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October 12, 2023

Kevin Conero, Chairman
Village of Montgomery Planning Board
133 Clinton Street
Montgomery, NY 12549

Re: Response to August 17, 2023 Review - The Noise Consultancy, LLC of the B. Laing Associates, Inc. Sound Study for the proposed KSH Warehouse Facility, Union Street (NY State Route 211), Village of Montgomery, NY.

Honorable Chairman Conero:

The Noise Consultancy, LLC (TNC) was engaged by the Village of Montgomery's Planning Board to review and comment on the acoustical report prepared by B. Laing Associates, Inc. (BLG), dated April 2023. The letter responds to those August 17, 2023 comments as follows.

1.1 Purpose of Study

BLG concurs that the NYSDEC and Village Criteria apply to the site. However, Given the fact that (1) the site is located on and obtains access from the heavily traveled, through traffic, arterial collector roadway - NY State Route 211, (2) some residences and businesses adjacent to the site also front on NY State Route 211 and (3) Weaver Street has its entry/exit from NY State Route 211, it is entirely appropriate to use the FHWA standards. Further, NY State Department of Transportation has adopted and applies those FHWA criteria for sound/noise analyses (see also 1.3 E) of receptors located along NY State Routes.

1.2 General Sound Characteristics

The results of more detailed modeling requested by TNC have demonstrated no operational increases in sound levels at the level of 6 dB(A) or above at residential properties.

1.3 Sound Monitoring

1.3 A and B: The original measurements collected were during standard times for measuring existing impacts to the ambient community noise environment. This is especially true when the dominant sound source is a major, suburban, arterial collector and regional transit roadway such a NY State Route 211 (Union Street). The existing heavy commercial and through-traffic nature of this roadway cannot be ignored and its immediate presence is one reason this property and those adjacent to the south were zoned for a commercial use. Further, a fixed, numerical impact determination can only

be made by the reviewer for the warehouse operations based on the Village's Leq and other dB(A) standards and the time frames the Village itself has established. This was done.

However, as requested by TNC, the applicant has collected additional nighttime and midday data for comparison to the above Village of Montgomery standards and possible impacts of the project[1]. The expanded monitoring and analysis are attached in the October 2023 updates of BLG's sound/noise analysis of the project. The additional analysis discloses that (1) the area's ambient sounds are dominated by NY State Route 211 and (2) the project will meet the Village's noise standards.

1.3 C: Wind speeds during the April measurements were taken in the open fields of Orange County Municipal Airport. The maximum winds on April 12, 2023 were 18 mph and on April 13, 2023 were 13 mph. In the vicinity of the project, the area is wooded and so, wind velocities are much less due to resistance to wind flows at ground level and much reduced (almost no) fetch. Thus, at the monitoring sites, the wind speeds were below the 12 mph cited by the reviewer. Further, even if the wind speeds were slightly higher, as reported at the Airport, there would be no discernible impact for a wind several mph higher than 12 mph due to wind sock protection on microphone.

1.3 D: When conducting a sound/ noise study, it is not irrelevant to sample the dominant ambient noise source in the community's environment. In fact, it would be negligent to ignore this source. This is especially true when the dominant sound source is a major suburban arterial collector and regional transit roadway such a NY State Route 211 (Union Street). The existing heavy commercial and through-traffic nature of this roadway cannot be ignored and so, properly, was measured.

Further, the sound environments were monitored away from this source. The first (Location B) was the property line behind residences occurring north of NY State Route 211 and south of the site. This location had a commercial automotive operation and also is occupied by a residence. There were a total of three, passenger vehicles which used or passed though the facility when BLG was present. Only once, at night (approximately 9 PM) was the self-service washing facility in use by a vehicle but just prior to a sound measurement. No autobody repair activity was evident in the property's garages located directly along NY State Route 211. It should be noted that these existing commercial activities could elevate the ambient sound levels in the rear yards for properties along NY State Roue 211 above what was measured at this location. The second (Location C) was and is a front yard on Weaver Street – where people do live, work and recreate[2].

Since the applicant has acquiesced to do additional, off-hours day and nighttime, BLG added a rear yead of a Weaver Street property at its southern property line (Location D). The prior sampling times and points were repeated to demonstrate their accuracy in the first instance. Table 2a of the original and current measurements is found in the revised/expanded version of the October 2023 sound/noise analysis.

[1] Since the applicant was on the site and in the neighborhood to collected these off-hours data, the monitoring was repeated for the peak periods as well to re-enforce the voracity of the April 12 and 13 data.

