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June 28, 2011

Mr. Hunter Chadwick
Fellowship Christian School
10965 Woodstock Road
Roswell, Georgia 30075

Re: Fellowship Christian School Sports Stadium Community Noise Study
Initial Progress Report

Dear Hunter:

As requested, we would like to update you on the current status of our community noise impact assessment related to the three proposed sports fields at your school. We have completed the site noise survey which was intended to assess the existing baseline ambient sound level. The results of this survey, along with computer sound mapping, will be used in order to assess potential noise impacts. For computer sound mapping we are using a commercial package called SoundPLAN, which is regarded as one of the benchmark noise modeling programs in the industry. We have modeled the geography and topography of the site and have yet to implement noise sources into the model. This step will require the completion of a sound system design which, we are told, you have recently released Lee Sound Design to provide. Once we receive information from them, we can implement it into the model and develop noise contours indicating anticipated sound levels in the surrounding community. While the completion of that modeling is essential to assessing potential community impacts, we offer the following summary of our site survey to inform you of the existing community sound levels.

We visited the site on the evening of Thursday, June 9, 2011, between approximately 7:15 pm and 9:30 pm, to perform our site noise survey in order to establish the existing baseline ambient sound levels at a time of day that may be typical for events on the various fields. During our visit, the temperature, in degrees Fahrenheit, was in the high 70s and low 80s and there was no precipitation or significant wind. During our visit, there were no sounds which might be deemed atypical of a suburban setting; sounds measured were primarily from local wildlife and insects as well as distant road and air traffic.

In order to establish the baseline in the vicinity of each neighborhood, we chose five sound monitoring sites. These five sites and the neighborhoods are shown in Figure 1. Site 1 was in the backyard of 1060 Devereux Chase while all other sites were on school or church property. Sound levels were logged at each location for 20 minutes. At each site, several sound level metrics were logged every 10 seconds. Among these metrics were the broadband L_{eq} , L_{max} , L_{min} , and L_{90} and the third octave L_{eq} and L_{max} spectra.





Figure 1 – Sound Measurement Sites

Measurements were made with a Larson-Davis System 824 sound level meter and real time analyzer (SN 824A1771) with a Larson-Davis Model 2560 ½" random incidence microphone (SN 3249) and Larson-Davis Model PRM902 preamplifier (SN 2276). The system was calibrated with a Larson-Davis Model CAL 250 precision acoustic calibrator (SN 4096) before and after the measurement session. While measurements were taken, the sound level meter was mounted on a tripod at a height of approximately 4' and the microphone was fitted with a windscreen. All measurements were attended so as to make manual written notes of significant noise sources.

Sound levels did not vary significantly between sites. In general, sound levels were determined primarily by nearby wildlife, insects, and road and air traffic. Table 1 summarizes the broadband levels measured over the course of each 20-minute survey. The table gives the range of sound levels measured as well as the L_{eq} and L_{90} for each 20-minute period.

Table 1 – Survey Results Summary

Site	Start Time, h:mm:ss	Range, dBA	L_{eq} , dBA	L_{90} , dBA	Other Notable Sound Sources
1	8:39:53 pm	39-53	42	40	Faint fan noise from home
2	8:12:54 pm	40-57	44	42	Cars on adjacent road, nearby bird call
3	7:23:08 pm	41-55	43	41	Air-cooled chillers ~575' to SE
4	7:47:29 pm	43-63	48	44	Air-cooled chillers ~440' to NW
5	9:06:47 pm	43-61	48	45	Insects and frogs in immediate area

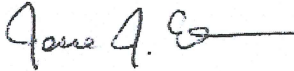


Table 1 shows that, in general A-weighted sound levels averaged in the 40s at each site. Sound levels at each site were determined primarily by the sounds of nature and distant traffic, but there were certain sources which were unique to each location. For the purposes of establishing an ambient baseline for this period of time with the intent to establish the impact of other sounds, it is best to look at the residual sound levels, L_{90} . Doing so, one can establish a baseline in the low 40s (40-45 dBA) for the time and area studied in the survey. Taking a logarithmic average of the five L_{90} values yields a level of 43 dBA. This level is commensurate with what one would expect in such a setting.

As previously discussed, once the sound system design has been completed, we can implement the results into our computer model to derive noise contours for the community. Once that has been accomplished, we will prepare a comprehensive report summarizing our entire methodology and results.

Please feel free to contact me at 404-277-6528 or jehnert@arpeggioacoustics.com if you have any questions or need additional information. We look forward to the opportunity to continue working with you on this project.

Sincerely,



Jesse J. Ehnert
Arpeggio Acoustic Consulting, LLC

