DUDEK

MEMORANDUM

To:	Amy French, Chief Planning Official, City of Palo Alto
From:	Christopher Barnobi, Environmental Acoustician
	Jonathan Leech, Acoustics and Air Resources Manager
Subject:	Noise Analysis Peer Review for Castilleja School
Date:	June 8, 2017

This memorandum presents Dudek's professional opinion regarding noise analysis conducted for the Castilleja School Project (project). We received and reviewed one letter related to project noise. The Noise Study Letter (Letter) was produced by Charles M. Salter Associates Inc., and signed by Philip N. Sanders and Greg R. Enenstein.

In general, the Noise Study Letter includes acceptable analyses of the major operational noise concerns for the project. One major noise concern that is not included in the Letter is construction noise.

Existing Noise Conditions

Currently, the project site generates noise associated with school uses and is surrounded by urban residential land uses. Additionally, the project site is primarily subject to traffic noise associated with adjacent and vicinity roadways.

Noise measurements were conducted near the project site by Dudek in January 2017 to provide a brief sample of the existing noise environment. The single measurement location was on Bryant Street across from the exit of the school driveway approximately 4 to 5 residential lots east from Embarcadero Road. The ambient noise measurements were made using a Rion NL-62 sound level meter. The sound level meter meets the current American National Standards Institute (ANSI) standard for a Type 1 (Precision) sound level meter. The sound level meter was calibrated before measurements. The measurements were conducted with the microphone positioned approximately 5 feet above the ground on a tripod and covered with a windscreen.

Table 1
Dudek Measured Noise Levels

Measurement Location	Time	Description of Noise Sources	L_{eq} (dBA)	L_{max} (dBA)	L_{10} (dBA)	L_{90} (dBA)
Bryant Street across from the exit of the school driveway	1:14 p.m. – 1:19 p.m. January 31, 2017	Distant Traffic, Distant Aircraft, Distant Landscaping or Construction Noise	51.3	64.7	53.4	44.2

Notes: L_{eq} = equivalent continuous sound level (time-averaged sound level); L_{max} = maximum sound level during the measurement interval

Our measurement results are a similar range as the noise levels presented in the Salter Report Existing Noise Environment Table. The Dudek measurement was conducted in a different location than the Salter measurements, further confirming the vicinity ambient noise levels. There were no major events occurring during the Dudek visit. The Salter measurements included the Gator Gathering events.

Noise Analyses

Criteria

The criteria section is succinct and clear. It quickly summarizes the main noise limit applicable to the noise sources analyzed in the letter. It does not include any construction noise discussion which is outlined in the City of Palo Alto municipal code. This is likely because the letter did not address construction noise.

Project Generated Noise

The sources of project-generated noise that are examined in the letter include: events at the pool, events in the Main Circle, and vehicle operations in the Main Circle. If any other major events like dances, or graduations are regularly planned for the school, these events could be incorporated into this list of analyses. Events such as plays or parent teacher conferences are less likely to have noise impacts on the adjacent residences.

Existing Noise Levels

The DNL is calculated from data collected over a 4 day period. Two of those four days are weekend days. We suggest providing DNL results that explicitly show the measured DNL on weekdays vs weekends, since operations of the school will vary significantly.

There is some discussion of one of the measurements from the Gator Gathering. It would be interesting to know if the DJ performer is usually the same from year to year or if the performers vary. Measurements from a varsity water polo game are also discussed.

Truck, Buses, and Loading Noise

The Future Truck, Buses, and Loading noise is analyzed using past noise studies. We are familiar with *Midpoint at 237, San Jose, CA Loading Dock Noise Study,* prepared by Charles M. Salter Associates. That study was conducted for Trammell Crow Company and dated 27 March 2014. We encourage clearer citation so readers are able to check the reference data for similarities and differences between the studies and the proposed project. If there are other studies Salter is using to analyze this noise source, to the letter report should provide more detail to document those studies.

CONCLUSION

The Castilleja School Master Plan Noise Analysis has been reviewed by Dudek's acoustician. In general, the analysis of operational noise addresses the most likely operational noise effects on the residential areas in the project vicinity. There is no discussion of project-related construction noise and vibration impacts. We recommend further analysis be conducted to assess the potential for construction noise impacts on the nearby residences. If you have any further questions about this peer review, please contact Christopher Barnobi at cbarnobi@dudek.com.