



EDWARD DUGGER + ASSOCIATES, P.A.
Consultants in Architectural Acoustics

SITE NOISE STUDY

Date: 18 November 2022

To: Mike Fimiani

Margate Executive Golf Course, LLC
5301 N Federal Highway, #350
Boca Raton, Florida 33487

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

Re: **Site Noise Study**
Margate Executive Golf Course
7870 Margate Boulevard
Margate, Florida 33063
ED+A 211311

Mike,

The following report details acoustical measurements performed by Edward Dugger + Associates (ED+A) at 7870 Margate Boulevard and presents the measurement results for comparison with the land use criteria included in Code of Ordinances of the City of Margate, Florida Section 33-87. The measurement results indicate that sound levels at the site are compatible with the criteria.

Please contact ED+A with any questions or comments relating to this report and its contents.



SUMMARY

ED+A were commissioned by Margate Executive Golf Course, LLC to conduct a sound level survey at 7870 Margate Boulevard for comparison with the criteria of City of Margate Code of Ordinances Section 33-87 relating to existing sound levels in areas of proposed residential construction. Long-term acoustical measurements were performed at the site and the resulting data are contained herein. Ultimately, the measured sound levels demonstrate compatibility with residential uses per the Code criteria.

SITE INFORMATION

7870 Margate Boulevard (“the Site”) is currently the location of Margate Executive Golf Course, a public golf course surrounded by residential properties. Margate Executive Golf Course, LLC is proposing the construction of 137 townhomes throughout the area currently occupied by the golf course.

ACOUSTICAL MEASUREMENTS

Sam Shroyer of ED+A deployed a Type-I acoustical measurement system at the Site on the afternoon of August 11, 2021. Equipment utilized for these measurements is detailed in Table 1. The measurement microphone was elevated at a height to reflect multistory buildings (see Figure 1). The approximate location of the measurement system is depicted in Figures 2 and 3.

This location was selected as this portion of the property is nearest to Atlantic Avenue, which was determined to be the predominant source of ambient noise in the area (see Figure 4). Accordingly, ambient sound levels measured at this location would be expected to be greater than those that would be measured in other area of the Site.

Measurements began on Wednesday, August 11, 2021 and continued until the system was removed on Wednesday, August 18.

Table 1. Measurement Equipment			
Manufacturer	Model	Serial Number	Laboratory Calibration
Brüel and Kjær	Type 2250 Analyzer	3023769	May 20, 2021
Brüel and Kjær	Type 4952 Outdoor Microphone	2788753	February 5, 2021
Brüel and Kjær	Type 4231 Sound Calibrator	2394124	August 25, 2020



Figure 1. Acoustical measurement system.

