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January 19, 2026

Steffan Brown and Eric Scott
412 Main St.
Sandown, NH 03873

SUBJECT: The Sanctuary Estates – Noise Study

Dear Steffan and Eric,

At your request, I have conducted a study of the potential for noise impacts from the proposed Sanctuary Estates, a glamping facility to be located at 412 Main St. in Sandown. The facility will consist of 32 small cabins, arranged in two identical clusters. Each cluster will have a central pavilion, hot tub, fire pit, and sauna. The site is surrounded by residential abutters along Main St. and Montana Dr. There is concern about the potential for noise impacts on these abutters.

Noise Sources

Noise sources at this facility will include only human voices and vehicular traffic into and out of the parking lot. This traffic volume will be negligible when compared to existing traffic on Main St. This study has therefore been limited to the noise generated by the voices of the campers.

Existing Noise Levels

To determine the potential for noise impacts, existing noise levels at the site were measured.

A sound monitor was installed at the center of the property in the location depicted on the attached Figure 1. The instrument used was a NTi XL2 sound level meter fitted with a remotely mounted PCB 426E01 microphone and preamp. This system is meets the requirements of ANSI S1.4 for Type 1 instrumentation. The instrument was calibrated immediately before and after use. The monitor gathered data for 8 days beginning on Wednesday, January 7, 2025.

Figure 2, attached, presents the measured A-weighted hourly equivalent sound levels (LAeq-1hr). A weighting is a correction applied to measured data to compensate for human hearing sensitivity, and the equivalent sound level is an energy-average level over the measurement interval (1 hour, in this case). LAeq-1hr is a common descriptor for assessing human response to environmental noise. For example, the Maine

Department of Environmental Protection sound level limits are based on this descriptor. NH has no statewide noise policy.

The dominant source of noise at this site is traffic on Main St. Due to variation in distance from the road, noise levels at the residences along Main St. would be 3-5 dB louder than those measured at the monitor location and levels at the residences along Montana Dr. would range from 0 to 3 dB lower than those measured.

Noise levels between Saturday and Monday were artificially increased by rain and wind noise. Eliminating these days, levels from day to day were consistent. Daytime levels are between 45 and 50 dBA, and the level during the 11 pm – midnight hour is approximately 35 dBA.

In some locations, such as resort towns, traffic varies considerably with the seasons. However, there is no reason to expect any significant variation on Main St. (Rt. 121A) from winter to summer. NHDOT traffic counts are available, but do not separate seasons.

Predicted Noise Levels

To model the expected noise levels, I constructed a model of the site and surrounding area, including topography and other environmental conditions in SoundPLAN. SoundPLAN is an industry-standard application for modeling sound propagation outdoors. Calculations are based on ISO 9613-2:1996 *Attenuation of sound during propagation outdoors*. A downwind (worst case) condition is assumed in all directions. Sound attenuation from foliage is negligible at the distances of concern, so no foliage was included in the model.

Several identical sources representing people talking with raised voices were placed in the model. Generally, a single talker represents 2 or more people, as there will be 1 or more listeners. To represent raised voices, the source sound power level was adjusted to 75 dB at 500 Hz.

Two scenarios were modeled. The first is a normal scenario with 10 people talking and the second is a worst-case scenario with 20 people talking. Though voices would likely be conversational level rather than raised under most circumstances, the louder raised voices were used for all talkers. Further, these levels assume continuous talking without gaps, which is conservative. Actual levels averaged over an hour or other interval would be lower.

The predicted noise levels associated with these scenarios are presented in Figures 3 and 4, respectively. Colored contours represent noise levels in 5-dB increments from 30 dBA to 50 dBA. During the typical scenario, the level at the nearest homes is less than 30 dBA. During the worst-scenario, the level at the nearest homes rises to 30 dBA.

It is important to note that these predicted levels represent only the contribution to the overall sound levels from the modeled sources. Actual levels in the environment are already higher. These new sources will not increase the overall existing levels.

Summary and Conclusions

- Existing noise levels at the residences closest to the site range from 35 to 50 dBA during the hours of concern.
- The worst-case predicted noise level at any home is 30 dBA.

Predicted facility noise levels are well below the existing noise levels in this area. While no noise level criteria apply to this project, I am not aware of a nighttime noise level limit in any jurisdiction less than 45 dBA.

The predicted noise levels from this facility will not generate an adverse noise impact under any reasonable standard.

