SOUND LEVEL ASSESSMENT REPORT

Reynolds Road Wind Project
Montgomery County, NY

Prepared for:

Borrego Solar Systems, Inc
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March 16, 2022

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1.0 EXECUTIVE SUMMARY

The Reynolds Road Wind Project (the Project) is a proposed wind power generation facility expected to consist of one (1) wind turbine in the Town of Glen, Montgomery County, New York. The Project is being developed by Borrego Solar Systems, Inc (Borrego). Epsilon Associates Inc. (Epsilon) has been retained by Borrego to conduct a sound level assessment for this Project.

The sound level assessment included a baseline sound level monitoring program to determine existing sound levels in the vicinity of the Project site, and sound level modeling to predict worst case sound from the Project. An ambient sound level monitoring program for the Project was conducted by Epsilon in February of 2022. The sound level modeling was performed for two types of wind turbines– the Vestas V150-4.3 and the GE 140-3.4. The resulting sound levels associated with the Project were combined with existing ambient sound levels and evaluated with respect to the New York State Department of Environmental Conservation (NYS DEC) guidance for assessing noise impacts.

Results of the sound monitoring and modeling reveal that the existing background sound levels during worst case future (operational) conditions will increase by 0 to 4 dBA. The NYS DEC Noise Policy guidance document notes that sound level increases of 6 dBA or less are acceptable, therefore, the Project is anticipated to meet the NYS DEC recommended guidelines.

2.0 INTRODUCTION

The proposed Project will consist of one (1) wind turbine. Borrego is considering two wind turbine types: a Vestas V150-4.3 with a hub height of 120 meters, or a GE 140-3.4 unit with a hub height of 120 meters. Figure 2-1 shows the location of the wind turbine in Montgomery County over aerial imagery.

A detailed discussion of sound from wind turbines is presented in a white paper prepared by the Renewable Energy Research Laboratory.[1] A few points are repeated herein. Wind turbine sound can originate from two different sources: mechanical sound from the interaction of turbine components, and aerodynamic sound produced by the flow of air over the rotor blades. Prior to the 1990's, both were significant contributors to wind turbine sound. However, recent advances in wind turbine design have greatly reduced the contribution of mechanical sound. Aerodynamic sound has also been reduced from modern wind turbines due to slower rotational speeds and changes in materials of construction. Aerodynamic sound, in general, is broadband (has contributions from a wide range of frequencies). It originates from encounters of the wind turbine blades with localized airflow inhomogeneities and wakes from other turbine blades and from airflow across the surface of the blades, particularly the front and trailing edges. Aerodynamic sound generally increases with increasing wind speed up to a certain point, then typically remains constant, even with higher wind speeds. However, sound levels in general also increase with increasing wind speed with or without the presence of wind turbines.

This report presents a brief explanation of acoustic terminology, a summary of an existing conditions monitoring program, and a comparison of pre-construction, existing, and predicted future sound levels. Predictive sound modeling was conducted by Epsilon and presented in a separate sound modeling report[2].

[1] Renewable Energy Research Laboratory, Department of Mechanical and Industrial Engineering, University of Massachusetts at Amherst, Wind Turbine Acoustic Noise, June 2002, amended January 2006.

