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October 28, 2024

Amy Frisbie, Chair
Village of Montgomery Planning Board
133 Clinton Street
Montgomery, NY 12549

Re Third Review letter by The Noise Consultancy, LLC of the sound study documents prepared by the Applicant through April13, 2024, for the proposed KSH Warehouse Facility, Union Street, Village of Montgomery, NY and ambient sound level measurements conducted by TNC

Dear Chair Frisbie:

The Noise Consultancy, LLC ("TNC") has been engaged by the Village of Montgomery Planning Board ("Board") to review and comment on the acoustical report, *Sound Measurements and Impacts*, prepared by B. Laing Associates ("B. Laing", "BLG", "Applicant"), dated April 2023, a subsequent version dated October 2023, a report in the form of a letter dated October 12, 2023, a letter report dated April 13, 2024 and other relevant documents submitted on behalf of the Applicant. The report dated October 2023, and the letter report dated October 12, 2023, were apparently provided to the Board in October 2023, but only the letter report was provided to TNC due to an oversight in the Board's office. Once this oversight was recognized, the October 2023 report was provided to TNC on November 16, 2023.

Recently, TNC – under the direction of the Board – conducted ambient sound level measurements, pursuant to the Village Noise Code, to compare to the ambient sound level measurements conducted by the Applicant. These data allow for an independent determination of the veracity of the data and the reasonableness of the measurement locations chosen by the Applicant. The ambient sound level data reported by the Applicant did not appear to be representative of the acoustical conditions in the community, particularly in rear yards of the Weaver Street properties which share a property boundary with the proposed warehouse facility and will receive the bulk of the sound emissions from it.

This review letter will discuss the findings of the ambient sound level measurements conducted by TNC on October 3-4, 2024, and outstanding issues TNC has with the Applicant's submittals to date.

1.0 Ambient sound level measurements conducted by TNC and compared to data reported by B. Laing

Ambient sound levels were conducted by TNC on Thursday and Friday, October 3-4, 2024. Measurements sessions with durations of 15-minutes to 1-hour were made from approximately 2PM on

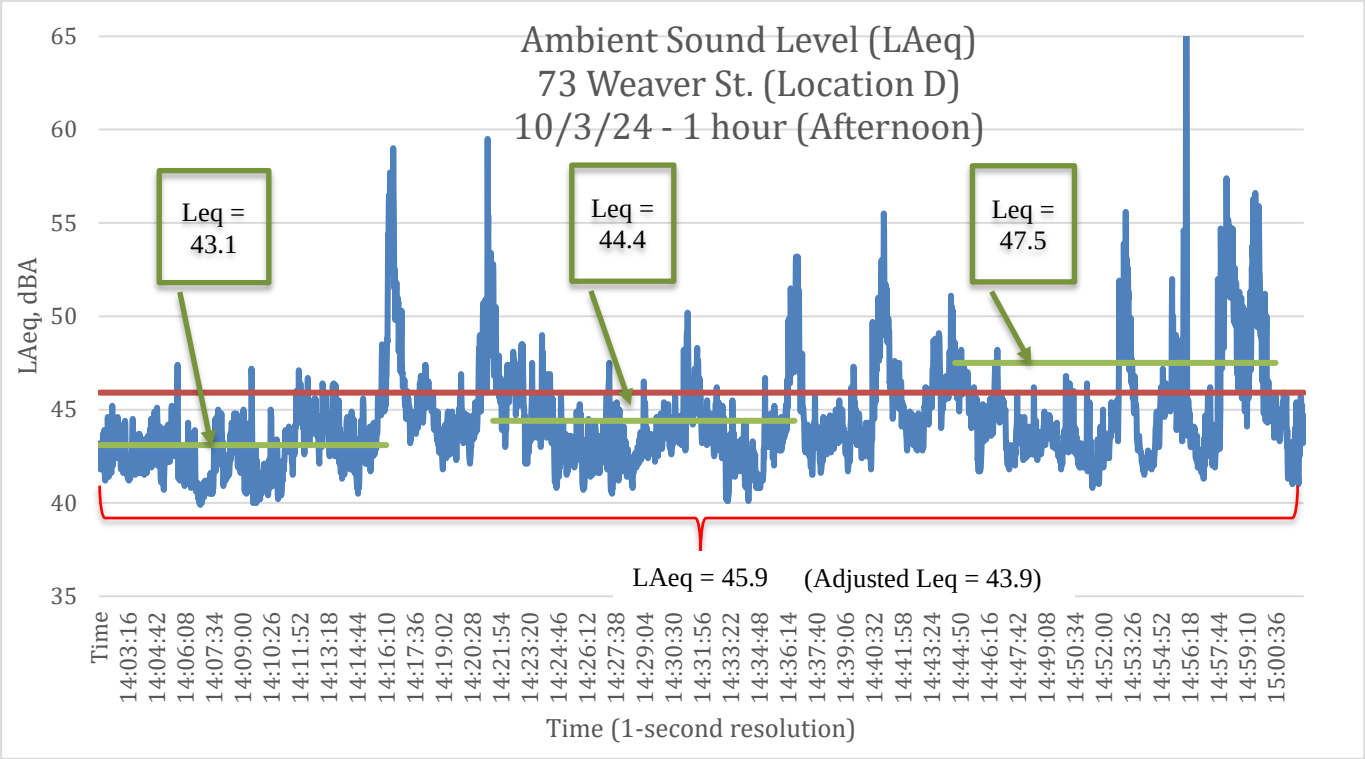
10/3/2024 to 11AM on 10/4/2024. All but one of the measurement sessions were at the shared property boundary on the proposed facility and the residence at 73 Weaver Street. This location is designated as Sample Point D and is depicted on the aerial image found in Attachment A-1. It is noteworthy that the aerial image, with property lines overlayed, was produced by Board's engineer as the similar copy provided by the Applicant was found to be inaccurate, with a discrepancy of hundreds of feet (See Attachment A-2). The other ambient sound level measurement location used by TNC was approximately 150 feet from Union Street on the dirt access road leading into the proposed project site, across from Chander Lane (See Attachment A-3). This location was used to represent the rear yards of the residences with frontage on Union Street and share a property boundary with the proposed facility at their rear property line. The emphasis of TNC's analysis of ambient sound levels will be on those conducted at the Weaver Street measurement location (Sample Point D).

1.1 Ambient sound level data conducted the afternoon of 10/3/2024 at the approximate location of the shared property boundary with 73 Weaver Street and the proposed facility (Applicant's Sample Location D)

Ambient sound level measurements were taken at Sample Location D over a 1-hour period from 2:02 PM to 3:02 PM. In Figure 1, the time history for this measurement is shown of 1-second LAeq levels versus time. There are seven (7) spikes on Figure 1 which exceed 55 dBA, Leq. There spikes represent helicopters in operation at or around Orange County Airport. The significance of the contribution from the helicopters will be discusses later in this section.

Also, shown in Figure1 are three (3), 15-minute segments which represent subsections of the 1-hour measurement and demonstrate that selecting relatively short periods of time when assessing the ambient sound level can skew the data in a significant manner. The Applicant reported in the October 2023 report all, but two, of the twelve measurement sessions conducted as approximately 15-minute measurements. Furthermore, many of the Applicant's measurement sessions were conducted at times of peak traffic instead of when it would be more likely to find lower ambient sound levels. There are many more hours throughout the day when traffic is lighter and the impacts from the proposed facility would be correspondingly greater.

Figure 1: Ambient sound level measurement chart – Conducted during the afternoon (2:02 PM to 3:02 PM) on 10/3/2024 at 73 Weaver Street (Sample Location D)



It is important to identify the sources in the environment that are contributing the ambient sound levels at the time the measurements are being conducted. This allows the investigator to differentiate between those sounds that are to be included as ambient sounds and those that are considered extraneous sounds. Table 1 provides a summary of the sound sources which were occurring during the measurement period.

