.70	0.10	59.88	41.06	34.70	31.66	40.88	65 dBA: 91
Heavy Trucks	82.14	-20.80	0.10	60.30	37.46	28.51	28.27	37.32	60 dBA: 197
Total:				69.95	66.96	65.11	59.13	67.75	55 dBA: 425

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITHOUT PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Road Name: Talbert Avenue		Segment: East of Newland Street		Roadway Classification: Primary								
Average Daily Traffic: 20530 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2								
NOISE PARAMETERS AT 45 FEET FROM CENTERLINE (Equiv. Lane Dist: 27 ft)												
Vehicle Type	Noise Adjustments			Unmitigated Noise Levels			Noise Contour (in feet)					
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Centerline Distance to		
Automobiles	69.34	1.18	3.91	-1.20	73.23	71.23	69.39	63.40	72.02	72.62	70 dBA: 62	67
Medium Trucks	77.62	-16.16	3.91	-1.20	64.17	45.35	38.99	35.94	45.17	45.44	65 dBA: 133	145
Heavy Trucks	82.14	-20.26	3.91	-1.20	64.59	41.75	32.80	32.56	41.61	41.76	60 dBA: 286	313
Total:				74.24	71.25	69.39	63.41	72.04	72.63	55 dBA: 615	674	

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITH PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Vehicle Type	Vehicle Mix 1 (Newland)			Vehicle Mix 2 (Talbert)			Vehicle Mix 3 (SR 39)		
	Day	Evening	Night	Day	Evening	Night	Day	Evening	Night
Automobiles	75.76%	12.38%	9.36%	97.50%	75.76%	12.38%	97.50%	76.86%	12.56%
Medium Trucks	1.57%	0.09%	0.14%	1.80%	1.57%	0.14%	1.80%	0.62%	0.04%
Heavy Trucks	0.62%	0.02%	0.06%	0.70%	0.62%	0.02%	0.70%	0.33%	0.01%
									0.03%
									0.37%

Road Name: Beach Boulevard Segment: North of Talbert Avenue

Average Daily Traffic: 48145 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial	
NOISE PARAMETERS AT 185 FEET FROM CENTERLINE (Equiv. Lane Dist: 178.93 ft)							
Noise Adjustments				Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night
Automobiles	67.36	5.45	-8.41	-1.20	63.20	61.27	59.42
Medium Trucks	76.31	-15.98	-8.41	-1.20	50.73	27.88	21.51
Heavy Trucks	81.16	-18.84	-8.41	-1.20	52.71	27.08	18.13
Total:				63.79	61.27	59.42	53.44
				Ldn	CNEL	Ldn	CNEL
				70 dBA:	62.66	70 dBA:	60
				65 dBA:	27.97	65 dBA:	118
				60 dBA:	27.09	60 dBA:	278
				55 dBA:	62.66	55 dBA:	547

Road Name: Beach Boulevard Segment: South of Talbert Avenue

Average Daily Traffic: 48255 Vehicles		Vehicle Speed: 40 MPH		Vehicle Mix: 3		Roadway Classification: Smart Street Arterial	
NOISE PARAMETERS AT 85 FEET FROM CENTERLINE (Equiv. Lane Dist: 70.82 ft)							
Noise Adjustments				Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night
Automobiles	67.36	5.46	-2.37	-1.20	69.25	67.32	65.47
Medium Trucks	76.31	-15.97	-2.37	-1.20	56.77	33.92	27.56
Heavy Trucks	81.16	-18.83	-2.37	-1.20	58.76	33.13	24.18
Total:				69.84	67.32	65.47	59.49
				Ldn	CNEL	Ldn	CNEL
				70 dBA:	68.70	70 dBA:	64
				65 dBA:	34.01	65 dBA:	137
				60 dBA:	33.14	60 dBA:	295
				55 dBA:	68.71	55 dBA:	636

