

**Date:** June 11, 2025  
**To:** Alexey Polyakov – Metric Investment Group  
**From:** David Kotch & Andy Swerdlow – Criterion Acoustics  
**Re:** GAIA Restaurant Miami Beach – CUP Revision Memo

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## 1) Overview

Metric Investment Group has contracted Criterion Acoustics (CA) as the acoustic consultant for GAIA (“project”), most recently to provide comment on the request for an amendment to the CUP language concerning the sound isolation construction of the project. The project address is 801 S Pointe Drive in Miami Beach. The project is currently in construction and is going through value engineering.

The project will utilize an installed sound system for background (ambient) music playback at an estimated sound level of 75 dBA / 80 dBC. This is a lower ambient music sound level than CA anticipated during the initial planning stages for the project in 2022.

The original sound isolation plan was created for 85 dBA / 95 dBC music playback, which is the upper level of what is considered ambient music. The revised plan is for a typical or common sound level expected for ambient music in a dining setting.

The proposed revisions to the CUP reflect these changes and are described herein.

## 2) Revised Summary and Recommendations

With appropriately designed sound isolation construction and audio reinforcement systems, GAIA will operate within the Miami noise code. The impact of restaurant operations (ambient music) on the dwellings above the restaurant is the greatest acoustical challenge for the project.

A summary and assessment of both the project plans and CA-provided recommendations are as follows:

1. Summary and Assessment of Sound Isolation Plans:
  - a. For restaurant background music and typical operation noise control, CA recommends the following construction methods in dining areas:

- i. A (1) layer 5/8" type X gypsum board (GWB) ceiling on metal framing (minimum 12" depth) with either 3" sound attenuating batts infilled in the cavity or K-13 spray-applied to the slab.
  - ii. The ceiling should not be penetrated by loudspeakers or light fixtures (construction details to minimize and seal penetrations have been provided for the project by CA).
  - iii. Existing structural walls and columns shall be covered with (1) layer of 5/8" GWB (with insulation) connected via metal furring:  
This recommendation applies to certain areas close to the set-back residential units above. The storefront glazing does not need additional treatment since second level residences are set back from the edge of the building.
  - iv. A storage room has been utilized along the demising wall between the Bar and the Kosushi restaurant.
2. Summary and Assessment of Audio Reinforcement Systems Plans:
- a. The design shall be a permanently installed, "distributed" system.
  - b. The loudspeakers shall be wall-mounted on isolated mounts; ceiling-mounted loudspeakers and speakers close to the ceiling shall have been avoided.
    - i. Wall-mounted loudspeakers are small, and do not produce significant bass. Bass sound reproduction will be outsourced to small subwoofers installed on the floor.
    - ii. The tuning will be balanced to avoid excessive bass sound.
  - c. Audio coverage in egress points shall be avoided or limited.
  - d. Audio sound levels shall not exceed 75 dBA.
  - e. CA recommends sound level commissioning after construction to determine operating levels and to set system limiters.

### 3) Noise Code

The applicable section of the Miami Beach noise code is excerpted below in italics. Unfortunately, the Miami Beach noise code does not utilize explicit sound levels in decibels or specific measurement procedures. Therefore, the interpretation of the code is subjective.

***Sec. 46-152. - Noises; unnecessary and excessive prohibited.***

*It shall be unlawful for any person to make, continue or cause to be made or continued any unreasonably loud, excessive, unnecessary or unusual noise. The following acts, among others, are declared to be unreasonably loud, excessive, unnecessary or unusual*

*noises in violation of this section, but this enumeration shall not be deemed to be exclusive, namely:*

- (b) *Radios, televisions, phonographs, etc. The using, operating, or permitting to be played, used or operated any radio receiving set, television set, musical instrument, phonograph, or other machine or device for the producing or reproducing of sound in such manner as to disturb the peace, quiet and comfort of the neighboring inhabitants, or at any time with louder volume than is necessary for convenient hearing for the person or persons who are in the room, vehicle or chamber in which such machine or device is operated and who are voluntary listeners thereto. The operation of any such set, instrument, phonograph, machine or device between the hours of 11:00 p.m. and 7:00 a.m. in such manner as to be plainly audible at a distance of 100 feet from the building, structure or vehicle in which it is located shall be prima facie evidence of a violation of this section.*

#### **4) Conclusions**

CA's recommendations for sound isolation construction and audio reinforcement systems will allow the GAIA project to conduct operations in the 801 S Pointe Ave location while satisfying the Miami Beach Noise Code and prevent residents from hearing noise from the restaurant.