[2] It was and is assumed that the neighborhood residents will be "sleeping" indoors (TNC Item 1.3 D, page 3) with the windows and doors closed (Village Code 77-4 D). Further, the Village standards are set for outdoor property lines.

These measurements were such that they confirmed the original results in the existing condition/ambient sound environment. For example, the September 2023 samples at the rear of the NY State Route 211 properties ranged from 50.4 to 55.1 dB(A) in April 2023 verses 51.3 to 54.3 dB(A) in September 2023.

1.3 E Standards: The applicant's attorney has provided a letter citing law in New York State that supports, as the only legal and logical interpretation, that the Leq applies as the standard in Chapter 77-5B(1),The following technical issues also support this conclusion:

I. The Village's Noise ordinance at Chapter 77 does not define the measurement methods or continuous (operational) standards as Lmax.
II. In Section 77-5C, immediately following the referenced table of standards in 77-5B(1), the Code specifically defines a maximum sound level in three differing and specific circumstances. For example, "No person shall cause or allow the emission of impulse noise in excess of 100 dB peak sound pressure level at any time to any zone." Thus, when the Village wanted to state and absolute maximum at a property line as Lmax – i.e., as would be the case for an impulse sound, - it did so.
III. The other applicable, widely accepted standards by both NYSDEC and FHWA use the Leq and **not** the Lmax as their testing and analysis levels.
IV. The text "Environmental Noise Measurement" by Bruel & Kjaer (a standard, classical reference for environmental sound measurement equipment and analysis) states that the Leq is the metric used in many American community noise standards.
V. The text "Handbook of Acoustical Measurements and Noise Control" by Harris, C. M., et al. (another standard, classical reference for environmental sound measurement equipment and analysis) states in Chapter 50 that the Leq (or the equivalent Ldn -day night averages) is the metric used by US Federal Agencies and many states for use in community noise analyses.
VI. In 40 plus years' experience in analyzing and reviewing local noise codes in NY State, I/B Laing Associates, Inc. have never used the Lmax for determining operational/continuous compliance unless it was explicitly specified (e.g., for an impulse sound). Leq is the industry-standard level used in determining noise code compliance in New York State.
VII. The Colliers Engineering and Design review of June 2, 2023 by Phillip Grealey, P.E., PhD., agreed with the BLG approach and reviewed the Village's continuous sound standards and project as Leq.
VIII. In a recent (2023) case in Beacon, NY, TNC was the reviewing analyst for the City of Beacon in a similar commercial proposed project with an adjacent, residential setting where B Laing Associates, Inc was the applicant's analyst. TNC was/is the author of the Beacon City Noise Code Chapter 149. In that case, TNC used Leq as the standard level for determining continuous/operational sound compliance for vehicular and point sources with the City code (with very similar standards table set up and language used – including a specified impulsive sound e.g., Lmax - at Chapter 149-6).
IX. As a practical matter, the proposed interpretation by TNC suggests that the Village of Montgomery noise ordinance was established to 'create' dozens of violations per day in the existing condition. Daytime residential standards in the Village are 55 and 61 dB(A). As a few

examples, (i) an elevated conversation between two people can reach 70-72 dB(A) as an Lmax, (ii) a business' or personal pickup truck or van Lmax could easily exceed 63 dB(A) at 25 feet, (iii) the same is true of delivery van or repair/maintenance vehicle that happens to pull into a business driveway[3]. Thus, a (or numerous) Village resident(s) could successfully contend, on a daily basis, that a neighbor (e.g., at an existing business) speaking within a few feet of the neighbor's property boundary or operating their pickup truck or van or allowing delivery of repair trucks/vans onto their driveway is in violation of Chapter 77-5B(1)'s standards table.

X. To demonstrate this, the existing sound/noise levels generated by two existing businesses along their property lines near or adjacent to properties were measured on the afternoon of September 26, 2023. Both would have failed the daytime and nighttime as Lmax. The measured Leq levels were 57 to 58 dB(A). Both would pass the daytime, business standard of 62 dB(A) as interpreted using Leq. If the Lmax interpretation of the Villages' Noise Code, Chapter 77-5B(1)'s standards table were to be used, both businesses demonstrated exceedance of ALL the standards. The measured Lmax levels were 75 to 79 dB(A). As Lmax both would have failed the daytime commercial and industrial standards of 62 and even 70 dB(A), respectively, plus the residential standards of 51 and 61 dB(A), respectively.

XI. The above example at Item VIII was essentially repeated when TNC authored the noise ordinance (Chapter 553) for the City of Union, Ohio (to regulate activity at a proposed Proctor and Gamble distribution facility). In Section 555.03, the standards Table I, it states:

" (a) <u>Maximum Permissible Sound Levels by Use Occupancy</u>.

