

## TECHNICAL MEMORANDUM

DATE July 24, 2025

TO Huntington Beach City School District

FROM Chris Shields, Senior Associate, Noise and Vibration, PlaceWorks

SUBJECT Noise Study for the District Maintenance and Operations Facility at 8750 Dorsett Drive

PROJECT  
NUMBER HBCS-05.0

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This noise technical memorandum is prepared for Huntington Beach City School District (HBCSD or District) (Project Applicant) to evaluate the potential operational noise impacts pursuant to the City of Huntington Beach Municipal Code for the proposed District Maintenance and Operations Facility Project (proposed project) in the City of Huntington Beach.

### Project Location

The project site is at 8750 Dorsett Drive in Huntington Beach behind the existing District office building. The District office is in a primarily residential neighborhood with schools and parks. Residential uses are to the west and east of the project site, and Edison Park is to the south.

### Project Description

The District plans to provide interior building space for its maintenance and operations staff by building a 7,525-square-foot (215 feet long by 35 feet wide) metal-insulated building at the back of the existing District office. The project would not increase the number of employees, would not increase vehicular trips, nor change the function of the facility. The proposed project would provide a permanent building to move existing maintenance and operations activities indoors. The facility currently uses easy-ups and storage containers, which are set up in the existing District parking lot. The proposed building would include the new offices, breakroom, reception, restrooms, secure storage, woodworking area, groundskeeping shop, and mechanical bay. The District is considering three different site design options for location and orientation of the proposed building.

- » **Condition A.** The proposed building would be adjacent to single-story residences to the west, south of the existing District office, west of the existing parking lot and residential uses to the east, and north of Edison Park to the south. Bay doors would open to the east toward residential uses that are shielded by an existing 6-foot-high masonry wall.
- » **Condition B.** The proposed building would be adjacent to Edison Park to the south, east of single-story residences to the west, south of the existing District office building and parking lot, and west of existing residential uses to the east. Bay doors would open to the north toward the existing District office.
- » **Condition C.** The proposed building would be 25 feet north of the project site's southern property line, with Edison Park to the south; east of single-story residences to the west; south of the existing District

office building and parking lot; and west of existing residential uses to the east. Bay doors would open to the south toward Edison Park.

Proposed building location and orientation site design options are shown in Figure 1. The proposed building detail plan is shown in Attachment A.

## Noise Fundamentals

Noise is defined as unwanted sound. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.” Based on these known adverse effects of noise, the federal government, the State of California, and many local governments have established criteria to protect public health and safety and to prevent disruption of certain human activities. Additional information on noise and vibration fundamentals and applicable regulations are shown in Attachment B.

### NOISE TERMINOLOGY AND DESCRIPTORS

The following are brief definitions of terminology used in this chapter:

- » **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- » **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- » **Decibel (dB).** A unitless measure of sound on a logarithmic scale.
- » **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- » **Equivalent Continuous Noise Level ( $L_{eq}$ ).** The mean of the noise level, energy-averaged over the measurement period.
- » **Community Noise Equivalent Level (CNEL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added during the period from 10:00 p.m. to 7:00 a.m.

### SOUND FUNDAMENTALS

Sound is a pressure wave transmitted through the air. It is described in terms of loudness or amplitude (measured in decibels), frequency or pitch (measured in Hertz [Hz] or cycles per second), and duration (measured in seconds or minutes). The standard unit of measurement of the loudness of sound is the decibel (dB). Changes of 1 to 3 dBA are detectable under quiet, controlled conditions, and changes of less than 1 dBA are usually indiscernible. A 3 dBA change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dBA is readily discernable to most people in an exterior environment, and a 10 dBA change is perceived as a doubling (or halving) of the sound.

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all and are “felt” more as a vibration. Similarly, while people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly

above about 10,000 Hz and below about 200 Hz. The common human ear detects sound frequencies between 200 and 15,000 Hz. Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale is usually used to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

## SOUND MEASUREMENT

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies.

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale, representing points on a sharply rising curve. On a logarithmic scale, an increase of 10 dBA is 10 times more intense than 1 dBA, while 20 dBA is 100 times more intense, and 30 dBA is 1,000 times more intense. A sound as soft as human breathing is about 10 times greater than 0 dBA. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. Ambient sounds, or background noise that could include traffic, noise, ocean waves, air conditioning, or rustling leaves, generally range from 30 dBA (very quiet) to 100 dBA (very loud).

Sound levels are generated from a source and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. This phenomenon is known as "spreading loss." For a single point source, sound levels decrease by approximately 6 dBA for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dBA for each doubling of distance in a hard site environment. Line source noise in a relatively flat environment with absorptive vegetation decreases by 4.5 dBA for each doubling of distance.

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called  $L_{eq}$ ), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the  $L_{50}$  noise level represents the noise level that is exceeded 50 percent of the time. Half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the  $L_2$ ,  $L_8$ , and  $L_{25}$  values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour. These "L" values are typically used to demonstrate compliance for stationary noise sources with a City's noise ordinance, as discussed below. Other values typically noted during a noise survey are the  $L_{min}$  and  $L_{max}$ . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, an artificial dB increment is added to quiet-time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level ( $L_{dn}$ ). The CNEL descriptor requires that an artificial increment of 5 dBA be added to the actual noise level for the hours from 7:00 a.m. to 10:00 p.m. and 10 dBA for the hours from 10:00 p.m. to 7:00 a.m. The  $L_{dn}$  descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 p.m. and 10:00 p.m. Both descriptors give roughly the same 24-hour level with the CNEL being only slightly more restrictive (i.e., higher).

## PSYCHOLOGICAL AND PHYSIOLOGICAL EFFECTS OF NOISE

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects our entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, and thereby affecting blood pressure, functions of the heart, and the nervous system. In comparison, extended periods of noise exposure above 90 dBA could result in permanent hearing damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 190 dBA will rupture the eardrum and permanently damage the inner ear.

## Applicable Noise Standards

### CITY OF HUNTINGTON BEACH

Municipal Code Chapter 8.40, Noise Control, provides noise standards for residential properties. Table 1 summarizes allowable exterior noise levels at the receiving property lines of residences.

**Table 1 City of Huntington Beach Exterior Noise Standards**

| LAND USE                | TIME OF DAY             | dBA L <sub>EQ</sub> | dBA L <sub>MAX</sub> |
|-------------------------|-------------------------|---------------------|----------------------|
| Low-Density Residential | 7:00 a.m. to 10:00 p.m. | 55                  | 75                   |
|                         | 10:00 p.m. to 7:00 a.m. | 50                  | 70                   |

Source: City of Huntington Beach Municipal Code, Section 8.40.050, Exterior Noise Standards.

**Notes:**

In the event the alleged offensive noise consists entirely of impact or impulsive noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five dBA.

In the event the measured ambient noise level exceeds any of the noise limit categories above, the noise limit shall be increased to reflect said ambient noise level.

In the event that the noise source and the affected property are within different land use categories, the noise standards of the affected property shall apply.

## Sensitive Receptors

Certain land uses are particularly sensitive to noise and vibration. These uses include residences, schools, hospital facilities, houses of worship, and open space/recreation areas where quiet environments are necessary for the enjoyment, public health, and safety of the community. The nearest sensitive receptors to the project site are residential uses to the west and east and Edison Park to the south.

## Existing Noise Conditions

The proposed project site is in a predominantly residential neighborhood. The existing noise environment is characterized primarily by typical residential activities and residential traffic along Dorsett Drive and nearby streets such as Breton Lane and Kroll Lane. Noise from Edison Park (people walking and talking, baseball fields) and to a lesser extent noise from Edison Community Center (parking lot noise, outdoor sport events, and other special events) also contribute to the existing ambient noise environment.

Ambient noise monitoring was conducted near residential uses in the project area and on the project site from August 27 to August 29, 2024. Figure 1, *Noise Monitoring Locations*, shows the two long-term (24-hour) noise measurement locations. Two Picollo II sound-level meters (SLM) were used for long-term measurements. The SLMs deployed for noise monitoring satisfy the American National Standards Institute (ANSI) standard for Type II instrumentation. The long-term sound level meters were set to “slow” response and “A” weighting (dBA). Long-term measurements were between three and six feet above the ground and away from reflective surfaces. Long-term measurements were conducted at the west and east property lines of the project site near the closest residential neighborhoods. Long-term measurement results are detailed below and summarized in Tables 2 and 3, *LT-1 and LT-2 Ambient Long-Term Noise Measurements Summary*. Additional noise monitoring data is shown in Attachment C.

- » **Long-Term Location 1 (LT-1)** monitoring was conducted at the property line of the residential use (21202 Breton Lane) to the west of the project site, north of the public access path to Edison Park. A continuous-hourly noise measurement was conducted from Tuesday, August 27, 2024, to Thursday, August 29, 2024. The noise environment is characterized primarily by residential activities, project site parking events, and bird activity. The 24-hour noise level was 51.5 dBA CNEL from August 27<sup>th</sup> to the 28<sup>th</sup> and 50.4 dBA CNEL from August 28<sup>th</sup> to the 29<sup>th</sup>. Daytime (7:00 a.m. to 7:00 p.m.) hourly noise levels generally ranged from 44.0 dBA to 52.3 dBA  $L_{eq}$ , and from 64.2 dBA to 78.6 dBA  $L_{max}$  during the continuous measurement.
- » **Long-Term Location 2 (LT-2)** monitoring was conducted at the property line of the residential use (8812 Arcel Circle) to the east of the project site. A continuous hourly noise measurement was conducted from Tuesday, August 27, 2024, to Thursday, August 29, 2024. The noise environment is characterized primarily by residential activities, project-site parking events, and bird activity. The 24-hour noise level was 56.1 dBA CNEL from August 27<sup>th</sup> to the 28<sup>th</sup> and 52.3 dBA CNEL from August 28<sup>th</sup> to the 29<sup>th</sup>. Daytime (7:00 a.m. to 7:00 p.m.) hourly noise levels generally ranged from 48.1 dBA to 66.1 dBA  $L_{eq}$  and 61.1 dBA to 87.9 dBA  $L_{max}$  during the 24-hour continuous measurement.

**Table 2 LT-1 Ambient Long-Term Noise Measurements**

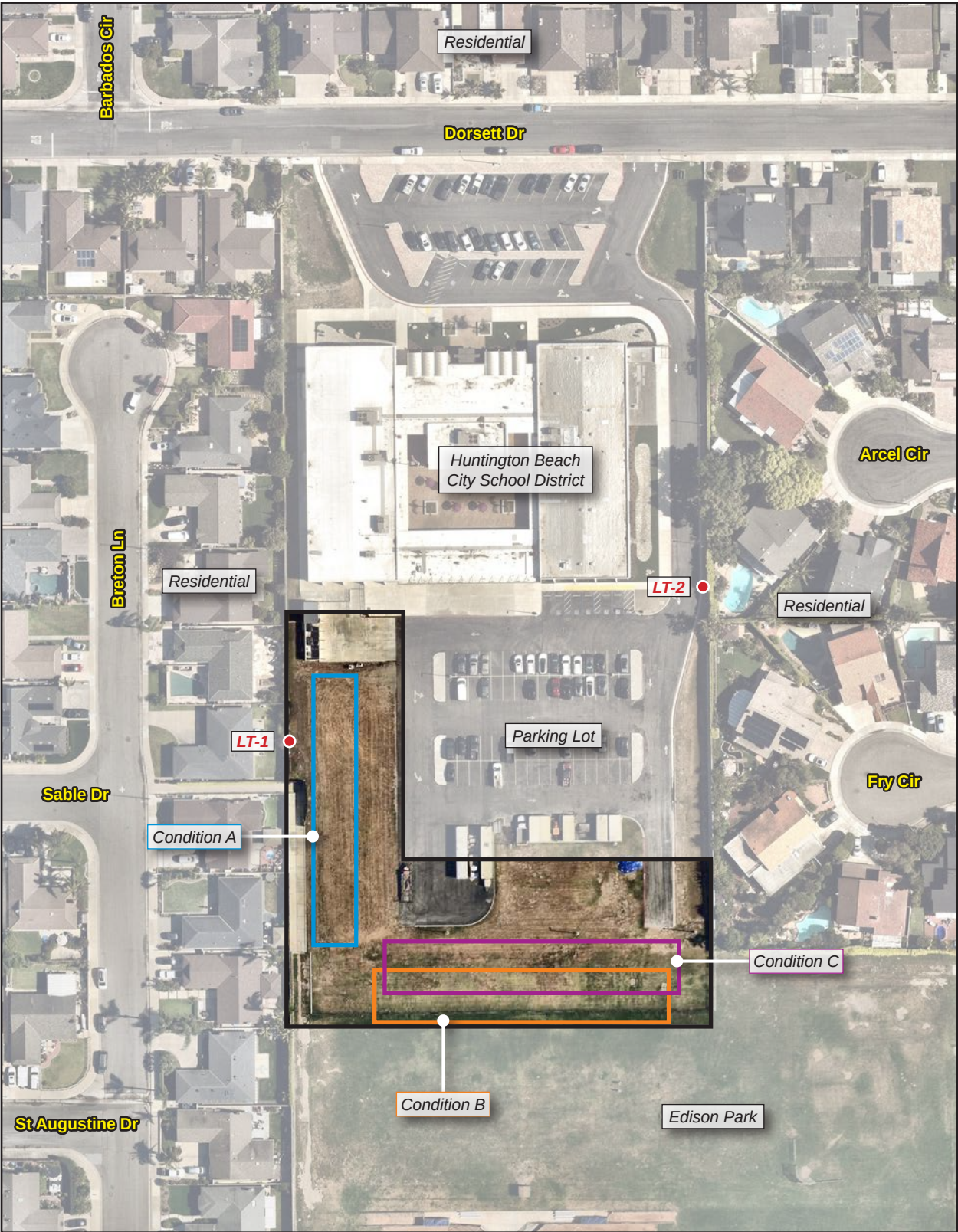
| AUGUST 27–28, 2024—51.5 DBA CNEL |                       |                        |          |                       |                        |
|----------------------------------|-----------------------|------------------------|----------|-----------------------|------------------------|
| TIME                             | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) | TIME     | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) |
| 7:00 am                          | 44.1                  | 66.9                   | 7:00 pm  | 47.2                  | 66.5                   |
| 8:00 am                          | 44.0                  | 69.5                   | 8:00 pm  | 45.2                  | 63.6                   |
| 9:00 am                          | 44.0                  | 64.2                   | 9:00 pm  | 44.7                  | 59.1                   |
| 10:00 am                         | 45.5                  | 71.0                   | 10:00 pm | 44.1                  | 64.2                   |
| 11:00 am                         | 50.8                  | 75.3                   | 11:00 pm | 42.0                  | 59.7                   |
| 12:00 pm                         | 52.3                  | 78.6                   | 12:00 am | 40.6                  | 49.5                   |
| 1:00 pm                          | 51.3                  | 77.6                   | 1:00 am  | 40.1                  | 45.6                   |
| 2:00 pm                          | 47.5                  | 74.6                   | 2:00 am  | 39.9                  | 43.1                   |
| 3:00 pm                          | 49.6                  | 73.7                   | 3:00 am  | 40.0                  | 48.1                   |
| 4:00 pm                          | 48.2                  | 74.3                   | 4:00 am  | 40.0                  | 45.3                   |
| 5:00 pm                          | 48.1                  | 68.2                   | 5:00 am  | 41.1                  | 52.8                   |
| 6:00 pm                          | 49.7                  | 76.6                   | 6:00 am  | 43.9                  | 62.7                   |
| AUGUST 28–29, 2024—50.4 DBA CNEL |                       |                        |          |                       |                        |
| TIME                             | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) | TIME     | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) |
| 7:00 am                          | 45.8                  | 70.3                   | 7:00 pm  | 48.1                  | 66                     |
| 8:00 am                          | 46.5                  | 71.9                   | 8:00 pm  | 45.9                  | 62.7                   |
| 9:00 am                          | 46.1                  | 71.6                   | 9:00 pm  | 44.2                  | 61.2                   |
| 10:00 am                         | 49.5                  | 72.0                   | 10:00 pm | 42.6                  | 51.1                   |
| 11:00 am                         | 49.8                  | 68.1                   | 11:00 pm | 41.5                  | 58.3                   |
| 12:00 pm                         | 48.9                  | 76.3                   | 12:00 am | 40.7                  | 47.5                   |
| 1:00 pm                          | 49.7                  | 75.4                   | 1:00 am  | 40.4                  | 44.8                   |
| 2:00 pm                          | 50.1                  | 67.6                   | 2:00 am  | 40.5                  | 46.6                   |
| 3:00 pm                          | 48.8                  | 73.6                   | 3:00 am  | 40.3                  | 47.6                   |
| 4:00 pm                          | 50.6                  | 68.7                   | 4:00 am  | 40.5                  | 60.4                   |
| 5:00 pm                          | 49.9                  | 74.4                   | 5:00 am  | 41.3                  | 53.3                   |
| 6:00 pm                          | 49.7                  | 69.4                   | 6:00 am  | 43.4                  | 67.6                   |

**Table 3 LT-2 Ambient Long-Term Noise Measurements**

| AUGUST 27–28, 2024—56.1 DBA CNEL |                       |                        |          |                       |                        |
|----------------------------------|-----------------------|------------------------|----------|-----------------------|------------------------|
| TIME                             | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) | TIME     | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) |
| 7:00 am                          | 52.2                  | 72.2                   | 7:00 pm  | 49.0                  | 64.4                   |
| 8:00 am                          | 49.3                  | 67.5                   | 8:00 pm  | 47.3                  | 65.7                   |
| 9:00 am                          | 48.1                  | 61.1                   | 9:00 pm  | 45.5                  | 53.9                   |
| 10:00 am                         | 48.4                  | 66.7                   | 10:00 pm | 45.0                  | 57.9                   |
| 11:00 am                         | 54.2                  | 67.9                   | 11:00 pm | 44.4                  | 59.5                   |
| 12:00 pm                         | 54.5                  | 79.4                   | 12:00 am | 42.1                  | 61.2                   |
| 1:00 pm                          | 56.8                  | 81.6                   | 1:00 am  | 39.8                  | 50.5                   |
| 2:00 pm                          | 53.7                  | 71.1                   | 2:00 am  | 36.2                  | 43.6                   |
| 3:00 pm                          | 66.1                  | 87.9                   | 3:00 am  | 35.5                  | 40.3                   |
| 4:00 pm                          | 53.1                  | 75.7                   | 4:00 am  | 38.6                  | 45.6                   |
| 5:00 pm                          | 50.4                  | 67.7                   | 5:00 am  | 36.9                  | 46.1                   |
| 6:00 pm                          | 51.2                  | 65.1                   | 6:00 am  | 44.4                  | 61.5                   |
| AUGUST 28–29, 2024—52.3 DBA CNEL |                       |                        |          |                       |                        |
| TIME                             | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) | TIME     | L <sub>EQ</sub> (dBA) | L <sub>MAX</sub> (dBA) |
| 7:00 am                          | 51.0                  | 72.0                   | 7:00 pm  | 50.2                  | 62.8                   |
| 8:00 am                          | 48.6                  | 69.1                   | 8:00 pm  | 48.3                  | 65.9                   |
| 9:00 am                          | 49.8                  | 65.3                   | 9:00 pm  | 46.6                  | 65.1                   |
| 10:00 am                         | 49.7                  | 69.3                   | 10:00 pm | 44.5                  | 55.0                   |
| 11:00 am                         | 54.8                  | 80.7                   | 11:00 pm | 42.2                  | 52.7                   |
| 12:00 pm                         | 54.0                  | 75.2                   | 12:00 am | 40.7                  | 56.2                   |
| 1:00 pm                          | 51.1                  | 65.8                   | 1:00 am  | 37.4                  | 45.8                   |
| 2:00 pm                          | 56.4                  | 79.5                   | 2:00 am  | 37.4                  | 43.8                   |
| 3:00 pm                          | 52.0                  | 69.1                   | 3:00 am  | 38.4                  | 48.1                   |
| 4:00 pm                          | 52.0                  | 72.5                   | 4:00 am  | 39.9                  | 46.0                   |
| 5:00 pm                          | 52.8                  | 64.8                   | 5:00 am  | 38.6                  | 60.0                   |
| 6:00 pm                          | 50.6                  | 64.1                   | 6:00 am  | 45.1                  | 63.4                   |



Figure 1 - Approximate Noise Monitoring Locations



— Project Boundary      • **LT-X** Long-Term Noise Measurement Locations (2)

Note: Condition A – Bay doors facing east; Condition B – Bay doors facing north.  
Condition C – Bay doors facing south.

Source: Nearmap 2024; PlaceWorks 2025.

0 100  
Scale (Feet)





## Methodology

This section analyzes impacts related to operational noise associated with buildout of the proposed project.

Operation and maintenance building noise was estimated based on SoundPLAN modeling. SoundPLAN models future noise levels by applying industry-accepted propagation algorithms based on International Organization for Standardization (ISO) 9613-2 and ÖAL-28 standards for outdoor sound propagation. The modeling calculations account for classical sound wave divergence (spherical spreading loss with adjustments for source directivity from point sources) plus attenuation (noise reduction) due to air absorption, ground effects, and shielding provided by existing structures (e.g., buildings or solid masonry walls). Additionally, SoundPLAN provides for other correction factors, including noise-level increases due to reflections, source directivity, and source tonality.

The proposed operation and maintenance building is in an area that is flat. Under Condition A, the proposed building would be approximately 20 feet from the residential property line to the west and approximately 275 feet from the residential property line to the east. Bay doors would open to the east. Under Condition B, the proposed building would be approximately 20 feet from Edison Park property line to the south, approximately 85 feet from the residential property line to the west, and approximately 25 feet from the residential property line to the east. Bay doors would open to the north. Under Condition C, the proposed building would be approximately 25 feet from Edison Park property line to the south, approximately 85 feet from the residential property line to the west, and approximately 25 feet from the residential property line to the east. Bay doors would open to the south.

Residential uses to the west are separated from the project site by a wood-and-chain-link fence. Residential uses to the east are shielded by a masonry wall approximately 6 feet high. Edison Park users to the south are separated from the project site by a chain-link fence. The modeling accounts for the existing masonry wall at adjacent residences to the east as well as ground absorption for compacted soils and paved areas. Noise modeling was conducted at 14 residential and 2 park locations around the project site to represent individual residences and the spectators and park users at Fields K-3 and K-2 of Edison Park. SoundPLAN modeling conservatively assumes the simultaneous operation of an air compressor for 5 percent of an hour, a radial arm saw for 20 percent of an hour, and a table saw for 30 percent of an hour. Each piece of equipment has been modeled as a point source at a height of three feet.

### PROJECT OPERATIONS AND MAINTENANCE NOISE

The proposed project would move existing exterior operations and maintenance activities into the interior of the proposed building. The proposed building would include the new offices, break room, reception, restrooms, secure storage, woodworking area, groundskeeping shop, and mechanical bay. The majority of noise-producing maintenance activities are conducted off-site at the specific location of a work request. The proposed building would primarily be used for equipment storage; however, some noise-producing maintenance activities could take place within the building envelope (e.g., saws, air compressor). Maintenance noise is highly variable and depends on the type, duration, and level of activity.

