

NOISE ASSESSMENT

**Ramona Hotel Development
PDS2023-ER-23-09-002
Ramona, CA**

Lead Agency:

**County of San Diego
Planning & Development Services
5510 Overland Avenue #110
San Diego, CA 92123**

Prepared by:

**Jeremy Loudon
Ldn Consulting, Inc.
42428 Chisolm Trail
Murrieta, CA 92562
760-473-1253**

Prepared For:

**Woodcrest Real Estate Ventures
P.O. Box 823
Ramona, CA 92065**

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GLOSSARY OF COMMON TERMS

Sound Pressure Level (SPL): a ratio of one sound pressure to a reference pressure (L_{ref}) of 20 μ Pa. Because of the dynamic range of the human ear, the ratio is calculated logarithmically by $20 \log (L/L_{ref})$.

A-weighted Sound Pressure Level (dBA): Some frequencies of noise are more noticeable than others. To compensate for this fact, different sound frequencies are weighted more.

Minimum Sound Level (L_{min}): Minimum SPL or the lowest SPL measured over the time interval using the A-weighted network and slow time weighting.

Maximum Sound Level (L_{max}): Maximum SPL or the highest SPL measured over the time interval the A-weighted network and slow time weighting.

Equivalent sound level (L_{eq}): the true equivalent sound level measured over the run time. L_{eq} is the A-weighted steady sound level that contains the same total acoustical energy as the actual fluctuating sound level.

Day Night Sound Level (LDN): Representing the Day/Night sound level, this measurement is a 24 –hour average sound level where 10 dB is added to all the readings that occur between 10 pm and 7 am. This is primarily used in community noise regulations where there is a 10 dB “Penalty” for nighttime noise. Typically, LDN’s are measured using A weighting.

Community Noise Exposure Level (CNEL): The accumulated exposure to sound measured in a 24-hour sampling interval and artificially boosted during certain hours. For CNEL, samples taken between 7 pm and 10 pm are boosted by 5 dB; samples taken between 10 pm and 7 am are boosted by 10 dB.

Octave Band: An octave band is defined as a frequency band whose upper band-edge frequency is twice the lower band frequency.

Third-Octave Band: A third-octave band is defined as a frequency band whose upper band-edge frequency is 1.26 times the lower band frequency.

Response Time (F,S,I): The response time is a standardized exponential time weighting of the input signal according to fast (F), slow (S) or impulse (I) time response relationships. Time response can be described with a time constant. The time constants for fast, slow and impulse responses are 1.0 seconds, 0.125 seconds and 0.35 milliseconds, respectively.

EXECUTIVE SUMMARY

This noise study has been completed to determine the noise impacts associated with the development of the proposed project. The Ramona Hotel project is located at 2021 Main Street in Ramona. The Ramona Hotel project consists of a two-story 59,451 square-foot hotel consisting of 101 guest rooms and a pool area situated on an approximately 3.26-acre project site. The project site is located north along Main Street between Letton Street and Julian Street within the Ramona Community Planning Area, within unincorporated San Diego County.

- **Off-Site Traffic Noise Analysis**

The project does not directly or cumulatively create a noise level increase of more than 3 dBA CNEL on any roadway segment. Therefore, the proposed project's direct and cumulative contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future noise sensitive land uses.

- **Construction Noise Analysis**

The grading equipment would be spread out over the project site from distances near the occupied property to distances of 300-feet or more away. Based upon the proposed site plan, most of the combined grading operations would be more than 200-feet away from the adjacent property lines. It was determined that at average distances over 200-feet the grading activities are anticipated not to exceed the County's 75 A-weighted decibel (dBA) standard and would not require any mitigation measures. Since most of the time the average distance from all the equipment to the occupied properties is more than 200-feet no impacts are anticipated. Additionally, no offsite construction is proposed.

No blasting or rock crushing is anticipated during the grading operations. Therefore, no impulsive noise sources are expected and the Project would comply with Section 36.410 of the County Noise Ordinance.

- **Operational Analysis**

Based upon the property line noise levels determined above none of the proposed noise sources directly or cumulatively exceeds the ambient conditions and property line standards at the shared hotel and residential property lines. Therefore, the proposed hotel development related operational noise levels comply with the daytime and nighttime noise standards at the residences. No Impacts are anticipated and no mitigation is required.

1.0 INTRODUCTION

1.1 Project Description

This noise study was completed to determine the noise impacts associated with the development of the proposed project. The proposed development site is located at 2021 Main Street within the community of Ramona, CA. The Project is located north along Main Street between Letton Street and Julian Street. Access to the Project site is provided along Main Street. A general project vicinity map is shown in Figure 1-A on the following page.

The existing site is 3.26-acres in the Ramona Community Plan Area in unincorporated San Diego County. The hotel consists of a two-story 59,451 square-foot hotel building consisting of 101 guest rooms and a pool area. The project site plan is shown in Figure 1-B.

