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Noise Analysis for the All Right Self-Storage Project Santee, California

Prepared for
All Right Storage LP
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Acronyms and Abbreviations

City	City of Santee
CNEL	community noise equivalent level
dB	decibel
dB(A)	A-weighted decibel
FHWA	Federal Highway Administration
HVAC	heating, ventilation, and air conditioning
L_{eq}	one-hour equivalent noise level
L_{pw}	sound power level
project	All Right Self-Storage Project
RV	recreational vehicle
SANDAG	San Diego Association of Governments
sf	square feet
SR-52	State Route 52

Summary

The All Right Self-Storage Project (project) site is located at 8708 Cottonwood Avenue on an approximately 3.0-acre parcel (Assessor's Parcel Number 384-370-25-00), located in the city of Santee, California, north of State Route 52 (SR-52) and west of Cottonwood Avenue. Land uses surrounding the project site include single-family residences to the north, single-family residences and a commercial structure to the east, SR-52 to the south, and a business park consisting of commercial/industrial uses to the west.

The project would require a Conditional Use Permit to develop the proposed self-storage facility. Mini Storage/Public Storage is a conditional use allowed under the Light Industrial (IL) land use designation. The project proposes to construct a 148,458-square-foot (sf) self-storage facility. The project would be developed in two phases. Phase I would construct a three-story, 78,080 sf, mechanically air-conditioned self-storage structure within an incidental office (Building A); a one-story, 4,413 sf self-storage structure (Building B); and a one-story, 5,120 sf self-storage structure with an 800 sf private garage, along with a 1,130 sf caretaker's living unit as the second story (Building C). Phase I would also construct 26 parking spaces on-site, along with 57 recreational vehicle parking spaces for rent or for rental trucks for moving purposes. Phase II would remove the recreational vehicle parking spaces for rent and construct a one-story, 8,309 sf self-storage structure (Building D) and a three-story, mechanically air-conditioned, 50,606 sf self-storage structure (Building E). Phase II phase would also add an additional three parking spaces, resulting in a total of 29 parking spaces on-site.

This report discusses potential noise impacts from the construction and operation of the project. The potential for noise to impact adjacent receivers from future on-site sources and construction activity was assessed in order to determine if the project would comply with noise standards established in the City of Santee (City) Noise Element and Municipal Code. A summary of the findings is provided below.

Construction Noise

Project construction noise would be generated by diesel engine-driven construction equipment used for site preparation and grading, building construction, loading, unloading, and placing materials and paving. Single-family residential properties are located at the eastern and northern project boundaries. Construction noise would potentially result in short-term impacts to surrounding properties. As calculated in this analysis, construction noise levels are not anticipated to exceed 75 A-weighted decibels [dB(A)] one-hour equivalent noise level (L_{eq}). In accordance with City Municipal Code Section 5.04.090, construction activities would not occur before 7:00 a.m. or after 7:00 p.m. on Mondays through Saturdays, and would not occur any time on Sundays and holidays. Although the adjacent residences 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 time restrictions from Section 5.04.090 of the Municipal Code, impacts

associated with temporary increases in noise during construction would be less than significant.

On-site Generated Noise

Operational noise sources on the project site are anticipated to be those typical of any self-storage facility. Based on similar operational uses for self-storage facilities, on-site operational noise sources associated with the project are anticipated to be moving trucks and heating, ventilation, and mechanical air conditioning (HVAC) units. Moving truck reverse signals were modeled during the daytime hours, and HVAC units were modeled at full capacity during the daytime and nighttime hours. As calculated in this analysis, daytime and nighttime noise levels are projected to range from 33 to 45 dB(A) L_{eq} at the adjacent residential uses, and 37 to 41 dB(A) L_{eq} at the adjacent industrial uses. The City's Municipal Code does not specify property line noise level limits. Section 5.04.040 prohibits "any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area". In other local jurisdictions, the most restrictive property line noise level limit for single family residential uses is 45 dB(A) L_{eq}. As shown in Table 7, noise levels would not exceed 45 dB(A) L_{eq} at any property line during the daytime or nighttime hours. Additionally, property line noise levels would be well less than the on-site measured noise levels which ranged from 59.4 to 66.7 dB(A) L_{eq}. Therefore, the property line noise levels generated by the project are not considered "disturbing, excessive or offensive." The HVAC units would not create any noise disturbance. Additionally, in accordance with Section 5.04.130 of the Municipal Code, no on-site loading or unloading activities would occur between the hours of 10:00 p.m. and 7:00 a.m. Therefore, impacts associated with on-site generated noise would be less than significant.

Vehicle Traffic Noise

The project would increase traffic volumes on 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. A substantial noise increase is defined as an increase of 3 dB above existing conditions. As calculated in this analysis, off-site noise level increases due to the project would be less than 3 dB and would not be perceptible. Therefore, impacts associated with off-site vehicle noise would be less than significant.

1.0 Introduction

1.1 Project Description

The 8708 Cottonwood Avenue Project (project) site is located on an approximately 3.0-acre parcel (Assessor's Parcel Number 384-370-25-00), located in the city of Santee, California, north of State Route 52 (SR-52) and west of Cottonwood Avenue. The project site is currently accessed via Cottonwood Avenue just north of the underpass beneath SR-52. Land uses surrounding the project site include single-family residences to the north, single-family residences and a commercial structure to the east, SR-52 to the south, and a business park consisting of commercial/industrial uses to the west. Figure 1 shows the project's regional location. Figure 2 shows an aerial photograph of the project site and vicinity. The proposed site plans for Phases I and II are presented in Figures 3a and 3b, respectively.

The project proposes to construct a 148,458-square-foot (sf) self-storage facility. The project would be developed in two phases. Phase I would construct a three-story, 78,080 sf, mechanically air-conditioned self-storage structure within an incidental office (Building A); a one-story, 4,413 sf self-storage structure (Building B); and a one-story, 5,120 sf self-storage structure with an 800 sf private garage, along with a 1,130 sf caretaker's living unit as the second story (Building C). Phase I would also construct 26 parking spaces on-site, along with 57 recreational vehicle (RV) parking spaces for rent or for rental trucks for moving purposes. The project would only allow for parking of these vehicles and would not include a service area.

Phase II would remove the recreational vehicle parking spaces for rent and construct a one-story, 8,309 sf self-storage structure (Building D) and a three-story, mechanically air-conditioned, 50,606 sf self-storage structure (Building E). Phase II phase would also add an additional three parking spaces, resulting in a total of 29 parking spaces on-site.

Additional project details are provided below:

- Site Access: The main entry would utilize the existing site access point on Cottonwood Avenue, just north of the underpass beneath SR-52. The project would install two 6-foot-tall security gates consisting of vertical open spaced bars on a metal frame. One set would be located within the access road east of Building A and the other would be located within the access road south side of Building A. Both security gates would be accompanied by an adjacent pedestrian gate.

- Hours of Operation: The project would have the following hours of operation:

    - Office Hours: Monday through Friday: 8:00 a.m. to 7:00 p.m. Saturday: 8:00 a.m. to 6:00 p.m. Sunday: 9:00 a.m. to 3:00 p.m.

    - Access Hours: Monday through Friday: 7:00 a.m. to 10: 00 p.m. Saturday and Sunday: 7:00 a.m. to 6:00 p.m.

- Retail Component/Rental of Moving Trucks: The project would include an office retail component within Building A that would sell packing and moving supplies and offer U-Haul or similar truck rental services.

- Loading and Unloading Areas: For the ground-based storage units, loading would typically take place from the designated loading area in front of the unit itself. For the interior units, the loading and unloading would take place in the areas close to the main hallways and the elevators. It is expected that the facility would have approximately six or seven customers on-site at any given time, and based on experience with similar storage facilities there would not be very much vehicular activity on the site at any time.

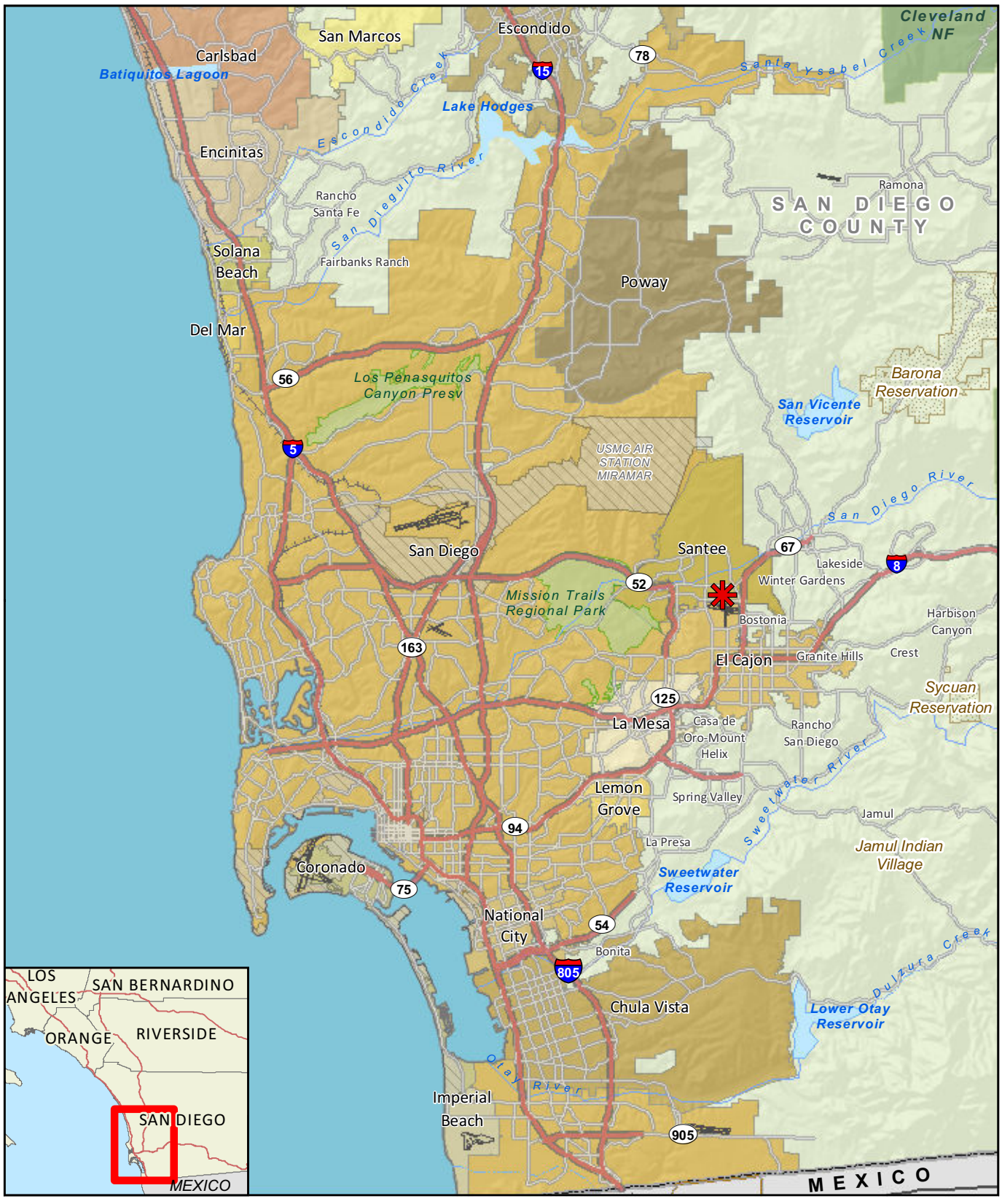
- Perimeter Fencing: The entire property would be surrounded by perimeter fencing. The project would construct wrought iron fences, approximately 75 inches in height, along the southern and western property boundaries. The project would also construct decorative masonry block wall fences with a minimum height of six feet adjacent to all existing residential land uses located north and east of the project site.

- Security Lighting and Cameras: The project site would be well lit to provide convenience and security at any time of day. The project would install wall packs on the buildings to provide both security and path of travel lighting for vehicles and pedestrians using the aisles between buildings and to access individual storage units. The RV and vehicle storage lot and rental parking area would be lit by pole lights. All project lighting would be implemented consistent with applicable security and municipal code requirements. A minimum of 20 security cameras with on-site and off-site monitoring features would also be installed throughout the facility.

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.



Project Location

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FIGURE 1
Regional Location

Image Source: Nearmap (flown January 2020)

Project Location

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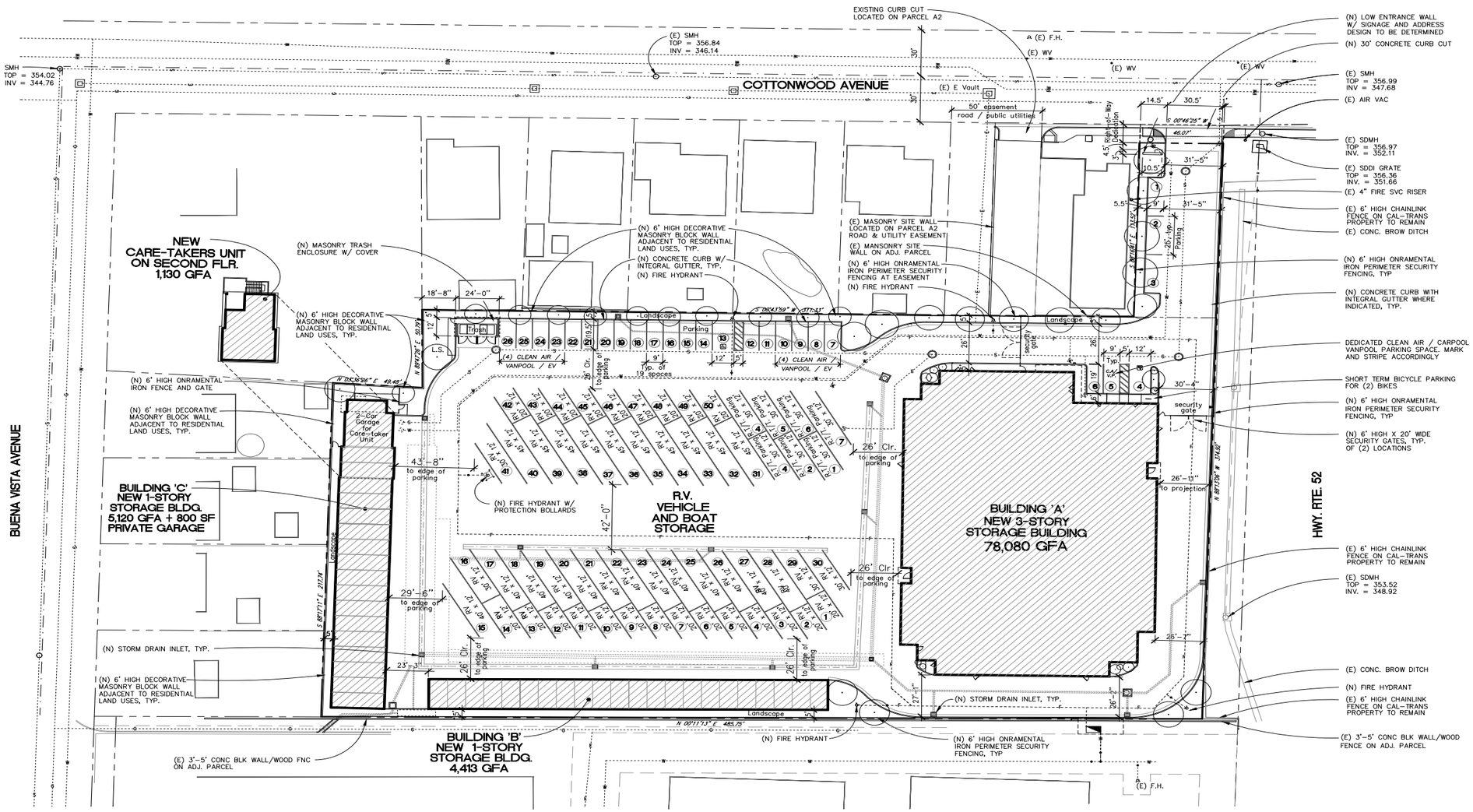
FIGURE 2

Project Location on Aerial Photograph

Map Source: Jerry Cox Architect



ALRIGHT SELF-STORAGE
8708 COTTONWOOD AVENUE
PROPOSED SITE PLAN - PHASE I

0 5' 15' 30' 60'

1" = 30'-0"

TYPE II-B, SPR.

