

NOISE ASSESSMENT

Beaumont City Yard Facility Development City of Beaumont, CA

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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 (L_{dn}): 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, L_{dn} ’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 for the proposed Beaumont City Yard Facility Project. The proposed Project site is located at the southwest intersection of 4th Street and Veile Avenue in the City of Beaumont, California. The Project would develop a City Yard utilized by multiple departments including Transit, Fleet Maintenance, Community Services, Public Works, and Wastewater. The Project would create approximately 30,000 Square Feet (SF) of facilities to consist of an Administration Building, Fleet Garage, and Warehouse. In addition, the Project would install a Hydrogen Fueling Station, Compressed Natural Gas (CNG) Fueling Station, Electric Vehicle (EV) Charging Infrastructure, and designated parking with both uncovered and solar-covered areas for up to 200 spaces. The Project site would accommodate up to 100 employees and will be operated Monday through Friday.

Construction Noise

Based upon the calculations of the noise levels when construction equipment is located near the closest noise sensitive land uses, the average noise levels would not exceed the FTA's 80 dBA 8-hour standard and no impacts will occur and no mitigation measures are required.

Project construction noise levels are considered exempt if activities do not occur within the hours specified in the City of Beaumont Municipal Code, Section 9.02.030 of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May unless approval is obtained from the City Building Official or City Engineer.

At the time of this analysis, no Project construction activity is planned outside of the specified hours. Therefore, no impacts are anticipated and no mitigation is required during construction of the proposed Project. Additionally, all equipment should be properly fitted with mufflers and all staging and maintenance should be conducted as far away from the existing residence as possible.

Offsite Transportation Noise

The project will not create a direct impact of more than 3 dBA CNEL on any roadway segment and no cumulative noise increase of 3 dBA CNEL or more were found. 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.

Operational Noise

The noise levels from the proposed Project operations would be considered less than significant at the nearest residential property lines to the east and the adjacent commercial and industrial uses and are in compliance with the City of Beaumont Municipal Code Section 9.02.050.

The City of Beaumont Municipal Code also specifically exempts noise generated by the maintenance and repair of public properties by a governmental agency and other public/governmental services or operations including, but not limited, to trains and railway or airplanes and helicopter machinery, equipment, or vehicles.

1.0 PROJECT INTRODUCTION

1.1 Purpose of this Study

The purpose of this Noise study is to determine noise impacts, if any, from the project (i.e., construction, operations) onto surrounding uses. Should impacts be determined, the intent of this study would be to recommend suitable mitigation measures to reduce impacts to below a level of significance.

1.2 Project Location

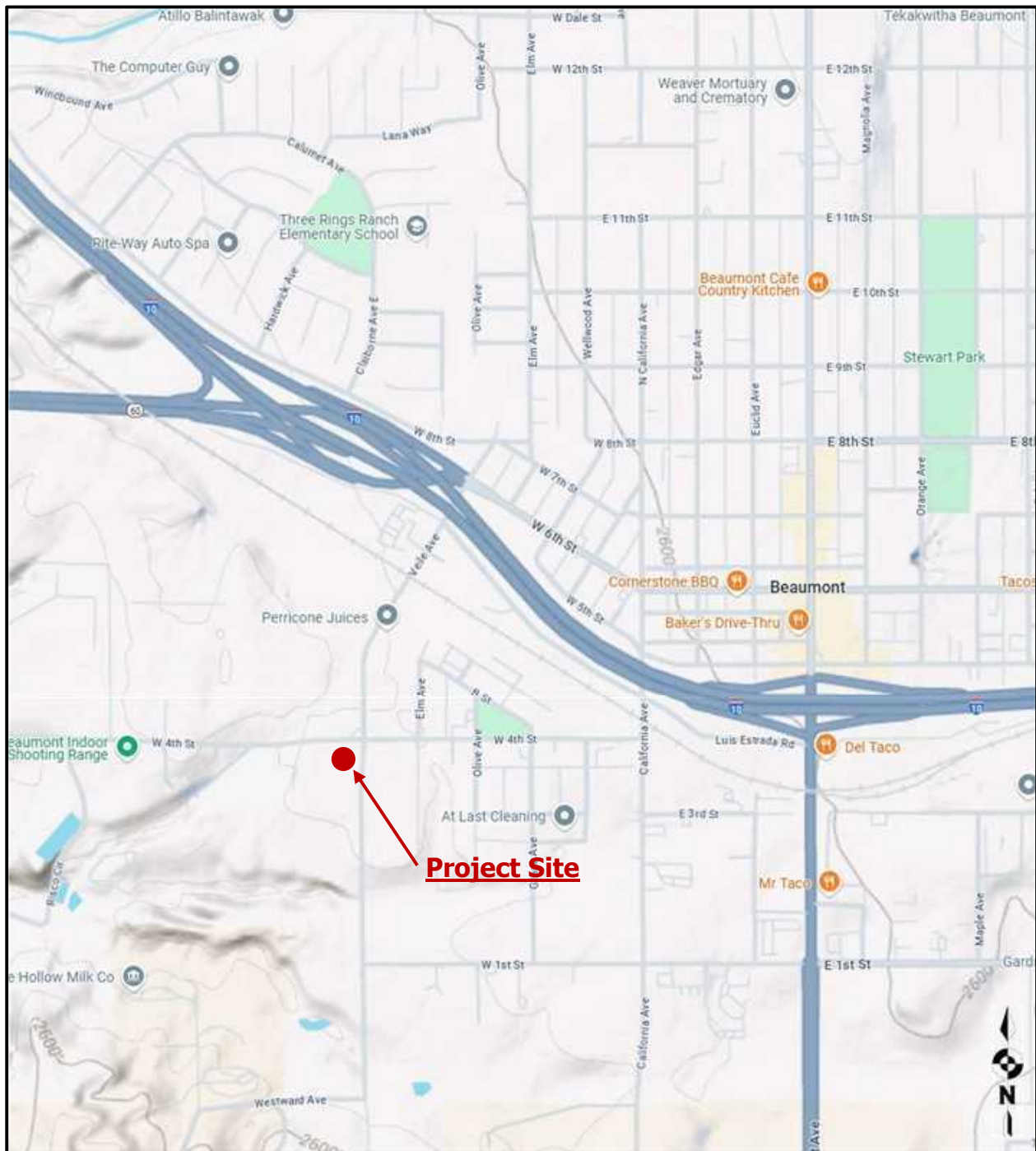
The proposed Project site is located south of Interstate 10 (I-10), south of State Route 60 (SR-60), and west of Beamont Avenue (Route 79) at the southwest intersection of 4th Street and Veile Avenue in the City of Beaumont, California. A general vicinity map is provided in Figure 1–A on the following page.

