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October 6, 2025

Mr. Kerry Garza
Touchstone Communities
9815 Mira Mesa Boulevard
San Diego, CA 92131

Reference: Noise Analysis for the Parkview Townhomes Project (RECON Number 10596)

Dear Mr. Garza:

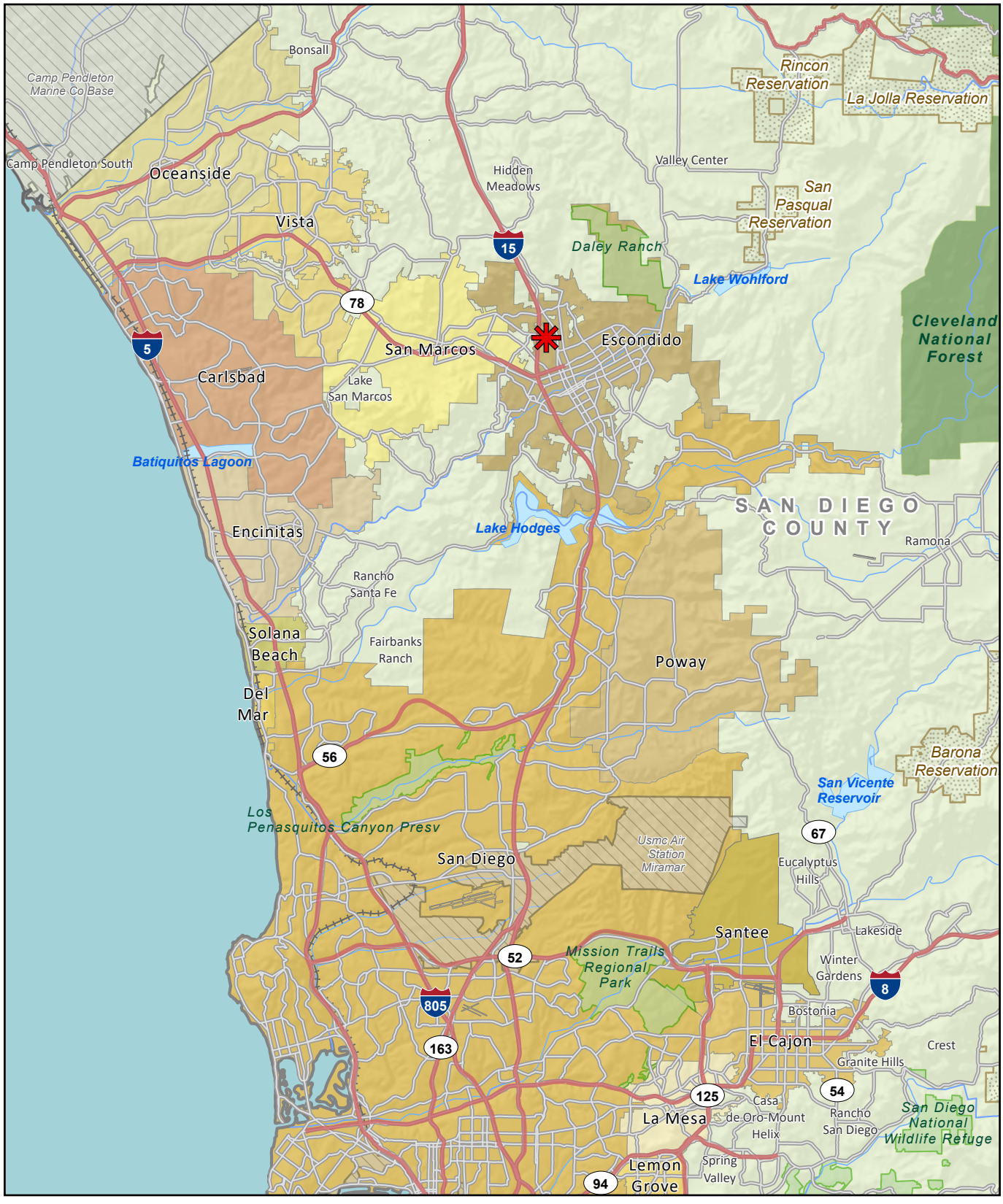
The purpose of this report is to assess potential noise impacts from construction and operation of the Parkview Townhomes Project (project). Impacts are assessed in accordance with standards established in the City of Escondido General Plan (General Plan) and Escondido Municipal Code (Municipal Code).

1.0 Introduction

1.1 Project Description

The project site is located at 550 West El Norte Parkway in the city of Escondido, California (assessor parcel number 226-380-48). The 4.96-acre project site is partially developed with a single-family residence with several ancillary structures, a driveway, a separate private access road, underground and overhead utilities, a terraced area, several fenced areas, and two large open areas consisting of vacant land. The project site is bounded by commercial and residential uses to the east, West El Norte Parkway followed by residential to the south, and the City of Escondido Rod McLeod Park to the north. Immediately abutting the property to the west is a small undeveloped lot owned by San Diego Gas & Electric, which supports a northeast-trending utility corridor. Figure 1 shows the regional location of the project. Figure 2 shows an aerial photograph of the project site and vicinity.

The project would construct 70 townhomes (14 dwelling units per acre) and associated recreational areas including a tot-lot children's park, play lawn, seating area, and private community pool. Access to the project site would be restricted to right-in, left-in, and right-out movements via West El Norte Parkway. Internal driveways would be constructed to allow for vehicular access throughout. Pursuant to Section 33-765 in the City's Municipal Code, the project would require 150 parking spaces. The project would exceed this requirement by providing 165 parking spaces, which would consist of two garage parking spaces per each unit, resulting in 140 garage parking spaces, as well as 25 guest parking spaces, two of which would be Americans with Disabilities Act (ADA) accessible. In addition, the project includes a 0.06-acre off-site improvement area that includes constructing a new public sidewalk along its frontage of West El Norte Parkway and providing a new driveway connection to West El Norte Parkway within the existing right-of-way. Figure 3 shows the proposed site plan.



Project Location

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FIGURE 1
Regional Location

Image Source: NearMap (flown April 2025)

Project Boundary

Off-site Improvements

0 Feet 300

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FIGURE 2
Project Location on Aerial Photograph

Map Source: Summa Architecture

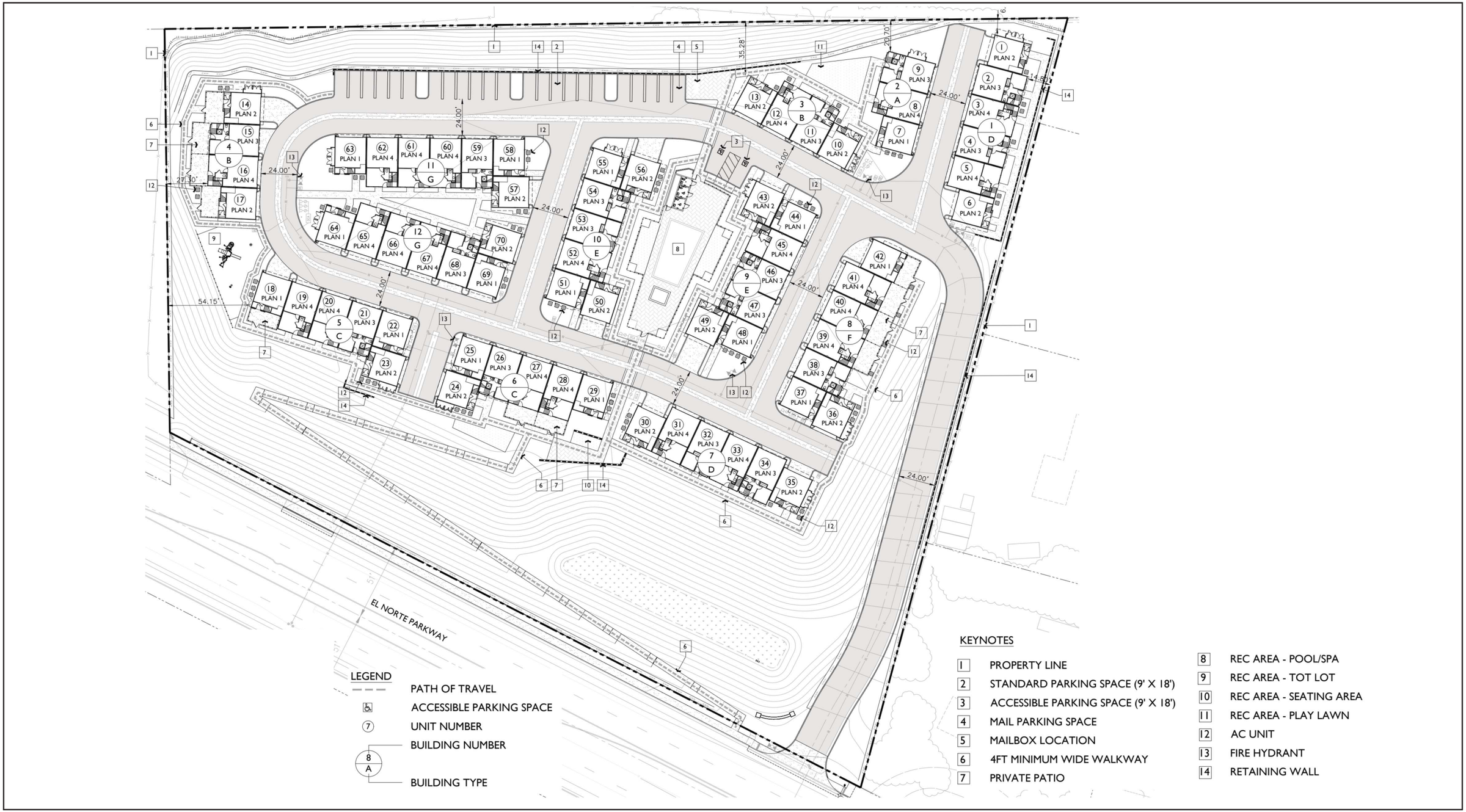

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FIGURE 3
Site Plan

The discretionary approvals required for the project include a Tentative Subdivision Map/Condominium Permit, a Major Plot Plan, a Design Review Permit as required for Condominium Permits (Section 33-951 of Article 49), and a Grading Exemption. The project also proposes a General Plan Amendment to amend the existing land use designation of Specific Plan Area 13 Imperial Oakes Corporate Center to Urban IV and a Zone Map Amendment to amend the existing zoning from Professional Commercial (CP) to High Multiple Family Residential (R-4). Because the project site was not included in the City's adopted 2021-2029 6th Cycle Housing Element Update (City of Escondido 2021) Regional Housing Needs Allocation, the City would not require the project to meet the 70 percent minimum density requirement for the High Multiple Residential (R-4) zone. In addition, the project will require an Administrative Adjustment to allow up to a 25 percent reduction to the rear setback requirement.

Project construction is anticipated to begin in April 2026 and last for approximately two years. Grading would include 27,435 cubic yards of cut and 33,710 cubic yards of fill for a total soil import quantity of 6,275 cubic yards.

1.2 Fundamentals of Noise

Sound levels are described in units called the decibel (dB). Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used for earthquake magnitudes. Thus, a doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; a halving of the energy would result in a 3 dB decrease.

Additionally, in technical terms, sound levels are described as either a "sound power level" or a "sound pressure level," which while commonly confused are two distinct characteristics of sound. Both share the same unit of measure, the dB. However, sound power, expressed as L_{pw}, is the energy converted into sound by the source. The L_{pw} is used to estimate how far a noise will travel and to predict the sound levels at various distances from the source. As sound energy travels through the air, it creates a sound wave that exerts pressure on receivers such as an eardrum or microphone and is the sound pressure level. Noise measurement instruments only measure sound pressure, and noise level limits used in standards are generally sound pressure levels.

The human ear is not equally sensitive to all frequencies within the sound spectrum. To accommodate this phenomenon, the A-scale, which approximates the frequency response of the average young ear when listening to most ordinary everyday sounds, was devised. When people make relative judgments of the loudness or annoyance of a sound, their judgments correlate well with the A-scale sound levels of those sounds. Therefore, the "A-weighted" noise scale is used for measurements and standards involving the human perception of noise. Noise levels using A-weighted measurements are designated with the notation dB(A). The impact of noise is not a function of loudness alone. The time of day when noise occurs and the duration of the noise are also important. In addition, most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors has been developed. The noise descriptors used for this study are the one-hour equivalent noise level (L_{eq}), the community noise equivalent level (CNEL), and the day night equivalent level (L_{dn}). The CNEL is a 24-hour equivalent sound level. The CNEL calculation applies an additional 5 dB(A) penalty to noise occurring during evening hours, between 7:00 p.m. and 10:00 p.m., and an additional 10 dB(A) penalty is added to noise occurring during the night, between 10:00 p.m. and 7:00 a.m. These increases for certain times are intended to account for the added sensitivity of humans to noise during the evening and night. Similar to the CNEL, the L_{dn} is a 24-hour equivalent level that applies an additional 10 dB(A) penalty to noise occurring during the night.

Sound from a small, localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern, known as geometric spreading. The sound level decreases or drops off at a rate of 6 dB(A) for each doubling of the distance.

Traffic noise is not a single, stationary point source of sound. The movement of vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. The drop-off rate for a line source is 3 dB(A) for each doubling of distance.

The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site (such as parking lots or smooth bodies of water) receives no additional ground attenuation, and the changes in noise levels with distance (drop-off rate) are simply the geometric spreading of the source. A soft site (such as soft dirt, grass, or scattered bushes and trees) receives an additional ground attenuation value of 1.5 dB(A) per doubling of distance. Thus, a point source over a soft site would attenuate at 7.5 dB(A) per doubling of distance.

Human perception of noise has no simple correlation with acoustical energy. A change in noise levels is generally perceived as follows: 3 dB(A) barely perceptible, 5 dB(A) readily perceptible, and 10 dB(A) perceived as a doubling or halving of noise (California Department of Transportation 2013).

2.0 Applicable Standards

2.1 General Plan

The General Plan Community Protection Element establishes noise and land use compatibility standards and outlines goals and policies to achieve these standards. New projects in the City are required to meet the noise exposure compatibility guidelines listed in Table 1. As shown, multi-family land uses are “normally acceptable” with noise levels up to 65 CNEL, “conditionally acceptable” with noise levels from 60 to 70 CNEL, “normally unacceptable” with noise levels from 70 to 75 CNEL, and clearly unacceptable” with noise levels above 75 CNEL. These noise level standards are applied at multi-family recreation areas and are not normally applied to balconies or patios.

Table 1 Noise/Land Use Compatibility Guide							
	Community Noise Exposure (CNEL)						
	55	60	65	70	75	80	
Residential – Single-family, Duplex, Mobile Home							
Residential – Multi-Family, Residential Mixed Use							
Transient Lodging, Motels, Hotels							
Schools, Libraries, Churches, Hospitals, Nursing Homes							
Auditoriums, Concert Halls, Amphitheaters							
Sports Arenas, Outdoor Spectator Sports							
Playgrounds, Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial, Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Table 1 Noise/Land Use Compatibility Guide	
	Normally Acceptable: Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.
	Conditionally Acceptable: New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will usually suffice.
	Normally Unacceptable: New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
	Clearly Unacceptable: New construction or development should generally not be undertaken.
SOURCE: City of Escondido 2012.	

The General Plan Community Protection Element also contains the following policies relevant to ambient vehicle noise:

- Noise Policy 5.1: Require development to meet acceptable exterior noise level standards as established in Figure VI-2 [Table 1], and use the future noise contour map (FigureVI-17 [of the General Plan]) as a guide for evaluating the compatibility of new noise sensitive uses with projected noise levels.

- Noise Policy 5.2: Apply a CNEL of 60 dB or less for single-family uses and 65 dB CNEL or less for multifamily uses as goals where outdoor use is a major consideration (back yards and single-family housing developments, and recreation areas in multi-family housing developments), and recognize that such levels may not necessarily be achievable in all residential areas.

- Noise Policy 5.3: Require noise attenuation for outdoor spaces in all developments where projected incremental exterior noise levels exceed those shown in Table 2, Exterior Incremental Noise Impact Standards for Noise-Sensitive Land Uses.

- Noise Policy 5.4: Require noise attenuation for new noise-sensitive receptors, which include residential, daycare facilities, schools, churches, transient lodging, hotels, motels, hospitals, healthcare facilities, and libraries, if the projected interior noise standard of 45 CNEL is exceeded.

