



Exterior Noise Assessment

AAPS - Mitchell Elementary School

IMEG #21002712.00



Exterior Noise Assessment
for
AAPS - Mitchell Elementary School
Ann Arbor, Michigan

IMEG #21002712.00
January 19, 2024

A. Introduction

1. IMEG site measured exterior noise at Mitchell Elementary School, located in a suburban area of Ann Arbor, Michigan to verify exterior noise does not exceed CHPS maximum allowable noise levels in classrooms.

B. Executive Summary

1. No major noise impact was observed for existing conditions that would exceed CHPS maximum allowable noise levels nor require elevated façade barrier (STC and OITC) values. Upon further project design, IMEG will also review noise from new mechanical and emergency generator systems to ensure CHPS maximums are not exceeded.

C. CHPS Standards

1. CHPS EQ P15.0.2 states "In Core Learning Spaces and in spaces designated as ICWS and SER, the total background noise from the combination of building HVAC systems and exterior noise shall not exceed 40 dBA."
2. For Enhanced Acoustical Performance, CHPS EQ C15.1.2 requires HVAC systems and exterior noise to not exceed 35 dBA for enhanced acoustical performance.

D. Acoustic Analysis

1. AAPS Mitchell Elementary School is nestled in a residential area and adjacent to a nature preserve to the south. No busy roads are located directly adjacent to the building. No excessive traffic noise was noted while IMEG was on site. I-94 and U.S. Route 23 are within 0.5 miles of the property but are not imposing due to distance.
2. Flight paths from Ann Arbor Municipal Airport (ARB) are close to the school. ARB is 2.5 miles away to the southwest. ARB has a voluntary Flight and Noise Abatement program with instructions to pilots on reducing noise in the residential areas around the airport. The distance to the nearest larger airports to the east are 8 miles and 17 miles away. Due to distance of all three airports and modest duration of possible flyover noise, aviation noise is not anticipated to be an issue for classrooms.

3. The nearest railroad track is 2 miles away. Rail noise is not imposing due to distance.
4. IMEG measured average noise during typical daytime conditions to be between 49-51 dBA. This is typical suburban ambient background noise level from traffic, wind, tree rustling, and residential noise. No out of the ordinary noise signatures or loud mechanical equipment was found to be imposing.
5. Typically, not until exterior noise begins to exceed 65 dBA at a building's facade is additional STC/OITC barrier value required to abate exterior noise for interior classrooms. As such, exiting exterior ambient noise of 49-51 dBA does not require any additional abatement as this noise is less than half as loud at the times measured.
6. Upon further design, IMEG will review new outdoor mechanical equipment and emergency generator equipment for noise abatement needs. This will require manufacturer-supplied octave band sound power data to be sent to IMEG.

E. Conclusion,

1. This concludes IMEG's exterior noise assessment. This may be updated upon further design.

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