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MEMORANDUM

To:	Karen Sherman, Town Planner
	Town of Holliston
From:	Christopher Menge, INCE
Date:	October 25, 2023
Subject:	Peer review of noise study for proposed Battery Energy Storage facility, Holliston
Reference:	HMMH Project Number 23-0311A

Harris Miller Miller & Hanson Inc. (HMMH) has completed our peer review of the noise analysis performed for the proposed Blue Wave Battery Energy Storage facility at 600 Central Street in Holliston, MA.

We reviewed initial reports on the noise analysis: 1) a brief summary of the noise analysis in an overall project report and noise modeling graphics and tables submitted to the town on September 14, 2023, and 2) "Sound Level Analysis Report, 600 Central Street Battery Energy Storage System Project, Holliston, Massachusetts," prepared by Epsilon Associates, Inc. dated October 18, 2023. We provided review comments on both submittals requesting more information and some corrections and revisions. This memorandum presents our review comments on a final revised report with the same title dated October 24, 2023.

We have found the noise study to be comprehensively and conservatively prepared, addressing all pertinent state and local noise regulations and bylaw provisions. Appropriate background sound measurements were conducted for 7 days at one location on site to identify the quietest periods during the week when the facility would be in operation. The noise model that was developed and the modeling approach were sufficiently detailed and appear to account for all significant noise sources and sound propagation paths to all the nearest homes and property lines. The noise modeling used the sound propagation equations of ISO 9613-2, which are conservative and assume slight downwind or temperature inversion conditions favorable to sound propagation.

The noise modeling and report show that the facility will comply with the Town of Holliston Bylaw and Massachusetts Department of Environmental Protection (MassDEP) limits. Both jurisdictions require predicted noise levels to not exceed 37 dBA. These sound level limits are 10 dBA higher than the lowest measured hourly background sound levels (L90, the sound level exceeded 90 percent of the hour) of 27 dBA near those communities during the facility's planned operating hours from 7:00 AM to 10:00 PM.

Table 5-2 in the report shows that the highest projected sound level from the facility plus the ambient background is 37 dBA at the back property line of 19 Pilgrim Road (Site PL4 in the report graphics). The highest projected sound levels at the nearest homes themselves are 33 to 34 dBA at 3, 19, 29, 37, and 47 Pilgrim Road (Sites R1 through R5). The predicted increases in the quiet ambient background level of 27 dBA are 6 to 7 dBA. The noise from the facility's operation will be audible and somewhat noticeable at these homes and some others nearby during the quietest daytime and evening periods. However, the facility noise is not expected to be intrusive for two reasons. First, the sound levels are expected to be steady for long periods of time and not often variable in loudness. Second, the sound character of the noise is broadband fan-like sound without clearly audible tones. Table 5-3 in the report shows the combined quietest background and facility octave band sound levels computed at the community locations. These frequency spectra show that no tonal condition

would exist, which is where the sound level in a single octave band exceeds the levels in the two adjacent bands by 3 dB or more. The predicted facility noise plus background spectrum shape smoothly decreases in level with increasing frequency.

Notable noise abatement measures have been included in the project's design to enable it to achieve compliance with the MassDEP and Holliston noise limits at the property lines and nearby homes. These measures include a 20-ft high noise barrier around the equipment and limiting the operating hours between 7 AM and 10 PM. Section 7 of the report details the noise study assumptions and requirements for compliance with the noise limits. The Town of Holliston should ensure that the project complies with these requirements or require further noise analysis to show that any proposed changes will not increase predicted noise levels.

In conclusion, the predicted facility sound levels would exceed the lowest measured background L90 sound level of 27 dBA by up to 7 dBA at the nearest homes. This does not represent a violation of the MassDEP or Town of Holliston noise limits, however, sound from the facility will be noticeable but should not be considered intrusive at the nearest homes along Pilgrim Road during the quietest times of the day. The sound character is expected to be neutral and no audible tonal character is predicted. The Town should ensure that the proposed noise abatement measures are included as specified in the report, and that any changes in layout or equipment would require a revised noise analysis.