## SoundPLAN Modeling Results

Modeling was conducted for an existing condition and project conditions. The existing condition modeling locates noise sources in the existing parking lot of the project site during operation. The project conditions locate noise sources within the proposed building with all bay doors open during operation. SoundPLAN modeling noise levels at representative receptor locations are shown in Table 4, *Summary of SoundPLAN Modeling Results*. SoundPLAN modeling results of existing and project condition operations are also shown

in Figure 2, *Existing Exterior Operations*; Figure 3, *Condition A Operations*; Figure 4, *Condition B Operations*; and Figure 5, *Condition C Operations*, graphically representing energy-averaged sound levels ( $L_{eq}$ ) for daytime hours (7:00 a.m. to 6:00 p.m.) in 5 dBA noise contours. SoundPLAN modeling inputs and results are shown in Attachment D.

**Table 4 Summary of SoundPLAN Modeling Results**

| LOCATION              | RECEPTOR | EXISTING CONDITION<br>NOISE LEVELS<br>(dBA $L_{eq}$ ) | CONDITION A<br>NOISE LEVELS<br>(dBA $L_{eq}$ ) | CONDITION B<br>NOISE LEVELS<br>(dBA $L_{eq}$ ) | CONDITION C<br>NOISE LEVELS<br>(dBA $L_{eq}$ ) |
|-----------------------|----------|-------------------------------------------------------|------------------------------------------------|------------------------------------------------|------------------------------------------------|
| 21162 Breton Lane     | R-1      | 53.9                                                  | 32.2                                           | 44.2                                           | 23.5                                           |
| 21172 Breton Lane     | R-2      | <b>61.2</b>                                           | 40.6                                           | 50.7                                           | 31.2                                           |
| 21182 Breton Lane     | R-3      | <b>62.0</b>                                           | 38.6                                           | 46.7                                           | 28.4                                           |
| 21192 Breton Lane     | R-4      | <b>64.4</b>                                           | 31.8                                           | 53.0                                           | 29.2                                           |
| 21202 Breton Lane     | R-5      | <b>63.7</b>                                           | 48.0                                           | 46.9                                           | 28.3                                           |
| 21200 Breton Lane     | R-6      | <b>60.9</b>                                           | 41.5                                           | 51.5                                           | 32.5                                           |
| 21222 Breton Lane     | R-7      | 53.8                                                  | 34.2                                           | 31.8                                           | 48.3                                           |
| 21232 Breton Lane     | R-8      | 53.0                                                  | 30.9                                           | 37.2                                           | <b>57.5</b>                                    |
| 21242 Breton Lane     | R-9      | 51.1                                                  | 30.3                                           | 33.9                                           | <b>57.3</b>                                    |
| 21252 Breton Lane     | R-10     | 49.0                                                  | 28.1                                           | 21.0                                           | 52.8                                           |
| 8812 Fry Court        | R-11     | 50.5                                                  | 51.8                                           | <b>57.6</b>                                    | 35.2                                           |
| 8811 Fry Court        | R-12     | 49.1                                                  | 53.8                                           | 51.0                                           | --                                             |
| 8812 Arcel Circle     | R-13     | 51.5                                                  | 46.3                                           | 42.5                                           | --                                             |
| 8811 Arcel Circle     | R-14     | 44.7                                                  | 38.8                                           | 37.1                                           | --                                             |
| Edison Park Field K-3 | R-15     | 48.9                                                  | 48.8                                           | 33.6                                           | 53.7                                           |
| Edison Park Field K-2 | R-16     | 47.3                                                  | 43.6                                           | 29.1                                           | 50.9                                           |

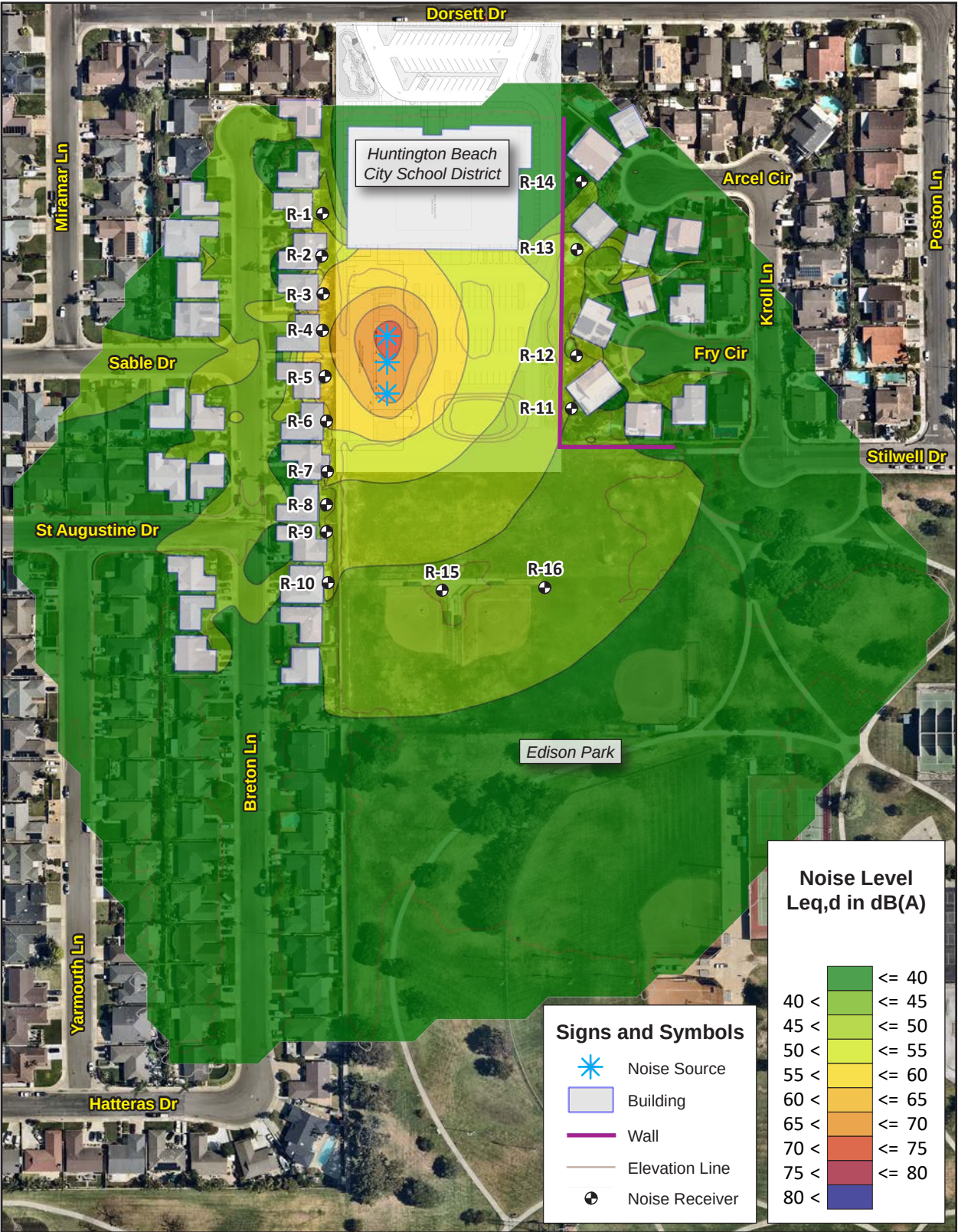
Source: Attachment D.

Note: Bold indicates an exceedance of the daytime 55 dBA  $L_{eq}$  noise standard.

## EXISTING CONDITION

Noise modeling results for the existing condition (exterior operations in the open parking lot) shows that the closest adjacent residential receptors to the west along Breton Lane (R-2 through R-6) are exposed to noise levels of 60.9 dBA to 64.4 dBA  $L_{eq}$  during operational activities in the open parking lot. Residential receptors further from the parking lot (R-1 and R-7 through R-10) are exposed to noise levels of 49.0 dBA to 53.9 dBA  $L_{eq}$  during operational activities in the open parking lot. Residential receptors to the east of the project (R-11 through R-14) are exposed to noise levels of 44.7 dBA to 51.5 dBA  $L_{eq}$  during operational activities in the open parking lot. Edison Park receptors R-15 and R-16 are exposed to noise levels of 48.9 dBA and 47.3 dBA  $L_{eq}$ , respectively, during operational activities under existing conditions. During exterior operations under the existing condition, five residential receptors (R2 through R6) are exposed to hourly noise levels above the City's 55 dBA  $L_{eq}$  daytime standard.

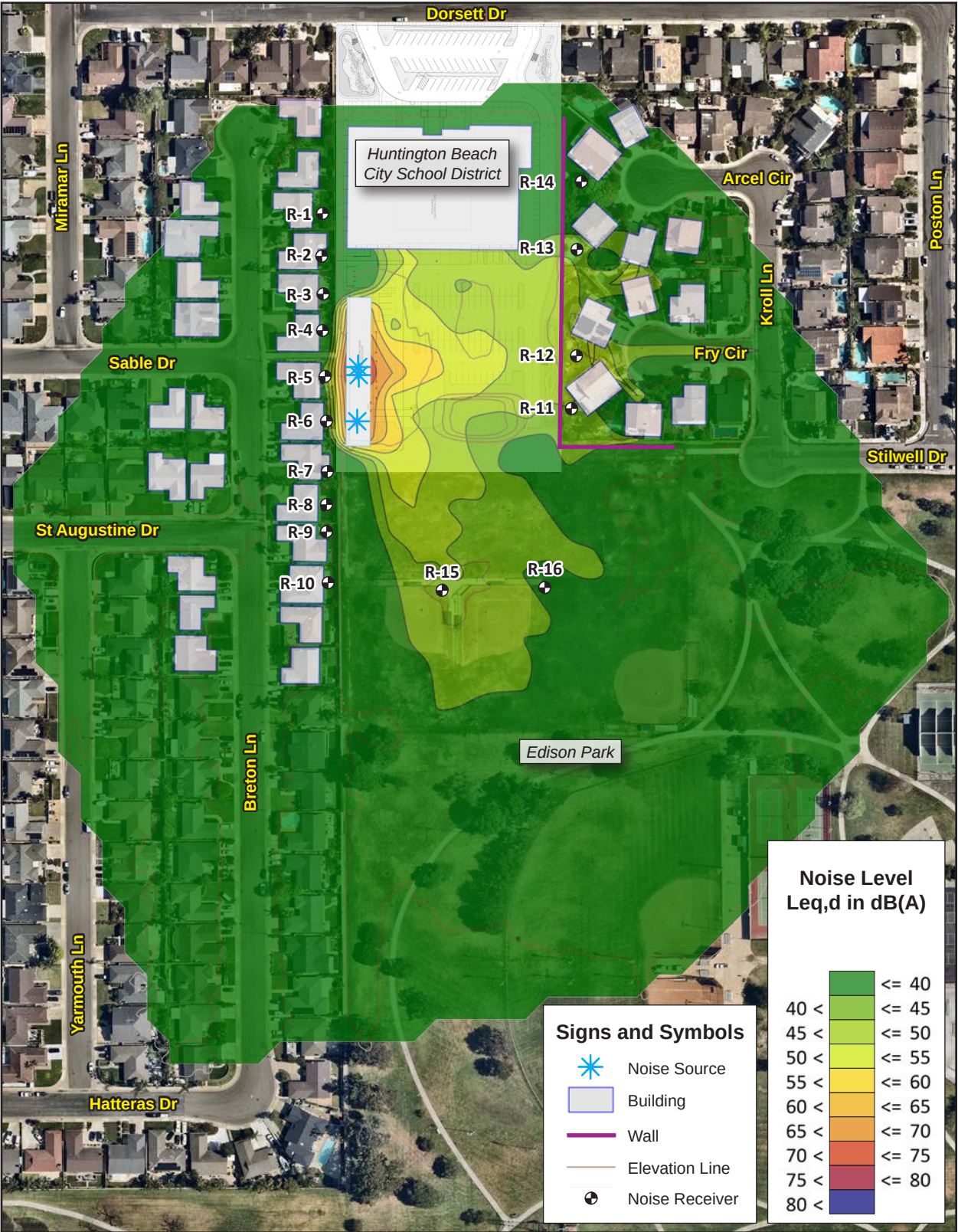
Figure 2 - Existing



Source: Nearmap, 2024; Studio W 2022, PlaceWorks 2025.



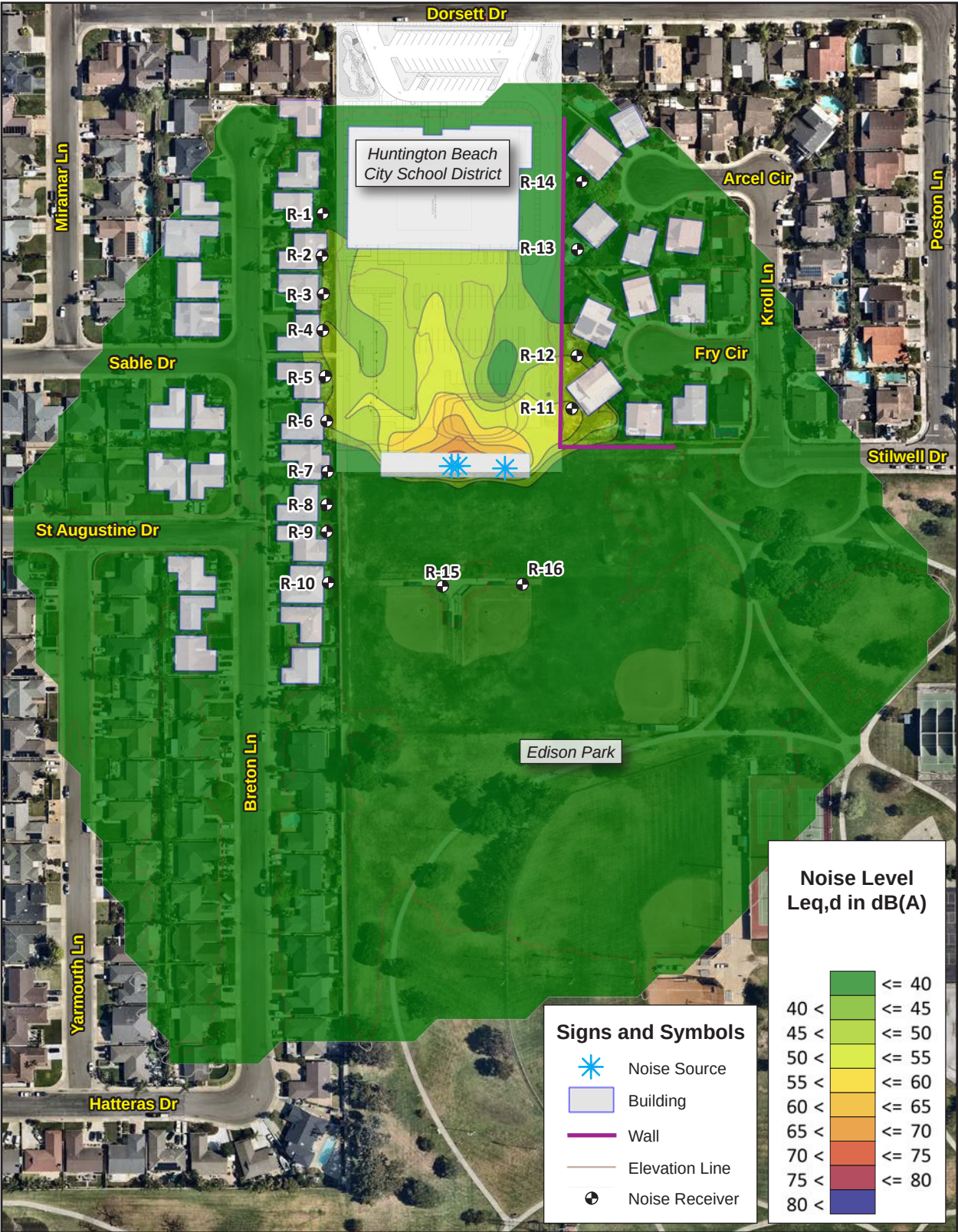
Figure 3 - Condition A



Source: Nearmap, 2024; Studio W 2022, PlaceWorks 2025.



Figure 4 - Condition B



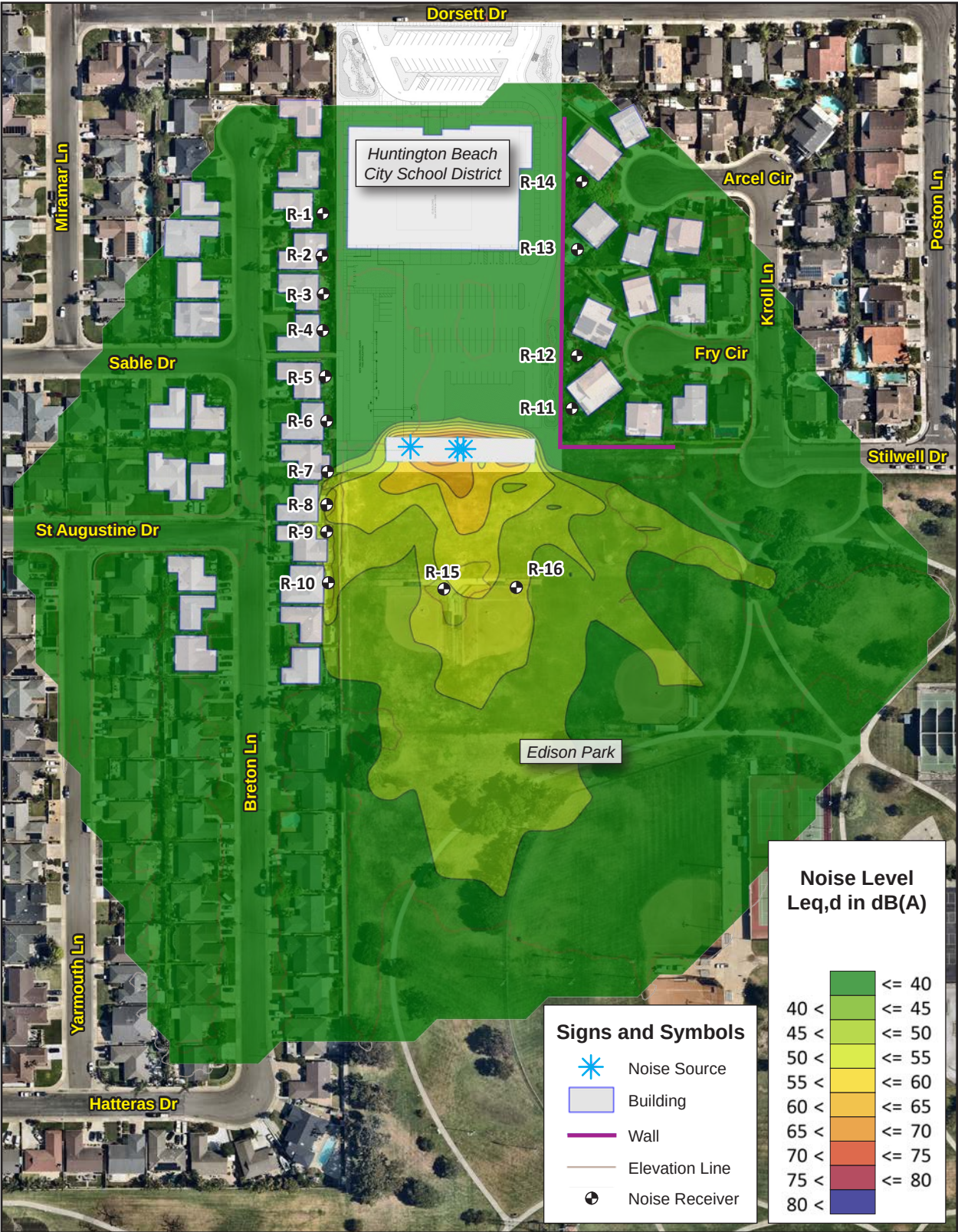
0 200  
Scale (Feet)



Source: Nearmap, 2024; Studio W 2022, PlaceWorks 2025.



Figure 5 - Condition C



Source: Nearmap, 2024; Studio W 2022, PlaceWorks 2025.



## **CONDITION A**

Noise modeling results for Condition A (operations conducted inside the proposed building along the western property line with bay doors open to the east) shows that the closest adjacent residential receptors to the west along Breton Lane (R-2 through R-6) would be exposed to noise levels of 31.8 dBA to 48.0 dBA  $L_{eq}$  during operational activities inside of the proposed building with bay doors open to the east. Residential receptors further from this proposed Condition A building location and oriented along Breton Lane (R-1 and R-7 through R-10) would be exposed to noise levels of 28.1 dBA to 34.2 dBA  $L_{eq}$ . Residential receptors to the east of the project (R-11 through R-14) would be exposed to noise levels of 38.8 dBA to 53.8 dBA  $L_{eq}$ . Edison Park receptors R-15 and R-16 would be exposed to noise levels of 48.8 dBA and 43.6 dBA  $L_{eq}$ , respectively. Project operations under Condition A would not expose any residential receptors to hourly noise levels above the City's 55 dBA  $L_{eq}$  daytime standard.

## **CONDITION B**

Noise modeling results for project scenario (operations conducted inside the proposed building along the southern property line with bay doors open to the north) shows that the closest adjacent residential receptors to the east along Fry Circle (R-11 and R-12) would be exposed to noise levels of 57.6 dBA and 51.0 dBA  $L_{eq}$ , respectively, during operational activities inside of the proposed building with bay doors open to the north. The closest residential receptors to the east of the project (R-2 through R-6) would be exposed to noise levels of 46.7 dBA to 53.0 dBA  $L_{eq}$  during operational activities under Condition B. Residential receptors further north and south from this proposed Condition B building location and orientation along Arcel Circle (R-1, R-10, R-13, and R-14) would be exposed to noise levels of 21.0 dBA to 44.2 dBA  $L_{eq}$  during operational activities inside of the proposed Condition B building. Edison Park receptors R-15 and R-16 would be exposed to noise levels of 33.6 dBA and 29.1 dBA  $L_{eq}$ , respectively. Project operations conducted under Condition B would expose one residential receptor (R-11) to hourly noise levels above the City's 55 dBA  $L_{eq}$  daytime standard.

## **CONDITION C**

Noise modeling results for project scenario (operations conducted inside the proposed building 25 feet north of the southern property line with bay doors open to the south) shows that the closest adjacent residential receptors to the east along Breton Lane (R-7 through R-10) would be exposed to noise levels of 48.3 dBA to 57.5 dBA  $L_{eq}$  during operational activities inside of the proposed building with bay doors open to the south. The closest recreational users to the south in Edison Park (R-15 and R-16) would be exposed to noise levels of 53.7 dBA and 50.9 dBA  $L_{eq}$ , respectively. The closest residential receptors to the west of the project (R-11 through R-14) would be exposed to noise levels of up to 35.2 dBA  $L_{eq}$ . Residential receptors further north from this proposed Condition C building location and orientation along Breton Lane (R-1 through R-6) would be exposed to noise levels of 23.5 dBA to 32.5 dBA  $L_{eq}$ . Project operations under Condition C would expose two residential receptors (R-8 and R-9) to hourly noise levels above the City's 55 dBA  $L_{eq}$  daytime standard.