1.2 Environmental Settings & Existing Conditions

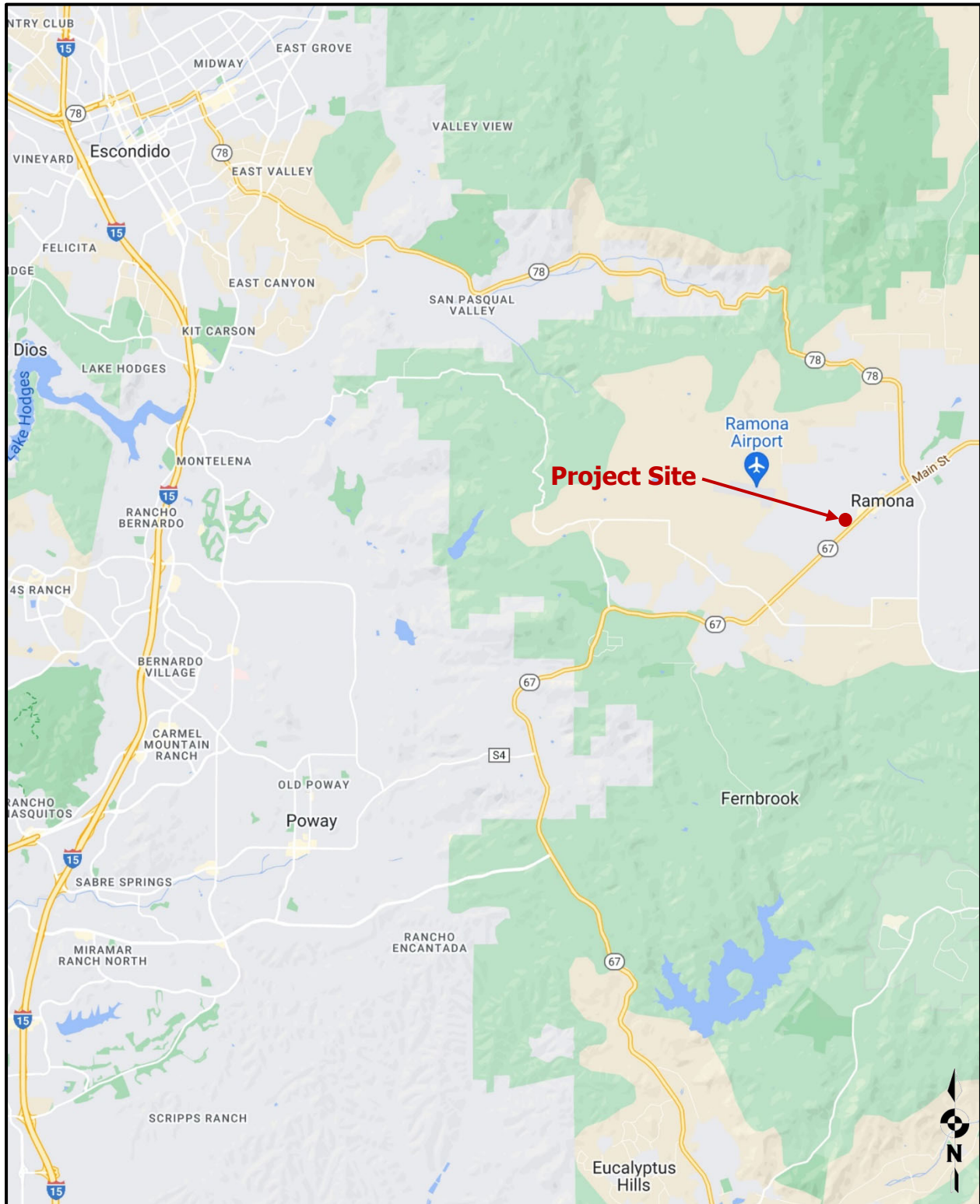
a) Settings & Locations

The project site is currently utilized as existing retail uses and vehicle storage. The site and the surrounding land uses to the east and west have a General Plan Designation of General Commercial. The residential land uses to the north across Vermont Street have a land use designation of Semi-Rural Residential. The project site and the properties to the east and west are zoned RM-V4. The properties to the north across Vermont Street are zoned RMV3. Existing retail uses are located on the site.

b) Existing Noise Conditions

Existing noise occurs from vehicle traffic along adjacent Main Street (SR-67). Main Street is classified as a Major Road with a current speed limit of 45 MPH.

Figure 1-A: Project Vicinity Map



Source: Google, 2023

[illegible]

22-159 Ramona Hotel Noise

1.3 Methodology

Noise is generally unwanted or annoying sound which interferes with or disrupts normal activities. Exposure to high noise levels has been demonstrated to cause hearing loss. The individual human response to environmental noise is based on the sensitivity of that individual, the type of noise that occurs and when the noise occurs. Sound is measured on a logarithmic scale consisting of sound pressure levels known as a decibel (dB). The sounds heard by humans typically do not consist of a single frequency but of a broadband of frequencies having different sound pressure levels. The method for evaluating all the frequencies of the sound is to apply an A-weighting to reflect how the human ear responds to the different sound levels at different frequencies. This is commonly referred to as dBA. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as Leq represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval.