The adjustments requested for the CUP language reflect the changes made to the project during the design process.

Please call to further discuss.

Sincerely,



David Kotch, Andy Swerdlow

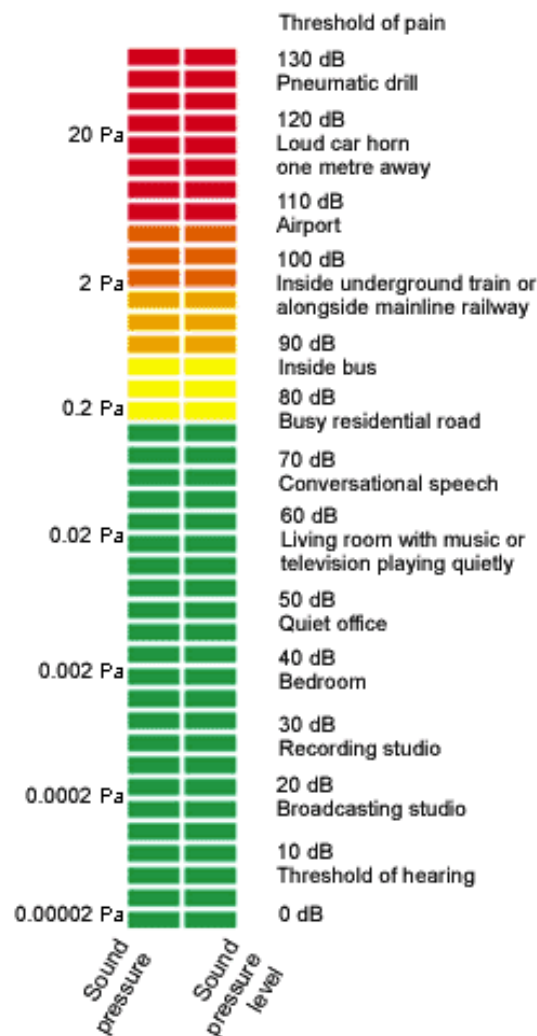
## APPENDIX OF ACOUSTIC TERMS AND DEFINITIONS

### Ambient:

Ambient noise includes all sounds present in an environment. The ambient noise level may be measured at any moment, but it will vary widely with time, e.g., with the coming and going of trucks, cars, aircraft, sirens, etc.

### Decibel (dB):

A unit of the intensity of sound. The decibel (abbreviated dB) is a relational measure, expressing the relative intensity of the described sound to a reference sound. The decibel is a logarithmic measure, specifically 10 times the logarithm of the ratio of two voltages, currents, or sound pressures. Decibels are a logarithmic scale, so every 3dB increase is a doubling of sound pressure and subjectively it requires 10dB for a perceived doubling of loudness. See Figure A for a chart illustrating comparative dB & SPL values.



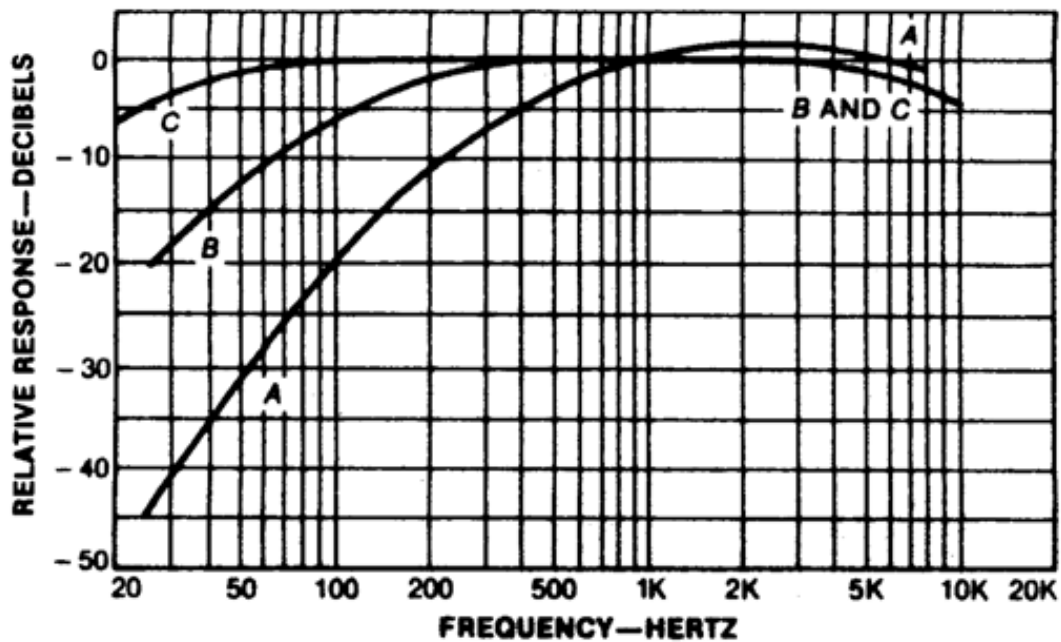
*Figure A – Chart illustrating comparative dB & SPL values.*