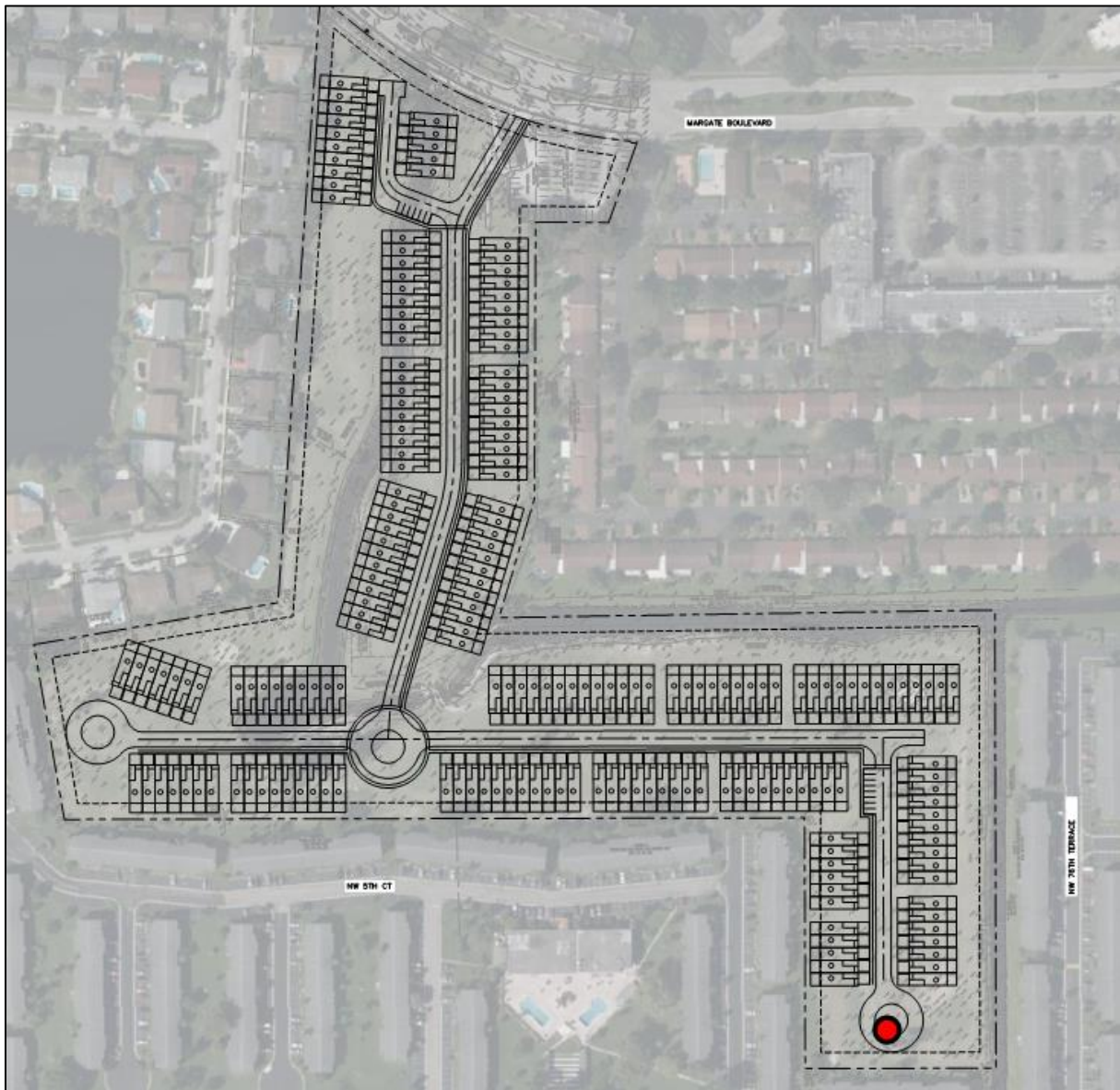


Figure 2. Proposed site plan with measurement location.