S1 OCCUPANCY GROUP

SITE LEGEND

	DRIVEWAY, ISLAND AND PLANTER CURBS AS NOTED ON THE SITE PLAN
	PARCEL PROPERTY LINE
	NEW STRUCTURE AS NOTED
LANDSCAPE OR L.S.	LANDSCAPED AREAS - SEE ATTACHED LANDSCAPE PLANS
	DISABLED PARKING SPACE LOCATION WITH ACCESS AISLE
(#)	NUMBER OF PARKING STALLS IN ROW OR AREA
RV	RECREATIONAL VEHICAL STORAGE PARKING (FOR RENT)
R.T./T. Parking	RENTAL TRUCK / TRAILER DEDICATED PARKING
	ACCESSIBLE ROUTE OF TRAVEL FROM DISABLED PARKING SPACE OR PUBLIC RIGHT OF WAY TO PRIMARY ENTRANCE OF NEW BUILDING

GENERAL SITE AND UTILITY NOTES:

1. SEE CIVIL PLANS FOR EASEMENTS ON THIS SITE.
2. THERE IS NO BUS (TRANSIT) STOP ADJACENT TO PROPERTY.
3. ADDRESS NUMBERS SHALL BE PLACED NEAR THE ROOFLINE OF ALL STRUCTURES VISABLE FROM THE FIRE LANES OR STREET. NUMBERS SHALL BE BLOCK STYLE, 15 INCHES IN HEIGHT, BLACK IN COLOR, OR IN CONTRAST WITH THEIR BACKGROUND. ADDRESS NUMBERS SHALL BE ILLUMINATED FOR NIGHTTIME VISIBILITY.

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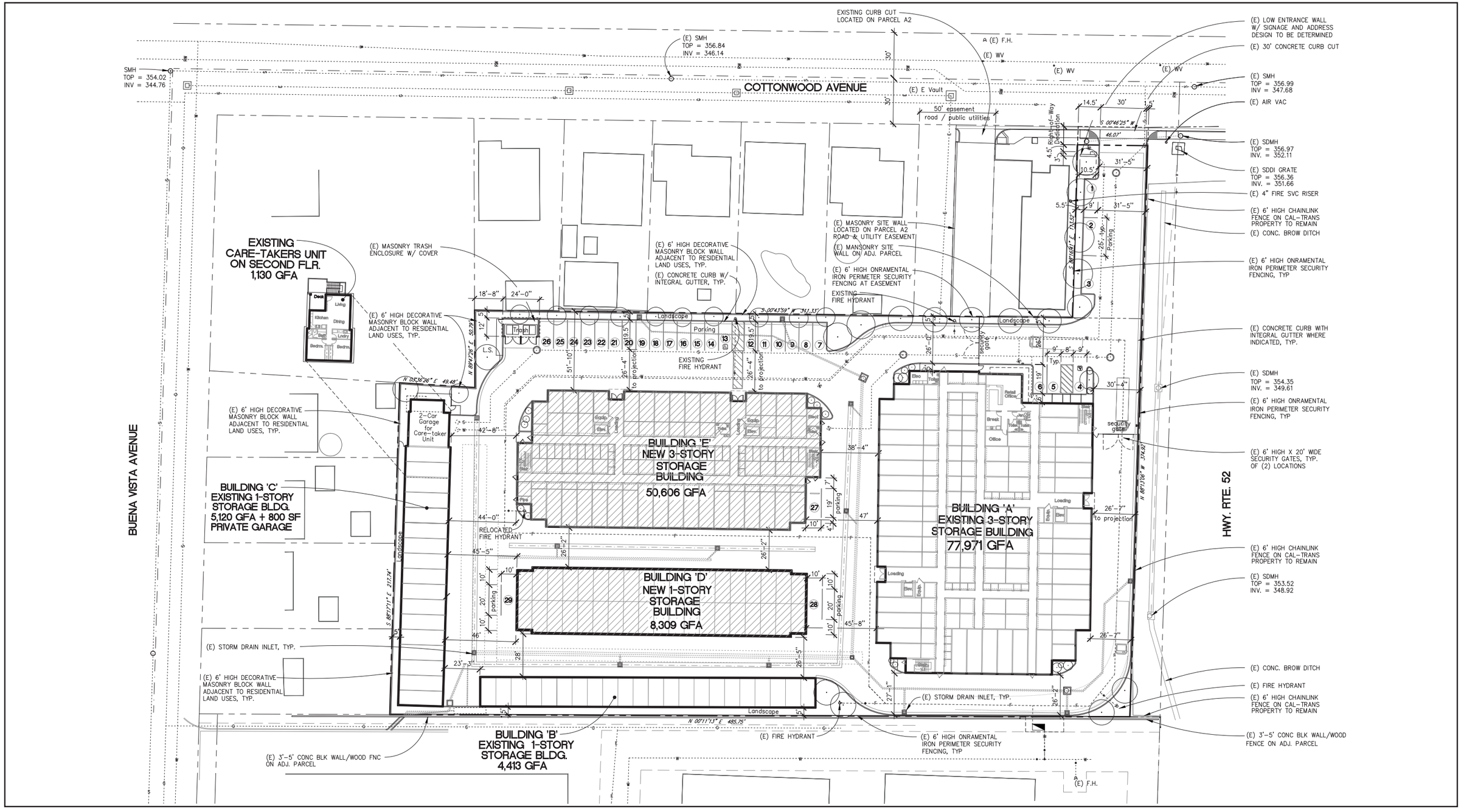
FIGURE 3a
Phase I Site Plan

Map Source: WM SMITH ASSOCIATES



ALRIGHT SELF-STORAGE
8708 COTTONWOOD AVENUE
PROPOSED SITE PLAN - PHASE II

TYPE III-B, SPR.
S1 OCCUPANCY GROUP

SITE LEGEND

- DRIVEWAY, ISLAND, AND PLANTER CURBS AS NOTED ON THE SITE PLAN
- PARCEL PROPERTY LINE
- NEW STRUCTURE AS NOTED (PHASE II)
- EXISTING STRUCTURE FROM PHASE I
- DISABLED PARKING SPACE LOCATION WITH ACCESS AISLE
- NUMBER OF PARKING STALLS IN ROW OR AREA
- ACCESSIBLE ROUTE OF TRAVEL FROM DISABLED PARKING SPACE OR PUBLIC RIGHT OF WAY TO PRIMARY ENTRANCE OF NEW BUILDING
- LANDSCAPE OR L.S. — LANDSCAPED AREAS – SEE ATTACHED LANDSCAPE PLANS

GENERAL SITE AND UTILITY NOTES:

1. SEE CIVIL PLANS FOR EASEMENTS ON THIS SITE.
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FIGURE 3b
Phase II Site Plan

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 sound exposure level. 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. The sound exposure level is a noise level over a stated period of time or event and normalized to one second.

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 City of Santee General Plan

The City of Santee (City) General Plan Noise Element, Section 8.1 states the following:

> The California Environmental Quality Act encourages jurisdictions to establish local thresholds for determining whether a particular impact is significant. Impacts exceeding these thresholds would require that measures be identified to avoid or reduce the severity of the impact. Noise Impacts shall be considered significant if any of the following occur as a result of the proposed development:
>
> 1. If, as a direct result of the proposed development, noise levels for any existing of planned development will exceed the noise levels considered compatible for that use as identified in Figure 7-3, Noise / Compatibility Guide.
>
> 2. If, as a direct result of the proposed development, noise levels which already exceed the levels considered compatible for that use are increased by 3 or more decibels.

Figure 7-3 of the City's General Plan is summarized in Table 1 below.

Table 1
Noise Compatibility

Land Use Category	Community Noise Exposure L_{dn}, dB							
	55	60	65	70	75	80		
Residential – Low Density Single Family, Duplex, Mobile Homes								
Residential – Multi-family								
Transient Lodging – Motels, Hotels								
Schools, Libraries, Churches, Hospitals, Nursing Homes (See Note #1)								
Auditoriums Concert Halls, Amphitheaters								
Sports Arena, Outdoor Spectator Sports								

Table 1
Noise Compatibility

Land Use Category	Community Noise Exposure L_{dn}, dB						
	55	60	65	70	75	80	
Playgrounds, Neighborhood Parks							
Golf Courses, Riding Stables, Water Recreation, Cemeteries							
Office Buildings, Business Commercial and Professional							
Industrial, Manufacturing, Utilities, Agriculture							

Notes:
1. Applies to noise sensitive areas which serve a significant function for the use which could be adversely affected by noise such as, outside areas used primarily for instruction, meditation areas, rest and relaxation areas, and other areas where general peace and quiet are important.

Normally Acceptable	Specified land use is satisfactory, based upon the assumption that any building 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 requirements 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 normally 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.

L_{dn} = day-night average noise level; dB = decibels
SOURCE: City of Santee General Plan Noise Element Figure 7-3 (2003).

2.2 City of Santee Municipal Code

2.2.1 On-site Generated Noise

On-site generated noise is regulated by the City's Municipal Code, Title 5 Health and Safety, Chapter 5.04 Noise Abatement and Control. Section 5.04.040 of the City's Municipal Code states that "it is unlawful for any person to make, continue, or cause to be made or continued, within the limits of the City, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area."

Section 5.04.040 also provides the following requirements for heating, ventilation, and air conditioning (HVAC) units:

4. Heating and Air Conditioning Equipment and Generators.

   a. It is unlawful for any person to operate or allow the operation of any generator, air conditioning, refrigeration or heating equipment in such

manner as to create a noise disturbance on the premises of any other occupied property, or if a condominium, apartment house, duplex, or attached business, within any adjoining unit.

Section 5.04.130 provides the following limitations on loading and unloading operations:

A. It is unlawful for any person to engage in loading, unloading, opening, idling of trucks, closing or other handling of boxes, crates, containers, building materials, garbage cans, dumpsters or similar objects between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance within or adjacent to a residential district.

Section 5.04.160 provides the following limitations on sources of noise not otherwise addressed:

A. Between 10:00 p.m. and 7:00 a.m., it is unlawful for any person to generate any noise on the public way that is louder than average conversational level at a distance of 50 feet or more, vertically or horizontally, from the source.

B. Between 10:00 p.m. and 7:00 a.m., no person is permitted to generate any noise on any private open space that is louder than average conversational level at a distance of 50 feet or more, measured from the property line of the property from which the noise is being generated.

2.2.2 Construction Noise

Noise level limits for construction activities are established in Section 5.04.090 of the City's Municipal Code. These limits state that a notice must be provided to all owners and occupants within 300 feet of the project site if the construction equipment has a manufacturer's noise rating of 85 dB and operates at a specific location for 10 consecutive workdays.

In addition, Section 5.04.090 of the City's Municipal Code states that no construction equipment is permitted before 7:00 a.m. or after 7:00 p.m. on Mondays through Saturdays and all times on Sundays and holidays.

3.0 Existing Conditions

Existing noise levels at the project site were measured on January 28, 2020, using one Larson-Davis LxT Sound Expert Sound Level Meter, serial number 3829. The following parameters were used:

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

The meter was calibrated before and after each measurement. The meter was set 5 feet above the ground level for each measurement.

Noise measurements were taken to obtain typical ambient noise levels at the project site and in the vicinity. The weather was warm and sunny. Four 15-minute measurements were taken, as described below. The primary noise source was vehicle traffic on SR-52. The measurement locations are shown on Figure 4, and detailed data is contained in Attachment 1.

Measurement 1 was located at the southern project boundary, approximately 50 feet north of SR-52. The main source of noise at this location was vehicle traffic on SR-52. Other sources of noise included industrial activities to the west of the project site and aircraft. SR-52 is elevated above the project site, and vehicle traffic was not visible from the measurement location. The average measured noise level was 62.7 dB(A) L_{eq}.

Measurement 2 was located at the eastern project boundary, approximately 10 feet west of a 5.5-foot wooden fence at the residential property line. The main source of noise at this location was vehicle traffic on SR-52. Other sources of noise included industrial activities to the west of the project site, aircraft, and other noises typical of a residential neighborhood including barking dogs and bird vocalizations. The average measured noise level was 61.0 dB(A) L_{eq}.

Measurement 3 was located at the northern project boundary, approximately 10 feet south of a 5.5-foot wooden fence at the residential property line. The main source of noise at this location was vehicle traffic on SR-52 and industrial activities to the west of the project site. Other sources of noise included aircraft. The average measured noise level was 59.4 dB(A) L_{eq}.

Measurement 4 was located at the western project boundary, approximately 10 feet east of a 5.5-foot wood and concrete wall at the industrial property line. The main source of noise at this location was vehicle traffic on SR-52 and industrial activities to the west of the project site. Other sources of noise included aircraft. The average measured noise level was 66.7 dB(A) L_{eq}.