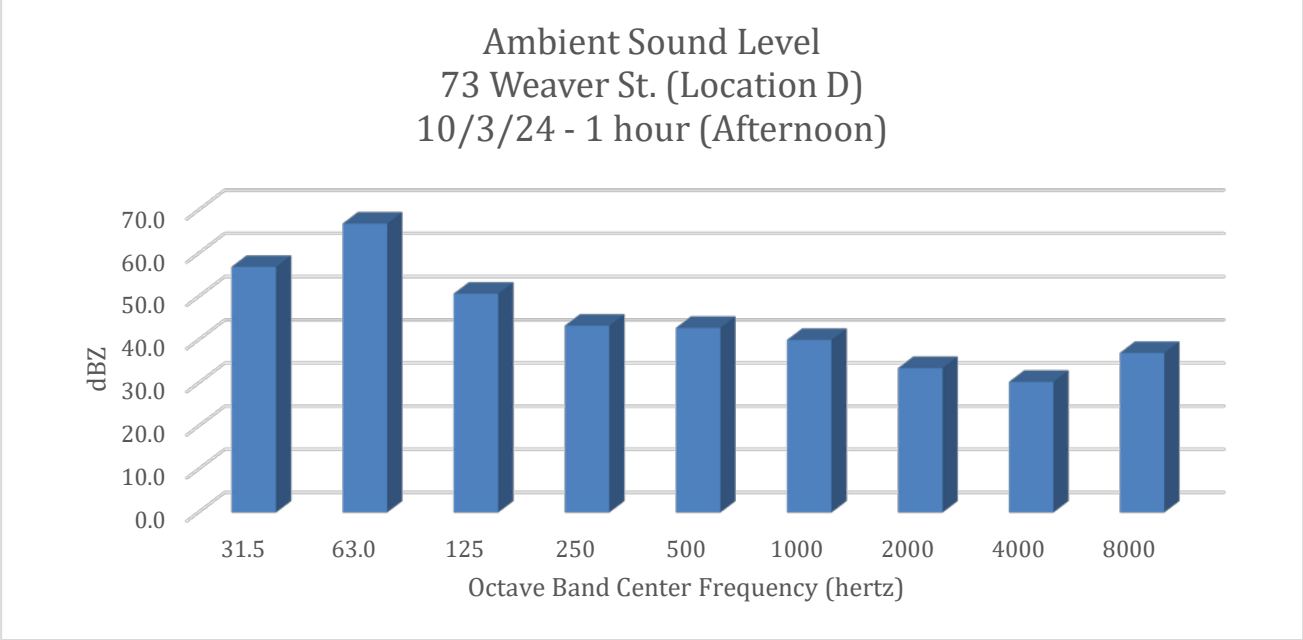
Table 1: Sound sources contributing to the ambient sound level measured.

Identified Sound Source	**Sound level (dBA)**
Construction at airport (faint backup alarms)	44-46
Kids playing in neighborhood - voices	42-45
Lawn mower in distance	--
Birds	44-49
Summer insects/peepers	--
Fedex truck on Weaver St	45
Helicopter	56-65
Car horn on Weaver St	46
Plane -- flyby	46 (military plane 53)

Plane – take off	48
Military style vehicle on Weaver St -- Siren used to entertain kids	61
Dog barking	43-44

The spectral data provided in Figure 2 represents the contribution within each octave band center frequency. This data assists in informing what types of sources are responsible for the broadband sound level data presented in Figure 1 and Tables 1 and 2. For example, elevated levels in the 2,000, 4,000 and 8,000 hertz octave bands, during the warmer months of the year, are generally associated with summer insects and peepers.

Figure 2: Octave band sound level data which corresponds with the broadband data in Figure 1.



Note: The elevated level at 8,000 hertz is associate with summer insect and peeper activity – low intensity.

Table 2: Summary of measured Ambient sound level data by TNC -- afternoon of 10/3/2024, from 2:02 PM to 3:02 PM, at 73 Weaver Street (Sample Location D)

Parameter	Measured Sound Level (dBA)	Adjusted Sound Level (dBA) – based on ANSI 12.9, Part 3 [1]
Leq	45.9	43.9
Lmin	40.0	40.0
Lmax	65.0	50.5
L10	47.8	
L50	43.8	
L90	41.9	

Note 1: "Corrected measurement period equivalent-continuous sound pressure level: Measurement period data which has been corrected for transient background sound by the transient sound having been inhibited from being collected with or having been removed from the measurement period data." ANSI 12.9, Part 3.

Table 3: Calibration and environmental conditions at time of measurements

Parameter	**Pre-measurement**	**Post-measurement**
Field Calibration of sound meter	1:50PM (deviation 0.01 dB)	3:06PM (deviation 0.04 dB)
Wind speed (Krestrel wind meter: Model 3000)	2:00PM: 0-1 MPH, gusts to 3 MPH	3:04PM: 0-1 MPH, gusts to 3 MPH
Temperature (Krestrel wind meter: Model 3000)	71 degrees Fahrenheit	72 degrees Fahrenheit
Relative Humidity (Krestrel wind meter: Model 3000)	61%	63%
Sky Conditions	Mostly sunny	Mostly sunny

For comparison to the Applicant's data at the same measurement location, for a time period a couple hours later in the afternoon, is reported at page 24 of the October 2023 report. The measurement period is 5:35 PM to 5:40 PM (approx. 15 mins) and B. Laing reported a Leq = 48.0 dBA. The octave band data for this sample shows a distinct spike at 8k hertz which corresponds with a sound level of approximately 43 dB. While the applicant did not provide any notes as to the source of ambient sounds at the time of this measurement, it is reasonable based on my experience that the spike at 8k hertz is due to summer insects/peepers.

The difference between the first 15-minute period versus the last 15-minute period is 4.4 dBA. A difference of 4.4 dBA represents more than a doubling of the sound energy or approximately 50% louder from a human perception perspective.

The definition of "Ambient Noise or Background Noise" is defined in the Village Noise Code as: *Noise of a measurable intensity that exists at a point as a result of a combination of many distant sources individually indistinguishable.*

Based on this definition for ambient noise, distinguishable sounds, such as helicopters should be excluded from the determination of the ambient sound level. As such, being that the seven (7) peaks depicted in the time history chart above are due to helicopter fly-bys, which are individually distinguishable, these peaks should be excluded from the determination of the ambient sound level for this time period. If the contribution from the helicopters is excluded the resultant Leq is 43.9 dBA, or 2 dBA less than with the helicopters included.

Furthermore, the Village Noise Code definition for *Ambient Noise or Background Noise* is consistent with ANSI 12.9: Part 3: *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present*, for evaluating ambient sound levels, which states:

> **continuous background sound.** Background sound measured during a measurement period specified in this Standard, after excluding the contribution of transient background sounds in accordance with one of the methods specified in this standard.
> NOTE 1: Continuous background sound is sound that occurs repeatedly, minute after minute and day after day. It is assumed to be approximately stationary in a statistical sense, over the measurement duration, and it is described solely by its sound exposure per unit time (in each frequency-weighted or frequency-filtered band of interest).
> NOTE 2: As a general rule, sound events from a single source (e.g., aircraft flyovers, heavy truck pass-bys) that occur at a rate of at least 12 times per hour (at least once every five minutes) should be considered part of the continuous background sound.

There were seven (7) helicopter related events in the 1-hour ambient sound level data shown in Figure 1. As such, these events are considered to be transient and should be excluded from the determination of the hourly Leq level (see Note 2 – highlighted above). The Leq should therefore be 43.9 dBA as previously stated. The adjusted Leq is 4.1 dBA less than the Leq reported by B. Laing for a similar time period.

It is the opinion of TNC that B. Laing's reported ambient sound level data that is higher than the actual ambient sound level for a typical afternoon period.