Road Name: Newland Street Segment: North of Project Access 1

Average Daily Traffic: 18820 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1		Roadway Classification: Secondary	
NOISE PARAMETERS AT 50 FEET FROM CENTERLINE (Equiv. Lane Dist: 42.71 ft)							
Noise Adjustments				Unmitigated Noise Levels			
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night
Automobiles	69.34	0.80	0.92	-1.20	69.87	67.87	66.02
Medium Trucks	77.62	-16.54	0.92	-1.20	60.81	41.98	35.62
Heavy Trucks	82.14	-20.64	0.92	-1.20	61.22	38.38	29.44
Total:				70.87	67.89	66.03	60.05
				Ldn	CNEL	Ldn	CNEL
				70 dBA:	69.26	70 dBA:	41
				65 dBA:	42.08	65 dBA:	88
				60 dBA:	38.39	60 dBA:	189
				55 dBA:	69.27	55 dBA:	408

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITH PROJECT CONDITIONS

**Project: Newland & Talbert Residential
Site Conditions: Soft**

Road Name: Newland Street		Segment: South of Project Access 1		Roadway Classification: Secondary						
Average Daily Traffic: 18961 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1						
NOISE PARAMETERS AT 55 FEET FROM CENTERLINE (Equiv. Lane Dist: 48.47 ft)										
Noise Adjustments		Unmitigated Noise Levels		Centerline Distance to Noise Contour (in feet)						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	
Automobiles	69.34	0.83	-1.20	69.08	67.08	65.23	59.25	67.87	68.46	70 dBA: 40
Medium Trucks	77.62	-16.51	-1.20	60.02	41.19	34.83	31.79	41.01	41.28	65 dBA: 94
Heavy Trucks	82.14	-20.61	-1.20	60.43	37.59	28.65	28.41	37.45	37.60	60 dBA: 184
Total:				70.08	67.09	65.24	59.26	67.88	68.48	55 dBA: 397

Road Name: Newland Street		Segment: South of Talbert Avenue		Roadway Classification: Secondary						
Average Daily Traffic: 18450 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 1						
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.07 ft)										
Noise Adjustments		Unmitigated Noise Levels		Centerline Distance to Noise Contour (in feet)						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	
Automobiles	69.34	0.71	-1.20	68.24	66.25	64.40	58.41	67.04	67.63	70 dBA: 38
Medium Trucks	77.62	-16.62	-1.20	59.18	40.36	34.00	30.96	40.18	40.45	65 dBA: 82
Heavy Trucks	82.14	-20.73	-1.20	59.60	36.76	27.81	27.57	36.62	36.77	60 dBA: 177
Total:				69.25	66.26	64.41	58.43	67.05	67.64	55 dBA: 381

Road Name: Talbert Avenue		Segment: West of Project Access 2		Roadway Classification: Primary						
Average Daily Traffic: 18180 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2						
NOISE PARAMETERS AT 65 FEET FROM CENTERLINE (Equiv. Lane Dist: 54.12 ft)										
Noise Adjustments		Unmitigated Noise Levels		Centerline Distance to Noise Contour (in feet)						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	
Automobiles	69.34	0.65	-1.20	68.17	66.18	64.33	58.34	66.97	67.56	70 dBA: 41
Medium Trucks	77.62	-16.69	-1.20	59.11	40.29	33.93	30.89	40.11	40.38	65 dBA: 88
Heavy Trucks	82.14	-20.79	-1.20	59.53	36.69	27.74	27.50	36.55	36.70	60 dBA: 190
Total:				69.18	66.19	64.34	58.36	66.98	67.57	55 dBA: 409

Road Name: Talbert Avenue		Segment: East of Project Access 2		Roadway Classification: Primary						
Average Daily Traffic: 18211 Vehicles		Vehicle Speed: 45 MPH		Vehicle Mix: 2						
NOISE PARAMETERS AT 60 FEET FROM CENTERLINE (Equiv. Lane Dist: 48 ft)										
Noise Adjustments		Unmitigated Noise Levels		Centerline Distance to Noise Contour (in feet)						
Vehicle Type	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	
Automobiles	69.34	0.66	-1.20	68.96	66.97	65.12	59.13	67.76	68.35	70 dBA: 43
Medium Trucks	77.62	-16.68	-1.20	59.90	41.08	34.72	31.68	40.90	41.17	65 dBA: 92
Heavy Trucks	82.14	-20.78	-1.20	60.32	37.48	28.53	28.29	37.34	37.49	60 dBA: 198
Total:				69.97	66.98	65.12	59.14	67.77	68.36	55 dBA: 426

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Scenario: OPENING YEAR 2024 WITH PROJECT CONDITIONS