1.3 Project Description and Purpose

The Proposed Project would develop a City Yard utilized by multiple departments including Transit, Fleet Maintenance, Community Services, Public Works, and Wastewater. The approximately 6.15-acre parcel development would include the construction of an Administration Building (9,100 square feet), Fleet Garage (9,750 square feet), Warehouse (11,900 square feet), Hydrogen Fueling Station, Compressed Natural Gas (CNG) Fueling Station, Electric Vehicle (EV) Charging Infrastructure, and designated parking with both uncovered and solar-covered areas for up to 200 spaces. The Project site would accommodate up to 100 employees and will be operating Monday through Thursday 8:00 AM to 5:00 PM and Friday 8:00 AM to 12:00 PM.

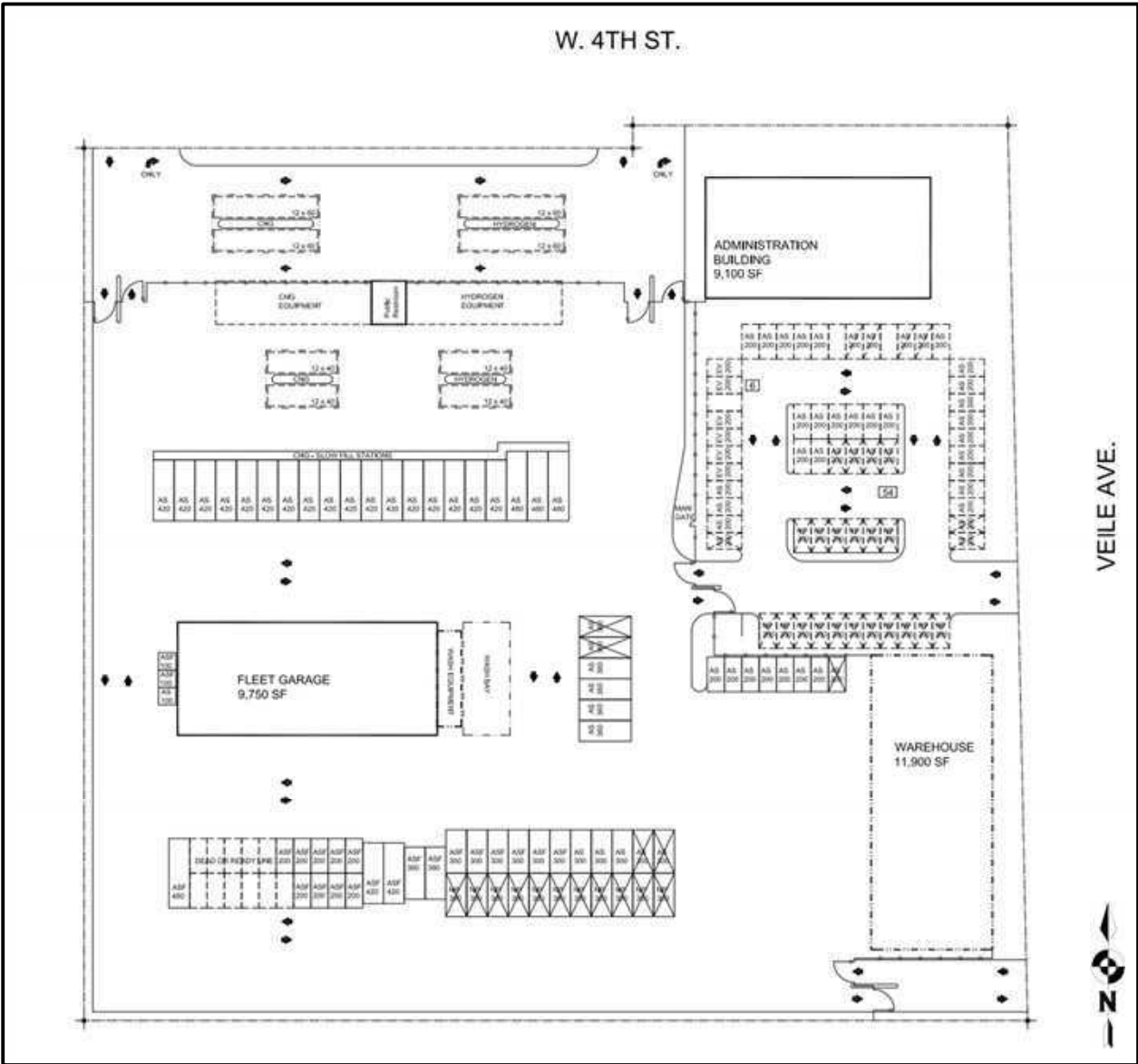
Construction is expected to begin in late 2025 or early 2026 and will take approximately 12 months to complete. The project site plan is shown in Figure 1-B.