The U.S. Environmental Protection Agency (U.S. EPA) has compiled data regarding the noise generating characteristics of specific types of construction equipment. Noise levels generated by heavy construction equipment can range from 60 dBA to in excess of 100 dBA when measured at 50 feet. However, these noise levels diminish rapidly with distance at a rate of approximately 6 dBA per doubling of distance. For example, a noise level of 75 dBA measured at 50 feet from the noise source to the receptor would be reduced to 69 dBA at 100 feet from the source to the receptor and reduced to 63 dBA at 200 feet from the source.

The most effective noise reduction methods consist of controlling the noise at the source, blocking the noise transmission with barriers or relocating the receiver. Any or all of these methods may be required to reduce noise levels to an acceptable level.

2.0 NOISE SENSITIVE LAND USES (NSLU)

2.1 Guidelines for the Determination of Significance

The County's General Plan Chapter 8 Noise Element uses the Noise Compatibility Guidelines listed in Table N-1 of the General Plan Noise Element (provided below) to determine the compatibility of land use when evaluating proposed development projects. The Noise Compatibility Guidelines indicate ranges of compatibility and are intended to be flexible enough to apply to a range of projects and environments. For example, a commercial project would be evaluated differently than a residential project in a rural area or a mixed-use project in a more densely developed area of the County.

TABLE N-1: NOISE COMPATIBILITY GUIDELINES (CNEL)

Table N-1 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*	Schools, churches, hospitals, nursing homes, child care facilities							
E*	Passive recreational parks, nature preserves, contemplative spaces, cemeteries							
F*	Active parks, golf courses, athletic fields, outdoor spectator sports, water recreation							
G*	Office/professional, government, medical/dental, commercial, retail, laboratories							
H*	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 N-2, Noise Standards. If a project cannot mitigate noise to a level deemed Acceptable, the appropriate county 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.							

* Denotes facilities used for part of the day; therefore, an hourly standard would be used rather than CNEL (refer to Table N-2).

Note: 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.

A land use located in an area identified as “acceptable” indicates that standard construction methods would attenuate exterior noise to an acceptable indoor noise level and that people can carry out outdoor activities with minimal noise interference. Land uses that fall into the “conditionally acceptable” noise environment should have an acoustical study that considers the type of noise source, the sensitivity of the noise receptor, and the degree to which the noise source may interfere with sleep, speech, or other activities characteristic of the land use. For land uses indicated as “conditionally acceptable,” structures must be able to attenuate the exterior noise to the indoor noise level as indicated in the Noise Standards listed in Table N-2 of the General Plan Noise Element (provided below). For land uses where the exterior noise levels fall within the “unacceptable” range, new construction generally should not be undertaken.

TABLE N-2: NOISE STANDARDS

Table N-2 Noise Standards ^{Note}
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 which 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 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 N-1 or an equivalent one-hour noise standard.

Note: Exterior Noise Level compatibility guidelines for Land Use Categories A-H are identified in Table N-1, Noise Compatibility Guidelines.

2.2 Off-site Noise Impacts

To determine if direct or cumulative off-site noise level increases associated with the development of the proposed project would create noise impacts, the traffic volumes for the existing conditions were compared with the traffic volume increase of existing plus the proposed project. According to the project traffic study, the project is estimated to only generate 455 daily trips with a peak hour volume of 37 trips, with traffic only along Main Street (*Source: Colonnade on Main Street Hotel Project Traffic Memorandum, Darnell & Associates, 2022*). The existing average daily traffic (ADT) volumes on Main Street is 24,176 ADT at the project frontage. Typically, it requires a project to double (or add 100%) the traffic volumes to have a direct impact of 3 dBA CNEL or be a major contributor to the cumulative traffic volumes. The project will add less than a 2% increase to the exiting roadway volumes and no direct or cumulative impacts are anticipated.

2.3 Conclusions

The project does not directly or cumulatively create a noise level increase of more than 3 dBA CNEL on any roadway segment. Therefore, the proposed project's direct and cumulative contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future noise sensitive land uses.

3.0 CONSTRUCTION ACTIVITIES

3.1 Guidelines for the Determination of Significance

Construction Noise: Noise generated by construction activities related to the project would be significant if exceeding the standards listed in San Diego County Code Sections as follows:

SEC. 36.408: HOURS OF OPERATION OF CONSTRUCTION EQUIPMENT

Except for emergency work, it shall be unlawful for any person to operate or cause to be operated, construction equipment:

- a. Between 7 p.m. and 7 a.m.
- b. On a Sunday or a holiday. For purposes of this section, a holiday means January 1st, the last Monday in May, July 4th, the first Monday in September, December 25th and any day appointed by the President as a special national holiday or the Governor of the State as a special State holiday. A person may, however, operate construction equipment on a Sunday or holiday between the hours of 10 a.m. and 5 p.m. at the person's residence or for the purpose of constructing a residence for himself or herself, provided that the operation of construction equipment is not carried out for financial consideration or other consideration of any kind and does not violate the limitations in sections 36.409 and 36.410.