[2] Reynolds Road Wind Sound Level Modeling Report, March 16, 2022

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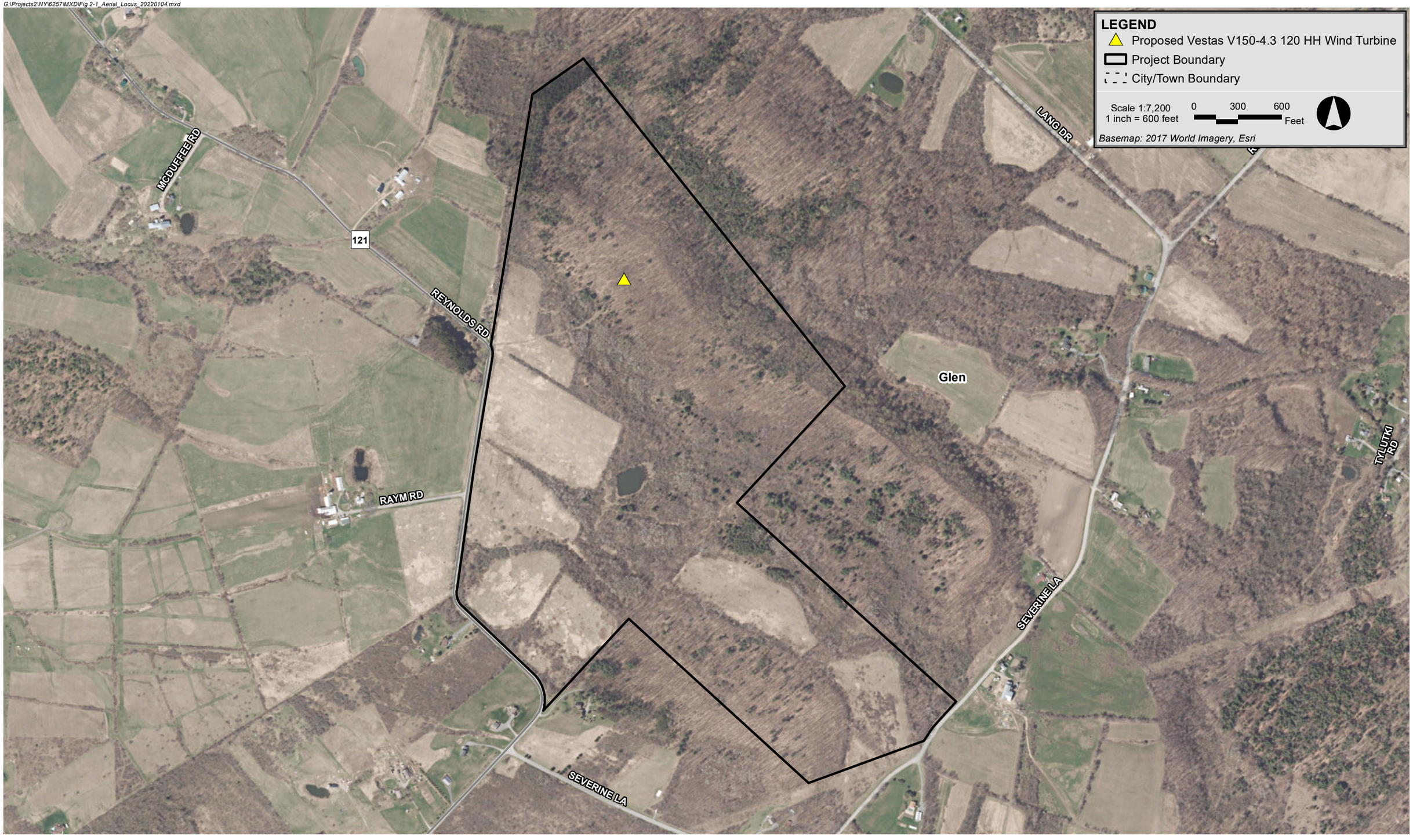

411 Reynolds Road Wind **Montgomery County, New York**

Epsilon ASSOCIATES INC.

Figure 2-1
Aerial Locus

3.0 SOUND TERMINOLOGY

There are several ways in which sound levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. The following information defines the sound level terminology used in this analysis.

The decibel scale is logarithmic to accommodate the wide range of sound intensities found in the environment. A property of the decibel scale is that the sound pressure levels of two or more separate sounds are not directly additive. For example, if a sound of 50 dB is added to another sound of 50 dB, the total is only a 3-decibel increase (53 dB), which is equal to doubling in sound energy, but not equal to a doubling in decibel quantity (100 dB). Thus, every 3-dB change in sound level represents a doubling or halving of sound energy. The human ear does not perceive changes in the sound pressure level as equal changes in loudness. Scientific research demonstrates that the following general relationships hold between sound level and human perception for two sound levels with the same or very similar frequency characteristics[3]:

- 3 dBA increase or decrease results in a change in sound that is just perceptible to the average person,
- 5 dBA increase or decrease is described as a clearly noticeable change in sound level, and
- 10 dBA increase or decrease is described as twice or half as loud.

Another mathematical property of decibels is that if one source of sound is at least 10 dB louder than another source, then the total sound level is simply the sound level of the higher-level source. For example, a sound source at 60 dB plus another sound source at 47 dB is equal to 60 dB.

A sound level meter (SLM) that is used to measure sound is a standardized instrument.[4] It contains "weighting networks" (e.g., A-, C-, Z-weightings) to adjust the frequency response of the instrument. Frequencies, reported in Hertz (Hz), are detailed characterizations of sounds, often addressed in musical terms as "pitch" or "tone". The most commonly used weighting network is the A-weighting because it most closely approximates how the human ear responds to sound at various frequencies. The A-weighting network is the accepted scale used for community sound level measurements; therefore, sounds are frequently reported as detected with a sound level meter using this weighting. A-weighted sound levels emphasize middle frequency sounds (i.e., middle pitched – around 1,000 Hz), and de-emphasize low and high frequency sounds. These sound levels are reported in decibels designated as "dBA". The C-weighting network has a nearly

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[3] Bies, David, and Colin Hansen. 2009. *Engineering Noise Control: Theory and Practice*, 4th Edition. New York: Taylor and Francis.