Figure 1-A: Project Vicinity Map



Source: (Google, 2025)

Figure 1-B: Project Site Plan



Source: (Gillis and Panichapan Architects, Inc., 2024)

2.0 FUNDAMENTALS

Noise is defined as 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. The A-weighted sound level adequately describes the instantaneous noise whereas the equivalent sound level depicted as L_{eq} represents a steady sound level containing the same total acoustical energy as the actual fluctuating sound level over a given time interval.

The Community Noise Equivalent Level (CNEL) is the 24 hour A-weighted average for sound, with corrections or penalties for evening and nighttime hours. The corrections require an addition of 5 decibels to sound levels in the evening hours between 7 p.m. and 10 p.m. and an addition of 10 decibels to sound levels at nighttime hours between 10 p.m. and 7 a.m. These additions are made to account for the increased sensitivity during the evening and nighttime hours when sounds appear louder.

A vehicle's noise level is from a combination of the noise produced by the engine, exhaust and tires. The cumulative traffic noise levels along a roadway segment are based on three primary factors: the amount of traffic, the travel speed of the traffic, and the vehicle mix ratio or number of medium and heavy trucks. The intensity of traffic noise is increased by higher traffic volumes, greater speeds and increased number of trucks.

Because mobile/traffic noise levels are calculated on a logarithmic scale, a doubling of the traffic noise or acoustical energy results in a noise level increase of 3 dBA. Therefore, the doubling of the traffic volume, without changing the vehicle speeds or mix ratio, results in a noise increase of 3 dBA. Mobile noise levels radiant in an almost oblique fashion from the source and drop off at a rate of 3 dBA for each doubling of distance under hard site conditions and at a rate of 4.5 dBA for soft site conditions. Hard site conditions consist of concrete, asphalt and hard pack dirt while soft site conditions exist in areas having slight grade changes, landscaped areas and vegetation. On the other hand, fixed/point sources radiate outward uniformly as it travels away from the source. Their sound levels attenuate or drop off at a rate of 6 dBA for each doubling of distance.

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.

3.0 SIGNIFICANCE THRESHOLDS AND STANDARDS

3.1 Municipal Code

The City's municipal code provides, among other things, a basis for controlling excessive and annoying noise. The following code of ordinances, as adopted by the City of Beaumont, California codified through Ordinance No. 1177, adopted October 1, 2024, would be applicable to the project (City of Beaumont, 2024):

Section 9.02.110 – Special Provisions

F. Construction, Landscape, Maintenance or Repair

1. It shall be unlawful for any person to engage in or permit the generation of noise related to landscape maintenance, construction including erection, excavation, demolition, alteration or repair of any structure or improvement, at such sound levels, as measured at the property line of the nearest adjacent occupied property, as to be in excess of the sound levels permitted under this Chapter, at other times than between the hours of 7:00 a.m. and 6:00 p.m. The person engaged in such activity is hereby permitted to exceed sound levels otherwise set forth in this Chapter for the duration of the activity during the above described hours for purposes of construction. However, nothing contained herein shall permit any person to cause sound levels to at any time exceed 55 dB(A) for intervals of more than 15 minutes per hour as measured in the interior of the nearest occupied residence or school.
2. Whenever a construction site is within one-quarter of a mile of an occupied residence or residences, no construction activities shall be undertaken between the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May. Exceptions to these standards shall be allowed only with the written consent of the building official.