## **EXISTING TEMPORARY NOISE INCREASES OVER AMBIENT ANALYSIS**

An analysis of existing temporary noise increases caused by current maintenance activities occurring in parking lot over ambient noise levels was conducted to compare ambient noise levels to the existing and proposed project conditions at receptor locations. The results are shown in Table 5, *Increase Over Ambient Analysis*. Compared to measured ambient noise levels, existing project operations increase ambient noise levels by 3.3 dBA to 14.0 dBA at nine Breton Lane receptors (R-1 through R-9). Seven receptors to the southwest, east, and south (R-10 through R-16) do not experience increases over 3 dBA. As shown in Table 5, Condition A operations would increase ambient noise levels from <1 dBA to 2.2 dBA at all 16 adjacent

receptor locations. Condition B operations would increase ambient noise levels by 3.1 dBA to 4.4 dBA at four Breton Lane and Fry Court receptors (R-2, R-4, R-6, and R-11). Twelve receptors to the southwest, east, and south (R-1, R-3, R-5, R-7 through R-10, and R-12 through R-16) would not experience increases over 3 dBA. Condition C operations would increase ambient noise levels by 3.2 dBA to 7.7 dBA at five Breton Lane and Edison Park receptors (R-8 through R-10, R-15, and R-16). Eleven receptors to the west and east (R-1 through R-7 and R-11 through R-14) would not experience increases over 3 dBA.

## **CONCLUSIONS**

Proposed project Conditions A, B, and C noise sources in the proposed building with all bay doors open would significantly reduce operational noise levels at receptors adjacent to the proposed project. Condition A SoundPLAN modeling shows this building configuration and bay door orientation provides the least increase in ambient noise levels and provides compliance with the City's 55 dBA Leq daytime noise standard. Conditions B and C would also provide significant reductions in operational noise levels at receptors adjacent to the proposed project, but three receptors (R-11 under Condition B and R-8 and R-9 under Condition C) would result in exceedance of the City's 55 dBA Leq daytime noise standard.

As shown in Tables 4 and 5, with implementation of the proposed project under Condition A, the District would ensure compliance with the City of Huntington Beach 55 dBA Leq daytime noise standard for fixed (stationary) noise sources and would not increase ambient noise levels by more than 3 dBA at all receptors to the west, east, and south of the project site.

With implementation of the proposed project under Conditions B and C, the District would have to include localized noise walls to ensure compliance with the City of Huntington Beach 55 dBA Leq daytime noise standard for fixed (stationary) noise sources at adjacent sensitive residential receptors. An 8-foot high concrete masonry wall extending from the westernmost proposed building façade to the north under Condition B would reduce operational noise levels and comply with City of Huntington Beach 55 dBA Leq daytime noise standard for fixed (stationary) noise sources. An 8-foot-high concrete masonry wall extending from the westernmost proposed building façade to the south would reduce operational noise levels and comply with City of Huntington Beach 55 dBA Leq daytime noise standard for fixed (stationary) noise sources under Condition C.

**Table 5 Increase Over Ambient Analysis**

| LOCATION              | RECEPTOR | AMBIENT<br>NOISE LEVEL<br>(dBA, L <sub>EQ</sub> ) | AMBEINT PLUS MODELED NOISE LEVEL                    |                                                        |                                                        |                                                        | INCREASE OVER AMBIENT                               |                                                        |                                                        |                                                        |
|-----------------------|----------|---------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|-----------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|--------------------------------------------------------|
|                       |          |                                                   | EXISTING<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION A<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION B<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION C<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | EXISTING<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION A<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION B<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) | CONDITION C<br>NOISE LEVELS<br>(dBA, L <sub>EQ</sub> ) |
| 21162 Breton Lane     | R-1      | 50.6                                              | 53.9                                                | 32.2                                                   | 44.2                                                   | 23.5                                                   | <b>5.0</b>                                          | 0.1                                                    | 0.9                                                    | 0.0                                                    |
| 21172 Breton Lane     | R-2      | 50.6                                              | 61.2                                                | 40.6                                                   | 50.7                                                   | 31.2                                                   | <b>11.0</b>                                         | 0.4                                                    | <b>3.1</b>                                             | 0.0                                                    |
| 21182 Breton Lane     | R-3      | 50.6                                              | 62.0                                                | 38.6                                                   | 46.7                                                   | 28.4                                                   | <b>11.7</b>                                         | 0.3                                                    | 1.5                                                    | 0.0                                                    |
| 21192 Breton Lane     | R-4      | 50.6                                              | 64.4                                                | 31.8                                                   | 53.0                                                   | 29.2                                                   | <b>14.0</b>                                         | 0.1                                                    | <b>4.4</b>                                             | 0.0                                                    |
| 21202 Breton Lane     | R-5      | 50.6                                              | 63.7                                                | 48.0                                                   | 46.9                                                   | 28.3                                                   | <b>13.3</b>                                         | 1.9                                                    | 1.5                                                    | 0.0                                                    |
| 21200 Breton Lane     | R-6      | 50.6                                              | 60.9                                                | 41.5                                                   | 51.5                                                   | 32.5                                                   | <b>10.7</b>                                         | 0.5                                                    | <b>3.5</b>                                             | 0.1                                                    |
| 21222 Breton Lane     | R-7      | 50.6                                              | 53.8                                                | 34.2                                                   | 31.8                                                   | 48.3                                                   | <b>4.9</b>                                          | 0.1                                                    | 0.1                                                    | 2.0                                                    |
| 21232 Breton Lane     | R-8      | 50.6                                              | 53.0                                                | 30.9                                                   | 37.2                                                   | 57.5                                                   | <b>4.4</b>                                          | 0.0                                                    | 0.2                                                    | <b>7.7</b>                                             |
| 21242 Breton Lane     | R-9      | 50.6                                              | 51.1                                                | 30.3                                                   | 33.9                                                   | 57.3                                                   | <b>3.3</b>                                          | 0.0                                                    | 0.1                                                    | <b>7.5</b>                                             |
| 21252 Breton Lane     | R-10     | 50.6                                              | 49.0                                                | 28.1                                                   | 21.0                                                   | 52.8                                                   | 2.3                                                 | 0.0                                                    | 0.0                                                    | <b>4.2</b>                                             |
| 8812 Fry Court        | R-11     | 56.4                                              | 50.5                                                | 51.8                                                   | 57.6                                                   | 35.2                                                   | 1.0                                                 | 1.3                                                    | <b>3.7</b>                                             | 0.0                                                    |
| 8811 Fry Court        | R-12     | 56.4                                              | 49.1                                                | 53.8                                                   | 51.0                                                   | --                                                     | 0.7                                                 | 1.9                                                    | 1.1                                                    | 0.0                                                    |
| 8812 Arcel Circle     | R-13     | 56.4                                              | 51.5                                                | 46.3                                                   | 42.5                                                   | --                                                     | 1.2                                                 | 0.4                                                    | 0.2                                                    | 0.0                                                    |
| 8811 Arcel Circle     | R-14     | 56.4                                              | 44.7                                                | 38.8                                                   | 37.1                                                   | --                                                     | 0.3                                                 | 0.1                                                    | 0.1                                                    | 0.0                                                    |
| Edison Park Field K-3 | R-15     | 50.6                                              | 48.9                                                | 48.8                                                   | 33.6                                                   | 53.7                                                   | 2.2                                                 | 2.2                                                    | 0.1                                                    | <b>4.8</b>                                             |
| Edison Park Field K-2 | R-16     | 50.6                                              | 47.3                                                | 43.6                                                   | 29.1                                                   | 50.9                                                   | 1.7                                                 | 0.8                                                    | 0.0                                                    | <b>3.2</b>                                             |

Source: Attachment D.

Note: Bold indicates an increase of 3 dBA or more over ambient noise levels.



## References

Beranek, Leo. 1988. *Noise and Vibration Control*. Revised Edition. Washington, D.C.: Institute of Noise Control Engineering.

Bolt, Beranek & Newman (BBN). 1987. *Noise Control for Buildings and Manufacturing Plants*.

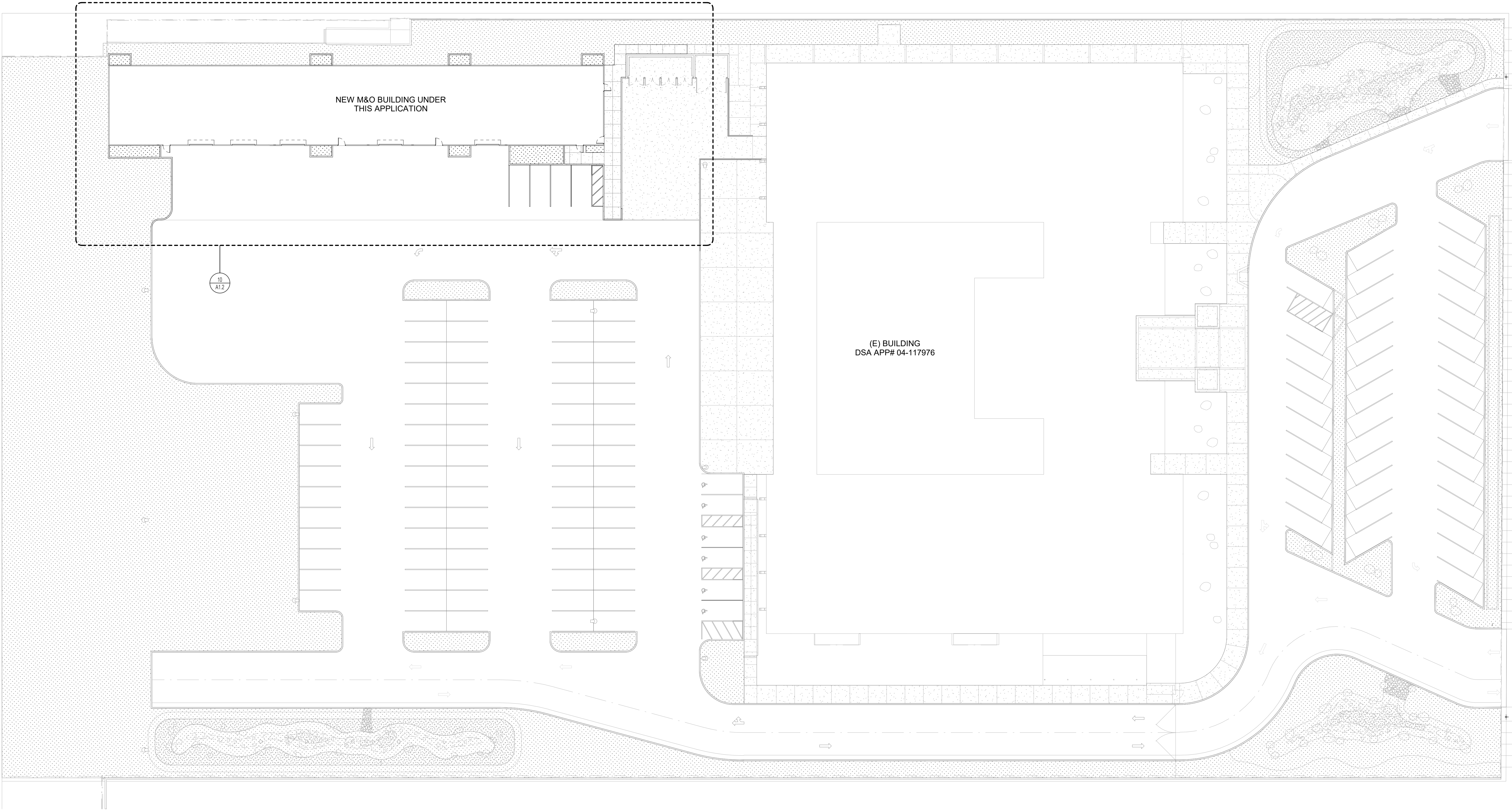
California Department of Transportation (Caltrans). 2013, September. *Technical Noise Supplement ("TeNS")*.

Huntington Beach, City of. 2023. *Noise Control*. Chapter 8.40 of City of Huntington Beach Municipal Code. [https://www.huntingtonbeachca.gov/files/users/planning/HB-GPU\\_Adopted-October-2017.pdf](https://www.huntingtonbeachca.gov/files/users/planning/HB-GPU_Adopted-October-2017.pdf).

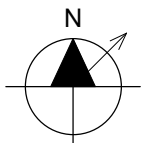
## **Attachment A Site Plan**



|        |      |  | GENERAL NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | LEGEND                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | KEY NOTES                                                                       |        |      |  |  |
|--------|------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|--------|------|--|--|
|        |      |  | <div>1. CONTRACTOR IS RESPONSIBLE FOR 6'-0" HIGH TEMPORARY CONSTRUCTION BARRIER WITH VISION SCREEN AT STAGING, STORAGE AND CONSTRUCTION AREA WITH SIGNAGE EVERY 20'-0" TO WARN STUDENTS OF CONSTRUCTION AREA.</div> <div>2. CONTRACTOR TO BRING IN OFFICE TRAILER TO CONSTRUCTION AREA.</div> <div>3. CONTRACTOR SHALL ACCESS THE SITE FROM DORSETT DRIVE. ANY DAMAGE TO FIRE LANE WILL BE AT THE CONTRACTOR'S EXPENSE.</div> <div>4. CONTRACTOR TO REPAIR BACK TO EXISTING CONDITIONS ALL LAYDOWN AREAS AT THE END OF CONSTRUCTION. THIS INCLUDES LANDSCAPE AREAS AND ANY BROKEN SPRINKLERS, VALVE BOXES, CONCRETE, ASPHALT, ETC.</div> <div>5. CONTRACTOR SHALL REPLACE, RECONSTRUCT AND REPAIR ALL EXISTING WORK THAT IS IMPACTED, DAMAGED, OR DESTROYED AS A RESULT OF ANY CONTRACTOR WORK INCLUDING, BUT NOT LIMITED TO, HARDSCAPING, SIDEWALKS, IRRIGATION SYSTEMS, LANDSCAPING, LAWNS, STRUCTURES AND UTILITIES - ALL TO THE SATISFACTION OF THE DISTRICT.</div> <div>6. WHERE ASPHALT OR CONCRETE IS BEING REPAIRED, CONTRACTOR SHALL PROVIDE EVEN AND STRAIGHT LINE CUTS WITH 2-FOOT STRAIGHT SLURRY SEAL SURFACE PATCH ON BOTH SIDES OF CUT.</div> <div>7. CONTRACTOR SHALL EXERCISE EXTREME CAUTION IN EXCAVATING AND TRENCHING ON SITE TO AVOID EXISTING DUCTS, PIPING OR CONDUITS, ETC., AND TO PREVENT HAZARDS TO PERSONNEL AND/OR DAMAGE TO EXISTING UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN AND INSTALLED BY ANY OTHER CONTRACTS. THE ARCHITECT IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES OR STRUCTURES WHETHER OR NOT SHOWN OR DETAILED AND INSTALLED BY ANY OTHER CONTRACTS. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ARCHITECT SHOULD SUCH UNIDENTIFIED CONDITIONS BE DISCOVERED. THESE DRAWINGS AND SPECIFICATIONS DO NOT INCLUDE THE NECESSARY ELEMENTS FOR CONSTRUCTION SAFETY.</div> <div>8. GATES IN PATH OF TRAVEL SHALL COMPLY WITH EXIT DOOR REQUIREMENTS WITH PROPER LEVER HARDWARE AND KICK PLATES.</div> | <div><div><div></div></div><div>8" CONCRETE OVER 6" CLASS II AGGREGATE BASE</div></div> <div><div><div></div></div><div>4" CONCRETE OVER 6" CLASS II AGGREGATE BASE</div></div> <div><div><div></div></div><div>4" COLORED CONCRETE PAVING OVER 6" CLASS II AGGREGATE BASE</div></div> <div><div><div></div></div><div>ASPHALT PAVING</div></div> <div><div><div></div></div><div>LANDSCAPING, SEE LANDSCAPE DRAWINGS</div></div> <div><div><div></div></div><div>PROPERTY LINE</div></div> <div><div><div></div></div><div>LIMIT OF WORK</div></div> <div><div><div></div></div><div>LINE OF ROOF, SKYLIGHT, OR SOFFIT OVERHEAD - SHOWN DASHED</div></div> <div><div><div></div></div><div>FIRE HYDRANT</div></div> | <table><tr><th>NUMBER</th><th>NOTE</th></tr><tr><td></td><td></td></tr></table> | NUMBER | NOTE |  |  |
| NUMBER | NOTE |  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                 |        |      |  |  |
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REF: 6 / A5.1



SITE PLAN OVERALL

1" = 20'-0"

10

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REVISION HISTORY

DRAWING STATUS

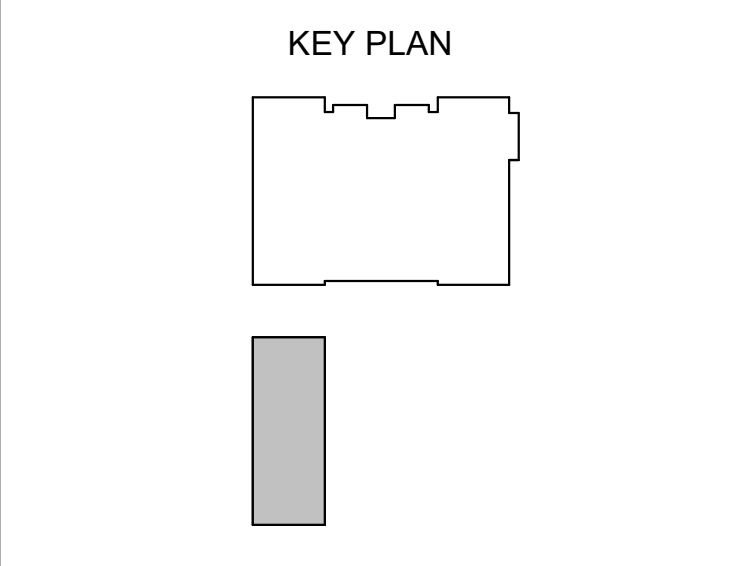
☐ DSA PLAN CHECK

☐ DSA BACK CHECK

☐ BIDDING

☐ CONSTRUCTION

DATE



HUNTINGTON BEACH  
CITY SCHOOL DISTRICT  
8750 DORSETT DR  
HUNTINGTON BEACH, CA 92646

SCHEMATIC DESIGN

KETTLER EDUCATIONAL  
CENTER  
M&O BUILDING  
8750 DORSETT DRIVE  
HUNTINGTON BEACH, CA 92646

SITE PLAN OVERALL

|                      |                         |
|----------------------|-------------------------|
| Date<br>05/20/2021   | Project Number<br>21010 |
| Scale<br>1" = 20'-0" | Drawing Number<br>A1.1  |
| Drawn<br>Author      | Checked<br>Checker      |



## **Attachment B Noise Fundamentals and Applicable Regulations**

# Fundamentals of Noise

---

## NOISE

Noise is most often defined as unwanted sound; whether it is loud, unpleasant, unexpected, or otherwise undesirable. Although sound can be easily measured, the perception of noise and the physical response to sound complicate the analysis of its impact on people. People judge the relative magnitude of sound sensation in subjective terms such as “noisiness” or “loudness.”

### Noise Descriptors

The following are brief definitions of terminology used in this chapter:

- **Sound.** A disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism, such as the human ear or a microphone.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Decibel (dB).** A unitless measure of sound, expressed on a logarithmic scale and with respect to a defined reference sound pressure. The standard reference pressure is 20 micropascals (20  $\mu\text{Pa}$ ).
- **A-Weighted Decibel (dBA).** An overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear.
- **Equivalent Continuous Noise Level ( $L_{eq}$ ); also called the Energy-Equivalent Noise Level.** The value of an equivalent, steady sound level which, in a stated time period (often over an hour) and at a stated location, has the same A-weighted sound energy as the time-varying sound. Thus, the  $L_{eq}$  metric is a single numerical value that represents the equivalent amount of variable sound energy received by a receptor over the specified duration.
- **Statistical Sound Level ( $L_n$ ).** The sound level that is exceeded “n” percent of time during a given sample period. For example, the  $L_{50}$  level is the statistical indicator of the time-varying noise signal that is exceeded 50 percent of the time (during each sampling period); that is, half of the sampling time, the changing noise levels are above this value and half of the time they are below it. This is called the “median sound level.” The  $L_{10}$  level, likewise, is the value that is exceeded 10 percent of the time (i.e., near the maximum) and this is often known as the “intrusive sound level.” The  $L_{90}$  is the sound level exceeded 90 percent of the time and is often considered the “effective background level” or “residual noise level.”
- **Maximum Sound Level ( $L_{max}$ ).** The highest RMS sound level measured during the measurement period.

- **Day-Night Sound Level ( $L_{dn}$  or DNL).** The energy-average of the A-weighted sound levels occurring during a 24-hour period, with 10 dB added to the sound levels occurring during the period from 10:00 PM to 7:00 AM.
- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period, with 5 dB added from 7:00 PM to 10:00 PM and 10 dB from 10:00 PM to 7:00 AM. NOTE: For general community/environmental noise, CNEL and  $L_{dn}$  values rarely differ by more than 1 dB (with the CNEL being only slightly more restrictive – that is, higher than the  $L_{dn}$  value). As a matter of practice,  $L_{dn}$  and CNEL values are interchangeable and are treated as equivalent in this assessment.
- **Sensitive Receptor.** Noise- and vibration-sensitive receptors include land uses where quiet environments are necessary for enjoyment and public health and safety. Residences, schools, motels and hotels, libraries, religious institutions, hospitals, and nursing homes are examples.

## Characteristics of Sound

When an object vibrates, it radiates part of its energy in the form of a pressure wave. Sound is that pressure wave transmitted through the air. Technically, airborne sound is a rapid fluctuation or oscillation of air pressure above and below atmospheric pressure that creates sound waves.

Sound can be described in terms of amplitude (loudness), frequency (pitch), or duration (time). Loudness or amplitude is measured in dB, frequency or pitch is measured in Hertz [Hz] or cycles per second, and duration or time variations is measured in seconds or minutes.

### *Amplitude*

Unlike linear units such as inches or pounds, decibels are measured on a logarithmic scale. Because of the physical characteristics of noise transmission and perception, the relative loudness of sound does not closely match the actual amounts of sound energy. Table 1 presents the subjective effect of changes in sound pressure levels. Ambient sounds generally range from 30 dBA (very quiet) to 100 dBA (very loud). Changes of 1 to 3 dB are detectable under quiet, controlled conditions, and changes of less than 1 dB are usually not discernible (even under ideal conditions). A 3 dB change in noise levels is considered the minimum change that is detectable with human hearing in outside environments. A change of 5 dB is readily discernible to most people in an exterior environment, and a 10 dB change is perceived as a doubling (or halving) of the sound.

**Table 1 Noise Perceptibility**

| Change in dB | Noise Level                       |
|--------------|-----------------------------------|
| ± 3 dB       | Barely perceptible increase       |
| ± 5 dB       | Readily perceptible increase      |
| ± 10 dB      | Twice or half as loud             |
| ± 20 dB      | Four times or one-quarter as loud |

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").



## *Frequency*

The human ear is not equally sensitive to all frequencies. Sound waves below 16 Hz are not heard at all, but are “felt” more as a vibration. Similarly, though people with extremely sensitive hearing can hear sounds as high as 20,000 Hz, most people cannot hear above 15,000 Hz. In all cases, hearing acuity falls off rapidly above about 10,000 Hz and below about 200 Hz.

When describing sound and its effect on a human population, A-weighted (dBA) sound levels are typically used to approximate the response of the human ear. The A-weighted noise level has been found to correlate well with people’s judgments of the “noisiness” of different sounds and has been used for many years as a measure of community and industrial noise. Although the A-weighted scale and the energy-equivalent metric are commonly used to quantify the range of human response to individual events or general community sound levels, the degree of annoyance or other response also depends on several other perceptibility factors, including:

- Ambient (background) sound level
- General nature of the existing conditions (e.g., quiet rural or busy urban)
- Difference between the magnitude of the sound event level and the ambient condition
- Duration of the sound event
- Number of event occurrences and their repetitiveness
- Time of day that the event occurs

## *Duration*

Time variation in noise exposure is typically expressed in terms of a steady-state energy level equal to the energy content of the time varying period (called  $L_{eq}$ ), or alternately, as a statistical description of the sound level that is exceeded over some fraction of a given observation period. For example, the  $L_{50}$  noise level represents the noise level that is exceeded 50 percent of the time; half the time the noise level exceeds this level and half the time the noise level is less than this level. This level is also representative of the level that is exceeded 30 minutes in an hour. Similarly, the  $L_2$ ,  $L_8$  and  $L_{25}$  values represent the noise levels that are exceeded 2, 8, and 25 percent of the time or 1, 5, and 15 minutes per hour, respectively. These “n” values are typically used to demonstrate compliance for stationary noise sources with many cities’ noise ordinances. Other values typically noted during a noise survey are the  $L_{min}$  and  $L_{max}$ . These values represent the minimum and maximum root-mean-square noise levels obtained over the measurement period, respectively.

Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, state law and many local jurisdictions use an adjusted 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL) or Day-Night Noise Level ( $L_{dn}$ ). The CNEL descriptor requires that an artificial increment (or “penalty”) of 5 dBA be added to the actual noise level for the hours from 7:00 PM to 10:00 PM and 10 dBA for the hours from 10:00 PM to 7:00 AM. The  $L_{dn}$  descriptor uses the same methodology except that there is no artificial increment added to the hours between 7:00 PM and 10:00 PM. Both descriptors give roughly the same 24-hour level, with the CNEL being only slightly more restrictive (i.e., higher). The CNEL or  $L_{dn}$  metrics are commonly applied to the assessment of roadway and airport-related noise sources.

## **Sound Propagation**

Sound dissipates exponentially with distance from the noise source. This phenomenon is known as “spreading loss.” For a single-point source, sound levels decrease by approximately 6 dB for each doubling of distance from the source (conservatively neglecting ground attenuation effects, air absorption factors, and barrier shielding). For example, if a backhoe at 50 feet generates 84 dBA, at 100 feet the noise level would be 79 dBA, and at 200 feet it would be 73 dBA. This drop-off rate is appropriate for noise generated by on-site operations from stationary equipment or activity at a project site. If noise is produced by a line source, such as highway traffic, the sound decreases by 3 dB for each doubling of distance over a reflective (“hard site”) surface such as concrete or asphalt. Line source noise in a relatively flat environment with ground-level absorptive vegetation decreases by an additional 1.5 dB for each doubling of distance.

## **Psychological and Physiological Effects of Noise**

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. Extended periods of noise exposure above 90 dBA results in permanent cell damage, which is the main driver for employee hearing protection regulations in the workplace. For community environments, the ambient or background noise problem is widespread, though generally worse in urban areas than in outlying, less-developed areas. Elevated ambient noise levels can result in noise interference (e.g., speech interruption/masking, sleep disturbance, disturbance of concentration) and cause annoyance. Since most people do not routinely work with decibels or A-weighted sound levels, it is often difficult to appreciate what a given sound pressure level number means. To help relate noise level values to common experience, Table 2 shows typical noise levels from familiar sources.

**Table 2            Typical Noise Levels**

| Common Outdoor Activities          | Noise Level (dBA) | Common Indoor Activities                    |
|------------------------------------|-------------------|---------------------------------------------|
| Onset of physical discomfort       | 120+              |                                             |
|                                    |                   |                                             |
|                                    | 110               | Rock Band (near amplification system)       |
| Jet Flyover at 1,000 feet          |                   |                                             |
|                                    | 100               |                                             |
| Gas Lawn Mower at three feet       |                   |                                             |
|                                    | 90                |                                             |
| Diesel Truck at 50 feet, at 50 mph |                   | Food Blender at 3 feet                      |
|                                    | 80                | Garbage Disposal at 3 feet                  |
| Noisy Urban Area, Daytime          |                   |                                             |
|                                    | 70                | Vacuum Cleaner at 10 feet                   |
| Commercial Area                    |                   | Normal speech at 3 feet                     |
| Heavy Traffic at 300 feet          | 60                |                                             |
|                                    |                   | Large Business Office                       |
| Quiet Urban Daytime                | 50                | Dishwasher Next Room                        |
|                                    |                   |                                             |
| Quiet Urban Nighttime              | 40                | Theater, Large Conference Room (background) |
| Quiet Suburban Nighttime           |                   |                                             |
|                                    | 30                | Library                                     |
| Quiet Rural Nighttime              |                   | Bedroom at Night, Concert Hall (background) |
|                                    | 20                |                                             |
|                                    |                   | Broadcast/Recording Studio                  |
|                                    | 10                |                                             |
|                                    |                   |                                             |
| Lowest Threshold of Human Hearing  | 0                 | Lowest Threshold of Human Hearing           |
|                                    |                   |                                             |

Source: California Department of Transportation (Caltrans). 2013, September. Technical Noise Supplement ("TeNS").

## Title 8. Health and Safety

### Chapter 8.40. NOISE CONTROL

**Note: §§ 8.40.140, 8.40.160 and 8.40.170 repealed by Ord. 3940-7/12.**

#### § 8.40.010. Declaration of Policy.

- A. In order to control unnecessary, excessive and annoying sounds emanating from incorporated areas of the City, it is hereby declared to be the policy of the City to prohibit such sounds generated from all sources as specified in this chapter.
- B. It is determined that certain noise levels are detrimental to the public health, welfare and safety and contrary to public interest; therefore, the City Council does ordain and declare that creating, maintaining, causing or allowing to create, maintain or cause any noise in a manner prohibited by, or not in conformity with the provisions of this chapter, is a public nuisance and shall be punishable as such.

(2379-7/79)

#### § 8.40.020. Definitions.

The following words, phrases and terms as used in this chapter shall have the meaning as indicated below:

"Ambient noise level" means the all-encompassing noise level associated with a given environment, being a composite of sounds from all sources, excluding the alleged offensive noise, at the location and approximate time at which a comparison with the alleged offensive noise is to be made.

"A-weighted decibel (dBA)" means the overall frequency-weighted sound level in decibels that approximates the frequency response of the human ear as represented by the A-weighted network. The reference pressure is 20 micropascals.

"Commercial property" means a parcel of real property which is developed and used either in part or in whole for commercial purposes including, but not limited to, retail and wholesale businesses and professional offices.

"Cumulative period" means an additive period or time composed of individual time segments which may be continuous or interrupted.

"Decibel (dB)" means a unit which denotes the ratio between two quantities which are proportional to power; the number of decibels corresponding to the ratio of two amounts of power is 10 times the logarithm to the base 10 of this ratio.

"Domestic power tool" means a mechanically-powered saw, sander, drill, grinder, lawn or garden tool, snow blower, leaf blower or similar device that is used in residential areas for work that is typically done by or for residential occupants.



"Emergency machinery, vehicle or work" means any machinery, vehicle or work used, employed or performed in an effort to protect, provide or restore safe conditions in the community or for the citizenry, or work by private or public utilities when restoring utility service.

"Equivalent continuous sound level (Leq)" means the value of an equivalent, steady sound level which, in a stated time period, has the same sound energy as the time-varying sound. Thus, the Leq metric is a single numerical value that represents the equivalent amount of variable sound energy received at a location over the specified duration.

"Fixed noise source" means a stationary device or point source which creates sounds while fixed or motionless, including, but not limited to, industrial and commercial machinery and equipment, pumps, fans, compressors, generators, air conditioners and refrigeration equipment, or an area source such as a special event on a property. That is, all sources that are non-mobile transportation sources (e.g., vehicle traffic on public roads and aircraft).

"Grading" means any excavating or filling of earth material, or any combination thereof, conducted to prepare said site for construction or the placement of the improvements thereon.

"Impact noise" means the noise produced by the collision of one mass in motion with a second mass which may be either in motion or at rest.

"Impulsive noise" means sound of short duration, usually less than one second, with an abrupt onset and rapid decay.

"Industrial property" means a parcel of real property which is developed and used in part or in whole for manufacturing purposes including research and development uses.

"Leaf blower" means any machine, however powered, used to blow leaves, dirt and other debris off sidewalks, driveways, lawns and other surfaces.

"Maximum sound level (Lmax)" means the highest RMS sound level measured during the measurement period.

"Mobile noise source" means any noise source other than a fixed noise source.

"Motorboat" means any vessel which operates on water and which is propelled by a motor, including, but not limited to, boats, barges, amphibious craft, water ski towing devices and hover craft.

"Noise level" means the "A" weighted sound pressure level in decibels obtained by using a sound level meter at slow response with a reference pressure of 20 micropascals (micronewtons per square meter). The unit of measurement shall be designated as dBA.

"Parcel" means an area of real property with a separate or distinct number or other designation shown on a plat recorded in the office of the County Recorder. Contiguous parcels owned by the same individual or entity shall be considered one parcel for purposes of this chapter.

"Person" means a person, firm, association, co-partnership, joint venture, corporation or any entity, public or private in nature.

"Predominant tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished.

"Residential property" means a parcel of real property which is developed and used either in part or in whole for residential purposes, other than transient uses such as hotels or motels.

"Root-mean-square sound level (RMS)" means the square root of the average of the square of the sound pressure over the measurement period.

"Simple tone noise" means a noise characterized by a predominant frequency or frequencies so that other frequencies cannot be readily distinguished. In case of dispute, a simple tone noise shall exist if the one-third octave band sound pressure level in the band with the tone exceeds the arithmetic average of the sound pressure levels of the two contiguous one-third octave bands by five dB for center frequencies of 500 Hz and above and by eight dB for center frequencies between 160 and 400 Hz and by 15 dB for center frequencies less than or equal to 125 Hz.

"Sound amplifying equipment" means any machine or device used for the amplification of the human voice, music, or any other sound, excluding standard automobile stereos when used and heard only by the occupants of the vehicle and, as used in this chapter, warning devices on authorized emergency vehicles or horns or other warning devices on any vehicle used for traffic safety purposes.

"Sound pressure level" of a sound, in decibels, means 20 times the logarithm to the base of 10 of the ratio of the pressure of the sound to the reference pressure of 20 micropascals.

"Vibration decibel (VdB)" means a measure of vibration expressed on a logarithmic scale with the reference velocity of one micro-inch per second ( $1 \times 10^{-6}$  in/sec).

"Vibration-sensitive use" means residential, hotels, motels, schools, hospitals and medical offices with vibration-sensitive equipment, churches, cultural land uses, commercial, office and government uses. Outdoor areas with no buildings and industrial and manufacturing uses are not considered vibration sensitive.

(2379-7/79, 4222-9/21)

## § 8.40.030. Noise Level Measurement Criteria.

Any noise level measurements made pursuant to the provisions of this chapter shall be performed using a sound level meter which meets at least American National Standards Institute (ANSI) Type 2 standards. While the exterior noise standards in Section **8.40.050** are applied to the property line of the receiving use, the location for measuring noise levels may be at any legally accessible vantage point where a reasonable person would conclude the noise may exceed this chapter's noise standards. All noise level measurements shall be performed in accordance with the procedures established by the City and shall be at a height of at least four feet, at least four feet away from reflective surfaces, and for a duration of at least 15 minutes, where feasible. The measurement shall be made using the A-weighting network (dBA) with "slow" meter response. Impulsive or impact noises shall be measured using "fast" meter response. The purpose of the measurement is to determine if the alleged noise violation exceeds the standards established in Section **8.40.050**. If for any reason the alleged offending noise cannot be turned off, shut down or temporarily removed from the area, then the ambient noise shall be estimated by performing a representative measurement in the same general area of the source but at a sufficient distance such that the noise source is inaudible.

(2379-7/79, 3940-7/12, 4222-9/21)

## § 8.40.050. Exterior Noise Standards.

- A. The following exterior noise standards shall apply to the applicable land use. It is unlawful for any person at any location within the incorporated area of the City to create any noise due to a fixed noise source (or any mobile source not preempted by State or Federal laws), or to allow the creation of any noise on property owned, leased, occupied, or otherwise controlled by such person, which causes the noise level when measured at the property line of any residential, hotel, motel, public institutional, recreational, or commercial property, either within or outside the City, to exceed the applicable noise standards:

| Exterior Noise Standards                                                  |                     |                      |                    |
|---------------------------------------------------------------------------|---------------------|----------------------|--------------------|
| Land Use                                                                  | Leq Noise Level dBA | Lmax Noise Level dBA | Time Period        |
| Low-Density Residential                                                   | 55                  | 75                   | 7 a.m.–10 p.m.     |
|                                                                           | 50                  | 70                   | 10 p.m.–7 a.m.     |
| Low-Density Residential                                                   | 55                  | 75                   | 7 a.m.–10 p.m.     |
| Medium-, High-Density Residential, Hotels, Motels                         | 60                  | 80                   | 7 a.m.–10 p.m.     |
|                                                                           | 50                  | 70                   | 10 p.m.–7 a.m.     |
| Schools                                                                   | 55                  | 75                   | Hours of Operation |
| Hospitals, Churches, Cultural, Museum, Library, Public Park, Recreational | 60                  | 80                   | Hours of Operation |
| Commercial/Office                                                         | 65                  | 85                   | Hours of Operation |

- B. The above standard does not apply to the establishment of multifamily residence private balconies and patios. Multifamily developments with balconies or patios that do not meet noise standards are required to provide occupancy disclosure notices to all future tenants regarding potential noise impacts.
  - C. The above daytime (7:00 a.m.–10:00 p.m.) standards for hotels, motels and commercial uses shall apply only to active outdoor use areas such as a pool or outdoor courtyard.
  - D. In the event the alleged offensive noise consists entirely of impact or impulsive noise, simple tone noise, speech, music, or any combination thereof, each of the above noise levels shall be reduced by five dBA.
  - E. If the alleged offense affects a property outside the City's jurisdiction, the exterior noise standards shall be enforced at the City boundary.
  - F. In the event the measured ambient noise level exceeds any of the noise limit categories above, the noise limit shall be increased to reflect said ambient noise level.
  - G. In the event that the noise source and the affected property are within different land use categories, the noise standards of the affected property shall apply.
- (2379-8/79, 2788-9/85, 3940-7/12, 4222-9/21)

## § 8.40.090. Special Provisions.

The following activities shall be exempt from the provisions of this chapter:

- A. School bands, school athletics and school entertainment events, provided such events are conducted on school property or authorized by special permit from the City.
- B. Activities lawfully permitted in public parks, public playgrounds and public or private school grounds.
- C. Any mechanical device, apparatus or equipment used, related to or connected with emergency City work, including City contractors.
- D. Noise sources associated with construction, repair, remodeling, or grading of any real property, provided that: (1) the City has issued a building, grading or similar permit for such activities; (2) said activities do not take place between the hours of 7:00 p.m. and 7:00 a.m., Monday through Saturday, or at any time on Sunday or a Federal holiday; and (3) the average construction noise levels do not exceed 80 dBA Leq at nearby noise-sensitive land uses. If outdoor construction

activities are permitted by the City after 7:00 p.m. or before 7:00 a.m., the average construction Noise Levels at nearby noise-sensitive land uses shall be limited to 50 dBA Leq.

- E. Mobile noise sources associated with pest control through pesticide application, provided that the application is made in accordance with restricted material permits issued by or regulations enforced by the Agricultural Commissioner.
  - F. Noise sources associated with the maintenance of real property and use of domestic power tools provided said activities take place between the hours of 8:00 a.m. and 7:00 p.m. Monday through Saturday or between the hours of 9:00 a.m. and 6:00 p.m. on Sunday or a Federal holiday. Noise from typical and occasional property maintenance and the use of domestic power tools which does not require a building permit shall not be subject to the noise limits in subsection **D** of this section.
  - G. Leaf blower noise shall be governed by Section **8.40.095**.
  - H. Any activity or equipment to the extent that design regulation thereof has been preempted by State or Federal laws.
  - I. Noise sources associated with temporary public or private events located on private or public property, provided that a permit has been obtained from the City.
  - J. Noise generated outdoors by business operations which are temporarily prohibited from occurring indoors due to City-declared emergency conditions. This applies only to City-approved businesses whose operations would typically occur indoors. Noise generated by sound amplifying equipment such as stereos or megaphones is not exempt.
- (2379-7/79, 3131-4/92, 3940-7/12, 4222-9/21)

## § 8.40.095. Leaf Blowers.

- A. **Unlawful to Propel Debris Beyond Parcel Boundary.** It is unlawful for any person to use or operate any leaf blower in such a manner as to blow, dispel or make airborne, dust, leaves, grass cuttings, paper, trash or any other type of unattached debris or material, beyond the parcel boundaries of the parcel being cleaned, unless the consent of the adjoining owner or person in possession is obtained. It is unlawful for any person to use or operate any leaf blower within the City in such a way as to blow leaves, dirt and other debris onto the public rights-of-way or private property and to allow such debris to remain there in excess of 30 minutes.
- B. **Special Prohibitions.** It is unlawful for any person to operate a leaf blower within a residential zone or within 100 feet of a residential zone of the City of Huntington Beach, except under the following conditions:
  - 1. **Time Restriction.** Noise sources associated with the maintenance of real property provided said activities take place between the hours of 8:00 a.m. and 7:00 p.m. Monday through Saturday or between the hours of 9:00 a.m. and 6:00 p.m. on Sunday or a Federal holiday.
  - 2. **Distance Restriction.** Leaf blowers shall not be operated within a horizontal distance of 10 feet of any operable window, door, or mechanical air intake opening or duct.
  - 3. **Duration of Use Restriction.** Leaf blowers shall not be operated for more than 15 minutes per hour, per day, on parcels less than one-half acre and no more than 30 minutes per hour on parcels greater than one-half acre up to one acre. Leaf blowers shall not be operated for more than two hours on parcels of one acre or more.
  - 4. **Number Restriction.** No person shall operate more than one leaf blower per parcel on one-half acre, no more than two leaf blowers on parcels greater than one-half acre and no more than three leaf blowers on parcels greater than one acre or more.
  - 5. The maximum decibel level of 70 dBA as measured 10 feet from the leaf blower shall not be exceeded.



## § 8.40.100. Schools, Hospitals and Churches—Special Provisions.

It is unlawful for any person to create any noise which causes the noise level at any school, hospital or church while same is in use, to exceed the noise limits specified for exterior noise standards in Section **8.40.050**, or which noise level unreasonably interferes with the use of such institutions, including, unreasonably disturbs or annoys persons at a school, hospital or church, provided conspicuous signs are displayed in three separate locations within one-tenth of a mile of the institution indicating the presence of a school, hospital or church.  
(2379-7/79, 4222-9/21)

## § 8.40.111. Prohibited Noises.

- A. It is unlawful for any person to willfully make or continue, or cause to be made or continued, any loud, unnecessary or unusual noise which disturbs the peace or quiet of any neighborhood or which causes discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area.
- B. In determining whether a violation of the provisions of this section exists, the City will determine:
  - 1. The level of the noise;
  - 2. The level and intensity of background noise, if any;
  - 3. The proximity of the noise to residences;
  - 4. The zoning where the noise emanates;
  - 5. The density of the area within which the noise emanates;
  - 6. The time the noise occurs;
  - 7. The duration of the noise and its tonal content; and
  - 8. Whether the noise is recurrent, intermittent or constant.

(3216-12/93, 4222-9/21)

## § 8.40.112. Loud Noises.

It is unlawful for any person to:

- A. Use, operate, or permit to be operated any radio, receiving set or device, television set, musical instrument, phonograph, digital music player, CD, DVD, tape player, juke box, or other sound-amplifying device for producing or reproducing sound in such a manner as to disturb the peace, quiet, and comfort of other persons.
- B. Make or allow to be made any noise which continues for more than a five-minute period between the hours of 10:00 p.m. and 7:00 a.m. if such noise is audible for 50 feet or more from the source of the noise.
- C. Maintain, manage, or control any business or residential property in violation of subsection **A** or **B** of this section.
- D. When within 200 feet of residences, load, unload, open, close or other handling of boxes, crates, containers, building materials, refuse handling or similar objects, between the hours of 10:00 p.m. and 7:00 a.m. in such a manner as to cause a noise disturbance across a noise-sensitive property line. This includes, but is not limited to, noise disturbances related to commercial delivery

operations, vehicle idling, vehicle queuing, vehicle backup alarms, and vehicle refrigeration equipment.