Table 2 Exterior Incremental Environmental Noise Impact Standards for Noise-Sensitive Uses			
Residences and Buildings Where People Normally Sleep[1]		Institutional Land Uses with Primarily Daytime and Evening Uses[2]	
Existing CNEL	Allowable Noise Increment [dB(A)]	Existing Peak Noise Level [dB(A) L_{eq}]	Allowable Noise Increment [dB(A)]
45	8	45	12
50	5	50	9
55	3	55	6
60	2	60	5
65	1	65	3
70	1	70	3
75	0	75	1
80	0	80	0

SOURCE: City of Escondido 2012.
NOTE: Noise levels are measured at the property line of the noise-sensitive area.
CNEL = community noise equivalent level; dB(A) = A-weighted decibel; L_{eq} = average noise level
[1]This category includes homes, hospitals, and hotels where a nighttime sensitivity to noise is assumed to be of utmost importance.
[2]This category includes schools, libraries, theaters, and churches where it is important to avoid interference with such activities as speech, meditation, and concentration on reading material.

2.2 Municipal Code

2.2.1 Operation

Section 17-229 of the Municipal Code establishes property line noise level limits for on-site generated noise. These noise level limits are summarized in Table 3.

Table 3 Municipal Code Noise Level Limits		
Zone	Time	Applicable One-Hour Average Noise Level Limit [dB(A) L_{eq}]
Residential Zones	7:00 a.m. – 10:00 p.m.	50
	10:00 p.m. – 7:00 a.m.	45
Multi-Residential Zones	7:00 a.m. – 10:00 p.m.	55
	10:00 p.m. – 7:00 a.m.	50
Commercial Zones	7:00 a.m. – 10:00 p.m.	60
	10:00 p.m. – 7:00 a.m.	55
Light/Industrial/Industrial Park Zones	Anytime	70*
General Industrial Zones	Anytime	75*

SOURCE: Municipal Code Section 17-229.
dB(A) = A-weighted decibel; L_{eq} = average noise level
*The sound level limit at a location on a boundary between two land use classifications is the limit applicable to the receiving land use; provided, however, that the one-hour average sound level limit applicable to extractive industries including but not limited to borrow pits and mines, shall be 75 decibels (dB) at the property line regardless of the zone where the extractive industry is actually located.
Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

2.2.2 Construction

Sections 17-234 and 17-238 of the Municipal Code establishes construction noise limits. It states:

§17-234 Construction Equipment. Except for emergency work, it shall be unlawful for any person, including the City of Escondido, to operate construction equipment as follows:

a) It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site, except on Monday through Friday during a week between the hours of 7 a.m. and 6 p.m. and on Saturdays between the hours of 9 a.m. and 5 p.m., and provided that the operation of such construction equipment complies with the requirements of subsection (d) of this section.

b) It shall be unlawful for any person, including the City of Escondido, to operate construction equipment at any construction site on Sundays and on days designated by the president, governor or city council as public holidays.

c) A person may operate construction equipment at his/her residence or for the purpose of constructing or modifying a residence for himself/herself on Monday through Friday of a week between the hours of 7 a.m. and 6 p.m., and on Saturdays, Sundays, and holidays between the hours of 9 a.m. and 5 p.m.; provided, that such operation of construction equipment is not carried on for profit or livelihood and complies with the requirements of subsection (d) of this section.

d) No construction equipment or combination of equipment, regardless of age or date of acquisition, shall be operated so as to cause noise in excess of a one-hour average sound level limit of 75 dB at any time, unless a variance has been obtained in advance from the city manager.

e) Persons engaged in construction for profit or as a business shall post signs at conspicuous places on a construction site, indicating hours of work as prescribed by this article or authorized by permit and the applicable noise level limits

§17-238 Grading.

a) It shall be unlawful for any person, including the City of Escondido, to do any authorized grading at any construction site, except on Mondays through Fridays during a week between the hours of 7 a.m. and 6 p.m. and, provided a variance has been obtained in advance from the city manager, on Saturdays from 10 a.m. to 5 p.m.

b) For the purpose of this section, "grading" shall include but not be limited to compacting, drilling, rock crushing or splitting, bulldozing, clearing, dredging, digging, filling and blasting.

c) In addition, any equipment used for grading shall not be operated so as to cause noise in excess of a one hour sound level limit of 75 dB at any time when measured at or within the property lines of any property which is developed and used in whole or in part for residential purposes, unless a variance has been obtained in advance from the city manager.

3.0 Existing Conditions

Existing noise levels on and in the vicinity of the project site were measured on August 22, 2024, using one Larson-Davis Model LxT, Type 1 Integrating Sound Level Meter, serial number 3829. The following parameters were used:

Filter:	A-weighted
Response:	Slow
Interval Period	1 minute
Time History Period:	5 seconds

The meter was calibrated before measurements. The meter was set five feet above the ground level for each measurement. The weather was warm and sunny with a slight breeze during the measurement period.

Measurement 1 was located at the southern project boundary, approximately 50 feet from West El Norte Parkway. The main source of noise was vehicle traffic on West El Norte Parkway. Traffic counts were conducted during the 15-minute measurement period. The average measured noise level was 66.0 dB(A) L_{eq}.

Measurement 2 was located at the northern project boundary. The main source of noise was vehicle traffic on West El Norte Parkway. Secondary sources of noise included barking dogs. Traffic counts were conducted during the 15-minute measurement period. The average measured noise level was 56.4 dB(A) L_{eq}.

Noise measurement results are summarized in Table 4 and traffic counts are provided in Table 5. The measurement locations are shown on Figure 4, and noise measurement data is provided in Attachment 1.

Table 4
Noise Measurement Summary

Measurement	Location	Time	Measured Noise Level [dB(A) L_{eq}]	Main Noise Source
1	Southern project boundary, 50 feet from West El Norte Parkway	1:30 p.m. – 1:45 p.m.	66.0	Vehicle traffic on West El Norte Parkway
2	Northern project boundary, 340 feet from West El Norte Parkway	1:56 p.m. – 2:11 p.m.	56.4	Vehicle traffic on West El Norte Parkway

dB(A) L_{eq} = A-weighted decibels one-hour equivalent noise level

Table 5
15-minute Traffic Counts

Measurement	Roadway	Direction	Autos	Medium Trucks	Heavy Trucks	Buses	Motorcycles
1	West El Norte Parkway	Eastbound	178	2	0	0	0
		Westbound	170	1	0	1	2
2	West El Norte Parkway	Eastbound	156	0	0	0	2
		Westbound	181	1	0	1	0

Image Source: NearMap (flown April 2025)

0 Feet 200

Project Boundary

Off-site Improvements

Noise Measurement Location

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FIGURE 4
Noise Measurement Locations

4.0 Methodology

Noise level predictions and contour mapping were developed using noise modeling software, SoundPlan Essential, version 4.1 (Navcon Engineering 2018). SoundPLAN calculates noise propagation based on the International Organization for Standardization method (ISO 9613-2 – Acoustics, Attenuation of Sound during Propagation Outdoors). The model calculates noise levels at selected receiver locations using input parameter estimates such as total noise generated by each noise source; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. The model outputs can be developed as noise level contour maps or noise levels at specific receivers. In all cases, receivers were modeled at 5 feet above ground elevation, which represents the average height of the human ear.

4.1 Construction Noise Analysis

Project construction noise would be generated by diesel engine-driven construction equipment used for demolition, site preparation and grading, building construction, loading, unloading, and placing materials and paving. Diesel engine-driven trucks also would bring materials to the site and remove the soils from excavation.

Construction equipment with a diesel engine typically generates maximum noise levels from 70 to 95 dB(A) L_{eq} at a distance of 50 feet (Federal Highway Administration [FHWA] 2006 and 2008; Federal Transit Authority 2018). During construction, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Table 6 summarizes typical construction equipment noise levels and duty cycles.

During excavation, grading, and paving operations, equipment moves to different locations and goes through varying load cycles, and there are breaks for the operators and for non-equipment tasks, such as measurement. Although maximum noise levels may be 70 to 95 dB(A) at a distance of 50 feet during most construction activities, hourly average noise levels from the grading phase of construction would be 85 dB(A) L_{eq} at 50 feet from the center of construction activity when assessing the loudest pieces of equipment–excavator, grader, and scraper–working simultaneously. Noise levels were modeled as an area source over the footprint of the project.

Table 6
Typical Construction Equipment Noise Levels

Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Auger Drill Rig	85	20%
Backhoe	80	40%
Blasting	94	1%
Chain Saw	85	20%
Clam Shovel	93	20%
Compactor (ground)	80	20%
Compressor (air)	80	40%
Concrete Mixer Truck	85	40%
Concrete Pump	82	20%
Concrete Saw	90	20%
Crane (mobile or stationary)	85	20%
Dozer	85	40%
Dump Truck	84	40%
Excavator	85	40%

Table 6 Typical Construction Equipment Noise Levels		
Equipment	Noise Level at 50 Feet [dB(A) L_{eq}]	Typical Duty Cycle
Front End Loader	80	40%
Generator (25 kilovolt amps or less)	70	50%
Generator (more than 25 kilovolt amps)	82	50%
Grader	85	40%
Hydra Break Ram	90	10%
Impact Pile Driver (diesel or drop)	95	20%
In situ Soil Sampling Rig	84	20%
Jackhammer	85	20%
Mounted Impact Hammer (hoe ram)	90	20%
Paver	85	50%
Pneumatic Tools	85	50%
Pumps	77	50%
Rock Drill	85	20%
Roller	74	40%
Scraper	85	40%
Tractor	84	40%
Vacuum Excavator (vac-truck)	85	40%
Vibratory Concrete Mixer	80	20%
Vibratory Pile Driver	95	20%
dB(A) L_{eq} = A-weighted decibels average noise level SOURCE: Federal Highway Administration 2006 and 2008; Federal Transit Authority 2018.		

Additionally, due to the presence of large rock outcrops on the project site, blasting may be required during construction activities. Areas of the project site that require deeper cuts and where the native material is not easily rippable (graded) may require blasting and the use of a rock drill or hammer. The drilling/hammering and blasting activities would occur in one area then the grading equipment would relocate or remove the debris. The loudest equipment used during this process would be the excavator with a mounted pneumatic hammer, which is louder than a rock drill. Drilling/hammering would be followed by a blast. Together, an excavator with pneumatic hammer generates a noise level of 84.5 dB(A) L_{eq} at 50 feet which is equivalent to a sound power level of 116.2 dB(A) L_{pw}. The blast itself generates a noise level of 74.0 dB(A) L_{eq} at 50 feet which is equivalent to a sound power level of 105.6 dB(A) L_{pw}. Noise levels due to hammering and blasting were calculated at the closest occupied receiver using a noise attenuation rate of 6 dB(A) per doubling of distance.

4.2 Traffic Noise Analysis

4.2.1 On-Site Noise Compatibility

The SoundPLAN program uses the FHWA Traffic Noise Model algorithms and reference levels to calculate traffic noise levels at selected receiver locations. The model uses various input parameters, such as projected hourly average traffic rates; vehicle mix, distribution, and speed; roadway lengths and gradients; distances between sources, barriers, and receivers; and shielding provided by intervening terrain, barriers, and structures. Receivers, roadways, and barriers were input into the model using three-dimensional coordinates.

The main source of traffic noise at the project site is vehicle traffic on West El Norte Parkway. Future year 2050 traffic volumes were obtained from the San Diego Association of Governments (SANDAG) Transportation Forecast Information Center (SANDAG 2024). It should be noted that the year 2050 forecast volume for West El Norte Parkway is greater than the existing plus cumulative plus project traffic volume modeled in the Transportation Local Mobility Analysis (LMA) prepared for the project (C2 Consulting Collective 2025) and is therefore conservative. The posted speed is 45 mph. The vehicle classification mix was obtained from Caltrans truck counts conducted on I-15 near the project site (Caltrans 2022). Caltrans does not count motorcycles or buses; thus, one percent of the automobiles were modeled as motorcycles and one percent of the automobiles were modeled as buses. Table 7 summarizes the modeled vehicle traffic parameters.

Table 7
Modeled Vehicle Traffic Parameters – On-Site Noise Compatibility

Roadway	ADT	Vehicle Classification (percent)					Speed (mph)
		Automobiles	Medium Trucks	Heavy Trucks	Buses	Motorcycles	
West El Norte Parkway	18,900	89.7	4.3	4.1	1.0	1.0	45

SOURCE: SANDAG 2024, Caltrans 2022
ADT = average daily traffic; mph = miles per hour

4.2.2 Off-Site Traffic Noise Increase

The project would contribute traffic to the local roadways. However, the project would not substantially alter the vehicle classifications mix on local or regional roadways, nor would the project alter the speed on an existing roadway or create a new roadway. Thus, the primary factor affecting off-site noise levels would be increased traffic volumes. While changes in noise levels would occur along any roadway where project-related traffic occurs, for noise assessment purposes, noise level increases are assumed to be greatest nearest the project site, as this location would represent the greatest concentration of project-related traffic. The increase in off-site noise levels along West El Norte Parkway were calculated using the FHWA RD-77-108 Traffic Noise Prediction Model and traffic volumes provided in the LMA prepared for the project (C2 Consulting Collective 2025). Noise levels were modeled at 50 feet from the roadway centerline. Modeled traffic volumes without and with the project are summarized in Table 8.

Table 8
Modeled Vehicle Traffic Parameters – Off-Site Noise Increase

Roadway	Traffic Volume				Speed (mph)
	Existing	Existing + Project	Existing + Cumulative	Existing + Cumulative + Project	
West El Norte Parkway					
Seven Oaks Road to Commercial Driveway	10,750	11,086	11,416	11,752	45
Commercial Driveway to Project Driveway	10,750	11,310	11,416	11,976	45
Project Driveway to South Iris Lane	12,100	12,324	12,766	12,990	45

SOURCE: C2 Consulting Collective 2025
ADT = average daily traffic; mph = miles per hour

4.3 On-Site Noise Analysis

Operational noise sources on the project site are anticipated to be typical of any residential neighborhood, such as vehicles arriving and leaving, children at play, and landscape maintenance machinery. None of these noise sources associated with residential uses are anticipated to violate the Municipal Code or result in a substantial permanent

increase in existing noise levels. The project would include heating, ventilation, and air conditioning (HVAC) units. Noise levels due to HVAC units were modeled to determine if they have the potential to produce noise in excess of City limits.

The HVAC equipment would be located on the ground next to each of the residential units. It is not known at this time which manufacturer, brand, or model of unit or units would be selected for use in the project. For the purposes of this analysis, to determine what general noise levels the HVAC units would generate, it was assumed that the HVAC units would be similar to a Trane unit with a sound power level of 72 dB(A) which is equivalent to a sound pressure level of approximately 40 dB(A) L_{eq} at 50 feet. Noise specifications are presented in Attachment 2. All units were modeled at full capacity during the daytime hours and 50 percent capacity during the nighttime hours.

5.0 Noise Impacts

5.1 Construction Noise Analysis

5.1.1 Construction/Grading

Noise level limits for construction activities are established in Sections 17-234 and 17-238 of the Municipal Code. It states that no construction equipment shall exceed a one-hour average sound level limit of 75 dB(A) L_{eq}. In addition, Section 17-234 states that construction activities are only permitted between 7:00 a.m. and 6:00 p.m. Monday through Friday, and 9:00 a.m. and 5:00 p.m. on Saturdays. Section 17-238 states that grading activities are only permitted between 7:00 a.m. and 6:00 p.m. Monday through Friday, and provided a variance has been obtained in advance from the city manager, between 10:00 a.m. and 5:00 p.m. on Saturday.

The project site is bounded by commercial and residential uses to the east, West El Norte Parkway followed by residential to the south, and the City of Escondido Rod McLeod Park to the north. Noise associated with the construction of the project was modeled at a series of 12 receivers located at the adjacent properties. The results are summarized in Table 9. Construction noise contours are shown in Figure 5. SoundPLAN data is contained in Attachment 3.

Image Source: NearMap (flown April 2025)

Project Boundary

Off-site Improvements

Receivers

Construction Noise

60 dB(A) L_{eq}

65 dB(A) L_{eq}

70 dB(A) L_{eq}

75 dB(A) L_{eq}

0 Feet 200

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FIGURE 5
Construction Noise Contours

Table 9 Construction Noise Levels at Adjacent Receivers [dB(A) L_{eq}]		
Receiver	Land Use	Construction Noise Level
1	Single Family Residential	71
2	Single Family Residential	72
3	Single Family Residential	72
4	Mobile Home Residential	65
5	Mobile Home Residential	66
6	Mobile Home Residential	67
7	Mobile Home Residential	66
8	Undeveloped (Zoned Professional Commercial)	72
9	Undeveloped (Zoned Professional Commercial)	73
10	Undeveloped (Zoned Open Space)	72
11	Undeveloped (Zoned Open Space)	72
12	Undeveloped (Zoned Open Space)	71
dB(A) L_{eq} = A-weighted decibels equivalent noise level. SOURCE: Attachment 3.		