SEC. 36.409: SOUND LEVEL LIMITATIONS ON CONSTRUCTION EQUIPMENT

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 decibels for an eight-hour period, between 7 a.m. and 7 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.

SEC. 36.410: SOUND LEVEL LIMITATIONS ON IMPULSIVE NOISE

In addition to the general limitations on sound levels in section 36.404 and the limitations on construction equipment in section 36.409, the following additional sound level limitations shall apply:

- (a) 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 36.410A (provided below), 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, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 36.410A are as described in the County Zoning Ordinance.

TABLE 36.410A: MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS (dBA)

OCCUPIED PROPERTY USE	DECIBELS (dBA)
Residential, village zoning or civic use	82
Agricultural, commercial or industrial use	85

- (b) Except for emergency work, no person working on a public road project shall produce or cause to be produced an impulsive noise that exceeds the maximum sound level shown in Table 36.410B, 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, as described in subsection (c) below. The maximum sound level depends on the use being made of the occupied property. The uses in Table 36.410B are as described in the County Zoning Ordinance.

TABLE 36.410B: MAXIMUM SOUND LEVEL (IMPULSIVE) MEASURED AT OCCUPIED PROPERTY IN DECIBELS (dBA) FOR PUBLIC ROAD PROJECTS

OCCUPIED PROPERTY USE	dB(A)
Residential, village zoning or civic use	85
Agricultural, commercial or industrial use	90

- (c) The minimum measurement period for any measurements conducted under this section shall be one hour. During the measurement period a measurement shall be conducted every minute from a fixed location on an occupied property. The measurements shall 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.

3.2 Potential Property Line Noise Impacts

a) Potential Build Out Noise Conditions

Construction noise represents a short-term impact on the ambient noise levels. Noise generated by construction equipment includes haul trucks, water trucks, graders, dozers, loaders and scrapers can reach relatively high levels. Grading activities typically represent one of the highest potential sources for noise impacts. The most effective method of controlling construction noise is through local control of construction hours and by limiting the hours of construction to normal weekday working hours.

b) Potential Noise Impact Identification

Using a point-source noise prediction model, calculations of the expected construction noise impacts were completed. The essential model input data for these performance equations include the source levels of each type of equipment, relative source to receiver horizontal and vertical separations, the amount of time the equipment is operating in a given day, also referred to as the duty-cycle and any transmission loss from topography or barriers.

Based on empirical data and the amount of equipment needed, the highest noise levels from construction would occur during the grading operations. In order to determine the most conservative scenario for the grading activities, all the equipment was modeled in a common location, which is not physically possible. As can be seen in Table 3-1, if all the equipment were placed together, the cumulative grading activities noise levels would be 81.4 dBA.

Due to the size constraints of the project site, the equipment would be spread out over the project site as close as 60-feet from the nearest residences along the northern property line, to further than 300-feet at the southern property line. The center of the project site is located approximately 200-feet from the existing residences to the north. Therefore, the construction noise would be an average of 200-feet from the residences over an 8-hour period. At average distances of 200-feet the noise levels would be reduced 12.0 dBA and the grading activities are anticipated not to exceed the County's 75-dBA standard and would not require any mitigation measures. This means that most of the time the average distance from the equipment to the occupied properties is more than 200-feet and in that situation no impacts are anticipated. Additionally, no offsite construction is proposed.

Table 3-1: Construction Noise Levels

Construction Equipment	Quantity	Source Level @ 50-Feet (dBA)¹	Duty Cycle (Hours/Day)	Cumulative Noise Level @ 50-Feet (dBA)
Paver/Blade	1	75	8	75.0
Tractor/Backhoe	2	74	8	77.0
Loader/Grader	1	73	8	73.0
Water Trucks	1	70	8	70.0
Roller/Compactor	1	74	8	74.0
Cumulative Levels @ 50 Feet				81.4
Distance to Property Line (Feet)				200
Noise Reduction Due to Distance				-12.0
NEAREST PROPERTY LINE NOISE LEVEL				69.4
¹ Source: U.S. Environmental Protection Agency (U.S. EPA), 1971 and Empirical Data				

No blasting or rock crushing is anticipated during the grading operations. Therefore, no impulsive noise sources are expected and the Project is anticipated to comply with Section 36.410 of the County Noise Ordinance and no further analysis is required.

3.3 Conclusions

The grading equipment would be spread out over the project site from distances near the occupied property to distances of 300-feet away. Based upon the proposed site plan, most of the combined grading operations would be more than 200-feet away from the adjacent property lines. It was determined that at average distances over 200-feet the grading activities are anticipated not to exceed the County's 75-dBA standard and would not require any mitigation measures. Since most of the time the average distance from all the equipment to the occupied properties is more than 100-feet, no impacts are anticipated. Additionally, no offsite construction is proposed.

No blasting or rock crushing is anticipated during the grading operations. Therefore, no impulsive noise sources are expected and the Project would comply with Section 36.410 of the County Noise Ordinance.