Section 9.02.050 – Base ambient noise level

For noise-sensitive residential properties, the City of Beaumont Municipal Code, Section 9.02.050, identifies base ambient noise level (BANL) stationary-source noise level limits for the daytime (7:00 a.m. to 10:00 p.m.) hours of 55 dBA Leq and 45 dBA Leq during the nighttime (10:00 p.m. to 7:00 a.m.) hours. For industrial and commercial land uses, the BANL established by the City's Municipal Code is 75 dBA Leq for the daytime hours and of 50 dBA Leq during the nighttime hours. Section 9.40.050 states that actual decibel measurements exceeding the levels set forth hereinabove at the times and within the zones corresponding thereto shall be employed as the "base ambient noise level". In effect, when the ambient noise levels exceed the base exterior noise level limits, the noise level standard shall be adjusted as appropriate to encompass or reflect

the ambient noise level. The noise level limit adjustments for the City of Beaumont noise standards are shown on Table 3-1.

Table 3-1: City of Beaumont Stationary Operational Noise Standards

Receiving Land Use	Time Period	Base Ambient Noise Level (dBA Leq) ¹	Exterior Noise Standards (dBA) ²			
			L ₂₅ (15 mins)	L ₈ (5 mins)	L ₂ (1 min)	L _{max} (0 min)
Residential	Daytime	55	60	65	70	75
	Nighttime	45	50	55	60	65
Industrial and Commercial	Daytime	75	≤3	≤3	≤3	≤3
	Nighttime	50	≤3	≤3	≤3	≤3
¹ Section 9.02.050 base ambient noise level of the City of Beaumont Municipal Code. ² Noise levels shall not exceed for the duration periods specified in Section 9.02.070 City of Beaumont Municipal Code. ³ No exterior noise level shall exceed the base ambient noise levels for nonresidential land uses Section 9.02.090 City of Beaumont Municipal Code. The percent noise level is the level exceeded "n" percent of the time during the measurement period. L ₂₅ is the noise level exceeded 25% of the time. "Daytime" = 7:00 a.m. to 10:00 p.m.; "Nighttime" = 10:00 p.m. to 7:00 a.m.						

The City of Beaumont percentile noise descriptors are provided to ensure that the duration of the noise source is fully considered. However, due to the relatively constant intensity of the Project stationary operational activities, the (base exterior noise level limit) or the average Leq noise level metric best describes the roof-top air conditioning units, fueling activities, and fleet maintenance activities. The equivalent Leq noise level metric accounts for noise fluctuations over time by averaging the louder and quieter events and giving more weight to the louder events. In addition, a review of the existing ambient noise level measurements shows that the Leq is generally greater than the L₂₅. Therefore, this noise study conservatively relies on the average Leq sound level limits to describe the Project stationary operational noise levels.

In addition, the City of Beaumont Municipal Code, Section 9.02.110.G states that it shall be unlawful for any person to operate, cause to operate or permit the operation of any machinery, equipment, device, pump, fan, compressor, air conditioning apparatus or similar mechanical device, including but not limited to the use of any steam shovel, pneumatic hammer, derrick, steam or electric hoist, blower or power fan, or any internal combustion engine, the operation of which causes noise due to the explosion of operating gases or fluids, or other appliance, in any manner so as to create any noise which would cause the noise level at the property line of the property upon which the equipment or machinery is operated to exceed the base ambient noise level by five dBA.

3.2 Transportation Noise Standards

Off-site traffic noise level increases resulting from the Project are evaluated based on Appendix G of the California Environmental Quality Act (CEQA) Guidelines. Impacts would be potentially significant if the Project results in the generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

Under CEQA, consideration must be given to the magnitude of the increase, the existing ambient noise levels, and the location of noise-sensitive receivers to determine if a noise increase represents a significant adverse environmental impact. This approach recognizes that there is no single noise increase that renders the noise impact significant. Table 5.12-G of in the City of Beaumont General Plan Noise Element EIR outlines the allowable noise exposure increases that are derived from the Federal Transit Administration (FTA) Transit Noise and Vibration Impact Assessment Manual. To describe the amount to which a given noise level increase is considered acceptable, the FTA criteria is used to evaluate the incremental noise level increase and establishes a method for comparing future project noise with existing ambient conditions under CEQA Significance Threshold A. In effect, the amount to which a given noise level increase is considered acceptable is reduced based on existing ambient noise conditions. Consistent with the City of Beaumont Municipal Code, Section 9.02.110[G], the stationary operational Project noise source activities shall not create any noise which would cause the noise level at the property line to exceed the base ambient noise level by 5 dBA.

4.0 CONSTRUCTION NOISE

4.1 Construction Noise Prediction Methodology

Construction noise levels were based on typical noise levels generated by construction equipment published by the FTA and the FHWA. Construction noise is assessed in dBA Leq. This unit is appropriate because Leq can be used to describe noise level from operation of each piece of equipment separately, and levels can be combined to represent the noise level from all equipment operating during a given period. Construction noise modeling was conducted using the FHWA Roadway Construction Noise Model (RCNM).