As shown in Table 9, construction noise levels are anticipated to range from 65 to 73 dB(A) L_{eq} at the adjacent properties. Although the existing adjacent uses would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. In accordance with Sections 17-234 and 17-238 of the Municipal Code, construction activities would not occur before 7:00 a.m. or after 6:00 p.m. on Mondays through Fridays, before 9:00 a.m. or after 5:00 p.m. on Saturdays, and would not occur any time on Sundays and holidays. As construction activities associated with the project would comply with requirements of the Municipal Code, impacts associated temporary increases in noise levels during construction would be less than significant.

5.1.2 Drilling/Blasting

Figure 6 shows the locations of rock that is likely to require blasting based on the geotechnical surveys conducted for the project. The nearest occupied receiver to the blasting locations is the residence located south of West El Norte Parkway near modeled receiver locations 6 and 7. These residential property lines are located 145 feet from the southernmost location requiring blasting. An excavator with a mounted pneumatic hammer would generate a noise level of 75 dB(A) L_{eq} at 145 feet, and the blast would generate a noise level of 65 dB(A) L_{eq} at 145 feet. All other receivers are located at greater distances from the blasting locations and noise levels would be less. Noise levels due to hammering and blasting would not exceed the City's noise level threshold of 75 dB(A) L_{eq}. As with general construction and grading activities discussed in Section 5.1.1, although the existing adjacent uses would be exposed to noise levels that could be heard above ambient conditions, the exposure would be temporary. In accordance with Sections 17-234 and 17-238 of the Municipal Code, construction activities, including all hammering and blasting, would not occur before 7:00 a.m. or after 6:00 p.m. on Mondays through Fridays, before 9:00 a.m. or after 5:00 p.m. on Saturdays, and would not occur any time on Sundays and holidays. Additionally, mitigation measure NOS-1 would require the blasting contractor to obtain a Blasting Permit and comply with all City requirements. Per Blasting Permit

requirements, a pre-blast inspection shall be conducted, and all blasting operations shall be monitored by a seismograph located at the nearest structure. Additionally, the blasting contractor shall implement measures necessary to minimize noise related to blasting to the levels established in the Municipal Code. With implementation of mitigation measure NOS-1, blasting activities associated with the project would comply with the requirements of the Municipal Code, and impacts associated with temporary increases in noise levels and groundborne vibration would be less than significant.

NOS-1: If blasting and associate rock drilling are deemed necessary for the construction of project components, the blasting contractor shall obtain a Blasting Permit and comply with all City requirements. Per Blasting Permit requirements, a pre-blast inspection shall be conducted and all blasting operations shall be monitored by a seismograph located at the nearest structure. Additionally, the blasting contractor shall implement measures necessary to minimize noise related to blasting to the levels established in the Municipal Code. If rock drill staging occurs within 145 feet of any occupied noise sensitive land uses, sound levels could exceed 75 dB(A) L_{eq} at property lines. A noise mitigation plan based upon the location of the construction equipment, topography and construction schedule shall be prepared by an acoustical consultant. The noise mitigation plan shall identify measures to reduce sound levels to below 75 dB(A) L_{eq}. Such measures could include a temporary noise barrier along any property line where the impacts could occur. The proposed noise barrier shall be of solid non-gapping material to adequately reduce construction noise levels below the noise threshold of 75 dB(A) L_{eq} at the property lines. The noise mitigation plan shall determine the final height and location of a temporary barrier if one is necessary. The mitigation plan may also identify location and timing restrictions on drilling equipment usage. The mitigation plan shall be submitted to the City for review and approval prior to initiation of rock drill staging activities within 145 feet of any occupied noise sensitive land use.

5.2 Traffic Noise Analysis

5.2.1 On-site Noise Compatibility

Noise and land use compatibility is regulated by the Noise Element of the General Plan. Multi-family land uses are "normally acceptable" with noise levels up to 65 CNEL, "conditionally acceptable" with noise levels from 60 to 70 CNEL, "normally unacceptable" with noise levels from 70 to 75 CNEL, and clearly unacceptable" with noise levels above 75 CNEL. These noise level standards are applied at multi-family recreation areas and are not normally applied to balconies or patios.

Vehicle traffic noise level contours across the project site were calculated using SoundPLAN. These contours take into account the project area topography and the proposed buildings. Noise levels were also modeled at a series of first- through third-floor receivers located at the proposed recreation areas and around the proposed buildings. Vehicle traffic noise contours and receiver locations are shown in Figure 7. The results are summarized in Table 10. SoundPLAN data are provided in Attachment 4.

Image Source: NearMap (flown April 2025)

0 Feet 120

Project Boundary
Off-site Improvements
Hard Rock Potentially Requiring Blasting

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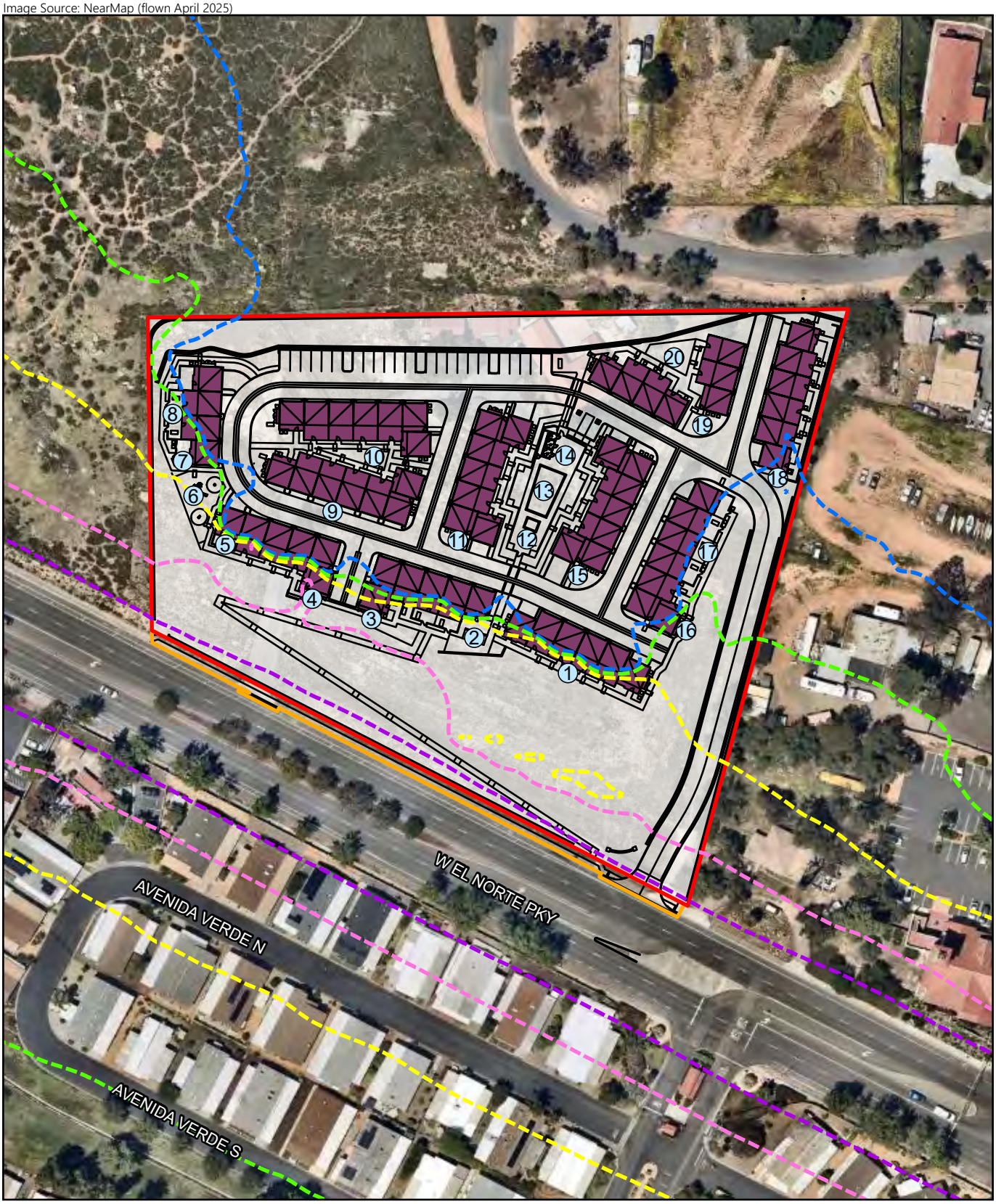
FIGURE 6
Potential Blasting Locations

Table 10 Vehicle Traffic Noise Levels (CNEL)				
Receiver	Location	1st Floor	2nd Floor	3rd Floor
1	Building 7	65	66	66
2	Recreation Area – Seating Area/Building 6	62	64	65
3	Building 6	65	67	67
4	Building 5	66	67	68
5	Building 5	64	66	67
6	Recreation Area – Tot Lot	60	63	64
7	Building 4	59	62	64
8	Building 4	58	61	62
9	Building 12	44	51	54
10	Building 11	30	33	38
11	Building 10	33	38	41
12	Recreation Area – Pool/Spa	43	46	52
13	Recreation Area – Pool/Spa	39	41	44
14	Recreation Area – Pool/Spa	38	39	42
15	Building 9	40	47	49
16	Building 8	57	59	59
17	Building 8	53	56	57
18	Building 1	53	56	57
19	Building 2 and 3	44	48	49
20	Recreation Area – Play Lawn	35	40	42
CNEL = community noise equivalent level SOURCE: Attachment 4.				

Image Source: NearMap (flown April 2025)



Project Boundary
Off-site Improvements
Site Plan
Buildings
Receivers

Vehicle Traffic Noise
50 CNEL
55 CNEL
60 CNEL
65 CNEL
70 CNEL

0 Feet 120

RECON

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FIGURE 7
Vehicle Traffic Noise Contours

As discussed, the noise level standard of 65 CNEL is applied at the multi-family recreation areas. As shown in Table 10, exterior noise levels at the seating area (Receiver 2) would be 62 CNEL, noise levels at the tot lot (Receiver 6) would be 60 CNEL, noise levels at the pool/spa area would range from 38 to 43 CNEL, and noise levels at the play lawn would be 35 CNEL. Noise levels would not exceed 65 CNEL and the project would be compatible with the City's exterior noise level standards. Exterior noise impacts would be less than significant.

Interior noise levels can be reduced through standard construction techniques. When windows are closed, standard construction techniques provide various exterior-to-interior noise level reductions depending on the type of structure and window. According to the FHWA's Highway Traffic Noise Analysis and Abatement Guidance, buildings with masonry façades and double-glazed windows can be estimated to provide a noise level reduction of 35 dB, while light-frame structures with double-glazed windows may provide noise level reductions of 20 to 25 dB (FHWA 2011).

The interior noise level standard for residential uses is 45 CNEL. As shown in Table 10, exterior noise levels at Buildings 1 through 4 and 8 through 12 would be 64 CNEL or less. Standard light-frame construction would reduce exterior to interior noise levels by at least 20 dB. This analysis conservatively assumes that standard construction techniques would achieve 20 dB exterior to interior noise reduction. Using this assumption, interior noise levels would be reduced to less than 45 CNEL in Buildings 1 through 4 and 8 through 12.

Building 5, 6, and 7 would be located closer to West El Norte Parkway and as shown in Table 10, exterior noise levels would be up to 68 CNEL. Because a standard 20 dB reduction would not achieve interior noise levels of 45 CNEL or less, a more detailed evaluation of interior noise levels was conducted. The sound transmission class (STC) rating of windows, walls, and roofs is an integer value that rates how well a building component attenuates noise. The STC rating general reflects the decibel reduction that a building component can achieve. Noise levels on the southern side of these units would be up to 68 CNEL. Therefore, because a noise reduction of up to 23 dB(A) is required to achieve interior noise levels of 45 CNEL or less, building components with an STC rating of up to 23 would be required. Standard walls and roofs typically have STC ratings greater than 40, and therefore would achieve the required noise reduction. In order to achieve an interior noise level of 45 CNEL or less in Buildings 5, 6, and 7, windows with an STC of 23 or greater would be required. The inclusion of windows with an STC of 23 in these buildings shall be a project condition of approval. Therefore, the project would not expose receivers to interior noise levels in excess of standards established in the General Plan, and impacts would be less than significant.

5.2.2 Off-Site Vehicle Traffic Noise

As discussed, the project would increase traffic on West El Norte Parkway. The increase in off-site noise levels were calculated using the parameters summarized in Section 4.2.2. General Plan Noise Policy 5.3 Require noise attenuation for outdoor spaces in all developments where projected incremental exterior noise levels exceed those shown in Table 2 (see Section 2.1). The increase in off-site noise levels adjacent to West El Norte Parkway are summarized in Table 11. Calculations are provided in Attachment 5.

Table 11
Off-Site Vehicle Traffic Noise Levels (CNEL)

Roadway Segment	Existing	Existing + Project	Direct Increase over Existing	Existing + Cumulative + Project	Cumulative Increase over Existing
West El Norte Parkway					
Seven Oaks Road to Commercial Driveway	71.0	71.1	0.1	71.4	0.4
Commercial Driveway to Project Driveway	71.0	71.2	0.2	71.5	0.5
Project Driveway to South Iris Lane	71.5	71.6	0.1	71.8	0.3

SOURCE: Attachment 5.

As shown, the project would result in noise level increases of 0.5 dB or less. The project would not exceed the allowable noise level increases. It should be noted that 3 dB is considered a barely perceptible change in noise levels; therefore, an increase of 0.5 dB or less would not be an audible change in noise levels. Operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site noise sensitive land uses, and impacts would be less than significant.

5.3 On-Site Noise Analysis

The primary noise sources on-site would be HVAC equipment. Using the on-site noise source parameters discussed in Section 4.3, noise levels were modeled at a series of 12 receivers located at the adjacent uses. Modeled receivers and daytime and nighttime operational noise contours are shown in Figures 8a and 8b, respectively. Modeled data is included in Attachment 6. Operational noise levels are summarized in Table 12.