4.0 OPERATIONAL ACTIVITIES

4.1 Guidelines for the Determination of Significance

Section 36.404 of the County of San Diego noise ordinance provides performance standards and noise control guidelines for determining and mitigating non-transportation, or stationary, noise source impacts to adjacent properties. The purpose of the noise ordinance is to protect, create and maintain an environment free from noise and vibration that may jeopardize the health or welfare, or degrade the quality of life. The sound level limits in Table 36.404 of the County's Noise Ordinance are provided below in Table 4-1.

Table 4-1: Property Line Sound Level Limits in Decibels (dBA)

Zone	Time	One-Hour Average Sound Level Limits (dBA)
(1) RS, RD, RR, RMH, A70, A72, S80, S81, S87, S90, S92, RV, and RU with a density of less than 11 dwelling units per acre.	7 a.m. to 10 p.m.	50
	10 p.m. to 7 a.m.	45
(2) RRO, RC, RM, S86, V5, RV and RU with a density of 11 or more dwelling units per acre.	7 a.m. to 10 p.m.	55
	10 p.m. to 7 a.m.	50
(3) S94, V4, and all commercial zones.	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	55
(4) V1, V2	7 a.m. to 7 p.m.	60
V1, V2	7 p.m. to 10 p.m.	55
V1	10 p.m. to 7 a.m.	55
V2	10 p.m. to 7 a.m.	50
V3	7 a.m. to 10 p.m.	70
	10 p.m. to 7 a.m.	65
(5) M50, M52, and M54	Anytime	70
(6) S82, M56, and M58.	Anytime	75
(7) S88 (see subsection (c) below)		

Source: County of San Diego Noise Ordinance Section 36.404

- Except as provided in section 36.409 of this chapter, it shall be unlawful for any person to cause or allow the creation of any noise, which exceeds the one-hour average sound level limits in Table 36.404, when the one-hour average sound level is measured 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.
- Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit, which authorizes the noise-generating use or activity and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, implementation and compliance with those noise mitigation measures shall constitute compliance with subsection (a) above.
- S88 zones are Specific Planning Areas which allow different uses. The sound level limits in Table 36.404 above

that apply in an S88 zone depend on the use being made of the property. The limits in Table 36.404, subsection (1) apply to property with a residential, agricultural or civic use. The limits in subsection (3) apply to property with a commercial use. The limits in subsection (5) apply to property with an industrial use that would only be allowed in an M50, M52 or M54 zone. The limits in subsection (6) apply to all property with an extractive use or a use that would only be allowed in an M56 or M58 zone.

- d) If the measured ambient noise level exceeds the applicable limit in Table 36.404, the allowable one-hour average sound level shall be the one-hour average ambient noise level, plus three decibels. The ambient noise level shall be measured when the alleged noise violation source is not operating.
- e) The sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. The one-hour average sound level limit applicable to extractive industries, however, including but not limited to borrow pits and mines, shall be 75 decibels at the property line regardless of the zone in which the extractive industry is located.
- f) A fixed-location public utility distribution or transmission facility located on or adjacent to a property line shall be subject to the sound level limits of this section measured at or beyond six feet from the boundary of the easement upon which the facility is located.

According to the stationary source exterior noise standards, no person shall operate any source of sound at any location within the County or allow the creation of any noise on a property which causes the noise levels to exceed the exterior noise limits at the property boundary. Additionally, Section 36.404(e) states that the sound level limits at a location on a boundary between two zones are the arithmetic mean of the respective limits for the two zones.

4.2 Potential Noise Impacts

This section examines the potential stationary noise source impacts associated with the development and operation of the proposed project. The Project site and surrounding sites to the east and west have a General Plan Land Use Designation as General Commercial which is compatible with the RM-V3 zoning. The residential land uses to the north across Vermont Street have a land use designation of Semi-Rural Residential with a zoning of RM-V4. The Project and surrounding zoning is shown in Figure 4-A on the following page.

Section 36.404 of the Noise Ordinance states that the sound level limit at a location on a boundary between two zones is the arithmetic mean of the respective limits for the two zones. Section 36.404 sets an operational exterior noise limit of 60 decibels (dBA) from 7 a.m. to 10 p.m. and 55 decibels (dBA) from 10 p.m. to 7 a.m. for the commercial property and a 50 dBA Leq for daytime hours of 7 a.m. to 10 p.m. and 45 dBA Leq during the nighttime hours of 10 p.m. to 7 a.m. for the residential noise sensitive land uses as shown in Table 4-1 above.

It should be noted: the hours of operation for the outdoor pool area will only occur during the daytime. The only noise source that may occur during the nighttime hours would be the HVAC units. The hourly property line standards, for both the daytime and nighttime hours, arithmetic mean per Section 36.404 (e) for each adjacent use is provided below in Table 4-2.