(1) No person shall operate or cause to be operated any source of continuous sound from any use occupancy in such a manner as to create a sound level which exceeds the limits set forth in the use occupancy category in Table I, when measured as per the requirements of Section 553.04.

I. These limits may not be exceeded by incidents representing the normal, usual operation of the sound source,…

In short, the "normal, usual operation of the sound source" would be measured as the Leq.

The ordinance goes on in the very next section (similar to both the Montgomery and Beacon ordinances) to set a higher "maximum" at 15 decibels above the, "normal, usual operation of the sound source…"; i.e., an Lmax.

XII. The above language and approach was/is repeated in the TNC-authored City of Norwalk, Connecticut Noise ordinance (Chapter 68). In Section 68-5 (1), it states:
Continuous sound. The limit in Table 2 may not be exceeded by incidents representing the normal, usual operation of the sound source,…

[3] Speed vs. sound level calculations for some vehicle classes are provided in Appendix A.

Again, the "normal, usual operation of the sound source" would be measured as an average such as Leq.

The ordinance goes on in the very next section (2) to set a higher "maximum" at 80 dBA. This is 10 dBA above the highest level during , "normal, usual operation of the sound source…" cited in the Table 2; i.e., an Lmax.

B: TNC also states:

The ambient sound level data provided in Table 2a are all reported as Leq dBA. This metric is appropriate for the NYSDEC compliance assessment but TNC asserts that an assessment of compliance with regard to the Village Noise Code would be better represented by using the L90 statistical sound level for the ambient sound level measurements and "is an industry-recognized metric for assessing ambient sound levels…The L90 data are substantially lower than the Leq data and are more representative of the ambient conditions in the surrounding community."

This "interpretation" is not applicable in this case for reasons as follow:

i. The Village's Noise ordinance at Chapter 77 never defines the measurement methods or standards as Lmax. The definition of AMIENT SOUND in the Village's Chapter 149-4 states: "Ambient sounds are differentiated from extraneous sounds by the fact that ambient sounds are being emitted the majority of the time although they may not be continuous. Examples of ambient sounds may include steady traffic of properly muffled vehicles, summer insects in the distance, pedestrians talking, and adjacent commercial/industrial operations or mechanical equipment." The use of the terms "emitted the majority of the time…steady traffic… commercial/industrial operations or mechanical equipment." strongly suggest some type of average condition (i.e., the Leq) and not something less than the average condition (i.e., the L90).
ii. The other applicable standards by both NYSDEC and FHWA use the Leq and not the L90 as their metric for ambient levels. TNC states in Section 2.1 (see below) that the relative impact and its significance is to be tested against the NYSDEC guidance[4]. Thus, Leq, and not the L90, must be used as the metric for ambient levels and to determine relative impact and its significance.
iii. The Colliers Engineering and Design review of June 2, 2023 agreed with the BLG approach and reviewed the Village's continuous sound standards and project as Leq.
iv. No reference is provided, beyond TNC's opinion in this case, that L90 is the industry-standard level used in determining ambient noise levels.
v. As also provided above, in a recent (2023) case in Beacon, NY, TNC was the reviewing analyst for the City of Beacon in a similar commercial proposed project with an adjacent, residential setting where B Laing Associates, Inc was the applicant's analyst. TNC was/is the author of

[4] The Village Code 77 does not have a relative impact standard of operational sounds unless the existing condition of an established use is already unusually elevated [up to 75 decibels, per 77-5C(1)].

the Beacon City Noise Code Chapter 149. In that case, TNC used Leq as the level for determining and discussing the ambient, pre-project sound levels and not the L90.

vi. The above language (Item i) was/is repeated verbatim in the TNC-authored City of Norwalk, Connecticut Noise ordinance (Chapter 68) for the definition of Ambient Sound. Again, "Examples of ambient sounds may include steady traffic of properly muffled vehicles, summer insects in the distance, pedestrians talking, and adjacent commercial/industrial operations or mechanical equipment." The use of the terms "emitted the majority of the time…steady traffic… commercial/industrial operations or mechanical equipment." strongly suggest some type of average condition (i.e., the Leq) and not something less than the average condition (i.e., the L90).

vii. Similar language was/is repeated verbatim in the TNC-authored City of Union, Ohio Noise ordinance (Chapter 553) for the definition of Ambient Sound. "'Ambient sound level' means that measured value which represents the summation of the sound from all of the discrete sources affecting a given site at a given time, exclusive of extraneous sounds, and those from the source under investigation. Ambient sound level is synonymous with background sound level. Ambient sounds are differentiated from extraneous sounds by the fact that the former are more steady state, … The use of the terms "summation of the sound from all of the discrete sources…, Ambient sounds are … more steady state." strongly suggest some type of average condition (i.e., the Leq) and not something less than the average condition (i.e., the L90).