Noise measurements are summarized in Table 2.

Table 2
Noise Measurements

Measurement	Location	Time	Main Noise Sources	dB(A) L_{eq}
1	Southern project boundary, 50 feet north of SR-52	12:35 p.m.–12:50 p.m.	SR-52	62.7
2	Eastern project boundary, 10 feet west of residential property line	12:57 p.m.–1:12 p.m.	SR-52	61.0
3	Northern project boundary, 10 feet south of residential property line	1:17 p.m.–1:32 p.m.	SR-52 and industrial activity to the west	59.4
4	Western project boundary, 10 feet east of industrial property line	1:36 p.m.–1:51 p.m.	SR-52 and industrial activity to the west	66.7
Note: Noise measurement data is contained in Attachment 1.				

Image Source: Nearmap (flown January 2020)

Project Location

Measurement Locations

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FIGURE 4

Noise Measurement Locations

4.0 Analysis 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 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). Table 3 summarizes typical construction equipment noise levels.

Table 3
Typical Construction Equipment Noise Levels

Equipment	Maximum Noise Level at 50 Feet [dB(A) L_{eq}][1]	Typical Duty Cycle[2]	Average Noise Level at 50 Feet [dB(A) L_{eq}][3]
Auger Drill Rig	85	20%	78
Backhoe	80	40%	76
Blasting	94	1%	74
Chain Saw	85	20%	78
Compactor (ground)	80	20%	73
Compressor (air)	80	40%	76
Concrete Mixer Truck	85	40%	81
Concrete Pump	82	20%	75
Concrete Saw	90	20%	83
Crane (mobile or stationary)	85	20%	78
Dozer	85	40%	81
Dump Truck	84	40%	80
Excavator	85	40%	81
Front End Loader	80	40%	76
Generator (25 kilovolt amps or less)	70	50%	67
Generator (more than 25 kilovolt amps)	82	50%	79
Grader	85	40%	81
Hydra Break Ram	90	10%	80
Impact Pile Driver (diesel or drop)	95	20%	88

Table 3 Typical Construction Equipment Noise Levels			
Equipment	Maximum Noise Level at 50 Feet [dB(A) L_{eq}][1]	Typical Duty Cycle[2]	Average Noise Level at 50 Feet [dB(A) L_{eq}][3]
In situ Soil Sampling Rig	84	20%	77
Jackhammer	85	20%	78
Mounted Impact Hammer (hoe ram)	90	20%	83
Paver	85	50%	82
Pneumatic Tools	85	50%	82
Pumps	77	50%	74
Rock Drill	85	20%	78
Roller	74	40%	70
Scraper	85	40%	81
Tractor	84	40%	80
Vacuum Excavator (vac-truck)	85	40%	81
Vibratory Concrete Mixer	80	20%	73
Vibratory Pile Driver	95	20%	88
SOURCE: FHWA 2006. [1]Noise levels based on those specified in FHWA Road Construction Noise Model. [2]Amount of time equipment operates at full power. [3]Calcualted average hourly noise level that takes duty cycle into account.			

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 would be less. For this analysis, the simultaneous operation of two large pieces of construction equipment, such as an excavator and a loader, was modeled. This equipment would generate an average hourly noise level of approximately 82 dB(A) L_{eq} at 50 feet from the center of construction activity.

4.2 On-site Generated Noise Analysis

The noise sources on the project site after completion of construction are anticipated to be those that would be typical of any self-storage facility. Based on similar operational uses for self-storage facilities, on-site operational noise sources associated with the project are anticipated to be RVs, moving trucks and HVAC units. As discussed, the project would be constructed in two phases. The operational noise sources associated with Phase I would include RVs, moving trucks, and HVAC units. The RV parking spaces would be removed in Phase II, so the operational noise sources associated with Phase II would include moving trucks and HVAC units. Additionally, the project would include the construction of a six-foot masonry wall along the eastern and northern property lines. This wall was included in the noise modeling of operational sources.

RV noise at the project site would include idling and air brake activity. Based on noise measurements taken at an RV facility, RV idling and air brakes generate a noise level of 62.4 dB(A) L_{eq} at 50 feet (Urban Crossroads 2017). It was assumed that it would take an RV up to

5 minutes to park. Taking this duration into account, hourly noise levels would be 51.6 dB(A) L_{eq} at 50 feet, which is equivalent to a sound power level of approximately 83 dB(A). This noise level was modeled at the center of the two RV parking locations.

The main noise source associated with moving trucks would be the reverse signals. Based on measurements taken at a similar facility, reverse signals generate a noise level of 87.0 dB(A) at 4 feet, and operate for approximately 2.5 minutes for each unloading event. Taking this duration into account, hourly noise levels would be 73.2 dB(A) L_{eq} at 4 feet (Ldn Consulting Inc., 2018), which is equivalent to a sound power level of 82.9 dB(A). To obtain worst-case hourly noise levels due to on-site activities, this noise level was modeled at the loading and truck parking areas.

Building A and Building E would be mechanically air conditioned by rooftop HVAC units. Based on review of manufacturer specifications for a sample unit (Trane Model T/YSCE120ED), a representative noise level for a 10-ton unit would be a sound power level of 79 dB (Attachment 2a). The roof plans for these buildings show 14 units at Building A and 12 units at Building B. Additionally, the caretaker's unit would also include an HVAC unit. The exact location is not known at this time. As a worst-case analysis, an HVAC unit was modeled on the second-floor deck facing the northern residential property line. It was assumed that this unit would be similar to a 3-ton Carrier unit (Carrier Model 50VG-A) with a sound power level of 73 dB (Attachment 2b). All HVAC units were modeled at full capacity during the daytime and nighttime hours.

The project access hours would be 7:00 a.m. to 10:00 p.m. Monday through Friday, and 7:00 a.m. to 6:00 p.m. Saturday and Sunday. As a worst-case analysis, Phase I and Phase II noise sources were modeled during the daytime and nighttime hours.

4.3 Traffic Noise Analysis

Off-site traffic noise was modeled using the FHWA Traffic Noise Prediction Model algorithms and reference levels. Traffic noise levels were calculated at 50 feet from the centerline of the affected roadways to determine the noise level increase associated with the project. The model uses various input parameters, such as traffic volumes, vehicle mix, distribution, and speed.

Roadways in the vicinity of the project site include Cottonwood Avenue, Prospect Avenue Buena Vista Avenue, and Mission Gorge Road. Traffic noise levels were calculated based on the total average daily traffic volume on each roadway segment. For modeling purposes, "hard" ground conditions were used for the analysis of future conditions, since a majority of the project area is paved and the hard site provides the most conservative impact assessment. Noise levels were modeled at 50 feet from roadway centerlines. Modeled noise levels do not account for shielding provided by intervening barriers and structures.

Existing (year 2020) traffic volumes were obtained from the San Diego Association of Governments (SANDAG) traffic projections (SANDAG 2020). Project trip generation rates for Phase I and Phase II were calculated using SANDAG trip generation rates as well as a traffic study prepared for a similar facility with RV storage. Table 4 summarizes the traffic

generated by the project. As a worst-case analysis, total project traffic generated by each phase was added to the existing roadway volumes to determine the overall increase in noise due to traffic on each roadway. As shown, at the completion of Phase I, the project would generate 182 daily trips, and at the completion of Phase II, the project would generate 299 daily trips. Table 5 summarizes the modeled traffic volumes.

Table 4
Project Trip Generation

Land Use	Amount	Trip Generation Rate	Total Trips
Phase I			
Storage	87,504 square feet	2 trips/1,000 square feet[1]	175
RV and Boat Storage	57 spaces	0.022 trips/space[2]	1
Caretaker Unit	1 dwelling unit	6 trips/dwelling unit[3]	6
Total			182
Phase II			
Storage	146,419 square feet	2 trips/1,000 square feet[1]	293
RV and Boat Storage	0 spaces	0.022 trips/space[2]	0
Caretaker Unit	1 dwelling unit	6 trips/dwelling unit[3]	6
Total			299

[1]Trip rate obtained from SANDAG trip generation rates (SANDAG 2002)
[2]Trip rate obtained from the Transportation Access Analysis for the Sun Ridge Vista RV/Mini Storage Facility in the city of San Diego (LOS Engineering, Inc. 2019)
[3]The SANDAG trip generation rate for multi-family residential uses was assumed for the caretaker unit (SANDAG 2002).

Table 5
Roadway Traffic Volumes

Roadway Segment	Existing	Existing + Phase I	Existing + Phase II	Speed (mph)
Cottonwood Avenue				
Prospect Avenue to Buena Vista Avenue	4,000	4,182	4,299	25
Buena Vista Avenue to Mission Gorge Road	500	682	799	25
Prospect Avenue				
West of Cottonwood Avenue	6,700	6,882	6,999	40
East of Cottonwood Avenue	5,000	5,182	5,299	35
Buena Vista Avenue				
West of Cottonwood Avenue	1,800	1,982	2,099	25
East of Cottonwood Avenue	2,800	2,982	3,099	25
Mission Gorge Road				
West of Cottonwood Avenue	11,300	11,482	11,599	40
East of Cottonwood Avenue	11,900	12,082	12,199	35

5.0 Future Acoustical Environment and Impacts

5.1 Construction Noise

Single-family residential properties are located at the eastern and northern project boundaries. Noise associated with the grading, building, and paving for the project would potentially result in short-term impacts to surrounding properties. A variety of noise-generating equipment would be used during the construction phase of the project, such

as excavators, front-end loaders, and concrete saws, along with others. The exact number and pieces of construction equipment required are not known at this time. 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 would be lower when taking into account the equipment usage factors. The loudest phase of construction would be the grading/excavation phase. Construction noise levels were calculated based on an excavator and loader being active simultaneously.

Construction noise is considered a point source and would attenuate at approximately 6 dB(A) for every doubling of distance. Average hourly noise levels due to simultaneous activity would be approximately 82 dB(A) L_{eq} at 50 feet. To reflect the nature of grading and construction activities, equipment was modeled as an area source distributed over the project footprint. The total sound energy of the area source was modeled with both pieces of equipment operating simultaneously. Noise levels were modeled at a series of 16 receivers located at the adjacent uses. The results are summarized in Table 6. Modeled receiver locations and construction noise contours are shown in Figure 5. SoundPLAN data is contained in Attachment 3.

Table 6
Construction Noise Levels at Off-site Receivers

Receiver	Land Use	Construction Noise Level [dB(A) L_{eq}]
1	Residential	72
2	Residential	73
3	Residential	73
4	Residential	73
5	Residential	73
6	Residential	72
7	Residential	71
8	Residential	72
9	Residential	73
10	Residential	71
11	Residential	72
12	Residential	72
13	Residential	71
14	Industrial	72
15	Industrial	73
16	Industrial	73

As shown, construction noise levels are not anticipated to exceed 75 dB(A) L_{eq} at the adjacent residential uses. In accordance with City Municipal Code Section 5.04.090, construction activities would not occur before 7:00 a.m. or after 7:00 p.m. on Mondays through Saturdays, and would not occur any time on Sundays and holidays. Although the adjacent residences would be exposed to construction noise levels that could be heard above ambient conditions, the exposure would be temporary. Additionally, as required by the Municipal Code, a notice would be provided to all owners and occupants within 300 feet of the project site if the construction equipment has a manufacturer's noise rating of 85 dB and operates at a specific location for 10 consecutive workdays. As construction activities associated with the project would comply with time restrictions from Section 5.04.090 of the Municipal Code, impacts associated with temporary increases in noise during construction would be less than significant.

Image Source: Nearmap (flown January 2020)

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FIGURE 5
Construction Noise Contours

5.2 On-site Generated Noise

The primary noise sources on-site would be RVs, moving trucks, and rooftop HVAC equipment during Phase I, and moving trucks and rooftop HVAC equipment during Phase II. Using the on-site noise source parameters discussed in Section 4.3, noise levels were modeled at a series of 16 receivers located at the property line. As discussed, all noise sources were modeled during the daytime and nighttime hours.

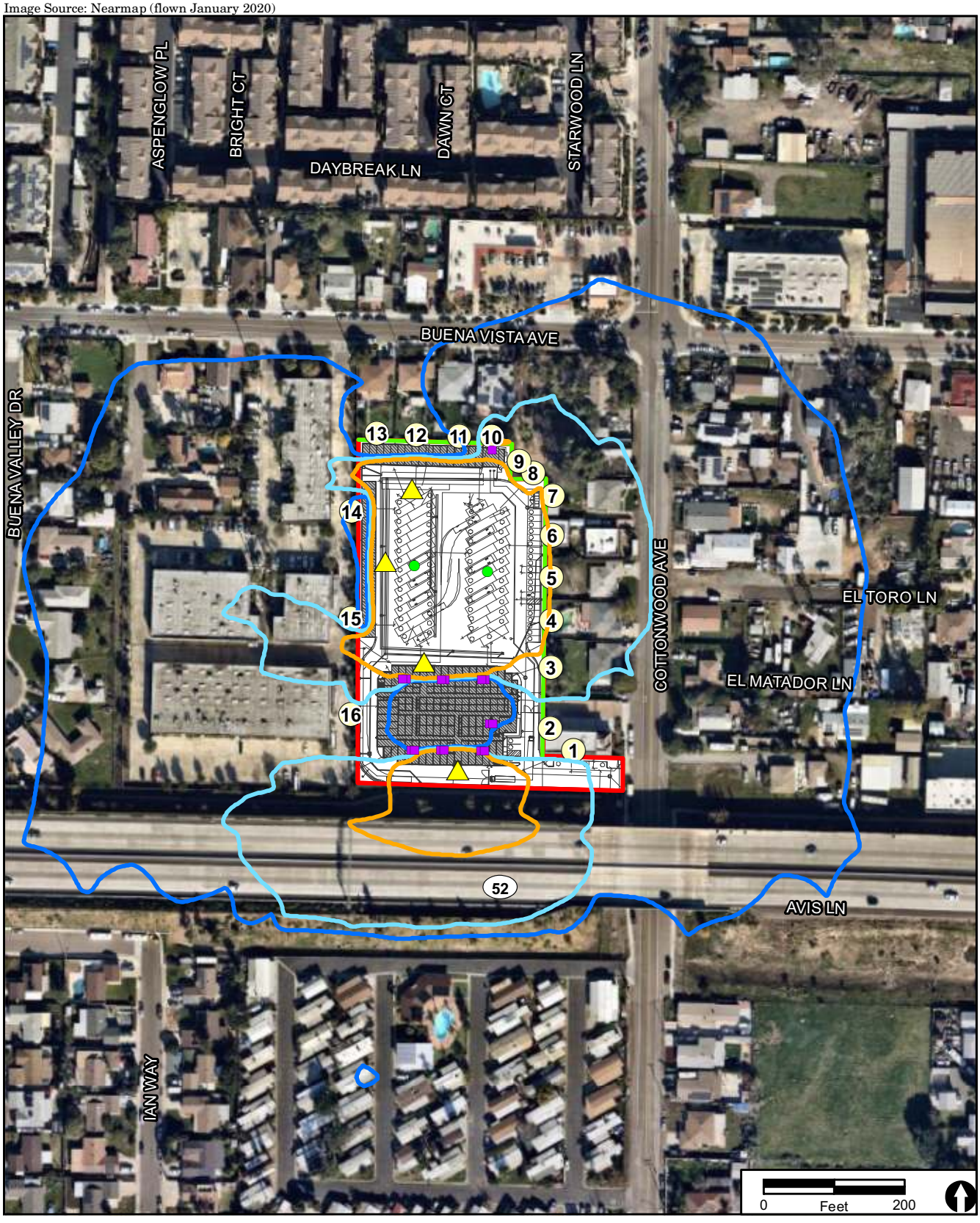
Modeled receivers, modeled moving truck locations, HVAC locations, and daytime on-site generated noise contours are shown in Figure 6. Nighttime noise contours are shown in Figure 7. Modeled data is included in Attachment 4. Future projected noise levels are summarized in Table 7.