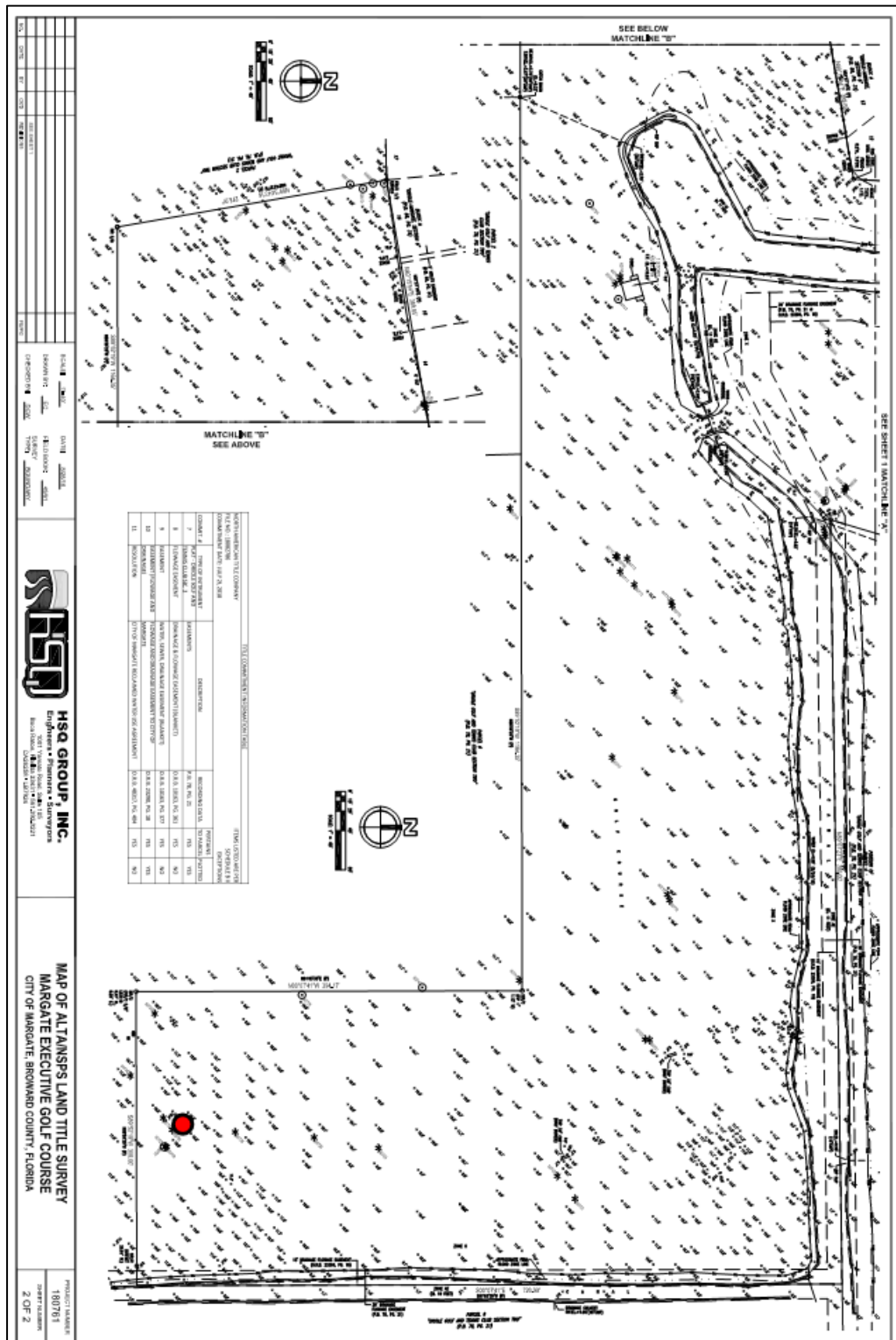


Figure 3. Existing site survey with measurement location.

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Figure 4. Aerial photograph of Margate Executive Golf Course and Atlantic Boulevard.

REGULATORY CRITERIA

Section 33-87 of the Code of the City of Margate, Florida (“the Ordinance”) includes the following provision for new construction on residential land uses:

No new residential construction, either single- or multiple-family, shall be approved if the sound pressure level existing in the area of proposed construction exceeds sixty-five (65) dBA for more than twelve (12) hours in twenty-four (24) hours on a normal weekday at any point on the proposed site where habitation is to occur. For multistory buildings, the appropriate height shall be used.

In summary, the provision states that residential homes should not be constructed where the existing sound levels exceed 65 dBA for more than twelve out of twenty-four hours on a weekday. The Ordinance defines A-weighted sound pressure level as being “the sound pressure level as measured on a sound level meter using the A-weighting network,” but makes no mention of A-weighted equivalent-continuous sound levels (L_{Aeq}), a time-average value which are representative of all fluctuations in sound level averaged over a given period that is typically used for community noise evaluations. Thus, measured one-hour L_{Aeq} are evaluated for comparison with the Ordinance’s criteria.

RESULTS AND DISCUSSION

The measured one-hour L_{Aeq} are included in Table 2. Sound levels measured over the entire measurement period are illustrated in Figure 5 and for each individual day in Figures 6 to 13.

Measured one-hour L_{Aeq} exceeded 65 dBA for only one of the 165 hours of the measurement period, between 2:00 a.m. and 3:00 a.m. on the morning of Friday, August 13.

CONCLUSION

The results of long-term acoustical measurements over multiple days demonstrate that existing sound levels at 7870 Margate Boulevard comply with the criteria of Section 33-87 of the Code of the City of Margate, Florida.

