



ENTERTAINMENT NOISE STUDY

Date: 27 August 2020

To: James E. Rauh
Partner

Greenspoon Marder
600 Brickell Avenue, 36th Floor
Miami, Florida 33131

From: Sam Shroyer, ASA INCE
Edward Dugger, FAIA ASA NCAC INCE

Re: **Outdoor Entertainment Noise Study**
Palace Rooftop
1052 Ocean Drive
Miami Beach, Florida 33139
ED+A 201202

Mr. Rauh,

The following report documents the results of acoustical measurements performed at 1052 Ocean Drive (Palace) and in the surrounding area in Miami Beach, Florida while entertainment music was generated on Palace's Rooftop. The measurement results are compared with those of long-term acoustical measurements conducted over a week-long period during which bars and entertainment establishments in the area were ordered to close by state and/or local authorities, leading to quieter sound conditions. The results of the entertainment testing and subsequent long-term monitoring suggest that outdoor entertainment may be provided on the Palace Rooftop with little sound level impact to immediately adjacent properties and no impact at the nearest residential properties.

The proposed expansion of current outdoor entertainment operations further north along Ocean Drive is also addressed.

Please contact ED+A with any questions or comments regarding the contents of this report.

ROOFTOP ENTERTAINMENT MEASUREMENTS

Sam Shroyer and Irineo Jaimes of ED+A visited Palace on March 17, 2020 to conduct acoustical measurements. The pool deck was active and its bar was open to guests, whom were spread throughout the rooftop at various seating/table locations and in the pool. When ED+A arrived, the existing audio system was operating at background levels. Following the installation of a stationary acoustical measurement system near the west edge of the pool deck, the audio system's output was increased to levels anticipated for outdoor entertainment. Background-level music was measured for a brief period prior to this increase and was found to be 68 dBA and 74 dBC.

A handheld acoustical measurement system was used to measure time- and space-average sound levels throughout the various areas of the pool deck and at a position near the stationary system. The average sound level throughout the majority of the rooftop was 88 dBA and 92 dBC. During the same period, sound levels at the stationary position near the western edge of the rooftop were 77 dBA and 86 dBC. These levels are consistent with outdoor entertainment.

The handheld system was also used to measure sound levels at several locations on the rooftop of Pelican Garage at 1041 Collins Avenue, directly west of Palace. Sound levels were measured along the eastern portion of the Pelican Garage rooftop along Ocean Court and at locations on the west edge of the rooftop along Collins Avenue. Time-average sound levels were calculated for the same intervals using data logged near the western edge of the Palace rooftop. The resulting sound levels are shown in Table 1. Figure 1 identifies the various locations.

The Pelican Garage lies directly between Palace and the nearest residential property—Council Towers at 1040 Collins Avenue—and is therefore the most ideal location to assess sound levels emanating from the Palace Rooftop without having access to the Council Towers property. It should be noted that there are no balconies and only a limited number of windows on Council Towers' eastern façade. The Pelican Garage rooftop would also be an acceptable point of evaluation for Miami Beach Code Enforcement officials to determine whether or not sound generated at Palace is "plainly audible" at a distance of 100 ft.

Table 1. Sound levels measured during entertainment testing.					
Position	Location	LAeq	LCeq	Palace LAeq	Palace LCeq
1	Pelican SE (Upper Level)	66	75	77	84
2	Pelican SE (Lower Level)	70	74	75	80
3	Pelican NE	67	76	74	81
4	Pelican NW	61	69	74	80
5	Pelican SW	60	72	74	81



Figure 1. Measurement locations.

LONG-TERM AMBIENT SOUND LEVEL MEASUREMENTS

The stationary measurement system on Palace's rooftop was left to run for the purpose of long-term acoustical measurements. The system was retrieved on March 24, 2020.

The date of the system's installation—March 17, 2020—was coincidentally the day that bar and entertainment establishments in Florida were ordered to close due to a pandemic. These circumstances presented a rare opportunity to measure ambient sound levels in

Miami Beach without noise generated by entertainment establishments and lively areas, such as Ocean Drive, having a significant impact. Though these influences had been successfully removed, rooftop air-handling noise was still present and the “baseline” or residual sound level was a function of sound generated by equipment on several nearby rooftops.

Over the course of the long-term measurement period, day-night average sound levels (L_{Ad} , L_{Cd}) were found to be 64 dBA and 73 dBC while night-average sound levels (L_{An} , L_{Cn}). Sound levels measured by ED+A during the entertainment testing exceeded these levels by 2 to 6 dB on the east of the Pelican Garage, but levels measured on the west side did not reach the average ambient sound levels. Assuming quieter conditions on the west side of the garage on the order of -5 dB would result in ambient sound levels ranging from 58 to 59 dBA and 68 to 69 dBC. If this were the case, levels measured on the west side of the garage would exceed ambient by only 2 to 3 dB. This would not be considered a significant increase and may be barely perceivable so long as the frequency content of the sound generated at Palace is not out of character with the ambient sound environment. For this reason, low-frequency sound may be more readily perceivable and the plainly audible standard included in Miami Beach Code of Ordinances Section 46-152 would then need to be used to determine whether sound generated at Palace is acceptable between the hours of 11:00 p.m. and 7:00 a.m. An increase in sound level of only 2 to 3 dB would be very unlikely to constitute “unreasonably loud, excessive, unnecessary or unusual noise” in the proximity of Ocean Drive and Collins Avenue during the day (between 7:00 a.m. and 11:00 p.m.). Again, this increase assumes lower ambient sound levels along Collins Avenue than at the long-term measurement location, which may not be the case.

As Council Towers is at an even greater distance from the measurement locations on the opposite side of Collins Avenue and its balconies are on the north and south sides of the building at higher elevations, no sound level impact would be anticipated on this property during entertainment on Palace’s Rooftop—so long as the generated sound levels are similar to those measured by ED+A both at Palace and on top of Pelican Garage.

To further ensure that entertainment sound does not reach greater levels in the surrounding area, efforts should be made to suppress low-frequency sound on and off the property. This can be done by adjusting settings in the audio system’s digital signal processor (DSP) to appropriate levels during similar testing. Future measurements can be made at a location 100 ft from Palace as informed by Miami Beach Code Enforcement or Planning Department personnel.



OCEAN DRIVE ENTERTAINMENT

In March 2018, ED+A worked with Palace and their audio system designer/installer to set the system's output levels to ensure compliance with Miami Beach's noise ordinance and the establishment's new CUP for outdoor entertainment along Ocean Drive. For Palace's outdoor entertainment operations, sound levels were regulated to be below background level when observed on the opposite side of Ocean Drive, directly east of the venue.

Palace's outdoor entertainment consists of short "shows" during which performers move about the sidewalk adjacent to the restaurant whilst accompanying music is generated via Palace's loudspeaker system. No sound-generating equipment is placed at or near the restaurant's east property boundary.

As Palace has acquired the neighboring restaurant space to its north, it is proposing the expansion of outdoor entertainment as described herein. Performers will still occupy the existing entertainment area as previously approved. The 13 ft "alcove" area between the adjacent spaces will also be used for entertainment and restaurant seating. The existing loudspeakers and audio system will continue to be used for these performances and no adjustments should be required to provide music to this area. To summarize, outdoor entertainment sound levels generated by Palace's audio system will remain as is, but the location of the performers may shift slightly north of the existing performance area.

In conclusion, no changes have been proposed that would increase sound levels at the venue, nor in public areas including Code Enforcement's designated observation location on Ocean Drive's east sidewalk.