1.3 F: Slow vs Fast Meter Settings: It makes no difference in this case that the Leq is use as the best metric of measurement. Per the monitoring meter's manufacturer (See also Appendix A):

> *Cirrus Research plc <support.desk@cirrusresearch.com>*
> *11:33 AM (55 minutes ago), On Thu, 31 Aug to me…*
> *Good morning Mike,*
> *Thank you for contacting us. There is no time constant applied to Leq, hence your measurement data should still be correct, even if the meter was sampling sound pressure levels with a Fast time-weighting.*
> *Regards*
> *Jonathan*

However, the applicant has acquiesced to come back and do more off-hours, day-nighttime monitoring. BLG also added sampling of rear yard of a Weaver Street property. Therefore, the prior sampling times and points also were repeated. These measurements were such that they confirmed the original results in the existing condition/ambient sound environment. For example, the samples at the rear of the NY State Route 211 properties ranged from 50.4 to 55.1 dB(A) in April 2023 verses 51.3 to 54.3 dB(A) in September 2023.

Table 2a, compiling the prior and current measurements, is found in the revised/expanded version of BLG's October 2023 sound/noise analysis.

1.3 G: The annual meter calibration certifications are attached in Appendix B. The meter was calibrated for each set of measurements in compliance with Noise Code at §77-4.C.(2) per the meter read outs (as attached to the October 2023 revision to BLG's Sound/Noise analysis for the project).

2.1 [NYS] Department of Environmental Conservation Criteria

The project will comply with the NYSDEC's guidance[5] for Assessing and Mitigating Noise Impacts[6]. This was determined by utilizing SoundPLAN noise modeling software which included all, proposed, onsite sound sources, calculating a unified, potential impact for all sources and which included all mitigation proposed (e.g., placing the truck bay areas so that the buildings would act as sound walls, adding sound barriers around the eastern and northern ring roads, limiting tractor trailers north of Buildings 1 and 2, etc.) at eight (8) receptors as further described in Section 3.1 below and BLG's revised-expanded, Sound Measurements and Impact Review for the Proposed KSH Warehouse Facility in Village of Montgomery, New York of October 2023.

The conditions and impacts described herein and in BLG's October 2023 sound report meet the above guidance as follows:

- As provided in the guidance, "The addition of any noise source, in a nonindustrial setting, should not raise the ambient noise level above a maximum of 65 dB(A)." The project's residential property impact (as modeled and measured by Leq) will be 50.7 dB(A) at the backyard of the NY State, Route 211 residential properties closest to the site's entry roadway.
- As further provided in the guidance, "Increases ranging from 0-3 dB should have no appreciable effect on receptors." The project's operational impact (as modeled and measured by Leq) will be a maximum increase of less than 3 dB(A) at the rear boundaries of properties along Weaver Street.
- As further provided in the guidance, "Increases from 3-6 dB may have potential for adverse noise impact only in cases where the most sensitive of receptors are present." The project's impact (as modeled and measured by Leq) will be a maximum increase of 1 to 3 dB(A) at the rear boundary of the properties fronting on NY State Route 211.

The conclusion to be reached by this analysis using NYSDEC guidance is that there will be no significant increase of sound levels as a result of the project.

To add precision to the analysts of possible sound-noise impacts resulting from the project, B. Laing Associates, Inc. has supplemented the review by conducting noise analysis using SoundPLAN

[5] This document is *guidance* and not codified in any way as a *regulatory requirement*. To wit, "The above thresholds as indicators of impact potential should be viewed as guidelines subject to adjustment as appropriate for the specific circumstances one encounters."

[6] NYSDEC's guidance for Assessing and Mitigating Noise Impacts measures ambient sound levels and compliance by the metric Leq and not by TNC's assertion that the Village use a non-standard Lmax metric for its standards at 77-5b(1).

computer modeling. This methodology is more precise than the April 2023 spread sheet calculation method[7] but it also drops the environmentally-conservative assumptions of that method.

2.2 *Federal Highway Administration Criteria*

As cited in 1.1 above, the FHWA criteria does have applicability in this matter as the project is to be located and obtain access from NY State Route 211. FHWA criteria (in addition to the references, including The Noise Consultancy itself, cited in 1.1E above) and NYSDEC's guidance (see above) use Leq as the basis for determining compliance with this standard.