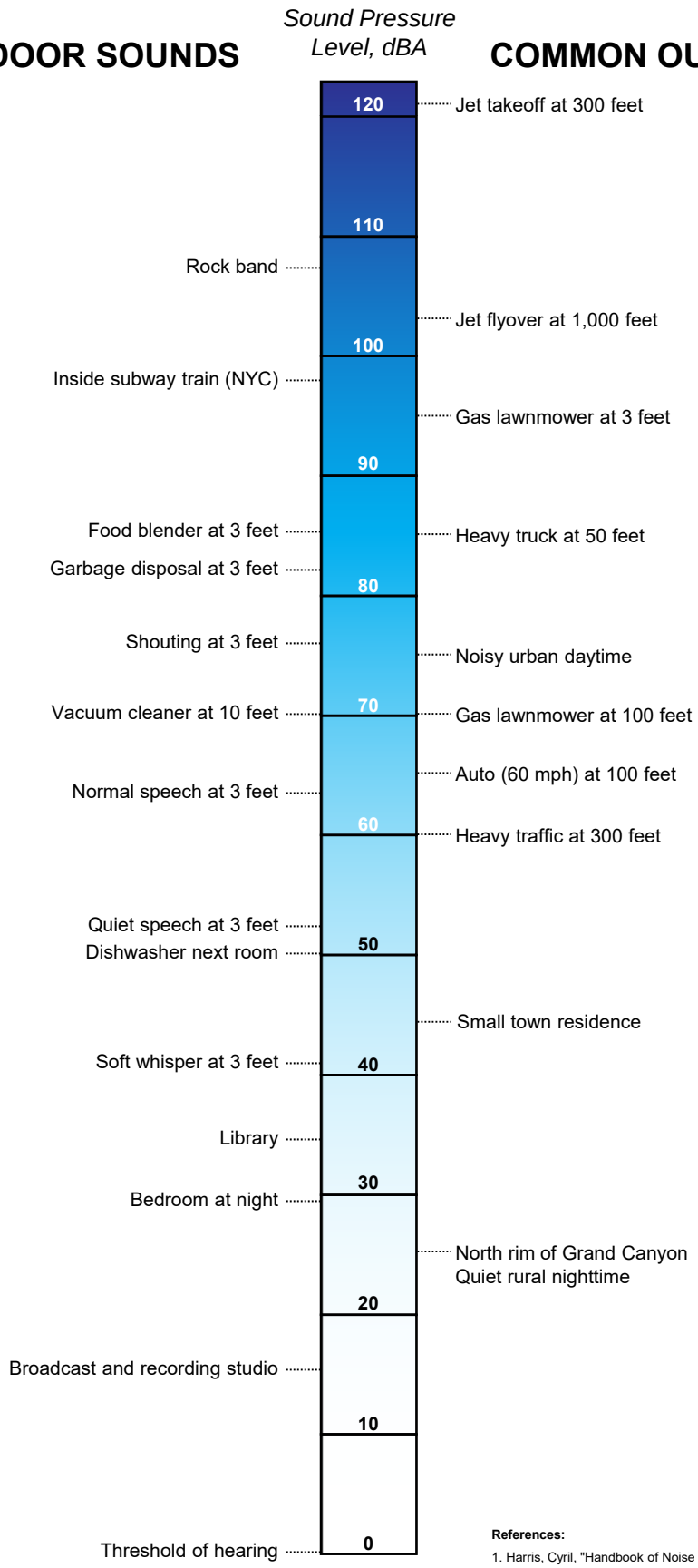
[4] *American National Standard Specification for Sound Level Meters*, ANSI S1.4-2014 (R2019), published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

flat response for frequencies between 63 Hz and 4,000 Hz and is noted as dBC. Z-weighted sound levels are measured sound levels without any weighting curve and are otherwise referred to as "unweighted". Sound pressure levels for some common indoor and outdoor environments are shown in Figure 3-1.

Because the sounds in our environment vary with time they cannot simply be described with a single number. Two methods are used for describing variable sounds. These are exceedance levels and the equivalent level, both of which are derived from some number of moment-to-moment A-weighted sound level measurements. Exceedance levels are values from the cumulative amplitude distribution of all of the sound levels observed during a measurement period. