25-0598/PA Warehouse Sound Study

November 12, 2025

Franklin B Greiner, Jr.
2843 Mount Pleasant Road
Mount Joy, PA 17552

Subject: Mount Joy Warehouse Sound Level Study

Dear Mr. Greiner,

Epsilon Associates, Inc. (Epsilon) has conducted a comprehensive sound level assessment for the proposed warehouse Project in Mount Joy Township, PA. The Project consists of three warehouse buildings on a parcel that is zoned for light industrial use. The adjacent parcels are all zoned either light industrial or agricultural, with some residential land use on the agricultural land to the south and east and the industrial land to the west of the Project. The sound level evaluation was undertaken primarily to assess sound level impacts at the nearby residences.

Qualifications

I oversaw the acoustical analysis for the Project. I have a bachelor's degree in physics from Reed College in Portland, Oregon, and a master's degree in environmental studies from the University of Melbourne in Melbourne, Australia. I have also completed supplemental graduate level coursework in acoustics through Penn State University and the Institute of Noise Control Engineers. I have 12 years of professional experience working as an acoustical consultant specializing in evaluating community sound level impacts. I am also a member of the Institute of Noise Control Engineers and the Acoustical Society of America.

Regulations

The Township of Mount Joy Zoning Regulations mention noise in terms of nuisance conditions but do not contain any quantitative sound level limits. Section 135-163 of the regulations for light industrial districts states, "The burden shall be upon the applicant to prove that the approval of the application will not be detrimental to the health, safety and general welfare of the community."[1]

The USEPA identified sound levels that are protective of public health and welfare that are well

[1] Township of Mount Joy Legislation, Part II, Chapter 135 (2024, Feb).

established and have been widely used in regulating sound due to energy infrastructure.[2] The recommended limit for the outdoor sound level in residential and rural areas is a day-night average of 55 dBA L_{dn}. The L_{dn} is a 24-hour average obtained by adding 10 dB to sound levels between 10:00 pm to 7:00 am. This is done to account for most people's greater sensitivity to sound at night. The hourly L_{eq} sound level metric is used to calculate the L_{dn}. For continuous, steady-state sound sources, the L_{dn} is equal to the L_{eq} plus 6.4 dB. The EPA criterion of 55 dBA L_{dn} has been used to limit sound levels at noise sensitive areas across the country for several decades.

In the absence of a quantitative sound limit in the Mount Joy Township regulations, this limit has been adopted as the threshold to determine that the Project is protective of public health and welfare.

Evaluation

Epsilon conducted a full sound level evaluation for the project taking into account the proposed Project layout, the existing terrain and proposed grading plan, the Project traffic counts for cars and trucks, and the planned rooftop HVAC equipment. Truck loading and unloading activities were considered as well as onsite truck and passenger vehicle traffic and safety measures such as truck backup alarms. Both daytime and nighttime activities were assessed.

Our analysis was conservative in nature in that we looked at the potential conditions that would result in the highest sound levels. For example, we assumed that all rooftop HVAC equipment would be operating simultaneously at full load on all three buildings, which would be an extremely rare occurrence. We also used the peak vehicle counts from the traffic study. We assumed meteorological conditions that are favorable for sound propagation in all calculations and did not include any additional attenuation due to foliage.

In my professional opinion, the site plan was designed effectively to minimize Project sound levels in the surrounding areas, especially sensitive receptors to the south and east. This includes having the majority of loading docks located between warehouse buildings such that the building structures themselves act as sound mitigating barriers. The site grading was also designed to break lines-of-sight between nearby residences and areas of trucking activity.

Alternative land uses that are compatible with light industrial zoning could produce significantly higher sound levels at the surrounding parcels. The proposed site plan has acoustical mitigation measures built into the design, which would not necessarily be the case for all light industrial facilities. For example, sound due to passing trucks on the east side of the Project parcel would be noticeably

[2] USEPA Office of Noise Abatement and Control. (1974, March). *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*.

louder without the additional site grading planned for the Project.

Conclusion

Epsilon evaluated maximum expected sound levels due to the Project at the surrounding residences against USEPA's sound level criteria. Based on the data provided and our detailed acoustical analyses, the Project is expected to meet the USEPA's recommended sound level limit and will therefore not be detrimental to the public health, safety, and welfare of the surrounding communities.

Sincerely,

EPSILON ASSOCIATES, INC.

Laurie Morrill
Lead Scientist – Acoustics