Table 7
On-Site Generated Noise Levels at Adjacent Property Lines

Receiver	Land Use	Noise Level [dB(A) L_{eq}]	
		Phase I	Phase II
1	Residential	39	40
2	Residential	39	40
3	Residential	42	43
4	Residential	44	44
5	Residential	45	45
6	Residential	44	44
7	Residential	43	43
8	Residential	43	42
9	Residential	43	40
10	Residential	43	43
11	Residential	36	37
12	Residential	33	36
13	Residential	32	36
14	Industrial	35	38
15	Industrial	37	39
16	Industrial	39	43

As shown, Phase I noise levels are projected to range from 32 to 45 dB(A) L_{eq} at the adjacent residential uses, and 35 to 39 dB(A) L_{eq} at the adjacent industrial uses. Phase II noise levels are projected to range from 36 to 42 dB(A) L_{eq} at the adjacent residential uses, and 38 to 43 dB(A) L_{eq} at the adjacent industrial uses. The City's Municipal Code does not specify property line noise level limits. Section 5.04.040 prohibits "any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area." In other local jurisdictions, the most restrictive property line noise level limit for single family residential uses is 45 dB(A) L_{eq}. As shown in Table 7, noise levels would not exceed 45 dB(A) L_{eq} at any property line during the daytime or nighttime hours. Additionally, the hourly noise levels shown in Table 7 are well less than the on-site measured noise levels which ranged from 59.4 to 66.7 dB(A) L_{eq}. Therefore, the property line noise levels generated by the project are not considered "disturbing, excessive or offensive." The HVAC units would not create any noise disturbance. Additionally, in accordance with Section 5.04.130 of the Municipal Code, no on-site loading or unloading activities would occur between the hours of 10:00 p.m. and 7:00 a.m. Therefore, impacts associated with on-site generated noise would be less than significant.

Image Source: Nearmap (flown January 2020)



Project Location
Phase I Site Plan
Buildings
Modeled Receivers
HVAC
Moving Trucks
6-foot Masonry Wall

On-Site Contours Phase I

35 dB(A) Leq
40 dB(A) Leq
45 dB(A) Leq

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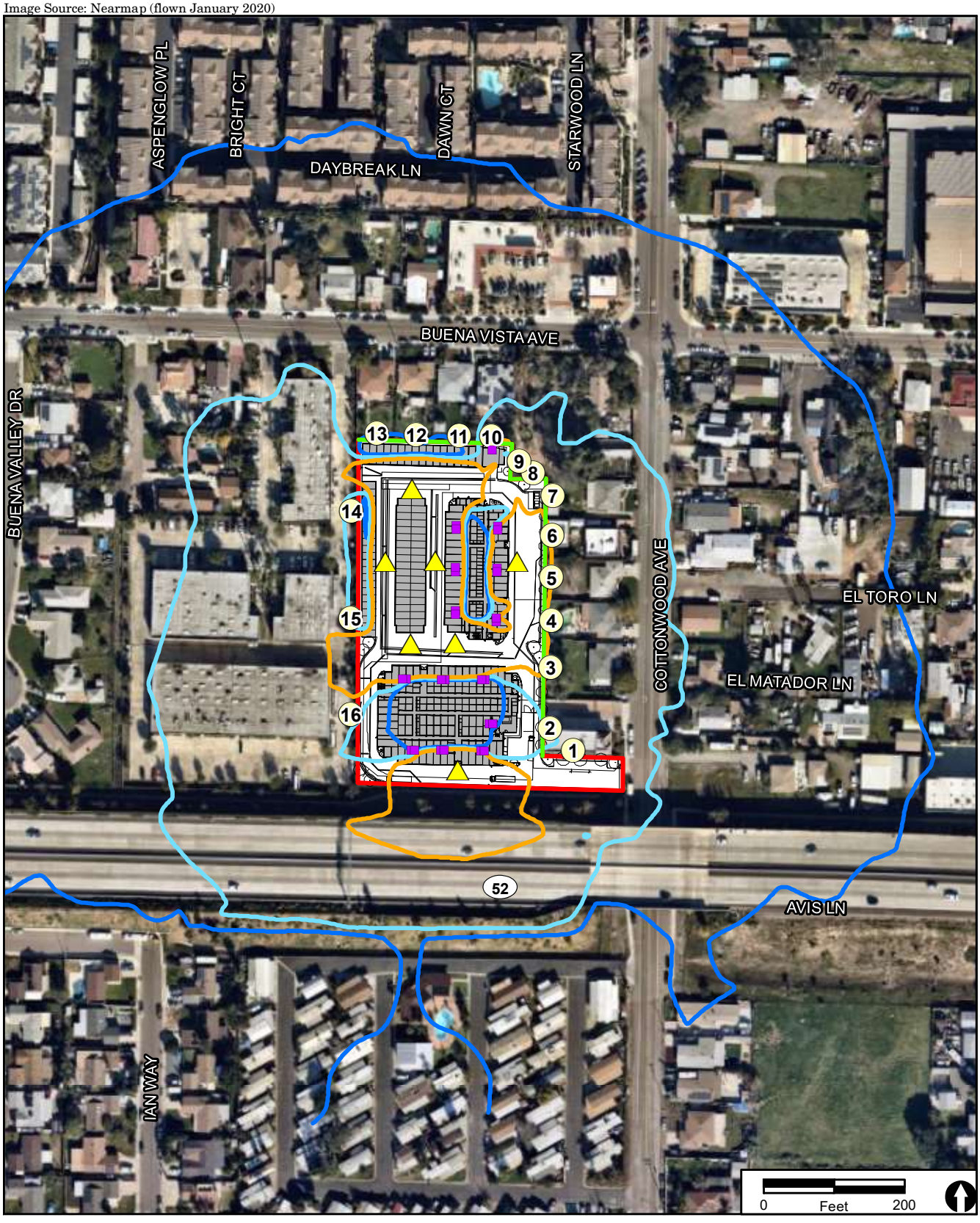
FIGURE 6

Phase I On-Site Noise Contours

Image Source: Nearmap (flown January 2020)



Project Location
Phase II Site Plan
Buildings
Modeled Receivers
HVAC
Moving Trucks
6-foot Masonry Wall

On-Site Contours Phase II

35 dB(A) Leq
40 dB(A) Leq
45 dB(A) Leq

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FIGURE 7

Phase II On-Site Noise Contours

5.3 Vehicle Traffic Noise

The project would increase traffic volumes on 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. As discussed in Section 2.1 above, the City's General Plan Noise Element states that noise impacts would be significant if the project results in an increase of 3 dB or more where noise levels already exceed the land use compatibility levels. A 3 dB increase in noise is barely perceptible to the human ear.

Table 8 presents a conservative assessment of traffic noise levels based on the existing, existing plus project Phase I, and existing plus project Phase II. Table 8 also summarizes the traffic noise level increases due to the project. Noise level calculations are contained in Attachment 5.

Table 8
Vehicle Traffic Noise Levels without and with Project
(CNEL)

Roadway Segment	Existing Noise Level	Existing + Buildout of Phase I		Existing + Buildout of Phase II	
		Noise Level	Increase Over Existing	Noise Level	Increase Over Existing
Cottonwood Avenue					
Prospect Avenue to Buena Vista Avenue	61	61	<1	61	<1
Buena Vista Avenue to Mission Gorge Road	52	53	1	54	2
Prospect Avenue					
West of Cottonwood Avenue	66	66	<1	66	<1
East of Cottonwood Avenue	64	64	<1	64	<1
Buena Vista Avenue					
West of Cottonwood Avenue	57	58	1	58	1
East of Cottonwood Avenue	59	60	1	60	1
Mission Gorge Road					
West of Cottonwood Avenue	69	69	<1	69	<1
East of Cottonwood Avenue	68	68	<1	68	<1

As shown in Table 8, off-site noise level increases due to the project would be less than 3 dB and would not be perceptible. Therefore, impacts associated with off-site vehicle noise would be less than significant.

6.0 Conclusions

6.1 Construction Noise

As shown in Table 6, construction noise levels are not anticipated to exceed 75 dB(A) L_{eq} at the adjacent residential uses. In accordance with City Municipal Code Section 5.04.090,

construction activities would not occur before 7:00 a.m. or after 7:00 p.m. on Mondays through Saturdays, and would not occur any time on Sundays and holidays. Although the adjacent residences 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 time restrictions from Section 5.04.090 of the Municipal Code, impacts associated with temporary increases in noise during construction would be less than significant.

6.2 On-site Generated Noise

The primary noise sources on-site would be moving trucks and rooftop HVAC equipment. Moving truck reverse signals were modeled during the daytime hours, and HVAC units were modeled at full capacity during the daytime and nighttime hours. As shown in Table 7, daytime and nighttime noise levels are projected to range from 33 to 45 dB(A) L_{eq} at the adjacent residential uses, and 37 to 41 dB(A) L_{eq} at the adjacent industrial uses. Property line noise levels generated by the project are not considered "disturbing, excessive or offensive." The HVAC units would not create any noise disturbance. Additionally, in accordance with Section 5.04.130 of the Municipal Code, no on-site loading or unloading activities would occur between the hours of 10:00 p.m. and 7:00 a.m. Therefore, impacts associated with on-site generated noise would be less than significant.

6.3 Vehicle Traffic Noise

The project would increase traffic volumes on 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. A substantial noise increase is defined as an increase of 3 dB above existing conditions. As shown in Table 8, off-site noise level increases due to the project would be less than 3 dB and would not be perceptible. Therefore, impacts associated with off-site vehicle noise would be less than significant.

7.0 References Cited

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ATTACHMENTS

ATTACHMENT 1

Noise Measurement Data

Summary					
Filename	LxT_Data.017				
Serial Number	3829				
Model	SoundExpert™ LxT				
Firmware Version	2.301				
User	Kevin Isreal				
Location	Cottonwood Avenue				
Job Description	9603.0				
Note					
Measurement Description					
Start	2020/01/28 12:35:23				
Stop	2020/01/28 12:50:23				
Duration	0:15:00.6				
Run Time	0:15:00.6				
Pause	0:00:00.0				
Pre Calibration	2020/01/28 12:34:42				
Post Calibration	None				
Calibration Deviation	---				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
OBA Range	Normal				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	A Weighting				
OBA Max Spectrum	At Lmax				
Overload	122.1 dB				
	A		**C**	**Z**	
Under Range Peak	**78.4**		75.4	80.4 dB	
Under Range Limit	**26.2**		25.3	32.2 dB	
Noise Floor	16.3		16.2	22.1 dB	
Results					
LAeq	62.7 dB				
LAE	92.3 dB				
EA	186.980 µPa²h				
LApeak (max)	2020/01/28 12:35:27		87.7 dB		
LASmax	2020/01/28 12:50:21		66.0 dB		
LASmin	2020/01/28 12:49:22		58.3 dB		
SEA	-99.9 dB				
LAS > 85.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LAS > 115.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 135.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 137.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 140.0 dB (Exceedence 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**
	62.7	62.7	-99.9	62.7	62.7	-99.9	-99.9
LCeq	70.4 dB						
LAeq	62.7 dB						
LCeq - LAeq	7.7 dB						
LAleq	63.4 dB						
LAeq	62.7 dB						
LAleq - LAeq	0.7 dB						
# Overloads	0						
Overload Duration	0.0 s						
# OBA Overloads	0						
OBA Overload Duration	0.0 s						
Statistics							
LAS5.00	64.4 dB						
LAS10.00	64.0 dB						
LAS33.30	63.1 dB						
LAS50.00	62.7 dB						
LAS66.60	62.1 dB						
LAS90.00	60.7 dB						

Summary				
Filename	LxT_Data.018			
Serial Number	3829			
Model	SoundExpert™ LxT			
Firmware Version	2.301			
User	Kevin Isreal			
Location	Cottonwood Avenue			
Job Description	9603.0			
Note				
Measurement Description				
Start	2020/01/28 12:56:55			
Stop	2020/01/28 13:11:56			
Duration	0:15:00.5			
Run Time	0:15:00.5			
Pause	0:00:00.0			
Pre Calibration	2020/01/28 12:56:40			
Post Calibration	None			
Calibration Deviation	---			
Overall Settings				
RMS Weight	A Weighting			
Peak Weight	A Weighting			
Detector	Slow			
Preamp	PRMLxT1L			
Microphone Correction	Off			
Integration Method	Linear			
OBA Range	Normal			
OBA Bandwidth	1/1 and 1/3			
OBA Freq. Weighting	A Weighting			
OBA Max Spectrum	At Lmax			
Overload	122.1 dB			
	A	**C**	**Z**	
Under Range Peak	**78.4**	75.4	80.4 dB	
Under Range Limit	**26.2**	25.3	32.2 dB	
Noise Floor	16.3	16.2	22.1 dB	
Results				
LAeq	61.0 dB			
LAE	90.5 dB			
EA	124.571 µPa²h			
LApeak (max)	2020/01/28 13:05:47	97.9 dB		
LASmax	2020/01/28 13:05:47	72.3 dB		
LASmin	2020/01/28 13:08:19	56.3 dB		
SEA	-99.9 dB			
LAS > 85.0 dB (Exceedence Counts / Duration)	0	0.0 s		
LAS > 115.0 dB (Exceedence Counts / Duration)	0	0.0 s		
LApeak > 135.0 dB (Exceedence Counts / Duration)	0	0.0 s		
LApeak > 137.0 dB (Exceedence Counts / Duration)	0	0.0 s		
LApeak > 140.0 dB (Exceedence 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**
	61.0	61.0	-99.9	61.0	61.0	-99.9	-99.9
LCeq	70.2 dB						
LAeq	61.0 dB						
LCeq - LAeq	9.2 dB						
LAleq	63.4 dB						
LAeq	61.0 dB						
LAleq - LAeq	2.4 dB						
# Overloads	0						
Overload Duration	0.0 s						
# OBA Overloads	0						
OBA Overload Duration	0.0 s						

