

October 25, 2019

Mr. David Wei
Organization of Special Needs Families
10823 Willowbrook Way
Cupertino, CA 95014

RE: Noise Impact and Mitigation Study for Organization of Special Needs Families
Project, 511 S. Bascom Avenue, Santa Clara County

Dear Mr. Wei,

In response to your request I have evaluated the potential noise impacts that could be produced at nearby residential receptor locations by the proposed change in the number of clients at the subject facility. This report discusses the present noise environment, the proposed changes in the operations, the potential operational noise impacts at the nearest receptors in the area, and compliance with Santa Clara County noise guidelines.

To summarize the conclusions of the report, the proposed changes to the number of on-site clients would meet the County noise ordinance limitations and would not produce any noticeable noise disturbance to receptors in the vicinity of the site.

Project Description [1] [2]

The proposed on-site activities would provide the same weekday daytime special needs training from 2 to 6 pm as in the past, but with up to 15 individuals at a time, rather than the previous limit of 6 individuals. The program purpose is to provide training and education to improve the lives of persons with disabilities. The program plans to use the several rooms of the main building and outdoor play yard as they exist at present without modification. The property is in a mixed residential/commercial zone. The site and its immediate neighbors are shown in Exhibit 1. There is a six-foot wood fence bordering the outdoor play area on the north and south property lines shared with the adjacent commercial areas. A two-story warehouse is located on the west property line shared with adjacent residential sites. Temporary parking for drop-off and pickup of children can use the two spaces on the left side of the property and 3 parking spaces in front.

OSNF Training Program [2] [3]

The program would serve up to 15 individuals, with a staff of 1+, on a normal workday schedule of 3:00 pm to 6:00 pm, Monday through Friday, year-round. Inside activities would include educational, creative, and training activities appropriate for individuals with disabilities.

Outdoor activities would occur in the existing backyard play area, as shown in Exhibit 1. This fenced area is fully tiled. Several types of play activities can be accommodated in the backyard area for young kids and youth, including plastic toys, tricycles, and balls, and other appropriate outdoor play activities. Outdoor play times are scheduled between 3 pm and 6 pm, as appropriate to the individual kids and the outdoor conditions. A few kids could be on site on Saturdays from time to time.



Exhibit 1 – OSNF Facility and Nearby Areas

Sensitive Receptor Locations

The project area is a mixed residential and commercial neighborhood on the west side of South Bascom Avenue. The nearest sensitive receptor locations for noise generated by the project includes several residential properties adjacent to the property to the west on Flagg Avenue. Other nearby properties are on South Bascom Avenue and are commercial, so they are not considered significant receptors for project noise. Other residential receptors in the area would have less project noise due to increased distance and building obstruction.

This study investigates the extent to which the closest adjacent residences could be impacted by noise from OSNF project activities. The existing ambient noise environment and potential noise impacts are discussed in the following sections.

Ambient Noise Levels and Noise Sources in the Area

Field noise measurements were made during the afternoon period of October 22, 2019, with a CEL-440 Precision Noise Meter and Analyzer, calibrated with a B & K Model 4230 Sound Level Calibrator. The measurement locations were chosen to represent ambient noise levels at the front of the site and in the backyard play area. The measurement locations are shown in Exhibit 1.

Noise levels were measured and are reported using percentile noise descriptors, as follows: L_{90} (the background noise level exceeded 90 % of the time), L_{50} (the median noise level exceeded 50% of the time), L_1 (the peak level exceeded 1% of the time), and L_{eq} (the average energy-equivalent noise level). Measured noise levels are presented in Exhibit 2 below. The L_{dn} noise levels were computed as the long-term average of the L_{eq} using the daily traffic distribution in the area, with standard weighted penalties for the nighttime hours, and modeled with an enhanced version of the National Cooperative Highway Research Board traffic noise model [5].