Figure 4-A: Project Site Area Zoning

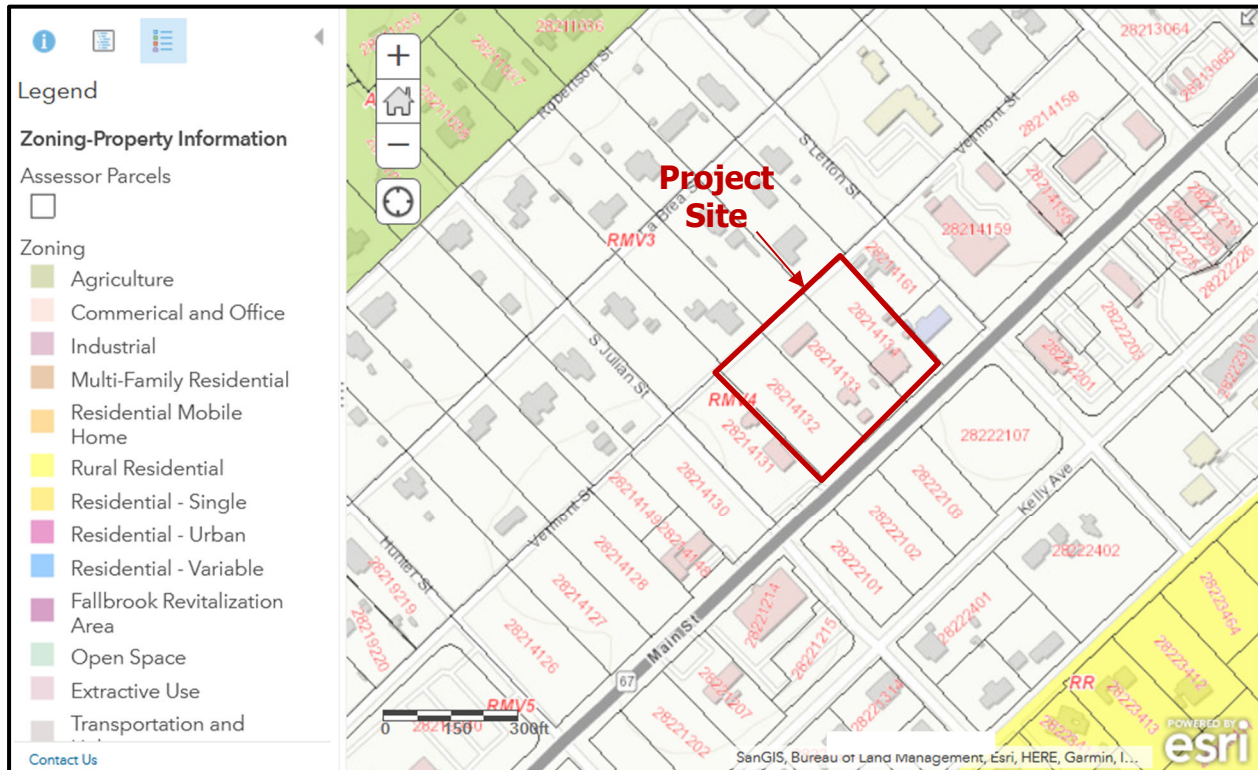


Table 4-2: Project Property Line Sound Level Limits in Decibels (dBA)

Property Line	Adjacent Land Use Zone	Adjacent Property Line Standard	Project's Property Line Standard	Section 36.404(e) Standard (Arithmetic Mean)*
Daytime Standards 7 a.m. to 7 p.m.				
North	RS	50	60	55
South	C-1	60	60	60
East	C-1	60	60	60
West	C-1	60	60	60
Nighttime Standards 10 p.m. to 7 a.m.				
North	RS	45	55	50
South	C-1	55	55	55
East	C-1	55	55	55
West	C-1	55	55	55
* Property line standards applied in this analysis.				

A review of the proposed project indicates that noise sources such as the on-site pool operations and mechanical ventilation system (HVAC) are the primary sources of stationary noise.

