Bradley Court Convalescent Center Expansion Project PDS2021-MUP-85-053W2

Noise Report

prepared for
County of San Diego

Project Proponent
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Final September 17, 2024

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Glossary

ADT	average daily traffic
CNEL	Community Noise Equivalent Level
dB	decibel
dBA	A-weighted decibel
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
HVAC	heating, ventilation, and air conditioning
in./sec.	inches per second
kW	kilowatt
L_{dn}	Day Night sound level
L_{eq}	equivalent noise level
L_{max}	Highest RMS sound pressure level
L_{min}	Lowest RMS sound pressure level
LLG	Linscott, Law, and Greenspan
NSLU	noise sensitive land use
PPV	peak particle velocity
PTAC	packaged terminal air conditioning
RMS	root mean squared
SANDAG	San Diego Association of Governments

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Executive Summary

This report analyzes the potential construction and operational noise impacts from the Bradley Court Convalescent Center Expansion Project (project), which is located at 675 East Bradley Avenue in the Lakeside Community Plan Area, within unincorporated San Diego County. The project would construct a new 26,515 square-foot assisted living building with 66 resident beds and a new 10,613 sf 31-bed skilled nursing building. The existing residential building would be converted to a controlled access building. The total project site would include four buildings with a total of 153 beds. The proposed sitework will include 73 parking spaces, and a new fire lane access road allowing access to the rear of existing Building 2 and the new Building 3. A new driveway approach along Bradley Avenue will be placed for full fire truck access. New sewer, domestic water, and fire water (including one additional fire hydrant) will be provided with the sitework. Two trash enclosures for refuse and recycled goods will be provided. Along with new landscaping throughout the facility, site lighting will be installed to provide a minimum of 1.0 FC of lighting along all egress paths to the public way.

Noise at the project site is primarily from traffic on East Bradley Avenue. The project's outdoor living areas would experience noise levels as high as 49 Community Noise Equivalent Level (CNEL), which would be below the 60 CNEL exterior noise standard applicable to the project. Interior noise levels would range from 10 CNEL to 45 CNEL. These levels are below the County of San Diego's 45 CNEL standard for interior noise levels and impacts would be less than significant.

The project would generate up to 263 average daily trips (ADT) (LLG 2021). Adding this traffic to the existing San Diego Association of Governments (SANDAG) 2016 traffic volume of 15,900 ADT would result in an increase of approximately 0.1 CNEL. Therefore, the project would not increase noise by more than 3 CNEL and impacts would be less than significant.

The project would introduce sources of operational noise to the area, including heating, ventilation, and air conditioning (HVAC) and packaged terminal air conditioning (PTAC) units and a new emergency generator. The generator would be tested twice a month for 30 minutes at a time during the daytime. Operational noise during the daytime (HVAC/PTAC units and generator) and nighttime (HVAC/PTAC units) would not exceed the applicable County noise standards at the property line. Therefore, operational noise impacts would be less than significant.

Five pieces of construction equipment would be operating during the site preparation and grading phases: backhoe, hi-lift (a type of front-end loader), sheepsfoot roller, dozer, and trackhoe (similar to an excavator). Based on model calculations, at a distance of 137.5 feet, these five pieces of equipment would generate a noise level of 74 dBA $L_{eq\ (8\text{-}hour)}$; therefore, noise levels would not exceed the County's 75 dBA $L_{eq\ (8\text{-}hour)}$ threshold when performed at an average distance of 137.5 feet to nearby residential properties. As stated above, the equipment would operate as close as 25 feet to the occupied residential properties; at this distance, maximum construction noise levels would reach up to 88 dBA L_{max}, which would exceed the County's 82 dBA L_{max} noise threshold. The approximate distance in which construction noise levels would not exceed 82 dBA L_{max} would be 50 feet. Therefore, if construction occurs within 50 feet of the nearby residential properties, construction impacts would be potentially significant. This would be reduced to below a level of

significance with Mitigation Measure NOI-1 through the implementation of temporary sound barriers/blankets between the construction area and adjacent noise-sensitive receivers.

Operation of the project would not involve any substantial vibration sources and no impacts would occur. Construction of the project would generate vibration; however, these vibration levels would not exceed the applicable standards.

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1 Introduction

This report has been prepared in accordance with the County of San Diego's Guidelines for Determining Significance (County of San Diego 2009a) and Report Format and Content Requirements (County of San Diego 2009b) for noise.

1.1 Project Description

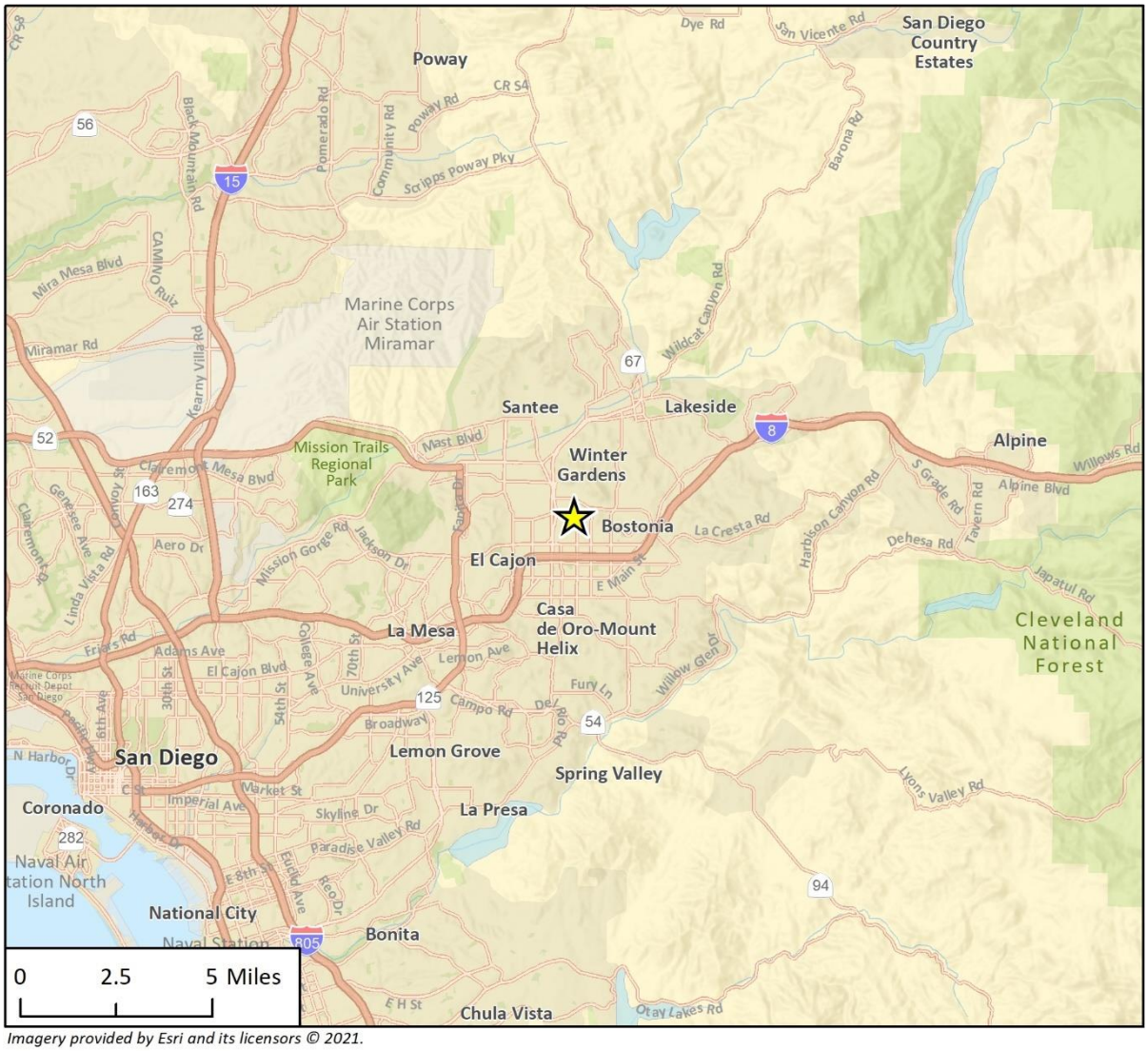
The Bradley Court Convalescent Center Expansion Project (project) is located at 675 East Bradley Avenue in the Lakeside Community Plan Area within unincorporated San Diego County. The project location's regional location and vicinity are shown in Figure 1 and Figure 2.

