NOISE ASSESSMENT

Jamul Commercial Development
Jamul, CA

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July 19, 2018

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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 µPa. 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. Leq 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 night time 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. Jamul Commercial project located at 3018 Jefferson Road in Jamul. The Jamul Commercial project consists of a Tractor Supply Company store of 18,800 square feet (SF) and separate self-storage facility with up to 600 storage units/vaults and up to 0.5 acres of outdoor RV/Boat parking. The project site is located at 3018 Jefferson Road in the County of San Diego within the Community of Jamul, California.

- Construction Noise Analysis

  The grading equipment would be spread out over the project site from distances near the occupied property to distances of 700-feet away. Based upon the proposed site plan, most of the combined grading operations would be more than 150-feet away from the adjacent property lines. It was determined that at average distances over 150-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 150-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 property line standards at the shared commercial and residential property lines. The noise levels associated with the roof-top mechanical ventilation system would be limited with the proposed parapet walls on the building that would vary in height but will be roughly 1-foot higher than the Heating, Ventilation, and Air Conditioning (HVAC) units to shield them both visually and acoustically. Hence, the parapet wall would block the line-of-sight from the adjacent property lines. Therefore, the proposed commercial development related operational noise levels comply noise standards at the property lines. 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 commercial development. The proposed development site is located at 3018 Jefferson Road in the County of San Diego within the Community of Jamul, California. The Project is located along the west side of Jefferson Road just south of Lyons Valley Road and northeast of Campo Road. Access to the Project site is provided along Jefferson Road. A general project vicinity map is shown in Figure 1–A on the following page.

The existing site (APN:596-071-60-00) is 19.41-acres in the Jamul-Dulzura Community Plan Area in unincorporated San Diego County. The project seeks to subdivide the parcel into two separate lots to develop a tractor supply warehouse and a self-storage facility. Independent access for each parcel would be via a private driveway connecting to Jefferson Road. The project site plan is shown in Figure 1-B.

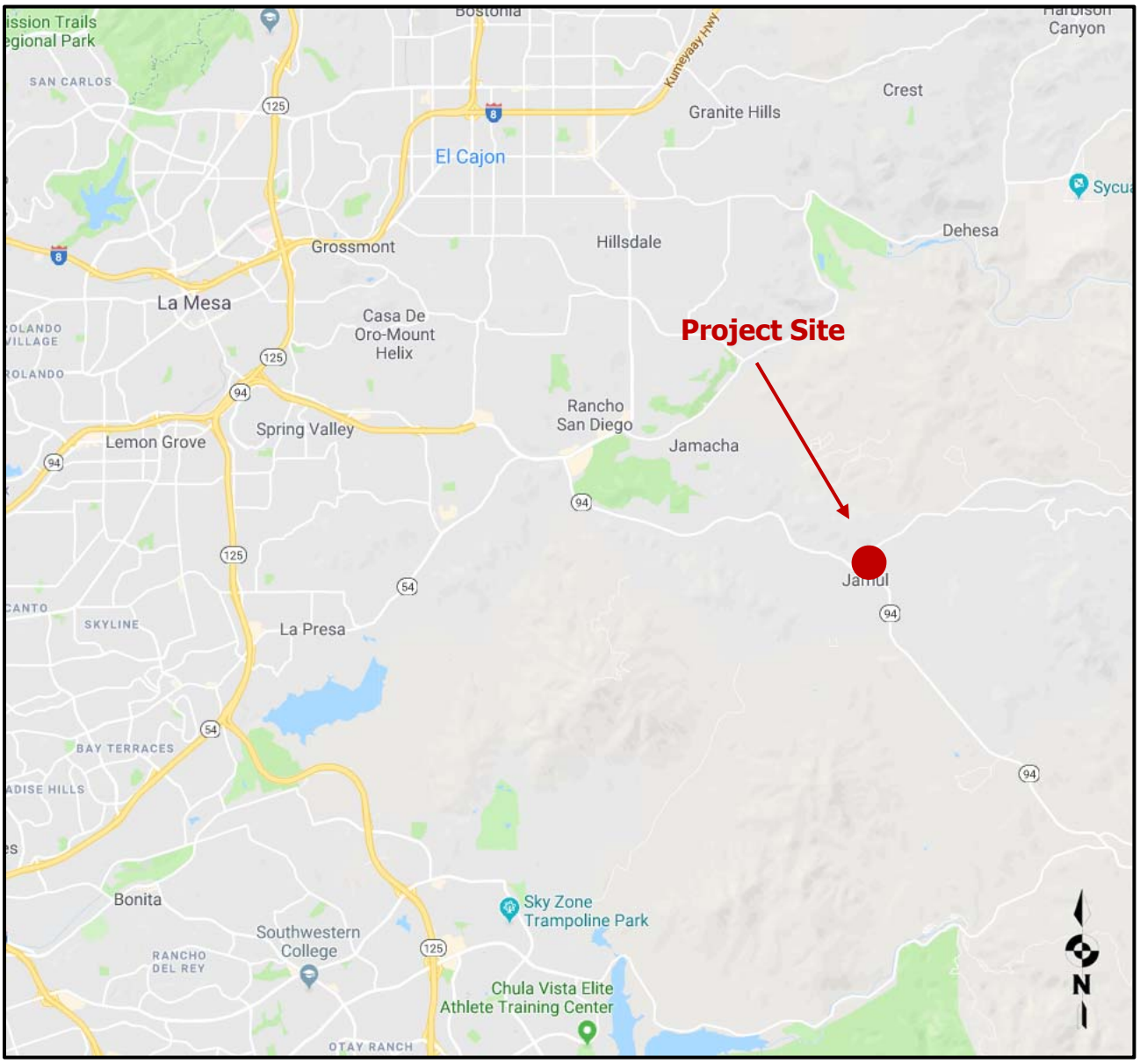
"Parcel 1" of the proposed project would be approximately 7.59 acres in size, of which approximately 0.75 acres would be dedicated to permanent open space. This parcel would be developed with a 18,800 SF Hobby Farm retail store (Tractor Supply Co.) and would have a 15,000 SF enclosed fenced outdoor display area connected to the main building and an uncontained 6,300 SF area for additional display. Also, the project would install a storage shed for forage materials.