**EXHIBIT 2
 AMBIENT NOISE LEVELS (dBA)
 OSNF facility area**

Location and condition	L ₉₀	L ₅₀	L _{eq}	L ₁	L _{dn}
1. At the front of the site in the driveway	58	66	70.6	78	71
2. Northwest corner of backyard play area	53	60	66.2	78	68

The primary source of noise in the project area is traffic on South Bascom Avenue, a major arterial on which the site is located, as well as background noise from Highway 280 several blocks south, Highway 880 a half mile west of the site, and Scott Street, several hundred feet north of the site. Typical Bascom Avenue vehicle passby noise levels are in the 65-75 dBA range at 40 feet. Trucks, buses, motorcycles, and poorly-muffled vehicles produce peak levels 5 to 15 dBA higher on passby. Large and small aircraft and helicopter overflights create infrequent noise incidents of 55 to 60 dBA. The rather high ambient noise level reflects the fact that near the site both traffic volumes and speeds are high, although the backyard play areas are partially protected by the main building and a solid wood driveway gate. There are no other significant noise sources in the project area.

Relevant Santa Clara County Noise Limits [4]

Section B11-152 of the Santa Clara County Code of Ordinances is applicable to this project, which limits noise during daytime hours (7 am to 10 pm) on residential property to 55 dBA for up to 30 minutes per hour, and 45 dBA during evening hours (10 pm to 7am). In addition, brief daytime noise incidents are allowed at somewhat higher noise levels. For example, noise incidents that last less than 15 minutes are allowed to be 5 dB higher than the general limit.

Potential OSNF Operation Noise Impacts

Outdoor playground activities

All of the project noise would be from sporadic voices of the young kids during outdoor play periods. This can create intermittent brief noise from voices of 50 to 55 dBA at a distance of 25-35 feet within the play yard. However, the closest adjacent residences are approximately 40-50 feet from the play yard, with the two-story warehouse building intervening, which reduce the play yard noise at each of the nearest residences by 10-20 dBA. Hence the expected worst-case brief noise levels from kids voices at the nearest residences are 30 to 45 dBA, which is much less than the 55 dBA County daytime noise limit. In addition, the noise levels of play activities are very close to and masked by the background traffic noise. Hence no noticeable noise from outdoor play activities is expected.

Project Traffic Noise

Because of the relatively small number of kids at the school and the associated small number of drop-offs and pick-up trips generated (less than 15 during each period), no noticeable increase in traffic noise would be generated by the preschool operation.

Temporary Construction Noise

There is no new construction associated with the OSNF project expansion.

Conclusions and Summary

Overall ambient noise levels in the project area now depend primarily on South Bascom and nearby freeway traffic noise, and these will continue to be the dominant noise sources in the area in the foreseeable future. The primary project noise would be intermittent and brief voice incidents from kids in the play area adjacent to the building. However, with the present moderate ambient noise level, and with the two-story warehouse between the play area and the adjacent residential properties, these noise incidents would be minimal and much below County noise ordinance limits, and would not create any noise impacts in the adjacent residential areas. Thus, the expanded OSNF operation would not create any noticeable noise impact and would result in a “Less than Significant” noise impact on any nearby properties.

If I may be of further assistance on this project, please do not hesitate to contact me.

Respectfully submitted,

Stan Shelly

H. Stanton Shelly
Acoustical Consultant
Board Certified Member (1982)
Institute of Noise Control Engineering

REFERENCES

1. Satellite map of project area; Oct 2019.
2. Project and Facility Description – Organization of Special Needs Families – David Wei; Oct 2019.
3. Discussion with David Wei, project owner, about details of planned operations; Oct 2019.
4. Noise Ordinance, Section B11-152 of the Santa Clara County Code of Ordinances, Residential noise limits, Santa Clara County.
5. Highway Noise - A Design Guide for Highway Engineers, National Cooperative Highway Research Program Report 117, Highway Research Board, National Academy of Sciences, Washington, D.C., 1971 (model enhanced and field validated by ECS).