Project: Newland & Talbert Residential
Site Conditions: Soft

Road Name: Talbert Avenue Segment: East of Newland Street Roadway Classification: Primary
Average Daily Traffic: 20630 Vehicles Vehicle Speed: 45 MPH Vehicle Mix: 2

Vehicle Type	Noise Adjustments			Unmitigated Noise Levels						Centerline Distance to Noise Contour (in feet)		
	REMEL Traffic Adj.	Dist Adj.	Finite Adj.	Leq Peak	Leq Day	Leq Eve.	Leq Night	Ldn	CNEL	Ldn	CNEL	
Automobiles	69.34	1.20	3.91	-1.20	73.25	71.26	69.41	63.42	72.05	72.64	70 dBA: 62	68
Medium Trucks	77.62	-16.14	3.91	-1.20	64.19	45.37	39.01	35.97	45.19	45.46	65 dBA: 133	146
Heavy Trucks	82.14	-20.24	3.91	-1.20	64.61	41.77	32.82	32.58	41.63	41.78	60 dBA: 286	314
Total:					74.26	71.27	69.41	63.43	72.06	72.65	55 dBA: 617	676

APPENDIX E

FHWA Model Onsite Traffic Noise Calculation Printouts

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Newland Street
Building: Building 1

Project Name: Newland & Talbert
Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,961 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,896 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	52 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%

Site Data		Elevations	
Barrier Height:	4.0 feet	Barrier Base Elevation:	47.9 feet
Barrier Type(Wall/Berm):	Wall	Road Elevation:	50.5 feet
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road	
Centerline (C.L.) Dist. to Barrier:	55 feet	Autos:	0 feet
C.L. Dist. To Observer (Backyard):	60 feet	Med Trucks:	2.3 feet
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet
C.L. Dist. To Observer (Structure):	70 feet	Pad Elevation:	47.4 feet
Barrier Dist. To Observer (Structure):	15 feet	Observer Heights Above Pad Elevation	
Road Grade:	0.00 %	Exterior:	5 feet
Left View:	-90 degrees	First Floor:	5.5 feet
Right View:	90 degrees	Second Floor:	14 feet

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.83	-0.62	-1.20	0.00	-4.6	-4.8	0
Med Trucks:	77.62	-16.51	-0.62	-1.20	0.00	-3.9	-3.55	0
Hvy Trucks:	82.14	-20.61	-0.62	-1.20	0.00	-1.04	-0.49	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	68.4	66.4	64.5	58.5	67.2	67.7
Med Trucks:	59.3	40.5	34.1	31.1	40.3	40.6
Hvy Trucks:	59.7	36.9	27.9	27.7	36.7	36.9
Traffic Noise:	69.4	66.4	64.5	58.5	67.2	67.8

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.8	61.8	59.9	53.9	62.6	63.1
Med Trucks:	55.4	36.6	30.2	27.2	36.4	36.7
Hvy Trucks:	58.7	35.8	26.9	26.6	35.7	35.8
Traffic Noise:	65.4	61.8	59.9	53.9	62.6	63.2

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.4	60.4	58.5	52.5	61.2	61.7
Med Trucks:	54.5	35.7	29.4	26.3	35.5	35.8
Hvy Trucks:	58.0	35.2	26.2	26.0	35.0	35.2
Traffic Noise:	64.2	60.4	58.5	52.5	61.2	61.8

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.1	63.2	57.2	65.9	66.5
Med Trucks:	58.0	39.2	32.8	29.8	39.0	39.3
Hvy Trucks:	58.4	35.6	26.6	26.4	35.4	35.6
Traffic Noise:	68.1	65.1	63.2	57.2	65.9	66.5

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Talbert Avenue
Building: Building 1

Project Name: Newland & Talbert
Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,211 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,821 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	72 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%

Site Data		Elevations	
Barrier Height:	4.0 feet	Barrier Base Elevation:	47.4 feet
Barrier Type(Wall/Berm):	Wall	Road Elevation:	46.0 feet
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road	
Centerline (C.L.) Dist. to Barrier:	62 feet	Autos:	0 feet
C.L. Dist. To Observer (Backyard):	67 feet	Med Trucks:	2.3 feet
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet
C.L. Dist. To Observer (Structure):	72 feet	Pad Elevation:	47.4 feet
Barrier Dist. To Observer (Structure):	10 feet	Observer Heights Above Pad Elevation	
Road Grade:	0.00 %	Exterior:	5 feet
Left View:	-90 degrees	First Floor:	5.5 feet
Right View:	90 degrees	Second Floor:	14 feet