Hours of operation for the Tractor Supply Company would be from 8am to 10pm seven days per week. There would be 4-5 employees on-site at any given time during normal business hours with a total of 8-10 employees hired to cover all shifts.

"Parcel 2" of the proposed project is approximately 11.82 acres in size of which approximately 4.57 acres would be dedicated to permanent open space. This parcel would be developed with an 65,000 SF single story structure for up to 600 vault locations and would contain roughly 1,290 sq. ft. administrative area and a parking lot area for up to 9 vehicles. Also, the site would have a 0.5 acres area for unenclosed RV / boat storage which will be located at the rear of the facility. Self-Storage hours of operation would be from 8am to 5pm daily. There would be 1-2 employees during normal business hours with customer key pad access for after hour entry.

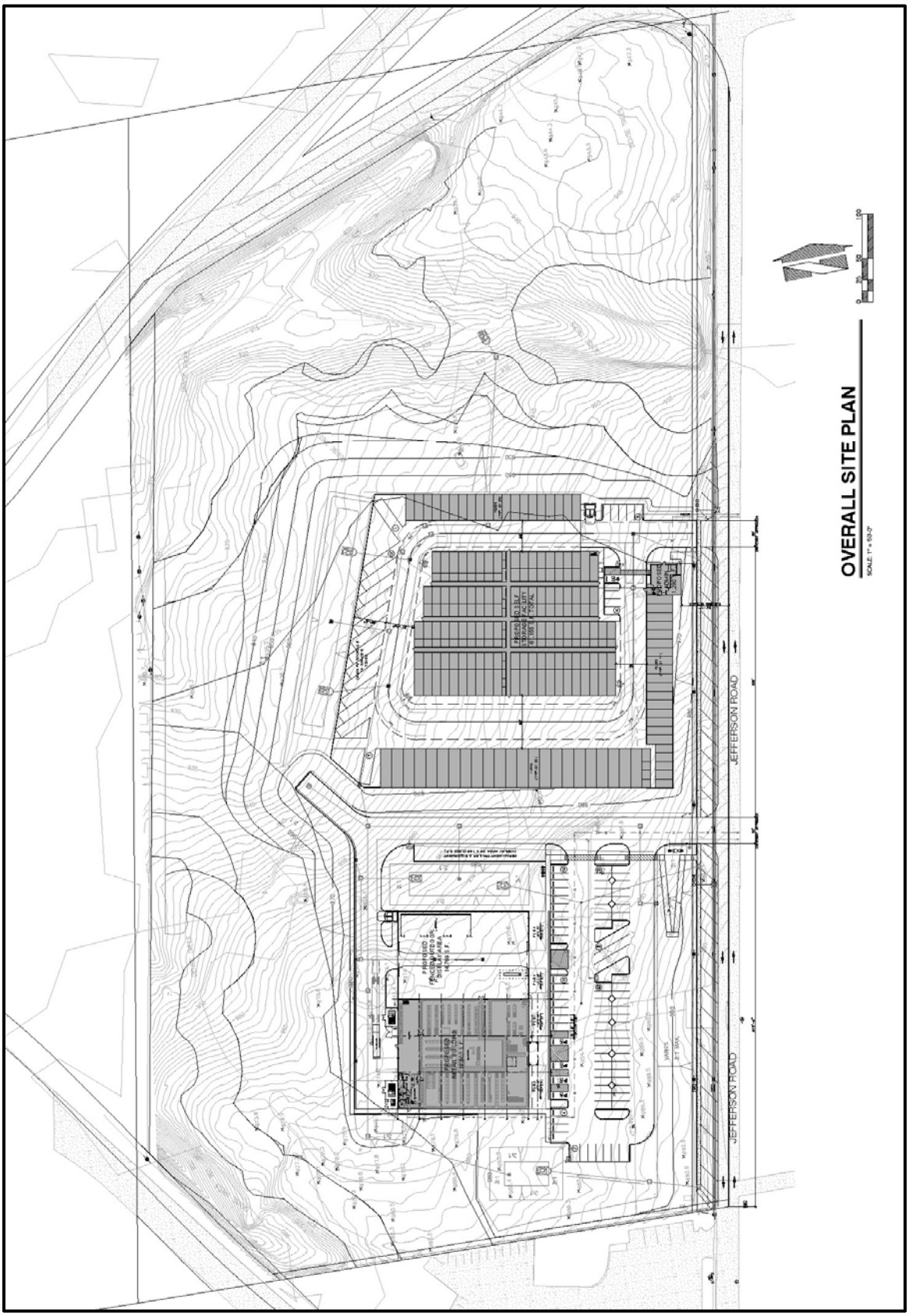
Construction on both parcels would occur simultaneously in roughly 18 months. Earthwork for the overall project would consist of approximately 20,000 cubic yards of cut and approximately 45,000 cubic yards of soil import for fill or approximately 65,000 cubic yards total.

Figure 1-A: Project Vicinity Map



Source: (Google, 2018)

Figure 1-B: Proposed Project Site Plan



(Empire Design Group, INC., 2018)

1.2 Environmental Settings & Existing Conditions

a) Settings & Locations

The site has a General Plan Designation of Rural Commercial within C36 zoning. Based on the project zoning, the project requires the processing of a Major Use Permit (MUP). The project is currently vacant.

b) Existing Noise Conditions

Existing noise occurs from vehicle traffic along Jefferson Road and background traffic along Campo Road (SR-94). Campo Road is classified as a State Route with a speed limit of 55 MPH.

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 CONSTRUCTION ACTIVITIES

2.1 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.

2.2 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 2-1, if all the equipment were placed together, the cumulative grading activities noise levels would be 82.1 dBA.

The grading equipment would be spread out over the project site from distances near the occupied property to distances of over 700 feet away. Based upon the proposed site plan grading operation would be an average of more than 300-feet away from adjacent property lines. At average distances of 150-feet the noise levels would be reduced 9.5 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 150-feet and in that situation no impacts are anticipated. Additionally, no offsite construction is proposed.