Sincerely,

Eric L. Reuter, FASA, INCE Bd. Cert.
Principal

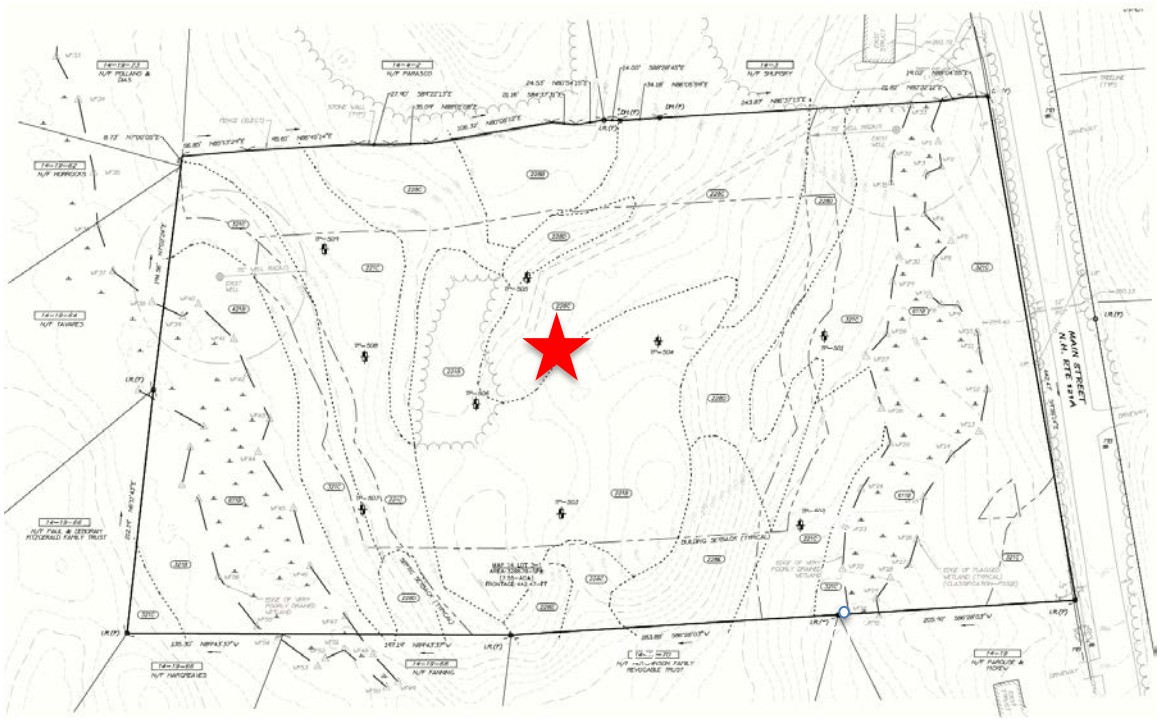

Figure 1 – Monitor Location

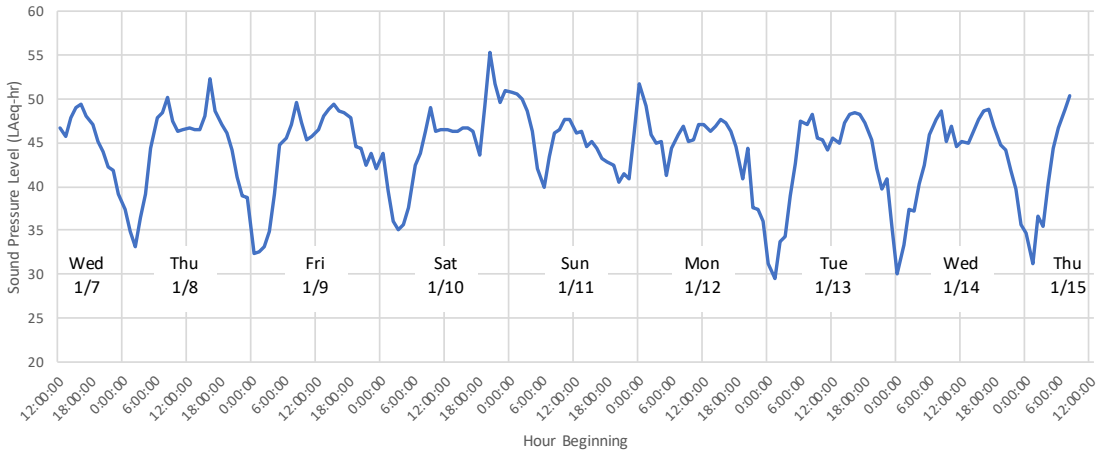

Figure 2 – Monitor Data (LAeq-1hr)