2.3 Village of Montgomery Noise Ordinance

Construction noise

Construction Noise/Sounds - will be audible but will only occur within the Village's specified hours for construction activity (See October 2023 BLG analysis, Section 3.3). This time constraint has already been agreed to by the applicant and such a stipulation will be applied to the project.

The eastern boundary has a residence in the "commercial" lot monitored and has other residences as well. So, the comparison applied in the BLG April 2023 analysis is valid.

In the above-referenced SoundPLAN modeling, calculations also are provided for operational sound emissions expected from the proposed action and as received at the all residential properties after Phase 1 (Buildings 3 and 4) is completed, but Phase 2 (Buildings 1 and/or 2) is not. In that scenario, a temporary 8 ft sound wall will be constructed on top of a 3 ft berm across the site from the western property line and bounded on the east by the ring road (as the eastern ring road allows an approach to the emergency access). The properties will meet the Village's standards as defined in Chapter 77-5B(1)'s standards table.

3.1 Operational Sound Analysis

The proposed action has been subjected to further, more precise modeling of sound/noise generating and mitigating features. The various physical features of the site including traffic (per the traffic engineering report), parking, internal roadways, truck parking and loading bay areas, buildings, HVAC, generators, mitigating sound barriers, etc. were input to SoundPLAN ©. To achieve this, the most recent site plan by Engineering and Surveying Properties was applied on top of the Google © street map. Receptors were established in 8 locations at the closest property line of the surrounding residential, commercial, and industrially zoned parcels. A more detailed description and results from same are presented in the October 2023 revision of the BLG April 2023 Sound/ Noise report.

All eight receptor locations were calculated to establish sound levels that would result from the project and all passed the Village's standards as specified in Chapter 77-5B(1)'s standards table.

Phased Construction Noise/Sounds - In the above-referenced SoundPLAN modeling, calculations are provided for operational sound emissions expected from the proposed action and as received at the back yards of residential properties after Phase 1 (Buildings 3 and 4) is completed, but Phase 2

[7] Based on B. Laing Associates' decades of proprietary sound source monitoring .

(Buildings 1 and/or 2) is not. In that scenario, a temporary 8 ft sound wall will be constructed on top of a 3 ft berm across the site from the western property line and bounded on the east by the ring road as it allows an approach to the emergency access. The properties along Weaver Street will meet the Village's standards defined in Chapter 77-5B(1)'s standards table as presented in the October 2023 revision of the BLG April 2023 Sound/ Noise report.

Limiting Access to Warehouse Trucks: TNC apparently agrees that limiting tractor trailers to unloading areas between the buildings and the southeasterly entry road, while keeping them from the ring road which will be serving the northern, eastern and western sides of Buildings 1 and 2 is a tenable mitigating measure. Further, the proposed 8-foot-high fence on the eastern side of Buildings' 1 and 2 parking to mitigate and sounds from passenger vehicles and delivery-type trucks/vans will be a benefit to reduce sound transmission toward Weaver Street. TNC states that they would like to see a more robust manner of inhibiting tractor trailer trucks from accessing this eastern portion of the project's ring road.

In response to TNC's comment, the applicant is now offering to add two, overhead bar-barriers (similar to parking garages) which will allow the passage of passenger vehicles, delivery vans and emergency service vehicles but not tractor trailers. The maximum height of a folded emergency fire ladder truck or bucket truck is 10.5 feet. Tractor trailer cargo boxes are some 13 feet above grade. Thus, the two, overhead bar-barriers will be set at 11.5 feet above grade level and will be established in the ring road to the north and south of Buildings' 1 and 2 eastern and western edges, respectively. This will act to physical bar tractor trailer rigs from traveling to and around the northern sections of the proposed ring road and parking opposite the rear yards (still some 350 feet east) of properties fronting on Weaver Street. Emergency vehicles will be able to pass beneath the overhead bar-barriers /or will have unimpeded access via the emergency roadway.

HVAC: The proposed project has proposed that the office air conditioning, heat exchange unit exhausts will be also surrounded by a mitigation fencing earlier described (i.e., a minimum of 4 feet high and 1 foot above and exhaust vents). Since TNC provides no commentary on same, we therefore assume that they concur that this will be an effective mitigating measure for same. The October 2023 SoundPLAN modeling bears out this conclusion.