Table 2-1: Construction Noise Levels

Construction Equipment	Quantity	Source Level @ 50-Feet (dBA)[1]	Duty Cycle (Hours/Day)	Cumulative Noise Level @ 50-Feet (dBA)
Dozer - D8	2	74	8	77.0
Tractor/Backhoe	2	74	8	77.0
Loader/Grader	1	73	8	73.0
Water Trucks	1	70	8	70.0
Scrapers	2	72	8	75.0
			Cumulative Levels @ 50 Feet	82.1
			Distance to Property Line (Feet)	150
			Noise Reduction Due to Distance	-9.5
			NEAREST PROPERTY LINE NOISE LEVEL	**72.6**

[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.

2.3 Conclusions

The grading equipment would be spread out over the project site from distances near the occupied property to distances of 700-feet away. Based upon the proposed site plan, most of the combined grading operations would be more than 300-feet away from the adjacent property lines. It was determined that at average distances over 150-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 300-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.

3.0 OPERATIONAL ACTIVITIES

3.1 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 3-1.

Table 3-1: 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

a) 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.

b) 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.

c) 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.

3.2 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 is zoned commercial (C36) and the southern properties are zoned the same along with residential zoning to the north, east and west which is zoned A-70. The Project and surrounding zoning is shown in Figure 3-A below.

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 3-1.

The primary Project operations would only occur during the daytime hours. 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 3-2.

Figure 3-A: Project Site Area Zoning

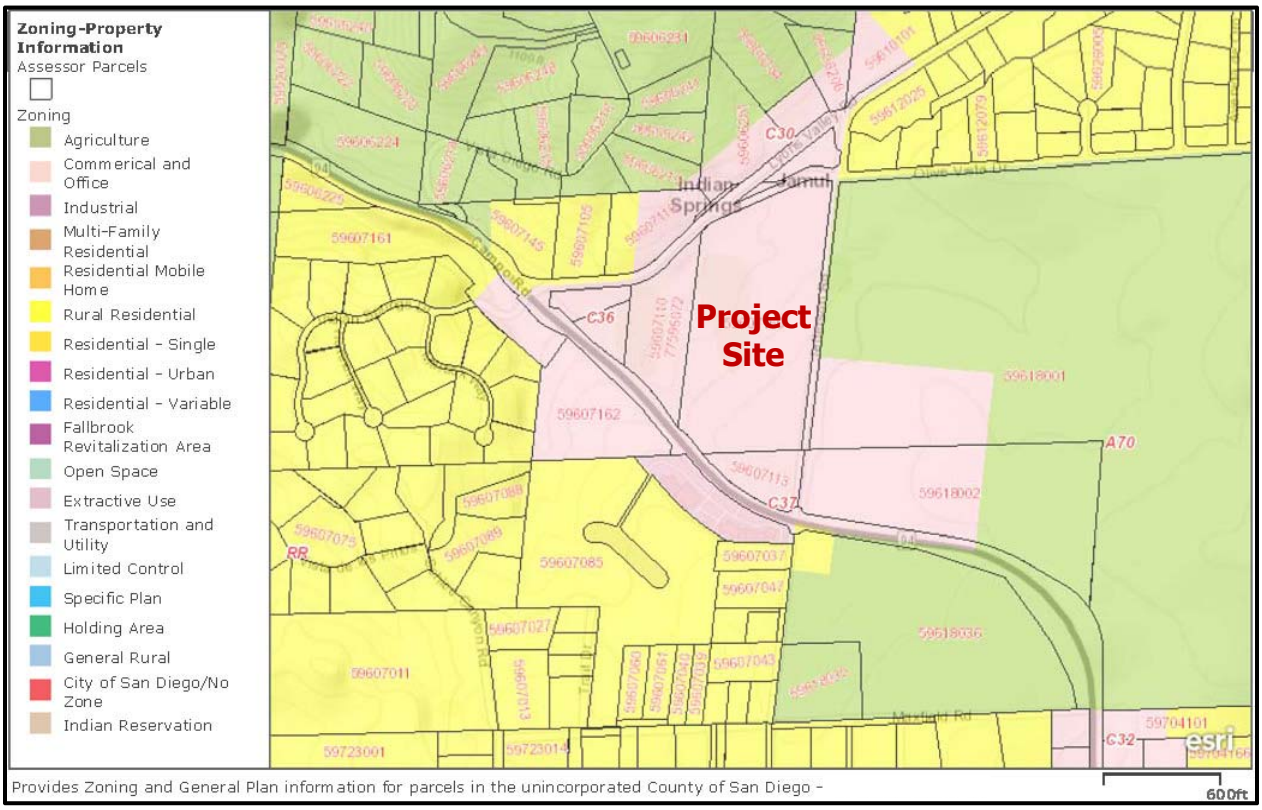


Table 3-2: Project Property Line Sound Level Limits in Decibels (dBA)