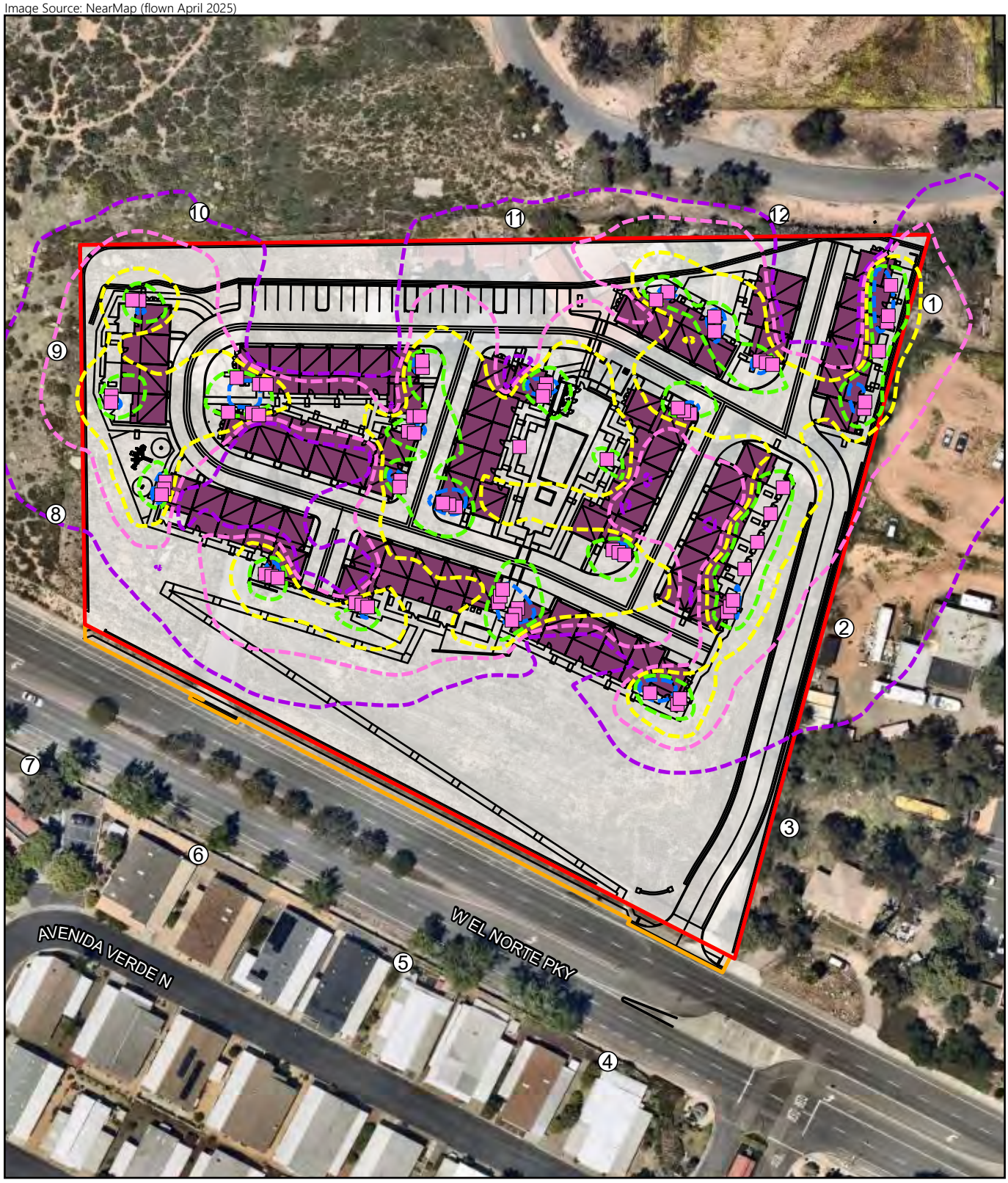
Table 12
HVAC Noise Levels at Adjacent Receivers
[dB(A) L_{eq}]

Receiver	Land Use	HVAC Noise Level	
		Daytime	Nighttime
1	Single Family Residential	48	45
2	Single Family Residential	43	40
3	Single Family Residential	37	34
4	Mobile Home Residential	33	30
5	Mobile Home Residential	34	31
6	Mobile Home Residential	36	33
7	Mobile Home Residential	35	32
8	Undeveloped (Zoned Professional Commercial)	40	37
9	Undeveloped (Zoned Professional Commercial)	46	43
10	Undeveloped (Zoned Open Space)	41	38
11	Undeveloped (Zoned Open Space)	42	39
12	Undeveloped (Zoned Open Space)	40	37

dB(A) L_{eq} = A-weighted decibels equivalent noise level.
SOURCE: Attachment 6

As shown, daytime HVAC noise levels would range from 33 to 48 dB(A) L_{eq} at the adjacent property lines and nighttime noise levels would range from 30 to 45 dB(A) L_{eq}. Noise levels would not exceed the City's most restrictive daytime and nighttime noise level limits of 50 and 45 dB(A) L_{eq}, respectively (see Table 3). Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant.

Image Source: NearMap (flown April 2025)



Project Boundary
Off-site Improvements
Receivers
Site Plan
HVAC
Buildings

Daytime HVAC
40 dB(A) L_{eq}
45 dB(A) L_{eq}
50 dB(A) L_{eq}
55 dB(A) L_{eq}
60 dB(A) L_{eq}

0 Feet 100

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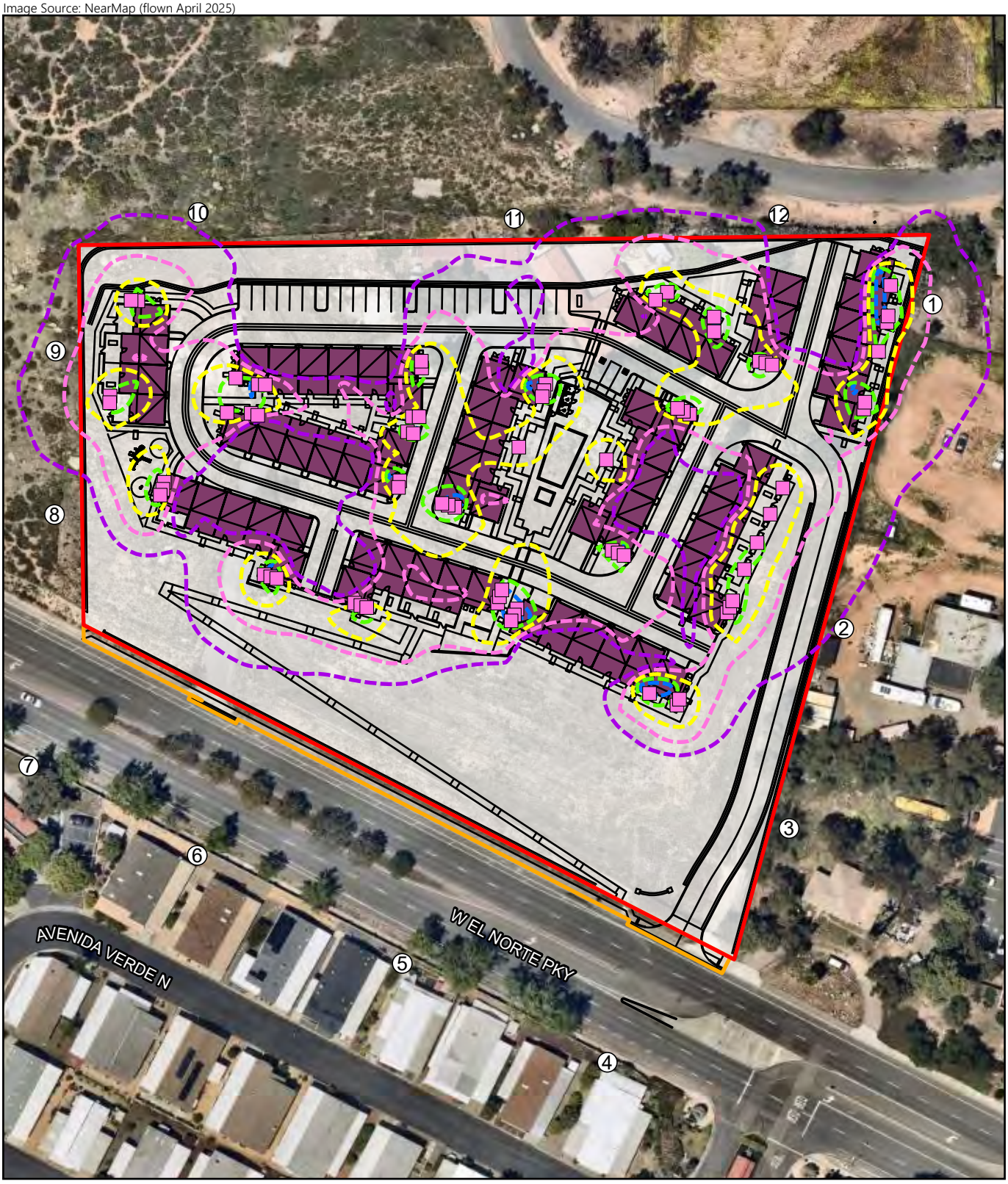
FIGURE 8a
Daytime HVAC Noise Contours

Image Source: NearMap (flown April 2025)



Project Boundary
Off-site Improvements
Receivers
Site Plan
HVAC
Buildings

Daytime HVAC
40 dB(A) L_{eq}
45 dB(A) L_{eq}
50 dB(A) L_{eq}
55 dB(A) L_{eq}
60 dB(A) L_{eq}

0 Feet 100

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FIGURE 8b
Nighttime HVAC Noise Contours

5.4 Groundborne Vibration

Human reaction to vibration is dependent on the environment the receiver is in, as well as individual sensitivity. For example, outdoor vibration is rarely noticeable and generally not considered annoying. Typically, humans must be inside a structure for vibrations to become noticeable and/or annoying (Federal Transit Administration 2018). Based on several federal studies, the threshold of perception is 0.035 inch per second (in/sec) peak particle velocity (PPV), with 0.24 in/sec PPV being distinctly perceptible (Caltrans 2013). Based on best available data, impacts for hydraulic breakers, or hammers, and other non-transient sources such as those associated with project construction shall be considered significant if the PPV exceeds 0.2 in/sec. Vibration perception would occur at structures, as people do not perceive vibrations without vibrating structures.

Construction activities produce varying degrees of ground vibration, depending on the equipment and methods employed. While ground vibrations from typical construction activities rarely reach levels high enough to cause damage to structures, special consideration must be made when sensitive or historic land uses are near the construction site. The construction activities that typically generate the highest levels of vibration are blasting and impact pile driving. As discussed, due to the presence of large rock outcrops on the project site, blasting may be required during construction activities. When a blast is detonated, only a portion of the energy is consumed in breaking up and moving the rock. The remaining energy is dissipated in the form of seismic waves expanding rapidly outward from the blast, either through the ground (as vibration) or through the air (as air overpressure or airblast). Groundborne vibration would also be generated during the hammering or drilling activities required prior to the blast.

Vibration levels associated with the use of mounted impact hammers or drills are 0.089 in/sec PPV at 25 feet (FTA 2018). This vibration level would exceed the significance criteria of 0.2 in/sec PPV at distances of 12 feet or closest. There are no structures within 12 feet of any potential hammering/drilling and blasting locations. Therefore, groundborne vibration impacts due to hammering or drilling would be less than significant.

Vibration levels associated with blasting are site-specific and are dependent on the amount of explosive used, soil conditions between the blast site and the receptor, and the elevation where blasting would take place (specifically, how far below surface elevation where bedrock would be encountered). At the current stage of project design, a blasting and monitoring plan has not been completed; thus, specifics, such as the explosive, blasting quantities, and exact locations, have not been identified. However, it can be assumed all blasting locations would be within the boundaries of the non-rippable rock (see Figure 6). As discussed, existing structures are located 145 feet or more from the blasting locations. In the absence of specific blast locations, frequency, and duration, it is possible that certain activities could exceed the threshold of 0.2 in/sec PPV, which would result in a potentially significant impact. Implementation of mitigation measure NOS-1 would reduce potential significant impacts to a less than significant level because it would require vibration generated by blasting to be at or below 0.2 in/sec PPV.

For all other construction activities, the equipment with the greatest potential to generate vibration would be a large bulldozer. According to the Federal Transit Administration, large bulldozers generate vibration levels of 0.089 in/sec PPV at 25 feet. Unlike blasting, which has the potential to occur only in specific locations on the project site, vibration levels due to all other equipment was assessed over the entire project site. The nearest structure is located as close as 50 feet from the project boundary. A vibration level of 0.089 in/sec PPV at 25 feet would attenuate to 0.042 in/sec PPV at 50 feet. While it may be barely perceptible, it would be less than 0.2 in/sec PPV. Furthermore, large construction equipment would work immediately adjacent to the property lines only for short periods of time and would be operating at greater distances from the adjacent structures as construction occurs throughout the entire project site. Therefore, aside from blasting activities, project construction would not generate excessive groundborne vibration or groundborne noise levels, and impacts would be less than significant.

Operation of the project would not generate groundborne noise or vibration. No impact would occur.

6.0 Conclusions

Noise impacts due to construction and operation of the project were assessed in accordance with standards established in the General Plan Noise Element and the Municipal Code. As discussed in this analysis, construction noise levels are anticipated to range from 65 to 73 dB(A) L_{eq} at the adjacent properties. Although the existing adjacent uses would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. As construction activities associated with the project would comply with requirements of the Municipal Code, impacts associated with temporary increases in noise levels during construction would be less than significant.

The project may require blasting at locations identified in Figure 6. As described in mitigation measure NOS-1, the blasting contractor would be required to obtain a Blasting Permit and comply with all City requirements. Per Blasting Permit requirements, a pre-blast inspection shall be conducted, and all blasting operations shall be monitored by a seismograph located at the nearest structure. Additionally, the blasting contractor shall implement measures necessary to minimize noise related to blasting to the levels established in the Municipal Code. With implementation of mitigation measure NOS-1, blasting activities associated with the project would comply with the requirements of the Municipal Code, and impacts associated with temporary increases in noise levels and groundborne vibration would be less than significant.

The noise level standard of 65 CNEL is applied at the multi-family recreation areas. As shown in Table 10, exterior noise levels at the recreation areas would not exceed 65 CNEL and the project would be compatible with the City's exterior noise level standards. Exterior noise impacts would be less than significant. The interior noise level standard for residential uses is 45 CNEL. As shown in Table 10, exterior noise levels at Buildings 1 through 4 and 8 through 12 would be 64 CNEL or less. Assuming a 20 dB exterior-to-interior noise level reduction associated with standard light frame construction, interior noise levels would be reduced to less than 45 CNEL in Buildings 1 through 4 and 8 through 12. In order to achieve an interior noise level of 45 CNEL or less in Buildings 5, 6, and 7, windows with an STC of 23 or greater would be required. The inclusion of windows with an STC of 23 in these buildings shall be a project condition of approval. Therefore, the project would not expose receivers to interior noise levels in excess of standards established in the General Plan, and impacts would be less than significant.

The project would contribute traffic to the local roadways. As calculated in this analysis, the project would result in noise level increases of 0.5 dB or less, which would not be an audible change in noise levels. Operational roadway noise would not generate a substantial permanent increase in ambient noise levels for off-site noise sensitive land uses, and impacts would be less than significant.

Daytime HVAC noise levels would range from 33 to 48 dB(A) L_{eq} at the adjacent property lines and nighttime noise levels would range from 30 to 45 dB(A) L_{eq}. Noise levels would not exceed the City's most restrictive daytime and nighttime noise level limits of 50 and 45 dB(A) L_{eq}, respectively. Therefore, operational noise would not generate a substantial permanent increase in ambient noise levels in excess of limits established in the Municipal Code, and impacts would be less than significant.

If you have any questions about the results of this analysis, please contact me at jfleming@reconenvironmental.com or (619) 308-9333 extension 177.

Sincerely,

Jessica Fleming
Senior Noise Analyst

JLF:sh

Attachments

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ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

10596 Parkview Townhomes
Noise Measurement Data

Summary

File Name on Meter	LxT_Data.020.s
File Name on PC	LxTse_0003829-20240822 132957-LxT_Data.020.ldbin
Serial Number	0003829
Model	SoundExpert® LxT
Firmware Version	2.301
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2024-08-22 13:29:57
Stop	2024-08-22 13:45:32
Duration	00:15:34.6
Run Time	00:15:02.3
Pause	00:00:32.3
Pre-Calibration	2024-08-22 13:20:59
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.4 dB

	A	C	Z
Under Range Peak	**78.7**	75.7	80.7 dB
Under Range Limit	**26.3**	25.4	32.3 dB
Noise Floor	16.4	16.3	22.2 dB

Results

LAeq	66.0	
LAE	95.5	
EA	395.189 µPa²h	
LApeak (max)	2024-08-22 13:43:35	92.9 dB
LASmax	2024-08-22 13:32:18	76.6 dB
LASmin	2024-08-22 13:36:57	52.5 dB
SEA	-99.9 dB	

LAS > 60.0 dB (Exceedance Counts / Duration)	18	775.8 s
LAS > 70.0 dB (Exceedance Counts / Duration)	15	97.4 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00	
	66.0	66.0	-99.9	66.0	66.0	-99.9	-99.9	dB

LCeq	72.3 dB
LAeq	66.0 dB
LCeq - LAeq	6.4 dB
LAleq	66.7 dB
LAeq	66.0 dB
LAleq - LAeq	0.8 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	66.0		72.3			
Ls(max)	76.6	2024/08/22 13:32:18				
Ls(min)	52.5	2024/08/22 13:36:57				
LPeak(max)	92.9	2024/08/22 13:43:35				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA5.00	69.9 dB
LA10.00	69.2 dB
LA33.30	66.6 dB
LA50.00	64.6 dB
LA66.60	62.5 dB
LA90.00	57.6 dB

10596 Parkview Townhomes
Noise Measurement Data

Summary

File Name on Meter	LxT_Data.022.s
File Name on PC	LxTse_0003829-20240822 135611-LxT_Data.022.ldbin
Serial Number	0003829
Model	SoundExpert® LxT
Firmware Version	2.301
User	
Location	
Job Description	
Note	

Measurement

Description	
Start	2024-08-22 13:56:11
Stop	2024-08-22 14:11:20
Duration	00:15:09.0
Run Time	00:15:03.9
Pause	00:00:05.1
Pre-Calibration	2024-08-22 13:20:59
Post-Calibration	None
Calibration Deviation	---