1.2 Ambient sound level data conducted the evening of 10/3/2024 at the approximate location of the shared property boundary with 73 Weaver Street and the proposed facility (Sample Location D)

Figure 3: Ambient sound level measurement chart – Conducted during the evening (8:50PM to 9:50PM) on 10/3/2024 at 73 Weaver Street (Sample Location D)

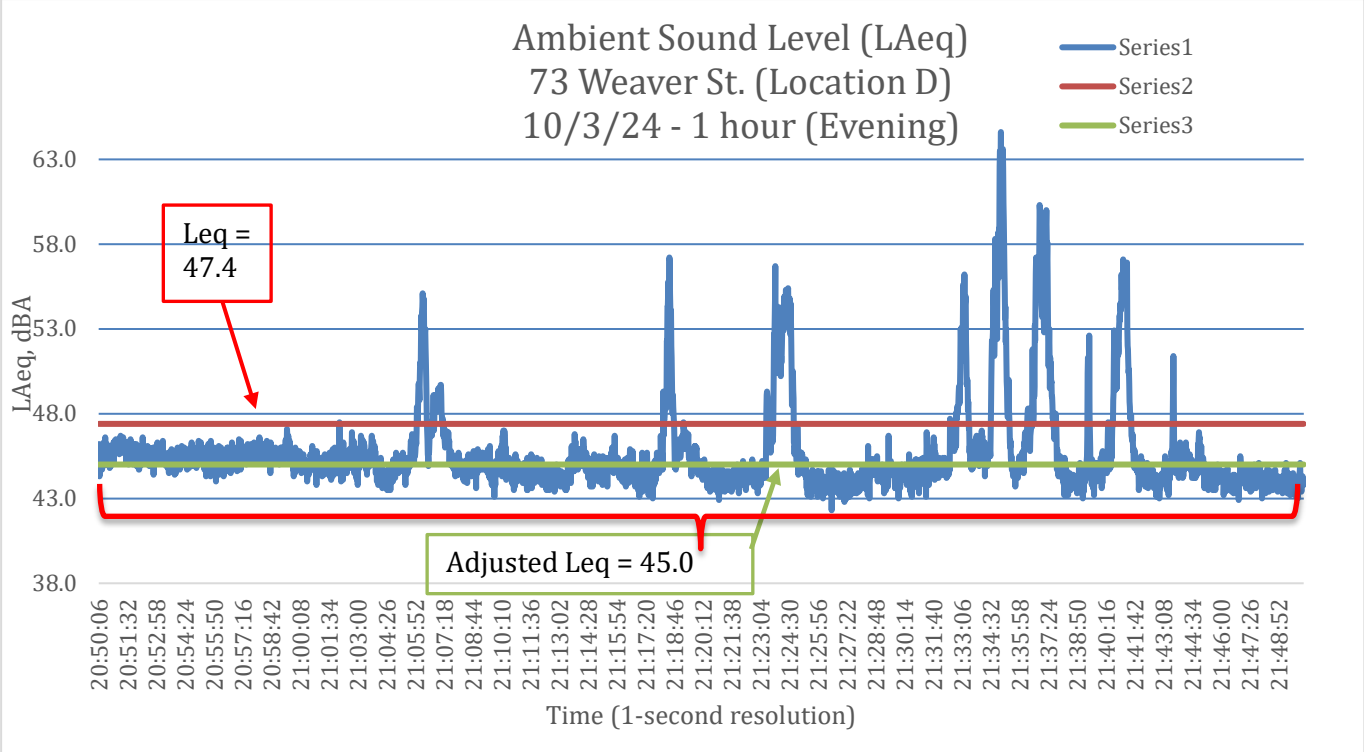
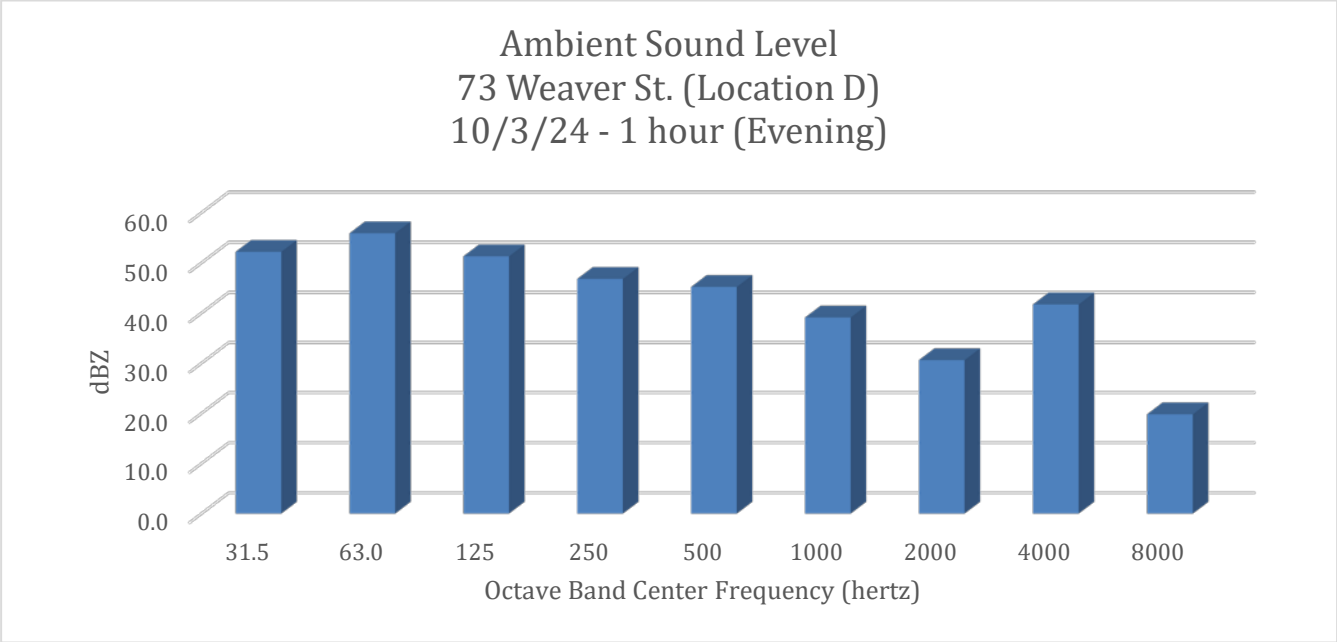


Table 4: Sound sources contributing to the ambient sound level measured.

Identified Sound Source	**Sound level (dBA)**
Summer insects/peepers – intense activity	44
Dog barking	46-47
Plane – take off (5 events)	54-65
Plane flyby (commercial)	56
Car on Weaver St	45-47
Motorcycle – in distance	51
Plane -- flyby	46 (military plane 53)

Figure 4: Octave band sound level data which corresponds with the broadband data in Figure 3.



Note: The elevated level at 4,000 hertz is associate with summer insect and peeper activity – moderate to high intensity.

Table 5: Summary of measured Ambient sound level data by TNC during the evening of 10/3/2024, from 8:50 PM to 9:50 PM, at 73 Weaver Street (Sample Location D)

Parameter	Measured Sound Level (dBA)	Adjusted Sound Level (dBA) – based on ANSI 12.9, Part 3 [1]
Leq	47.4	45.0
Lmin	42.9	42.9
Lmax	64.2	52.0
L10	48.0	
L50	45.0	
L90	43.9	

Note 1: "Corrected measurement period equivalent-continuous sound pressure level: Measurement period data which has been corrected for transient background sound by the transient sound having been inhibited from being collected with or having been removed from the measurement period data." ANSI 12.9, Part 3.

Table 6: Calibration and environmental conditions at time of measurements

Parameter	Pre-measurement	Post-measurement
Field Calibration of sound meter	8:57PM (deviation 0.05 dB)	9:59PM (deviation 0.03 dB)
Wind speed (Krestrel wind meter: Model 3000)	8:40PM: 0-1 MPH, gusts to 0 MPH	9:51PM: 0-1 MPH, gusts to 0 MPH
Temperature (Krestrel wind meter: Model 3000)	58 degrees Fahrenheit	56 degrees Fahrenheit
Relative Humidity (Krestrel wind meter: Model 3000)	84%	84%
Sky Conditions	Mostly clear	Mostly clear

It is the opinion of TNC that B. Laing's reported ambient sound level data that is higher than the actual ambient sound level for a typical evening period.

1.3 Ambient sound level data conducted at nighttime on 10/3-4/2024 at the approximate location of the shared property boundary with 73 Weaver Street and the proposed facility (Sample Location D)

Figure 5: Ambient sound level measurement chart – Conducted during the night (12:10AM to 1:10AM) on 10/4/2024 at 73 Weaver Street (Sample Location D)

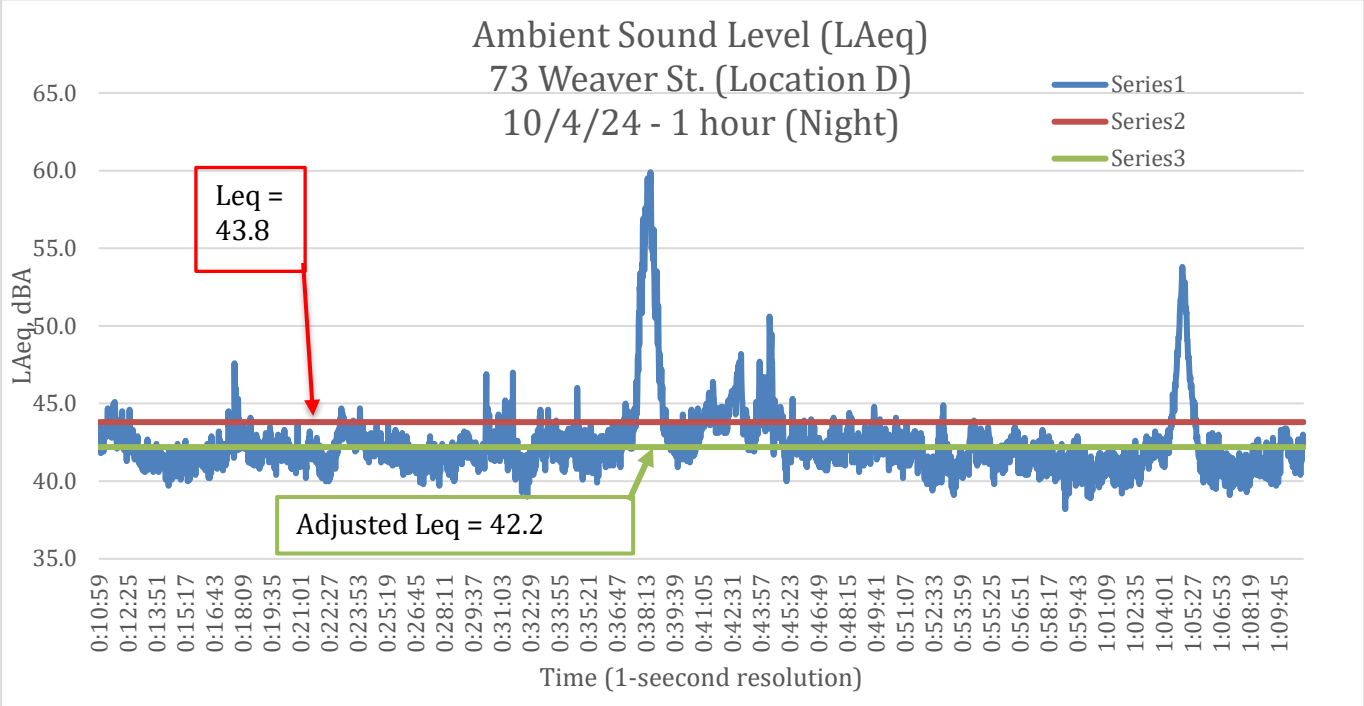


Table 7: Sound sources contributing to the ambient sound level measured.

Identified Sound Source	**Sound level (dBA)**
Summer insects/peepers – moderately intense activity	42
Plane flyby (commercial) – in distance	44
Loud truck – in distance	45
Small plane overhead	59
Car on Weaver St	44-45
Animal vocalizing – in wooded area	45
Truck jak braking – in distance	48
Plane -- flyby	51

Figure 6: Octave band sound level data which corresponds with the broadband data in Figure 5.

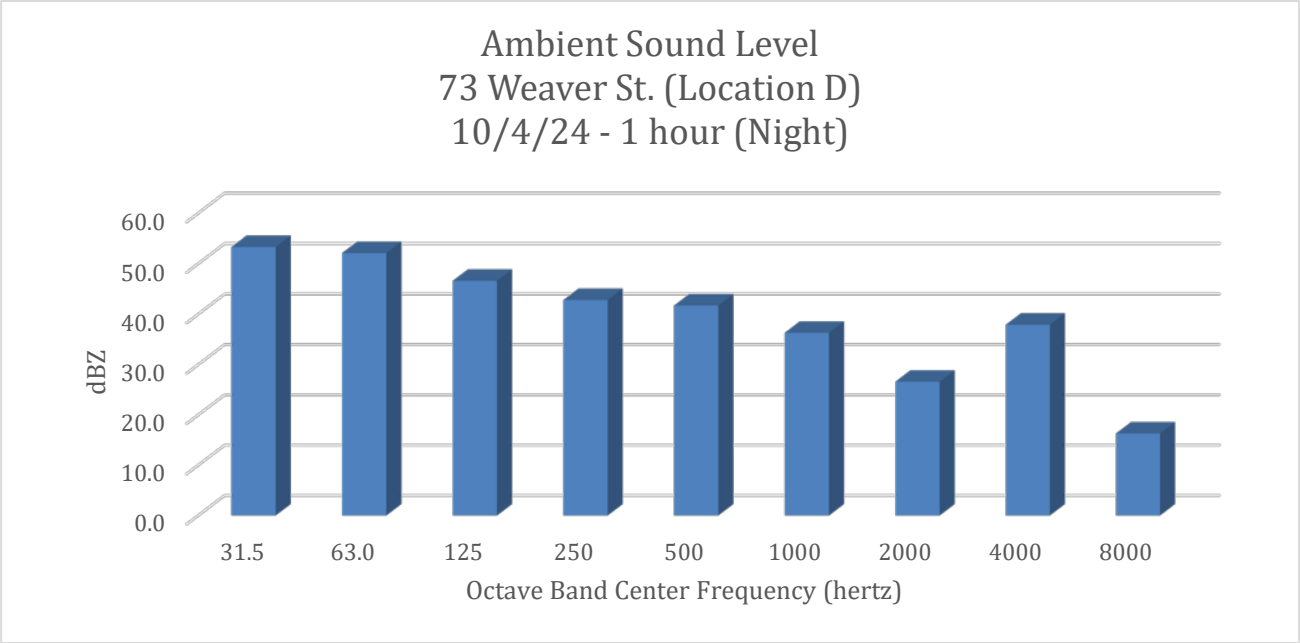


Table 8: Summary of measured Ambient sound level data by TNC during the evening of 10/3/2024, from 8:50 PM to 9:50 PM, at 73 Weaver Street (Sample Location D)

Parameter	Measured Sound Level (dBA)	Adjusted Sound Level (dBA) – based on ANSI 12.9, Part 3 [1]
Leq	43.8	42.2
Lmin	39.0	39.0
Lmax	59.8	49.8
L10	44.0	
L50	42.0	
L90	40.8	

Note 1: "Corrected measurement period equivalent-continuous sound pressure level: Measurement period data which has been corrected for transient background sound by the transient sound having been inhibited from being collected with or having been removed from the measurement period data." ANSI 12.9, Part 3.

Table 9: Calibration and environmental conditions at time of measurements

Parameter	**Pre-measurement**	**Post-measurement**
Field Calibration of sound meter	12:07AM (deviation 0.08 dB)	1:14AM (deviation 0.05 dB)
Wind speed (Krestrel wind meter: Model 3000)	12:05AM: 0-1 MPH, gusts to 0 MPH	1:16AM: 0-1 MPH, gusts to 0 MPH
Temperature (Krestrel wind meter: Model 3000)	55 degrees Fahrenheit	53 degrees Fahrenheit
Relative Humidity (Krestrel wind meter: Model 3000)	90%	90%
Sky Conditions	Mostly clear	Mostly clear

It is the opinion of TNC that B. Laing's reported ambient sound level data that is higher than the actual ambient sound level for a typical nighttime period.