Table 2. One-Hour L_{Aeq} August 11, 2021 - August 18, 2021								
Interval	Wed, 11-Aug	Thu, 12-Aug	Fri, 13-Aug	Sat, 14-Aug	Sun, 15-Aug	Mon, 16-Aug	Tue, 17-Aug	Wed, 18-Aug
L 0000		49	52	49	50	48	49	51
L 0100		48	51	48	48	48	48	49
L 0200		48	75	47	47	47	48	48
L 0300		49	63	47	47	49	48	50
L 0400		48	47	48	47	47	49	48
L 0500		48	48	47	47	48	48	49
L 0600		50	54	55	48	53	50	54
L 0700		52	60	52	54	53	59	52
L 0800		57	52	53	52	51	53	56
L 0900		53	53	55	53	52	52	54
L 1000		53	54	55	53	58	53	53
L 1100		52	54	56	54	51	52	54
L 1200		53	55	57	54	52	52	55
L 1300		55	55	56	56	52	53	
L 1400		54	55	53	54	52	54	
L 1500		54	54	55	55	54	55	
L 1600	52	55	55	53	53	54	54	
L 1700	56	55	55	53	54	55	54	
L 1800	52	54	55	54	53	54	54	
L 1900	52	53	54	54	53	53	54	
L 2000	51	52	54	52	52	53	52	
L 2100	51	56	53	51	51	52	52	
L 2200	51	51	50	59	51	52	51	
L 2300	50	50	49	52	50	50	50	