Overall Settings

RMS Weight	A Weighting
Peak Weight	A Weighting
Detector	Slow
Preamplifier	PRMLxT1L
Microphone Correction	Off
Integration Method	Linear
OBA Range	Normal
OBA Bandwidth	1/1 and 1/3
OBA Frequency Weighting	A Weighting
OBA Max Spectrum	At LMax
Overload	122.4 dB

	A	C	Z
Under Range Peak	**78.7**	75.7	80.7 dB
Under Range Limit	**26.3**	25.4	32.3 dB
Noise Floor	16.4	16.3	22.2 dB

Results

LAeq	56.4	
LAE	86.0	
EA	43.737 µPa²h	
LApeak (max)	2024-08-22 13:57:06	95.6 dB
LASmax	2024-08-22 13:57:07	74.5 dB
LASmin	2024-08-22 14:05:46	51.5 dB
SEA	-99.9 dB	
LAS > 60.0 dB (Exceedance Counts / Duration)	8	34.4 s
LAS > 70.0 dB (Exceedance Counts / Duration)	1	3.5 s
LApeak > 135.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 137.0 dB (Exceedance Counts / Duration)	0	0.0 s
LApeak > 140.0 dB (Exceedance Counts / Duration)	0	0.0 s

Community Noise	Ldn	LDay 07:00-22:00	LNight 22:00-07:00	Lden	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00	
	56.4	56.4	-99.9	56.4	56.4	-99.9	-99.9	dB

LCeq	68.1 dB
LAeq	56.4 dB
LCeq - LAeq	11.7 dB
LAleq	61.5 dB
LAeq	56.4 dB
LAleq - LAeq	5.1 dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
Leq	56.4		68.1			
Ls(max)	74.5	2024/08/22 13:57:07				
Ls(min)	51.5	2024/08/22 14:05:46				
LPeak(max)	95.6	2024/08/22 13:57:06				

Overload Count	0
Overload Duration	0.0 s
OBA Overload Count	0
OBA Overload Duration	0.0 s

Statistics

LA5.00	58.4 dB
LA10.00	57.1 dB
LA33.30	55.4 dB
LA50.00	54.8 dB
LA66.60	54.2 dB
LA90.00	53.2 dB

ATTACHMENT 2

HVAC Specifications

Fan Performance

Table 6. Standard motor & low static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
5	WSC060ED	AK44x3/4"	N/A	720	791	861	931	1002	1072
6	WSC072ED	AK56x1"	N/A	558	612	665	718	772	825
7½	WSC090ED	AK57x1"	N/A	688	737	787	837	887	N/A
10	WSC120ED	AK105X1"	N/A	724	776	828	880	932	984

Note: Factory set at 3 turns open.

Table 7. Standard motor & high static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
6	WSC072ED	AK56x1"	N/A	968	1018	1068	1118	1169	1219
7½	WSC090ED	AK57x1"	1053	1091	1129	1166	1204	1242	N/A
10	WSC120ED	AK105X1"	1110	1159	1209	1258	1308	1357	N/A

Note: Factory set at 3 turns open.

Table 8. Oversized motor & high static drive accessory sheave/fan speed (rpm)

Tons	Unit Model Number	Fan Sheave	6 Turns Open	5 Turns Open	4 Turns Open	3 Turns Open	2 Turns Open	1 Turn Open	Closed
7½	WSC090ED	AK85x1"	1186	1249	1311	1373	1436	N/A	N/A

Note: Factory set at 3 turns open.

Table 9. Outdoor sound power level—dB (ref. 10—2 W)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
5	T/YSC060ED	84	91	79	77	74	71	68	63	80
6	T/YSC072ED	83	90	86	82	79	75	70	63	85
7½	T/YSC090ED	83	90	86	83	80	75	71	64	85
8.5	T/YSC102ED	83	89	84	81	77	72	69	62	83
10	T/YSC120ED	83	86	80	77	73	69	66	60	79

Note: Tests follow ARI270-95.

Table 10. Outdoor sound power level—dB (ref. 10—12 W)

Tons	Unit Model Number	Octave Center Frequency								Overall dBA
		63	125	250	500	1000	2000	4000	8000	
5	WSC060ED	84	91	79	77	74	71	68	63	80
6	WSC072ED	83	90	86	82	79	75	70	63	85
7½	WSC090ED	83	90	86	83	80	75	71	64	85
10	WSC120ED	83	86	80	77	73	69	66	60	79

Note: Tests follow ARI270-95.

ELECTRICAL DATA

38HDR UNIT SIZE	V–PH–Hz	VOLTAGE RANGE*		COMPRESSOR		OUTDOOR FAN MOTOR			MIN CKT AMPS	FUSE/CKT BKR AMPS
		Min	Max	RLA	LRA	FLA	NEC Hp	kW Out		
018–31	208/230–1–60	187	253	9.0	48.0	0.8	0.125	0.09	12.1	20
024–32	208/230–1–60	187	253	13.5	58.3	0.8	0.125	0.09	17.7	25
030–31	208/230–1–60	187	253	14.1	73.0	1.5	0.250	0.19	19.1	30
036–31	208/230–1–60	187	253	14.1	77.0	1.5	0.250	0.19	19.1	30
	208/230–3–60	187	253	9.2	71.0	1.5	0.250	0.19	13.0	20
	460–3–60	414	506	5.6	38.0	0.8	0.250	0.19	7.9	10
048–32	208/230–1–60	187	253	19.9	109.0	1.5	0.250	0.19	26.4	40
	208/230–3–60	187	253	13.1	83.1	1.5	0.250	0.19	17.9	25
	460–3–60	414	506	6.1	41.0	0.8	0.250	0.19	8.4	15
060–32	208/230–1–60	187	253	26.4	134.0	1.5	0.250	0.19	34.5	60
	208/230–3–60	187	253	16.0	110.0	1.5	0.250	0.19	21.5	30
	460–3–60	414	506	7.8	52.0	0.8	0.250	0.19	10.6	15

* Permissible limits of the voltage range at which the unit will operate satisfactorily

FLA – Full Load Amps

HACR – Heating, Air Conditioning, Refrigeration

LRA – Locked Rotor Amps

NEC – National Electrical Code

RLA – Rated Load Amps (compressor)

NOTE: Control circuit is 24–V on all units and requires external power source. Copper wire must be used from service disconnect to unit. All motors/compressors contain internal overload protection.

Complies with 2007 requirements of ASHRAE Standards 90.1

A-WEIGHTED SOUND POWER (dBA)

Unit Size	Standard Rating (dBA)	Typical Octave Band Spectrum (dBA) (without tone adjustment)						
		125	250	500	1000	2000	4000	8000
018–31	68	52.0	57.5	60.5	63.5	60.5	57.5	46.5
024–32	69	57.5	61.5	63.0	61.0	60.0	56.0	45.0
030–31	72	56.5	63.0	65.0	66.0	64.0	62.5	57.0
036–31	72	65.0	61.5	63.5	65.0	64.5	61.0	54.5
048–32	72	58.5	61.0	64.0	67.5	66.0	64.0	57.0
060–32	72	63.0	61.5	64.0	66.5	66.0	64.5	55.5

NOTE: Tested in accordance with AHRI Standard 270–08 (not listed in AHRI).

CHARGING SUBCOOLING (TXV-TYPE EXPANSION DEVICE)

UNIT SIZE–VOLTAGE, SERIES	REQUIRED SUBCOOLING °F (°C)
018–31	12 (6.7)
024–32	12 (6.7)
030–31	12 (6.7)
036–31	12 (6.7)
048–32	12 (6.7)
060–32	12 (6.7)

ATTACHMENT 3

SoundPLAN Data – Construction Noise

10596 Parkview Townhomes

SoundPLAN Data - Construction

Source name	Reference	Noise Level	Corrections		
			Cwall	CI	CT
		dB(A)	dB(A)	dB(A)	dB(A)
Construction	Lw/unit	117.4	-	-	-

Noise Source

10596 Parkview Townhomes

SoundPLAN Data - Construction

No.	Coordinates X (meters)	Y (meters)	Height (meters)	Noise Level dB(A)
1	490806.85	3667483.07	221.68	70.7
2	490788.19	3667412.83	218.59	72.0
3	490776.68	3667369.57	213.63	72.3
4	490737.79	3667318.77	210.76	65.4
5	490693.34	3667339.80	211.16	66.4
6	490648.89	3667362.82	212.42	66.8
7	490612.38	3667381.87	213.03	65.9
8	490617.54	3667436.24	218.99	72.3
9	490617.54	3667471.56	225.20	72.5
10	490648.09	3667501.73	233.28	72.0
11	490716.36	3667500.93	232.23	71.5
12	490773.51	3667502.12	227.44	71.1

ATTACHMENT 4

SoundPLAN Data – Vehicle Traffic Noise

Station	ADT	Traffic values Vehicles type	Vehicle nar	day	evening	night	Speed	Control device	Constr. Speed	Affect. veh.	Road surface	Gradient Min / Max
km	Veh/24h			Veh/h	Veh/h	Veh/h	km/h		km/h	%		%
El Norte Parkway - Westbound		Traffic direction:		In entry direction								
0+000	9450	Total	-	606	315	137	-	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Automobiles	-	543	282	123	72	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Medium trucks	-	26	14	6	72	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Heavy trucks	-	25	13	6	72	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Buses	-	6	3	1	72	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Motorcycles	-	6	3	1	72	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+000	9450	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC)	0.1 / 2.1
0+489	-	-	-	-	-	-						
El Norte Parkway - Eastbound		Traffic direction:		In entry direction								
0+000	9450	Total	-	606	315	137	-	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Automobiles	-	543	282	123	72	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Medium trucks	-	26	14	6	72	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Heavy trucks	-	25	13	6	72	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Buses	-	6	3	1	72	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Motorcycles	-	6	3	1	72	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+000	9450	Auxiliary vehicle	-	-	-	-	-	none	-	-	Average (of DGAC and PCC)	#DIV/0!
0+485	-	-	-	-	-	-						

10596 Parkview Townhomes
SoundPLAN Data - Traffic

No.	Coordinates X	Coordinates Y	Floor	Height	Noise Level Day	Noise Level Evening	Noise Level Night	Noise Level CNEL
	(meters)			(meters)	dB(A)	dB(A)	dB(A)	dB(A)
1	490733.23	3667402.02	1.Fl	222.80	62.7	59.9	56.3	64.6
1	490733.23	3667402.02	2.Fl	225.60	63.7	60.8	57.2	65.6
1	490733.23	3667402.02	3.Fl	228.40	64.1	61.2	57.6	66.0
2	490708.59	3667411.09	1.Fl	223.39	60.1	57.2	53.6	62.0
2	490708.59	3667411.09	2.Fl	226.19	62.5	59.7	56.1	64.4
2	490708.59	3667411.09	3.Fl	228.99	63.2	60.4	56.8	65.1
3	490681.57	3667415.85	1.Fl	223.55	62.6	59.8	56.1	64.5
3	490681.57	3667415.85	2.Fl	226.35	64.6	61.8	58.2	66.6
3	490681.57	3667415.85	3.Fl	229.15	65.2	62.4	58.8	67.1
4	490666.01	3667421.04	1.Fl	223.84	64.0	61.2	57.6	65.9
4	490666.01	3667421.04	2.Fl	226.64	65.3	62.5	58.9	67.3
4	490666.01	3667421.04	3.Fl	229.44	65.8	63.0	59.4	67.7
5	490643.10	3667435.09	1.Fl	224.00	61.6	58.8	55.2	63.6
5	490643.10	3667435.09	2.Fl	226.80	64.2	61.3	57.7	66.1
5	490643.10	3667435.09	3.Fl	229.60	64.8	62.0	58.4	66.7
6	490634.67	3667447.84	1.Fl	224.00	58.1	55.2	51.6	60.0
6	490634.67	3667447.84	2.Fl	226.80	61.3	58.5	54.9	63.2
6	490634.67	3667447.84	3.Fl	229.60	62.5	59.6	56.0	64.4
7	490631.86	3667456.92	1.Fl	224.13	57.3	54.5	50.9	59.2
7	490631.86	3667456.92	2.Fl	226.93	60.1	57.2	53.6	62.0
7	490631.86	3667456.92	3.Fl	229.73	61.6	58.8	55.2	63.5
8	490629.05	3667469.24	1.Fl	224.34	55.9	53.0	49.4	57.8
8	490629.05	3667469.24	2.Fl	227.14	58.8	56.0	52.4	60.7
8	490629.05	3667469.24	3.Fl	229.94	60.4	57.5	53.9	62.3
9	490671.20	3667443.95	1.Fl	223.83	42.1	39.3	35.7	44.1
9	490671.20	3667443.95	2.Fl	226.63	48.8	46.0	42.4	50.7
9	490671.20	3667443.95	3.Fl	229.43	51.8	49.0	45.4	53.8
10	490682.01	3667458.43	1.Fl	223.91	27.7	24.9	21.3	29.6
10	490682.01	3667458.43	2.Fl	226.71	31.3	28.5	24.9	33.2
10	490682.01	3667458.43	3.Fl	229.51	35.8	32.9	29.3	37.7
11	490704.05	3667436.60	1.Fl	223.49	31.0	28.2	24.6	33.0
11	490704.05	3667436.60	2.Fl	226.29	36.1	33.3	29.6	38.0
11	490704.05	3667436.60	3.Fl	229.09	39.0	36.2	32.5	40.9
12	490722.21	3667437.03	1.Fl	223.44	40.6	37.8	34.1	42.5
12	490722.21	3667437.03	2.Fl	226.24	44.0	41.2	37.5	45.9
12	490722.21	3667437.03	3.Fl	229.04	49.6	46.8	43.2	51.5
13	490726.53	3667449.78	1.Fl	223.60	37.2	34.3	30.7	39.1
13	490726.53	3667449.78	2.Fl	226.40	38.7	35.8	32.2	40.6
13	490726.53	3667449.78	3.Fl	229.20	42.1	39.3	35.7	44.1
14	490732.15	3667459.08	1.Fl	223.71	36.0	33.2	29.6	37.9
14	490732.15	3667459.08	2.Fl	226.51	37.0	34.2	30.6	38.9
14	490732.15	3667459.08	3.Fl	229.31	39.9	37.0	33.4	41.8
15	490735.61	3667427.74	1.Fl	223.21	37.8	34.9	31.3	39.7
15	490735.61	3667427.74	2.Fl	226.01	45.2	42.4	38.8	47.2
15	490735.61	3667427.74	3.Fl	228.81	46.9	44.0	40.4	48.8
16	490764.14	3667413.47	1.Fl	222.94	54.8	51.9	48.3	56.7
16	490764.14	3667413.47	2.Fl	225.74	56.6	53.7	50.1	58.5
16	490764.14	3667413.47	3.Fl	228.54	57.4	54.6	51.0	59.4
17	490769.76	3667434.00	1.Fl	223.39	51.0	48.2	44.6	52.9
17	490769.76	3667434.00	2.Fl	226.19	54.5	51.6	48.0	56.4
17	490769.76	3667434.00	3.Fl	228.99	55.4	52.5	48.9	57.3
18	490787.92	3667453.67	1.Fl	223.25	50.8	47.9	44.3	52.7
18	490787.92	3667453.67	2.Fl	226.05	53.7	50.9	47.2	55.6
18	490787.92	3667453.67	3.Fl	228.85	54.8	51.9	48.3	56.7
19	490768.03	3667467.29	1.Fl	224.00	42.2	39.4	35.8	44.1
19	490768.03	3667467.29	2.Fl	226.80	46.3	43.5	39.9	48.2
19	490768.03	3667467.29	3.Fl	229.60	47.4	44.6	41.0	49.3
20	490760.47	3667485.01	1.Fl	224.43	32.7	29.9	26.3	34.7
20	490760.47	3667485.01	2.Fl	227.23	38.3	35.4	31.8	40.2
20	490760.47	3667485.01	3.Fl	230.03	39.7	36.8	33.2	41.6