The April 2023 BLG analysis assumed that office portions of the warehouse buildings would be air conditioned. At this point in the planning process, it is unknown if any of the warehouse operations will require refrigeration. If such refrigeration were to occur, the applicant stipulates that it will occur in Buildings 3 or 4 only. Thus, the refrigeration will be 750 feet west of the rear yards of Weaver Street. The heat exchange unit exhausts will be also surrounded by the same sound mitigation fencing earlier described (i.e., a minimum of 4 feet high and 1 foot above and exhaust vents).

The applicant agrees to return to the Village's building Department to model addition refrigeration units should they wish to lease to a client utilizing refrigerated storage or processes in the warehouse space.

Emergency generators (EG): Per TNC's comments, "The site plans do not appear to show where the EGs will be located." The EG's will be located between the buildings. Their sound contribution has

been more specifically determined in the October 2023, revised BLG sound/noise analysis. The analysis assumes assume one EG per building (4 total). The buildings themselves will be the dominant mitigating factor in transmission to residences along NY State Route 211 and Weaver Street's backyard property lines.

The emergency generators are generally set to "exercise" one week for approximately 5 minutes. This will occur in the mid-week and midday period. The emergency generators exercise periods will be readily staggered. Thus, in any non-emergency use (i.e., when one building loses power but the local grid is secure/operating), only one generator will be operating at a time.

Doorways: TNC's site plan include whether or not doorways will be left open when not in use by tractor trailers. The applicant stipulates that the bay doors will be closed when not in use by tractor trailers[8]. The doors will be rigged to ensure that they will "automatically" close (e.g., they may be fitted with slightly heavier counterweighting than is normal or electrical openers). The applicant further stipulates that all building doors will be spring-loaded for automatic closure.

External and/or Impulsive Sources: The applicant stipulates that there will be no external bells (other than fire warnings-alarms), timing whistles or sound speakers on the buildings.

Vegetation as a Sound Barrier: Per the SoundPLAN modeling conducted and included in the October revision to BLG's April 2023 Sound/Noise report for the proposed action, Leq levels will be below the 70 dB(A) Industrial standard for this parcel. Thus, here is no need for sound mitigation along this entry road way for the southerly, adjacent, industrially-zoned property.

However, the applicant was specifically requested by the Village Planning Board to remove the Hoover Plywall© sound barrier at the location along the entry driveway's southern edge. This property boundary is co-located with industrially-zone property to the south. The standard for compliance at that boundary is 70 dB(A); the standard is not specified by octave band. That property is currently in agricultural use. Thus, the 22 peak-hour tractor trailer trucks (per the traffic analysis), traveling at 15 miles per hour and on level to nearly level ground (plus BLG's addition of 22 medium trucks), was demonstrated to readily comply with this standard (See BLG's October 2023 analysis). If the Village so desires, the applicant is willing to return to the use of Hoover Plywall sound barrier at this location or to install a vegetative "barrier" as specified in May 2023.

TNC has apparently assumed that added vegetation was proposed as a barrier to the *northern* side of the southeastern, entry driveway, where R-4 zoned properties occur opposite same and also front along NY State Route 211. No barrier was proposed along this portion of the driveway was it will be some 340 feet west of the closest residential property line. Again, tractor trailer trucks, traveling at low speed and on level to nearly level ground, would comply[9] with the 51 dB(A) nighttime residential

[8] The October 2023 SoundPLAN modeling provides for emission levels elevated well above the normal levels for truck transit alone (i.e., 103.1 dB(A) in this scenario). So, the open doors and coupling sounds are included.

[9] Using a standard calculation of a 6 dB(A) reduction for every doubling of distance beyond 50 feet and a 5 decibel loss due to 103 meters of intervening wetland vegetation and soft ground (per Harris, et.al., *Handbook of Acoustical Measurements and Noise Control*, Table 3.4 and NYSDEC's guidance, *Assessing and Mitigating Noise Impacts* "Dense vegetation that is at least 100 feet in depth will reduce the sound levels by 3 to 7 dB(A)."

standard[10]. The conclusion that this receptor would comply with the Village's Standards in the BLG April 2023 analysis was again established by the SoundPLAN modeling as cited above and provided in the October 2023 revision to the same report (a result of 50.7 dB(A) was determined). Finally, a receptor fronting along NY State Route 211 was demonstrated to have an existing, nighttime (9PM and 1 to 3 AM) ambient sound level measured at 53.2 to 54.0 dB(A) in the rear yard.