1.4 Ambient sound level data conducted the morning of 10/4/2024 at the approximate location of the shared property boundary with 73 Weaver Street and the proposed facility (Sample Location D)

Figure 7: Ambient sound level measurement chart – Conducted during the morning (10:33AM to 10:53AM) on 10/4/2024 at 73 Weaver Street (Sample Location D)

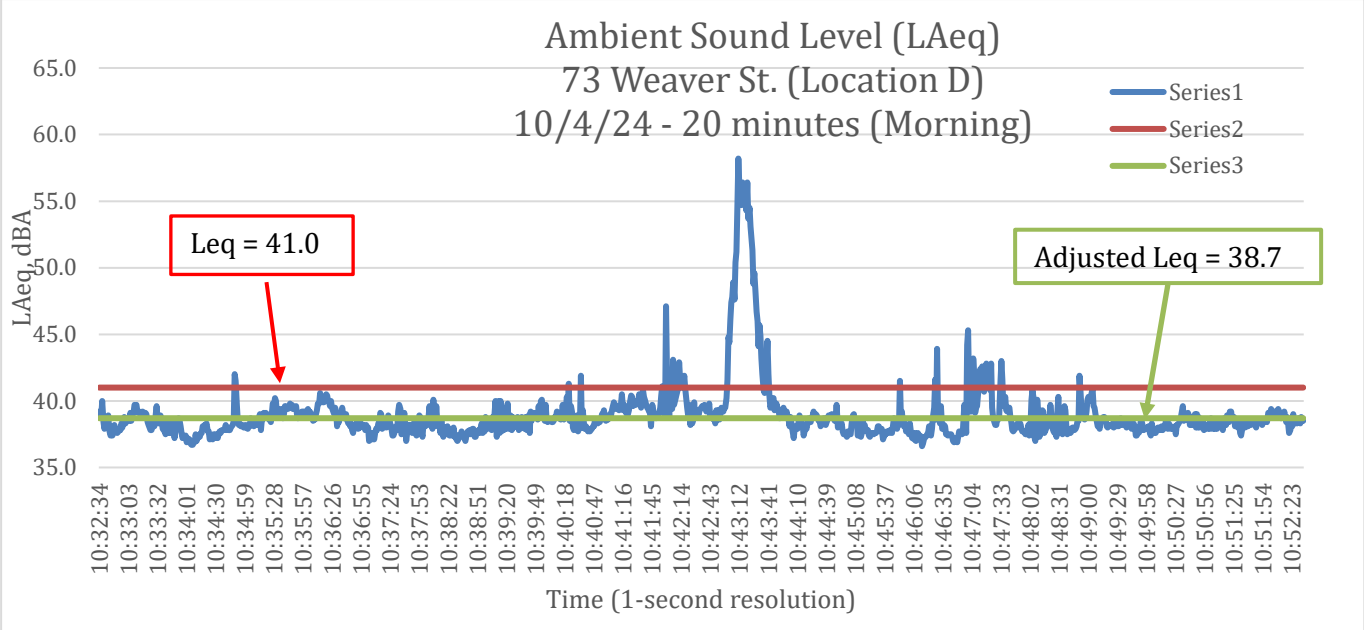


Table 10: Sound sources contributing to the ambient sound level measured.

Identified Sound Source	Sound level (dBA)
Cars on Weaver St	40-41
Summer insects/peepers	40
Birds – close by	40
Truck on Weaver St	42
Small jet plane passby	56
Geese – fly overhead	44
U-Haul truck at 75 Weaver St pulls away	42

Figure 8: Octave band sound level data which corresponds with the broadband data in Figure 7.

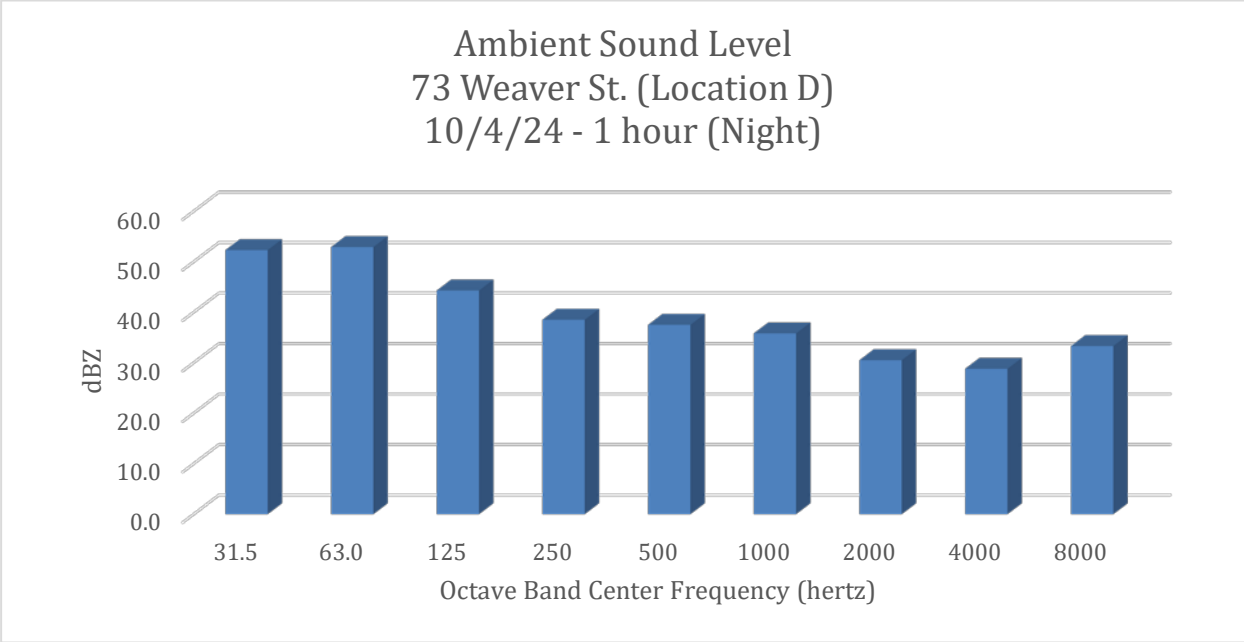


Table 11: Summary of measured Ambient sound level data by TNC during the morning of 10/4/2024, from 10:33 AM to 10:53 AM, at 73 Weaver Street (Sample Location D)

Parameter	Measured Sound Level (dBA)	Adjusted Sound Level (dBA) – based on ANSI 12.9, Part 3 [1]
Leq	41.0	38.7
Lmin	36.7	36.7
Lmax	57.0	46.6
L10	40.1	
L50	38.4	
L90	37.6	

Note 1: "Corrected measurement period equivalent-continuous sound pressure level: Measurement period data which has been corrected for transient background sound by the transient sound having been inhibited from being collected with or having been removed from the measurement period data." ANSI 12.9, Part 3.

Table 12: Calibration and environmental conditions at time of measurements

Parameter	**Pre-measurement**	**Post-measurement**
Field Calibration of sound meter	10:22AM (deviation 0.02 dB)	11:01AM (deviation 0.1 dB)
Wind speed (Krestrel wind meter: Model 3000)	10:28AM: 0-1 MPH, gusts to 0 MPH	11:03AM: 0-1 MPH, gusts to 0 MPH
Temperature (Krestrel wind meter: Model 3000)	62 degrees Fahrenheit	63 degrees Fahrenheit
Relative Humidity (Krestrel wind meter: Model 3000)	89%	86%
Sky Conditions	Mostly clear	Mostly clear

It is the opinion of TNC that B. Laing's reported ambient sound level data that is higher than the actual ambient sound level for a typical morning period.

1.5 Summary of ambient sound level measurements and how they should be used

Table 13: Summary of the four (4) ambient sound level measurement session conducted by TNC on 10/3-4/2024.

TNC Measurement Period	**Ambient Sound Levels (dBA)**		
	Leq	**Adjusted Leq [1]**	**L50**
Afternoon 10/3/2024	45.9	43.9	43.5
Evening 10/3/2024	47.4	45.0	45.0
Night 10/4/2024	43.8	42.2	42.0
Morning 10/4/2024	41.0	38.7	38.4

Note 1: "Corrected measurement period equivalent-continuous sound pressure level: Measurement period data which has been corrected for transient background sound by the transient sound having been inhibited from being collected with or having been removed from the measurement period data." ANSI 12.9, Part 3.

The ambient sound level data shown in Table 13 shows the correlation between the "adjusted Leq" level and the L50 level for each measurement period. In all cases, the L50 metric agrees with the adjusted Leq level within 0.4 dBA.