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.66	-0.94	-1.20	0.00	-4.2	-4.5	0
Med Trucks:	77.62	-16.68	-0.94	-1.20	0.00	-3.1	-3.55	0
Hvy Trucks:	82.14	-20.78	-0.94	-1.20	0.00	-0.82	-0.7	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.9	64.0	58.0	66.7	67.2
Med Trucks:	58.8	40.0	33.6	30.6	39.8	40.1
Hvy Trucks:	59.2	36.4	27.4	27.2	36.2	36.4
Traffic Noise:	68.9	65.9	64.0	58.0	66.7	67.3

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.7	61.7	59.8	53.8	62.5	63.0
Med Trucks:	55.7	36.9	30.5	27.5	36.7	37.0
Hvy Trucks:	58.4	35.6	26.6	26.4	35.4	35.6
Traffic Noise:	65.3	61.7	59.8	53.8	62.5	63.1

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.7	60.7	58.9	52.9	61.5	62.1
Med Trucks:	54.6	35.8	29.4	26.4	35.6	35.9
Hvy Trucks:	57.9	35.0	26.1	25.8	34.9	35.0
Traffic Noise:	64.4	60.7	58.9	52.9	61.5	62.1

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.1	63.2	57.2	65.8	66.4
Med Trucks:	58.0	39.2	32.8	29.8	39.0	39.3
Hvy Trucks:	58.4	35.6	26.6	26.4	35.4	35.6
Traffic Noise:	68.1	65.1	63.2	57.2	65.9	66.5

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Talbert Avenue
Building: Building 3

Project Name: Newland & Talbert
Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,211 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,821 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	72 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%

Site Data		Elevations	
Barrier Height:	4.0 feet	Barrier Base Elevation:	46.5 feet
Barrier Type(Wall/Berm):	Wall	Road Elevation:	46.0 feet
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road	
Centerline (C.L.) Dist. to Barrier:	62 feet	Autos:	0 feet
C.L. Dist. To Observer (Backyard):	67 feet	Med Trucks:	2.3 feet
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet
C.L. Dist. To Observer (Structure):	72 feet	Pad Elevation:	46.5 feet
Barrier Dist. To Observer (Structure):	10 feet	Observer Heights Above Pad Elevation	
Road Grade:	0.00 %	Exterior:	5 feet
Left View:	-90 degrees	First Floor:	5.5 feet
Right View:	90 degrees	Second Floor:	14 feet

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.66	-0.93	-1.20	0.00	-3.9	-4.4	0
Med Trucks:	77.62	-16.68	-0.93	-1.20	0.00	-2.5	-2.9	0
Hvy Trucks:	82.14	-20.78	-0.93	-1.20	0.00	-0.74	-0.58	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.9	65.9	64.0	58.0	66.7	67.3
Med Trucks:	58.8	40.0	33.6	30.6	39.8	40.1
Hvy Trucks:	59.2	36.4	27.4	27.2	36.2	36.4
Traffic Noise:	68.9	65.9	64.0	58.1	66.7	67.3

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	64.0	62.0	60.1	54.1	62.8	63.4
Med Trucks:	56.3	37.5	31.1	28.1	37.3	37.6
Hvy Trucks:	58.5	35.6	26.7	26.5	35.5	35.7
Traffic Noise:	65.6	62.0	60.1	54.2	62.8	63.4

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.8	60.8	59.0	53.0	61.6	62.2
Med Trucks:	55.3	36.4	30.1	27.0	36.3	36.5
Hvy Trucks:	58.0	35.2	26.2	26.0	35.0	35.2
Traffic Noise:	64.6	60.9	59.0	53.0	61.6	62.2

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.1	65.1	63.2	57.2	65.9	66.5
Med Trucks:	58.0	39.2	32.8	29.8	39.0	39.3
Hvy Trucks:	58.4	35.6	26.6	26.4	35.5	35.6
Traffic Noise:	68.1	65.1	63.2	57.3	65.9	66.5

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Talbert Avenue
 Lot Number: Building 5

Project Name: Newland & Talbert
 Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,211 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,821 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	72 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%
Site Data		Elevations				
Barrier Height:	4.0 feet	Barrier Base Elevation:	46.7 feet			
Barrier Type(Wall/Berm):	Wall	Road Elevation:	45.0 feet			
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road				
Centerline (C.L.) Dist. to Barrier:	65 feet	Autos:	0 feet			
C.L. Dist. To Observer (Backyard):	70 feet	Med Trucks:	2.3 feet			
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet			
C.L. Dist. To Observer (Structure):	77 feet	Pad Elevation:	46.7 feet			
Barrier Dist. To Observer (Structure):	12 feet	Observer Heights Above Pad Elevation				
Road Grade:	0.00 %	Exterior:	5 feet			
Left View:	-90 degrees	First Floor:	5.5 feet			
Right View:	90 degrees	Second Floor:	14 feet			

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.66	-1.34	-1.20	0.00	-4.2	-4.8	0
Med Trucks:	77.62	-16.68	-1.34	-1.20	0.00	-3.1	-4.1	0
Hvy Trucks:	82.14	-20.78	-1.34	-1.20	0.00	-0.86	-0.84	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	63.6	57.6	66.3	66.9
Med Trucks:	58.4	39.6	33.2	30.2	39.4	39.7
Hvy Trucks:	58.8	36.0	27.0	26.8	35.8	36.0
Traffic Noise:	68.5	65.5	63.6	57.6	66.3	66.9

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.3	61.3	59.4	53.4	62.1	62.7
Med Trucks:	55.3	36.5	30.1	27.1	36.3	36.6
Hvy Trucks:	58.0	35.1	26.2	25.9	35.0	35.1
Traffic Noise:	64.9	61.3	59.4	53.5	62.1	62.7

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.9	59.9	58.0	52.0	60.6	61.2
Med Trucks:	53.5	34.7	28.3	25.3	34.5	34.8
Hvy Trucks:	57.2	34.3	25.4	25.1	34.2	34.3
Traffic Noise:	63.6	59.9	58.0	52.0	60.7	61.3

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.5	62.7	56.7	65.3	65.9
Med Trucks:	57.4	38.6	32.3	29.2	38.4	38.7
Hvy Trucks:	57.9	35.0	26.1	25.8	34.9	35.0
Traffic Noise:	67.5	64.5	62.7	56.7	65.3	65.9

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Talbert Avenue
 Lot Number: Building 7

Project Name: Newland & Talbert
 Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,211 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,821 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	72 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%

Site Data		Elevations	
Barrier Height:	4.0 feet	Barrier Base Elevation:	45.9 feet
Barrier Type(Wall/Berm):	Wall	Road Elevation:	45.0 feet
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road	
Centerline (C.L.) Dist. to Barrier:	65 feet	Autos:	0 feet
C.L. Dist. To Observer (Backyard):	70 feet	Med Trucks:	2.3 feet
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet
C.L. Dist. To Observer (Structure):	77 feet	Pad Elevation:	45.9 feet
Barrier Dist. To Observer (Structure):	12 feet	Observer Heights Above Pad Elevation	
Road Grade:	0.00 %	Exterior:	5 feet
Left View:	-90 degrees	First Floor:	5.5 feet
Right View:	90 degrees	Second Floor:	14 feet

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.66	-1.33	-1.20	0.00	-4.1	-4.6	0
Med Trucks:	77.62	-16.68	-1.33	-1.20	0.00	-2.7	-3.6	0
Hvy Trucks:	82.14	-20.78	-1.33	-1.20	0.00	-0.78	-0.74	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	67.5	65.5	63.6	57.6	66.3	66.9
Med Trucks:	58.4	39.6	33.2	30.2	39.4	39.7
Hvy Trucks:	58.8	36.0	27.0	26.8	35.9	36.0
Traffic Noise:	68.5	65.5	63.6	57.7	66.3	66.9

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	63.4	61.4	59.5	53.5	62.2	62.8
Med Trucks:	55.7	36.9	30.5	27.5	36.7	37.0
Hvy Trucks:	58.1	35.2	26.3	26.0	35.1	35.2
Traffic Noise:	65.0	61.4	59.5	53.6	62.2	62.8

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.1	60.1	58.2	52.2	60.9	61.4
Med Trucks:	54.0	35.2	28.8	25.8	35.0	35.3
Hvy Trucks:	57.3	34.4	25.5	25.2	34.3	34.4
Traffic Noise:	63.8	60.1	58.2	52.2	60.9	61.5

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.5	64.5	62.7	56.7	65.3	65.9
Med Trucks:	57.5	38.6	32.3	29.2	38.5	38.7
Hvy Trucks:	57.9	35.0	26.1	25.9	34.9	35.1
Traffic Noise:	67.5	64.5	62.7	56.7	65.3	65.9

FHWA-RD-77-108 HIGHWAY TRAFFIC NOISE PREDICTION MODEL

Road Name: Talbert Avenue
 Lot Number: Building 9

Project Name: Newland & Talbert
 Job Number: 21097

NOISE MODEL INPUTS

Highway Data		Vehicle Mix				
Average Daily Traffic:	18,211 vehicles	Day	Evening	Night	Daily	
Peak Hour Volume:	1,821 vehicles	Autos:	75.8%	12.4%	9.4%	97.5%
Vehicle Speed:	45 mph	Medium Trucks:	1.6%	0.1%	0.1%	1.8%
Near/Far Lane Distance:	72 feet	Heavy Trucks:	0.6%	0.0%	0.1%	0.7%

Site Data		Elevations	
Barrier Height:	4.0 feet	Barrier Base Elevation:	45.1 feet
Barrier Type(Wall/Berm):	Wall	Road Elevation:	44.5 feet
Site Conditions(Hard/Soft):	Soft	Noise Source Elevation above Road	
Centerline (C.L.) Dist. to Barrier:	72 feet	Autos:	0 feet
C.L. Dist. To Observer (Backyard):	77 feet	Med Trucks:	2.3 feet
Barrier Dist. To Observer (Backyard):	5 feet	Hvy Trucks:	8 feet
C.L. Dist. To Observer (Structure):	84 feet	Pad Elevation:	45.1 feet
Barrier Dist. To Observer (Structure):	12 feet	Observer Heights Above Pad Elevation	
Road Grade:	0.00 %	Exterior:	5 feet
Left View:	-90 degrees	First Floor:	5.5 feet
Right View:	90 degrees	Second Floor:	14 feet

FHWA NOISE MODEL CALCULATIONS

	REMEL	Traffic Flow	Distance	Finite Road	Grade	Barrier Attenuation		
						Exterior	1st Flr	2nd Flr
Autos:	69.34	0.66	-2.13	-1.20	0.00	-3.8	-4.5	0
Med Trucks:	77.62	-16.68	-2.13	-1.20	0.00	-2.3	-3.3	0
Hvy Trucks:	82.14	-20.78	-2.13	-1.20	0.00	-0.78	-0.74	0

UNMITIGATED NOISE LEVELS (No sound walls)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	66.7	64.7	62.8	56.8	65.5	66.1
Med Trucks:	57.6	38.8	32.4	29.4	38.6	38.9
Hvy Trucks:	58.0	35.2	26.2	26.0	35.0	35.2
Traffic Noise:	67.7	64.7	62.8	56.8	65.5	66.1

MITIGATED NOISE LEVELS (Backyard)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	62.9	60.9	59.0	53.0	61.7	62.3
Med Trucks:	55.3	36.5	30.1	27.1	36.3	36.6
Hvy Trucks:	57.2	34.4	25.5	25.2	34.3	34.4
Traffic Noise:	64.5	60.9	59.0	53.1	61.7	62.3

MITIGATED NOISE LEVELS (First Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	61.5	59.5	57.6	51.6	60.2	60.8
Med Trucks:	53.6	34.8	28.4	25.4	34.6	34.9
Hvy Trucks:	56.6	33.7	24.8	24.5	33.6	33.7
Traffic Noise:	63.2	59.5	57.6	51.6	60.3	60.9

MITIGATED NOISE LEVELS (Second Floor)

	Leq Peak Hour	Leq Day	Leq Evening	Leq Night	Ldn	CNEL
Autos:	65.9	63.9	62.0	56.0	64.6	65.2
Med Trucks:	56.8	38.0	31.6	28.6	37.8	38.1
Hvy Trucks:	57.2	34.4	25.4	25.2	34.2	34.4
Traffic Noise:	66.9	63.9	62.0	56.0	64.7	65.3