Receivers

10596 Parkview Townhomes
SoundPLAN Data - Traffic

Source name										Noise level Day dB(A)	Evening dB(A)	Night dB(A)	CNEL dB(A)
1	1.Fl	62.7	59.9	56.3	64.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										60.0	57.1	53.5	61.9
El Norte Parkway - Westbound										59.5	56.6	53.0	61.4
1	2.Fl	63.7	60.8	57.2	65.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										60.9	58.1	54.5	62.8
El Norte Parkway - Westbound										60.4	57.5	53.9	62.3
1	3.Fl	64.1	61.2	57.6	66.0	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										61.1	58.2	54.6	63.0
El Norte Parkway - Westbound										61.1	58.2	54.6	63.0
2	1.Fl	60.1	57.2	53.6	62.0	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										57.4	54.6	50.9	59.3
El Norte Parkway - Westbound										56.7	53.8	50.2	58.6
2	2.Fl	62.5	59.7	56.1	64.4	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										59.9	57.0	53.4	61.8
El Norte Parkway - Westbound										59.1	56.3	52.7	61.0
2	3.Fl	63.2	60.4	56.8	65.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										60.3	57.5	53.9	62.2
El Norte Parkway - Westbound										60.1	57.3	53.7	62.0
3	1.Fl	62.6	59.8	56.1	64.5	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										60.2	57.3	53.7	62.1
El Norte Parkway - Westbound										58.9	56.1	52.4	60.8
3	2.Fl	64.6	61.8	58.2	66.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										61.7	58.9	55.3	63.6
El Norte Parkway - Westbound										61.5	58.7	55.1	63.5
3	3.Fl	65.2	62.4	58.8	67.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										62.0	59.1	55.5	63.9
El Norte Parkway - Westbound										62.5	59.6	56.0	64.4
4	1.Fl	64.0	61.2	57.6	65.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										61.3	58.5	54.9	63.2
El Norte Parkway - Westbound										60.7	57.9	54.2	62.6
4	2.Fl	65.3	62.5	58.9	67.3	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										62.2	59.4	55.7	64.1
El Norte Parkway - Westbound										62.5	59.6	56.0	64.4
4	3.Fl	65.8	63.0	59.4	67.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										62.4	59.6	56.0	64.3
El Norte Parkway - Westbound										63.2	60.3	56.7	65.1
5	1.Fl	61.6	58.8	55.2	63.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										59.2	56.3	52.7	61.1
El Norte Parkway - Westbound										58.0	55.2	51.6	59.9
5	2.Fl	64.2	61.3	57.7	66.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										61.1	58.2	54.6	63.0
El Norte Parkway - Westbound										61.2	58.4	54.7	63.1
5	3.Fl	64.8	62.0	58.4	66.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										61.4	58.5	54.9	63.3
El Norte Parkway - Westbound										62.2	59.4	55.8	64.1
6	1.Fl	58.1	55.2	51.6	60.0	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										55.5	52.7	49.1	57.4
El Norte Parkway - Westbound										54.6	51.7	48.1	56.5
6	2.Fl	61.3	58.5	54.9	63.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										58.5	55.6	52.0	60.4
El Norte Parkway - Westbound										58.1	55.3	51.6	60.0
6	3.Fl	62.5	59.6	56.0	64.4	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										59.4	56.6	52.9	61.3
El Norte Parkway - Westbound										59.6	56.7	53.1	61.5
7	1.Fl	57.3	54.5	50.9	59.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										54.7	51.9	48.3	56.6
El Norte Parkway - Westbound										53.9	51.0	47.4	55.8
7	2.Fl	60.1	57.2	53.6	62.0	0.0	0.0	0.0	0.0				

Contributions

El Norte Parkway - Eastbound										57.4	54.5	50.9	59.3
El Norte Parkway - Westbound										56.8	53.9	50.3	58.7
7	3.Fl	61.6	58.8	55.2	63.5	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										58.7	55.8	52.2	60.6
El Norte Parkway - Westbound										58.6	55.7	52.1	60.5
8	1.Fl	55.9	53.0	49.4	57.8	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										53.5	50.7	47.0	55.4
El Norte Parkway - Westbound										52.1	49.3	45.7	54.1
8	2.Fl	58.8	56.0	52.4	60.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										56.1	53.3	49.7	58.1
El Norte Parkway - Westbound										55.5	52.6	49.0	57.4
8	3.Fl	60.4	57.5	53.9	62.3	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										57.6	54.8	51.2	59.5
El Norte Parkway - Westbound										57.0	54.2	50.6	58.9
9	1.Fl	42.1	39.3	35.7	44.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										39.4	36.5	32.9	41.3
El Norte Parkway - Westbound										38.9	36.1	32.5	40.8
9	2.Fl	48.8	46.0	42.4	50.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										46.1	43.3	39.7	48.0
El Norte Parkway - Westbound										45.5	42.6	39.0	47.4
9	3.Fl	51.8	49.0	45.4	53.8	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										49.1	46.3	42.7	51.0
El Norte Parkway - Westbound										48.5	45.7	42.1	50.4
10	1.Fl	27.7	24.9	21.3	29.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										25.1	22.3	18.6	27.0
El Norte Parkway - Westbound										24.3	21.5	17.9	26.2
10	2.Fl	31.3	28.5	24.9	33.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										29.6	26.8	23.1	31.5
El Norte Parkway - Westbound										26.5	23.6	20.0	28.4
10	3.Fl	35.8	32.9	29.3	37.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										33.6	30.8	27.2	35.5
El Norte Parkway - Westbound										31.7	28.8	25.2	33.6
11	1.Fl	31.0	28.2	24.6	33.0	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										26.4	23.6	20.0	28.3
El Norte Parkway - Westbound										29.2	26.4	22.8	31.1
11	2.Fl	36.1	33.3	29.6	38.0	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										30.9	28.1	24.5	32.8
El Norte Parkway - Westbound										34.5	31.7	28.1	36.4
11	3.Fl	39.0	36.2	32.5	40.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										33.0	30.1	26.5	34.9
El Norte Parkway - Westbound										37.7	34.9	31.3	39.7
12	1.Fl	40.6	37.8	34.1	42.5	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										38.3	35.4	31.8	40.2
El Norte Parkway - Westbound										36.8	33.9	30.3	38.7
12	2.Fl	44.0	41.2	37.5	45.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										42.4	39.6	36.0	44.4
El Norte Parkway - Westbound										38.8	35.9	32.3	40.7
12	3.Fl	49.6	46.8	43.2	51.5	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										47.8	45.0	41.4	49.7
El Norte Parkway - Westbound										45.0	42.1	38.5	46.9
13	1.Fl	37.2	34.3	30.7	39.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										34.7	31.9	28.3	36.7
El Norte Parkway - Westbound										33.5	30.7	27.0	35.4
13	2.Fl	38.7	35.8	32.2	40.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										36.5	33.7	30.0	38.4
El Norte Parkway - Westbound										34.6	31.8	28.1	36.5
13	3.Fl	42.1	39.3	35.7	44.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										40.3	37.4	33.8	42.2
El Norte Parkway - Westbound										37.6	34.8	31.2	39.5
14	1.Fl	36.0	33.2	29.6	37.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										33.7	30.9	27.3	35.6

El Norte Parkway - Westbound										32.2	29.3	25.7	34.1
14	2.Fl	37.0	34.2	30.6	38.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										34.8	32.0	28.4	36.8
El Norte Parkway - Westbound										33.0	30.1	26.5	34.9
14	3.Fl	39.9	37.0	33.4	41.8	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										38.2	35.4	31.8	40.1
El Norte Parkway - Westbound										34.9	32.1	28.4	36.8
15	1.Fl	37.8	34.9	31.3	39.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										33.4	30.6	27.0	35.3
El Norte Parkway - Westbound										35.8	33.0	29.3	37.7
15	2.Fl	45.2	42.4	38.8	47.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										41.3	38.5	34.9	43.3
El Norte Parkway - Westbound										43.0	40.1	36.5	44.9
15	3.Fl	46.9	44.0	40.4	48.8	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										43.3	40.4	36.8	45.2
El Norte Parkway - Westbound										44.4	41.6	37.9	46.3
16	1.Fl	54.8	51.9	48.3	56.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										51.3	48.4	44.8	53.2
El Norte Parkway - Westbound										52.2	49.3	45.7	54.1
16	2.Fl	56.6	53.7	50.1	58.5	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										53.4	50.6	46.9	55.3
El Norte Parkway - Westbound										53.7	50.9	47.2	55.6
16	3.Fl	57.4	54.6	51.0	59.4	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										54.5	51.7	48.1	56.4
El Norte Parkway - Westbound										54.3	51.5	47.9	56.3
17	1.Fl	51.0	48.2	44.6	52.9	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										47.7	44.9	41.2	49.6
El Norte Parkway - Westbound										48.3	45.4	41.8	50.2
17	2.Fl	54.5	51.6	48.0	56.4	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										51.0	48.1	44.5	52.9
El Norte Parkway - Westbound										51.9	49.1	45.5	53.9
17	3.Fl	55.4	52.5	48.9	57.3	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										52.0	49.2	45.6	54.0
El Norte Parkway - Westbound										52.7	49.8	46.2	54.6
18	1.Fl	50.8	47.9	44.3	52.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										47.5	44.7	41.1	49.4
El Norte Parkway - Westbound										48.0	45.1	41.5	49.9
18	2.Fl	53.7	50.9	47.2	55.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										50.3	47.5	43.9	52.2
El Norte Parkway - Westbound										51.0	48.2	44.6	53.0
18	3.Fl	54.8	51.9	48.3	56.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										51.5	48.6	45.0	53.4
El Norte Parkway - Westbound										52.0	49.2	45.6	53.9
19	1.Fl	42.2	39.4	35.8	44.1	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										38.6	35.7	32.1	40.5
El Norte Parkway - Westbound										39.8	37.0	33.3	41.7
19	2.Fl	46.3	43.5	39.9	48.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										42.3	39.5	35.9	44.3
El Norte Parkway - Westbound										44.1	41.3	37.7	46.0
19	3.Fl	47.4	44.6	41.0	49.3	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										43.5	40.7	37.1	45.4
El Norte Parkway - Westbound										45.2	42.3	38.7	47.1
20	1.Fl	32.7	29.9	26.3	34.7	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										30.4	27.5	23.9	32.3
El Norte Parkway - Westbound										29.0	26.1	22.5	30.9
20	2.Fl	38.3	35.4	31.8	40.2	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										35.4	32.5	28.9	37.3
El Norte Parkway - Westbound										35.2	32.3	28.7	37.1
20	3.Fl	39.7	36.8	33.2	41.6	0.0	0.0	0.0	0.0				
El Norte Parkway - Eastbound										36.7	33.9	30.3	38.6
El Norte Parkway - Westbound										36.6	33.7	30.1	38.5

ATTACHMENT 5

FHWA RD-77-108 – Off-Site Traffic Noise Increase

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment		Roadway Name	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	10,750	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
2	West El Norte Parkway	Commercial Driveway to Project Driveway	10,750	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
3	West El Norte Parkway	Project Driveway to South Iris Lane	12,100	45	50	91.60	4.30	4.10	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing
Assessment Metric: Hard

Segment		Roadway Name	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	67.7	62.6	66.9	71.0	20	63	199	629	1,991	6,295
2	West El Norte Parkway	Commercial Driveway to Project Driveway	67.7	62.6	66.9	71.0	20	63	199	629	1,991	6,295
3	West El Norte Parkway	Project Driveway to South Iris Lane	68.2	63.1	67.4	71.5	22	71	223	706	2,233	7,063

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Project

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment		Roadway Name	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	11,086	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
2	West El Norte Parkway	Commercial Driveway to Project Driveway	11,310	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
3	West El Norte Parkway	Project Driveway to South Iris Lane	12,324	45	50	91.60	4.30	4.10	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Project
Assessment Metric: Hard

Segment		Roadway Name	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	67.8	62.8	67.1	71.1	20	64	204	644	2,037	6,441
2	West El Norte Parkway	Commercial Driveway to Project Driveway	67.9	62.9	67.1	71.2	21	66	208	659	2,084	6,591
3	West El Norte Parkway	Project Driveway to South Iris Lane	68.3	63.2	67.5	71.6	23	72	229	723	2,285	7,227

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Cumulative

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment		Roadway Name	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	11,416	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
2	West El Norte Parkway	Commercial Driveway to Project Driveway	11,416	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
3	West El Norte Parkway	Project Driveway to South Iris Lane	12,766	45	50	91.60	4.30	4.10	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Cumulative
Assessment Metric: Hard

Segment		Roadway Name	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	67.9	62.9	67.2	71.3	21	67	213	674	2,133	6,745
2	West El Norte Parkway	Commercial Driveway to Project Driveway	67.9	62.9	67.2	71.3	21	67	213	674	2,133	6,745
3	West El Norte Parkway	Project Driveway to South Iris Lane	68.4	63.4	67.7	71.7	23	74	234	740	2,339	7,396

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Cumulative + Project

Surface Refelction: CNEL
Assessment Metric: Hard
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment		Roadway Name	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	11,752	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
2	West El Norte Parkway	Commercial Driveway to Project Driveway	11,976	45	50	91.60	4.30	4.10	77.00	10.00	13.00	
3	West El Norte Parkway	Project Driveway to South Iris Lane	12,990	45	50	91.60	4.30	4.10	77.00	10.00	13.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : Parkview Townhomes
Project Number : 10596
Modeled Condition : Existing + Cumulative + Project
Assessment Metric: Hard

Segment		Roadway Name	Noise Levels, dBA Hard				Distance to Traffic Noise Level Contours, Feet					
			Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB	50 dB
1	West El Norte Parkway	Seven Oaks Road to Commercial Driveway	68.1	63.0	67.3	71.4	22	69	218	690	2,183	6,902
2	West El Norte Parkway	Commercial Driveway to Project Driveway	68.1	63.1	67.4	71.5	22	71	223	706	2,233	7,063
3	West El Norte Parkway	Project Driveway to South Iris Lane	68.5	63.5	67.7	71.8	24	76	239	757	2,393	7,568

ATTACHMENT 6

SoundPLAN Data – HVAC Noise

10596 Parkview Townhomes
SoundPLAN Data - HVAC

Source name	Reference	Noise Level Day dB(A)	Night dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
HVAC1	Lw/unit	72	69	-	-	-
HVAC2	Lw/unit	72	69	-	-	-
HVAC3	Lw/unit	72	69	-	-	-
HVAC4	Lw/unit	72	69	-	-	-
HVAC5	Lw/unit	72	69	-	-	-
HVAC6	Lw/unit	72	69	-	-	-
HVAC7	Lw/unit	72	69	-	-	-
HVAC8	Lw/unit	72	69	-	-	-
HVAC9	Lw/unit	72	69	-	-	-
HVAC10	Lw/unit	72	69	-	-	-
HVAC11	Lw/unit	72	69	-	-	-
HVAC12	Lw/unit	72	69	-	-	-
HVAC13	Lw/unit	72	69	-	-	-
HVAC14	Lw/unit	72	69	-	-	-
HVAC15	Lw/unit	72	69	-	-	-
HVAC16	Lw/unit	72	69	-	-	-
HVAC17	Lw/unit	72	69	-	-	-
HVAC18	Lw/unit	72	69	-	-	-
HVAC19	Lw/unit	72	69	-	-	-
HVAC20	Lw/unit	72	69	-	-	-
HVAC21	Lw/unit	72	69	-	-	-
HVAC22	Lw/unit	72	69	-	-	-
HVAC23	Lw/unit	72	69	-	-	-
HVAC24	Lw/unit	72	69	-	-	-
HVAC25	Lw/unit	72	69	-	-	-
HVAC26	Lw/unit	72	69	-	-	-
HVAC27	Lw/unit	72	69	-	-	-
HVAC28	Lw/unit	72	69	-	-	-
HVAC29	Lw/unit	72	69	-	-	-
HVAC30	Lw/unit	72	69	-	-	-
HVAC31	Lw/unit	72	69	-	-	-
HVAC32	Lw/unit	72	69	-	-	-
HVAC33	Lw/unit	72	69	-	-	-
HVAC34	Lw/unit	72	69	-	-	-
HVAC35	Lw/unit	72	69	-	-	-
HVAC36	Lw/unit	72	69	-	-	-
HVAC37	Lw/unit	72	69	-	-	-
HVAC38	Lw/unit	72	69	-	-	-
HVAC39	Lw/unit	72	69	-	-	-
HVAC40	Lw/unit	72	69	-	-	-
HVAC41	Lw/unit	72	69	-	-	-
HVAC42	Lw/unit	72	69	-	-	-
HVAC43	Lw/unit	72	69	-	-	-
HVAC44	Lw/unit	72	69	-	-	-
HVAC45	Lw/unit	72	69	-	-	-
HVAC46	Lw/unit	72	69	-	-	-
HVAC47	Lw/unit	72	69	-	-	-
HVAC48	Lw/unit	72	69	-	-	-
HVAC49	Lw/unit	72	69	-	-	-
HVAC50	Lw/unit	72	69	-	-	-
HVAC51	Lw/unit	72	69	-	-	-
HVAC52	Lw/unit	72	69	-	-	-
HVAC53	Lw/unit	72	69	-	-	-
HVAC54	Lw/unit	72	69	-	-	-
HVAC55	Lw/unit	72	69	-	-	-
HVAC56	Lw/unit	72	69	-	-	-
HVAC57	Lw/unit	72	69	-	-	-
HVAC58	Lw/unit	72	69	-	-	-
HVAC59	Lw/unit	72	69	-	-	-
HVAC60	Lw/unit	72	69	-	-	-
HVAC61	Lw/unit	72	69	-	-	-
HVAC62	Lw/unit	72	69	-	-	-
HVAC63	Lw/unit	72	69	-	-	-
HVAC64	Lw/unit	72	69	-	-	-
HVAC65	Lw/unit	72	69	-	-	-
HVAC66	Lw/unit	72	69	-	-	-
HVAC67	Lw/unit	72	69	-	-	-
HVAC68	Lw/unit	72	69	-	-	-
HVAC69	Lw/unit	72	69	-	-	-
HVAC70	Lw/unit	72	69	-	-	-