Figure 5. One-hour L_{Aeq}
August 11, 2021 to August 19, 2021

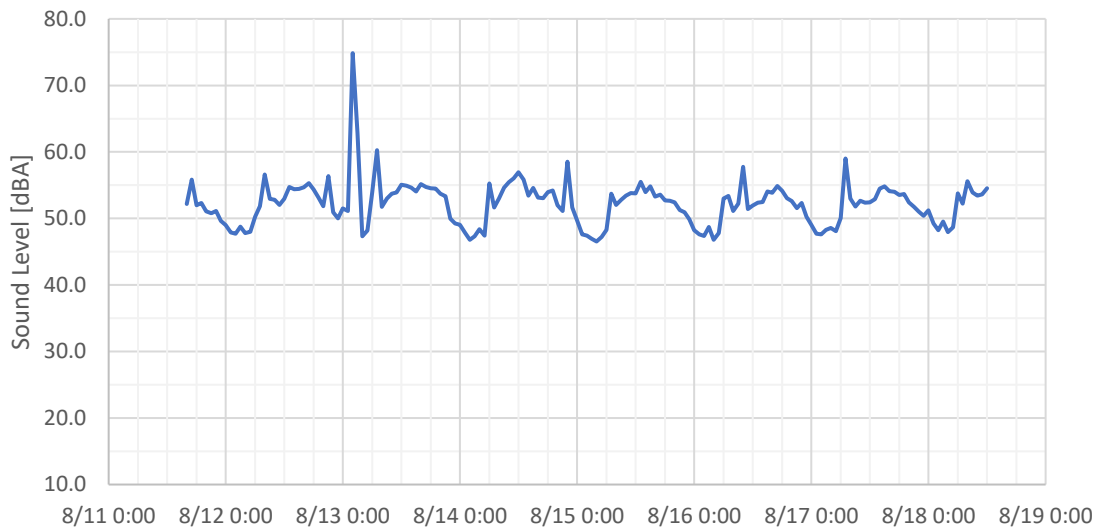


Figure 6. Fifteen-minute L_{Aeq}
Wednesday, August 11, 2021

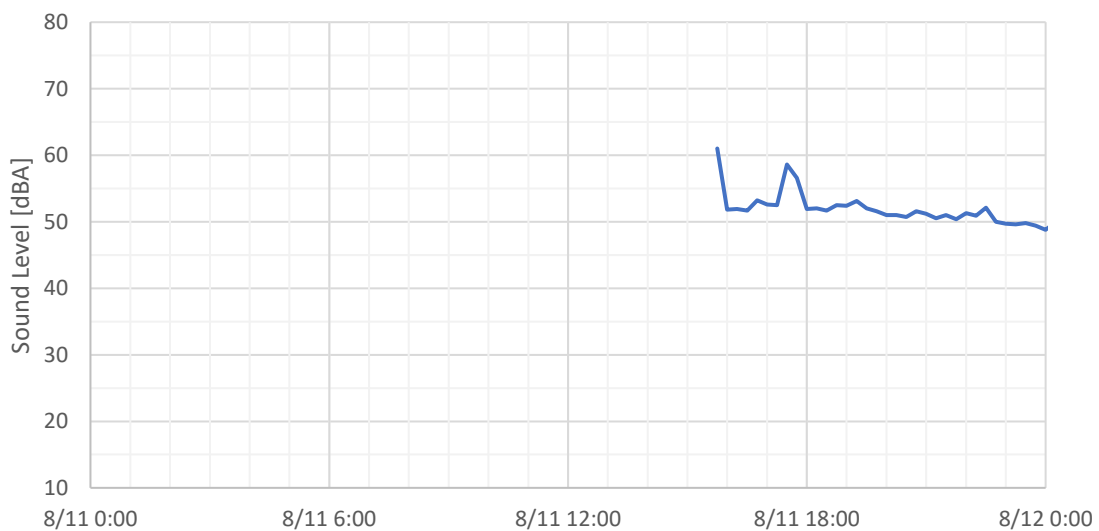


Figure 7. Fifteen-minute L_{Aeq}
Thursday, August 12, 2021

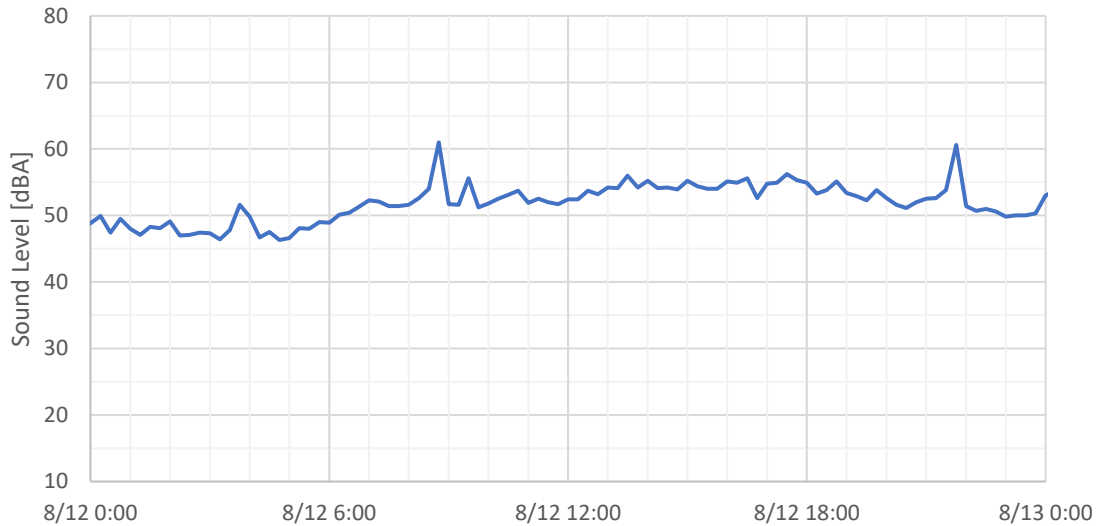