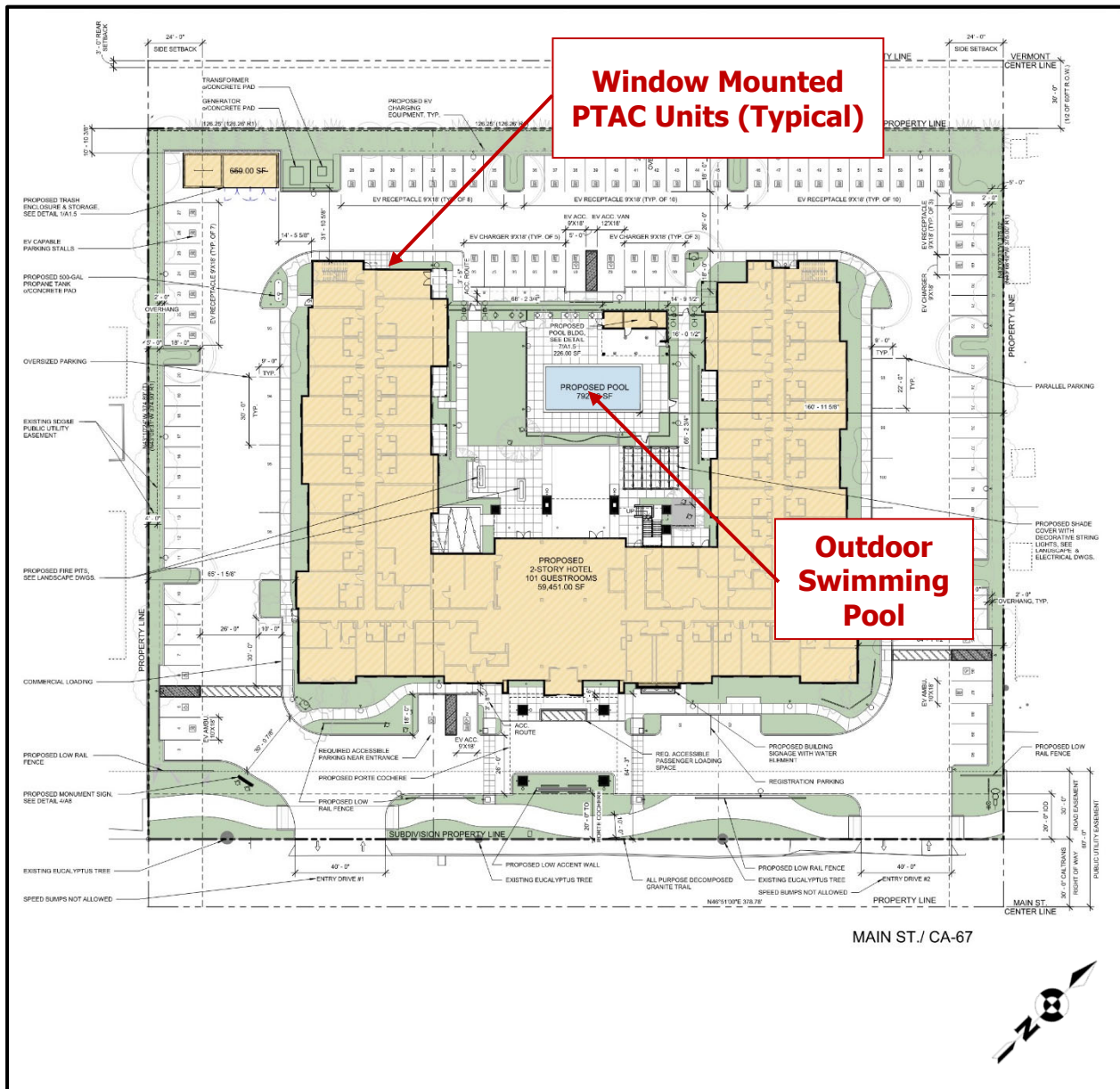
The typical locations of the community pool area and the HVAC noise sources are shown in Figure 4-B. This section provides a detailed description of the reference noise level measurement results. It is important to note that the following projected noise levels assume the worst-case noise environment with window mounted mechanical ventilation (HVAC) all occurring at the same time. In reality, these noise levels will vary throughout the day. The mechanical ventilation may operate during nighttime hours and the operational hours of the outdoor swimming areas may be limited.

4.3 Reference Noise Levels

This section provides a detailed description of the reference noise level measurement results. It is important to note that the following projected noise levels assume the worst-case noise environment with the pool equipment and window mounted mechanical ventilation (HVAC) all occurring at the same time. In reality, these noise levels will vary throughout the day. The mechanical ventilation may operate during nighttime hours.

The Project must meet the most restrictive arithmetic mean daytime and evening standards of 55.0 dBA and 50.0 dBA at the assumed residential property lines as shown in Table 4-2 above. Each anticipated noise source is provided in more detail below to determine if direct noise impacts will occur. A cumulative noise level analysis with associated distances, noise reductions and calculations of the proposed sources is provided at the end of this section along with a table showing the individual noise sources and their associated property line noise levels.

Figure 4-B: Noise Source Locations



Pool Equipment Noise Levels

To determine the noise environment and to assess potential noise impacts, noise measurements were taken at an existing pool facility at the Cal-a-Vie Health Spa, located at 29402 Spa Haven Way, Vista, CA 92084. The measurements consisted of two 15 horsepower pool pumps and associated filtration pumps, which would be considered a worst-case configuration for the proposed development. All equipment was fully operational during the measurements. The short term measurements of the onsite pump operations and equipment was determined to be 57.8 dBA Leq at a distance of 25-feet.

Pool Activity Noise Levels

Noise level measurements of typical daily operations of outdoor pool activities was taken at the San Diego YMCA facility located in Oceanside on September 13th, 2009. The Oceanside YMCA measurement consisted of open swimming activities of 25 children in the main pool area. The measured noise levels from the existing facility were amortized over an hour and found to have a worst case noise level of 68.8 dBA Leq at a distance of 20-feet. The pool equipment noise levels were combined with the pool activities noise levels resulting in a cumulative noise reference level for the community pool areas of 67.4 dBA Leq at a distance of 25-feet.