The project would construct a new 26,515 square-foot assisted living building with 66 resident beds, and a new 10,613 sf 31-bed skilled nursing building. The total project site would include four buildings with a total of 153 beds. The proposed sitework will include 73 parking spaces, and a new fire lane access road allowing access to the rear of existing Building 2 and the new Building 3. A new driveway approach along Bradley Avenue will be placed for full fire truck access. New sewer, domestic water, and fire water (including one additional fire hydrant) will be provided with the sitework. Two trash enclosures for refuse and recycled goods will be provided. Along with new landscaping throughout the facility, site lighting will be installed to provide a minimum of 1.0 FC of lighting along all egress paths to the public way. See Figure 3 for the project site plan.

The Transitional Care Building, located on the northern portion of the site, would be served by packaged terminal air conditioning (PTAC) units and split systems. The Skilled Nursing Building, located on the southern portion of the site, would be served by rooftop heating, ventilation, and air conditioning (HVAC) units. The project would include a 150-kW generator with enclosure to the southeast location of the existing generator, which would be removed. The project would also include a can wash; no mechanical equipment would be associated with the can wash.

The site is subject to the Lakeside Community Design Review, and the General Plan Category Village, Land Use Designation Village Residential (VR-24). Zoning for the site is Urban Residential (RU) with special designator "C". Access would continue to be provided off of East Bradley Avenue. According to the Initial Consultation Checklist provided by the County, in order to process the project application, a Major Use Permit Modification is required.

Figure 1 Regional Location



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Project Location

N

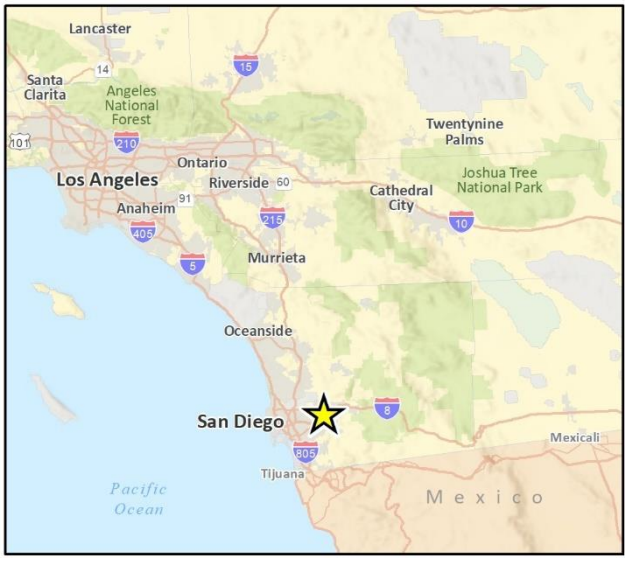

Figure 2 Project Location

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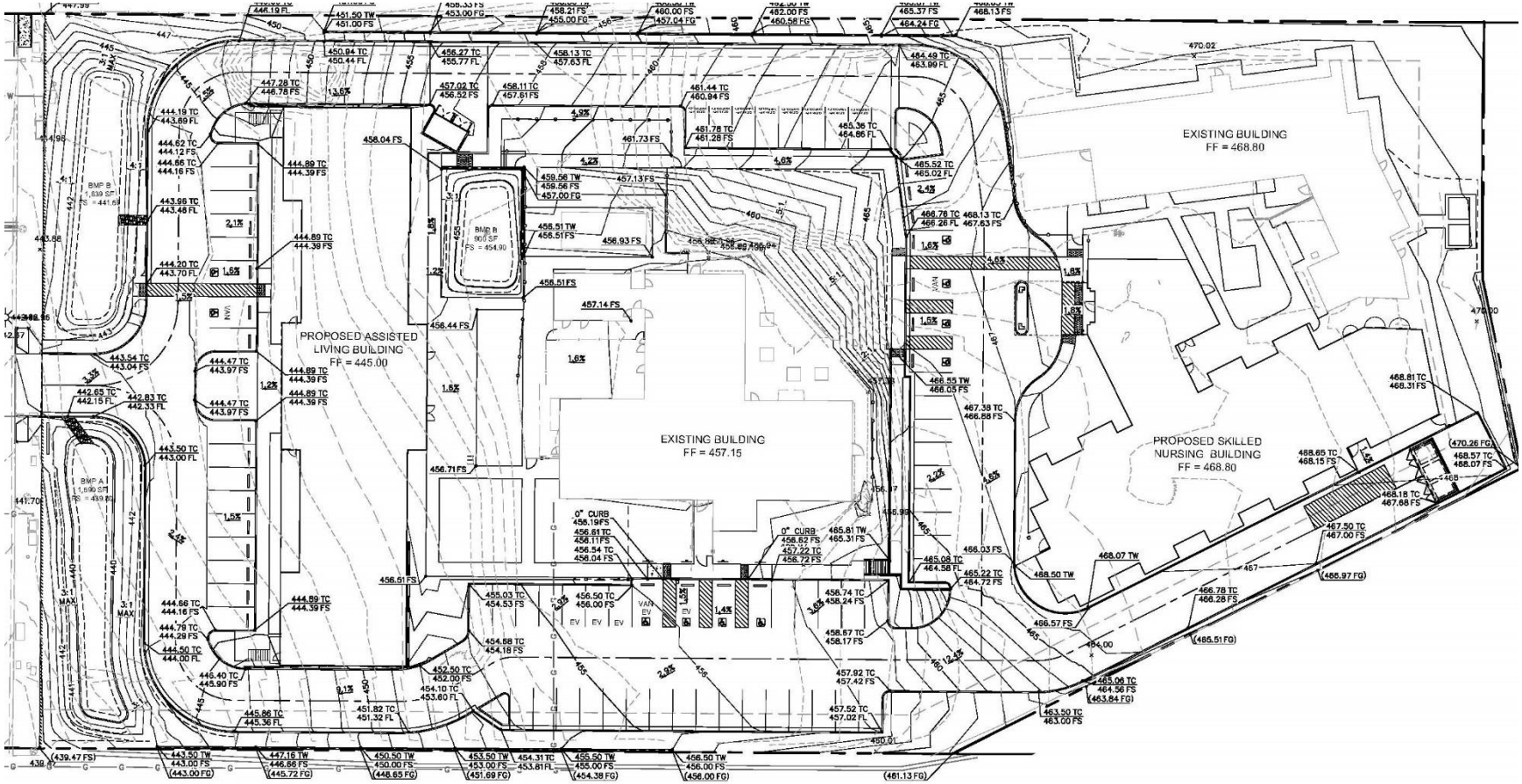
Figure 3 Site Plan



1.2 Environmental Settings & Existing Conditions

1.2.1 Setting and Location

The project site is bounded by East Bradley Avenue to the north, North Mollison Avenue and Greenfield Drive to the east and south, and Sams Hill Road to the west. The project site is in a developed area with mobile home residences across East Bradley Avenue to the north; multi-family residences to the east, south, and west; and commercial uses to the east and west.

The site is accessed by a single driveway off East Bradley Avenue. The project site has a gentle rising slope from north to south, rising from an elevation of approximately 442 feet at the northern portion of the entrance to approximately 470 feet at the southern portion of the site. The project site is located approximately 0.4 mile east of State Route 67.

1.2.2 Overview of Noise

Sound is a vibratory disturbance created by a moving or vibrating source, which is capable of being detected by the hearing organs. Noise is defined as sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. The effects of noise on people can include general annoyance, interference with speech communication, sleep disturbance, and, in the extreme, hearing impairment (Caltrans 2013).

Noise levels are commonly measured in decibels (dB) using the A-weighted sound pressure level (dBA). The A-weighting scale is an adjustment to the actual sound pressure levels so that they are consistent with the human hearing response. Decibels are measured on a logarithmic scale that quantifies sound intensity in a manner similar to the Richter scale used to measure earthquake magnitudes. A doubling of the energy of a noise source, such as doubling of traffic volume, would increase the noise level by 3 dB; dividing the energy in half would result in a 3 dB decrease (Crocker 2007).

Human perception of noise has no simple correlation with sound energy: the perception of sound is not linear in terms of dBA or in terms of sound energy. Two sources do not “sound twice as loud” as one source. It is widely accepted that the average healthy ear can barely perceive changes of 3 dBA, increase or decrease (i.e., twice the sound energy); that a change of 5 dBA is readily perceptible (8 times the sound energy); and that an increase (or decrease) of 10 dBA sounds twice (half) as loud ([10.5x the sound energy] Crocker 2007).