Figure 8. Fifteen-minute L_{Aeq}
Friday, August 13, 2021

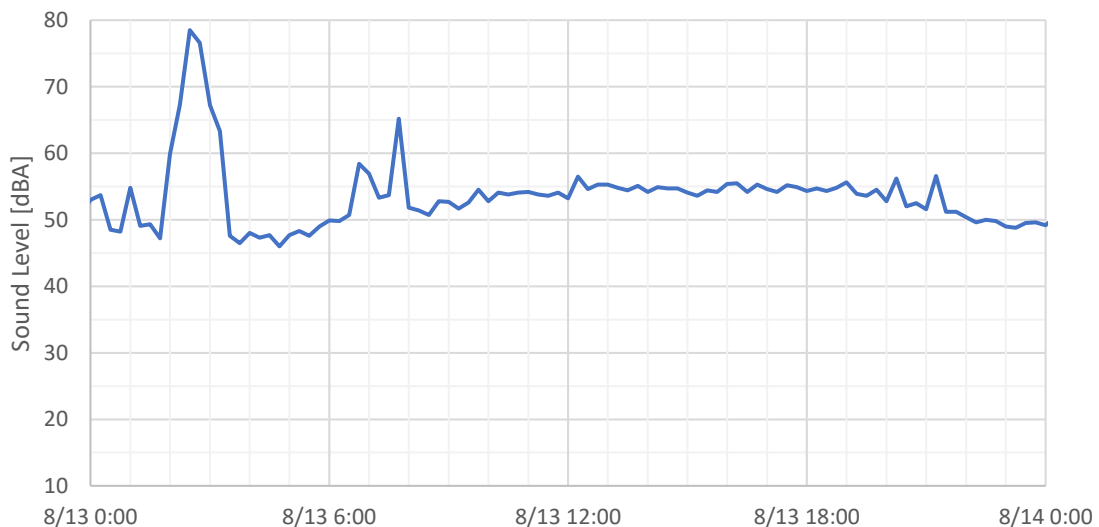


Figure 9. Fifteen-minute L_{Aeq}
Saturday, August 14, 2021

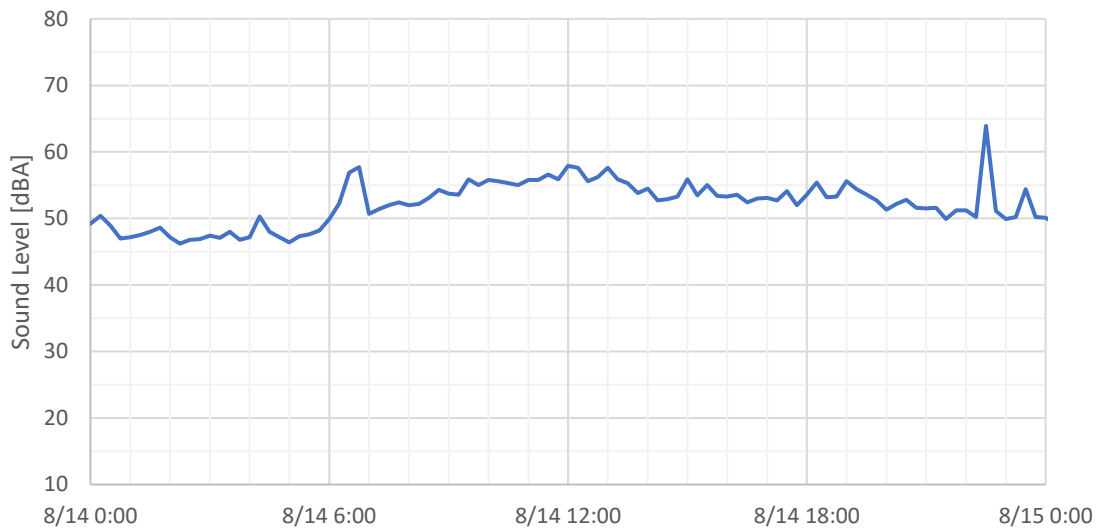


Figure 10. Fifteen-minute L_{Aeq}
Sunday, August 15, 2021