- E. Repair, rebuild, modify, or test any motor vehicle, motorcycle, or motorboat in such a manner as to cause a noise disturbance across a noise-sensitive property line.
- F. Operate, play or permit the operation of any sound amplifying equipment in any place of public entertainment at a sound level greater than 90 dBA as read by the slow response on a sound level meter at any point that is normally occupied by customers, unless a conspicuous and legible sign is located immediately outside or near the public entrance stating, "Warning: Sound Levels Within May Cause Permanent Hearing Impairment."
- G. Sound or permit the sounding of any amplified signal from such as a bell, chime, siren, whistle, vehicle horn or similar device, intended primarily for non-emergency purposes which causes a noise disturbance across a noise-sensitive property line. Devices used in conjunction with school and place of worship shall be exempt from this provision.
- H. Operate or permit the operation of any motorboat in such a manner to cause a noise disturbance across a noise-sensitive property line.
- I. Operate or cause to be operated any motor vehicle or motorcycle not equipped with a muffler or other sound dissipative device in good working order and in constant operation. No person shall remove or render inoperative, or cause to be removed or rendered inoperative, other than for purposes of maintenance, repair, or replacement, any muffler or sound dissipative device on a motor vehicle or motorcycle.
- J. Own, maintain, control, or operate any premises or property where noise continues after being informed, anytime within the preceding 30 days by the Police Department or Community Development Department that a violation of this chapter has been committed on said premises.
- K. Violations of this section are hereby declared a nuisance per se.  
(3514-12/01, 4222-9/21)

### § 8.40.113. Vibration.

Notwithstanding other sections of this chapter, it is unlawful for any person to create, maintain or cause any operational ground vibration on any property which exceeds 72 VdB at nearby vibration-sensitive land uses. The vibration limit at vibration-sensitive uses with high sensitivity such as operations conducting medical research and imaging shall be 65 VdB.  
(4222-9/21)

### § 8.40.120. Manner of Enforcement.

- A. The Director of Community Development ("Director") or Police Chief and his or her duly authorized representatives are directed to enforce the provisions of this chapter. The Director or Police Chief and their duly authorized representatives are authorized pursuant to **Penal Code** Section 836.5 to arrest any person without a warrant when they have reasonable cause to believe that such person has violated a provision of this chapter in their presence.
- B. If the Director or Police Chief and their duly authorized representatives conduct noise monitoring tests or other noise measurement readings for purposes of enforcement, and the noise level is found to exceed the noise levels in this chapter, the property owner or the operator of the noise source shall be required to pay the City's cost of the noise monitoring tests or readings.  
(2379-7/79, 2533-2/82, 3216-12/93, 3940-7/12, 4222-9/21)

### § 8.40.130. Permit Process.

- A. An application for a temporary permit to deviate from this chapter ("noise deviation permit") shall be submitted to the Director with all prescribed information and fees. In part, the application shall set forth: (1) all facts regarding the request for deviation; (2) all actions the applicant took to comply with the provisions of this chapter; (3) the reasons why compliance with this chapter cannot be achieved; (4) any proposed methods to minimize noise during the temporary activity; and (5) any such additional information the Director may require.
- B. Within 10 days after receipt of a complete application, the City will notify all property owners within 300 feet of the proposed application.
- C. A separate application shall be filed for each noise source; provided, however, that several mobile sources under common ownership, or several fixed sources on a single property may be combined into one application.
- D. In all cases, the Director shall process the application in compliance with the California Environmental Quality Act.
- E. The Director may approve, conditionally approve or deny the noise deviation permit no sooner than 20 days after notification was provided to property owners within 300 feet of the proposed noise source of the application. In acting upon the application, the Director shall weigh the factors set forth at subsection **A** above, and those set forth in Section **8.40.111** of this chapter.
- F. The Director's decision on the permit shall be served by mail upon the applicant and all property owners within 300 feet of the proposed noise source. The Director's decision shall be effective 11 days after the mailing of the decision unless an appeal is filed.
- G. An applicant for a permit shall remain subject to this chapter until a permit is granted, and all rights to a hearing and appeal are exhausted.  
(2379-7/79, 3940-7/12, 4222-9/21)

## § 8.40.150. Appeals.

Appeal Process. A person desiring to appeal the Director's decision on a noise deviation permit shall file a written notice of appeal with the director within 10 days after the Director's decision. Notice of appeal shall be accompanied by a fee as set forth in the City's current fee resolution and shall follow the hearing requirements in Chapter **248** of the Huntington Beach Zoning and Subdivision Ordinance.  
(3940-7/12, 4222-9/21)

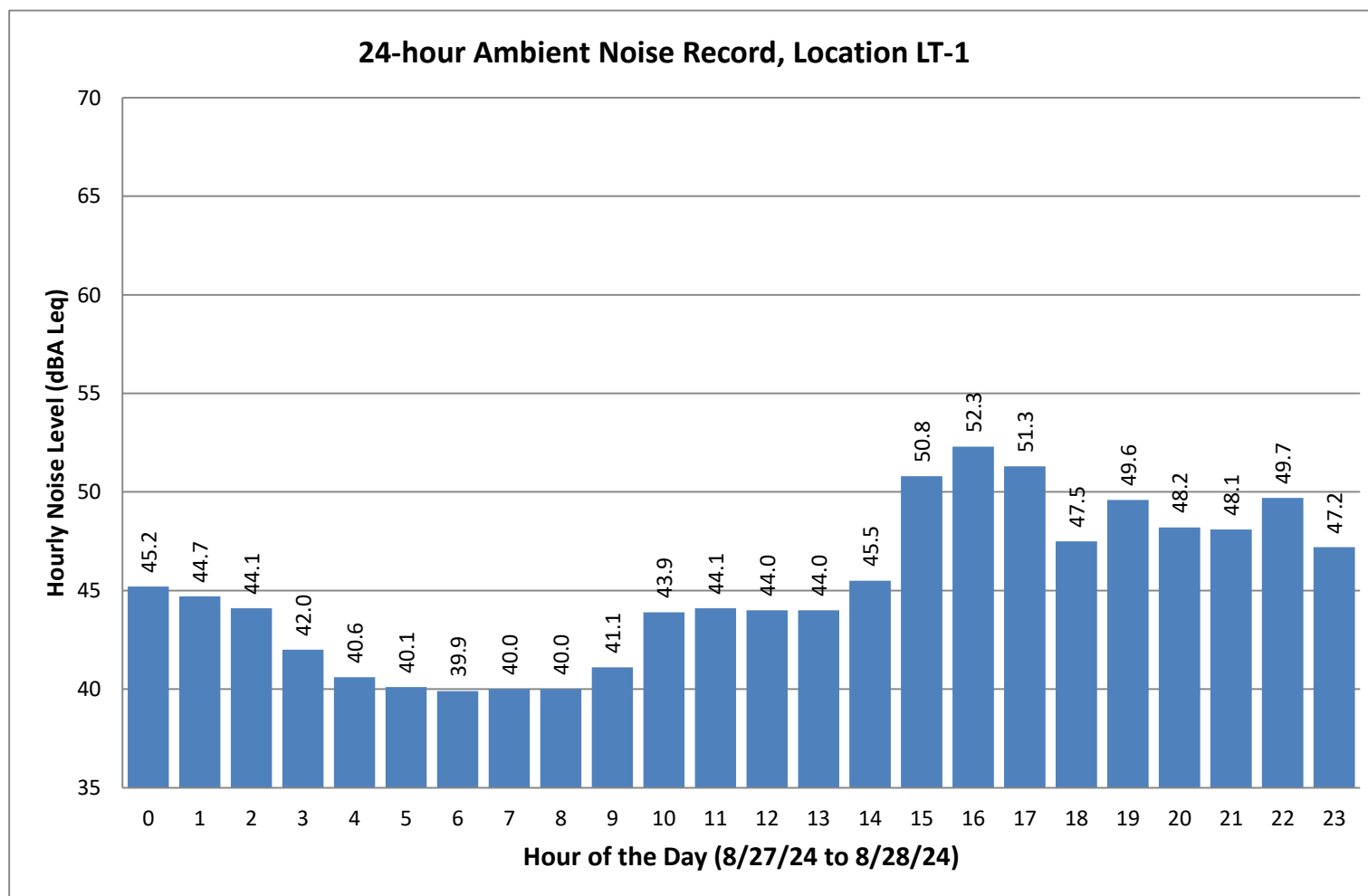
## **Attachment C Noise Monitoring Data**

Interval Data LT-1 8/27/24 to 8/28/24

| Date      | Start Time  | Duration | Leq  | Lmax | Lmin | SEL  | L(1) | L(2) | L(5) | L(8) | L(10) | L(25) | L(50) | L(90) | L(95) | L(99) |
|-----------|-------------|----------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 8/27/2024 | 3:00:00 PM  | 1:00:00  | 49.6 | 73.7 | 40.3 | 85.2 | 62.2 | 58.8 | 52.9 | 50.2 | 49    | 46    | 44.3  | 42.7  | 42.4  | 41.8  |
| 8/27/2024 | 4:00:00 PM  | 1:00:00  | 48.2 | 74.3 | 41.2 | 83.8 | 55.8 | 53.4 | 50.1 | 48.7 | 48.2  | 46.2  | 44.9  | 43.3  | 42.9  | 42.3  |
| 8/27/2024 | 5:00:00 PM  | 1:00:00  | 48.1 | 68.2 | 41.7 | 83.7 | 56.4 | 54.8 | 52.4 | 51.1 | 50.5  | 47.9  | 45.9  | 43.9  | 43.5  | 42.9  |
| 8/27/2024 | 6:00:00 PM  | 1:00:00  | 49.7 | 76.6 | 41.3 | 85.3 | 59.4 | 57.4 | 53.7 | 51.8 | 50.9  | 47.9  | 45.8  | 43.7  | 43.3  | 42.6  |
| 8/27/2024 | 7:00:00 PM  | 1:00:00  | 47.2 | 66.5 | 41.4 | 82.8 | 56.3 | 53.5 | 49.8 | 48.4 | 47.9  | 46.1  | 44.8  | 43.3  | 43    | 42.5  |
| 8/27/2024 | 8:00:00 PM  | 1:00:00  | 45.2 | 63.6 | 40.9 | 80.8 | 51.6 | 50.1 | 48.2 | 47.3 | 46.9  | 45.2  | 44    | 42.9  | 42.6  | 42.1  |
| 8/27/2024 | 9:00:00 PM  | 1:00:00  | 44.7 | 59.1 | 40.4 | 80.3 | 52.3 | 50.3 | 47.7 | 46.7 | 46.2  | 44.6  | 43.5  | 42.2  | 42    | 41.5  |
| 8/27/2024 | 10:00:00 PM | 1:00:00  | 44.1 | 64.2 | 39.9 | 79.7 | 51.8 | 48.8 | 46.2 | 45.4 | 45    | 43.8  | 42.8  | 41.7  | 41.5  | 41.1  |
| 8/27/2024 | 11:00:00 PM | 1:00:00  | 42   | 59.7 | 38.7 | 77.6 | 45.9 | 44.8 | 43.7 | 43.3 | 43.1  | 42.2  | 41.5  | 40.4  | 40.2  | 39.8  |
| 8/28/2024 | 12:00:00 AM | 1:00:00  | 40.6 | 49.5 | 38.6 | 76.2 | 42.9 | 42.3 | 41.7 | 41.4 | 41.3  | 40.8  | 40.4  | 39.8  | 39.6  | 39.3  |
| 8/28/2024 | 1:00:00 AM  | 1:00:00  | 40.1 | 45.6 | 37.9 | 75.7 | 41.4 | 41.1 | 40.9 | 40.7 | 40.7  | 40.3  | 40    | 39.4  | 39.3  | 39    |
| 8/28/2024 | 2:00:00 AM  | 1:00:00  | 39.9 | 43.1 | 37.7 | 75.5 | 41   | 40.8 | 40.6 | 40.5 | 40.4  | 40.1  | 39.8  | 39.3  | 39.1  | 38.8  |
| 8/28/2024 | 3:00:00 AM  | 1:00:00  | 40   | 48.1 | 38   | 75.6 | 41.2 | 41.1 | 40.8 | 40.7 | 40.6  | 40.3  | 40    | 39.4  | 39.2  | 38.9  |
| 8/28/2024 | 4:00:00 AM  | 1:00:00  | 40   | 45.3 | 38   | 75.6 | 41.4 | 41.1 | 40.8 | 40.7 | 40.6  | 40.3  | 40    | 39.4  | 39.2  | 38.9  |
| 8/28/2024 | 5:00:00 AM  | 1:00:00  | 41.1 | 52.8 | 38.6 | 76.7 | 44.1 | 43.8 | 43.3 | 43.1 | 42.9  | 41.5  | 40.6  | 39.9  | 39.7  | 39.4  |
| 8/28/2024 | 6:00:00 AM  | 1:00:00  | 43.9 | 62.7 | 39.4 | 79.5 | 51.4 | 49.1 | 46.2 | 45.1 | 44.6  | 43.5  | 42.9  | 41.9  | 41.4  | 40.4  |
| 8/28/2024 | 7:00:00 AM  | 1:00:00  | 44.1 | 66.9 | 39.2 | 79.7 | 52.3 | 50.2 | 47.5 | 46.1 | 45.5  | 43.4  | 42.2  | 40.9  | 40.7  | 40.3  |
| 8/28/2024 | 8:00:00 AM  | 1:00:00  | 44   | 69.5 | 38.8 | 79.6 | 51.5 | 48.9 | 45.7 | 44.3 | 43.8  | 42.3  | 41.4  | 40.5  | 40.2  | 39.9  |
| 8/28/2024 | 9:00:00 AM  | 1:00:00  | 44   | 64.2 | 39.1 | 79.6 | 51.1 | 50.5 | 48.9 | 47.5 | 46.3  | 43.4  | 42.2  | 40.7  | 40.4  | 39.9  |
| 8/28/2024 | 10:00:00 AM | 1:00:00  | 45.5 | 71   | 39.7 | 81.1 | 53.8 | 51.3 | 48.7 | 47.3 | 46.6  | 44.2  | 42.7  | 41.5  | 41.2  | 40.8  |
| 8/28/2024 | 11:00:00 AM | 1:00:00  | 50.8 | 75.3 | 40   | 86.4 | 63.2 | 58.8 | 52.1 | 49.6 | 48.5  | 45.3  | 43.5  | 42    | 41.7  | 41.1  |
| 8/28/2024 | 12:00:00 PM | 1:00:00  | 52.3 | 78.6 | 39.7 | 87.9 | 64.9 | 62.7 | 54.4 | 51.5 | 50.5  | 46.6  | 44.5  | 42.2  | 41.9  | 41.3  |
| 8/28/2024 | 1:00:00 PM  | 1:00:00  | 51.3 | 77.6 | 40.8 | 86.9 | 64.1 | 61   | 55.2 | 52.4 | 51.4  | 47.8  | 45.4  | 43.2  | 42.8  | 42.1  |
| 8/28/2024 | 2:00:00 PM  | 1:00:00  | 47.5 | 74.6 | 40.6 | 83.1 | 55.5 | 53.9 | 51.7 | 50.3 | 49.7  | 47.1  | 45.2  | 43.2  | 42.8  | 42.1  |



| HOUR | 1-h Leq |
|------|---------|
| 0    | 45.2    |
| 1    | 44.7    |
| 2    | 44.1    |
| 3    | 42.0    |
| 4    | 40.6    |
| 5    | 40.1    |
| 6    | 39.9    |
| 7    | 40.0    |
| 8    | 40.0    |
| 9    | 41.1    |
| 10   | 43.9    |
| 11   | 44.1    |
| 12   | 44.0    |
| 13   | 44.0    |
| 14   | 45.5    |
| 15   | 50.8    |
| 16   | 52.3    |
| 17   | 51.3    |
| 18   | 47.5    |
| 19   | 49.6    |
| 20   | 48.2    |
| 21   | 48.1    |
| 22   | 49.7    |
| 23   | 47.2    |



Noise Peak Hour = 4 PM

Peak Hour Noise Level (dBA Leq) = 52.3

**Community Noise Equivalent Level (CNEL) = 51.5**

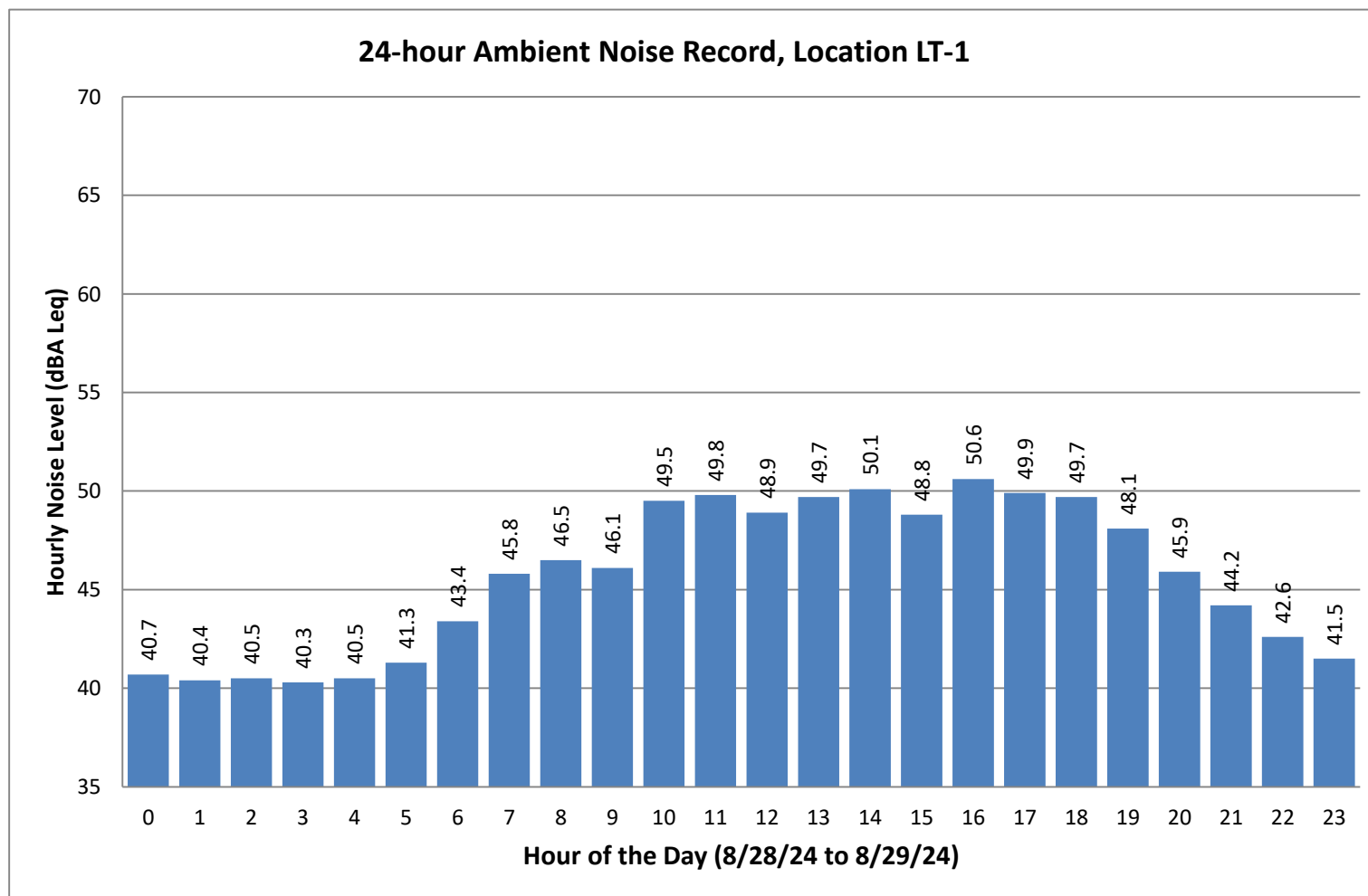
**Day-Night Level ( $L_{dn}$ ) = 50.9**

**24-hour Energy-Equivalent Level ( $L_{eq-24hr}$ ) = 46.8**

Interval Data LT-1 8/28/24 to 8/29/24

| Date      | Start Time  | Duration | Leq  | Lmax | Lmin | SEL  | L(1) | L(2) | L(5) | L(8) | L(10) | L(25) | L(50) | L(90) | L(95) | L(99) |
|-----------|-------------|----------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 8/27/2024 | 3:00:00 PM  | 1:00:00  | 48.8 | 73.6 | 40.6 | 84.4 | 57.8 | 55.9 | 53.3 | 51.7 | 51    | 48    | 45.8  | 43.7  | 43.3  | 42.6  |
| 8/27/2024 | 4:00:00 PM  | 1:00:00  | 50.6 | 68.7 | 42.3 | 86.2 | 59.6 | 58.1 | 55.8 | 54.5 | 53.8  | 50.6  | 47.5  | 44.7  | 44.3  | 43.6  |
| 8/27/2024 | 5:00:00 PM  | 1:00:00  | 49.9 | 74.4 | 42.1 | 85.5 | 58.4 | 56.6 | 54.1 | 52.8 | 52.1  | 49.4  | 46.9  | 44.4  | 44    | 43.4  |
| 8/27/2024 | 6:00:00 PM  | 1:00:00  | 49.7 | 69.4 | 42.2 | 85.3 | 58   | 56.5 | 54.4 | 53.2 | 52.5  | 49.8  | 47.2  | 44.7  | 44.3  | 43.7  |
| 8/27/2024 | 7:00:00 PM  | 1:00:00  | 48.1 | 66   | 41.2 | 83.7 | 57   | 55.2 | 52.8 | 51.4 | 50.7  | 47.7  | 45.5  | 43.6  | 43.2  | 42.6  |
| 8/27/2024 | 8:00:00 PM  | 1:00:00  | 45.9 | 62.7 | 41.3 | 81.5 | 53.7 | 51.6 | 49.1 | 48   | 47.5  | 45.7  | 44.5  | 43.1  | 42.8  | 42.4  |
| 8/27/2024 | 9:00:00 PM  | 1:00:00  | 44.2 | 61.2 | 40.2 | 79.8 | 49.8 | 48.9 | 47.3 | 46.4 | 45.9  | 44.4  | 43.3  | 42.2  | 41.9  | 41.5  |
| 8/27/2024 | 10:00:00 PM | 1:00:00  | 42.6 | 51.1 | 39.8 | 78.2 | 47.6 | 46.5 | 44.7 | 44.1 | 43.8  | 42.7  | 42.1  | 41.2  | 41    | 40.7  |
| 8/27/2024 | 11:00:00 PM | 1:00:00  | 41.5 | 58.3 | 38.5 | 77.1 | 45.5 | 44.5 | 43.3 | 42.7 | 42.5  | 41.7  | 41    | 40.3  | 40.1  | 39.7  |
| 8/28/2024 | 12:00:00 AM | 1:00:00  | 40.7 | 47.5 | 38.2 | 76.3 | 43.7 | 42.4 | 41.7 | 41.5 | 41.4  | 40.9  | 40.5  | 39.9  | 39.7  | 39.4  |
| 8/28/2024 | 1:00:00 AM  | 1:00:00  | 40.4 | 44.8 | 38.4 | 76   | 42.5 | 41.8 | 41.3 | 41.1 | 41    | 40.7  | 40.3  | 39.8  | 39.6  | 39.3  |
| 8/28/2024 | 2:00:00 AM  | 1:00:00  | 40.5 | 46.6 | 38.1 | 76.1 | 42.1 | 41.5 | 41.3 | 41.2 | 41.1  | 40.8  | 40.4  | 39.7  | 39.5  | 39.1  |
| 8/28/2024 | 3:00:00 AM  | 1:00:00  | 40.3 | 47.6 | 38.2 | 75.9 | 42.7 | 41.7 | 41.2 | 41   | 40.9  | 40.6  | 40.2  | 39.6  | 39.4  | 39.1  |
| 8/28/2024 | 4:00:00 AM  | 1:00:00  | 40.5 | 60.4 | 38.5 | 76.1 | 42.7 | 42.1 | 41.3 | 41.1 | 41    | 40.6  | 40.3  | 39.7  | 39.6  | 39.3  |
| 8/28/2024 | 5:00:00 AM  | 1:00:00  | 41.3 | 53.3 | 38.8 | 76.9 | 44.7 | 43.7 | 42.7 | 42.5 | 42.3  | 41.6  | 40.9  | 40.1  | 40    | 39.6  |
| 8/28/2024 | 6:00:00 AM  | 1:00:00  | 43.4 | 67.6 | 39.6 | 79   | 47.7 | 46.7 | 45.4 | 44.7 | 44.4  | 43.2  | 42.4  | 41.4  | 41.2  | 40.7  |
| 8/28/2024 | 7:00:00 AM  | 1:00:00  | 45.8 | 70.3 | 40.3 | 81.4 | 54.7 | 52.2 | 48.5 | 46.9 | 46.2  | 44.3  | 43.2  | 42    | 41.7  | 41.3  |
| 8/28/2024 | 8:00:00 AM  | 1:00:00  | 46.5 | 71.9 | 40.7 | 82.1 | 55.9 | 52.6 | 48.6 | 47.3 | 46.8  | 44.8  | 43.4  | 42.3  | 42.1  | 41.6  |
| 8/28/2024 | 9:00:00 AM  | 1:00:00  | 46.1 | 71.6 | 40.5 | 81.7 | 55.3 | 52.3 | 49   | 47.4 | 46.8  | 44.7  | 43.4  | 42.2  | 42    | 41.6  |
| 8/28/2024 | 10:00:00 AM | 1:00:00  | 49.5 | 72   | 41.4 | 85.1 | 61.1 | 56.5 | 51.7 | 50.1 | 49.4  | 47.2  | 45.4  | 43.6  | 43.3  | 42.7  |
| 8/28/2024 | 11:00:00 AM | 1:00:00  | 49.8 | 68.1 | 40.6 | 85.4 | 58.2 | 56.4 | 54.4 | 53.4 | 52.8  | 50.1  | 47    | 44.1  | 43.5  | 42.6  |
| 8/28/2024 | 12:00:00 PM | 1:00:00  | 48.9 | 76.3 | 40.9 | 84.5 | 58.4 | 55.5 | 52.3 | 50.7 | 50    | 47.3  | 45.3  | 43.2  | 42.8  | 42.1  |
| 8/28/2024 | 1:00:00 PM  | 1:00:00  | 49.7 | 75.4 | 41.2 | 85.3 | 60.7 | 57.5 | 53.3 | 51.7 | 51    | 47.7  | 45.5  | 43.4  | 43    | 42.4  |
| 8/28/2024 | 2:00:00 PM  | 1:00:00  | 50.1 | 67.6 | 41.3 | 85.7 | 59.6 | 58   | 55.5 | 54   | 53.1  | 49.6  | 46.6  | 43.9  | 43.5  | 42.8  |

| HOUR | 1-h Leq |
|------|---------|
| 0    | 40.7    |
| 1    | 40.4    |
| 2    | 40.5    |
| 3    | 40.3    |
| 4    | 40.5    |
| 5    | 41.3    |
| 6    | 43.4    |
| 7    | 45.8    |
| 8    | 46.5    |
| 9    | 46.1    |
| 10   | 49.5    |
| 11   | 49.8    |
| 12   | 48.9    |
| 13   | 49.7    |
| 14   | 50.1    |
| 15   | 48.8    |
| 16   | 50.6    |
| 17   | 49.9    |
| 18   | 49.7    |
| 19   | 48.1    |
| 20   | 45.9    |
| 21   | 44.2    |
| 22   | 42.6    |
| 23   | 41.5    |