Noise changes in both level and frequency spectrum as it travels from the source to the receiver. The most obvious change is the decrease in level as the distance from the source increases. The manner by which noise reduces with distance depends on factors such as the type of sources (e.g., point or line, the path the sound will travel, site conditions, and obstructions). Noise levels from a point source typically attenuate, or drop off, at a rate of 6 dBA per doubling of distance (e.g., construction, industrial machinery, ventilation units). Noise from a line source (e.g., roadway, pipeline, railroad) typically attenuates at about 3 dBA per doubling of distance (Caltrans 2013). The propagation of noise is also affected by the intervening ground, known as ground absorption. A hard site, such as a parking lot or smooth body of water, receives no additional ground attenuation and the changes in noise levels with distance (drop-off rate) result from simply the geometric spreading of the source. An additional ground attenuation value of 1.5 dBA per doubling of distance applies to a soft site (e.g., soft dirt, grass, or scattered bushes and trees) (Caltrans 2013). Noise levels may also

be reduced by intervening structures; the amount of attenuation provided by this "shielding" depends on the size of the object and the frequencies of the noise levels. Natural terrain features such as hills and dense woods, and man-made features such as buildings and walls, can significantly alter noise levels. Generally, any large structure blocking the line of sight will provide at least a 5-dBA reduction in source noise levels at the receiver (Federal Highway Administration [FHWA] 2017). Structures can substantially reduce exposure to noise as well. The FHWA's guidelines indicate that modern building construction generally provides an exterior-to-interior noise level reduction of 20 dBA (light frame building with ordinary sash windows) to 35 dBA (masonry with double glazed windows). Reductions of 25 dBA would occur with light frame buildings with storm windows and masonry buildings with single-glazed windows.

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 factors of project noise impact. Most noise that lasts for more than a few seconds is variable in its intensity. Consequently, a variety of noise descriptors have been developed. One of the most frequently used noise metrics is the equivalent noise level (L_{eq}); it considers both duration and sound power level. L_{eq} is defined as the single steady A-weighted level equivalent to the same amount of energy as that contained in the actual fluctuating levels over time. Typically, L_{eq} is summed over a one-hour period. L_{max} is the highest root mean squared (RMS) sound pressure level within the sampling period, and L_{min} is the lowest RMS sound pressure level within the measuring period (Crocker 2007).

Noise that occurs at night tends to be more disturbing than that occurring during the day. Community noise is usually measured using Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a +10 dBA penalty for noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours; it is also measured using Community Noise Equivalent Level (CNEL), which is the 24-hour average noise level with a +5 dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. and a +10 dBA penalty for noise occurring from 10:00 p.m. to 7:00 a.m. (Caltrans 2013). Noise levels described by L_{dn} and CNEL usually differ by about 1 dBA. The relationship between the peak-hour L_{eq} value and the L_{dn}/CNEL depends on the distribution of traffic during the day, evening, and night. Quiet suburban areas typically have CNEL noise levels in the range of 40 to 50 dBA, while areas near arterial streets are in the 50 to 60-plus CNEL range. Normal conversational levels are in the 60 to 65-dBA L_{eq} range; ambient noise levels greater than 65 dBA L_{eq} can interrupt conversations (Federal Transit Administration [FTA] 2018).

1.2.3 Overview of Vibration

Groundborne vibration of concern in environmental analysis consists of the oscillatory waves that move from a source through the ground to adjacent structures. The number of cycles per second of oscillation makes up the vibration frequency, described in terms of Hertz. The frequency of a vibrating object describes how rapidly it oscillates. The normal frequency range of most groundborne vibration that can be felt by the human body starts from a low frequency of less than 1 Hertz and goes to a high of about 200 Hertz (Crocker 2007).

While people have varying sensitivities to vibrations at different frequencies, in general they are most sensitive to low-frequency vibration. Vibration in buildings, such as from nearby construction activities, may cause windows, items on shelves, and pictures on walls to rattle. Vibration of building components can also take the form of an audible low-frequency rumbling noise, referred to as groundborne noise. Groundborne noise is usually only a problem when the originating vibration spectrum is dominated by frequencies in the upper end of the range (60 to 200 Hertz), or when foundations or utilities, such as sewer and water pipes, physically connect the structure and the

vibration source (FTA 2018). Although groundborne vibration is sometimes noticeable in outdoor environments, it is almost never annoying to people who are outdoors. The primary concern from vibration is that it can be intrusive and annoying to building occupants and vibration-sensitive land uses.

Vibration energy spreads out as it travels through the ground, causing the vibration level to diminish with distance away from the source. High-frequency vibrations diminish much more rapidly than low frequencies, so low frequencies tend to dominate the spectrum at large distances from the source. Discontinuities in the soil strata can also cause diffractions or channeling effects that affect the propagation of vibration over long distances (Caltrans 2020). When a building is impacted by vibration, a ground-to-foundation coupling loss will usually reduce the overall vibration level. However, under rare circumstances, the ground-to-foundation coupling may actually amplify the vibration level due to structural resonances of the floors and walls.

Vibration amplitudes are usually expressed in peak particle velocity (PPV) or root mean squared (RMS) vibration velocity. The PPV and RMS velocity are normally described in inches per second (in./sec.). PPV is defined as the maximum instantaneous positive or negative peak of a vibration signal. PPV is often used in monitoring of blasting vibration because it is related to the stresses that are experienced by buildings (Caltrans 2020).

1.2.4 Noise-Sensitive Land Uses

Noise-sensitive land uses (NSLUs) are land uses that may be subject to stress or interference from excessive noise. The following land uses are considered noise sensitive in the County of San Diego: residential uses, public and private educational facilities, hospitals, convalescent homes, hotels/motels, daycare facilities, and passive recreation parks (County of San Diego 2011). "Exterior Noise" means noise measured at an outdoor living area that meets specified minimum area requirements for projects, such as exterior areas which are provided for group or private usable open space. NSLUs in the vicinity of the project site include the mobile home residences to the north and the multi-family residences to the east, south, and west.

Vibration sensitive receivers are similar to noise sensitive receivers, such as residences, and institutional uses, such as schools, churches, and hospitals. However, vibration sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment, affected by levels that may be well below those associated with human annoyance.

1.2.5 Regulatory Framework

San Diego County General Plan, Noise Element

The Noise Element for the San Diego County General Plan (County of San Diego 2011) includes guidelines for noise compatibility (Tables N-1 and N-2 from the General Plan), as detailed below in Table 1, and noise standards, as detailed in Table 2. As shown in Table 1, the proposed project would be subject to Land Use Category A.

Table 1 San Diego County Noise Compatibility Guidelines

Land Use Category		Exterior Noise Level (CNEL)					
		55	60	65	70	75	80
A	Residential—single family residences, mobile homes, senior housing, convalescent homes						
B	Residential—multi-family residences, mixed-use (commercial/residential)						
C	Transient lodging—motels, hotels, resorts						
D[(1)]	Schools, churches, hospitals, nursing homes, child care facilities						
E[(1)]	Passive recreational parks, nature preserves, contemplative spaces, cemeteries						
F[(1)]	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation						
G[(1)]	Office\professional, government, medical\dental, commercial, retail, laboratories						
H[(1)]	Industrial, manufacturing, utilities, agriculture, mining, stables, ranching, warehouse, maintenance/repair						

Acceptable. Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal construction, without any special noise insulation requirements.

Conditionally Acceptable. New construction or development should be undertaken only after a detailed noise analysis is conducted to determine if noise reduction measures are necessary to achieve acceptable levels for land use. Criteria for determining exterior and interior noise levels are listed in Table 3, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate County of San Diego decision-maker must determine that mitigation has been provided to the greatest extent practicable or that extraordinary circumstances exist.

Unacceptable. New construction or development shall not be undertaken.

[1] Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL

[2] For projects located within an Airport Influence Area of an adopted Airport Land Use Compatibility Plan (ALUCP), additional Noise Compatibility Criteria restrictions may apply as specified in the ALUCP.