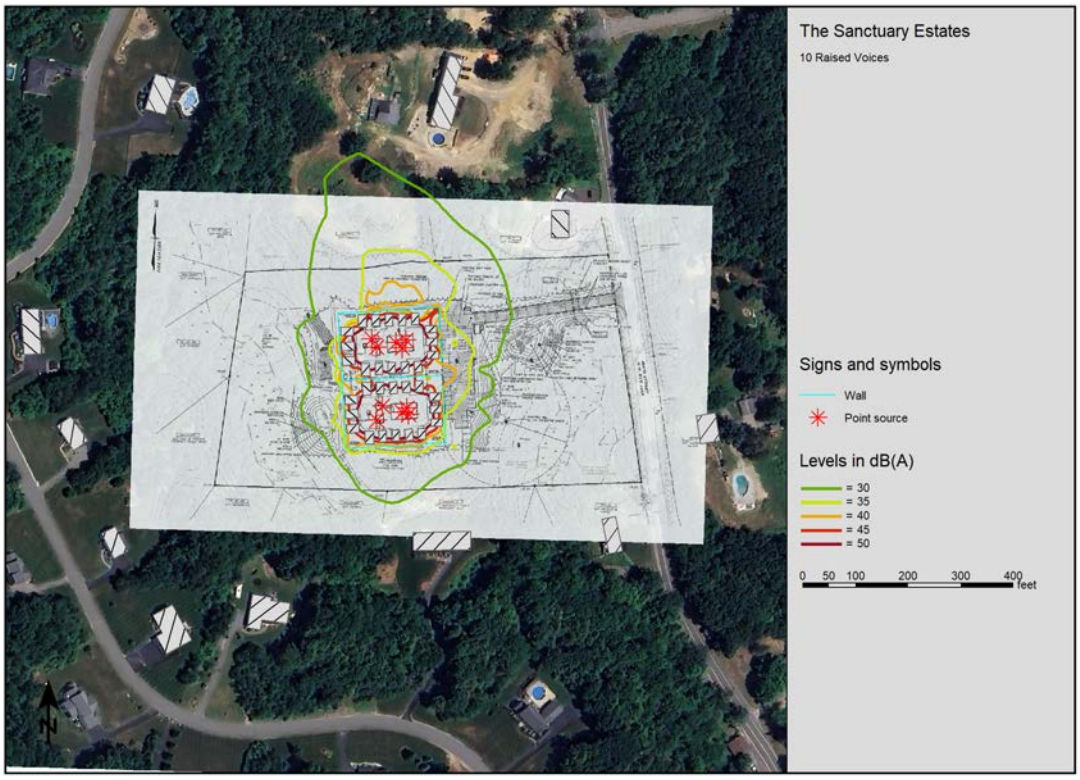

Figure 3 – Typical (10 raised voices)

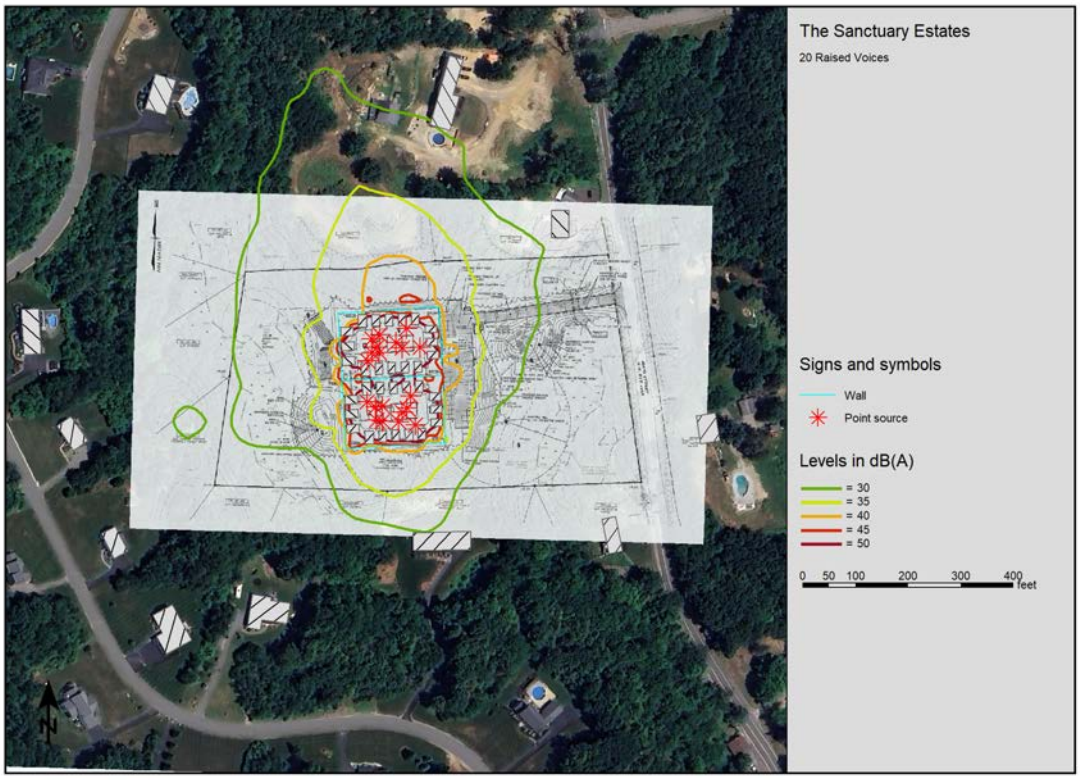

Figure 4 – Worst Case (20 raised voices)