Reference noise levels are used to estimate operational noise levels at nearby sensitive receptors based on a standard noise attenuation rate of 6 dB per doubling of distance (line-of-sight method of sound attenuation for point sources of noise). Noise level estimates do not account for the presence of intervening structures or topography, which may reduce noise levels at receptor locations. Therefore, the noise levels presented herein represent a conservative, reasonable worst-case estimate of actual temporary construction noise.

The City of Beaumont does not establish quantitative construction noise standards; therefore, this analysis conservatively uses the FTA's threshold of 80 dBA (8-hour Leq) for residential uses and 90 dBA (8-hour Leq) for non-residential uses to evaluate construction noise impacts.

4.2 Construction Noise Findings

Construction of the proposed Project will require equipment such as excavators, dump trucks, backhoes, cement trucks, utility pickup trucks, concrete finishing equipment and tools, graders and rollers, cranes, and forklifts. Construction trailers and staging areas will remain on-site during construction. The entire site would be fenced during this time.

The Project is expected to break ground late 2025/early 2026 with a duration of approximately 12 months. No construction is expected to take place within the hours of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May, in accordance with the City's Noise Ordinance.

The development construction will consist of grading, building construction, and paving. The building construction activities will consist of trenching, paving, and building construction. Noise would typically occur during this phase due to the operation of backhoes, and front-end loaders as well as air compressors and hand-held power tools. The nearest residences to be impacted by construction are the single-family homes located approximately 0.2 miles to the east.

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. A summary of the construction phases and a list of the anticipated noise levels for each phase of construction is shown in Table 4-1.

As can be seen in Table 4-1 below, construction noise levels will comply with the FTA's 80 dBA 8-hour Leq standard at the property lines. Therefore, no impacts are anticipated and no mitigation is required during construction of the proposed Project. Additionally, all equipment should be properly fitted with mufflers and all staging and maintenance should be conducted as far away for the existing residence as possible.

Table 4-1: Construction Phases and Noise Levels

Equipment Required	Source Level @ 50 Feet (dBA)	Quantity	Phase Noise Level @ 50 Feet (dBA)	Distance to Nearest Receptor (Feet)	Noise Level at Nearest Receptor (dBA)
Demolition					
Excavators	77	1	77.0	120	69.4
Site Preparation					
Rubber Tired Dozers	78	1	79.8	200	67.7
Tractors/Loaders/Backhoes	75	1			
Grading					
Excavators	77	1	83.8	200	71.7
Graders	81	1			
Tractors/Loaders/Backhoes	75	2			
Building Construction					
Cranes	73	1	82.1	120	74.5
Forklifts	75	3			
Tractors/Loaders/Backhoes	75	1			
Welders	70	1			
Skid Steer Loaders	74	1			
Paving					
Pavers	74	2	81.5	120	73.9
Paving Equipment	74	2			
Rollers	73	2			
Architectural Coating					
Air Compressors	74	1	74.0	120	66.4

4.4 Construction Noise Conclusions

Based upon the calculations of the noise levels when construction equipment is located near the closest noise sensitive land uses, the average noise levels would not exceed the FTA's 80 dBA 8-hour standard, and no impacts will occur and no mitigation measures are required.

Project construction noise levels are considered exempt if activities do not occur within the hours specified in the City of Beaumont Municipal Code, Section 9.02.030 of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May unless approval is obtained from the City Building Official or City Engineer.

At the time of this analysis, no Project construction activity is planned outside of the specified hours. Therefore, no impacts are anticipated and no mitigation is required during construction of the proposed Project. Additionally, all equipment should be properly fitted with mufflers and all staging and maintenance should be conducted as far away from the existing residence as possible.

Nonetheless, in addition to complying with the City's noise standards regarding construction working hours and noise levels, construction noise should be minimized through the implementation of best management practices (BMPs) that may include, but are not limited to, the following:

- Proper maintenance and tuning of all construction equipment engines to minimize noise emissions.
- Proper maintenance and functioning of the mufflers on all internal combustion and equipment engine.
- Locate fixed and/or stationary equipment as far as possible from noise-sensitive receptors.
- Appoint a public liaison for Project construction that would be responsible for addressing public concerns about construction activities, including excessive noise. As needed, the liaison would determine the cause of concern (e.g., starting too early, bad muffler) and implement measures to address the concern. These BMPs would reduce construction noise levels.