Source: San Diego County 2011

Table 2 San Diego County General Plan Noise Standards

Standard	Description
1	The exterior noise level (as defined in Item 3) standard for Category A shall be 60 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
2	The exterior noise level standard for Categories B and C shall be 65 CNEL, and the interior noise level standard for indoor habitable rooms shall be 45 CNEL.
3	The exterior noise level standard for Categories D and G shall be 65 CNEL and the interior noise level standard shall be 50 dBA L_{EQ} (one hour average).
4	For single-family detached dwelling units, “exterior noise level” is defined as the noise level measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum net lot area: (i) for lots less than 4,000 square feet in area, the exterior area shall include 400 square feet, (ii) for lots between 4,000 square feet to 10 acres in area, the exterior area shall include 10 percent of the lot area; (iii) for lots over 10 acres in area, the exterior area shall include 1 acre.
5	For all other residential land uses, “exterior noise level” is defined as noise measured at exterior areas that are provided for private or group usable open space purposes. “Private Usable Open Space” is defined as usable open space intended for use of occupants of one dwelling unit, normally including yards, decks, and balconies. When the noise limit for Private Usable Open Space cannot be met, then a Group Usable Open Space that meets the exterior noise level standard shall be provided. “Group Usable Open Space” is defined as usable open space intended for common use by occupants of a development, either privately owned and

Standard	Description
	maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways.
6	For non-residential noise sensitive land uses, exterior noise level is defined as noise measured at the exterior area provided for public use.
7	For noise sensitive land uses where people normally do not sleep at night, the exterior and interior noise standard may be measured using either CNEL or the one-hour average noise level determined at the loudest hour during the period when the facility is normally occupied.
8	The exterior noise standard does not apply for land uses where no exterior use area is proposed or necessary, such as a library.
9	For Categories E and F, the exterior noise level standard shall not exceed the limit defined as "Acceptable" in Table 1 (Table N-1 in the General Plan) or an equivalent one-hour noise standard.

Note: Exterior Noise Level compatibility guidelines

County of San Diego Code – Noise Abatement and Control Ordinance

Noise requirements in San Diego County are further discussed in the Noise Abatement and Control Ordinance, Sections 36.401 through 36.423 of the County of San Diego Code. The purpose of the ordinance is to regulate noise in the unincorporated area of the County to promote the public health, comfort, and convenience of the County of San Diego's inhabitants and its visitors.

The Noise and Abatement Control Ordinance sets limits pertaining to the generation of exterior noise. The ordinance makes it unlawful for any person to cause or allow the creation of any noise which exceeds the one-hour average sound level limits in Table 3, when measured at the property line from where the noise is being produce or at any location on a property that is receiving the noise.

Table 3 County of San Diego Code Exterior Sound Level Limits

Zone	Time	One-Hour Average Sound Level Limits (dBA)
R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-90, S-92 and R-V and R-U with a density of less than 11 dwelling units per acre	7:00 a.m. to 10:00 p.m.	50
	10:00 p.m. to 7:00 a.m.	45
R-RO, R-C, R-M, S-86, V5 and R-V and R-U with a density of 11 or more dwelling units per acre	7:00 a.m. to 10:00 p.m.	55
	10:00 p.m. to 7:00 a.m.	50
S-94, V4 and all other commercial zones	7:00 a.m. to 10:00 p.m.	60
	10:00 p.m. to 7:00 a.m.	55
V1, V2	7:00 a.m. to 7:00 p.m.	60
	7:00 p.m. to 10:00 p.m.	55
V1	10:00 p.m. to 7:00 a.m.	55
V2	10:00 p.m. to 7:00 a.m.	50
V3	7:00 a.m. to 10:00 p.m.	70
	10:00 p.m. to 7:00 a.m.	65

Zone	Time	One-Hour Average Sound Level Limits (dBA)
M-50, M-52 and M-54	Anytime	70
S-82, M-56 and M-58	Anytime	75
S-88	Depends on Use	–

Zoning Code Definitions: R-S = Single-Family Residential; R-D = Duplex Residential; R-R = Rural Residential; R-MH = Mobile home Residential; A-70 = Limited Agriculture; A-72 = General Agriculture; S-80 = Open Space; S-90 = Holding Area; S-92 = General Rural; S-94 = Transportation and Utility Corridor; R-V = Variable-Family Residential; R-RO = Residential-Recreation Oriented; R-C = Residential-Commercial; R-M = Multi-Family Residential; S-86 = Parking; R-U = Urban Residential; V1, V2, V3, V4, and V5 = Village Designations; M-50 = Basic Industrial; M-52 = Limited Industrial; M-54 = General Impact Industrial; S-82 = Extractive Use; M-56 = Mixed Industrial; M-58 = High-Impact Industrial; S-88 = Specific Plan

Source: County of San Diego Code Section 36.404

If the measured ambient noise level exceeds the applicable limit noted above, the allowable one-hour average sound level shall be the ambient noise level, plus 3 dBA. The ambient noise level shall be measured when the alleged noise violation source is not operating. At a location on the boundary of two zones, the noise level limit is the arithmetic mean of the respective limits for the two zones.

Section 36.409 Construction Noise

Except for emergency work, it shall be unlawful for any person to operate construction equipment or cause construction equipment to be operated, that exceeds an average sound level of 75 dB for an 8-hour period, between 7:00 a.m. and 7:00 p.m., when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is being received.

Section 36.410 Impulsive Noise

Section 36.410 provides additional limitation on construction equipment beyond Section 36.404 pertaining to impulsive noise. Except for emergency work or work on a public road project, no person shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 4*,* when measured at the boundary line of the property where the noise source is located or on any occupied property where the noise is received, for 25 percent of the minutes in the measurement period.

Table 4 County of San Diego Maximum Sound Levels

Occupied Property Use	Decibels (dBA) L_{MAX}
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

Source: County of San Diego Section 36.410

The minimum measurement period for any measurements is one hour. During the measurement period, a measurement must be conducted every minute from a fixed location on an occupied property. The measurements must measure the maximum sound level during each minute of the measurement period. If the sound level caused by construction equipment or the producer of the impulsive noise exceeds the maximum sound level for any portion of any minute, it will be deemed that the maximum sound level was exceeded during that minute.

1.2.6 Existing Noise Conditions

The dominant sources of noise in the project site vicinity are vehicular traffic on East Bradley Avenue. The closest airport is Gillespie Field, located approximately 0.8 mile to the northwest. The project site is not within the Gillespie Field noise contours and is approximately 0.3 mile south of the 60 CNEL contour (San Diego County Regional Airport Authority 2010). The sensitive receivers nearest to the project site are the mobile home residences to the north, and the multi-family residences to the east, south, and west. The mobile homes across East Bradley Avenue to the north are zoned Mobile-Home Residential (RMH9); the multi-family residences to the east and northwest are zoned Urban-Residential (RU); and the multi-family residences to the south are zoned Variable-Family Residential (RV).

The most common source of noise in the project site vicinity is vehicular traffic from East Bradley Avenue. To characterize ambient sound levels at and near the project site, three 15-minute sound level measurements were conducted on May 21, 2021. Noise Measurement (NM) 1 was taken at the southern portion of the site to capture ambient noise levels in the vicinity of the proposed Skilled Nursing Building; NM2 was taken to capture ambient noise levels at the proposed generator location, near the boundary with the multi-family residences to the east; and NM3 was taken adjacent to East Bradley Avenue to capture noise levels from the roadway. Receiver locations are shown on Figure 4. Table 5 summarizes the results of the noise measurements and Table 6 shows the recorded traffic volumes.

Figure 4 Site Measurement Locations

Table 5 Project Site Vicinity Sound Level Monitoring Results

Measurement Location	Measurement Location	Sample Times	Approximate Distance to Primary Noise Source	L_{eq} (dBA)	L_{95} (dBA)	L_{max} (dBA)
1	Southern portion of project site	9:20 – 9:37 a.m.	Approximately 425 feet to East Bradley Avenue	50.5	45.4	68.7
2	Proposed generator location	9:42 – 9:57 a.m.	Approximately 340 feet to East Bradley Avenue	52.8	48.8	71.7
3	Northern portion of project site	10:02 – 10:17 a.m.	Approximately 30 feet to East Bradley Avenue	60.5	52.9	71.2

Detailed sound level measurement data are included in Appendix A.

Table 6 Sound Level Monitoring Traffic Counts

Measurement	Roadway	Traffic	Autos	Medium Trucks	Heavy Trucks
NM3	East Bradley Avenue	15-minute count	110	2	0
		One-hour Equivalent	440	8	0
Percent			**98%**	**2%**	**0%**

Detailed sound level measurement data are included in Appendix A.

