September 2, 2025

Messrs. Steven Cohen & Jonathan Marrale
Aradev LLC
352 Atlantic Avenue, Unit 2
Brooklyn, NY 11217

Direct: 917.575.6081
e-Mail: jonathanmarrale@gmail.com
scohen087@gmail.com

Subject: Response to Comments

Dear Messrs. Cohen & Marrale,

The following questions/comments concerning sound and the proposed Wake Robin Inn redevelopment have been forwarded for our response. We understand that they are from Commission members made during the August 26, 2025 public hearing or were written requests uploaded by members of the public to the Town's website:

How do you mitigate construction noise?

As recommended earlier, a construction noise control plan identifies where, when, and for how long noisy activities will occur and last. This would allow the orderly implementation of sound controls. Among controls and steps that can be taken are:

- Locate staging and laydown areas away from receptors,
- Provide off-site rock crushing if needed,
- Temporarily screen sound produced by noisy activities,
- Have installed all stock silencing and covers on construction equipment,
- Use quietest available construction methods,
- Provide a contractor contact phone number for complaints.
- Notify nearby receptors of noisy activities such as rock and earth removal.

These are among steps that can be taken to minimize construction noise which are typically outlined in a Construction Noise Control Plan. Also, refer to the Cavanaugh Tocci letter dated August 6, 2025 (page 4) where construction noise is discussed and the applicant has agreed via a proposed condition of approval to place restrictions on construction activities which include the following:

"We recommend that, prior to the issuance of a zoning permit, the construction manager prepare a Construction Noise Control Plan for the Wake Robin Inn project. Such a plan is used to identify and manage noise impacts during construction. The plan would be developed based on the project schedule, specified construction activities, their start and end times, the

equipment to be used and their location. The Construction Noise Control Plan would estimate anticipated sound levels at nearby receptor locations throughout the construction timeline, detailing how noise would be managed and mitigated.

The applicant has agreed that exterior construction activities will be limited to 7:00 a.m. to 5:00 p.m., Monday through Friday, and 8:00 a.m. to 4:00 p.m. on Saturdays. No blasting, heavy equipment operation, or site work would be permitted outside these hours, nor on Sundays, nor on the following federal holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Veterans Day, Thanksgiving Day, and Christmas Day.

Section 22a-69-1.8(h) further states that blasting not related to construction activities is exempt provided it occurs between 8:00 a.m. and 5:00 p.m., at specified hours previously announced to the public, or with a proper permit from local authorities. The applicant commits to complying with these regulations and will provide advance notice to the community for any blasting activities.

Both the contractor and ownership will notify the community regarding the timing of the noisiest construction activities, such as rock removal and excavation near residences. Cavanaugh Tocci recommends that the contractor establish a dedicated construction noise complaint hotline for community use"

> *Isn't nuisance somewhat in the ear of the beholder? The commission is concerned with concept of nuisance as subjectivity comes with that, neighbors are going to be so in tuned with every sound from the Wake Robin and every sound is going to be a nuisance. Any sound coming out of the Wake Robin – renovated or the current proposal will create a nuisance.*

The following is my understanding of nuisance:

- Nuisance is always subjective and is a case-by-case standard
- A nuisance occurs when the unreasonable use of a property annoys a neighbor or interferes with the neighbor's reasonable use its property.

Wake Robin Inn has hosted tented events for years. At times, music levels potentially reached above 60 dBA at residential property lines, all without neighbor complaints to the Inn or to the Town. The Wake Robin Inn redevelopment plan moves these noisier tented events into an enclosed space, reducing former tented event sound levels that potentially exceeded 60 dBA down to 32 dBA or less. If the former use of the property is inferred to have been not a nuisance with respect to sound, then its redevelopment should more certainly also not be a nuisance.

Commission member Cockerline asked the question directed to Mr. Brooks "Are there any construction details that can mitigate these problems from the event facility and main hotel? Mr. Brooks responded and said "you need a lot of weight… the applicant did not provide data and baselines for low frequency with what is being proposed…the construction details are not sufficient"

The details of the Wake Robin Inn building wall/window/roof assembly sound isolation are provided in Appendix B of our original April 29, 2025 report. The BAC letter also inquires into the music sound level spectrum inside the event space used to determine music sound power emitted through the event building envelope. The inside sound power level spectrum in dB re: 1 pW used in our analysis is as follows:

	Octave band frequency (Hz)										
	31.5	63	125	250	500	1000	2000	4000	8000	16000	A-Weight
Lw dB re: 1pW	80	93	94	94	92	91	87	84	79	71	95

BAC provided no evidence of their analysis leading to their conclusions regarding music sound transmission from the event building space. Sound isolation of the building assembly is sufficient as demonstrated in our report.