All sound level measurement conducted by TNC on 10/3-4/2024 were made with a Larson Davis, Inc. Model 831 Sound Level Analyzer (Serial #3836). It was laboratory calibrated on January 5, 2024, at Larson Davis Laboratories. Field calibrations were performed before and after each measurement session with a Bruel & Kjaer acoustical calibrator, Model 4231 (serial #2394128), which was laboratory calibrated on January 29, 2024, at Scantek, Inc. Certificates are on file and available upon request.

The ambient sound level data reported in Applicant's October 2023 report, page 35 was measured on 9/14/2023 from 8:15 AM to 8:21 AM in the rear yard of a Weaver Street property (presumably 73 Weaver Street). The Leq level reported is 45.5 dBA. Although B. Laing did not provide any notation of the sound sources occurring while the measurements were conducted, it is clear that there are two (2) individually distinct events as shown on the chart on page 35. Also, evident from the octave band data chart on page 35, summer insects/peepers were active as indicated by the elevated level at 4K hertz. If the insects/peepers were not active, this data indicates the Leq level would be in the 37-39 dBA range. This level is very similar to the L50 level of 38.7 dBA reported by TNC for a reasonably similar time period on 10/4/2024. As such, this is another indicator that a representative ambient sound level during the morning hours is less than 40 dBA.

2.0 Outstanding issues regarding the Applicant's contention it can comply with the Village Noise Code and YSDEC noise criteria

2.1 Issues regarding the ambient sound level measurements reported by B. Laing

2.1.1 The Leq levels reported by the Applicant underrepresents the ambient sound levels at the Sample Location D, the location where the most significant impacts from the proposed facility would occur. The Village Noise Code defines "Ambient Noise or Background Noise" as: *Noise of a measurable intensity that exists at a point as a result of a combination of many distant sources individually indistinguishable.*

Based on this definition for ambient noise, distinguishable sounds, such as helicopters should be excluded from the determination of the ambient sound level. As such, being that the seven (7) peaks depicted in the time history chart on Figure 1 are due to helicopter fly-bys, which are individually distinguishable, these peaks should be excluded from the determination of the ambient sound level for this time period. If the contribution from the helicopters is excluded the resultant Leq is 43.9 dBA, or 2 dBA less than with the helicopters included (45.9 dBA). There are similar instances of helicopters and plane flyovers in Figures 3, 5 and 7, corresponding to the other three (3) measurement sessions.

Furthermore, the Village Noise Code definition for *Ambient Noise or Background Noise* is consistent with ANSI 12.9: Part 3: *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 3: Short-term Measurements with an Observer Present,* which states:

> **continuous background sound.** Background sound measured during a measurement period specified in this Standard, after excluding the contribution of transient background sounds in accordance with one of the methods specified in this standard.

> NOTE 1: Continuous background sound is sound that occurs repeatedly, minute after minute and day after day. It is assumed to be approximately stationary in a statistical sense, over the measurement duration, and it is described solely by its sound exposure per unit time (in each frequency-weighted or frequency-filtered band of interest).
> NOTE 2: As a general rule, sound events from a single source (e.g., aircraft flyovers, heavy truck pass-bys) that occur at a rate of at least 12 times per hour (at least once every five minutes) should be considered part of the continuous background sound.

As such, a representative ambient sound level when adjusted for transient background sounds (i.e., extraneous sounds, individually distinguishable sounds) is best described with the use of the L50 metric.

It is worth noting that the NYSDEC documents, used to undertake a SEQR assessment, *Assessing and Mitigating Noise Impacts* (Revised February 2, 2001), discusses the use of Leq as well as other metrics to conduct a SEQR assessment. It states:

> Equivalent Sound Level (Leq) correlates well and can be combined with other types of noise analyses such as Composite Noise Rating, Community Noise Equivalent Level and day-night noise levels characterized by Ldn where an Leq (24) is measured and 10 dBA is added to all noise levels measured between 10 pm and 7 am. These different types of noise analyses basically combine noise measurements into measures of cumulative noise exposure and may weight noise occurring at different times by adding decibels to the actual decibel level. Some of these analyses require more complex noise analysis than is mentioned in this guidance. They may be used in a noise analyses prepared for projects.
>
> Designations for sound levels may also be shown as L (10) or L (90) in a noise analysis. These designations refer to the sound pressure level (SPL) that is exceeded for 10% of the time over which the sound is measured, in the case of L (10), and 90% of the time, in the case of L (90). For example, an L (90) of 70 dB(A) means that 70 dB(A) is exceeded for 90% the time for which the measurement was taken.

The NYSDEC, through the Assessing and Mitigating Noise Impacts document do <u>not</u> dictate a specific methodology that must be used to undertake a SEQR assessment, but rather lays out various approaches to determine if and how a proposed facility can be approved for development if it is shown to not cause significant acoustical impacts to nearby receptor properties. In other words, it does not require that the sole metric be the Leq. It also does not provide a specific standard, such as a maximum permissible limit as found in the Village Noise Code, but instead the NYSDEC document discusses what impacts will likely result from increasing the existing ambient sound level by certain ranges, as stated on pages 13-15: *Thresholds for significant Sound Pressure Level (SPL) Increases*, and reproduced here:

> The goal for any permitted operation should be to minimize increases in sound pressure level above ambient levels at the chosen point of sound reception. Increases ranging from 0-3 dB should have no appreciable effect on receptors. Increases from 3-6 dB may have potential for adverse noise impact only in cases where the most sensitive of receptors are present. Sound pressure increases of more than 6 dB may require a closer analysis of impact potential depending on existing SPLs and the character of surrounding land use and receptors. SPL increases approaching 10 dB result in a perceived doubling of SPL. The perceived doubling of the SPL results from the fact that SPLs are measured on a logarithmic scale. An increase of 10 dB(A) deserves consideration of avoidance and mitigation measures in most cases. The above thresholds as indicators of impact potential should be viewed as guidelines subject to adjustment as appropriate for the specific circumstances one encounters.

Table B
HUMAN REACTION TO INCREASES IN SOUND PRESSURE LEVEL

Increase in Sound Pressure (dB)	Human Reaction
Under 5	Unnoticed to tolerable
5 - 10	Intrusive
10 - 15	Very noticeable
15 - 20	Objectionable
Over 20	Very objectionable to intolerable

The NYSDEC Assessing and Mitigating Noise document also states:

> "In non-industrial settings the SPL should probably not exceed ambient noise by more than 6 dB(A) at the receptor. An increase of 6 dB(A) may cause complaints. There may be occasions where an increase in SPLs of greater than 6 dB(A) might be acceptable. The addition of any noise source, in a nonindustrial setting, should not raise the ambient noise level above a maximum of 65 dB(A). This would be considered the "upper end" limit since 65 dB(A) allows for undisturbed speech at a distance of approximately three feet."

To assess the contribution of the proposed facility to increase the sound level above the existing ambient sound level, the source sound level must be added to the ambient sound level and then subtract the ambient sound level from the combined value. If the existing ambient sound level is 38.4 dBA, as found by TNC for the morning time period on 10/4/2024, and a source level of 45 dBA with a maximum allowable increase of 6 dBA (the criteria above which impacts are unacceptable) then the criteria level

would be 46 dBA (38.4 dBA + 45 dBA = 45.8). Under this example, a source level which is above 45.8 dBA would exceed the allowable criteria level.

2.1.2 Pre- and post-calibration check (field calibration) – These calibration checks were done incorrectly. The reason for field calibration checks is to ensure the sound level meter (SLM) is accurate and thereby validating the measured data by bracketing the measurement with pre- and post-calibration checks. This requirement is in the Village Noise Code in Section 77-4. C. (2) and ANSI S12.18: *Procedures for Outdoor Measurement of Sound Pressure Level, Section 6.3 Calibration*. The Applicant states in the October 2023 report that a pre-calibration check was performed on 9/12/2023 and a post-calibration check on 9/14/2023 with many sets of measurements being conducted between these dates.

2.1.3 Many ambient sound level measurements taken by B. Laing were at inappropriate locations and times of day. When a proposed facility will operate 24/7, ambient sound level measurements must be conducted at times when the lowest ambient sound levels are expected so to assess the times of greatest impacts (i.e., reasonable worst-case scenario). Conducting ambient sound level measurements at times of peak traffic also neglects to seek data for a time when the ambient sound level is lowest during the morning, midday or afternoon hours. The only rationale for conducting measurements during peak traffic times is if those periods would be the only times the facility would be in operation. That is obviously not the case with this application. The Applicant also chose to conduct the sound level measurements at locations in close proximity to Union Street and Weaver Street where residents do not typically recreate or repose. Doing so, inflates the ambient sound levels and suggests impacts will be minimal.