1.3 Methodology

1.3.1 Operational Noise Sources

Operational noise sources were modeled with SoundPLAN. Propagation of modeled stationary noise sources was based on ISO Standard 9613-2, "Attenuation of Sound during Propagation Outdoors, Part 2: General Method of Calculation." The assessment methodology assumes that all receptors would be downwind of stationary sources. This is a worst-case assumption for total noise impacts, since more realistically, only some receivers would be downwind at any one time. Receivers were placed at five feet above ground elevation and the new buildings were modeled with a height of 35 feet. Locations of some of the nearby offsite buildings were entered into the model to account for building shielding of noise levels; however, due to the number of offsite buildings between the project and the farthest off-site receivers, not all buildings were captured in the model. Therefore, additional noise attenuation would occur in real world conditions compared to the model due to additional buildings in between the project's operational noise and receivers. In addition, the site plan was modified after SoundPLAN modeling was completed to slightly move the Transitional Care Building to the south to accompany driveway and drainage requirements. The original model results are retained in this analysis, as the movement of the building in the modified site plan (included as Figure 3) would result in a negligible change from project operational noise, and would also provide a conservative estimate of traffic noise on to the project site as the residences were analyzed closer to the roadway in the original modeling.

Traffic Noise

Methodology

Per the project's Transportation Report, on a typical weekday the project would add 263 ADT (LLG 2021). These vehicle trips were added to SANDAG's Series 14 Forecast for 2050 of 21,100 ADT for East Bradley Avenue to determine future noise levels at the project site (SANDAG 2019). For off-site traffic noise increases, these project trips were added to SANDAG's Series 14 Forecast for 2016 of 15,900 ADT for East Bradley Avenue. Vehicle composition of the roadway was determined per the observed vehicle breakdown in Table 6, with 1 percent heavy trucks added to the model, for an overall breakdown of 97 percent automobiles, 2 percent medium trucks, and 1 percent heavy trucks. It was assumed that peak hour traffic is 10 percent of the ADT, and that the peak hour noise level is equivalent to the CNEL. The posted speed limit on East Bradley Avenue is 40 miles per hour.

Operational Noise

Methodology

Operational noise sources from the project include noise from an emergency backup generator and HVAC and PTAC units. As the can wash would be hand wash that does not use mechanical equipment, it would not be a substantial noise generator and is not analyzed further.

GENERATORS

The project site currently houses a backup emergency generator within an enclosed building (in the central eastern portion of the site). The project proposes to remove this generator and replace it with a new generator near the existing location, slightly further to the southeast, approximately 25 feet from the residential property line to the east. The project applicant has provided generator and enclosure specifications from another project (Lakeside Special Care Center at 11962 Woodside Avenue in Lakeside) that would be of similar design to the proposed generator (see Appendix B for specifications).

The analyzed generator would be a 150 kilowatt (kW) Kohler 150REOZJF with double walled fuel tank and Sound Level 2 noise attenuating housing. This generator would generate a noise level of 73 dBA at 23 feet with noise attenuating housing. It would be enclosed within a 10-foot solid grouted CMU block wall with hollow metal doors. Outside of an emergency, the generators would only be operated for periodic testing and maintenance requirements during normal facility operation, which would occur twice a month for 30 minutes at a time during the daytime. Per Section 36.417(a)(4) of the County's Noise Abatement and Control Ordinance, the operation of an emergency generator after a power failure, by an employee or agent of a law enforcement agency, fire department, hospital or other medical or surgical facility that is providing emergency medical services is exempt from County noise limits. As the project provides life-sustaining medical services, operation of a generator in an emergency power failure would be exempt from County noise standards. Therefore, only generator noise from testing and maintenance usage is analyzed.

HVAC UNITS

HVAC units used for cooling the Skilled Nursing Building would generate noise. The unit used in this analysis is a 16.7-ton Carrier 38AUD25 split system condenser (see Appendix C for manufacturer's specifications). The manufacturer's noise data lists the unit as having a sound power level of 85 dBA. The building was assumed to contain one HVAC unit on the rooftop based upon one ton of HVAC

per 600 sf of building space. All HVAC units were modeled with the center of the noise source as being three feet above the roof elevation. It was also assumed the two existing buildings on site used a similar HVAC unit, and contained one HVAC unit on the rooftop each. The units were conservatively assumed to operate for 100 percent of an hour.

PTAC UNITS

PTAC units would be used for cooling the Transitional Care Building. It is assumed that each dwelling unit would contain a PTAC located in exterior walls. In the modeling, units were conservatively placed in likely locations of each unit, i.e., in the walls of the units facing the exhaust to the adjacent property lines. Sixty-six (66) PTAC units were assigned to the building. The PTAC used in this analysis, a LG Model LP150HED1, is typical for a larger residential unit (see Appendix D for specification sheets). The manufacturer's noise data indicates each unit generates an outdoor sound power level of 63 dBA. All PTAC units were modeled as being approximately three feet above the elevation of each floor. The units were conservatively assumed to operate for 100 percent of an hour.

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2 Noise Sensitive Land Uses (NSLU) Affected by Airborne Noise

2.1 Guidelines for the Determination of Significance

2.1.1 On-site Traffic Noise

In accordance with the County of San Diego's category noise compatibility guidelines for land uses related to convalescent homes (Table 1), a significant impact from traffic noise would occur to on-site project uses if exterior noise levels exceed 60 dBA L_{eq} at an outdoor living area and if interior noise levels exceed 45 dBA L_{eq}. The County of San Diego defines an outdoor living area as an exterior area provided for group or private usable open space.

2.1.2 Off-site Traffic Noise

In accordance with the County of San Diego's single-family residential land use category noise compatibility guidelines (Table 1), a significant impact to off-site single-family residences from project-generated traffic noise would occur if residences are exposed to noise levels in excess of 60 CNEL for single-family residential uses or an increase of 10 CNEL or more over existing noise levels. If existing conditions approach or exceed County of San Diego standards, a direct impact to off-site uses would occur if the project more than doubles (i.e., increases by more than 3 CNEL) the existing noise level.

2.2 Potential Noise Impacts

2.2.1 Potential Build-out Noise Conditions & Impacts

Traffic noise levels from East Bradley Avenue are shown in Table 7; traffic noise contours and receiver locations are shown on Figure 5. The area south of the Transitional Care Building was modeled as the main outdoor living area of the project site, as it would be developed with a lawn oval for resident use. The area between the Transitional Care Building and East Bradley Avenue is a bio-retention basin and not considered an outdoor living area of the project site, and was therefore not modeled. Noise levels at the outdoor living areas would reach up to 49 CNEL, which would be below the 60 CNEL exterior noise standard applicable to the project. The site plan was modified after SoundPLAN modeling was completed to slightly move the assisted living building to the south to accompany driveway and drainage requirements. The original model results are retained in this analysis, as the movement of the building in the modified site plan (included as Figure 3) would provide a conservative estimate of traffic noise on to the project site as the residences were analyzed closer to the roadway in the original modeling. Therefore, no impacts would occur to on-site outdoor living areas provided for resident use.

