

April 9, 2017

Mr. W. Steven Ketchabaw  
George Comfort & Sons, Inc.  
2 Manhattanville Road  
Purchase, NY 10577

JUL 20 2017

**Re: High Ridge Corporate Park, Stamford, Connecticut  
Community Noise Impact of Proposed Life Time Fitness Facility**

Dear Steve,

At your request, we have conducted an evaluation of potential community noise impact due to outdoor noise sources associated with the Life Time Fitness facility proposed to be developed at High Ridge Corporate Park in Stamford. This letter summarizes our findings, comments, and recommendations.

#### **Noise Sources**

The primary source of noise considered in this evaluation is activity at the outdoor pool area associated with the proposed facility. Outdoor heating, ventilating, and air conditioning equipment are also considered.

#### **Noise Receptors**

Noise receptors considered in this evaluation are the residential properties most proximate to the proposed Life Time Fitness facility adjoining the western and southern boundaries of the High Ridge Park site. These properties include the Sunrise of Stamford assisted living facility and multifamily dwellings on Turn of River Road to the west, and single family residences on Sterling Lake Lane to the south. Refer to attached Figure 1.

#### **Applicable Regulations**

The City of Stamford Code of Ordinances (Chapter 164 – Noise) contains provisions applicable to these circumstances. To summarize, the Code (Sec. 164-5) specifies that no person in a commercial zone shall emit noise beyond the boundary of his / her premises exceeding 55 dBA (A-weighted decibels) during daytime hours and 45 dBA during nighttime hours. Daytime hours are defined in the Code (Sec. 164-3) as the hours between 8:00 a.m. and 8:00 p.m., Monday through Saturday, and the hours of 10:00 a.m. through 5:00 p.m., Sundays and federal and state holidays. Nighttime hours are all other times.

The Code contains a provision for situations where the background noise level already exceeds the specified noise limits. In those cases, a noise source shall not exceed the background noise level by more than 5 dBA.

### Site Ambient Noise Survey

An instrumented survey of ambient noise levels was conducted at the site on March 22, 2017. Refer to Appendix A. Results of the survey indicate that ambient noise levels do not exceed the limits specified in the Noise Code for daytime hours. Therefore, the limits specified in the Code were taken to be the noise control requirements.

### Analysis

Noise levels from outdoor pool area activity were projected to the property lines of the residential receptors identified above. Source data utilized was from an October 2013 study conducted by J.C. Brennan & Associates of Auburn, California at three existing Life Time Fitness facilities; in Summerlin, Nevada; Vestavia Hills, Alabama; and Tempe, Arizona.

Noise level projections also took into consideration the location and arrangement of the proposed building and outdoor pool area on the site; topographical features in the vicinity of the site; shielding provided by buildings and other structures; and the effects of vegetation.

Calculation of projected noise levels at the south and west property lines is shown in Appendix B. The calculated noise levels are as follows:

*Table 1 – Projected Pool Activity Noise*

South Property Line	52 dBA
West Property Line	66 dBA
Daytime Code Limit (max.)	55 dBA

### Conclusions / Recommendations

1. In order to comply with the Noise Code during daytime hours, it is recommended that sound control screening be provided at the western boundary of the High Ridge Park site (refer to Figure 1). The sound control screening may consist of an earthen berm or solid fencing. The exact location, extent, and height of the sound control screening will need to be determined based on further developed plans for the subject facility.
2. Due mainly to distance factors, specific measures are not required to mitigate noise propagation to the south, i.e. to residences on Sterling Lake Lane, in order to comply with the Code during daytime hours. Many residences on Sterling Lake Lane will be further shielded from pool area noise by the proposed Life Time Fitness building structure.
3. It is recommended that any roof mounted or other outdoor heating, ventilating, or air conditioning equipment be reviewed with respect to noise emissions and compliance with the Noise Code, and that any necessary noise control features be incorporated accordingly. Based on our past experience, compliance with the Code in these respects should be highly feasible.

George Comfort & Sons, Inc.  
Re: High Ridge Park / Life Time Fitness

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We trust this information will be useful. If you have any questions, don't hesitate to contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "M. Reber". The signature is written in a cursive, somewhat stylized font.