The following questions came from the email from Commissioner Cockerline on August 28, 2025:

Question A: Is no audible sound an attainable goal given that measurable sound already exists?

Ambient environmental sound level varies with time; thus, environmental sound level descriptors, including those in our report, are most often reported as statistics, such as percentile sound levels and energy average sound levels. Exterior property line sound levels, both those of the ambient and sound emitted by Wake Robin Inn, vary randomly with time. Most often, the ambient sound level will be higher than WRI sound at residential property lines. However, WRI sound may very infrequently exceed the ambient at which time WRI sound may be briefly audible.

Question B: Is dBC something we need to consider. How and when is it applied?

A-weighting is the filtering of sound that replicates the varying sensitivity of human hearing to sound at different frequencies. The human ear is most sensitive to sound at mid frequencies (500 to 4,000 Hz) and is progressively less sensitive to sound at frequencies above and below this range. A-weighting is

widely used as it better quantifies the perception of sound than would unweighted sound level descriptors.

C-weighting, signified by levels reported in dBC, does not include the above-mentioned filtering to replicate human sensitivity to sound over the audible frequency range. Hence, levels in dBC will include low frequency and very high frequency sound energy otherwise filtered out using A-weighting. dBC levels for a sound are always higher than dBA levels for the same sound, as dBC measurements are more inclusive of sound energy over the audible range.

The low frequency component of music sound has been included in the above music sound power spectrum without filtering. The interior event room sound pressure level spectrum used in our analysis has an A-weighted sound level of 95 dBA. The C-weighted sound level is 100 dBA. It is important to note that computations have been completed in octave bands and have been summed as A-weighted sound levels to provide easy comparison with audible ambient levels in the environment. Hence, low frequency sound has not been ignored as it is an important component of music sound.

> *Question C: The applicant has committed to complete control of sound system in event space. Can low Hertz frequencies be targeted for electronic control. Are these frequencies as easily controlled and/or monitored as dba?*

DJ music can be processed electronically by a system situated between the disk jockey music source and the loudspeakers. These systems can be designed to limit both low frequency and A-weighted sound levels. However, live performance, understood to be the predominant type of entertainment during Wake Robin Inn events, having a mix of acoustic, electronic, and voice amplified sources, is not easily controlled in the same manner. Live performance that avoids heavy drumbeat would be the only practical way to control low frequency sound. That being said, high levels of low frequency sound have been included in the analysis and have been shown to be acceptable.

> *Question D: Are there effective sound barriers that could be used for parking area and mechanical systems that would further reduce measurable sound? By how much? Also specific recommendations for these barriers.*

A sound barrier is a solid fence, wall, earth berm or structure that breaks the line-of-sight between a source of sound and a receptor. Fences and walls that would break the line-of-sight between the parking area and the nearest residences would need to be perhaps 15-foot tall to provide a 5 dB reduction in sound at the R1 second floor. A 6-foot tall fence would not break the line-of-sight to the second floor, thus would not reduce parking lot sounds.

Question E: Explain soundscape analysis. Would this be helpful in this application?

ISO 12913-1[1] Acoustics-Soundscape-Part 1: Definitions and conceptual framework describes soundscape as the description of the acoustic environment as perceived or experienced and/or understood by a person or people, in a specific context. Context is the interrelationship between person, activity, and place, as experienced in a particular space and time. The context may influence the interpretation of auditory sensation and elicit a corresponding response to the acoustic environment.

Hence, the concept of soundscape formalizes subjectivity and is best used as a means for describing a change in the acoustical environment. Cavanaugh Tocci has studied the existing and future acoustical environments to objectively evaluate the change that WRI will bring about. The study has analyzed anticipated sounds, established design goals for sound, and proposed controls to minimize sound at residential property lines. Previously hosted tented events, that now would be housed in an enclosed building, will provide a significant reduction in music sound emissions, and is thus a positive improvement both objectively and subjectively.

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Please let me know if I can provide any further comment. Thank you.

Sincerely,
CAVANAUGH TOCCI

Gregory C. Tocci, *Sr. Principal Consultant*

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[1] ISO 12913-1 Acoustics-Soundscape-Part 1: Definitions and conceptual framework describes soundscape