2.2 HVAC units at the proposed facility: B. Laing states in their letter report of January 12, 2024, on page 9, that “each HVAC unit was set (in the SoundPlan model – presumably) to operate 10% of the time which results in two to three operating at any one time.” This is not a reasonable assumption. It is only reasonable to assume that all HVAC units will be operating simultaneously as that will be the case during warmer ambient temperatures.

2.3 A comprehensive list of all sound sources to be operated at the proposed facility (e.g., trucks in transit, cars, HVAC equipment, emergency generators, trucks un/loading, etc.) including: sound emission level, reference distance, source of the sound emission data, hours of operation. This type of information has been presented, to date, in a manner that makes it, at best, difficult to interpret and, at worst, incomplete or insufficient to be able to determine if the information is accuracy and/or complete. The origin of the emission data must also be provided. These comments were discussed in more detail in TNC’s Second Review Letter, dated November 8, 2023.

2.4 Modeling inputs and assumptions including the emission heights of all equipment and structures, barrier heights, orders of reflection, receptor heights (grid calculation height), ground absorption, identify

line sources and point sources, meteorological settings, etc. These comments were discussed in more detail in TNC's Second Review Letter, dated November 8, 2023.

2.5 There is no reasonable rationale for utilizing the Federal Traffic Noise Model (TNM) for mobile sources when SoundPlan can effectively aggregate all sound imissions at the receptor locations. The Applicant must clearly show that the sound levels received at the receptor locations include all sources being operated at the proposed facility. That said, utilizing TNM data for the sound emission for trucks and cars is reasonable and can be the basis for their input to the SoundPlan model. For example, a truck in transit at 15 MPH or less, at cruise throttle (reasonable for a low-speed inner facility roadway) is 74 dBA at a distance of 50 feet.

2.6 Discussion of the appropriate metric to use in conjunction with the Village Noise Code (Chapter 77: Noise)

There is a disagreement between TNC and BLG as to the appropriate metric which applies to the Noise level standards in the Village Noise Ordinance. The Village Noise Ordinance does not explicitly state the metric to be used. BLG is advocating for and suggests the use of Leq which is an averaged sound level, typically over a 1-hour period, is the appropriate metric. TNC is suggesting that the appropriate metric is the maximum sound level, LASmax, Village Noise Ordinance, based on text and structure of the ordinance.

The reasons why the Noise Level Standards should be based on a LASmax metric:

1. The Ordinance states in Section 77-4D, *The measurement of any sound or noise shall be made with a sound-level meter using the A-weighted scale and slow response except for sounds or noises which occur in single or multiple bursts with a duration of less than one second for which the fast response shall be used.* Therefore, since conducting measurements using the Leq metric are unaffected by the selection slow response or fast response, the Ordinance could not have meant for Leq to be used as the metric. It is nonsensical to use language in the Ordinance that would have no bearing on the outcome of the measurements with Leq as the metric. In contrast, the Lmax metric is affected by whether slow or fast response is selected and, as such, is the compelling choice as the appropriate metric.
2. The Ordinance defines "Sound-level Meter" as, *An instrument for the measurement of sound levels that conform to Type 1 or Type 2 standards under ANSI specifications S1.4-1971 or the latest approved revision thereof*. Type 1 and Type 2 standards refer to the accuracy of the meters. There is no indication that the sound level meter must possess the capability of measuring an Leq which is generally a feature included with more advanced sound level meters and typically at greater expense. In other words, if Leq is the metric used to enforce Chapter 77, the Village must have available a sound level meter with Leq capability.

3. While BLG put together extensive discussion of which jurisdictions have ordinances which use Leq as the primary metric and some of which TNC has written, there are as many jurisdictions that use other metrics including Lmax, L10, L90, and L50. The NYC noise code, for example, uses Lmax . It is stated in the NYC noise code at *24-217.1 Measurements. Unless otherwise specifically provided, all sound level measurements under this code shall be taken in Lmax with the sound level meter set to slow response.* It is noteworthy to mention that TNC assisted with the writing of portions of the NYC code.
4. BLG expressed concerns that if Lmax were used as the metric for the Village Noise Ordinance, unsuspecting residents and businesses would be issued summons for violation of the Ordinance. It is worth noting that the Ordinance states the following:
    a. *77-7.E. Exemptions. (3) Noise from domestic power equipment…operated during daytime hours; (4) Noise from snow removal equipment. (7) Noise created by any recreational activities that are permitted by law…;(10) For sound reproduction devices used in connection with weddings or similar events on any property used for residential purposes…*
    b. *77-4.E. Customary residential activities. Customary residential activities on properties within any residential zoning district, including social gatherings, deliveries of residential heating oil and pickup of residential garbage, as well as permitted agricultural activities, shall not be regulated by this Chapter, except for specific activities or noise sources…*

    TNC has written and conducted noise studies in numerous jurisdictions throughout the nation and including New York that utilize Lmax in their noise ordinances. In none of these locales have there been reports of over-regulation and businesses have been able to comply with the regulatory standards.
5. The use of Leq as the metric can allow for intense, relatively short durations noises, particularly when they occur during nighttime hours, to comply with the permissible limits of 77-5.B.1.and cause annoyance and sleep awakenings to occur. This effect is more problematic when the community is a rural setting with relatively low ambient sound level.
6. Again, not to put too much emphasis on what other jurisdictions do, but it is worth noting that the State of New Jersey has a decibel-denominated, statewide noise regulation, that has been in effect since 1972, and it uses Lmax as its primary metric.

The examples, used by BLG, in an effort to demonstrate that the use of a Lmax metric would even result in two people having a conversation to exceed the permissible limit is hyperbole. As a practical matter, the enforcement office for the Village is not charged with spending his or her day seeking out violations, but instead responses to complaints being logged by residents or businesses. A vehicle passing-by or a one-time visit from a repair service is – from a practical and logistical perspective – all but impossible to cite a violation. For those businesses or residents that create a real nuisance condition there should be an

ordinance that is protective of those in the community and is not overly complicated for the Village's enforcement officer to utilize.

The decision on how the Village's noise ordinance is interpreted and ultimately what metric should be used, should be made by the governing body and/or the planning board.

3.0 Overall findings

The Applicant has not provided all the information necessary to validate their conclusion that the proposed facility will be compliant with the Village of Montgomery Noise Code (Chapter 77: Noise) and the NYSDEC criteria for noise as outlined in the NYSDEC document, Assessing and Mitigating Noise Impacts (Revised February 2, 2001). As a reviewer of the Applicant's noise reports, it is not possible for TNC to do its due diligence and find the Applicant can achieve compliance once the proposed facility is in operation with being able to understand and agree with the Applicant's assumptions and conclusions. That said, it appears possible that the proposed facility can be operated – at least during daytime hours – without exceeding the permissible limits of the Village Noise Code and the NYSDEC criteria. However, it is the Applicant's responsibility to demonstrate it is doable.

To the extent comments from TNC's first and second review letters have not been addressed

If you have any questions, please contact me directly by email or phone.