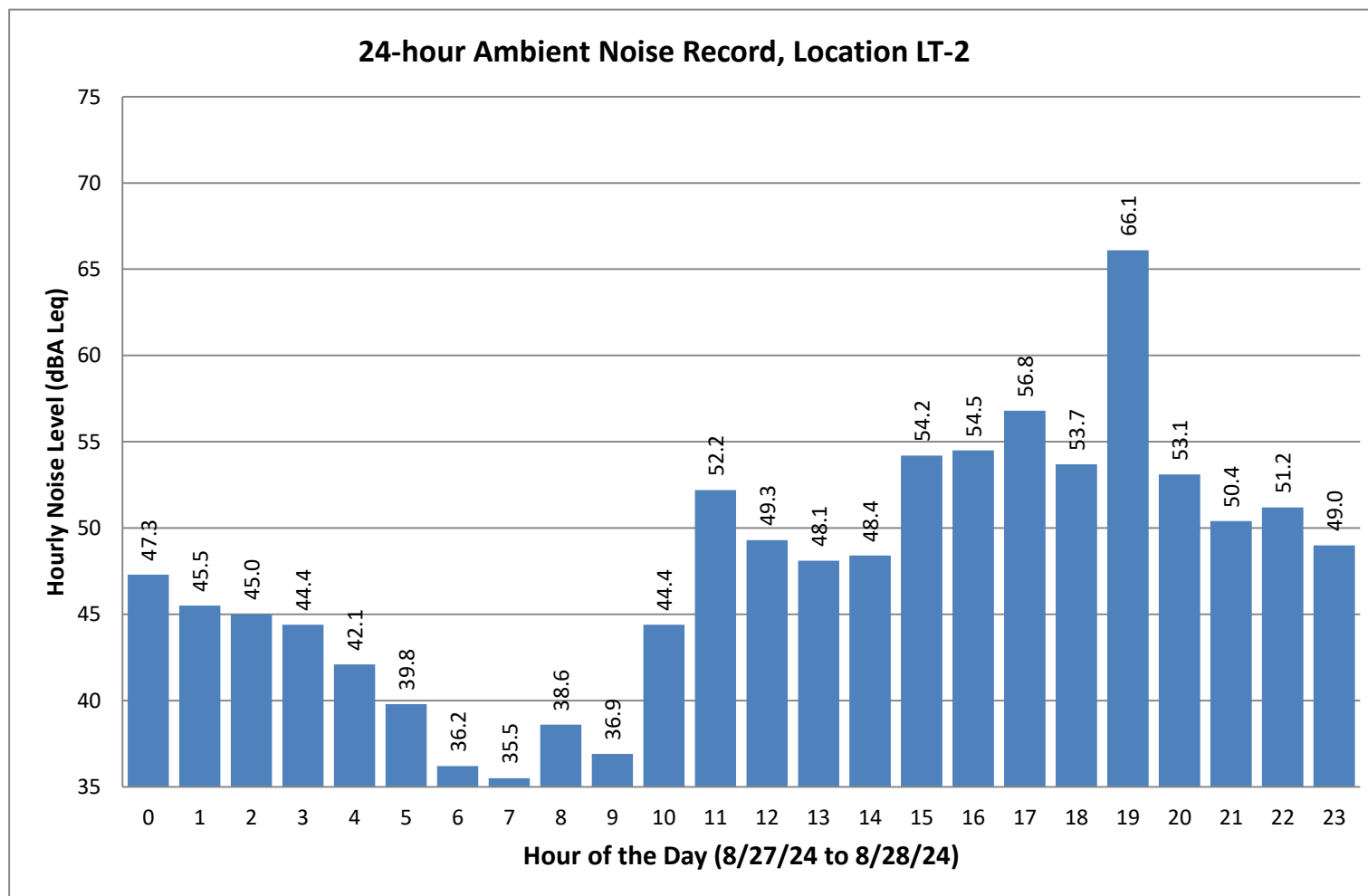


Noise Peak Hour = 4 PM  
 Peak Hour Noise Level (dBA Leq) = 50.6  
**Community Noise Equivalent Level (CNEL) = 50.4**  
**Day-Night Level ( $L_{dn}$ ) = 49.9**  
**24-hour Energy-Equivalent Level ( $L_{eq-24hr}$ ) = 47.0**

Interval Data LT-2 8/27/24 to 8/28/24

| Date      | Start Time  | Duration | Leq  | Lmax | Lmin | SEL   | L(1) | L(2) | L(5) | L(8) | L(10) | L(25) | L(50) | L(90) | L(95) | L(99) |
|-----------|-------------|----------|------|------|------|-------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 8/27/2024 | 3:00:00 PM  | 1:00:00  | 66.1 | 87.9 | 38.8 | 101.7 | 80.3 | 75.4 | 70.4 | 67.5 | 66.1  | 57    | 50.4  | 45.9  | 41.8  | 40.3  |
| 8/27/2024 | 4:00:00 PM  | 1:00:00  | 53.1 | 75.7 | 43.8 | 88.7  | 63.6 | 61.1 | 55.8 | 53.1 | 52    | 49.9  | 48.9  | 47.2  | 46.5  | 45.6  |
| 8/27/2024 | 5:00:00 PM  | 1:00:00  | 50.4 | 67.7 | 43   | 86    | 58   | 55.6 | 52.7 | 51.7 | 51.3  | 50.4  | 49.6  | 46    | 45.1  | 44.1  |
| 8/27/2024 | 6:00:00 PM  | 1:00:00  | 51.2 | 65.1 | 43.8 | 86.8  | 58.8 | 57   | 54.6 | 53.7 | 53.2  | 51.8  | 50.1  | 46.4  | 45.8  | 45.1  |
| 8/27/2024 | 7:00:00 PM  | 1:00:00  | 49   | 64.4 | 42.4 | 84.6  | 57.6 | 55.9 | 53.4 | 52   | 51.2  | 48.7  | 46.9  | 44.9  | 44.4  | 43.6  |
| 8/27/2024 | 8:00:00 PM  | 1:00:00  | 47.3 | 65.7 | 43   | 82.9  | 55.4 | 51.3 | 49.2 | 48.4 | 48.1  | 46.6  | 45.5  | 44.2  | 43.9  | 43.5  |
| 8/27/2024 | 9:00:00 PM  | 1:00:00  | 45.5 | 53.9 | 41.5 | 81.1  | 50.6 | 49.9 | 48.7 | 47.7 | 47.3  | 45.8  | 44.8  | 43.3  | 42.8  | 42.2  |
| 8/27/2024 | 10:00:00 PM | 1:00:00  | 45   | 57.9 | 40.2 | 80.6  | 53.8 | 51.9 | 47.8 | 46.7 | 46.4  | 44.7  | 43.6  | 41.9  | 41.5  | 40.9  |
| 8/27/2024 | 11:00:00 PM | 1:00:00  | 44.4 | 59.5 | 39.6 | 80    | 54   | 51.9 | 47.3 | 46   | 45.5  | 43.8  | 42.7  | 41.2  | 40.9  | 40.2  |
| 8/28/2024 | 12:00:00 AM | 1:00:00  | 42.1 | 61.2 | 38.2 | 77.7  | 47.1 | 45.7 | 44.1 | 43.5 | 43.2  | 42.3  | 41.4  | 39.9  | 39.5  | 38.9  |
| 8/28/2024 | 1:00:00 AM  | 1:00:00  | 39.8 | 50.5 | 35.5 | 75.4  | 44.2 | 43.4 | 42.4 | 41.9 | 41.7  | 40.5  | 39.5  | 36.6  | 36.2  | 35.9  |
| 8/28/2024 | 2:00:00 AM  | 1:00:00  | 36.2 | 43.6 | 34   | 71.8  | 38.7 | 38.2 | 37.9 | 37.7 | 37.6  | 36.8  | 35.7  | 34.9  | 34.7  | 34.4  |
| 8/28/2024 | 3:00:00 AM  | 1:00:00  | 35.5 | 40.3 | 33   | 71.1  | 38   | 37.9 | 37.5 | 37.3 | 37.2  | 36.2  | 35.3  | 33.8  | 33.5  | 33.3  |
| 8/28/2024 | 4:00:00 AM  | 1:00:00  | 38.6 | 45.6 | 33.7 | 74.2  | 42.5 | 41.8 | 41.1 | 40.7 | 40.5  | 39.6  | 38.2  | 35.5  | 34.8  | 34.3  |
| 8/28/2024 | 5:00:00 AM  | 1:00:00  | 36.9 | 46.1 | 34   | 72.5  | 41.3 | 40.7 | 39.5 | 39   | 38.8  | 37.6  | 36.3  | 34.8  | 34.6  | 34.2  |
| 8/28/2024 | 6:00:00 AM  | 1:00:00  | 44.4 | 61.5 | 33.7 | 80    | 53   | 51.3 | 50.8 | 50.5 | 50.4  | 39.7  | 36.4  | 34.5  | 34.3  | 34.1  |
| 8/28/2024 | 7:00:00 AM  | 1:00:00  | 52.2 | 72.2 | 39.3 | 87.8  | 64.5 | 60.1 | 54.7 | 52   | 51.2  | 50    | 49.4  | 42.3  | 41.2  | 40    |
| 8/28/2024 | 8:00:00 AM  | 1:00:00  | 49.3 | 67.5 | 39.1 | 84.9  | 58.6 | 56.3 | 54.6 | 52.8 | 51.8  | 49.2  | 46.1  | 41.8  | 41.1  | 40.1  |
| 8/28/2024 | 9:00:00 AM  | 1:00:00  | 48.1 | 61.1 | 41   | 83.7  | 57.1 | 56   | 52.7 | 50.5 | 50.2  | 48.4  | 46    | 42.5  | 42.2  | 41.8  |
| 8/28/2024 | 10:00:00 AM | 1:00:00  | 48.4 | 66.7 | 45.2 | 84    | 52.3 | 50.9 | 49.8 | 49.4 | 49.2  | 48.4  | 47.7  | 46.2  | 46    | 45.7  |
| 8/28/2024 | 11:00:00 AM | 1:00:00  | 54.2 | 67.9 | 41.2 | 89.8  | 65.2 | 64.3 | 62.2 | 59.6 | 58.1  | 49.9  | 48.3  | 44.3  | 43.2  | 41.9  |
| 8/28/2024 | 12:00:00 PM | 1:00:00  | 54.5 | 79.4 | 45.5 | 90.1  | 67.1 | 62.3 | 56.2 | 53.7 | 52.8  | 50.4  | 49.3  | 47.4  | 46.9  | 46.2  |
| 8/28/2024 | 1:00:00 PM  | 1:00:00  | 56.8 | 81.6 | 45.4 | 92.4  | 69.8 | 66.3 | 57.3 | 53.8 | 52.8  | 50.6  | 49.4  | 46.8  | 46.5  | 46    |
| 8/28/2024 | 2:00:00 PM  | 1:00:00  | 53.7 | 71.1 | 44   | 89.3  | 66.2 | 63.6 | 58.9 | 55.6 | 54.4  | 50.7  | 49    | 46.4  | 45.9  | 44.9  |

| HOUR | 1-h Leq |
|------|---------|
| 0    | 47.3    |
| 1    | 45.5    |
| 2    | 45.0    |
| 3    | 44.4    |
| 4    | 42.1    |
| 5    | 39.8    |
| 6    | 36.2    |
| 7    | 35.5    |
| 8    | 38.6    |
| 9    | 36.9    |
| 10   | 44.4    |
| 11   | 52.2    |
| 12   | 49.3    |
| 13   | 48.1    |
| 14   | 48.4    |
| 15   | 54.2    |
| 16   | 54.5    |
| 17   | 56.8    |
| 18   | 53.7    |
| 19   | 66.1    |
| 20   | 53.1    |
| 21   | 50.4    |
| 22   | 51.2    |
| 23   | 49.0    |



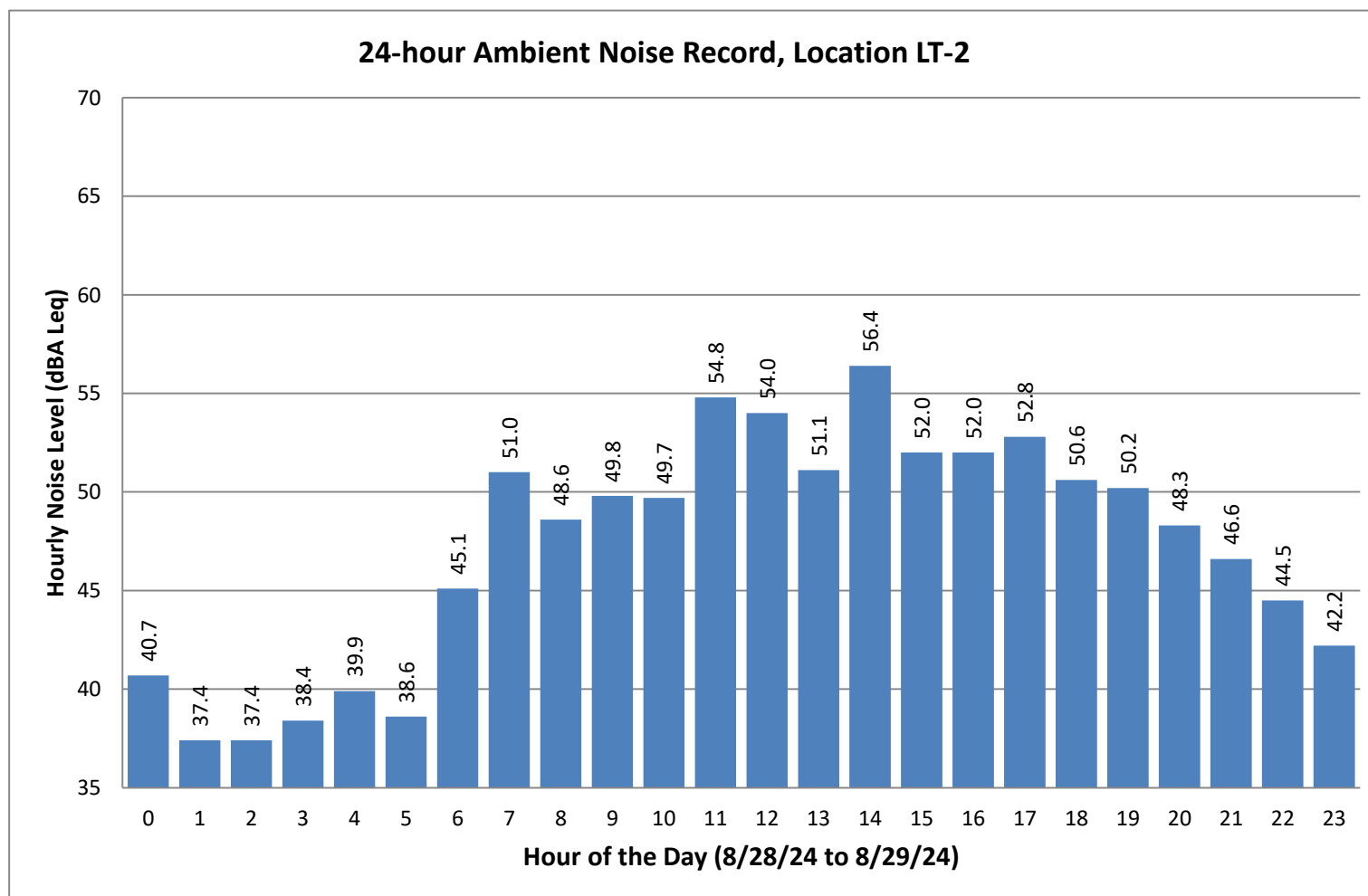
Noise Peak Hour = 5 PM  
Peak Hour Noise Level (dBA Leq) = 66.1  
**Community Noise Equivalent Level (CNEL) = 56.1**  
**Day-Night Level (L<sub>dn</sub>) = 55.6**  
**24-hour Energy-Equivalent Level (L<sub>eq-24hr</sub>) = 54.3**

Interval Data LT-2 8/28/24 to 8/29/24

| Date      | Start Time  | Duration | Leq  | Lmax | Lmin | SEL  | L(1) | L(2) | L(5) | L(8) | L(10) | L(25) | L(50) | L(90) | L(95) | L(99) |
|-----------|-------------|----------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|
| 8/27/2024 | 3:00:00 PM  | 1:00:00  | 52   | 69.1 | 44.2 | 87.6 | 62.2 | 59   | 54.8 | 53.3 | 52.7  | 51.1  | 49.9  | 47.5  | 46.9  | 45.9  |
| 8/27/2024 | 4:00:00 PM  | 1:00:00  | 52   | 72.5 | 45.6 | 87.6 | 60.1 | 57.4 | 54.5 | 53.1 | 52.6  | 51.1  | 50    | 47.9  | 47.3  | 46.5  |
| 8/27/2024 | 5:00:00 PM  | 1:00:00  | 52.8 | 64.8 | 46.5 | 88.4 | 60.5 | 58.7 | 56.4 | 55.3 | 54.8  | 53    | 51.7  | 49.1  | 48.6  | 47.8  |
| 8/27/2024 | 6:00:00 PM  | 1:00:00  | 50.6 | 64.1 | 43.7 | 86.2 | 55.9 | 54.9 | 53.6 | 53   | 52.8  | 51.5  | 50    | 46.8  | 46.1  | 45.3  |
| 8/27/2024 | 7:00:00 PM  | 1:00:00  | 50.2 | 62.8 | 44.4 | 85.8 | 57.5 | 56.1 | 54.1 | 53   | 52.5  | 50.5  | 48.7  | 46.5  | 46    | 45.3  |
| 8/27/2024 | 8:00:00 PM  | 1:00:00  | 48.3 | 65.9 | 42.5 | 83.9 | 56.6 | 54.2 | 51.7 | 50.7 | 50.2  | 48.1  | 46.3  | 44.5  | 44.1  | 43.5  |
| 8/27/2024 | 9:00:00 PM  | 1:00:00  | 46.6 | 65.1 | 41.8 | 82.2 | 54   | 51.7 | 49.5 | 48.5 | 48.1  | 46.3  | 45    | 43.7  | 43.4  | 42.7  |
| 8/27/2024 | 10:00:00 PM | 1:00:00  | 44.5 | 55   | 40.6 | 80.1 | 49.9 | 49.1 | 47.6 | 46.7 | 46.3  | 44.8  | 43.7  | 42.3  | 42    | 41.4  |
| 8/27/2024 | 11:00:00 PM | 1:00:00  | 42.2 | 52.7 | 38.7 | 77.8 | 48.1 | 47.2 | 44.9 | 43.9 | 43.6  | 42.5  | 41.4  | 39.9  | 39.6  | 39.2  |
| 8/28/2024 | 12:00:00 AM | 1:00:00  | 40.7 | 56.2 | 36.9 | 76.3 | 47.6 | 45.6 | 43.3 | 42.5 | 42.1  | 40.7  | 39.8  | 38.2  | 37.8  | 37.4  |
| 8/28/2024 | 1:00:00 AM  | 1:00:00  | 37.4 | 45.8 | 34   | 73   | 42.9 | 40.9 | 39.2 | 38.7 | 38.5  | 37.8  | 36.9  | 35.9  | 35.7  | 34.4  |
| 8/28/2024 | 2:00:00 AM  | 1:00:00  | 37.4 | 43.8 | 34.6 | 73   | 41.6 | 40.4 | 39.2 | 38.6 | 38.4  | 37.7  | 37.1  | 36.1  | 35.9  | 35.2  |
| 8/28/2024 | 3:00:00 AM  | 1:00:00  | 38.4 | 48.1 | 35.3 | 74   | 42.9 | 41.7 | 40.5 | 40   | 39.8  | 39    | 38    | 36.3  | 36    | 35.6  |
| 8/28/2024 | 4:00:00 AM  | 1:00:00  | 39.9 | 46   | 35.8 | 75.5 | 44.4 | 43.5 | 42.1 | 41.6 | 41.4  | 40.4  | 39.6  | 37.7  | 37.3  | 36.4  |
| 8/28/2024 | 5:00:00 AM  | 1:00:00  | 38.6 | 60   | 34.8 | 74.2 | 42.6 | 41.9 | 41   | 40.6 | 40.4  | 39.3  | 37.8  | 35.9  | 35.6  | 35.1  |
| 8/28/2024 | 6:00:00 AM  | 1:00:00  | 45.1 | 63.4 | 34.5 | 80.7 | 51.9 | 51.4 | 51.1 | 50.8 | 50.7  | 42.2  | 38.9  | 36.1  | 35.4  | 34.9  |
| 8/28/2024 | 7:00:00 AM  | 1:00:00  | 51   | 72   | 41.2 | 86.6 | 61.2 | 57.7 | 51.6 | 50.9 | 50.8  | 50.4  | 49    | 43.2  | 42.7  | 41.9  |
| 8/28/2024 | 8:00:00 AM  | 1:00:00  | 48.6 | 69.1 | 41.1 | 84.2 | 59.9 | 57.2 | 52.3 | 49.5 | 48.6  | 46.8  | 44.6  | 42.6  | 42.1  | 41.5  |
| 8/28/2024 | 9:00:00 AM  | 1:00:00  | 49.8 | 65.3 | 40   | 85.4 | 60.4 | 57.8 | 53.1 | 51.3 | 50.7  | 49.3  | 47.7  | 43.5  | 42.8  | 40.6  |
| 8/28/2024 | 10:00:00 AM | 1:00:00  | 49.7 | 69.3 | 41.5 | 85.3 | 59.7 | 57   | 52.5 | 51.2 | 50.5  | 48.9  | 47.5  | 46    | 45.3  | 42.9  |
| 8/28/2024 | 11:00:00 AM | 1:00:00  | 54.8 | 80.7 | 45.3 | 90.4 | 65.5 | 62.5 | 57.2 | 54.2 | 53.2  | 50.6  | 49.5  | 47.5  | 47.1  | 46.2  |
| 8/28/2024 | 12:00:00 PM | 1:00:00  | 54   | 75.2 | 46   | 89.6 | 62.1 | 60.2 | 57.9 | 56.6 | 55.9  | 53.3  | 51.5  | 48.5  | 47.9  | 47    |
| 8/28/2024 | 1:00:00 PM  | 1:00:00  | 51.1 | 65.8 | 43   | 86.7 | 58.7 | 56.4 | 54.1 | 53.2 | 52.9  | 51.6  | 50.2  | 45.7  | 44.5  | 43.7  |
| 8/28/2024 | 2:00:00 PM  | 1:00:00  | 56.4 | 79.5 | 44.4 | 92   | 68.9 | 65.2 | 59.2 | 56   | 54.7  | 51.4  | 50.2  | 48.3  | 47.6  | 45.8  |



| HOUR | 1-h Leq |
|------|---------|
| 0    | 40.7    |
| 1    | 37.4    |
| 2    | 37.4    |
| 3    | 38.4    |
| 4    | 39.9    |
| 5    | 38.6    |
| 6    | 45.1    |
| 7    | 51.0    |
| 8    | 48.6    |
| 9    | 49.8    |
| 10   | 49.7    |
| 11   | 54.8    |
| 12   | 54.0    |
| 13   | 51.1    |
| 14   | 56.4    |
| 15   | 52.0    |
| 16   | 52.0    |
| 17   | 52.8    |
| 18   | 50.6    |
| 19   | 50.2    |
| 20   | 48.3    |
| 21   | 46.6    |
| 22   | 44.5    |
| 23   | 42.2    |



Noise Peak Hour = 4 PM  
 Peak Hour Noise Level (dBA Leq) = 56.4  
**Community Noise Equivalent Level (CNEL) = 52.3**  
**Day-Night Level ( $L_{dn}$ ) = 51.7**  
**24-hour Energy-Equivalent Level ( $L_{eq-24hr}$ ) = 50.1**

## **Attachment D SoundPLAN Modeling Data**

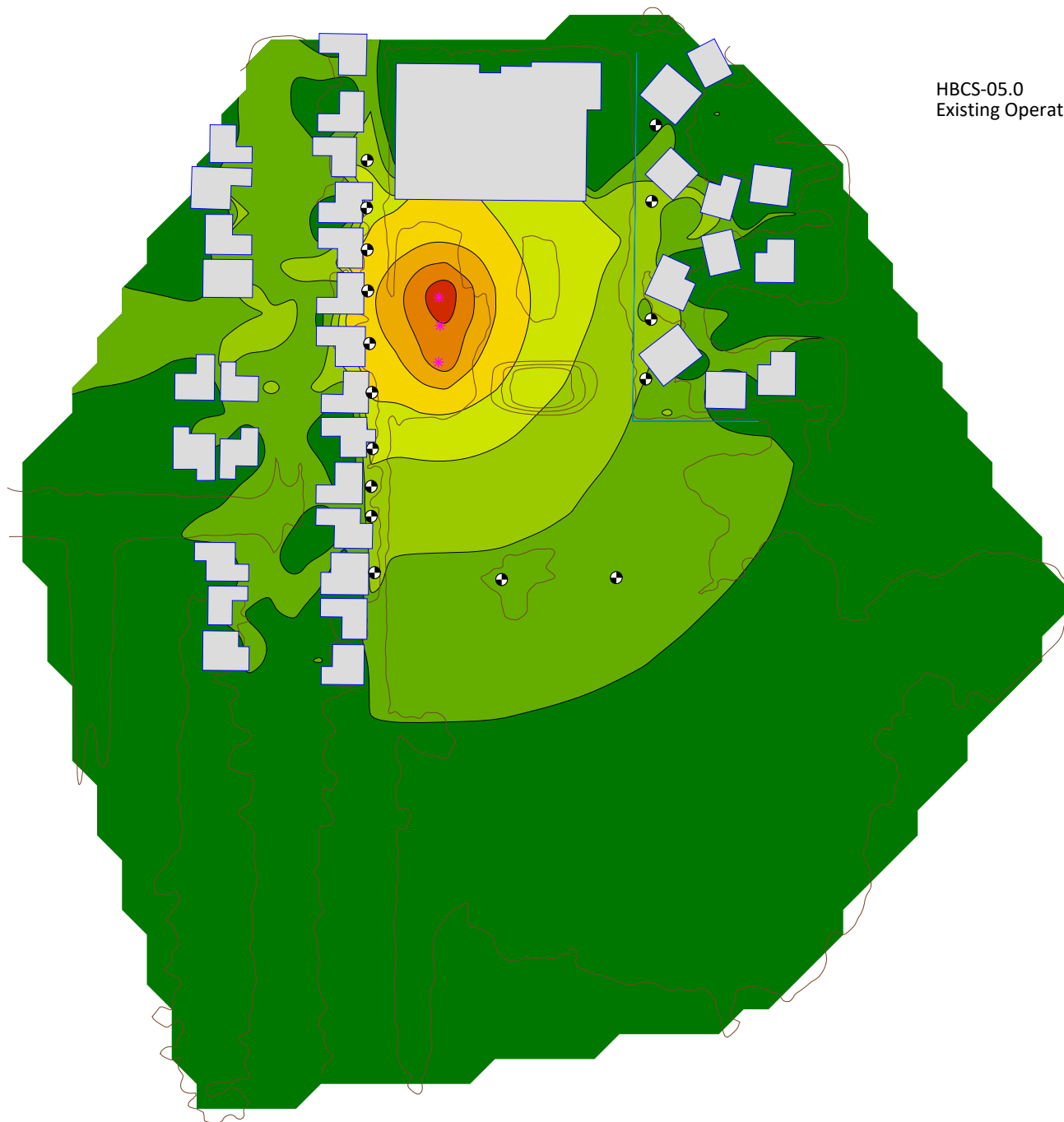
# Noise level

Leq,d  
in dB(A)

|      |       |
|------|-------|
|      | <= 45 |
| 45 < | <= 50 |
| 50 < | <= 55 |
| 55 < | <= 60 |
| 60 < | <= 65 |
| 65 < | <= 70 |
| 70 < | <= 75 |
| 75 < | <= 80 |
| 80 < | <= 85 |
| 85 < |       |

## Signs and symbols

|   |                |
|---|----------------|
| * | Point source   |
| ■ | Building       |
| — | Wall           |
| — | Elevation line |
| ⊗ | Receiver       |



HBCS-05.0  
Existing Operation Scenario

## Existing: 8750 Dorsett Dr Assessed receiver levels

**2**

| Receiver | Usage | Leq,d<br>dB(A) |  |
|----------|-------|----------------|--|
| R-1      | SCR   | 53.9           |  |
| R-2      | SCR   | 61.2           |  |
| R-3      | SCR   | 62.0           |  |
| R-4      | SCR   | 64.4           |  |
| R-5      | SCR   | 63.7           |  |
| R-6      | SCR   | 60.9           |  |
| R-7      | SCR   | 53.8           |  |
| R-8      | SCR   | 53.0           |  |
| R-9      | SCR   | 51.1           |  |
| R-10     | SCR   | 49.0           |  |
| R-11     | SCR   | 50.5           |  |
| R-12     | SCR   | 49.1           |  |
| R-13     | SCR   | 51.5           |  |
| R-14     | SCR   | 44.7           |  |
| R-15     | SCR   | 48.9           |  |
| R-16     | SCR   | 47.3           |  |

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1

**Existing: 8750 Dorsett Dr  
Contribution level**

**9**

| Source         | Source group                                      | Source ty | Ldn<br>dB(A)   | Leq,d<br>dB(A)   |             |
|----------------|---------------------------------------------------|-----------|----------------|------------------|-------------|
| Receiver R-1   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 50.9 dB(A) | Leq,d 53.9 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 38.1           | 41.1             |             |
| Table Saw      | Default industrial noise                          | Point     | 50.1           | 53.1             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 41.8           | 44.8             |             |
| Receiver R-2   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 58.2 dB(A) | Leq,d 61.2 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 44.9           | 47.9             |             |
| Table Saw      | Default industrial noise                          | Point     | 57.4           | 60.4             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 48.9           | 51.9             |             |
| Receiver R-3   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 59.0 dB(A) | Leq,d 62.0 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 45.1           | 48.1             |             |
| Table Saw      | Default industrial noise                          | Point     | 58.2           | 61.2             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 49.4           | 52.5             |             |
| Receiver R-4   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 61.4 dB(A) | Leq,d 64.4 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 48.1           | 51.1             |             |
| Table Saw      | Default industrial noise                          | Point     | 60.5           | 63.6             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 52.5           | 55.5             |             |
| Receiver R-5   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 60.7 dB(A) | Leq,d 63.7 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 51.7           | 54.7             |             |
| Table Saw      | Default industrial noise                          | Point     | 59.0           | 62.0             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 53.6           | 56.6             |             |
| Receiver R-6   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 57.9 dB(A) | Leq,d 60.9 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 51.6           | 54.6             |             |
| Table Saw      | Default industrial noise                          | Point     | 55.4           | 58.4             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 50.8           | 53.8             |             |
| Receiver R-7   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 50.8 dB(A) | Leq,d 53.8 dB(A) | Leq,e dB(A) |
| Air compressor | Default industrial noise                          | Point     | 45.4           | 48.4             |             |
| Table Saw      | Default industrial noise                          | Point     | 47.7           | 50.7             |             |
| Radial Arm Saw | Default industrial noise                          | Point     | 44.3           | 47.4             |             |
| Receiver R-8   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) |           | Ldn 50.0 dB(A) | Leq,d 53.0 dB(A) | Leq,e dB(A) |

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1

**Existing: 8750 Dorsett Dr  
Contribution level**

**9**

| Source                                                                                                      | Source group             | Source ty | Ldn<br>dB(A) | Leq,d<br>dB(A) |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--------------|----------------|--|
| Air compressor                                                                                              | Default industrial noise | Point     | 44.4         | 47.4           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 47.5         | 50.6           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 42.1         | 45.1           |  |
| Receiver R-9 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 48.1 dB(A) Leq,d 51.1 dB(A) Leq,e dB(A)  |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 40.4         | 43.4           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 46.3         | 49.3           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 40.7         | 43.7           |  |
| Receiver R-10 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 46.0 dB(A) Leq,d 49.0 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 37.8         | 40.8           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 44.3         | 47.3           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 38.5         | 41.5           |  |
| Receiver R-11 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 47.5 dB(A) Leq,d 50.5 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 38.9         | 41.9           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 45.3         | 48.3           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 41.4         | 44.4           |  |
| Receiver R-12 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 46.1 dB(A) Leq,d 49.1 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 35.8         | 38.8           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 44.8         | 47.8           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 38.1         | 41.1           |  |
| Receiver R-13 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 48.5 dB(A) Leq,d 51.5 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 37.5         | 40.5           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 47.4         | 50.4           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 40.2         | 43.2           |  |
| Receiver R-14 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 41.7 dB(A) Leq,d 44.7 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 34.6         | 37.6           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 39.9         | 42.9           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 33.2         | 36.2           |  |
| Receiver R-15 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 45.9 dB(A) Leq,d 48.9 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 37.6         | 40.6           |  |

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2



## Existing: 8750 Dorsett Dr Contribution level

**9**

| Source                                                                                                      | Source group             | Source ty | Ldn<br>dB(A) | Leq,d<br>dB(A) |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--------------|----------------|--|
| Table Saw                                                                                                   | Default industrial noise | Point     | 44.1         | 47.2           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 38.3         | 41.4           |  |
| Receiver R-16 Fl G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 44.3 dB(A) Leq,d 47.3 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Air compressor                                                                                              | Default industrial noise | Point     | 35.6         | 38.6           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 42.7         | 45.8           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 36.7         | 39.7           |  |

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3

|                                                                                |   |
|--------------------------------------------------------------------------------|---|
| <p>Existing: 8750 Dorsett Dr</p> <p>Octave spectra of the sources in dB(A)</p> | 3 |
|--------------------------------------------------------------------------------|---|

|                                                                                |   |
|--------------------------------------------------------------------------------|---|
| <p>Existing: 8750 Dorsett Dr</p> <p>Octave spectra of the sources in dB(A)</p> | 3 |
|--------------------------------------------------------------------------------|---|

| Name           | Source type | Rw | L'w   | Lw    | KI  | KT  | LwMax | Day histogram  | 500Hz |  |
|----------------|-------------|----|-------|-------|-----|-----|-------|----------------|-------|--|
|                |             | dB | dB(A) | dB(A) | dB  | dB  | dB(A) |                | dB(A) |  |
| Air compressor | Point       |    | 106.0 | 106.0 | 0.0 | 0.0 | 106.0 | Air compressor | 106.0 |  |
| Radial Arm Saw | Point       |    | 102.0 | 102.0 | 0.0 | 0.0 | 102.0 | Radial Arm Saw | 102.0 |  |
| Table Saw      | Point       |    | 107.0 | 107.0 | 0.0 | 0.0 | 107.0 | Table Saw      | 107.0 |  |

|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
|--|----------------------------------------------------------------|---|

|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
|--|----------------------------------------------------------------|---|

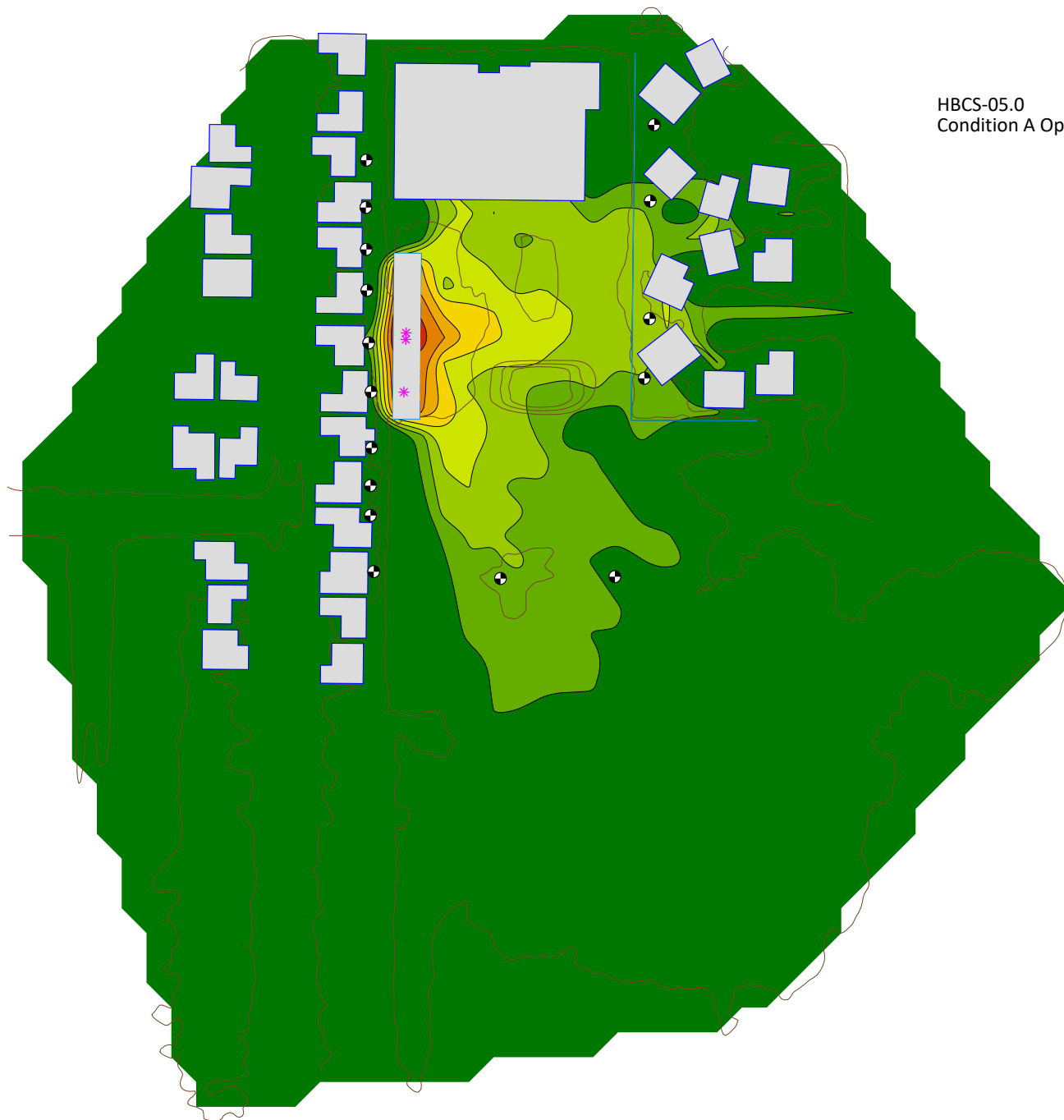
# Noise level

Leq,d  
in dB(A)

|       |       |
|-------|-------|
| <= 45 | <= 45 |
| 45 <  | <= 50 |
| 50 <  | <= 55 |
| 55 <  | <= 60 |
| 60 <  | <= 65 |
| 65 <  | <= 70 |
| 70 <  | <= 75 |
| 75 <  | <= 80 |
| 80 <  | <= 85 |
| 85 <  |       |

## Signs and symbols

|   |                |
|---|----------------|
| * | Point source   |
| ■ | Building       |
| — | Wall           |
| — | Elevation line |
| ⊗ | Receiver       |



HBCS-05.0  
Condition A Operation Scenario

# Condition A: 8750 Dorsett Dr

## Assessed receiver levels

2

| Receiver | Usage | FI | Leq,d<br>dB(A) |  |
|----------|-------|----|----------------|--|
| R-1      | SCR   | G  | 32.2           |  |
| R-2      | SCR   | G  | 40.6           |  |
| R-3      | SCR   | G  | 38.6           |  |
| R-4      | SCR   | G  | 31.8           |  |
| R-5      | SCR   | G  | 48.0           |  |
| R-6      | SCR   | G  | 41.5           |  |
| R-7      | SCR   | G  | 34.2           |  |
| R-8      | SCR   | G  | 30.9           |  |
| R-9      | SCR   | G  | 30.3           |  |
| R-10     | SCR   | G  | 28.1           |  |
| R-11     | SCR   | G  | 51.8           |  |
| R-12     | SCR   | G  | 53.8           |  |
| R-13     | SCR   | G  | 46.3           |  |
| R-14     | SCR   | G  | 38.8           |  |
| R-15     | SCR   | G  | 48.8           |  |
| R-16     | SCR   | G  | 43.6           |  |

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1

# Condition A: 8750 Dorsett Dr Contribution level

9

| Source         | Source group             | Source ty | Ldn<br>dB(A) | Leq,d<br>dB(A) |                                                          |
|----------------|--------------------------|-----------|--------------|----------------|----------------------------------------------------------|
| Receiver R-1   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 29.2 dB(A) Leq,d 32.2 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 11.0         | 14.0           |                                                          |
| Table Saw      | Default industrial noise | Point     | 28.9         | 31.9           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 15.4         | 18.5           |                                                          |
| Receiver R-2   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 37.5 dB(A) Leq,d 40.6 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 11.4         | 14.4           |                                                          |
| Table Saw      | Default industrial noise | Point     | 36.4         | 39.4           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 31.0         | 34.0           |                                                          |
| Receiver R-3   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 35.6 dB(A) Leq,d 38.6 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 11.7         | 14.7           |                                                          |
| Table Saw      | Default industrial noise | Point     | 34.0         | 37.0           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 30.3         | 33.4           |                                                          |
| Receiver R-4   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 28.8 dB(A) Leq,d 31.8 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 12.9         | 16.0           |                                                          |
| Table Saw      | Default industrial noise | Point     | 28.1         | 31.1           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 19.9         | 22.9           |                                                          |
| Receiver R-5   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 45.0 dB(A) Leq,d 48.0 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 18.8         | 21.8           |                                                          |
| Table Saw      | Default industrial noise | Point     | 44.9         | 47.9           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 25.3         | 28.3           |                                                          |
| Receiver R-6   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 38.5 dB(A) Leq,d 41.5 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 37.7         | 40.7           |                                                          |
| Table Saw      | Default industrial noise | Point     | 26.6         | 29.6           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 28.2         | 31.2           |                                                          |
| Receiver R-7   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 31.2 dB(A) Leq,d 34.2 dB(A) Leq,e dB(A) |
| Compressor     | Default industrial noise | Point     | 29.6         | 32.7           |                                                          |
| Table Saw      | Default industrial noise | Point     | 25.1         | 28.1           |                                                          |
| Radial Arm Saw | Default industrial noise | Point     | 18.7         | 21.8           |                                                          |
| Receiver R-8   | FI G                     | dB(A)     | Lr,lim dB(A) | Lr,lim dB(A)   | Lr,lim dB(A) Ldn 27.9 dB(A) Leq,d 30.9 dB(A) Leq,e dB(A) |