10596 Parkview Townhomes

SoundPLAN Data - HVAC

No.	Coordinates X (meters)	Y (meters)	Height (meters)	Noise Level Day dB(A)	Night dB(A)
1	490806.85	3667483.07	221.68	47.7	44.7
2	490788.19	3667412.83	218.59	42.7	39.7
3	490776.68	3667369.57	213.63	37.4	34.4
4	490737.79	3667318.77	210.76	33.1	30.1
5	490693.34	3667339.80	211.16	34.1	31.1
6	490648.89	3667362.82	212.42	35.9	32.9
7	490612.38	3667381.87	213.03	35.3	32.3
8	490617.54	3667436.24	218.99	40.4	37.4
9	490617.54	3667471.56	225.20	45.7	42.7
10	490648.09	3667501.73	233.28	41.3	38.3
11	490716.36	3667500.93	232.23	41.7	38.7
12	490773.51	3667502.12	227.44	40.4	37.4

10596 Parkview Townhomes
SoundPLAN Data - HVAC

Source name						Noise Level Day dB(A)	Night dB(A)
1	1.Fl	47.7	44.7	0.0	0.0		
HVAC1						-6	-9
HVAC2						-6.1	-9.1
HVAC3						-6.3	-9.3
HVAC4						-4	-7
HVAC5						-1.2	-4.2
HVAC6						-1.1	-4.1
HVAC7						-2.8	-5.8
HVAC8						-1.6	-4.6
HVAC9						-1.5	-4.5
HVAC10						0.8	-2.2
HVAC11						0.9	-2.1
HVAC12						-3	-6
HVAC13						-1.1	-4.1
HVAC14						-2.9	-5.9
HVAC15						0.5	-2.5
HVAC16						-1.6	-4.6
HVAC17						1.3	-1.7
HVAC18						0.9	-2.1
HVAC19						-5.9	-8.9
HVAC20						-5.9	-8.9
HVAC21						-6	-9
HVAC22						-5.1	-8.1
HVAC23						-5	-8
HVAC24						-5	-8
HVAC25						-2.2	-5.2
HVAC26						-2.1	-5.1
HVAC27						-2.1	-5.1
HVAC28						1.1	-1.9
HVAC29						1.2	-1.8
HVAC30						0.4	-2.6
HVAC31						-2.1	-5.1
HVAC32						1	-2
HVAC33						0.9	-2.1
HVAC34						1.5	-1.5
HVAC35						4.7	1.7
HVAC36						4.6	1.6
HVAC37						4.2	1.2
HVAC38						5.8	2.8
HVAC39						5.9	2.9
HVAC40						5.8	2.8
HVAC41						4	1
HVAC42						5.5	2.5
HVAC43						6.2	3.2
HVAC44						6.5	3.5
HVAC45						6.3	3.3
HVAC46						6.2	3.2
HVAC47						2.7	-0.3
HVAC48						1.7	-1.3
HVAC49						1.8	-1.2
HVAC50						1.8	-1.2
HVAC51						33.3	30.3
HVAC52						33.7	30.7
HVAC53						38.3	35.3
HVAC54						41.9	38.9
HVAC55						42.4	39.4
HVAC56						41.6	38.6
HVAC57						8.1	5.1
HVAC58						8.3	5.3
HVAC59						8.5	5.5
HVAC60						9.4	6.4
HVAC61						7.7	4.7
HVAC62						6.3	3.3
HVAC63						3.4	0.4
HVAC64						3.6	0.6
HVAC65						3.5	0.5
HVAC66						3.5	0.5
HVAC67						2	-1
HVAC68						1.2	-1.8
HVAC69						1.2	-1.8
HVAC70						1.1	-1.9

Contributions

2	1.Fl	42.7	39.7	0.0	0.0		
HVAC1						-2.6	-5.6
HVAC2						-2.7	-5.7
HVAC3						-3.7	-6.7
HVAC4						-3.7	-6.7
HVAC5						-1	-4
HVAC6						0.6	-2.4
HVAC7						-0.8	-3.8
HVAC8						2.1	-0.9
HVAC9						-1.4	-4.4
HVAC10						3.5	0.5
HVAC11						3.5	0.5
HVAC12						-0.6	-3.6
HVAC13						-0.3	-3.3
HVAC14						-0.2	-3.2
HVAC15						-1.5	-4.5
HVAC16						-1.3	-4.3
HVAC17						1.2	-1.8
HVAC18						1.2	-1.8
HVAC19						-2.5	-5.5
HVAC20						-2.6	-5.6
HVAC21						-2.6	-5.6
HVAC22						-3.2	-6.2
HVAC23						-3.1	-6.1
HVAC24						-3	-6
HVAC25						0.1	-2.9
HVAC26						0.2	-2.8
HVAC27						0.2	-2.8
HVAC28						4.2	1.2
HVAC29						3.9	0.9
HVAC30						4.4	1.4
HVAC31						4.8	1.8
HVAC32						4.8	1.8
HVAC33						4.2	1.2
HVAC34						6.9	3.9
HVAC35						30.3	27.3
HVAC36						28.3	25.3
HVAC37						33.5	30.5
HVAC38						33.8	30.8
HVAC39						34.4	31.4
HVAC40						33	30
HVAC41						32.4	29.4
HVAC42						31.7	28.7
HVAC43						30.9	27.9
HVAC44						16.2	13.2
HVAC45						16	13
HVAC46						4.2	1.2
HVAC47						4.1	1.1
HVAC48						5.8	2.8
HVAC49						6	3
HVAC50						6.1	3.1
HVAC51						25.7	22.7
HVAC52						25.3	22.3
HVAC53						25.7	22.7
HVAC54						24.5	21.5
HVAC55						24.2	21.2
HVAC56						1.4	-1.6
HVAC57						25.2	22.2
HVAC58						25.5	22.5
HVAC59						25.7	22.7
HVAC60						2	-1
HVAC61						1.6	-1.4
HVAC62						0.9	-2.1
HVAC63						0.9	-2.1
HVAC64						4.8	1.8
HVAC65						4.8	1.8
HVAC66						4.9	1.9
HVAC67						5.8	2.8
HVAC68						1.6	-1.4
HVAC69						1.5	-1.5
HVAC70						1.5	-1.5

3	1.Fl	37.4	34.4	0.0	0.0		
HVAC1						-6.5	-9.5
HVAC2						-6.5	-9.5
HVAC3						-6.1	-9.1
HVAC4						-6.1	-9.1
HVAC5						-1.6	-4.6
HVAC6						-2.2	-5.2
HVAC7						-2.2	-5.2
HVAC8						0.6	-2.4
HVAC9						0.7	-2.3
HVAC10						-0.8	-3.8
HVAC11						-0.9	-3.9
HVAC12						-4.8	-7.8
HVAC13						-2.2	-5.2
HVAC14						-1.2	-4.2
HVAC15						-1.2	-4.2
HVAC16						-1.2	-4.2
HVAC17						1.2	-1.8
HVAC18						1.2	-1.8
HVAC19						-0.7	-3.7
HVAC20						-0.7	-3.7
HVAC21						-0.7	-3.7
HVAC22						15.5	12.5
HVAC23						15.7	12.7
HVAC24						-1.6	-4.6
HVAC25						17.3	14.3
HVAC26						18.7	15.7
HVAC27						19.4	16.4
HVAC28						3.7	0.7
HVAC29						3.7	0.7
HVAC30						3.6	0.6
HVAC31						3.8	0.8
HVAC32						2	-1
HVAC33						1.3	-1.7
HVAC34						26.9	23.9
HVAC35						27.9	24.9
HVAC36						30.1	27.1
HVAC37						25.4	22.4
HVAC38						27.7	24.7
HVAC39						27.6	24.6
HVAC40						24	21
HVAC41						24.6	21.6
HVAC42						23.8	20.8
HVAC43						23.1	20.1
HVAC44						0.8	-2.2
HVAC45						0.7	-2.3
HVAC46						0.7	-2.3
HVAC47						0.8	-2.2
HVAC48						16.2	13.2
HVAC49						19.6	16.6
HVAC50						19.9	16.9
HVAC51						19.9	16.9
HVAC52						19.6	16.6
HVAC53						18.2	15.2
HVAC54						17.3	14.3
HVAC55						17.1	14.1
HVAC56						-2.7	-5.7
HVAC57						3.5	0.5
HVAC58						5.1	2.1
HVAC59						6.7	3.7
HVAC60						-1.9	-4.9
HVAC61						-2.2	-5.2
HVAC62						-2.7	-5.7
HVAC63						-2.6	-5.6
HVAC64						1.9	-1.1
HVAC65						3.1	0.1
HVAC66						3.5	0.5
HVAC67						2.8	-0.2
HVAC68						1.3	-1.7
HVAC69						1.2	-1.8
HVAC70						1.8	-1.2

4	1.Fl	33.1	30.1	0.0	0.0		
HVAC1						-7.1	-10.1
HVAC2						-7.1	-10.1
HVAC3						-6.4	-9.4
HVAC4						-4.4	-7.4
HVAC5						-5.8	-8.8
HVAC6						-3.1	-6.1
HVAC7						-3.1	-6.1
HVAC8						-1.6	-4.6
HVAC9						-1.9	-4.9
HVAC10						-2.1	-5.1
HVAC11						-2.2	-5.2
HVAC12						-5.5	-8.5
HVAC13						-3.1	-6.1
HVAC14						-3	-6
HVAC15						-1.6	-4.6
HVAC16						-1.7	-4.7
HVAC17						1.7	-1.3
HVAC18						1.5	-1.5
HVAC19						-3	-6
HVAC20						-3	-6
HVAC21						-3	-6
HVAC22						20.4	17.4
HVAC23						20.5	17.5
HVAC24						18.1	15.1
HVAC25						20.5	17.5
HVAC26						20.6	17.6
HVAC27						20.4	17.4
HVAC28						21.4	18.4
HVAC29						21.2	18.2
HVAC30						17.7	14.7
HVAC31						7.6	4.6
HVAC32						9	6
HVAC33						12	9
HVAC34						24.6	21.6
HVAC35						22.3	19.3
HVAC36						21.2	18.2
HVAC37						18.7	15.7
HVAC38						18.7	15.7
HVAC39						18.7	15.7
HVAC40						17.9	14.9
HVAC41						17.3	14.3
HVAC42						16	13
HVAC43						16	13
HVAC44						-4.3	-7.3
HVAC45						-4.3	-7.3
HVAC46						-1.6	-4.6
HVAC47						-2	-5
HVAC48						0.9	-2.1
HVAC49						0.9	-2.1
HVAC50						0.9	-2.1
HVAC51						11.2	8.2
HVAC52						10.6	7.6
HVAC53						-5.6	-8.6
HVAC54						-6	-9
HVAC55						-6	-9
HVAC56						-4.1	-7.1
HVAC57						0.4	-2.6
HVAC58						0.1	-2.9
HVAC59						0.4	-2.6
HVAC60						-5.3	-8.3
HVAC61						-5.5	-8.5
HVAC62						-5.7	-8.7
HVAC63						-5.6	-8.6
HVAC64						2.2	-0.8
HVAC65						2.2	-0.8
HVAC66						2.2	-0.8
HVAC67						1.2	-1.8
HVAC68						0.4	-2.6
HVAC69						0.3	-2.7
HVAC70						0.3	-2.7

5	1.Fl	34.1	31.1	0.0	0.0		
HVAC1						-5	-8
HVAC2						-5.1	-8.1
HVAC3						0.5	-2.5
HVAC4						1.3	-1.7
HVAC5						-3.6	-6.6
HVAC6						-0.9	-3.9
HVAC7						-0.9	-3.9
HVAC8						-0.2	-3.2
HVAC9						1.1	-1.9
HVAC10						-3.4	-6.4
HVAC11						-3.5	-6.5
HVAC12						-3.2	-6.2
HVAC13						-0.9	-3.9
HVAC14						-0.8	-3.8
HVAC15						-0.1	-3.1
HVAC16						-0.1	-3.1
HVAC17						2	-1
HVAC18						2.1	-0.9
HVAC19						-2.5	-5.5
HVAC20						-0.4	-3.4
HVAC21						-0.4	-3.4
HVAC22						24.1	21.1
HVAC23						24.2	21.2
HVAC24						21.9	18.9
HVAC25						23.7	20.7
HVAC26						23.8	20.8
HVAC27						23.8	20.8
HVAC28						20.3	17.3
HVAC29						19.7	16.7
HVAC30						19.4	16.4
HVAC31						2.8	-0.2
HVAC32						20.7	17.7
HVAC33						20.8	17.8
HVAC34						24.8	21.8
HVAC35						22	19
HVAC36						21	18
HVAC37						-1.5	-4.5
HVAC38						-1.6	-4.6
HVAC39						-1.7	-4.7
HVAC40						-2.3	-5.3
HVAC41						-1.6	-4.6
HVAC42						-1.9	-4.9
HVAC43						-1	-4
HVAC44						-1.8	-4.8
HVAC45						-1.8	-4.8
HVAC46						-1.8	-4.8
HVAC47						0.4	-2.6
HVAC48						1.9	-1.1
HVAC49						1.9	-1.1
HVAC50						1.9	-1.1
HVAC51						-5.1	-8.1
HVAC52						-5.2	-8.2
HVAC53						-5.8	-8.8
HVAC54						-6.1	-9.1
HVAC55						-6.2	-9.2
HVAC56						-6.4	-9.4
HVAC57						0.5	-2.5
HVAC58						0.5	-2.5
HVAC59						0.4	-2.6
HVAC60						-4.9	-7.9
HVAC61						-5.1	-8.1
HVAC62						-5.1	-8.1
HVAC63						-5	-8
HVAC64						-1.1	-4.1
HVAC65						-1	-4
HVAC66						-1	-4
HVAC67						2.7	-0.3
HVAC68						1.4	-1.6
HVAC69						1.3	-1.7
HVAC70						1.3	-1.7

6	1.Fl	35.9	32.9	0.0	0.0		
HVAC1						-2.8	-5.8
HVAC2						-2.9	-5.9
HVAC3						16.7	13.7
HVAC4						17.2	14.2
HVAC5						-1.5	-4.5
HVAC6						1.1	-1.9
HVAC7						1.1	-1.9
HVAC8						0.8	-2.2
HVAC9						0.8	-2.2
HVAC10						-2.5	-5.5
HVAC11						-2.6	-5.6
HVAC12						-0.8	-3.8
HVAC13						-0.9	-3.9
HVAC14						1.2	-1.8
HVAC15						0.9	-2.1
HVAC16						0.9	-2.1
HVAC17						1.1	-1.9
HVAC18						1.1	-1.9
HVAC19						0.7	-2.3
HVAC20						0.8	-2.2
HVAC21						1.5	-1.5
HVAC22						28.2	25.2
HVAC23						28.2	25.2
HVAC24						28.2	25.2
HVAC25						25.5	22.5
HVAC26						25.4	22.4
HVAC27						25.3	22.3
HVAC28						2.6	-0.4
HVAC29						2.5	-0.5
HVAC30						2.4	-0.6
HVAC31						21.9	18.9
HVAC32						22.1	19.1
HVAC33						22.4	19.4
HVAC34						20.3	17.3
HVAC35						19.4	16.4
HVAC36						13.5	10.5
HVAC37						-3.2	-6.2
HVAC38						-3.3	-6.3
HVAC39						-3.4	-6.4
HVAC40						-3.7	-6.7
HVAC41						-4.1	-7.1
HVAC42						-4.4	-7.4
HVAC43						-4.7	-7.7
HVAC44						-2.3	-5.3
HVAC45						-2.2	-5.2
HVAC46						-2.2	-5.2
HVAC47						1.4	-1.6
HVAC48						3	0
HVAC49						2.3	-0.7
HVAC50						1.8	-1.2
HVAC51						-6.1	-9.1
HVAC52						-6.1	-9.1
HVAC53						-6.6	-9.6
HVAC54						-6.8	-9.8
HVAC55						-6.9	-9.9
HVAC56						-7.1	-10.1
HVAC57						-2.7	-5.7
HVAC58						-2.5	-5.5
HVAC59						-2.2	-5.2
HVAC60						-5.3	-8.3
HVAC61						-5.4	-8.4
HVAC62						-5.3	-8.3
HVAC63						-5.1	-8.1
HVAC64						-3.3	-6.3
HVAC65						-3.2	-6.2
HVAC66						-3.1	-6.1
HVAC67						-0.2	-3.2
HVAC68						2.8	-0.2
HVAC69						2.9	-0.1
HVAC70						2.9	-0.1

