



Arpeggio Acoustic Consulting, LLC
1947 Aspen Dr. NE
Atlanta, GA 30345
(404) 417-0100
(404) 806-6104 (FAX)

December 1, 2010

Re: Andretti Speed Lab-Response to Community Inquiries

To whom it may concern:

In response to queries presented by one or more members of the community surrounding Andretti Indoor Karting and Games regarding the report prepared by Newcomb & Boyd dated November 9, 2010, we have prepared the following responses. Please note that, while we had no role in preparation of that report, we have been asked to respond to the queries. Our responses, therefore, present our opinions and do not represent those of Newcomb & Boyd, nor do they intend to present a response for them in proxy. All queries are transcribed, verbatim, and are itemized alphabetically (as presented) and, in each case, represents the questioner's opinion of a failure to consider or comment on the related issue. Our response to each follows.

- a. the make, model, and type of go-kart used in the demonstration (indoor not outdoor karts)

Arpeggio response

The demonstration and sound study on November 4, 2010 used 10 of Andretti's Stratos Superkarts with 9 HP Honda GX270 engine as well as 10 Formula K Bandits with Honda 6.5 HP GX200 engine. These are the karts anticipated to be used at the proposed track and therefore provide an accurate representation of the sound levels that would be produced by the future outdoor track.

- b. the difference between the noise characteristics of INDOOR and OUTDOOR go-karts, if any

Arpeggio response

As discussed in the prior planning commission meeting, since the indoor and outdoor karts use the same engine, the noise characteristics will be the same.

- b. the physical differences between the test venue and the walled venue in the Andretti proposal (walls around the go-kart track will tend to direct the sound like a speaker, I think)

Arpeggio response

As addressed in the first planning commission meeting, the barriers that will be used to define the tracks will have no impact on the sound as the engines are located higher on the karts than the height of the barrier. In order for a barrier to have any measurable effect, it must first block the line of sight between the source and receiver. Since the engines are the primary source, the presence or absence of short barriers will have no effect.

- c. no mention of how future weather and environmental conditions can affect the transmission of sound

Arpeggio response

Sound propagation can be impacted in many ways by weather conditions, most notably by wind conditions and temperature inversions. Winds were generally low during our survey; however, the conditions present during our November 4, 2010 survey would tend to favor sound propagation from Andretti's in the direction of the residential neighbors to the west. Since the weather conditions during the November 4 survey favored sound propagation, it's evident that sound propagation under other, less favorable, weather conditions would yield less impact.

- d. no comments about missing measurements (by Andretti) on the southern and eastern property lines (as if the businesses on the east side of Rt. 9 and those south of House Way are not important)

Arpeggio response

Measurements were made near the southern property line at the Acura dealership (as confirmed in the questioner's own comment "I," below). Measurements were not made at the eastern property line since traffic on Alpharetta Highway would typically mask sound produced by the karts.

- e. the failure to calculate an overall AVERAGE of all data samples (during the limited recording period) of sound levels (for the limited samples taken) for both background noise and total noise during kart operation for each of the locations measured

Arpeggio response

Table 2 of Arpeggio's November 11, 2010 report provides average sound levels during kart operation at locations where karts were plainly audible while Table 3 of the same report provides a subjective assessment of sound levels where karts were not plainly audible. Figures A1 through A6 show levels measured at each location as a function of time. At locations where the karts were not plainly audible (locations 4 and 6 through 13), levels reported reflect the background at those locations.

- f. the failure to calculate the actual noise generated by the karts alone (independent of background noise)

Arpeggio response

Measurements made at the location closest to Andretti's (location 1) were dominated by the go karts, thus serve as a measurement of the karts alone. Since levels measured at this location during kart operation were more than ten decibels above the ambient background, the results of these measurements are, in fact, uninfluenced by the ambient background.