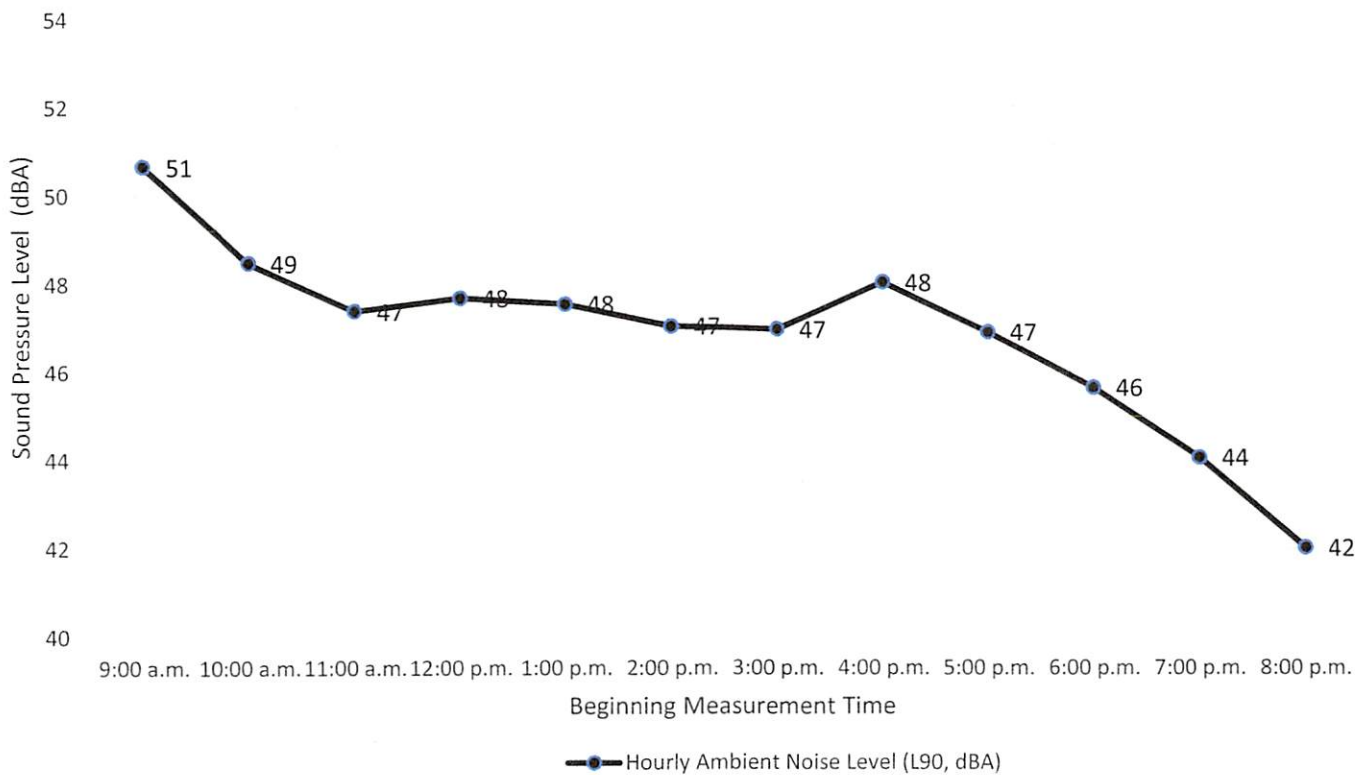
Mark Reber, Principal  
Jaffe Holden

## Appendix A – Site Ambient Noise Survey

An instrumented survey of site ambient noise levels was conducted on March 22, 2017. A Larson Davis System 824 Type I precision integrating sound level meter was mounted on a tripod approximately four (4) feet above the ground at the south property line of High Ridge Park (refer to Figure 1).

Monitoring of ambient noise levels was carried out between 9:00 a.m. and 9:00 p.m. Statistically averaged noise levels were recorded every hour for a period of one (1) hour. Results reported as follows are the 90<sup>th</sup> percentile levels (L90) in A-weighted decibels (dBA):

High Ridge Park Ambient Noise Survey  
March 22, 2017



**Appendix B – Calculation of Pool Area Activity Noise to South and West Property Lines**

**I. Projection of Pool Activity Noise to South Property Line**

Octave Band Center Frequency (Hz.):	63	125	250	500	1000	2000	4000	dB(A)
Worst case SPL ( $L_{eq}$ ) measured 120 ft. from center of pool deck, Vestavia 8/3/13, reported by J.C. Brennan & Associates 10/18/13, dB	37	47	49	55	62	59	52	65
Distance correction factor to closest south property line (550 ft.)	-13	-13	-13	-13	-13	-13	-13	
Sum = projected SPL at south property line (dB)	24	34	36	42	49	46	39	52

**II. Projection of Pool Activity Noise to West Property Line**

Octave Band Center Frequency (Hz.):	63	125	250	500	1000	2000	4000	dB(A)
Worst case SPL ( $L_{eq}$ ) measured 120 ft. from center of pool deck, Vestavia 8/3/13, reported by J.C. Brennan & Associates 10/18/13, dB	37	47	49	55	62	59	52	65
Distance correction factor to closest west property line (110 ft.)	1	1	1	1	1	1	1	
Sum = projected SPL at south property line (dB)	38	48	50	56	63	60	53	66