5.0 TRANSPORTATION NOISE

5.1 Existing Noise Environment Onsite

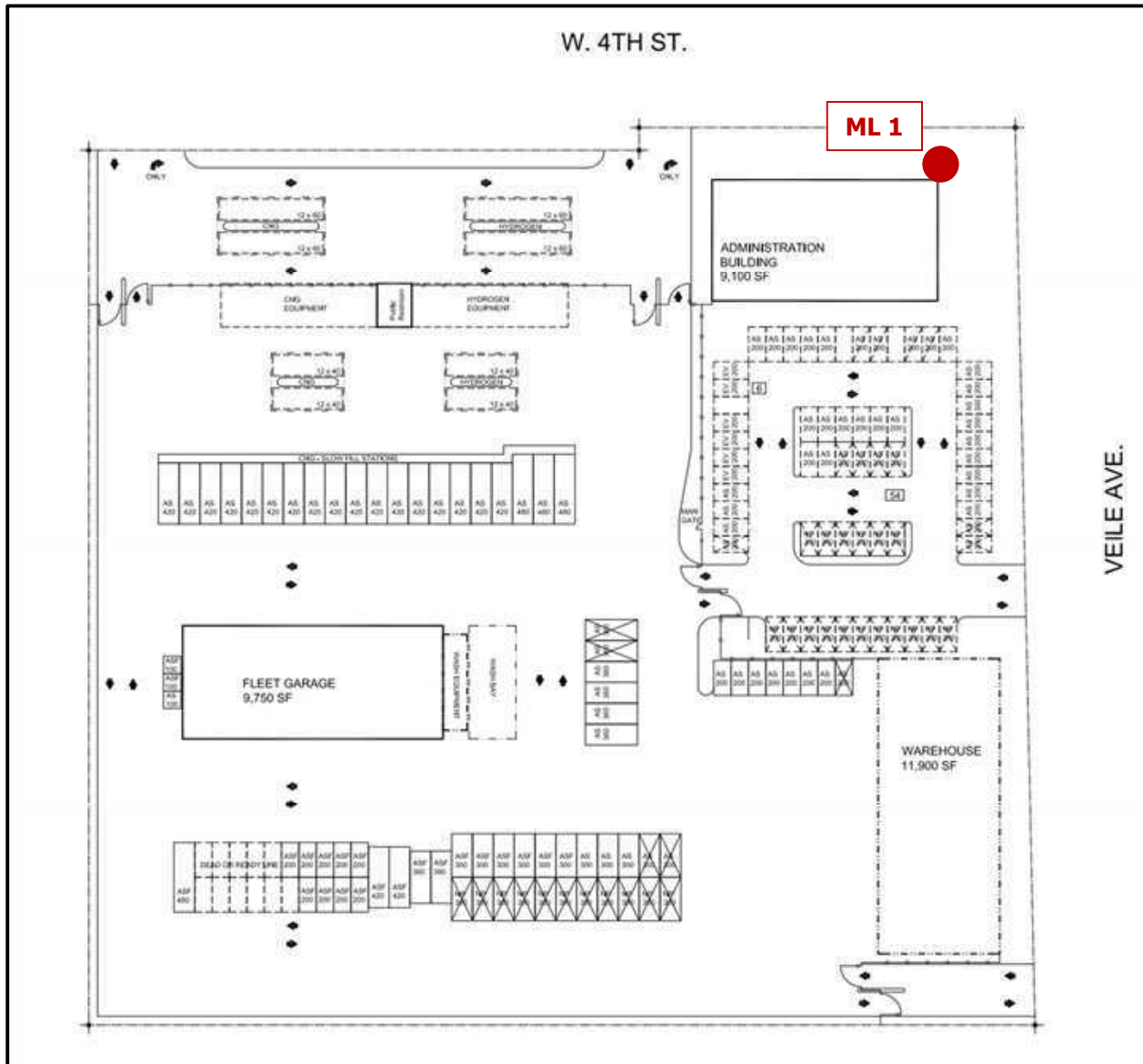
Noise measurements were taken using a Larson-Davis Model LxT Type 1 precision sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200.

The ambient measurements were conducted on February 5th, 2025 between 11:00 am – 11:15 am. The results of the noise level measurements are presented in Table 5-1. The measurements were taken on site to establish a baseline of the vehicle noise from adjacent 4th Street and Veile Avenue. The measurements were free of obstruction and had a direct line of sight to the roadways. The overall sound level was found to be 64.8 dBA. The statistical indicators Lmax, Lmin, L10, L50 and L90, are also given for the monitoring location. The noise monitoring locations can be seen in Figure 5-A on the following page.

Table 5-1: Measured Ambient Noise Levels

Measurement Identification	Description	Time	Noise Levels (dBA Leq)					
			Leq	Lmax	Lmin	L10	L50	L90
ML 1	4 th and Veile	11:00 a.m. – 11:15 a.m.	64.8	74.1	54.2	69.3	63.5	58.3
Source: Ldn Consulting February 5, 2025								

Figure 5-A: Ambient Monitoring Locations



5.2 Project Related Offsite Transportation Noise

A significant off-site traffic noise impact would occur if the project resulted in or created a significant increase in the existing ambient noise levels. Studies have shown that the average human ear can barely perceive a change in sound level of 3 dBA. A change of at least 5 dBA is considered a readily perceivable change in a normal environment. A 10 dBA increase is subjectively heard as a doubling in loudness and would cause a community response. Based on these concepts of noise level increase and perception, if noise levels were to result in greater than a 3 dBA increase, then the impact would be considered significant.