- g. the failure to clearly state what was the purpose of these sound "demonstrations"

Arpeggio response

The purpose of these sound demonstrations was to provide a means for neighbors of Andretti to subjectively experience firsthand the noise produced by the karts on the proposed tracks as well as to allow the neighbors to observe the noise survey firsthand. As the tests revealed, the karts were inaudible and immeasurable in the neighboring residential areas.

- h. the failure to measure the frequency of the sound generated

Arpeggio response

Frequency spectra were, in fact, measured and logged at each location. The levels reported are broadband, A-weighted levels in response to requirements in the noise ordinance.

- i. the failure to use the frequency and DB level of sound generated by the gas powered go-karts to DETERMINE loudness (how the sound is perceived by the ear)

Arpeggio response

Levels reported were A-weighted. A-weighting applies a frequency-dependent filter to sound spectra to reflect the frequency-dependent nature of human hearing and has been found in many studies to provide high correlation with human response to many types of noise sources. Loudness is not a recognized measure for community impact.

- j. the failure to comment on the hypothetical effect on both humans and animals to the sustained 7 days per week 12 hours per day continuous irritating sound of go-karts - for now, there is a veterinary office within earshot of Andretti's (animals are much more sensitive to sound than humans)

Arpeggio response

First, the usage pattern of the karts is such that there would not be a 7 day per week, 12 hour per day continuous exposure; the karts operate in heats with off times between heats. Second, as stated in the second report prepared by Arpeggio, karts were found to be inaudible at all residential locations. In addition, subjective assessments by certain commission members found the karts to be inaudible within businesses located immediately to the west. Third, the veterinary office is on the east side of Alpharetta Highway, and is likely exposed to more sustained traffic noise from Alpharetta Highway and at a higher level than would be the case from Andretti's karts.

- k. the failure to draw any clear conclusions regarding FUTURE effects (distance and type) regarding the Andretti noise pollution

Arpeggio response

If kart operation remains unchanged as compared to their operation during the survey, then there is no reason to expect that sound levels will differ in the future, nor any reason to consider such a hypothetical condition.

- l. the fact that on Andretti's southern property line (as measured from the House Way sidewalk) during kart operation the sound levels were 85DB (not the 80DB levels measured on the western property line)

Arpeggio response

Sound levels on the south property line were significantly below 85 dBA. Levels measured close to the karts were 73-80 dBA and were approximately 63 dBA across the street on the sidewalk in front of the Acura dealership, as summarized in Table 2 of Arpeggio's November 11, 2010 report. Furthermore, Table 1 of Arpeggio's September 16, 2010 report indicates that levels near the sidewalk near Andretti's (on the north side of Houze Way) were 68-73 dBA.

m. the fact that anything over the 60-70 DB levels (depending on time of day, etc.) allowed by the City's Annoyance ordinance would be a continuing violation of City code and potential source of Code Enforcement complaint

Arpeggio response

The test results indicate that Andretti's will be operating within the limits of the city's noise ordinance at locations 2-13 as detailed in the second sound survey (location 1 was on Andretti's own property). These locations include all of the nearest residential communities.

n. the fact that Andretti's proposed plans make no provision for continuous real time monitoring of sound levels during kart operation (so they can be held responsible for Annoyance violations with the penalty being loss of the Conditional Use permit)

Arpeggio response

The city noise ordinance contains no provisions or requirements for continuous noise monitoring by members of the community. Should complaints arise, the noise ordinance states explicitly that "code enforcement officers or police officers of the city shall make such measurement."

o. The effect on sound levels of the change of go-karts used as new models come out and old karts break down

Arpeggio response

If kart operation, including the type of karts used, remains unchanged as compared to their operation during the survey then there is no reason to expect that sound levels will differ in the future

p. the failure to consider the EFFECTS on traffic flow and accidents on both Rt. 9 and House Way from the clearly visible combined noise, lights, and movement of 20 karts running in circles continuously

Arpeggio response

Impacts upon traffic flows on Rt. 9 and Houze Way due to noise, lights, and movement were not a part of the surveys conducted. The purpose of the surveys was to quantify the noise impacts upon the nearby residential communities.