Sincerely,

Stephen Szulecki

Digitally signed by Stephen Szulecki
DN: cn=Stephen Szulecki, o, ou, email=stevesnj@comcast.net, c=US
Date: 2024.10.28 13:45:58 -04'00'

Stephen Szulecki, M.S., INCE
Vice President
steve_noiseconsultancy@comcast.net
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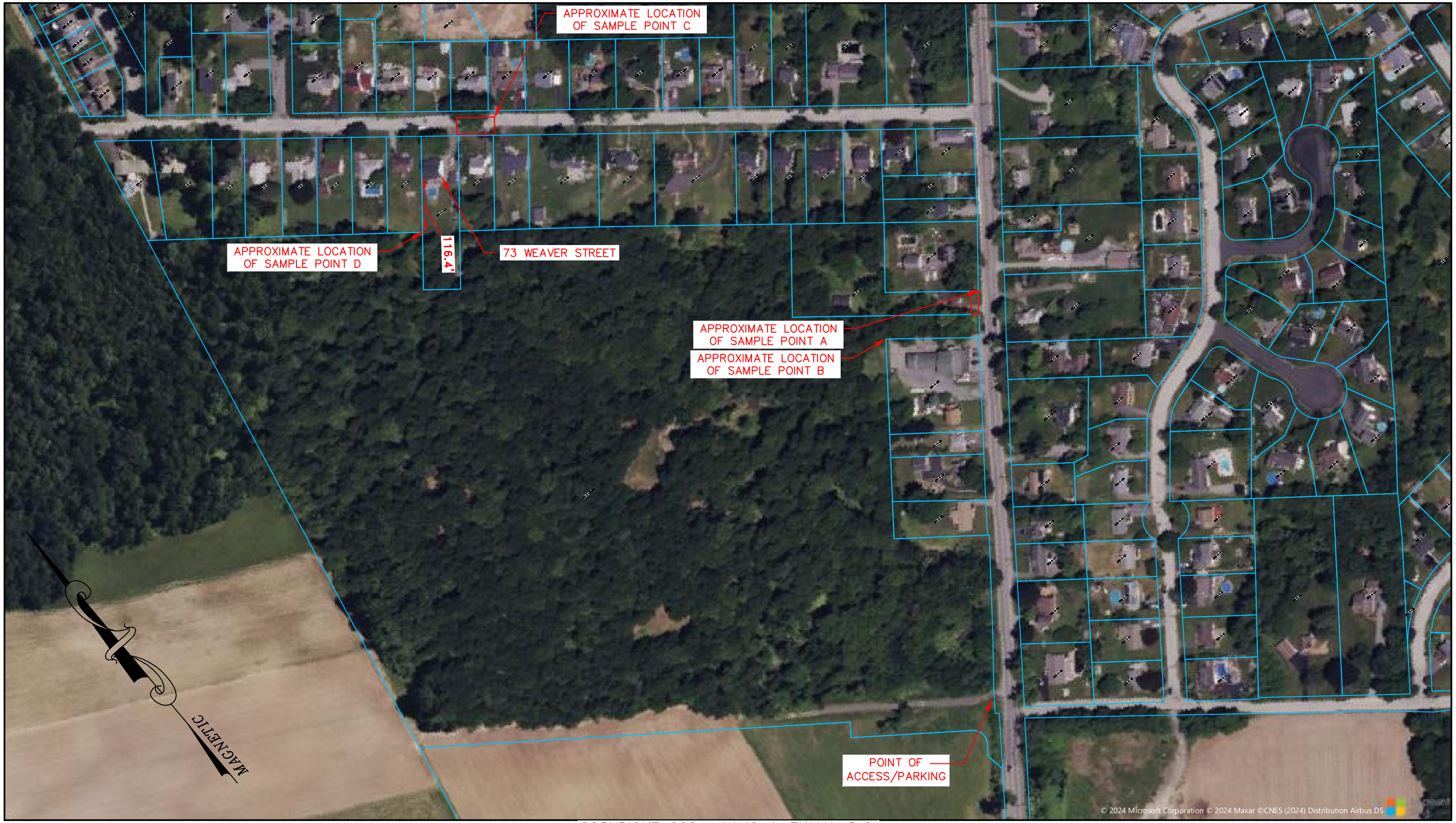

LANC & TULLY
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SKETCH: MAP FOR CONSULTANT

VILLAGE OF MONTGOMERY

Scale: 1" = 200'	**Date:** SEPTEMBER 25, 2024
Dwg. No.	**Sheet:** 1 OF 1
CAD File: MAP FOR CONSULTANT	**Layout:** MAP FOR CONSULTANT

VILLAGE OF MONTGOMERY
ORANGE COUNTY, NEW YORK

Attachment A-1

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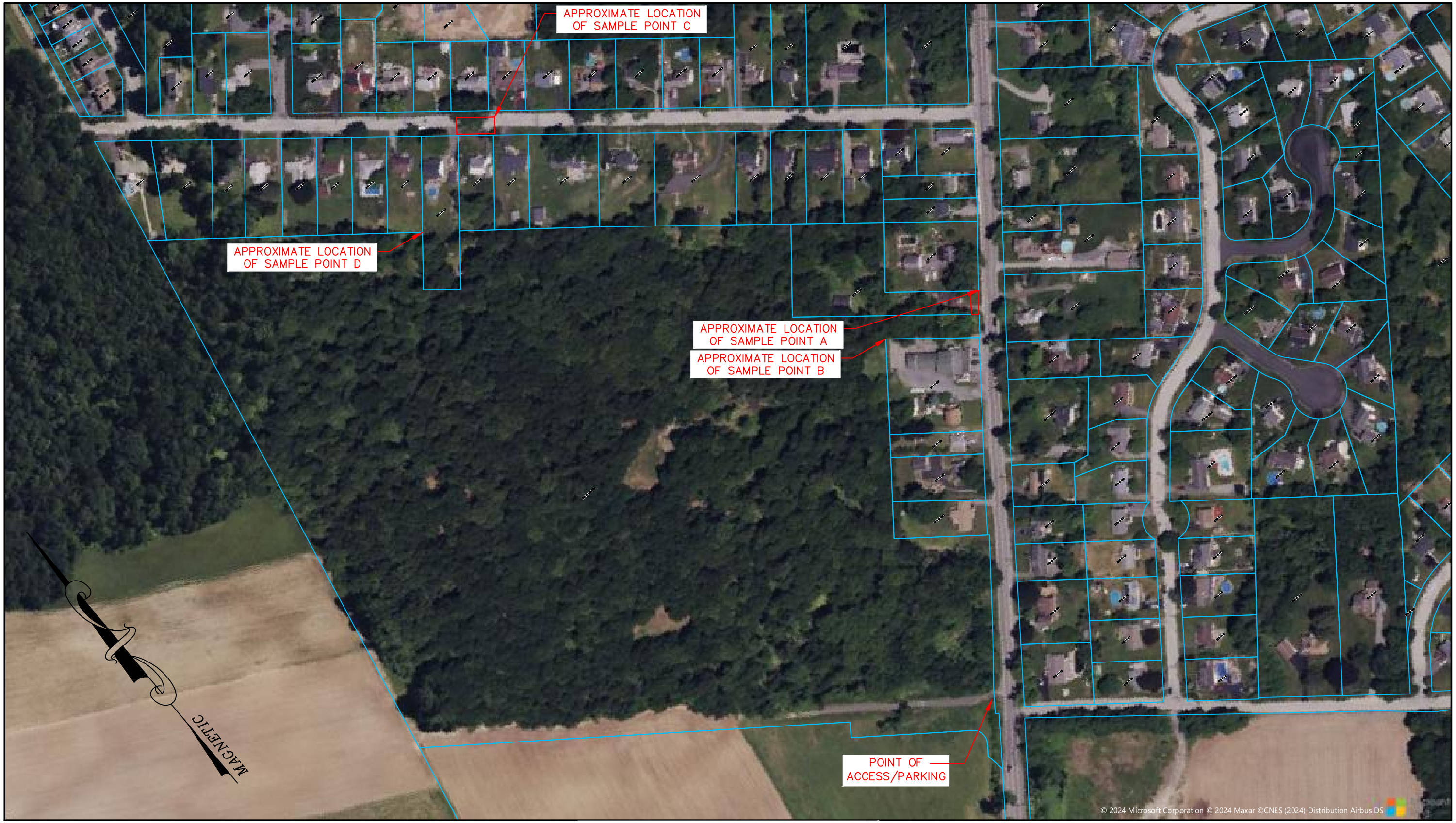
SKETCH: MAP FOR CONSULTANT

VILLAGE OF MONTGOMERY

Scale: 1" = 200'	**Date:** SEPTEMBER 17, 2024
Dwg. No.	**Sheet:** 1 OF 1
CAD File: MAP FOR CONSULTANT	**Layout:** MAP FOR CONSULTANT

VILLAGE OF MONTGOMERY
ORANGE COUNTY, NEW YORK

Attachment A-2



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VILLAGE OF MONTGOMERY
ORANGE COUNTY, NEW YORK

Attachment A-3