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 traffic study for the Beaumont Point Development, existing traffic volumes along the segment of 4th Street at the project site is 3,744 ADT (Linscott, Law & Greenspan Engineers, 2022). The proposed project would accommodate as many as 100 employees daily, therefore, is not expected to generate 3,744 daily trips that would double the existing traffic volumes along 4th Street. 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 5% increase to the exiting roadway volumes and no direct or cumulative impacts are anticipated.

5.3 Transportation Noise Conclusions

The project will not create a direct impact of more than 3 dBA CNEL on any roadway segment and no cumulative noise increase of 3 dBA CNEL or more were found. 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.

6.0 OPERATIONAL NOISE

This section examines the potential operational noise source levels associated with the development and operation of the proposed project. Noise from a fixed or point source drops off at a rate of 6 dBA for each doubling of distance. Which means a noise level of 70 dBA at 5 feet would be 64 dBA at 10 feet and 58 dBA at 20 feet. A review of the proposed project indicates that noise sources such as the roof mounted mechanical ventilation system (HVAC), fueling stations, warehouse, and fleet garage are the primary sources of stationary noise.

The project site and surrounding uses to the north, east, and south are all designated as manufacturing under the City General Plan. The property to the west is the Beaumont wastewater treatment plant and is designated as public facility. The nearest residential uses are the single-family homes to the east along Olive Avenue, over 900 feet away. Therefore, at the residential property lines, the City Ordinance limits of 55 dBA hourly noise standard during the daytime hours between 7 a.m. and 10 p.m., a 45 dBA standard during the nighttime hours between 10 p.m. and 7 a.m. For the commercial and industrial property lines adjacent to the project, the City Ordinance limits of 75 dBA hourly noise standard during the daytime hours between 7 a.m. and 10 p.m., a 50 dBA standard during the nighttime hours between 10 p.m. and 7 a.m.

According to the project proponent, the project site would be operating Monday through Thursday 8 a.m. to 5 p.m. and Friday 8 a.m. to 12 p.m. Therefore, the daytime noise standard would apply.

Air Conditioning Units

Roof-top mechanical ventilation units (HVAC) will be installed at the proposed administration building. In order to evaluate the HVAC noise impacts, the analysis utilized reference noise level measurements taken at a Lowe's Improvement Center in Murrieta, CA in 2020. The unshielded noise levels for the HVAC units were measured at 65.9 dBA Leq at a distance of 6-feet. The HVAC units will cycle on and off throughout the day. Typically, HVAC units run for approximately 20 minutes each operating cycle to provide the necessary heating or cooling. It is anticipated that the HVAC units will operate twice in any given hour or run for 40 minutes in any given hour. Noise levels drop 3 decibels each time the duration of the source is reduced in half.

Therefore, hourly HVAC noise level over a 40-minute period would be reduced approximately 2 decibels to 63.9 dBA based on operational time. To predict the property line noise level, a reference noise level of 63.9 dBA at 6-feet was used to represent the HVAC units.

The administration building could have as many as four (4) temperature control units (HVAC). No reductions from any parapet walls were incorporated into the modeling. Utilizing a 6 dBA decrease per doubling of distance, noise levels at the nearest property line as described above were calculated for the HVAC.

Fueling Station Including CNG

The fueling stations would be used to fuel vehicles and trucks on site. The primary source of noise from the fueling station is the fuel compressors. To be conservative and to account for future growth, four trucks were assumed to be fueling simultaneously, requiring four separate fuel compressors to be operating at the same time. Based on test data received by the manufacturer of a typical compressor used in fueling stations, noise levels from the compressor are 79 dBA at a distance of 10-feet. It should be noted the compressor will not be operating continuously but only when a truck is fueling.

Warehouse Activities

In order to evaluate the noise levels from the delivery activities, reference noise level measurements were taken from a Tractor Supply facility in Lakeside, the project related noise sources for the delivery activities are provided in Table 6-1 (Arcadis, 2014).

Table 6-1: Warehouse Related Operational Noise Sources

Quantity	Equipment Description	Manufacturer	Frequency	Related Sound Level Distance (ft)	Unshielded Noise Level (dBA)
1	WB-65 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

Source: (Arcadis, 2014)

A truck will take approximately 2 minutes to drive in the site and position itself, less than 30 minutes to be unloaded and another 2 minutes to exit the site. During the loading/unloading of the truck the engine can only idle for five (5) minutes in compliance with State air quality requirements. To be conservative, it was assumed the truck engine could be operating for 15 minutes of the total time required during the delivery process (5 minutes at arrival, 5 minutes of idle and 5 minutes at departure).

Fleet Garage Activities

In order to evaluate the noise levels from the fleet garage activities, reference noise level measurements were taken from an existing autobody shop (*Source: High Tech Auto Care Expansion Noise Assessment, LDN Consulting, March 14, 2023*). Noise levels are expected to be similar due to comparable equipment that will be utilized. Noise sources at the autobody shop include various air and battery-operated tools and enclosed within a steel building structure, similar to what will be utilized in the fleet garage. The primary source of noise was from the air compressor located in the building, 8-feet to the right of the shop door. The noise level measurement was taken 25-feet directly in front of the shop entrance door. The shop door was open during the noise measurements to obtain the worst-case noise with no shielding from the structure. The overall noise levels for the service repair area was found to be 55.6 dBA hourly (Leq) at the distance of 25-feet from the service area with the door open.