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1

# Condition A: 8750 Dorsett Dr Contribution level

9

| Source                                                                                                      | Source group             | Source ty | Ldn<br>dB(A) | Leq,d<br>dB(A) |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--------------|----------------|--|
| Compressor                                                                                                  | Default industrial noise | Point     | 24.0         | 27.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 24.8         | 27.8           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 18.2         | 21.2           |  |
| Receiver R-9 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 27.3 dB(A) Leq,d 30.3 dB(A) Leq,e dB(A)  |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 23.0         | 26.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 24.4         | 27.4           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 17.8         | 20.8           |  |
| Receiver R-10 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 25.1 dB(A) Leq,d 28.1 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 14.0         | 17.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 23.9         | 26.9           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 17.2         | 20.2           |  |
| Receiver R-11 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 48.8 dB(A) Leq,d 51.8 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 29.5         | 32.5           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 48.7         | 51.7           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     |              |                |  |
| Receiver R-12 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 50.8 dB(A) Leq,d 53.8 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 36.3         | 39.3           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 50.5         | 53.5           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 35.0         | 38.0           |  |
| Receiver R-13 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 43.3 dB(A) Leq,d 46.3 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 40.0         | 43.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 5.4          | 8.4            |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 40.5         | 43.5           |  |
| Receiver R-14 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 35.8 dB(A) Leq,d 38.8 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 22.4         | 25.5           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 35.6         | 38.6           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | -2.9         | 0.1            |  |
| Receiver R-15 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 45.7 dB(A) Leq,d 48.8 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 22.8         | 25.8           |  |

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2

## Condition A: 8750 Dorsett Dr Contribution level

9

| Source                                                                                                      | Source group             | Source ty | Ldn<br>dB(A) | Leq,d<br>dB(A) |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|--------------|----------------|--|
| Table Saw                                                                                                   | Default industrial noise | Point     | 45.0         | 48.0           |  |
| Radial Arm<br>Saw                                                                                           | Default industrial noise | Point     | 37.4         | 40.4           |  |
| Receiver R-16 Fl G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 40.6 dB(A) Leq,d 43.6 dB(A) Leq,e dB(A) |                          |           |              |                |  |
| Compresso<br>r                                                                                              | Default industrial noise | Point     | 26.0         | 29.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 38.5         | 41.5           |  |
| Radial Arm<br>Saw                                                                                           | Default industrial noise | Point     | 36.0         | 39.0           |  |

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3



|                                                                                               |          |
|-----------------------------------------------------------------------------------------------|----------|
| <p><b>Condition A: 8750 Dorsett Dr</b><br/> <b>Octave spectra of the sources in dB(A)</b></p> | <b>3</b> |
|-----------------------------------------------------------------------------------------------|----------|

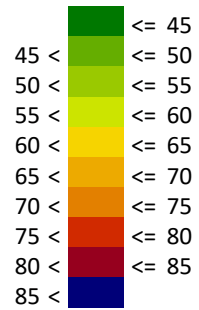
|                                                                                               |          |
|-----------------------------------------------------------------------------------------------|----------|
| <p><b>Condition A: 8750 Dorsett Dr</b><br/> <b>Octave spectra of the sources in dB(A)</b></p> | <b>3</b> |
|-----------------------------------------------------------------------------------------------|----------|

| Name           | Source type | Rw | L'w   | Lw    | KI  | KT  | LwMax | Day histogram  | 500Hz |  |
|----------------|-------------|----|-------|-------|-----|-----|-------|----------------|-------|--|
|                |             | dB | dB(A) | dB(A) | dB  | dB  | dB(A) |                | dB(A) |  |
| Compressor     | Point       |    | 106.0 | 106.0 | 0.0 | 0.0 | 106.0 | Air compressor | 106.0 |  |
| Radial Arm Saw | Point       |    | 102.0 | 102.0 | 0.0 | 0.0 | 102.0 | Radial Arm Saw | 102.0 |  |
| Table Saw      | Point       |    | 107.0 | 107.0 | 0.0 | 0.0 | 107.0 | Table Saw      | 107.0 |  |

|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
|--|----------------------------------------------------------------|---|

|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
|--|----------------------------------------------------------------|---|

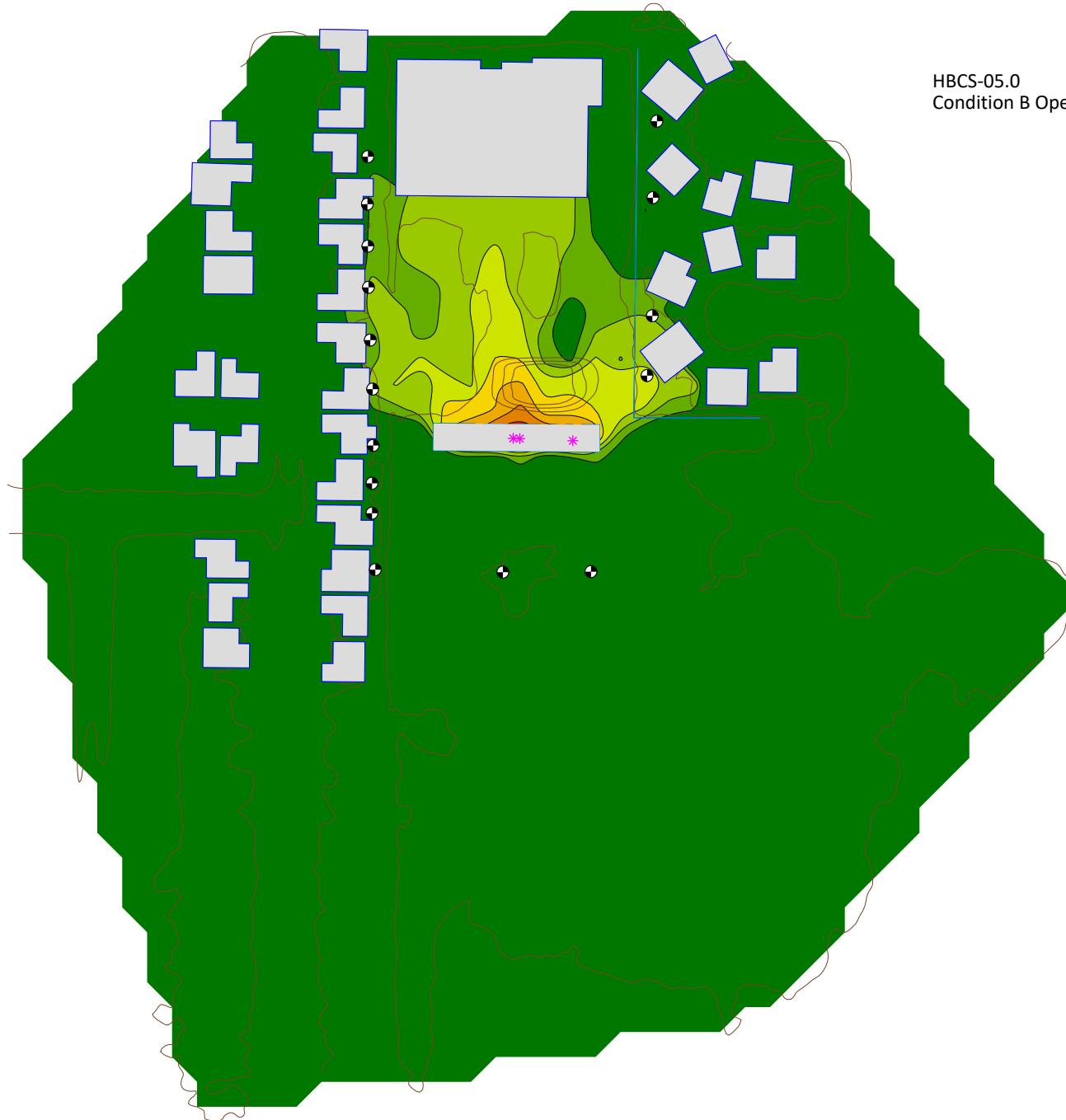
Noise level  
Leq,d  
in dB(A)



#### Signs and symbols

-  Point source
-  Building
-  Wall
-  Elevation line
-  Receiver

HBCS-05.0  
Condition B Operatio Scenario



## Condition B: 8750 Dorsett Dr Assessed receiver levels

**2**

| Receiver | Usage | FI | Dir |       | Lr,lim | Lr,lim | Lr,lim | Ldn   |  |
|----------|-------|----|-----|-------|--------|--------|--------|-------|--|
|          |       |    |     | dB(A) | dB(A)  | dB(A)  | dB(A)  | dB(A) |  |
| R-1      | SCR   | G  |     |       |        |        |        | 41.2  |  |
| R-2      | SCR   | G  |     |       |        |        |        | 47.7  |  |
| R-3      | SCR   | G  |     |       |        |        |        | 43.7  |  |
| R-4      | SCR   | G  |     |       |        |        |        | 50.0  |  |
| R-5      | SCR   | G  |     |       |        |        |        | 43.9  |  |
| R-6      | SCR   | G  |     |       |        |        |        | 48.5  |  |
| R-7      | SCR   | G  |     |       |        |        |        | 28.8  |  |
| R-8      | SCR   | G  |     |       |        |        |        | 34.1  |  |
| R-9      | SCR   | G  |     |       |        |        |        | 30.9  |  |
| R-10     | SCR   | G  |     |       |        |        |        | 18.0  |  |
| R-11     | SCR   | G  |     |       |        |        |        | 54.6  |  |
| R-12     | SCR   | G  |     |       |        |        |        | 48.0  |  |
| R-13     | SCR   | G  |     |       |        |        |        | 39.5  |  |
| R-14     | SCR   | G  |     |       |        |        |        | 34.0  |  |
| R-15     | SCR   | G  |     |       |        |        |        | 30.6  |  |
| R-16     | SCR   | G  |     |       |        |        |        | 26.0  |  |

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1

## Condition B: 8750 Dorsett Dr Contribution level

**9**

| Source         | Source group                                      | Source ty                                   | Leq,d<br>dB(A) |  |
|----------------|---------------------------------------------------|---------------------------------------------|----------------|--|
| Receiver R-1   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 41.2 dB(A) Leq,d 44.2 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 36.3           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 40.1           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 40.8           |  |
| Receiver R-2   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 47.7 dB(A) Leq,d 50.7 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 45.5           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 39.6           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 48.6           |  |
| Receiver R-3   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 43.7 dB(A) Leq,d 46.7 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 43.6           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 39.2           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 42.0           |  |
| Receiver R-4   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 50.0 dB(A) Leq,d 53.0 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 42.0           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 52.6           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 37.6           |  |
| Receiver R-5   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 43.9 dB(A) Leq,d 46.9 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 43.6           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 43.4           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 36.5           |  |
| Receiver R-6   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 48.5 dB(A) Leq,d 51.5 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 44.8           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 48.3           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 46.5           |  |
| Receiver R-7   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 28.8 dB(A) Leq,d 31.8 dB(A) Leq,e dB(A) |                |  |
| Compressor     | Default industrial noise                          | Point                                       | 19.4           |  |
| Table Saw      | Default industrial noise                          | Point                                       | 30.7           |  |
| Radial Arm Saw | Default industrial noise                          | Point                                       | 24.0           |  |
| Receiver R-8   | FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) | Ldn 34.1 dB(A) Leq,d 37.2 dB(A) Leq,e dB(A) |                |  |

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## Condition B: 8750 Dorsett Dr Contribution level

**9**

| Source                                                                                                      | Source group             | Source ty | Leq,d<br>dB(A) |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|----------------|--|
| Compressor                                                                                                  | Default industrial noise | Point     | 13.8           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 36.4           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 29.3           |  |
| Receiver R-9 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 30.9 dB(A) Leq,d 33.9 dB(A) Leq,e dB(A)  |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 11.7           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 33.2           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 25.2           |  |
| Receiver R-10 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 18.0 dB(A) Leq,d 21.0 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 9.4            |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 19.8           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 13.0           |  |
| Receiver R-11 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 54.6 dB(A) Leq,d 57.6 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 28.4           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 56.3           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 51.6           |  |
| Receiver R-12 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 48.0 dB(A) Leq,d 51.0 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 24.7           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 50.5           |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 41.5           |  |
| Receiver R-13 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 39.5 dB(A) Leq,d 42.5 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 42.5           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     |                |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 22.1           |  |
| Receiver R-14 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 34.0 dB(A) Leq,d 37.1 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 37.0           |  |
| Table Saw                                                                                                   | Default industrial noise | Point     |                |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 20.4           |  |
| Receiver R-15 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 30.6 dB(A) Leq,d 33.6 dB(A) Leq,e dB(A) |                          |           |                |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 12.4           |  |

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2



|                                                                                               |          |
|-----------------------------------------------------------------------------------------------|----------|
| <p><b>Condition B: 8750 Dorsett Dr</b><br/> <b>Octave spectra of the sources in dB(A)</b></p> | <b>3</b> |
|-----------------------------------------------------------------------------------------------|----------|

|                                                                                               |          |
|-----------------------------------------------------------------------------------------------|----------|
| <p><b>Condition B: 8750 Dorsett Dr</b><br/> <b>Octave spectra of the sources in dB(A)</b></p> | <b>3</b> |
|-----------------------------------------------------------------------------------------------|----------|

| Name           | Source type | Rw | L'w   | Lw    | Kl  | KT  | LwMax | DO-Wall | Day histogram  | 500Hz |  |
|----------------|-------------|----|-------|-------|-----|-----|-------|---------|----------------|-------|--|
|                |             | dB | dB(A) | dB(A) | dB  | dB  | dB(A) | dB      |                | dB(A) |  |
| Compressor     | Point       |    | 106.0 | 106.0 | 0.0 | 0.0 | 106.0 | 0       | Air compressor | 106.0 |  |
| Radial Arm Saw | Point       |    | 102.0 | 102.0 | 0.0 | 0.0 | 102.0 | 0       | Radial Arm Saw | 102.0 |  |
| Table Saw      | Point       |    | 107.0 | 107.0 | 0.0 | 0.0 | 107.0 | 0       | Table Saw      | 107.0 |  |

|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
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|  |                                                                |   |
|--|----------------------------------------------------------------|---|
|  | PlaceWorks 3 MacArthur Place, Ste 1100 Santa Ana, CA 92707 USA | 1 |
|--|----------------------------------------------------------------|---|

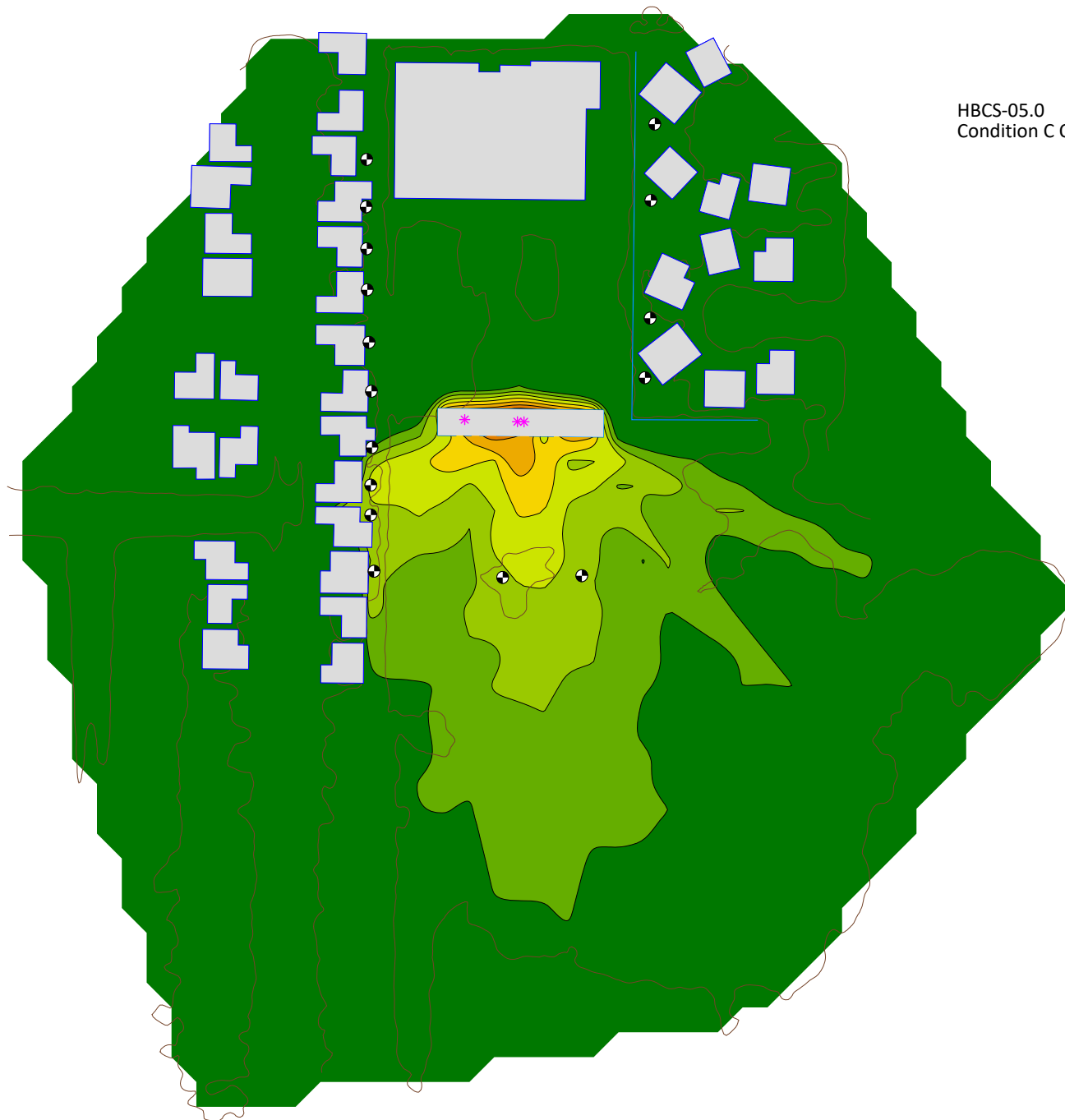
# Noise level

Leq,d  
in dB(A)

|      |       |
|------|-------|
|      | <= 45 |
| 45 < | <= 50 |
| 50 < | <= 55 |
| 55 < | <= 60 |
| 60 < | <= 65 |
| 65 < | <= 70 |
| 70 < | <= 75 |
| 75 < | <= 80 |
| 80 < | <= 85 |
| 85 < |       |

## Signs and symbols

- \* Point source
- Building
- Wall
- Elevation line
- Receiver





## Condition C: 8750 Dorsett Dr Assessed receiver levels

**2**

| Receiver | Usage | FI | Leq,d<br>dB(A) |  |
|----------|-------|----|----------------|--|
| R-1      | SCR   | G  | 23.5           |  |
| R-2      | SCR   | G  | 31.2           |  |
| R-3      | SCR   | G  | 28.4           |  |
| R-4      | SCR   | G  | 29.2           |  |
| R-5      | SCR   | G  | 28.3           |  |
| R-6      | SCR   | G  | 32.5           |  |
| R-7      | SCR   | G  | 48.3           |  |
| R-8      | SCR   | G  | 57.5           |  |
| R-9      | SCR   | G  | 57.3           |  |
| R-10     | SCR   | G  | 52.8           |  |
| R-11     | SCR   | G  | 35.2           |  |
| R-12     | SCR   | G  |                |  |
| R-13     | SCR   | G  |                |  |
| R-14     | SCR   | G  |                |  |
| R-15     | SCR   | G  | 53.7           |  |
| R-16     | SCR   | G  | 50.9           |  |

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1

# Condition C: 8750 Dorsett Dr Contribution level

9

| Source                                                                                                     | Source group             | Source ty | Leq,d<br>dB(A) | A<br>dB |  |
|------------------------------------------------------------------------------------------------------------|--------------------------|-----------|----------------|---------|--|
| Receiver R-1 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 20.5 dB(A) Leq,d 23.5 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 18.5           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     |                | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 21.9           | 0.0     |  |
| Receiver R-2 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 28.2 dB(A) Leq,d 31.2 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 27.5           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 16.9           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 28.5           | 0.0     |  |
| Receiver R-3 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 25.4 dB(A) Leq,d 28.4 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 26.8           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 18.6           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 21.6           | 0.0     |  |
| Receiver R-4 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 26.2 dB(A) Leq,d 29.2 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 28.4           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 20.5           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 14.1           | 0.0     |  |
| Receiver R-5 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 25.3 dB(A) Leq,d 28.3 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 26.0           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 23.7           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 17.3           | 0.0     |  |
| Receiver R-6 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 29.5 dB(A) Leq,d 32.5 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 29.6           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 28.4           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 22.1           | 0.0     |  |
| Receiver R-7 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 45.3 dB(A) Leq,d 48.3 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor<br><br>Table Saw<br>Radial Arm Saw                                                              | Default industrial noise | Point     | 31.1           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 47.4           | 0.0     |  |
|                                                                                                            | Default industrial noise | Point     | 40.6           | 0.0     |  |
| Receiver R-8 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 54.5 dB(A) Leq,d 57.5 dB(A) Leq,e dB(A) |                          |           |                |         |  |
|                                                                                                            |                          |           |                |         |  |

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# Condition C: 8750 Dorsett Dr Contribution level

9

| Source                                                                                                      | Source group             | Source ty | Leq,d<br>dB(A) | A<br>dB |  |
|-------------------------------------------------------------------------------------------------------------|--------------------------|-----------|----------------|---------|--|
| Compressor                                                                                                  | Default industrial noise | Point     | 32.1           | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 57.2           | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 46.3           | 0.0     |  |
| Receiver R-9 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 54.3 dB(A) Leq,d 57.3 dB(A) Leq,e dB(A)  |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 34.6           | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 55.1           | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 53.4           | 0.0     |  |
| Receiver R-10 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 49.8 dB(A) Leq,d 52.8 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 37.7           | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 52.4           | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 41.3           | 0.0     |  |
| Receiver R-11 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 32.2 dB(A) Leq,d 35.2 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     |                | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     | 34.5           | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     | 26.5           | 0.0     |  |
| Receiver R-12 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn dB(A) Leq,d dB(A) Leq,e dB(A) Leq,i     |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     |                | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     |                | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     |                | 0.0     |  |
| Receiver R-13 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn dB(A) Leq,d dB(A) Leq,e dB(A) Leq,i     |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     |                | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     |                | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     |                | 0.0     |  |
| Receiver R-14 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn dB(A) Leq,d dB(A) Leq,e dB(A) Leq,i     |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     |                | 0.0     |  |
| Table Saw                                                                                                   | Default industrial noise | Point     |                | 0.0     |  |
| Radial Arm Saw                                                                                              | Default industrial noise | Point     |                | 0.0     |  |
| Receiver R-15 FI G dB(A) Lr,lim dB(A) Lr,lim dB(A) Lr,lim dB(A) Ldn 50.6 dB(A) Leq,d 53.7 dB(A) Leq,e dB(A) |                          |           |                |         |  |
| Compressor                                                                                                  | Default industrial noise | Point     | 43.6           | 0.0     |  |

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## 9



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### 3

[illegible]

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