Statistics	
LAS5.00	63.3 dB
LAS10.00	62.4 dB
LAS33.30	61.0 dB
LAS50.00	60.3 dB
LAS66.60	59.6 dB
LAS90.00	58.6 dB

Summary					
Filename	LxT_Data.019				
Serial Number	3829				
Model	SoundExpert™ LxT				
Firmware Version	2.301				
User	Kevin Isreal				
Location	Cottonwood Avenue				
Job Description	9603.0				
Note					
Measurement Description					
Start	2020/01/28 13:16:59				
Stop	2020/01/28 13:32:00				
Duration	0:15:00.5				
Run Time	0:15:00.5				
Pause	0:00:00.0				
Pre Calibration	2020/01/28 13:16:42				
Post Calibration	None				
Calibration Deviation	---				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
OBA Range	Normal				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	A Weighting				
OBA Max Spectrum	At Lmax				
Overload	122.1 dB				
	A		**C**	**Z**	
Under Range Peak	**78.3**		75.3	80.3 dB	
Under Range Limit	**26.2**		25.3	32.2 dB	
Noise Floor	16.3		16.2	22.1 dB	
Results					
LAeq	59.4 dB				
LAE	88.9 dB				
EA	86.595 µPa²h				
LApeak (max)	2020/01/28 13:23:28		100.8 dB		
LASmax	2020/01/28 13:23:28		69.2 dB		
LASmin	2020/01/28 13:23:13		56.5 dB		
SEA	-99.9 dB				
LAS > 85.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LAS > 115.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 135.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 137.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 140.0 dB (Exceedence 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**
	59.4	59.4	-99.9	59.4	59.4	-99.9	-99.9
LCeq	69.3 dB						
LAeq	59.4 dB						
LCeq - LAeq	10.0 dB						
LAleq	61.5 dB						
LAeq	59.4 dB						
LAleq - LAeq	2.1 dB						
# Overloads	0						
Overload Duration	0.0 s						
# OBA Overloads	0						
OBA Overload Duration	0.0 s						
Statistics							
LAS5.00	61.3 dB						
LAS10.00	60.7 dB						
LAS33.30	59.5 dB						
LAS50.00	59.0 dB						
LAS66.60	58.7 dB						
LAS90.00	57.9 dB						

Summary					
Filename	LxT_Data.020				
Serial Number	3829				
Model	SoundExpert™ LxT				
Firmware Version	2.301				
User	Kevin Isreal				
Location	Cottonwood Avenue				
Job Description	9603.0				
Note					
Measurement Description					
Start	2020/01/28 13:36:01				
Stop	2020/01/28 13:51:02				
Duration	0:15:00.6				
Run Time	0:15:00.6				
Pause	0:00:00.0				
Pre Calibration	2020/01/28 13:35:41				
Post Calibration	None				
Calibration Deviation	---				
Overall Settings					
RMS Weight	A Weighting				
Peak Weight	A Weighting				
Detector	Slow				
Preamp	PRMLxT1L				
Microphone Correction	Off				
Integration Method	Linear				
OBA Range	Normal				
OBA Bandwidth	1/1 and 1/3				
OBA Freq. Weighting	A Weighting				
OBA Max Spectrum	At Lmax				
Overload	122.1 dB				
	A		**C**	**Z**	
Under Range Peak	**78.4**		75.4	80.4 dB	
Under Range Limit	**26.2**		25.3	32.2 dB	
Noise Floor	16.3		16.2	22.1 dB	
Results					
LAeq	66.7 dB				
LAE	96.3 dB				
EA	468.705 µPa²h				
LApeak (max)	2020/01/28 13:40:06		99.5 dB		
LASmax	2020/01/28 13:40:07		80.4 dB		
LASmin	2020/01/28 13:51:00		62.7 dB		
SEA	-99.9 dB				
LAS > 85.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LAS > 115.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 135.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 137.0 dB (Exceedence Counts / Duration)	0		0.0 s		
LApeak > 140.0 dB (Exceedence 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**
	66.7	66.7	-99.9	66.7	66.7	-99.9	-99.9
LCeq	74.8 dB						
LAeq	66.7 dB						
LCeq - LAeq	8.1 dB						
LAleq	68.5 dB						
LAeq	66.7 dB						
LAleq - LAeq	1.8 dB						
# Overloads	0						
Overload Duration	0.0 s						
# OBA Overloads	0						
OBA Overload Duration	0.0 s						
Statistics							
LAS5.00	67.8 dB						
LAS10.00	67.5 dB						
LAS33.30	66.8 dB						
LAS50.00	66.5 dB						
LAS66.60	66.1 dB						
LAS90.00	64.8 dB						

ATTACHMENT 2a

Storage 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.

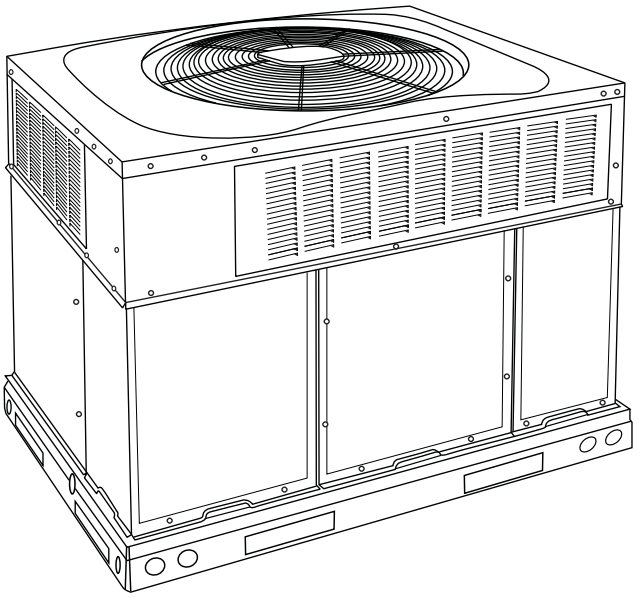
ATTACHMENT 2b

Caretaker HVAC Specifications

50VG–A
Performance™ 16 SEER 2–Stage Packaged Air Conditioner System with Puron® (R–410A) Refrigerant
Single and Three Phase
2 to 5 Nominal Tons (Sizes 24–60)

Carrier
turn to the experts

Product Data



A09033

Fig. 1 - Unit 50VG-A

Single-Packaged Products with Energy-Saving Features and Puron® refrigerant.

- 15.0-16.0 SEER / 12.0-12.5 EER
- Factory-Installed TXV
- Multi-speed ECM Blower Motor - Standard
- Sound levels as low as 72dBA
- Two Stages of Cooling
- Dehumidification Feature

FEATURES/BENEFITS

One-piece cooling unit with optional electric heater, low sound levels, easy installation, low maintenance, and dependable performance.

Puron Environmentally Sound Refrigerant is Carrier's unique refrigerant designed to help protect the environment. Puron is an HFC refrigerant which does not contain chlorine that can harm the ozone layer. Puron refrigerant is in service in millions of systems proving highly reliable, environmentally sound performance.

Easy Installation

Factory-assembled package is a compact, fully self-contained, electric cooling unit that is prewired, pre-piped, and pre-charged for minimum installation expense. These units are available in a variety of standard cooling sizes with voltage options to meet residential and light commercial requirements. Units are lightweight and install easily on a rooftop or at ground level. The high tech composite base eliminates rust problems associated with ground level applications.

Innovative Unit Base Design

On the inside a high-tech composite material will not rust and incorporates a sloped drain pan which improves drainage and helps inhibit mold, algae and bacterial growth. On the outside metal base rails provide added stability as well as easier handling and rigging.

Convertible duct configuration

Unit is designed for use in either downflow or horizontal applications. Each unit is converted from horizontal to downflow and includes horizontal duct covers. Downflow operation is provided in the field to allow vertical ductwork connections. The basepan seals on the bottom openings to ensure a positive seal in the vertical airflow mode.

Efficient operation High-efficiency design offers SEER (Seasonal Energy Efficiency Ratios) of up to 16.0. (See page 4.)

Durable, dependable components

Scroll Compressors have 2 stages of cooling and are designed for high efficiency. Each compressor is hermetically sealed against contamination to help promote longer life and dependable operation. Each compressor also has vibration isolation to provide quieter operation. All compressors have internal high pressure and overcurrent protection.

Multi-speed ECM Blower Motor is standard on all 50VG-A.

Direct-drive PSC (Permanent Split Capacitor) condenser-fan motors are designed to help reduce energy consumption and provide for cooing operation down to 40°F (4.4°C) outdoor temperature. Motormaster® II low ambient kit is available as a field-installed accessory.

Thermostatic Expansion Valve - A hard shutoff, balance port TXV maintains a constant superheat at the evaporator exit (cooling cycle) resulting in higher overall system efficiency.

Refrigerant system is designed to provide dependability. Liquid filter driers are used to promote clean, unrestricted operation. Each unit leaves the factory with a full refrigerant charge. Refrigerant service connections make checking operating pressures easier.

High and Low Pressure Switches provide added reliability for the compressor.

Indoor and Outdoor coils are computer-designed for optimum heat transfer and efficiency. The indoor coil is fabricated from copper tube and aluminum fins and is located inside the unit for protection against damage. The outdoor coil is internally mounted on the top tier of the unit.

Low sound ratings ensure a quiet indoor and outdoor environment with sound ratings as low as 72dBA. (See Page 4.)

Easy to service cabinets provide easy 3 panel accessibility to serviceable components during maintenance and installation. The basepan with integrated drain pan provides easy ground level installation with a mounting pad. A nesting feature ensures a positive basepan to roof curb seal when the unit is roof mounted. A convenient 3/4-in. (19.05 mm) wide perimeter flange makes frame mounting on a rooftop easy.

AHRI* CAPACITIES

Cooling Capacities and Efficiencies

Unit Model 50VG-A	Nominal Tons	Standard CFM (High / Low Stage)	Net Cooling Capacities - Btuh (High Stage)	EER @A**	SEER†
24	2	800 / 600	23000	12.0	15.0
30	2-1/2	1000 / 750	29000	12.0	15.0
36	3	1200 / 900	35400	12.5	16.0
42	3-1/2	1400 / 1050	42000	12.5	16.0
48	4	1600 / 1200	47500	12.3	16.0
60	5	1750 / 1200	57000	12.3	16.0

LEGEND
dB–Sound Levels (decibels)
db—Dry Bulb
SEER—Seasonal Energy Efficiency Ratio
wb—Wet Bulb
COP–Coefficient of Performance
* Air Conditioning, Heating & Refrigeration Institute.
**At "A" conditions–80°F (26.7°C) indoor db/67°F (19.4°C) indoor wb & 95°F (35°C) outdoor db.
† Rated in accordance with U.S. Government DOE Department of Energy) test procedures and/or AHRI Standards 210/240.

Notes:
1. Ratings are net values, reflecting the effects of circulating fan heat. Ratings are based on:
Cooling Standard: 80°F (26.7°C) db, 67°F wb (19.4°C) indoor entering–air temperature and 95°F db (35°C) outdoor entering–air temperature.
2. Before purchasing this appliance, read important energy cost and efficiency information available from AHRIdirectory.org.

A-WEIGHTED SOUND POWER LEVEL (dBA)

Model 50VG-A	Sound Ratings (dBA)	TYPICAL OCTAVE BAND SPECTRUM (dBA without tone adjustment)						
		125	250	500	1000	2000	4000	8000
24	73	60.0	62.5	68.5	68.5	64.0	60.0	53.0
30	77	57.5	67.0	73.5	72.0	67.0	61.0	52.5
36	73	62.5	65.5	67.5	68.0	65.5	60.0	52.5
42	73	60.5	63.5	68.0	68.0	66.0	60.5	53.0
48	72	60.0	63.5	66.0	67.0	63.5	58.5	49.5
60	75	69.0	67.0	69.0	68.0	65.0	61.5	54.0

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

ATTACHMENT 3

SoundPLAN Data – Construction Noise

Source name	Reference	Level Leq1 dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
Construction	Lw/unit	114	-	-	-

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - Construction

No.	Coordinates X	Coordinates Y	Height	Limit Leq1	Level w/o NP Leq1	Level w NP Leq1	Difference Leq1	Conflict Leq1
	in meter		m	dB(A)	dB(A)	dB(A)	dB	dB
1	502430.12	3632802.17	110.62	-	71.8	0	-71.8	-
2	502419.89	3632811.71	110.62	-	73.0	0	-73.0	-
3	502420.01	3632837.87	110.60	-	72.8	0	-72.8	-
4	502420.11	3632858.18	110.51	-	72.7	0	-72.7	-
5	502420.20	3632876.71	110.27	-	72.6	0	-72.6	-
6	502420.28	3632894.97	110.27	-	72.4	0	-72.4	-
7	502420.36	3632912.01	110.14	-	71.4	0	-71.4	-
8	502411.71	3632921.90	110.01	-	72.0	0	-72.0	-
9	502405.67	3632926.90	109.87	-	72.6	0	-72.6	-
10	502393.86	3632937.49	109.73	-	71.3	0	-71.3	-
11	502379.70	3632937.80	109.92	-	71.9	0	-71.9	-
12	502361.04	3632938.21	109.88	-	71.8	0	-71.8	-
13	502344.15	3632938.58	110.01	-	70.6	0	-70.6	-
14	502333.22	3632904.78	109.39	-	72.2	0	-72.2	-
15	502333.44	3632858.45	109.46	-	72.5	0	-72.5	-
16	502333.64	3632817.02	109.98	-	72.5	0	-72.5	-