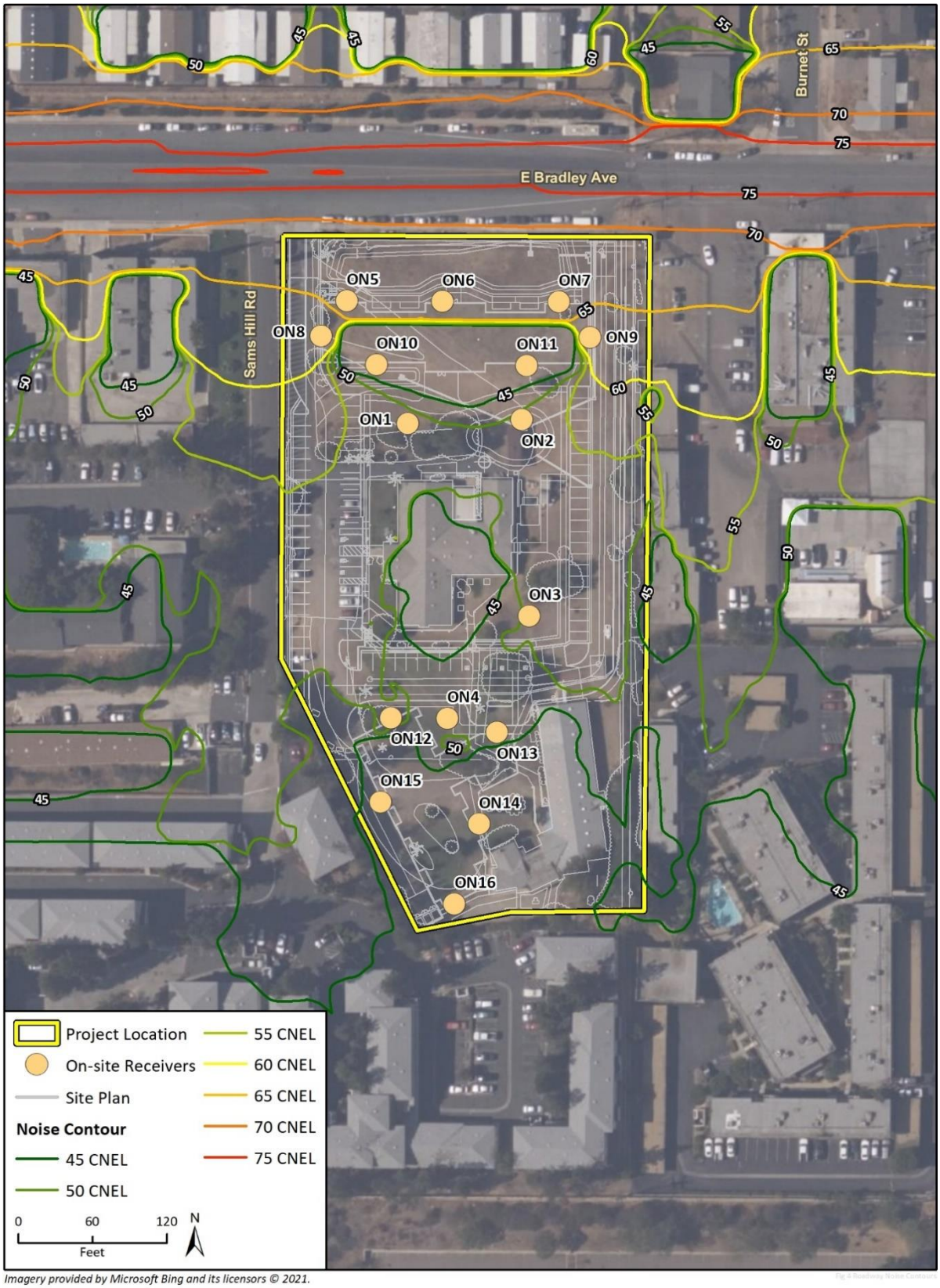
Table 7 On-site Roadway Noise Levels

Receiver	Description	Exterior Noise Level (CNEL)	Interior Noise Level (CNEL)[1]
ON1	Exterior Use Area	49	N/A
ON2	Exterior Use Area	49	N/A
ON3	Exterior Use Area	49	N/A
ON4	Exterior Use Area	47	N/A
ON5	Transitional Care Building	65	45
ON6	Transitional Care Building	65	45
ON7	Transitional Care Building	65	45
ON8	Transitional Care Building	59	39
ON9	Transitional Care Building	60	40
ON10	Transitional Care Building	38	18
ON11	Transitional Care Building	38	18
ON12	Skilled Nursing Building	48	28
ON13	Skilled Nursing Building	47	27
ON14	Skilled Nursing Building	37	17
ON15	Skilled Nursing Building	38	18
ON16	Skilled Nursing Building	30	10

Receiver locations shown on Figure 5.

[1] Per FHWA guidance, typical building attenuation for noise levels from the exterior to interior range from 20 dBA to 35 dBA (FHWA 2018).

Figure 5 Traffic Noise Levels



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The project building facades were modeled for traffic noise impacts to the interior areas. Noise levels at the building façades would range from 30 CNEL to 65 CNEL. Per FHWA guidance, typical building attenuation for noise levels from the exterior to interior range from 20 dBA to 35 dBA (FHWA 2018). Therefore, assuming the most conservative attenuation, interior noise levels would range from 10 CNEL to 45 CNEL. This would not exceed the County of San Diego's 45 CNEL standard for interior noise levels and impacts would be less than significant.

2.2.2 Design Considerations and Mitigation Measures

Because impacts would be less than significant, no design considerations or mitigation measures are necessary for the project for this impact issue.

2.3 Off-site Noise Impacts

2.3.1 Potential Noise Conditions & Impacts

The project would generate up to 263 ADT (LLG 2021). Adding this traffic to the existing SANDAG 2016 traffic volume of 15,900 ADT would result in an increase of approximately 0.1 CNEL. Therefore, the project would not increase noise by more than 3 CNEL and impacts would be less than significant.

2.3.2 Design Considerations and Mitigation Measures

Because impacts would be less than significant, no design considerations or mitigation measures are necessary for the project for this impact issue.

3 Project-Generated Airborne Noise

3.1 Guidelines for the Determination of Significance

The project would have significant impacts if it would generate airborne noise that would be in excess of the County of San Diego operational and construction noise thresholds, described below.

Operational Noise

Operational noise shall not exceed the limits specified in San Diego County Code Section 36.404, *General Sound Level Limits*, at the property line of the property on which the noise is produced or at any location on a property that is receiving the noise. These thresholds are presented in Table 3.

The nighttime thresholds used are:

- 47.5 dBA to the multi-family residences to the south and southwest;
- 47.5 dBA to the multi-family residences to the east and northwest; and
- 50 dBA to the commercial uses to the east.

The daytime thresholds used are:

- 52.5 dBA to the multi-family residences to the east and northwest;
- 52.5 dBA to the commercial uses to the east; and
- 55 dBA to the multi-family residences to the south and southwest.

Construction Noise

Noise generated by construction activities related to the project shall not exceed the standards listed in San Diego County Code Section 36.409, *Sound Level Limitations on Construction Equipment*. Measured from the boundary line of the project during construction activities, construction noise shall not exceed:

- 75 dBA for an eight-hour period between 7:00 a.m. and 7:00 p.m.
- 82 dBA $L_{max(0.25)}$

3.2 Potential Operational Noise Impacts (Non-Construction Noise)

3.2.1 Potential Build-out Noise Conditions without Mitigation

Operational Noise

The project would introduce sources of operational noise to the area, including HVAC and PTAC units and a new emergency generator. Modeled parameters for these sources are discussed in Section 1.3. Noise level contours for a daytime scenario (HVAC and PTAC units and generator) and nighttime scenario (HVAC and PTAC units) are shown Figure 6 and Figure 7, respectively. Noise levels at the nearest property lines from each of these sources and their combined noise levels are shown in Table 8.