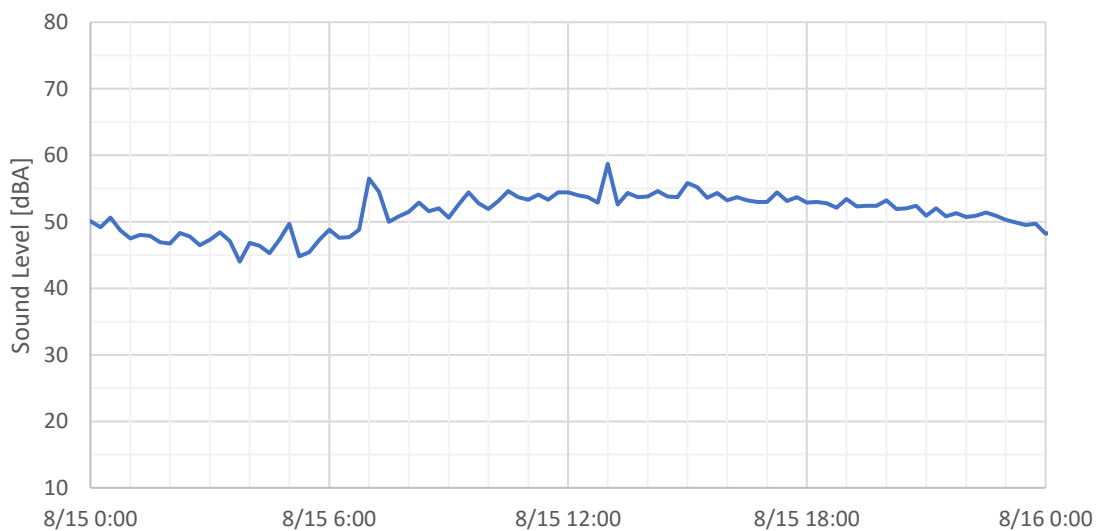


Figure 11. Fifteen-minute L_{Aeq}
Monday, August 16, 2021

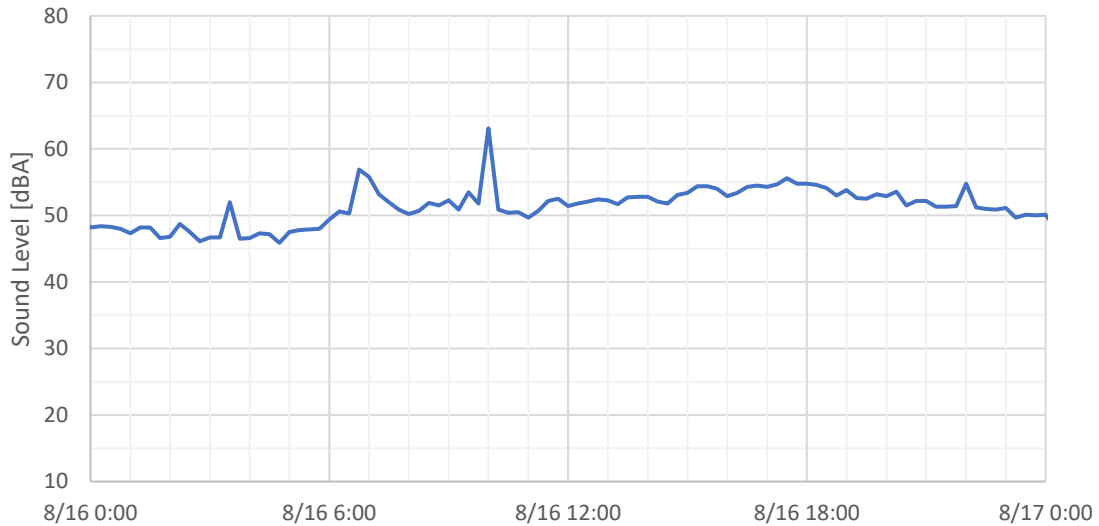


Figure 12. Fifteen-minute L_{Aeq}
Tuesday, August 17, 2021

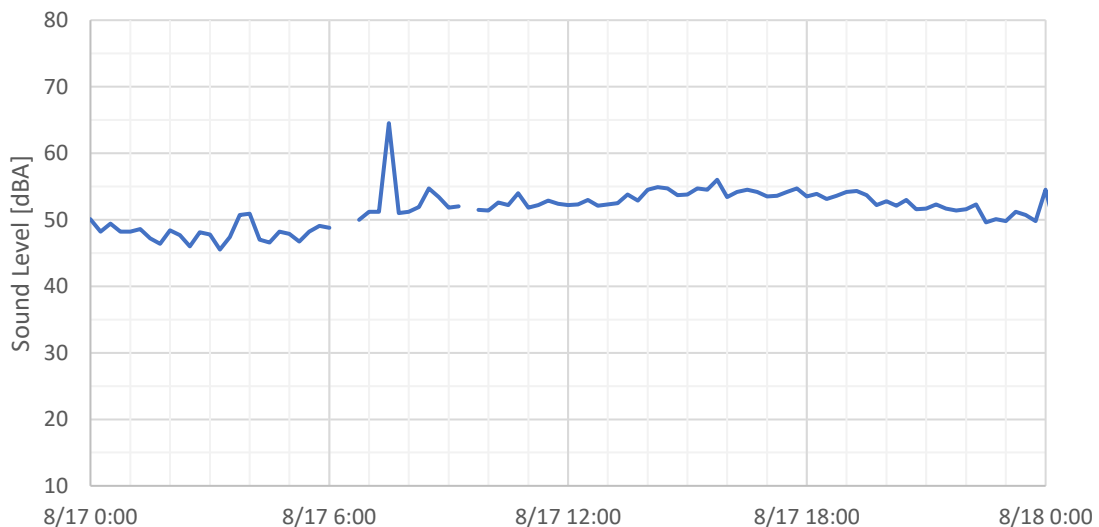


Figure 13. Fifteen-minute L_{Aeq}
Wednesday, August 18, 2021

