

April 30, 2024

Hailey Lang  
County of Siskiyou  
Deputy Director of Planning  
806 S. Main Street  
Yreka, CA 96097

Transmitted via email: [hlang@co.siskiyou.ca.us](mailto:hlang@co.siskiyou.ca.us)

**Subject:** Construction noise discussion for the Golden Eagle School project located in Siskiyou County, California.  
BAC Project # 2023-059

Dear Hailey,

As you are aware, Bollard Acoustical Consultants, Inc. (BAC) prepared a noise study for the Golden Eagle School project (report dated July 17, 2023). At the time BAC's noise analysis was prepared, the construction of a new building at the project site was not being proposed. As a result, construction noise was not specifically addressed in BAC's noise study report. In light of the fact that construction of a new school building is now being proposed at the site, BAC has prepared this letter to discuss the potential noise-related effects of project construction on the nearest residential neighbors to the project site.

During project construction, clearing, grading, excavation, paving, and building construction activities would occur in phases. Construction noise levels generated at the project site would vary depending on the type and number of equipment in use at any time, the location where that equipment is operating, and how well the equipment is maintained. Noise exposure at existing, off-site, sensitive receptors would also vary depending on the proximity of equipment and activities to the residence, the degree of shielding present between the construction equipment and receptor (i.e., buildings, vegetation, etc.).

Table 1 provides the range of maximum noise levels for equipment commonly used in general construction projects at full-power operation at a distance of 50 feet. Not all of these construction activities would be required of this project.

**Table 1**  
**Maximum Reference Noise Levels for Common Construction Equipment**

Equipment Description	Maximum Noise Level at 50 Feet [dBA]
Air compressor	80
Backhoe	80
Compactor	82
Concrete mixer	85
Concrete vibrator	76
Dozer	85
Generator	82
Grader	85
Loader	80
Paver	85
Pneumatic tools	85
Pump	77
Saw	76
Truck	84

*Source: Federal Transit Administration Noise and Vibration Impact Assessment Manual, Table 7-1 (2018)*

The distances from the nearest residences to the proposed building site in all four directions range from approximately 330 to 525 feet. The distances from these residences to the most significant sources of on-site construction would vary depending on the phase of construction. For a general assessment of potential construction noise impacts, the Federal Transit Administration (FTA) recommends utilizing the noise emission levels shown in Table 1, adjusting those levels for the percentage of the hour the equipment would be operating, correcting for distance by assuming mobile equipment operates at the approximately noise center of the project construction phase, and considering ground effects where appropriate.

For this project, there will be periods of time when the construction equipment is located closer to existing residences than the effective center of the project site, so calculating construction noise from the center of the site is not considered appropriate for this evaluation. However, because the noisiest construction equipment tends to be mobile (i.e. earthmoving equipment), calculating construction noise levels using the closest point of construction activity to existing residences is also not considered appropriate. For this evaluation, a distance of 400 feet was conservatively assumed for the construction noise evaluation distance for the nearest existing residences to the proposed building.

After correction for usage and multiple equipment operating concurrently, project construction noise was calculated using the Federal Highway Administration's Roadway Construction Noise Model (RCNM), to be approximately 70 dBA Leq at the nearby residences.

Although no standardized criteria have been developed for assessing construction noise impacts, The Federal Transit Administration's *Transit Noise and Vibration Impact Assessment Manual* contains guidance for use in assessing potential noise associated with project construction.

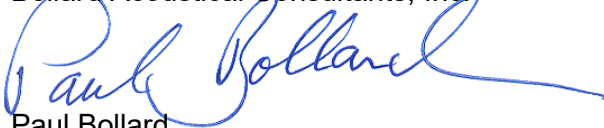
The FTA Manual states: "Where local noise ordinances provide guidance with respect to construction noise, they typically relate to nuisance and hours of allowed activity, and sometimes specify limits in terms of maximum levels, but are generally not practical for assessing the impact of a construction project. The following guidelines can be considered reasonable criteria for assessment: construction noise levels of 90 dBA and 80 dBA Leq at residential land uses during daytime and nighttime hours, respectively. If these criteria are exceeded, there may be adverse community reaction."

Although construction of the new building at the Golden Eagle School site would result in short-term increases in ambient noise levels at nearby residences, such increases are attributable to most construction projects in Siskiyou County. However, because project construction activities would be of limited duration, are proposed during daytime hours, and would be satisfactory relative to noise criteria considered reasonable by the FTA, adverse noise effects are not anticipated to result from project construction.

I hope this additional information is useful to you. Please contact me at (530) 537-2328 or [paulb@bacnoise.com](mailto:paulb@bacnoise.com) if you have any comments or questions regarding this discussion.

Sincerely,

Bollard Acoustical Consultants, Inc.



Paul Bollard  
President