Figure 6 Daytime Operational Noise Contours – PTAC/HVAC Units and Generator

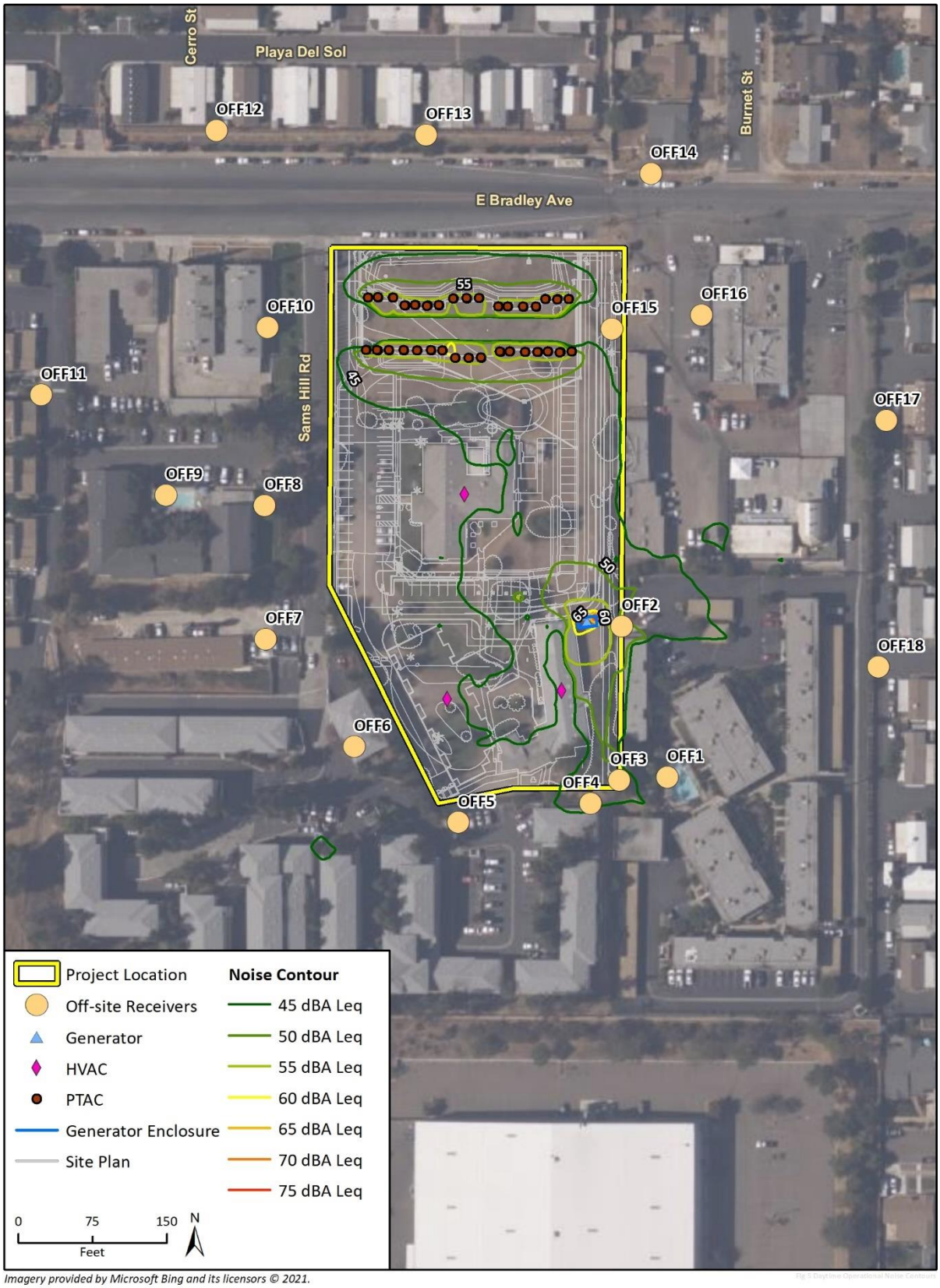

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Figure 7 Nightime Operational Noise Contours – PTAC/HVAC units

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Table 8 Operational Noise Levels at Off-site Residences

		Noise Level (dBA L_{eq})						
Receiver	Address	HVAC/ PTAC Units	Nighttime Noise Limit	Nighttime Noise Limit Exceeded?	Generator	Combined Noise Levels	Daytime Noise Limit	Daytime Noise Limit Exceed?
OFF1	745 East Bradley Avenue (swimming pool)	40	47.5	No	37	42	52.5	No
OFF2	745 East Bradley Avenue	41	47.5	No	51	51	52.5	No
OFF3	745 East Bradley Avenue	44	47.5	No	41	46	52.5	No
OFF4	745 East Bradley Avenue	46	47.5	No	37	47	52.5	No
OFF5	1518 Sams Hill Road	40	47.5	No	32	41	52.5	No
OFF6	1518 Sams Hill Road	44	47.5	No	29	44	52.5	No
OFF7	1538 Sams Hill Road	40	47.5	No	27	41	52.5	No
OFF8	1554 Sams Hill Road	40	47.5	No	39	43	52.5	No
OFF9	1554 Sams Hill Road (swimming pool)	36	47.5	No	24	36	52.5	No
OFF10	465 East Bradley Avenue	39	47.5	No	25	39	52.5	No
OFF11	425 East Bradley Avenue	36	47.5	No	27	37	52.5	No
OFF12	450 East Bradley Avenue	35	47.5	No	22	35	52.5	No
OFF13	450 East Bradley Avenue	37	47.5	No	24	37	52.5	No
OFF14	1700 Burnet Street	37	47.5	No	28	38	52.5	No
OFF15	723 East Bradley Avenue	38	50	No	35	40	55	No
OFF16	703 East Bradley Avenue	37	50	No	31	38	55	No
OFF17	753 East Bradley Avenue	34	47.5	No	31	36	52.5	No
OFF18	753 East Bradley Avenue	29	47.5	No	30	32	52.5	No

Noise contours for the daytime combined noise levels (HVAC and PTAC units and the generator) are shown in in Figure 6 and nighttime noise contours for the HVAC and PTAC units are shown in Figure 7.

As shown in Table 8, operational noise during the daytime and nighttime would not exceed the applicable County noise standards at the property line. The change in noise levels from the modified site plan with the assisted living building moved slightly to the south would result in a negligible change in noise levels as those shown in Table 8, and would also not exceed the applicable County noise standards at the property line. Therefore, impacts would be less than significant.

3.2.2 Design Considerations and Mitigation Measures

Because impacts would be less than significant, no design considerations or mitigation measures are necessary for the project for this impact issue.

3.3 Potential General Construction Noise Impacts

3.3.1 Potential Temporary Construction Noise Impacts without Mitigation

The noise-sensitive land uses nearest to project construction would be the multi-family residences located adjacent to the project site to the east, south, and west. Over the course of a typical construction day, construction equipment from on-site construction activities would be located as close as 25 feet to the residential properties when accounting for setbacks but would typically be located at an average distance further away due to the nature of construction. The FTA 2018 Transit Noise and Vibration Impact Assessment document recommends this approach on page 177, stating that for the distance variable in their construction noise calculation "assumes that all equipment operates at the center of the project." Therefore, it is common, industry standard practice to analyze average construction noise from the center of the site because this is the approximate center of where noise is being generated as equipment moves around the site throughout the hour. As the project site is approximately 275 feet, this would be an average 137.5 feet from the nearest residential receiver. This distance is analyzed for the County's 75 dBA $L_{eq\ (8\text{-}hour)}$ threshold. A distance of 25 feet is used for comparison to the County's 82 dBA L_{max} threshold.

The Project Applicant has indicated that five pieces of construction equipment would be operating during the site preparation and grading phases: backhoe, hi-lift (a type of front-end loader), sheepsfoot roller, dozer, and trackhoe (similar to an excavator). Based on RCNM, at a distance of 137.5 feet, these five pieces of equipment would generate a noise level of 74 dBA $L_{eq\ (8\text{-}hour)}$; therefore, noise levels would not exceed the County's 75 dBA $L_{eq\ (8\text{-}hour)}$ threshold when performed at an average distance of 137.5 feet to nearby residential properties (see Appendix E for RCNM calculations). As stated above, the equipment would operate as close as 25 feet to the occupied residential properties; at this distance, maximum construction noise levels would reach up to 88 dBA L_{max}, which would exceed the County's 82 dBA L_{max} noise threshold. The approximate distance in which construction noise levels would not exceed 82 dBA L_{max} would be 50 feet. Therefore, if construction occurs within 50 feet of the nearby residential properties, construction impacts would be potentially significant.

3.3.2 Design Considerations and Mitigation Measures

Mitigation Measure

NOI-1 Construction Noise Reductions

The project applicant shall reduce construction noise levels at the adjacent residential uses to the east, south, and west of the project site to a noise level not to exceed the County's 82 dBA L_{max} construction noise threshold when construction equipment is operating within 50 feet of nearby residential properties to the east, south, or west. This shall be accomplished through the following required measures:

- Installation of temporary sound barriers/blankets along the eastern, western, and southern boundaries adjacent to the multi-family receivers. The temporary barriers/blankets shall have a minimum sound transmission loss of 21 and noise reduction coefficient of 0.75. The temporary barriers/blankets will be of sufficient height to extend from the top of the temporary construction fence and drape on the ground or be sealed at the ground. The temporary barriers/blankets will have grommets along the top edge with exterior grade hooks, and loop fasteners along the vertical edges with overlapping seams, with a minimum overlap of 2 inches.
- Provide a sign at the yard entrance, or other conspicuous location, that includes a 24-hour telephone number for project information, and a procedure where a field engineer/construction manager will respond to and investigate noise complaints and take corrective action if necessary in a timely manner. The sign will have a minimum dimension of 48 inches wide by 24 inches high. The sign will be placed 5 feet above ground level.
- If a noise complaint(s) is registered, the contractor will retain a County-approved noise consultant to conduct noise measurements at the use(s) that registered the complaint. The noise measurements will be conducted for a minimum of 1 hour and will include 1-minute intervals. The consultant will prepare a letter report for code enforcement summarizing the measurements, calculation data used in determining impacts, and potential measures to reduce noise levels to the maximum extent feasible.

The following measures may also be used to reduce noise levels:

- The use of bells, whistles, alarms, and horns shall be restricted to safety warning purposes only.
- Noise-reducing enclosures shall be used around stationary noise-generating equipment (e.g., compressors and generators) or located as far from sensitive receivers, as feasible.