Receivers

ATTACHMENT 4

SoundPLAN Data – On-Site Generated Noise

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - On-Site Noise

Source name	Reference	Level Leq1 dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
HVAC1	Lw/unit	79.0	-	-	-
HVAC2	Lw/unit	79.0	-	-	-
HVAC3	Lw/unit	79.0	-	-	-
HVAC4	Lw/unit	79.0	-	-	-
HVAC5	Lw/unit	79.0	-	-	-
HVAC6	Lw/unit	79.0	-	-	-
HVAC7	Lw/unit	79.0	-	-	-
HVAC8	Lw/unit	79.0	-	-	-
HVAC9	Lw/unit	79.0	-	-	-
HVAC10	Lw/unit	79.0	-	-	-
HVAC11	Lw/unit	79.0	-	-	-
HVAC12	Lw/unit	79.0	-	-	-
HVAC13	Lw/unit	79.0	-	-	-
HVAC14	Lw/unit	79.0	-	-	-
HVAC27	Lw/unit	73.0	-	-	-
RV 1	Lw/unit	83.0	-	-	-
RV 2	Lw/unit	83.0	-	-	-
Moving Truck 1	Lw/unit	82.9	-	-	-
Moving Truck 2	Lw/unit	82.9	-	-	-
Moving Truck 3	Lw/unit	82.9	-	-	-
Moving Truck 4	Lw/unit	82.9	-	-	-

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - On-Site Noise

No.	Coordinates X	Coordinates Y	Height	Level w/o NP Leq1	Level w NP Leq1	Difference Leq1	Conflict Leq1
	in meter		m	dB(A)	dB(A)	dB	dB
1	502430.12	3632802.17	110.62	39.2	38.9	-0.3	-
2	502419.89	3632811.71	110.62	39.1	38.6	-0.5	-
3	502420.01	3632837.87	110.60	42.8	42.0	-0.8	-
4	502420.11	3632858.18	110.51	45.2	44.0	-1.2	-
5	502420.20	3632876.71	110.27	46.7	44.8	-2	-
6	502420.28	3632894.97	110.27	45.6	44.1	-1.5	-
7	502420.36	3632912.01	110.14	43.8	42.7	-1	-
8	502411.71	3632921.90	110.01	44.3	42.8	-1.4	-
9	502405.67	3632926.90	109.87	43.9	42.9	-1.1	-
10	502393.86	3632937.49	109.73	43.1	43.1	0	-
11	502379.70	3632937.80	109.92	36.0	36.0	0	-
12	502361.04	3632938.21	109.88	33.1	33.0	0	-
13	502344.15	3632938.58	110.01	31.9	31.8	-0.1	-
14	502333.22	3632904.78	109.39	34.7	34.7	0	-
15	502333.44	3632858.45	109.46	36.8	36.8	0	-
16	502333.64	3632817.02	109.98	39.3	39.3	0	-

Receivers

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - On-Site Noise

Source name			Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
1	1.Fl	39.2	38.9	
HVAC1			22.4	22.4
HVAC2			22.6	22.6
HVAC3			23.3	23.3
HVAC4			23.7	23.7
HVAC5			28.6	28.6
HVAC6			29.4	29.4
HVAC7			27.3	27.3
HVAC8			28.0	28.0
HVAC9			25.4	25.4
HVAC10			24.9	24.9
HVAC11			21.4	21.4
HVAC12			21.1	21.1
HVAC13			18.8	18.8
HVAC14			18.6	18.6
HVAC27			7.8	7.8
Moving Truck 1			29.2	29.2
Moving Truck 2			13.3	12.4
Moving Truck 3			17.4	14.4
Moving Truck 4			29.7	29.5
RV 1			23.7	13.7
RV 2			32.0	31.4
2	1.Fl	39.1	38.6	
HVAC1			21.2	21.2
HVAC2			21.5	21.5
HVAC3			22.6	22.6
HVAC4			22.9	22.9
HVAC5			28.4	28.4
HVAC6			29.2	29.2
HVAC7			27.2	27.2
HVAC8			28.0	28.0
HVAC9			25.1	25.1
HVAC10			24.6	24.6
HVAC11			20.5	20.5
HVAC12			20.3	20.3
HVAC13			17.6	17.6
HVAC14			17.4	17.4
HVAC27			8.2	8.2
Moving Truck 1			22.0	18.0
Moving Truck 2			15.1	14.1
Moving Truck 3			16.9	13.9
Moving Truck 4			30.6	30.2
RV 1			21.8	13.2
RV 2			33.6	32.6
3	1.Fl	42.8	42.0	
HVAC1			17.2	17.2
HVAC2			17.5	17.5
HVAC3			19.3	19.3
HVAC4			19.5	19.5
HVAC5			23.3	23.3
HVAC6			23.8	23.8
HVAC7			25.5	25.5
HVAC8			26.2	26.2
HVAC9			27.9	27.9
HVAC10			27.2	27.2
HVAC11			23.3	23.3
HVAC12			23.0	23.0
HVAC13			19.6	19.6
HVAC14			19.4	19.4
HVAC27			10.9	10.9
Moving Truck 1			16.2	14.7
Moving Truck 2			35.9	34.7
Moving Truck 3			34.0	33.3
Moving Truck 4			32.4	32.0
RV 1			33.4	32.5
RV 2			37.4	36.0

4	1.Fl	45.2	44.0	
HVAC1			18.7	18.7
HVAC2			18.8	18.8
HVAC3			20.0	20.0
HVAC4			20.1	20.1
HVAC5			21.7	21.7
HVAC6			22.1	22.1
HVAC7			24.3	24.3
HVAC8			24.4	24.4
HVAC9			29.1	29.1
HVAC10			28.9	28.9
HVAC11			27.4	27.4
HVAC12			27.2	27.2
HVAC13			26.0	26.0
HVAC14			24.5	24.5
HVAC27			13.8	13.8
Moving Truck 1			12.8	12.5
Moving Truck 2			37.8	36.8
Moving Truck 3			36.1	35.4
Moving Truck 4			33.9	33.4
RV 1			34.8	33.7
RV 2			41.2	39.0
5	1.Fl	46.7	44.8	
HVAC1			20.3	20.3
HVAC2			22.3	22.3
HVAC3			20.6	20.6
HVAC4			20.7	20.7
HVAC5			21.8	21.8
HVAC6			22.1	22.1
HVAC7			23.9	23.9
HVAC8			24.3	24.3
HVAC9			28.8	28.8
HVAC10			28.7	28.7
HVAC11			27.6	27.6
HVAC12			27.5	27.5
HVAC13			27.0	27.0
HVAC14			26.6	26.6
HVAC27			18.4	18.4
Moving Truck 1			11.0	10.7
Moving Truck 2			38.0	36.7
Moving Truck 3			36.2	35.0
Moving Truck 4			36.4	35.4
RV 1			36.5	35.0
RV 2			43.6	40.2
6	1.Fl	45.6	44.1	
HVAC1			23.0	23.0
HVAC2			23.0	23.0
HVAC3			21.2	21.2
HVAC4			21.2	21.2
HVAC5			21.9	21.9
HVAC6			21.9	21.9
HVAC7			23.8	23.8
HVAC8			23.9	23.9
HVAC9			27.8	27.8
HVAC10			27.7	27.7
HVAC11			26.9	26.9
HVAC12			26.8	26.8
HVAC13			26.0	26.0
HVAC14			25.9	25.9
HVAC27			23.4	23.4
Moving Truck 1			9.5	9.2
Moving Truck 2			36.4	35.7
Moving Truck 3			35.9	35.1
Moving Truck 4			35.0	34.0
RV 1			36.1	34.9
RV 2			42.1	39.4

7	1.Fl	43.8	42.7	
HVAC1			23.2	23.2
HVAC2			23.2	23.2
HVAC3			21.2	21.2
HVAC4			21.3	21.3
HVAC5			21.5	21.5
HVAC6			21.8	21.8
HVAC7			23.2	23.2
HVAC8			23.5	23.5
HVAC9			26.6	26.6
HVAC10			26.5	26.5
HVAC11			25.9	25.9
HVAC12			25.9	25.9
HVAC13			25.2	25.2
HVAC14			25.2	25.2
HVAC27			30.9	30.9
Moving Truck 1			8.2	8.0
Moving Truck 2			31.1	30.4
Moving Truck 3			35.3	34.4
Moving Truck 4			35.3	34.1
RV 1			35.1	34.0
RV 2			38.8	36.9
8	1.Fl	44.3	42.8	
HVAC1			23.2	18.6
HVAC2			23.2	18.6
HVAC3			21.2	16.8
HVAC4			21.3	16.8
HVAC5			21.5	17.0
HVAC6			21.5	17.0
HVAC7			23.0	19.0
HVAC8			23.0	19.0
HVAC9			26.0	24.0
HVAC10			26.0	24.0
HVAC11			25.6	23.6
HVAC12			25.6	23.6
HVAC13			25.0	23.1
HVAC14			25.0	23.1
HVAC27			35.6	35.6
Moving Truck 1			7.3	7.3
Moving Truck 2			30.7	29.6
Moving Truck 3			35.6	34.6
Moving Truck 4			36.5	35.2
RV 1			35.3	33.9
RV 2			38.3	36.1
9	1.Fl	43.9	42.9	
HVAC1			23.2	23.2
HVAC2			23.2	23.2
HVAC3			21.2	21.2
HVAC4			21.2	21.2
HVAC5			21.4	21.4
HVAC6			21.4	21.4
HVAC7			22.8	22.8
HVAC8			22.8	22.8
HVAC9			25.7	25.7
HVAC10			25.7	25.7
HVAC11			25.4	25.4
HVAC12			25.4	25.4
HVAC13			25.0	25.0
HVAC14			24.9	24.9
HVAC27			36.6	36.6
Moving Truck 1			7.0	7.0
Moving Truck 2			30.6	29.7
Moving Truck 3			36.2	35.1
Moving Truck 4			32.6	26.4
RV 1			35.4	34.1
RV 2			37.7	36.1

10	1.Fl	43.1	43.1	
HVAC1			6.7	6.7
HVAC2			6.7	6.7
HVAC3			4.7	4.7
HVAC4			4.7	4.7
HVAC5			6.6	6.5
HVAC6			6.6	6.5
HVAC7			7.4	7.4
HVAC8			7.4	7.4
HVAC9			8.9	8.9
HVAC10			8.9	8.9
HVAC11			7.0	7.0
HVAC12			7.0	6.9
HVAC13			6.7	6.7
HVAC14			6.7	6.7
HVAC27			43.0	43.0
Moving Truck 1			6.4	6.4
Moving Truck 2			15.7	15.3
Moving Truck 3			17.9	17.7
Moving Truck 4			21.4	21.2
RV 1			17.0	16.4
RV 2			20.3	19.4
11	1.Fl	36.0	36.0	
HVAC1			12.9	12.9
HVAC2			12.9	12.9
HVAC3			10.8	10.8
HVAC4			10.8	10.8
HVAC5			10.8	10.8
HVAC6			10.8	10.8
HVAC7			11.8	11.8
HVAC8			11.8	11.8
HVAC9			13.6	13.6
HVAC10			13.6	13.6
HVAC11			13.6	13.6
HVAC12			13.5	13.5
HVAC13			13.4	13.4
HVAC14			13.4	13.4
HVAC27			33.7	33.7
Moving Truck 1			6.7	6.6
Moving Truck 2			21.4	21.4
Moving Truck 3			25.7	25.7
Moving Truck 4			25.9	25.9
RV 1			24.4	24.4
RV 2			22.8	22.8
12	1.Fl	33.1	33.0	
HVAC1			12.9	12.9
HVAC2			12.9	12.9
HVAC3			12.8	12.8
HVAC4			10.7	10.7
HVAC5			10.6	10.6
HVAC6			10.6	10.6
HVAC7			11.6	11.6
HVAC8			11.5	11.5
HVAC9			13.3	13.3
HVAC10			13.3	13.3
HVAC11			13.4	13.4
HVAC12			13.4	13.4
HVAC13			13.4	13.4
HVAC14			13.4	13.4
HVAC27			23.8	23.8
Moving Truck 1			6.5	6.5
Moving Truck 2			21.3	21.3
Moving Truck 3			24.9	24.9
Moving Truck 4			28.5	28.4
RV 1			23.3	23.3
RV 2			22.2	22.1

13	1.Fl	31.9	31.8	
HVAC1			13.3	13.3
HVAC2			13.2	13.2
HVAC3			13.2	13.2
HVAC4			11.0	11.0
HVAC5			13.2	13.2
HVAC6			13.2	13.2
HVAC7			11.8	11.8
HVAC8			14.1	14.1
HVAC9			13.4	13.4
HVAC10			13.5	13.5
HVAC11			13.7	13.7
HVAC12			13.7	13.7
HVAC13			13.9	13.9
HVAC14			14.0	13.9
HVAC27			18.0	18.0
Moving Truck 1			6.4	6.4
Moving Truck 2			21.6	21.6
Moving Truck 3			22.5	22.4
Moving Truck 4			26.7	26.6
RV 1			23.5	23.5
RV 2			21.9	21.9
14	1.Fl	34.7	34.7	
HVAC1			21.5	21.5
HVAC2			20.0	20.0
HVAC3			17.9	17.9
HVAC4			15.5	15.5
HVAC5			15.4	15.4
HVAC6			15.3	15.3
HVAC7			15.9	15.9
HVAC8			15.8	15.8
HVAC9			15.7	15.7
HVAC10			15.9	15.9
HVAC11			18.4	18.4
HVAC12			19.9	19.9
HVAC13			22.9	22.9
HVAC14			23.5	23.5
HVAC27			5.8	5.8
Moving Truck 1			10.1	10.1
Moving Truck 2			21.9	21.9
Moving Truck 3			25.7	25.7
Moving Truck 4			28.4	28.4
RV 1			25.7	25.7
RV 2			23.2	23.2
15	1.Fl	36.8	36.8	
HVAC1			24.9	24.9
HVAC2			24.8	24.8
HVAC3			21.3	21.3
HVAC4			19.1	19.1
HVAC5			18.1	18.1
HVAC6			18.1	18.1
HVAC7			17.6	17.6
HVAC8			17.6	17.6
HVAC9			19.4	19.4
HVAC10			19.6	19.6
HVAC11			22.1	22.1
HVAC12			22.5	22.5
HVAC13			24.8	24.8
HVAC14			28.1	28.1
HVAC27			1.9	1.9
Moving Truck 1			14.5	14.5
Moving Truck 2			29.6	29.6
Moving Truck 3			25.3	25.3
Moving Truck 4			24.0	24.0
RV 1			25.9	25.9
RV 2			25.1	25.1