A-Weighting:

The A-contour filters out a significant amount of the bass in order to approximate the way humans hear at the 40 phon level. It is useful for eliminating inaudible low frequencies and is commonly used at SPLs below 70 dB. Sound pressure level values obtained using this weighting are referred to as A-weighted sound pressure levels and are signified by the identifier dBA. See Figure B for a visual comparison of weighting curves.

C-Weighting:

The C-contour is nearly flat, with only a slight reduction at the high and low frequencies. It approximates the way humans hear at very high sound levels and is commonly used for SPLs above 70 dB. Sound pressure level values obtained using this weighting are referred to as C-weighted sound pressure levels and are signified by the identifier dBC. See Figure B for a visual comparison of weighting curves.



*Figure B – A visual comparison of weighting curves.*

L<sub>EQ</sub>:

Equivalent continuous sound level. The steady level which would produce the same sound energy over the test period as the specified time-varying sound. This figure is useful for studying long-term trends in environmental noise.

L<sub>MAX</sub>:

Highest, or loudest, Sound Pressure Level (in dBA, dBC, or dBZ) measured during the test period.

L<sub>MIN</sub>:

Lowest, or quietest, Sound Pressure Level (in dBA, dBC, or dBZ) measured during the test period.

L<sub>n</sub>:

L<sub>n</sub> values are statistical noise levels (sometimes called percentiles) used to assess noise levels (sound pressure levels) from fluctuating noise sources over time. Any statistical value between 0.01% and 99.99% may be calculated where 'n' is the percent exceeded noise level over a timed measurement period (T).

L<sub>5.0</sub>:

L<sub>5.0</sub> is the level exceeded for 5% of the time. For 5% of the time, the sound or noise has a sound pressure level above L<sub>5.0</sub>. For the rest of the time, the sound or noise has a sound pressure level at or below L<sub>5.0</sub>. These higher sound pressure levels are due to sporadic or intermittent events. L<sub>5.0</sub> is often used when assessing environmental noise and in planning applications.

L<sub>95</sub>:

L<sub>95</sub> is the level exceeded 95% of the time. For 95% of the time, the noise level is above this level. It is generally considered to be representing the background or ambient level of an environment. L<sub>95</sub> is often used to quantify the background noise levels in assessments of noise pollution and nuisance noise from industrial sources.

Perception of Sound:

The threshold of perception of the human ear is approximately three decibels and a five-decibel change is considered to be clearly noticeable to the ear. This is primarily due to the logarithmic measuring metric typically associated with decibels. See Chart 1 for perceived change in decibel levels.

<b>Perceived Change in Decibel Levels</b>	
<b>Change in sound level</b>	<b>Perceived change to the human ear</b>
± 1dB	Not perceptible
± 3dB	Threshold of perception
± 5dB	Clearly noticeable
± 10dB	Twice (or half) as Loud
± 20dB	Fourfold (4x) change

*Chart 1 - Perceived change in decibel levels.*

Subtracting Sound Levels:

Sometimes it is necessary to subtract the background noise from the total SPL. The correction for background noise can be done by subtracting background noise from the total noise level using logarithmic subtraction.

If change is less than 3 dB(A), the background noise is too high for an accurate measurement and the correct noise level cannot be found until the background noise has been reduced. If the difference is more than 10 dB(A), the background noise can be ignored.