Vehicle Washing Activities

A vehicle washing bay is proposed adjacent to the fleet garage. Vehicle washing would likely be done by hand and would include a pressure washer and central vacuum. The noise associated with the pressure washing would primarily be from an air compressor which is accounted for above with the fleet garage activities. Therefore, the primary noise source associated with the vehicle washing activities would be the central vacuum. In order to examine the potential stationary noise source impacts associated with the central vacuum, sound level measurements of an existing carwash were taken. The short-term noise measurements were taken at a distance of four-feet from each piece of equipment. The noise measurements were taken using a Larson-Davis Model LxT Type 1 precision sound level meter, programmed, in "slow" mode, to record noise levels in "A" weighted form. The sound level meter and microphone were mounted on a tripod, five feet above the ground and equipped with a windscreen during all measurements. The sound level meter was calibrated before and after the monitoring using a Larson-Davis calibrator, Model CAL 200. The overall noise levels for the central vacuum was found to be 73.6 dBA hourly (Leq) at the distance of 4-feet.

Cumulative Noise Levels

The noise levels for each source along with the calculated hourly noise levels based upon individual operating times are shown below in Table 6-2 for the nearest residential property line to the east. Also, included in Table 6-2 is the relative property line standards for clarity. The combined noise levels at the nearest residential property lines based upon distance separation were projected to be below the City's Noise Ordinance standards with no barriers or shielding of the equipment. Therefore, no impacts are anticipated and no mitigation is required. Additionally, noise levels at the adjacent commercial and industrial uses are expected to be below 62 dBA and would easily meet the City's 75 dBA daytime property line threshold.

Table 6-2: Operational Noise Levels (Residential Property Line)

Source	Reference Noise Level (dBA)	Quantity	Reference Distance (Feet)	Minimum Distance to Property Line (Feet)	Resultant Noise Level at Property Line (dBA Leq)
HVAC	63.9	4	6	1,010	24.6
Fueling Stations	79	4	10	1,260	43.0
Trucks	87	1	4	990	39.1
Forklift	77	1	5	990	31.1
Fleet Garage	55.6	1	25	1,230	21.8
Vehicle Washing	73.6	1	4	1,230	23.8
CUMULATIVE NOISE LEVEL @ PROPERTY LINE (dBA)					44.8
Daytime Property Line Standard					55
Complies with Noise Ordinance					Yes

6.2 Conclusions

Based upon the property line noise levels determined above none of the proposed noise sources directly or cumulatively exceeds the daytime property line standards at the nearest residential property line to the east. Although the project site would not be operating during the nighttime hours, the project would also comply with the City's nighttime threshold of 45 dBA at the nearest residential uses. Additionally, noise levels at the adjacent commercial and industrial uses are expected to be below 62 dBA and would easily meet the City's 75 dBA daytime property line threshold. Therefore, the proposed development's related operational noise levels will comply with the noise standards at the adjacent properties and the nearest residential uses. No impacts are anticipated and no mitigation is required.

Additionally, the City of Beaumont Municipal Code also specifically exempts noise generated by the maintenance and repair of public properties by a governmental agency and other public/governmental services or operations including, but not limited to trains and railway or airplanes and helicopter machinery, equipment, or vehicles.

7.0 SUMMARY OF PROJECT IMPACTS, MITIGATION & CONCLUSION

Construction Noise

Based upon the calculations of the noise levels when construction equipment is located near the closest noise sensitive land uses, the average noise levels would not exceed the FTA's 80 dBA 8-hour standard and no impacts will occur and no mitigation measures are required.

Project construction noise levels are considered exempt if activities do not occur within the hours specified in the City of Beaumont Municipal Code, Section 9.02.030 of 6:00 p.m. and 6:00 a.m. during the months of June through September and between the hours of 6:00 p.m. and 7:00 a.m. during the months of October through May unless approval is obtained from the City Building Official or City Engineer.

At the time of this analysis, no Project construction activity is planned outside of the specified hours. Therefore, no impacts are anticipated and no mitigation is required during construction of the proposed Project. Additionally, all equipment should be properly fitted with mufflers and all staging and maintenance should be conducted as far away from the existing residence as possible.

Offsite Transportation Noise

The project will not create a direct impact of more than 3 dBA CNEL on any roadway segment and no cumulative noise increase of 3 dBA CNEL or more were found. 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.

Operational Noise

The noise levels from the proposed Project operations would be considered less than significant at the nearest residential property lines to the east and the adjacent commercial and industrial uses and are in compliance with the City of Beaumont Municipal Code Section 9.02.050.

The City of Beaumont Municipal Code also specifically exempts noise generated by the maintenance and repair of public properties by a governmental agency and other public/governmental services or operations including, but not limited to trains and railway or airplanes and helicopter machinery, equipment, or vehicles.

8.0 REFERENCES

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