16	1.Fl	39.3	39.3	
HVAC1			26.6	26.6
HVAC2			27.9	27.9
HVAC3			24.7	24.7
HVAC4			24.4	24.4
HVAC5			22.9	22.9
HVAC6			22.7	22.7
HVAC7			22.4	22.4
HVAC8			21.5	21.5
HVAC9			22.7	22.7
HVAC10			22.9	22.9
HVAC11			22.4	22.4
HVAC12			22.7	22.7
HVAC13			29.8	29.8
HVAC14			28.6	28.6
HVAC27			2.9	2.9
Moving Truck 1			17.8	17.8
Moving Truck 2			20.6	20.6
Moving Truck 3			25.6	25.6
Moving Truck 4			27.2	27.2
RV 1			33.9	33.9
RV 2			23.3	23.3

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - On-Site Noise

Source name	Reference	Level Leq1 dB(A)	Corrections Cwall dB(A)	CI dB(A)	CT dB(A)
HVAC1	Lw/unit	79	-	-	-
HVAC2	Lw/unit	79	-	-	-
HVAC3	Lw/unit	79	-	-	-
HVAC4	Lw/unit	79	-	-	-
HVAC5	Lw/unit	79	-	-	-
HVAC6	Lw/unit	79	-	-	-
HVAC7	Lw/unit	79	-	-	-
HVAC8	Lw/unit	79	-	-	-
HVAC9	Lw/unit	79	-	-	-
HVAC10	Lw/unit	79	-	-	-
HVAC11	Lw/unit	79	-	-	-
HVAC12	Lw/unit	79	-	-	-
HVAC13	Lw/unit	79	-	-	-
HVAC14	Lw/unit	79	-	-	-
HVAC15	Lw/unit	79	-	-	-
HVAC16	Lw/unit	79	-	-	-
HVAC17	Lw/unit	79	-	-	-
HVAC18	Lw/unit	79	-	-	-
HVAC19	Lw/unit	79	-	-	-
HVAC20	Lw/unit	79	-	-	-
HVAC21	Lw/unit	79	-	-	-
HVAC22	Lw/unit	79	-	-	-
HVAC23	Lw/unit	79	-	-	-
HVAC24	Lw/unit	79	-	-	-
HVAC25	Lw/unit	79	-	-	-
HVAC26	Lw/unit	79	-	-	-
HVAC27	Lw/unit	73	-	-	-
Moving Truck 1	Lw/unit	82.9	-	-	-
Moving Truck 2	Lw/unit	82.9	-	-	-
Moving Truck 3	Lw/unit	82.9	-	-	-
Moving Truck 4	Lw/unit	82.9	-	-	-
Moving Truck 5	Lw/unit	82.9	-	-	-
Moving Truck 6	Lw/unit	82.9	-	-	-

9603 - 8708 Cottonwood Avenue All Right Storage
SoundPLAN Data - On-Site Noise

No.	Coordinates X	Coordinates Y	Height	Level w/o NP Leq1	Level w NP Leq1	Difference Leq1	Conflict Leq1
	in meter		m	dB(A)	dB(A)	dB	dB
1	502430.12	3632802.17	110.62	39.7	39.7	0	-
2	502419.89	3632811.71	110.62	39.4	39.4	-0.1	-
3	502420.01	3632837.87	110.60	43.0	42.3	-0.6	-
4	502420.11	3632858.18	110.51	42.8	42.4	-0.4	-
5	502420.20	3632876.71	110.27	41.3	41.3	0	-
6	502420.28	3632894.97	110.27	40.5	40.5	0	-
7	502420.36	3632912.01	110.14	41.1	40.8	-0.3	-
8	502411.71	3632921.90	110.01	41.5	41.0	-0.5	-
9	502405.67	3632926.90	109.87	40.3	39.7	-0.6	-
10	502393.86	3632937.49	109.73	43.2	43.2	0	-
11	502379.70	3632937.80	109.92	36.6	36.6	0	-
12	502361.04	3632938.21	109.88	35.7	35.7	0	-
13	502344.15	3632938.58	110.01	35.7	35.6	0	-
14	502333.22	3632904.78	109.39	38.1	38.1	0	-
15	502333.44	3632858.45	109.46	39.1	39.1	0	-
16	502333.64	3632817.02	109.98	42.6	42.6	0	-

Receivers

Source name			Level w/o NP Leq1 dB(A)	Level w NP Leq1 dB(A)
1	1.Fl	39.7	39.7	
HVAC1			25.7	25.7
HVAC2			25.8	25.8
HVAC3			23.3	23.3
HVAC4			23.7	23.7
HVAC5			28.6	28.6
HVAC6			29.4	29.4
HVAC7			27.3	27.3
HVAC8			28.0	28.0
HVAC9			25.4	25.4
HVAC10			24.9	24.9
HVAC11			21.4	21.4
HVAC12			21.1	21.1
HVAC13			18.8	18.8
HVAC14			18.6	18.6
HVAC15			20.8	20.8
HVAC16			20.9	20.9
HVAC17			23.4	23.4
HVAC18			24.6	24.6
HVAC19			25.7	25.7
HVAC20			25.9	25.9
HVAC21			22.3	22.3
HVAC22			22.2	22.2
HVAC23			20.1	20.1
HVAC24			19.6	19.6
HVAC25			28.4	28.4
HVAC26			27.8	27.8
HVAC27			7.8	7.8
Moving Truck 1			29.2	29.2
Moving Truck 2			17.6	15.6
Moving Truck 3			15.4	14.7
Moving Truck 4			12.6	12.6
Moving Truck 5			14.0	13.3
Moving Truck 6			11.8	11.7
2	1.Fl	39.4	39.4	
HVAC1			25.2	25.2
HVAC2			25.3	25.3
HVAC3			22.6	22.6
HVAC4			22.9	22.9
HVAC5			28.4	28.4
HVAC6			29.2	29.2
HVAC7			27.2	27.2
HVAC8			28.0	28.0
HVAC9			25.1	25.1
HVAC10			24.6	24.6
HVAC11			20.5	20.5
HVAC12			20.3	20.3
HVAC13			17.6	17.6
HVAC14			17.4	17.4
HVAC15			20.0	20.0
HVAC16			20.2	20.2
HVAC17			24.7	24.7
HVAC18			24.8	24.8
HVAC19			26.2	26.2
HVAC20			26.6	26.6
HVAC21			22.3	22.3
HVAC22			22.0	22.0
HVAC23			16.3	16.3
HVAC24			16.3	16.3
HVAC25			29.6	29.6
HVAC26			28.9	28.9
HVAC27			7.2	7.2
Moving Truck 1			22.0	18.0
Moving Truck 2			19.4	17.4
Moving Truck 3			14.8	13.6
Moving Truck 4			12.6	12.6
Moving Truck 5			14.1	14.0
Moving Truck 6			12.2	12.1
3	1.Fl	43.0	42.3	
HVAC1			17.2	17.2
HVAC2			17.5	17.5
HVAC3			19.3	19.3
HVAC4			19.5	19.5
HVAC5			23.3	23.3
HVAC6			23.8	23.8
HVAC7			25.5	25.5
HVAC8			26.2	26.2
HVAC9			27.9	27.9
HVAC10			27.2	27.2
HVAC11			23.3	23.3
HVAC12			23.0	23.0
HVAC13			28.8	28.8
HVAC14			27.5	27.5
HVAC15			21.5	21.5
HVAC16			21.7	21.7
HVAC17			25.1	25.1
HVAC18			25.2	25.2
HVAC19			28.2	28.2
HVAC20			28.5	28.5
HVAC21			22.1	22.1
HVAC22			22.0	22.0
HVAC23			24.2	24.2
HVAC24			24.5	24.5
HVAC25			30.8	30.8
HVAC26			30.6	30.6
HVAC27			10.9	10.9
Moving Truck 1			16.2	14.7
Moving Truck 2			38.3	36.7
Moving Truck 3			34.8	33.7
Moving Truck 4			14.6	14.2
Moving Truck 5			16.6	16.1
Moving Truck 6			13.4	13.2

4	1.Fl	42.8	42.4	
HVAC1			18.7	18.7
HVAC2			18.8	18.8
HVAC3			20.0	20.0
HVAC4			20.1	20.1
HVAC5			21.7	21.7
HVAC6			22.1	22.1
HVAC7			24.3	24.3
HVAC8			24.4	24.4
HVAC9			29.1	29.1
HVAC10			28.9	28.9
HVAC11			27.4	27.4
HVAC12			27.2	27.2
HVAC13			26.0	26.0
HVAC14			24.5	24.5
HVAC15			22.1	22.1
HVAC16			22.1	22.1
HVAC17			29.0	29.0
HVAC18			29.8	29.8
HVAC19			30.3	30.3
HVAC20			30.6	30.6
HVAC21			23.1	23.1
HVAC22			23.0	23.0
HVAC23			23.6	23.6
HVAC24			23.7	23.7
HVAC25			31.9	31.9
HVAC26			31.9	31.9
HVAC27			13.8	13.8
Moving Truck 1			12.8	12.5
Moving Truck 2			36.1	34.5
Moving Truck 3			33.3	32.3
Moving Truck 4			17.1	17.0
Moving Truck 5			17.8	17.7
Moving Truck 6			14.5	14.3
5	1.Fl	41.3	41.3	
HVAC1			13.0	13.0
HVAC2			22.3	22.3
HVAC3			20.6	20.6
HVAC4			20.7	20.7
HVAC5			21.8	21.8
HVAC6			22.1	22.1
HVAC7			23.9	23.9
HVAC8			24.3	24.3
HVAC9			28.8	28.8
HVAC10			28.7	28.7
HVAC11			16.3	16.3
HVAC12			16.0	16.0
HVAC13			13.3	13.3
HVAC14			13.2	13.2
HVAC15			22.9	22.9
HVAC16			23.0	23.0
HVAC17			30.4	30.4
HVAC18			30.5	30.5
HVAC19			31.5	31.5
HVAC20			31.6	31.6
HVAC21			26.9	26.9
HVAC22			25.4	25.4
HVAC23			28.6	28.6
HVAC24			28.9	28.9
HVAC25			30.5	30.5
HVAC26			30.7	30.7
HVAC27			18.4	18.4
Moving Truck 1			11.0	10.7
Moving Truck 2			20.5	19.6
Moving Truck 3			17.6	17.1
Moving Truck 4			18.2	18.1
Moving Truck 5			20.1	20.0
Moving Truck 6			15.5	14.9
6	1.Fl	40.5	40.5	
HVAC1			14.8	14.8
HVAC2			14.9	14.9
HVAC3			14.2	14.2
HVAC4			14.5	14.5
HVAC5			21.9	21.9
HVAC6			21.9	21.9
HVAC7			23.8	23.8
HVAC8			23.9	23.9
HVAC9			20.6	20.6
HVAC10			19.8	19.8
HVAC11			15.4	15.4
HVAC12			15.1	15.1
HVAC13			12.7	12.7
HVAC14			12.6	12.6
HVAC15			26.0	26.0
HVAC16			26.1	26.1
HVAC17			32.0	32.0
HVAC18			32.0	32.0
HVAC19			31.0	31.0
HVAC20			30.9	30.9
HVAC21			27.0	27.0
HVAC22			26.9	26.9
HVAC23			24.4	24.4
HVAC24			24.5	24.5
HVAC25			28.7	28.7
HVAC26			29.4	29.4
HVAC27			23.4	23.4
Moving Truck 1			9.5	9.2
Moving Truck 2			17.8	17.3
Moving Truck 3			16.7	16.5
Moving Truck 4			16.6	16.5
Moving Truck 5			18.7	18.6
Moving Truck 6			18.3	15.3

7	1.Fl	41.1	40.8	
HVAC1			14.1	14.1
HVAC2			14.3	14.3
HVAC3			14.0	14.0
HVAC4			14.0	14.0
HVAC5			21.5	21.5
HVAC6			21.8	21.8
HVAC7			23.2	23.2
HVAC8			23.5	23.5
HVAC9			19.5	19.5
HVAC10			18.7	18.7
HVAC11			14.6	14.6
HVAC12			14.3	14.3
HVAC13			12.1	12.1
HVAC14			11.9	11.9
HVAC15			26.8	26.8
HVAC16			26.8	26.8
HVAC17			31.6	31.6
HVAC18			31.4	31.4
HVAC19			29.3	29.3
HVAC20			29.2	29.2
HVAC21			23.9	23.9
HVAC22			23.9	23.9
HVAC23			24.0	24.0
HVAC24			23.9	23.9
HVAC25			25.7	25.7
HVAC26			26.7	26.7
HVAC27			30.9	30.9
Moving Truck 1			8.2	8.0
Moving Truck 2			16.1	15.7
Moving Truck 3			11.6	11.2
Moving Truck 4			16.4	16.1
Moving Truck 5			17.9	17.6
Moving Truck 6			34.9	33.5
8	1.Fl	41.5	41.0	
HVAC1			11.3	11.3
HVAC2			11.4	11.4
HVAC3			10.7	10.7
HVAC4			10.8	10.8
HVAC5			15.1	14.0
HVAC6			15.9	14.6
HVAC7			17.2	16.0
HVAC8			23.0	19.0
HVAC9			16.5	16.4
HVAC10			15.8	15.7
HVAC11			12.0	11.9
HVAC12			11.7	11.6
HVAC13			9.8	9.8
HVAC14			9.8	9.8
HVAC15			26.9	26.9
HVAC16			26.3	26.3
HVAC17			30.7	30.7
HVAC18			29.7	29.7
HVAC19			25.0	25.0
HVAC20			25.6	25.6
HVAC21			22.8	22.8
HVAC22			22.8	22.8
HVAC23			19.7	19.6
HVAC24			19.6	19.6
HVAC25			28.0	27.2
HVAC26			27.9	27.1
HVAC27			35.6	35.6
Moving Truck 1			7.3	7.3
Moving Truck 2			15.3	14.9
Moving Truck 3			11.2	10.7
Moving Truck 4			16.6	16.3
Moving Truck 5			17.9	17.3
Moving Truck 6			36.2	34.8
9	1.Fl	40.3	39.7	
HVAC1			9.8	9.7
HVAC2			9.8	9.8
HVAC3			8.4	8.4
HVAC4			8.4	8.4
HVAC5			11.3	11.3
HVAC6			11.6	11.6
HVAC7			12.8	12.8
HVAC8			13.9	13.9
HVAC9			12.7	12.7
HVAC10			12.0	12.0
HVAC11			10.4	10.4
HVAC12			10.2	10.2
HVAC13			9.9	9.9
HVAC14			9.9	9.9
HVAC15			26.2	26.2
HVAC16			25.6	25.6
HVAC17			30.1	30.1
HVAC18			29.9	29.9
HVAC19			24.4	24.4
HVAC20			24.0	24.0
HVAC21			22.3	22.3
HVAC22			22.6	22.6
HVAC23			19.0	19.0
HVAC24			18.8	18.8
HVAC25			22.9	22.9
HVAC26			22.8	22.8
HVAC27			36.6	36.6
Moving Truck 1			7.0	7.0
Moving Truck 2			14.9	14.5
Moving Truck 3			11.0	10.6
Moving Truck 4			17.1	16.7
Moving Truck 5			18.3	17.4
Moving Truck 6			31.8	22.1