Significance After Mitigation

With implementation of sound barriers/blankets as described Mitigation Measure NOI-1, per manufacturer's specifications (see Appendix F), construction noise levels would be reduced by at least 10 dBA. Therefore, construction noise levels would reach up to approximately 78 dBA L_{max} with mitigation, which would not exceed the County's 82 dBA L_{max} construction noise threshold and impacts would be less than significant.

4 Ground-Borne Vibration and Noise Impacts

4.1 Guidelines for the Determination of Significance

Exposure of NSLUs and other vibration sensitive uses (i.e., research and manufacturing) to existing and future ground-borne vibration and noise arising from operations related to, but not limited by, materials handling, blasting, transportation corridors, railroads, and extractive industries is another typical adverse effect of development. This includes vibration sources caused by new development impacting existing or foreseeable future vibration sensitive uses. It also includes new development which creates or locates vibration sensitive uses in such a place that they are impacted by ground-borne vibration and noise.

The following thresholds for ground-borne vibration impacts have been established by the County of San Diego Noise Guidelines for Determining Significance (County of San Diego 2009a). Impacts are considered significant if project implementation would expose uses listed in Table 9 to ground-borne vibration levels equal to or in excess of the levels shown.

Table 9 Guideline for Determining the Significance of Ground-Borne Vibration and Noise Impacts

	Ground-Borne Vibration Impact Levels (inches/sec rms)		Ground-Borne Noise Impact Levels (dB re 20 micro Pascals)	
Land Use Category	Frequent Events[1]	Occasional or Infrequent Events[2]	Frequent Events[1]	Occasional or Infrequent Events[2]
Category 1: Buildings where low ambient vibration is essential for interior operations. (research & manufacturing facilities with special vibration constraints)	0.0018[3]	0.0018[3]	Not Applicable[5]	Not Applicable[5]
Category 2: Residences and buildings where people normally sleep. (hotels, hospitals, residences, & other sleeping facilities)	0.0040	0.010	35 dBA	43 dBA
Category 3: Institutional land uses with primarily daytime use. (schools, churches, libraries, other institutions, & quiet offices)	0.0056	0.014	40 dBA	48 dBA

[1] "Frequent Events" is defined as more than 70 vibration events per day. Most rapid transit projects fall into this category.

[2] "Occasional or Infrequent Events" are defined as fewer than 70 vibration events per day. This combined category includes most commuter rail systems.

[3] This criterion limit is based on levels that are acceptable for most moderately sensitive equipment such as optical microscopes. Vibration sensitive manufacturing or research will require detailed evaluation to define acceptable vibration levels. Ensuring lower vibration levels in a building often requires special design of the heating, ventilation, and air conditioning (HVAC) systems and stiffened floors.

[4] Vibration-sensitive equipment is not sensitive to ground-borne noise. Guidelines for Determining Significance for 14 Noise

[5] There are some buildings, such as concert halls, TV and recording studios, and theaters that can be very sensitive to vibration and noise but do not fit into any of the three categories.

[6] For Categories 2 and 3 with occupied facilities, isolated events such as blasting are significant when the peak particle velocity (PPV) exceeds one inch per second. Non-transportation vibration sources such as impact pile drivers or hydraulic breakers are significant when their PPV exceeds 0.1 inch per second. More specific criteria for structures and potential annoyance were developed by Caltrans (2004) and will be used to evaluate these continuous or transient sources in San Diego County

Source: County of San Diego 2009a

4.2 Potential Operational Vibration Impacts

4.2.1 Potential Operational Vibration Impacts without Mitigation

Operation of the project would not include any substantial vibration sources. Therefore, operational vibration impacts would be less than significant.

4.2.2 Design Considerations and Mitigation Measures

Because impacts would be less than significant, no design considerations or mitigation measures are necessary for the project for this impact issue.

4.3 Potential General Construction Vibration Impacts

4.3.1 Potential General Construction Vibration Impacts without Mitigation

Construction activities known to generate excessive ground-borne vibration, such as pile driving, would not be conducted by the project. The greatest anticipated source of vibration during general project construction activities would be from a dozer, which may be used within 25 feet of the nearest off-site sensitive receivers (multi-family residences) to the east when accounting for setbacks. A dozer would create approximately 0.089 in/sec PPV at a distance of 25 feet (Caltrans 2020). This would equal a vibration level of approximately 87 VdB and 0.022 in/sec RMS. While this would exceed the standards shown in Table 9, those standards would only apply if construction was occurring at nighttime (as Category 2 is for uses where sleeping may be occurring), for Category 3 buildings where quiet study is required (e.g., classrooms and libraries) or for Category 1 buildings where laboratory uses are located. Construction is not occurring at nighttime, and therefore Category 2 limits would not apply; none of the Category 1 or 3 uses would be located near the project site, and therefore those limits would not apply. In addition, the vibration level of 0.089 in/sec PPV would be lower than typical Caltrans thresholds used by other agencies of a distinctly perceptible impact for humans of 0.24 In/sec PPV and the structural damage impact to residential structures of 0.2 In/sec PPV. Therefore, although a dozer may be perceptible to nearby human receivers, temporary impacts associated with the dozer (and other potential equipment) would be less than significant.

4.3.2 Design Considerations and Mitigation Measures

Because impacts would be less than significant, no design considerations or mitigation measures are necessary for the project for this impact issue.

5 Summary of Project Impacts, Design Considerations, Mitigation & Conclusion

Noise at the project site is primarily from traffic on East Bradley Avenue. The project's outdoor living areas would experience noise levels as high as 49 CNEL, which would be below the 60 CNEL exterior noise standard applicable to the project. Interior noise levels would range from 10 CNEL to 45 CNEL. These levels are below the County of San Diego's 45 CNEL standard for interior noise levels and impacts would be less than significant.

The project would generate up to 263 ADT (LLG 2021). Adding this traffic to the existing SANDAG 2016 traffic volume of 15,900 ADT would result in an increase of approximately 0.1 CNEL. Therefore, the project would not increase noise by more than 3 CNEL and impacts would be less than significant.

The project would introduce sources of operational noise to the area, including HVAC and PTAC units and a new emergency generator. The generator would be tested twice a month for 30 minutes at a time during the daytime. Operational noise during the daytime (HVAC/PTAC units and generator) and nighttime (HVAC/PTAC units) would not exceed the applicable County noise standards at the property line. Therefore, operational noise impacts would be less than significant.

The Project Applicant has indicated that five pieces of construction equipment would be operating during the site preparation and grading phases: backhoe, hi-lift (a type of front-end loader), sheepsfoot roller, dozer, and trackhoe (similar to an excavator). Based on RCNM, at a distance of 137.5 feet, these five pieces of equipment would generate a noise level of 74 dBA $L_{eq\ (8\text{-}hour)}$; therefore, noise levels would not exceed the County's 75 dBA $L_{eq\ (8\text{-}hour)}$ threshold when performed at an average distance of 137.5 feet to nearby residential properties. As stated above, the equipment would operate as close as 25 feet to the occupied residential properties; at this distance, maximum construction noise levels would reach up to 88 dBA L_{max}, which would exceed the County's 82 dBA L_{max} noise threshold. The approximate distance in which construction noise levels would not exceed 82 dBA L_{max} would be 50 feet. Therefore, if construction occurs within 50 feet of the nearby residential properties, construction impacts would be potentially significant. This would be reduced to below a level of significance with Mitigation Measure NOI-1 through the implementation of temporary sound barriers/blankets between the construction area and adjacent noise-sensitive receivers.

Operation of the project would not involve any substantial vibration sources and no impacts would occur. Construction of the project would generate vibration; however, these vibration levels would not exceed the applicable standards.

6 Certification

The contents of this report represent an accurate depiction of the noise environment and impacts within and surrounding the proposed project site. This report was prepared utilizing project-appropriate analytical methodologies and modeling programs established by the County of San Diego's Department of Planning and Land Use.

This report was prepared by Bill Vosti of Rincon Consultants, Inc. The statements furnished in this report and associated figures are true and correct to the best of my knowledge and belief.

Bill Vosti, County-Approved Noise Consultant

7/26/2023
Date

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Appendix A

Site Noise Measurements

Appendix B

Generator Specifications

Appendix C

HVAC Specifications

Appendix D

PTAC Specifications

Appendix E

RCNM Calculations

Appendix F

Temporary Noise Barrier Specifications