Additionally, TNC has apparently assumed that no barrier was proposed to the eastern side of the entry driveway as it turns northward, beginning south of Building 4, which will be opposite the R-4 zoned properties occur along NY State Route 211. An 8-foot-high Hoover Plywall sound barrier was proposed at this location and will extend further northward along this portion of the driveway to the emergency access. So, there will be some sound mitigation to augment the 250 foot, minimum separation between this easterly section of the driveway and the rear yards of properties fronting on NY State Route 211. The 250 foot, minimum separation or buffer space currently contains and will continue to contain largely wooded wetlands.

The calculations provided in Table 5 of BLG's have been supplanted by the more precise result in the SoundPLAN modeling included in the October 2023 revision to the April 2023 BLG report. The original analysis was based on 28 truck loading bays (as planned then) and has been changed to 102 truck loading bays (with peak hour movements as specified in the traffic analysis) as now proposed. The analysis for trucks was conducted as calculated per FHWA's Transportation Noise Model.

In Conclusion, BLG has provided responses to the current TNC commentary of our April 2023 Sound/Noise Analysis for the KSH Warehouse proposed action and has conducted additional analyses as added monitoring and SoundPLAN modeling contained in the October 2023 revision to the April 2023 BLG report. This addition effort demonstrates that the project, with its multiple mitigating features and stipulations, will comply with the Villages Noise Code at Chapter 77-5B(1).

If I can be of any assistance to you, please do not hesitate to contact BLG at your earliest convenience.

Thank you for your time and consideration in this matter.

Sincerely,

Michael P. Bontje, Senior Scientist

[10] The Village's Noise Code cites the property lines of parcels as the location for determining compliance with same.

APPENDIX A

Leq – NO IMPACT – CIRRUS TECH SUPPORT

Cirrus Research RE: Monitoring fast v slow

plc <support.desk@cirrusresearch.com>
11:33 AM (55 minutes ago), On Thu, 31 Aug to me…
Good morning Mike,
Thank you for contacting us. There is no time constant applied to Leq, hence your measurement data should still be correct, even if the meter was sampling sound pressure levels with a Fast time-weighting.
Regards
Jonathan

APPENDIX B

Meter Calibrations

CERTIFICATE OF CALIBRATION

ISSUED BY **Noisemeters**

DATE OF ISSUE **10 March 2023** CERTIFICATE NUMBER **189048**

NoiseMeters
Acoustic House
Bridlington Road
Hunmanby
YO14 0PH
United Kingdom
www.noisemeters.com

Approved signatory
M.Berezovskis
Electronically signed:

Sound Calibrator : IEC 60942:2003

Instrument information

Manufacturer: Cirrus Research plc **Notes:**

Model: CR:515

Serial number: 100702

Class: 1

Test summary

The sound calibrator detailed above has been calibrated to the published data as described in the operating manual and in the half-inch configuration. The procedures and techniques used are as described in IEC60942_2003 Annex B – Periodic Tests and three determinations of the sound pressure level, frequency and total distortion were made.

The sound pressure level was measured using a WS2F condenser microphone type MK:224 manufactured by Cirrus Research plc.

The results have been corrected to the reference pressure of 101.33 kPa using the manufacturer's data.

As public evidence was available, from a testing organisation responsible for approving the results of pattern evaluation tests, to demonstrate that the model of sound calibrator fully conformed to the requirements for pattern evaluation described in Annex A of IEC 60942:2003, the sound calibrator tested is considered to conform to all the Class 1 requirements of IEC 60942:2003.

The manufacturer's product information indicates that this model of sound calibrator has been formally pattern approved to IEC60942_2003 Annex A to Class 1. This has been confirmed by APPLUS, PhysikalischTechnische Bundesanstalt (PTB) and Laboratoire National d'Essais (LNE).

Notes:

CERTIFICATE OF CALIBRATION

Certificate Number: **189048**

Environmental conditions

The following conditions were recorded at the time of the test:

Pressure: 102.35 kPa
Temperature: 22.2 °C
Humidity: 53.8 %

Test equipment

Equipment	Manufacturer	Model	Serial number
Distortion Meter	Keithley	2015	1175401
Acoustic Calibrator	Bruel and Kjaer	4231	2393941
Environmental Monitor	Comet	T7310	22792092

Results

	Expected	Sample 1	Sample 2	Sample 3	Average	Deviation	Tolerance	Uncertainty
Level (dB)	94.00	94.00	94.02	94.02	**94.01**	0.01	±0.40	0.11 dB
Distortion (%)	< 3.00	1.44	1.36	1.17	**1.32**	1.32	+3.00	0.13 %
Frequency (Hz)	1000.0	1003.3	1006.3	1004.3	**1004.6**	4.6	±10.0	0.1 Hz

The measured quantities or deviations (as applicable), extended by the expanded combined uncertainty of measurement, must not exceed the corresponding tolerance.