10	1.Fl	43.2	43.2	
HVAC1			6.5	6.5
HVAC2			6.6	6.6
HVAC3			4.5	4.5
HVAC4			4.5	4.5
HVAC5			6.3	6.3
HVAC6			6.3	6.3
HVAC7			7.1	7.1
HVAC8			7.2	7.1
HVAC9			8.6	8.6
HVAC10			8.6	8.6
HVAC11			6.8	6.8
HVAC12			6.8	6.8
HVAC13			6.5	6.5
HVAC14			6.5	6.5
HVAC15			16.9	16.9
HVAC16			16.5	16.5
HVAC17			20.0	20.0
HVAC18			19.6	19.6
HVAC19			16.4	16.4
HVAC20			16.2	16.2
HVAC21			13.3	13.3
HVAC22			13.6	13.6
HVAC23			11.4	11.3
HVAC24			11.2	11.2
HVAC25			15.1	14.9
HVAC26			15.2	15.1
HVAC27			43.0	43.0
Moving Truck 1			6.4	6.4
Moving Truck 2			13.9	13.8
Moving Truck 3			13.5	13.4
Moving Truck 4			16.1	16.1
Moving Truck 5			17.1	17.1
Moving Truck 6			22.7	22.6
11	1.Fl	36.6	36.6	
HVAC1			11.2	11.2
HVAC2			12.0	12.0
HVAC3			10.6	10.6
HVAC4			9.9	9.9
HVAC5			8.0	8.0
HVAC6			8.0	8.0
HVAC7			8.8	8.8
HVAC8			8.8	8.8
HVAC9			10.5	10.5
HVAC10			10.4	10.4
HVAC11			11.5	11.5
HVAC12			11.5	11.5
HVAC13			14.1	14.1
HVAC14			14.0	14.0
HVAC15			22.4	22.4
HVAC16			21.8	21.8
HVAC17			19.6	19.6
HVAC18			19.4	19.4
HVAC19			17.7	17.7
HVAC20			18.8	18.8
HVAC21			17.4	17.4
HVAC22			17.7	17.7
HVAC23			16.2	16.2
HVAC24			16.0	16.0
HVAC25			17.3	17.3
HVAC26			17.5	17.5
HVAC27			33.7	33.7
Moving Truck 1			6.7	6.6
Moving Truck 2			14.1	14.1
Moving Truck 3			17.5	17.5
Moving Truck 4			22.0	22.0
Moving Truck 5			24.8	24.7
Moving Truck 6			27.8	27.8
12	1.Fl	35.7	35.7	
HVAC1			15.2	15.2
HVAC2			15.2	15.2
HVAC3			12.8	12.8
HVAC4			10.7	10.7
HVAC5			10.3	10.3
HVAC6			10.2	10.2
HVAC7			10.9	10.9
HVAC8			10.7	10.7
HVAC9			12.3	12.3
HVAC10			14.4	14.4
HVAC11			14.8	14.8
HVAC12			14.6	14.6
HVAC13			16.5	16.5
HVAC14			16.5	16.5
HVAC15			24.3	24.3
HVAC16			23.9	23.9
HVAC17			21.1	21.1
HVAC18			20.6	20.6
HVAC19			20.4	20.4
HVAC20			20.2	20.2
HVAC21			21.1	21.1
HVAC22			20.4	20.4
HVAC23			19.8	19.8
HVAC24			20.4	20.4
HVAC25			17.3	17.3
HVAC26			17.4	17.4
HVAC27			23.9	23.9
Moving Truck 1			6.5	6.5
Moving Truck 2			15.3	15.2
Moving Truck 3			18.4	18.4
Moving Truck 4			23.7	23.7
Moving Truck 5			24.9	24.9
Moving Truck 6			29.8	29.8

13	1.Fl	35.7	35.6	
HVAC1			13.3	13.3
HVAC2			13.2	13.2
HVAC3			13.2	13.2
HVAC4			11.0	11.0
HVAC5			13.0	13.0
HVAC6			13.0	13.0
HVAC7			11.7	11.7
HVAC8			13.8	13.8
HVAC9			13.2	13.2
HVAC10			13.3	13.3
HVAC11			13.7	13.7
HVAC12			13.7	13.7
HVAC13			17.0	17.0
HVAC14			17.0	17.0
HVAC15			23.8	23.8
HVAC16			23.4	23.4
HVAC17			20.8	20.8
HVAC18			20.4	20.4
HVAC19			20.6	20.6
HVAC20			20.4	20.4
HVAC21			24.9	24.9
HVAC22			25.1	25.1
HVAC23			23.1	23.1
HVAC24			23.0	23.0
HVAC25			19.5	19.5
HVAC26			18.3	18.3
HVAC27			18.0	18.0
Moving Truck 1			6.4	6.4
Moving Truck 2			16.6	16.6
Moving Truck 3			18.8	18.8
Moving Truck 4			22.5	22.4
Moving Truck 5			22.0	21.9
Moving Truck 6			28.4	28.4
14	1.Fl	38.1	38.1	
HVAC1			21.5	21.5
HVAC2			20.0	20.0
HVAC3			17.9	17.9
HVAC4			15.5	15.5
HVAC5			15.3	15.3
HVAC6			15.3	15.3
HVAC7			15.8	15.8
HVAC8			15.8	15.8
HVAC9			15.6	15.6
HVAC10			15.9	15.9
HVAC11			18.4	18.4
HVAC12			20.3	20.3
HVAC13			23.0	23.0
HVAC14			23.7	23.7
HVAC15			27.1	27.1
HVAC16			27.2	27.2
HVAC17			18.9	18.9
HVAC18			18.9	18.9
HVAC19			20.5	20.5
HVAC20			20.5	20.5
HVAC21			27.0	27.0
HVAC22			27.0	27.0
HVAC23			24.3	24.3
HVAC24			26.2	26.2
HVAC25			20.5	20.5
HVAC26			20.5	20.5
HVAC27			5.7	5.7
Moving Truck 1			10.1	10.1
Moving Truck 2			20.8	20.8
Moving Truck 3			24.0	24.0
Moving Truck 4			28.3	28.3
Moving Truck 5			22.6	22.6
Moving Truck 6			28.4	28.4
15	1.Fl	39.1	39.1	
HVAC1			24.9	24.9
HVAC2			24.8	24.8
HVAC3			21.3	21.3
HVAC4			19.1	19.1
HVAC5			18.1	18.1
HVAC6			18.1	18.1
HVAC7			17.6	17.6
HVAC8			17.6	17.6
HVAC9			19.4	19.4
HVAC10			19.6	19.6
HVAC11			22.1	22.1
HVAC12			22.5	22.5
HVAC13			24.8	24.8
HVAC14			28.1	28.1
HVAC15			24.3	24.3
HVAC16			24.4	24.4
HVAC17			19.9	19.9
HVAC18			20.0	20.0
HVAC19			21.5	21.5
HVAC20			21.5	21.5
HVAC21			25.4	25.4
HVAC22			25.3	25.3
HVAC23			28.9	28.9
HVAC24			29.0	29.0
HVAC25			19.6	19.6
HVAC26			19.6	19.6
HVAC27			1.8	1.8
Moving Truck 1			14.5	14.5
Moving Truck 2			26.3	26.3
Moving Truck 3			28.1	28.1
Moving Truck 4			28.0	28.0
Moving Truck 5			21.7	21.7
Moving Truck 6			22.1	22.1

16	1.Fl	42.6	42.6	
HVAC1			26.6	26.6
HVAC2			27.9	27.9
HVAC3			24.7	24.7
HVAC4			24.4	24.4
HVAC5			22.9	22.9
HVAC6			22.7	22.7
HVAC7			22.4	22.4
HVAC8			21.5	21.5
HVAC9			22.7	22.7
HVAC10			22.9	22.9
HVAC11			22.4	22.4
HVAC12			22.7	22.7
HVAC13			29.8	29.8
HVAC14			28.6	28.6
HVAC15			28.5	28.5
HVAC16			28.7	28.7
HVAC17			26.7	26.7
HVAC18			22.7	22.7
HVAC19			22.0	22.0
HVAC20			21.9	21.9
HVAC21			28.4	28.4
HVAC22			28.2	28.2
HVAC23			22.2	22.2
HVAC24			21.4	21.4
HVAC25			14.6	14.6
HVAC26			14.7	14.7
HVAC27			-0.2	-0.2
Moving Truck 1			17.8	17.8
Moving Truck 2			17.9	17.9
Moving Truck 3			38.2	38.2
Moving Truck 4			33.4	33.4
Moving Truck 5			22.0	22.0
Moving Truck 6			18.7	18.7

ATTACHMENT 5

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

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : 8708 Cottonwood Avenue All Right Storage
Project Number : 9603
Modeled Condition : 2020

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

Segment	Roadway	Segment	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
EXISTING												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	4,000	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	500	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
3	Prospect Avenue	West of Cottonwood Avenue	6,700	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
4	Prospect Avenue	East of Cottonwood Avenue	5,000	35	50	95.00	3.00	2.00	80.00	10.00	10.00	
5	Buena Vista Avenue	West of Cottonwood Avenue	1,800	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
6	Buena Vista Avenue	East of Cottonwood Avenue	2,800	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
7	Mission Gorge Road	West of Cottonwood Avenue	11,300	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
8	Mission Gorge Road	East of Cottonwood Avenue	11,900	35	50	95.00	3.00	2.00	80.00	10.00	10.00	
EXISTING + PHASE 1												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	4,182	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	682	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
3	Prospect Avenue	West of Cottonwood Avenue	6,882	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
4	Prospect Avenue	East of Cottonwood Avenue	5,182	35	50	95.00	3.00	2.00	80.00	10.00	10.00	
5	Buena Vista Avenue	West of Cottonwood Avenue	1,982	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
6	Buena Vista Avenue	East of Cottonwood Avenue	2,982	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
7	Mission Gorge Road	West of Cottonwood Avenue	11,482	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
8	Mission Gorge Road	East of Cottonwood Avenue	12,082	35	50	95.00	3.00	2.00	80.00	10.00	10.00	
EXISTING + PHASE 2												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	4,299	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	799	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
3	Prospect Avenue	West of Cottonwood Avenue	6,999	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
4	Prospect Avenue	East of Cottonwood Avenue	5,299	35	50	95.00	3.00	2.00	80.00	10.00	10.00	
5	Buena Vista Avenue	West of Cottonwood Avenue	2,099	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
6	Buena Vista Avenue	East of Cottonwood Avenue	3,099	25	50	95.00	3.00	2.00	80.00	10.00	10.00	
7	Mission Gorge Road	West of Cottonwood Avenue	11,599	40	50	95.00	3.00	2.00	80.00	10.00	10.00	
8	Mission Gorge Road	East of Cottonwood Avenue	12,199	35	50	95.00	3.00	2.00	80.00	10.00	10.00	

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : 8708 Cottonwood Avenue All Right Storage
Project Number : 9603
Modeled Condition : 2020
Assessment Metric: Hard

Segment	Roadway	Segment	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
EXISTING												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	55.7	52.3	58.2	60.8	2	6	19	60	190	601
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	46.7	43.3	49.1	51.8	0	1	2	8	24	76
3	Prospect Avenue	West of Cottonwood Avenue	63.8	57.7	60.8	66.2	7	21	66	208	659	2,084
4	Prospect Avenue	East of Cottonwood Avenue	60.9	55.6	59.0	63.8	4	12	38	120	379	1,199
5	Buena Vista Avenue	West of Cottonwood Avenue	52.2	48.8	54.7	57.3	1	3	8	27	85	269
6	Buena Vista Avenue	East of Cottonwood Avenue	54.1	50.8	56.6	59.2	1	4	13	42	132	416
7	Mission Gorge Road	West of Cottonwood Avenue	66.1	60.0	63.1	68.5	11	35	112	354	1,119	3,540
8	Mission Gorge Road	East of Cottonwood Avenue	64.6	59.3	62.8	67.5	9	28	89	281	889	2,812
EXISTING + PHASE 1												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	55.9	52.5	58.4	61.0	2	6	20	63	199	629
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	48.0	44.6	50.5	53.1	0	1	3	10	32	102
3	Prospect Avenue	West of Cottonwood Avenue	63.9	57.8	60.9	66.3	7	21	67	213	674	2,133
4	Prospect Avenue	East of Cottonwood Avenue	61.0	55.7	59.1	63.9	4	12	39	123	388	1,227
5	Buena Vista Avenue	West of Cottonwood Avenue	52.6	49.3	55.1	57.7	1	3	9	29	93	294
6	Buena Vista Avenue	East of Cottonwood Avenue	54.4	51.0	56.9	59.5	1	4	14	45	141	446
7	Mission Gorge Road	West of Cottonwood Avenue	66.2	60.1	63.1	68.6	11	36	115	362	1,145	3,622
8	Mission Gorge Road	East of Cottonwood Avenue	64.7	59.4	62.8	67.6	9	29	91	288	910	2,877
EXISTING + PHASE 2												
1	Cottonwood Avenue	Prospect Avenue to Buena Vista Avenue	56.0	52.6	58.5	61.1	2	6	20	64	204	644
2	Cottonwood Avenue	Buena Vista Avenue to Mission Gorge Road	48.7	45.3	51.2	53.8	0	1	4	12	38	120
3	Prospect Avenue	West of Cottonwood Avenue	64.0	57.9	61.0	66.4	7	22	69	218	690	2,183
4	Prospect Avenue	East of Cottonwood Avenue	61.1	55.8	59.2	64.0	4	13	40	126	397	1,256
5	Buena Vista Avenue	West of Cottonwood Avenue	52.9	49.5	55.4	58.0	1	3	10	32	100	315
6	Buena Vista Avenue	East of Cottonwood Avenue	54.6	51.2	57.1	59.7	1	5	15	47	148	467
7	Mission Gorge Road	West of Cottonwood Avenue	66.2	60.1	63.2	68.6	11	36	115	362	1,145	3,622
8	Mission Gorge Road	East of Cottonwood Avenue	64.7	59.4	62.9	67.6	9	29	91	288	910	2,877