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Submitted via e-mail to: sreichert@fando.com

Steven Reichert, P.E.
Fuss & O'Neill, Inc.
The Gateway Building
50 Commercial Street, Unit 2S
Manchester, NH 03101

Subject: Peer Review of the Ostergaard Acoustical Associates Letter dated 10 February 2012 with the subject "Sound Study Update – Code Compliance Support Information – Proposed Hudson Logistics Center, Hudson, New Hampshire, OAA File 4228A"

Reference: HMMH Project Number 311730



Dear Mr. Reichert:

Harris Miller Miller & Hanson Inc. (HMMH) was retained by Fuss & O'Neill, Inc. (F&O) to review and provide our professional opinion on the subject letter (the "Supplemental Study") prepared by Ostergaard Acoustical Associates (OAA) for the proposed Hudson Logistics Center (the "Project"). This review was undertaken on behalf of the Planning Board of the Town of Hudson, New Hampshire. As part of this undertaking, I also reviewed the Code of the Town of Hudson, NH, Part II: General Legislation, Chapter 249 Noise (accessed at <https://ecode360.com/14323784>), i.e. the "Noise Ordinance".

Based upon my prior review of the OAA Report dated December 2020,¹ it was my opinion that the applicant had not, until that point, demonstrated compliance with Noise Limit 4 in Section 249-4(D) of the Noise Ordinance.² Based on my review of the latest information provided by OAA in the Supplemental Study, I offer the following comments and findings for the Planning Board's consideration.

1. On page 2 of the Supplemental Study, OAA notes that to date the applicant's project team has taken a conservative approach to the evaluation of project-related sound by comparing maximum sound levels due to project-related sources to statistical noise descriptors contained in the Noise Ordinance. HMMH agrees that the use of the maximum sound level (abbreviated "L_{max}") in the evaluation of project-related noise is overly conservative.
2. In Table 1, on page 4 of the Supplemental Study, OAA presents normalized sound level data that may be used to estimate project-related noise at abutting homes along the south property line (specifically, Locations C' and D as presented in OAA's December 2020 Report) using different noise descriptors. Based on the results in Table 1, the one-hour A-weighted equivalent sound (L_{eq}) due to on-site vehicular traffic ("trucking") is predicted to be 37 dB(A)

¹ "Site Sound Evaluation and Control – Proposed Hudson Logistics Center, Hudson, NH, Revision 2" Prepared by Benjamin C. Mueller, P.E., OAA File 4228A, 1 December 2020.

² Letter from Christopher Bajdek to Steven Reichert dated 14 January 2021 with the subject "Peer Review of the report entitled 'Site Sound Evaluation and Control - Proposed Hudson Logistics Center, Hudson, NH,' by Ostergaard Acoustical Associates and other related materials".

along the south property line, while the predicted L_{90} would be 30 dB(A). HMMH finds that the approach used by OAA to estimate the project-related noise in terms of the L_{eq} and L_{90} noise descriptors is reasonable.

3. On page 5 of the Supplemental Study, OAA recognizes that background sound levels during daytime hours, expressed in terms of the sound level exceeded 90-percent of the time (L_{90}), were lower than the minimum average L_{90} during nighttime hours. Seasonal insect activity likely contributed to the higher background sound levels at night. HMMH believes that the background sound level of 37 dB(A) L_{90} is a better estimate of the background experienced by the residences to the south of the proposed project. To satisfy Noise Limit 4 in Section 249-4(D) of the Noise ordinance, project-related noise should not increase the background noise level by more than 10 dBA. That is, project-related noise should not increase the background above a level of 47 dB(A).
4. Section 249-2 of the Noise Ordinance provides a definition of “noise descriptors” and states that the descriptors used in the ordinance are the energy equivalent sound level (L_{eq}) and the background sound level (L_{90}).
5. On page 6 of the Supplemental Study, OAA notes that HVAC noise from roof-top units would be 40 dB(A). Combined with trucking noise, site sound levels at Locations C’ and D would be 40 dB(A) based on the L_{90} noise descriptor and 42 dB(A) based on the L_{eq} noise descriptor. Site sound levels, when added to the background level of 37 dB(A), would increase background noise levels by 5 to 6 dBA.
6. Therefore, the Project is expected to produce noise levels that are within 10 dB(A) of background sound levels in the community, as required by Section 249-4 (D) of the Noise Ordinance.



The Supplemental Study addresses the outstanding comments in my previous review. It is my professional opinion that the applicant has demonstrated that the Project can operate in compliance with the Town’s Noise Ordinance.

Please let me know if you have any questions.

Sincerely yours,

Harris Miller Miller & Hanson Inc.

A handwritten signature in black ink that reads 'Christopher Bajdek'.

Christopher Bajdek, INCE
Principal Consultant

copies: John Weston, HMMH

Brian Groth, AICP, Town Planner, Town of Hudson