7	1.Fl	35.3	32.3	0.0	0.0		
HVAC1						-1.5	-4.5
HVAC2						0.2	-2.8
HVAC3						21	18
HVAC4						21.5	18.5
HVAC5						0.4	-2.6
HVAC6						1.7	-1.3
HVAC7						1.6	-1.4
HVAC8						3.2	0.2
HVAC9						1.9	-1.1
HVAC10						0.8	-2.2
HVAC11						-0.5	-3.5
HVAC12						0.4	-2.6
HVAC13						-0.3	-3.3
HVAC14						-0.3	-3.3
HVAC15						1.8	-1.2
HVAC16						1.7	-1.3
HVAC17						0.5	-2.5
HVAC18						0.5	-2.5
HVAC19						22.7	19.7
HVAC20						23	20
HVAC21						23.4	20.4
HVAC22						25.3	22.3
HVAC23						27.5	24.5
HVAC24						27.3	24.3
HVAC25						21.4	18.4
HVAC26						23.6	20.6
HVAC27						23.5	20.5
HVAC28						15.7	12.7
HVAC29						15.2	12.2
HVAC30						15	12
HVAC31						19.3	16.3
HVAC32						19	16
HVAC33						19.2	16.2
HVAC34						17.4	14.4
HVAC35						16.9	13.9
HVAC36						8.6	5.6
HVAC37						-3.7	-6.7
HVAC38						-3.7	-6.7
HVAC39						-3.7	-6.7
HVAC40						-5.4	-8.4
HVAC41						-5.6	-8.6
HVAC42						-5.9	-8.9
HVAC43						-6.1	-9.1
HVAC44						-3.1	-6.1
HVAC45						-2.3	-5.3
HVAC46						-2.2	-5.2
HVAC47						0.2	-2.8
HVAC48						0.9	-2.1
HVAC49						1.1	-1.9
HVAC50						1.3	-1.7
HVAC51						-7.2	-10.2
HVAC52						-7.2	-10.2
HVAC53						-7.6	-10.6
HVAC54						-7.8	-10.8
HVAC55						-7.8	-10.8
HVAC56						-7.9	-10.9
HVAC57						-3.5	-6.5
HVAC58						-3.5	-6.5
HVAC59						-3.6	-6.6
HVAC60						-6.2	-9.2
HVAC61						-6.3	-9.3
HVAC62						-6	-9
HVAC63						-5.8	-8.8
HVAC64						-4.1	-7.1
HVAC65						-4	-7
HVAC66						-3.9	-6.9
HVAC67						-3.3	-6.3
HVAC68						3	0
HVAC69						2	-1
HVAC70						2.5	-0.5

8	1.Fl	40.4	37.4	0.0	0.0		
HVAC1						5	2
HVAC2						23.9	20.9
HVAC3						30.4	27.4
HVAC4						31.7	28.7
HVAC5						24.2	21.2
HVAC6						23.4	20.4
HVAC7						24.6	21.6
HVAC8						5.6	2.6
HVAC9						5.5	2.5
HVAC10						2.1	-0.9
HVAC11						2	-1
HVAC12						22.9	19.9
HVAC13						5.3	2.3
HVAC14						7.6	4.6
HVAC15						3.6	0.6
HVAC16						4.6	1.6
HVAC17						1.4	-1.6
HVAC18						1.4	-1.6
HVAC19						32.6	29.6
HVAC20						33.2	30.2
HVAC21						33.7	30.7
HVAC22						24.2	21.2
HVAC23						23.8	20.8
HVAC24						23.5	20.5
HVAC25						4.1	1.1
HVAC26						3.9	0.9
HVAC27						3.8	0.8
HVAC28						2.8	-0.2
HVAC29						2.8	-0.2
HVAC30						2.7	-0.3
HVAC31						2.6	-0.4
HVAC32						2.6	-0.4
HVAC33						2.6	-0.4
HVAC34						-3.8	-6.8
HVAC35						10	7
HVAC36						-4.2	-7.2
HVAC37						-1.4	-4.4
HVAC38						-1.4	-4.4
HVAC39						-1.4	-4.4
HVAC40						-1.4	-4.4
HVAC41						-1.4	-4.4
HVAC42						-3	-6
HVAC43						-5.2	-8.2
HVAC44						-1.9	-4.9
HVAC45						-1.8	-4.8
HVAC46						-1.7	-4.7
HVAC47						-0.4	-3.4
HVAC48						2.1	-0.9
HVAC49						2.1	-0.9
HVAC50						2	-1
HVAC51						-6.2	-9.2
HVAC52						-6.2	-9.2
HVAC53						-6.5	-9.5
HVAC54						-6.6	-9.6
HVAC55						-6.7	-9.7
HVAC56						-6.8	-9.8
HVAC57						-1.4	-4.4
HVAC58						-1.4	-4.4
HVAC59						-1.5	-4.5
HVAC60						-4.6	-7.6
HVAC61						-2.5	-5.5
HVAC62						-4.2	-7.2
HVAC63						-1.5	-4.5
HVAC64						-0.4	-3.4
HVAC65						-0.3	-3.3
HVAC66						-0.3	-3.3
HVAC67						2.1	-0.9
HVAC68						2.7	-0.3
HVAC69						2.8	-0.2
HVAC70						0.4	-2.6

9	1.Fl	45.7	42.7	0.0	0.0		
HVAC1						34.9	31.9
HVAC2						34.6	31.6
HVAC3						42.1	39.1
HVAC4						39.8	36.8
HVAC5						10.6	7.6
HVAC6						9.6	6.6
HVAC7						8.9	5.9
HVAC8						4.6	1.6
HVAC9						4.6	1.6
HVAC10						3.3	0.3
HVAC11						3.4	0.4
HVAC12						10.9	7.9
HVAC13						10.1	7.1
HVAC14						10	7
HVAC15						6.3	3.3
HVAC16						6.2	3.2
HVAC17						3.5	0.5
HVAC18						2.2	-0.8
HVAC19						32.4	29.4
HVAC20						32.2	29.2
HVAC21						32	29
HVAC22						6.5	3.5
HVAC23						6.1	3.1
HVAC24						5.1	2.1
HVAC25						1.9	-1.1
HVAC26						1.7	-1.3
HVAC27						1.5	-1.5
HVAC28						0.9	-2.1
HVAC29						0.8	-2.2
HVAC30						-1.2	-4.2
HVAC31						0.8	-2.2
HVAC32						0.9	-2.1
HVAC33						1	-2
HVAC34						-3.2	-6.2
HVAC35						-3.5	-6.5
HVAC36						-3.7	-6.7
HVAC37						-4.2	-7.2
HVAC38						-4.3	-7.3
HVAC39						-4.4	-7.4
HVAC40						-4.7	-7.7
HVAC41						-2.8	-5.8
HVAC42						-2.8	-5.8
HVAC43						-2.7	-5.7
HVAC44						1.3	-1.7
HVAC45						0.5	-2.5
HVAC46						0.6	-2.4
HVAC47						0.2	-2.8
HVAC48						2.1	-0.9
HVAC49						2.5	-0.5
HVAC50						2.5	-0.5
HVAC51						-5.8	-8.8
HVAC52						-5.8	-8.8
HVAC53						-3.8	-6.8
HVAC54						-5.9	-8.9
HVAC55						-5.9	-8.9
HVAC56						-5.8	-8.8
HVAC57						0.7	-2.3
HVAC58						0.6	-2.4
HVAC59						0.6	-2.4
HVAC60						-1.5	-4.5
HVAC61						-1.3	-4.3
HVAC62						-0.4	-3.4
HVAC63						0	-3
HVAC64						0.9	-2.1
HVAC65						0.8	-2.2
HVAC66						0.8	-2.2
HVAC67						0.8	-2.2
HVAC68						4.8	1.8
HVAC69						5	2
HVAC70						5.1	2.1

10	1.Fl	41.3	38.3	0.0	0.0		
HVAC1						37.4	34.4
HVAC2						34.4	31.4
HVAC3						14.9	11.9
HVAC4						14.3	11.3
HVAC5						32.3	29.3
HVAC6						14.8	11.8
HVAC7						14	11
HVAC8						11.7	8.7
HVAC9						11.6	8.6
HVAC10						22.2	19.2
HVAC11						22.3	19.3
HVAC12						30.8	27.8
HVAC13						22.5	19.5
HVAC14						19.8	16.8
HVAC15						13	10
HVAC16						12.3	9.3
HVAC17						8.8	5.8
HVAC18						8.5	5.5
HVAC19						26.6	23.6
HVAC20						26.3	23.3
HVAC21						26.1	23.1
HVAC22						6.2	3.2
HVAC23						6.1	3.1
HVAC24						5.9	2.9
HVAC25						5.1	2.1
HVAC26						5	2
HVAC27						4.9	1.9
HVAC28						6.3	3.3
HVAC29						3.7	0.7
HVAC30						3.8	0.8
HVAC31						6.1	3.1
HVAC32						5.7	2.7
HVAC33						5.6	2.6
HVAC34						-3.7	-6.7
HVAC35						-3.6	-6.6
HVAC36						-3.6	-6.6
HVAC37						-3.8	-6.8
HVAC38						-3.8	-6.8
HVAC39						-3.8	-6.8
HVAC40						-3.7	-6.7
HVAC41						-3.6	-6.6
HVAC42						-3.3	-6.3
HVAC43						-2.3	-5.3
HVAC44						13	10
HVAC45						13.1	10.1
HVAC46						13.3	10.3
HVAC47						11.3	8.3
HVAC48						-1.7	-4.7
HVAC49						4.8	1.8
HVAC50						4.6	1.6
HVAC51						-3.3	-6.3
HVAC52						-3.6	-6.6
HVAC53						-4.1	-7.1
HVAC54						-4.1	-7.1
HVAC55						-4.1	-7.1
HVAC56						-4.8	-7.8
HVAC57						8	5
HVAC58						8	5
HVAC59						8	5
HVAC60						6.3	3.3
HVAC61						9.9	6.9
HVAC62						19.5	16.5
HVAC63						12.2	9.2
HVAC64						8.4	5.4
HVAC65						11.5	8.5
HVAC66						11.2	8.2
HVAC67						6.8	3.8
HVAC68						9.5	6.5
HVAC69						9.6	6.6
HVAC70						9.7	6.7

11	1.Fl	41.7	38.7	0.0	0.0		
HVAC1						24	21
HVAC2						23.8	20.8
HVAC3						1.1	-1.9
HVAC4						1.2	-1.8
HVAC5						20	17
HVAC6						6.6	3.6
HVAC7						6.8	3.8
HVAC8						16.2	13.2
HVAC9						27.5	24.5
HVAC10						33.6	30.6
HVAC11						33.9	30.9
HVAC12						19.8	16.8
HVAC13						19.4	16.4
HVAC14						19.2	16.2
HVAC15						20	17
HVAC16						30.4	27.4
HVAC17						24.2	21.2
HVAC18						27	24
HVAC19						2.7	-0.3
HVAC20						0.7	-2.3
HVAC21						0.6	-2.4
HVAC22						0.5	-2.5
HVAC23						0.6	-2.4
HVAC24						0.8	-2.2
HVAC25						5.3	2.3
HVAC26						5.2	2.2
HVAC27						5.1	2.1
HVAC28						11.9	8.9
HVAC29						11.9	8.9
HVAC30						13.7	10.7
HVAC31						16.7	13.7
HVAC32						16.5	13.5
HVAC33						16.3	13.3
HVAC34						-0.3	-3.3
HVAC35						-0.4	-3.4
HVAC36						-0.4	-3.4
HVAC37						1.1	-1.9
HVAC38						1.2	-1.8
HVAC39						1.3	-1.7
HVAC40						1.9	-1.1
HVAC41						2.6	-0.4
HVAC42						3.6	0.6
HVAC43						1.8	-1.2
HVAC44						29.1	26.1
HVAC45						29.4	26.4
HVAC46						27.2	24.2
HVAC47						29.2	26.2
HVAC48						14.2	11.2
HVAC49						14.1	11.1
HVAC50						7.1	4.1
HVAC51						1.2	-1.8
HVAC52						1.1	-1.9
HVAC53						1.1	-1.9
HVAC54						1.2	-1.8
HVAC55						1.2	-1.8
HVAC56						0.5	-2.5
HVAC57						4.8	1.8
HVAC58						4.6	1.6
HVAC59						7.4	4.4
HVAC60						23.5	20.5
HVAC61						27.8	24.8
HVAC62						28.6	25.6
HVAC63						30.5	27.5
HVAC64						24.9	21.9
HVAC65						22.4	19.4
HVAC66						20.8	17.8
HVAC67						13.9	10.9
HVAC68						12.3	9.3
HVAC69						12.8	9.8
HVAC70						14.2	11.2

12	1.Fl	40.4	37.4	0.0	0.0		
HVAC1						10.5	7.5
HVAC2						10.4	7.4
HVAC3						-2.9	-5.9
HVAC4						-2.9	-5.9
HVAC5						12.4	9.4
HVAC6						2.5	-0.5
HVAC7						0.3	-2.7
HVAC8						4.1	1.1
HVAC9						8.8	5.8
HVAC10						23.1	20.1
HVAC11						23.1	20.1
HVAC12						1.6	-1.4
HVAC13						3.3	0.3
HVAC14						2.5	-0.5
HVAC15						8.1	5.1
HVAC16						7.5	4.5
HVAC17						6.3	3.3
HVAC18						6.1	3.1
HVAC19						-1.4	-4.4
HVAC20						-2.1	-5.1
HVAC21						-2.1	-5.1
HVAC22						-1.6	-4.6
HVAC23						-1.5	-4.5
HVAC24						-1.4	-4.4
HVAC25						-0.6	-3.6
HVAC26						-0.6	-3.6
HVAC27						-0.5	-3.5
HVAC28						6.3	3.3
HVAC29						6.3	3.3
HVAC30						6.4	3.4
HVAC31						1.9	-1.1
HVAC32						-0.3	-3.3
HVAC33						-0.4	-3.4
HVAC34						-1.1	-4.1
HVAC35						-0.4	-3.4
HVAC36						-0.3	-3.3
HVAC37						2.5	-0.5
HVAC38						2.7	-0.3
HVAC39						2.9	-0.1
HVAC40						4.9	1.9
HVAC41						4.6	1.6
HVAC42						8.6	5.6
HVAC43						11.1	8.1
HVAC44						14.5	11.5
HVAC45						13	10
HVAC46						12.2	9.2
HVAC47						7.7	4.7
HVAC48						4.7	1.7
HVAC49						5.2	2.2
HVAC50						6.3	3.3
HVAC51						7.1	4.1
HVAC52						7.2	4.2
HVAC53						9	6
HVAC54						10.3	7.3
HVAC55						10.6	7.6
HVAC56						14	11
HVAC57						13.7	10.7
HVAC58						13.4	10.4
HVAC59						13.4	10.4
HVAC60						35.6	32.6
HVAC61						36.5	33.5
HVAC62						32.2	29.2
HVAC63						24.9	21.9
HVAC64						11.8	8.8
HVAC65						11.5	8.5
HVAC66						11.3	8.3
HVAC67						9.6	6.6
HVAC68						5.8	2.8
HVAC69						4	1
HVAC70						4.8	1.8