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	A70	50	60	**55**
South	C36	60	60	**60**
East	A70	50	60	**55**
West	A70	50	60	**55**
Nighttime Standards 10 p.m. to 7 a.m.				
North	A70	45	55	**50**
South	C36	55	55	**55**
East	A70	45	55	**50**
West	A70	45	55	**50**
* Property line standards applied in this analysis.				

Tractor Supply

According to the information provided by the Project Proponent, anticipated on-site operational noise sources for this proposed project would primarily be delivery truck "reverse signals," a forklift, an outside cardboard baler, and rooftop HVAC units. It is anticipated that each week there will be approximately 2-3 delivery trucks Monday through Friday between the hours of 8:00 a.m. and 9:00 p.m.; there would be 1 forklift utilized to unload delivery trucks and for moving general merchandise around the outdoor storage lots; an outside cardboard baler along the southern building façade; and it is anticipated that 5 rooftop HVAC units would be placed on top of the building.

Sound from a small localized source (a "point" source) radiates uniformly outward as it travels away from the source. The sound level attenuates or drops-off at a rate of 6 dBA for each doubling of distance. A drop-off rate of 6 dBA per doubling of distance was used for this piece of equipment.

Storage Facility

Based on similar operational uses for self-storage facilities, on-site operational noise sources for this proposed project would be anticipated to include a moving truck utilized daily and one 3-ton HVAC unit would be required to provide climate control for the office. No climate control of the storage units is proposed.

3.3 Reference Noise Levels

Fixed or point sources radiate outward uniformly as sound travels away from the source. Their sound levels attenuate or drop off at a rate of 6 dBA for each doubling of distance. Using a point-source noise prediction model, calculations of the expected operational 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. Noise levels drop 3 decibels each time the duration of the source is reduced in half. Therefore, hourly forklift noise level over a 15 minute period would be reduced 6 decibels to 71 dBA at a distance of 5 feet based on the limited time of operation.

Tractor Supply

This section provides a detailed description of the reference noise level measurement results. It is important to note that the following projected noise levels conservatively assume a noise environment with the delivery trucks, cardboard baler activities and roof-top mounted mechanical ventilation (HVAC) all occurring at the same time. In reality, these noise levels would vary throughout the day. The mechanical ventilation may operate during nighttime hours and the delivery trucks may arrive during early evening or morning hours. Based on a Tractor Supply facility in Lakeside, the project related noise sources are provided in Table 3-3 (Source: Tractor Supply Company Community of Lakeside Acoustical Analysis Report, Arcadis 2014).

Table 3-3: Project Related Operational Noise Sources

Quantity	Equipment Description	Manufacturer	Frequency	Sound Level Distance (feet)	Noise Level (dBA)
1	Delivery Trucks "reverse signal"	ECCO	2-3 per week for 2.5 minutes each for unloading	4	87.0
1	Propane forklift	Toyota	15 minutes/day during business hours	5	77.0
1	Vertical Baler	MAX-PAK (Model: MP7240)	5 minutes/day during business hours	5	90.3
4	10-ton rooftop HVAC unit	York (ZJ120N15P4MAD5)	100%	3	76.0
1	3-ton rooftop HVAC unit	York (ZJ037N07B4MAD5)	100%	3	67.0
Source: Tractor Supply Company Community of Lakeside Acoustical Analysis Report, Arcadis 2014.					

Storage Facility

The same reference noise levels for the moving trucks and HVAC units provided in Table 3-3 were utilized for the storage facility.

