Baseline Environmental Noise Survey Report

Prepared for:
Ahwatukee Community Alliance Inc.
Phoenix, Arizona

July 18th–19th, 2026

This document has been prepared by Compliance Safety Supply. The material in this report was prepared under the supervision and direction of the undersigned.

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INTRODUCTION

Ahwatukee Community Alliance Inc. engaged Compliance Safety Supply to conduct a pre-construction environmental noise survey in advance of a new data center being built within the neighborhood. The purpose of this baseline survey is to document existing ambient noise conditions prior to construction and prior to future data-center operations. A second report will be generated after construction is complete. That report will include full analysis, comparison against applicable criteria, and evaluation of operational noise from the data center. This current report is limited to baseline measurement and summary only.

Measurements were collected continuously from Saturday, July 18, 2026 through Sunday, July 19, 2026 at two residential-adjacent locations.

INSTRUMENTATION

All measurements were collected using Larson Davis Spartan 821 noise dosimeters configured for environmental monitoring with 1/3-octave band logging.

Meter Configuration

Manufacturer: Larson Davis Model Spartan 82-IH
Microphone: 377B02
Preamplifier: PRM821
Firmware: 1.520R15 (dated 6/17/2026)
Calibration Level: 114 dB
System Sensitivity: –25.43 dB re 1V/Pa
Nominal Sensitivity: –26 dB re 1V/Pa
Overload Limit: 144.1 dB
Time History Logging: 1-second
OBA: 1/3-octave, Z-weighting Min/Max

Dosimeter Settings

Virtual Dosimeters Enabled: OSHA-PEL, OSHA-HC
Frequency Weighting: A Time Weighting: Slow Peak Weighting: C Exchange Rate: 5 dB
Thresholds: 90 dB (PEL), 80 dB (HC)
Criterion Level: 90 dB Shift Time: 8 hours

Exceedance Settings

A-weighted slow detector SPL thresholds: 85 dB and 95 dB C-weighted peak thresholds: 135, 137, 140 dB

Ln Percentile Settings

Enabled for: L5, L10, L33.3, L50, L66.6, L90 Frequency Weighting: Z Time Weighting: Slow All meters were field-calibrated before and after measurement using a 114 dB acoustic calibrator. Sensitivity drift remained within acceptable limits (≤0.3 dB).

MEASUREMENT LOCATIONS

Location A: ~20 ft S of MD-PHX1 property line; medical office parking lot

- Device Info: Spartan 821 Serial 30173
- Run Time: 24:03:46
- Measurement Period: 7/18/26 17:11 to 7/19/26 17:15

Location B: ~150 ft W of MD-PHX1 property line; residential backyard

- Device Info: Spartan 821 Serial 30287
- Run Time: 24:00:00
- Measurement Period: 7/18/26 15:26 to 7/19/26 15:26

RESULT SUMMARY

Overall A-Weighted Equivalent Levels (LAeq)

Monitoring Location	LAeq
Location A (48th St)	50.8 dBA
Location B (47th Way)	48.2 dBA

Both monitoring locations reflected typical suburban ambient noise conditions, with nighttime sound levels in the mid-30 dBA range and daytime increases associated with traffic, neighborhood activity, and environmental sources.

Peak Levels (Lpk, C-Weighted)

Monitoring Location	Peak Level (Lpk)
Location A	105.5–109.4 dBC
Location B	95.0–103.7 dBC

No instrument overloads occurred at either monitoring location.

Minimum and Maximum Sound Levels

Location A

- LwSmin (A-weighted, Slow): 38.1 dB

- LwSmax (A-weighted, Slow): 79.6 dB
- LwFmax (Fast): 87.1 dB
- LwImax (Impulse): 90.4 dB

Location B

- LwSmin (A-weighted, Slow): 30.7 dB
- LwSmax (A-weighted, Slow): 73.3 dB
- LwFmax (Fast): 75.7 dB
- LwImax (Impulse): 78.3 dB

These measurements indicate quiet nighttime conditions with occasional moderate sound level increases consistent with passing vehicles and routine neighborhood activity.

Statistical Noise Levels (Ln Percentiles, Z-Weighted)

Percentile	Location A	Location B
L5	81.8 dB	68.1 dB
L10	77.5 dB	65.5 dB
L33.3	67.1 dB	61.8 dB
L50	63.5 dB	60.6 dB
L66.6	61.8 dB	59.3 dB
L90	59.3 dB	56.4 dB

The percentile data indicate that Location A experienced slightly higher intermittent noise events than Location B, while both sites maintained similar background sound levels.

Sound Exposure

Metric	Location A	Location B
SELA	100.2 dB	97.5 dB
EA ($Pa^2 \cdot s$)	4.2	2.3
EA,8h	1.4	0.8
EA,40h	6.9	3.8

Noise Exceedances

Both monitoring locations recorded:

- 0 instances exceeding 85 dBA
- 0 instances exceeding 95 dBA
- 0 peak exceedances above 135, 137, or 140 dBC

These results confirm that no high-level impulsive or potentially hazardous noise events occurred during the monitoring period.

DISCUSSION

The baseline noise environment at both locations is consistent with quiet residential suburban conditions. Equivalent levels remained below 55 dBA at both sites, with nighttime lows in the 30–40 dBA range. No exceedances of community-relevant thresholds were observed.

These measurements establish a defensible baseline for comparison against future post-construction noise monitoring. The follow-up survey will evaluate operational noise from the data center, including tonal content, low-frequency contributions, and compliance with applicable municipal or community noise expectations.

NEXT STEPS

Compliance Safety Supply will return after construction is complete to conduct:

- Post-construction operational noise measurements
- Direct comparison against this baseline
- Analysis of any changes attributable to data-center equipment
- Recommendations if operational noise exceeds community expectations