End of results

APPENDIX C

EXISTING BUSINESS NOISE/SOUND MEASUREMENTS

Cirrus Research plc

Measurement Summary Report

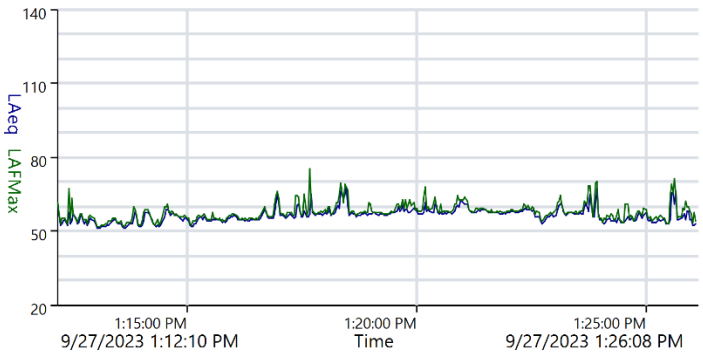
Name	67			
Time	9/27/2023 1:12:10 PM	**Person**	**Place**	**Project**
Duration	00:13:58		VILLAGE OF	KSH WAREHOUSE
Instrument	G304264, CR:171A			

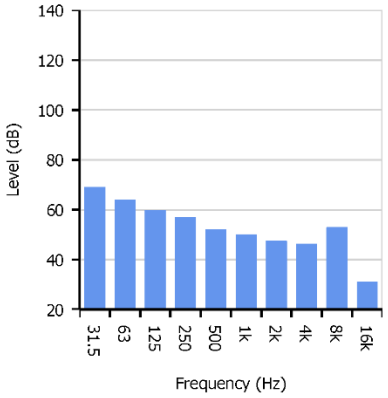
Calibration

Before	9/27/2023 1:10 PM	Offset	0.50 dB	**After**	9/28/2023 3:36 AM	Offset	0.38 dB

Basic Values	
LAeq	57.3 dB
LAE	86.5 dB
LAFMax	75.1 dB

Statistical Levels (Ln)	
LAS1	65.5 dB
LAS5	60.9 dB
LAS10	59.2 dB
LAS50	56.4 dB
LAS90	53.0 dB
LAS95	52.2 dB
LAS99	51.4 dB





Notes

Refueling Station - canrs, vns, moderate tot slow. No heavy trucks

ReportId

MFF200100000057 Cirrus Research NoiseTools Page 1 of 1

Cirrus Research plc

Measurement Summary Report

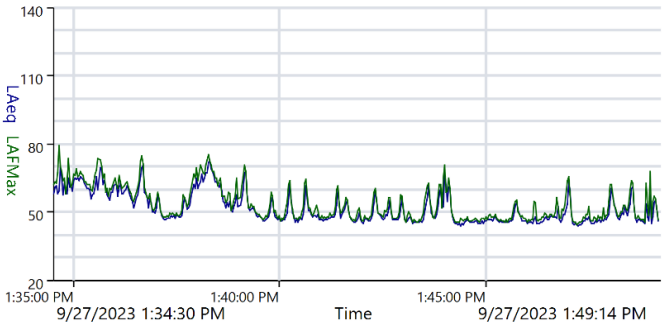
Name	68			
Time	9/27/2023 1:34:30 PM	**Person**	**Place**	**Project**
Duration	00:14:44		VILLAGE OF	
Instrument	G304264, CR:171A			

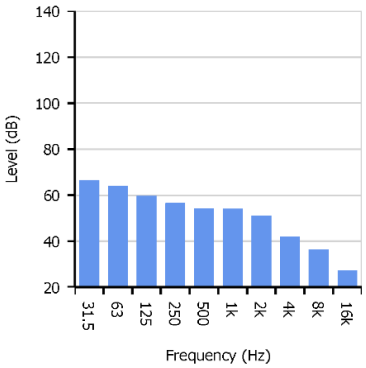
Calibration

Before	9/27/2023 1:10 PM	Offset	0.50 dB	**After**	9/28/2023 3:36 AM	Offset	0.38 dB

Basic Values	
LAeq	58.1 dB
LAE	87.5 dB
LAFMax	79.3 dB

Statistical Levels (Ln)	
LAS1	69.3 dB
LAS5	64.6 dB
LAS10	62.1 dB
LAS50	48.7 dB
LAS90	45.4 dB
LAS95	45.0 dB
LAS99	44.3 dB





Notes
Refueling Staton - cars and vans, no heavy trucks.

ReportId