3.4 Cumulative Noise Levels

The noise levels associated with the roof-top mechanical ventilation system would be limited with the proposed parapet walls on the building that will vary in height but will be roughly 1-foot higher than the HVAC units to shield them both visually and acoustically. Hence, the parapet wall will block the line-of-sight from the adjacent property lines.

Based on the site plan, delivery trucks and forklift operations from the Tractor Supply would occur 250 feet from the residential property lines to the west and east. The delivery trucks from the Storage Facility would be at least 110 feet from the eastern property line and shielded by the proposed buildings. No shielding from the proposed buildings was accounted for in the modeling.

The HVAC units on the Tractor Supply are also located 250 feet from the residential property lines. The HVAC units for the Storage Facility are located 70 feet from the nearest residential property line to the east. The reduction from the parapet walls was not accounted for in the modeling.

The noise levels for each source along with the calculated hourly noise levels based upon individual operating times are shown below in Table 3-4 for the nearest shared property line with the residential zone to the east. Also, included in the Table is the relative daytime property line standard for clarity. The combined noise levels, from all daytime operations, at the adjacent property lines based upon distance separation and limited duty-cycles were projected to be below the County's Noise Ordinance Section 36.404 daytime standards with no barriers or shielding of the equipment. Therefore, no impacts are anticipated and no mitigation is required for the continued operations.

Although the primary operations will only occur during the daytime hours, the HVAC units may operate at night. The HVAC units have been designed to provide cooling during the peak summer daytime periods, and it is unlikely that all the units will be operating continuously throughout the noise sensitive nighttime periods. To assess the mechanical equipment noise impacts the worst-case nighttime standard of 50 dBA was utilized. The nighttime hourly noise levels for the HVAC units are shown below in Table 3-5 for the nearest shared property line with the residential zone to the east.

Table 3-4: Daytime Operational Noise Levels (Worst-Case Property Line)

Source	Reference Noise Level (dBA)	Reference Distance (Feet)	Minimum Distance to Property Line (Feet)	Duty Cycle (Seconds/Hour)	Resultant Noise Level at Property Line (dBA Leq)
Delivery Trucks	87	4	250	150	**37**
Propane forklift	77	5	250	600	**37**
Vertical Baler	90	5	250	300	**45**
10-ton HVAC	76	3	250	900	**36**
3-ton HVAC	67	3	250	900	**21**
Delivery Trucks	87	4	110	150	**44**
3-ton HVAC	67	3	70	900	**32**
CUMULATIVE NOISE LEVEL @ PROPERTY LINE (dBA)					**49**
Property Line Standard					**55**
Complies with Section 36.404 (e)					**Yes**

Table 3-5: Nighttime Operational Noise Levels (Worst-Case Property Line)

Source	Reference Noise Level (dBA)	Reference Distance (Feet)	Minimum Distance to Property Line (Feet)	Duty Cycle (Seconds/Hour)	Resultant Noise Level at Property Line (dBA Leq)
10-ton HVAC	76	3	250	900	**36**
3-ton HVAC	67	3	250	900	**21**
3-ton HVAC	67	3	70	900	**32**
CUMULATIVE NOISE LEVEL @ PROPERTY LINE (dBA)					**37**
Property Line Standard					**50**
Complies with Section 36.404 (e)					**Yes**

3.5 Conclusions

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

4.0 SUMMARY OF PROJECT IMPACTS, MITIGATION & CONCLUSIONS

- Construction Noise Analysis

  The grading equipment would be spread out over the project site from distances near the occupied property to distances of 700-feet away. Based upon the proposed site plan, most of the combined grading operations would be more than 150-feet away from the adjacent property lines. It was determined that at average distances over 150-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 150-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 property line standards at the shared commercial and residential property lines. The noise levels associated with the roof-top mechanical ventilation system would be limited with the proposed parapet walls on each building that will vary in height but will be roughly 1-foot higher than the HVAC units to shield them both visually and acoustically. Hence, the parapet wall would block the line-of-sight from the adjacent property lines. Therefore, the proposed commercial development related operational noise levels comply noise standards at the property lines. No Impacts are anticipated and no mitigation is required.

5.0 CERTIFICATIONS

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

DRAFT

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Date July 19, 2018