Air Conditioning Units

Each hotel room would have individual temperature control units mounted below the exterior window. These heat pump systems, commonly referred to as PTAC units, have a sound level rating of 52.6 dBA at a distance of 9-feet (Source: Amana PTAC, 2008). The hotel would require up to 32 PTAC units uniformly spread out along the northern façade. The hotel could require two larger HVAC units for the public areas with a cooling capacity of 18 tons having a reference noise level of 76 dBA at 3-feet (Source: Lennox Commercial HVAC Units – October, 2005).

Even though the mechanical ventilation system will cycle on and off throughout the day, this approach presents the worst-case noise condition. Additionally, although the PTAC units would be uniformly distributed along the building façade, the units were conservatively assumed to be sourced at a single location.

4.4 Cumulative Project Noise Levels

It is possible to calculate the cumulative noise levels from the proposed project along the residential property line from each of the proposed noise sources. Although not all the noise sources are close enough to each other in distance or sound level to create a cumulative effect this method is considered ultra conservative in determining impact potential. The cumulative noise levels are calculated at the northern property line in Tables 4-3 and 4-4. These projections include the pool equipment and activity noise and noise from the HVAC units and their respective distances.

Table 4-3 presents the cumulative noise levels at the northern property line from the proposed commercial development during the daytime hours when the pool is open. The cumulative nighttime hourly noise levels from the HVAC units at the property line is provided in Table 4-4. As can be seen in Table 4-3 and 4-4, the operational noise levels will comply with the County's property line noise standards and no mitigation is required.

Table 4-3: Cumulative Daytime Noise Levels – Northern Property Line

Source	Distance To Observer Location (Feet)	Hourly Reference Noise Level (dBA)	Noise Source Reference Distance (Feet)	Noise Reduction Due to Distance (dBA)	Quantity	Property Line Cumulative Noise Level (dBA)*
18-Ton HVAC	280	76.0	3	-39.4	2	39.6
PTAC Units	120	52.6	9	-22.5	32	45.1
Pool Activities	168	67.4	25	-16.5	1	50.9
Cumulative Noise Level @ Property Line (dBA)						52.1
Daytime Noise Standard (dBA)						55
Complies						YES
* Threshold is based on the arithmetic mean of two varying use and activities will only occur during the daytime hours.						

Table 4-4: Cumulative Nighttime Noise Levels – Northern Property Line

Source	Distance To Observer Location (Feet)	Hourly Reference Noise Level (dBA)	Noise Source Reference Distance (Feet)	Noise Reduction Due to Distance (dBA)	Quantity	Property Line Cumulative Noise Level (dBA)*
18-Ton HVAC	280	76.0	3	-39.4	2	39.6
PTAC Units	120	52.6	9	-22.5	32	45.1
Cumulative Noise Level @ Property Line (dBA)						46.2
Daytime Noise Standard (dBA)						50
Complies						YES
* Threshold is based on the arithmetic mean of two varying use and activities will only occur during the daytime hours.						

4.5 Conclusions

Based upon the property line noise levels determined above none of the proposed noise sources directly or cumulatively exceeds the ambient conditions and property line standards at the shared hotel and residential property lines. Therefore, the proposed hotel development related operational noise levels comply with the daytime and nighttime noise standards at the residences. No Impacts are anticipated and no mitigation is required.

5.0 SUMMARY OF PROJECT IMPACTS, MITIGATION & CONCLUSIONS

- Off-Site Traffic Noise Analysis

The project does not directly or cumulatively create a noise level increase of more than 3 dBA CNEL on any roadway segment. Therefore, the proposed project's direct and cumulative contributions to off-site roadway noise increases will not cause any significant impacts to any existing or future noise sensitive land uses.

- Construction Noise Analysis

The grading equipment would be spread out over the project site from distances near the occupied property to distances of 300-feet away. Based upon the proposed site plan, most of the combined grading operations would be more than 200-feet away from the adjacent property lines. It was determined that at average distances over 200-feet the grading activities are anticipated not to exceed the County's 75 A-weighted decibel (dBA) standard and would not require any mitigation measures. Since most of the time the average distance from all the equipment to the occupied properties is more than 200-feet no impacts are anticipated. Additionally, no offsite construction is proposed.

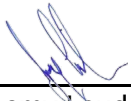
No blasting or rock crushing is anticipated during the grading operations. Therefore, no impulsive noise sources are expected and the Project would comply with Section 36.410 of the County Noise Ordinance.

- Operational Analysis

Based upon the property line noise levels determined above none of the proposed noise sources directly or cumulatively exceeds the ambient conditions and property line standards at the shared hotel and residential property lines. Therefore, the proposed hotel development related operational noise levels comply with the daytime and nighttime noise standards at the residences. No Impacts are anticipated and no mitigation is required.

6.0 CERTIFICATIONS

The contents of this report represent an accurate depiction of the future acoustical environment and impacts within and surrounding the Commercial development. The report was prepared by Jeremy Loudon; a County approved CEQA Consultant for Acoustics.



Jeremy Loudon
Principal
Ldn Consulting, Inc.
760-473-1253

Date March 25, 2026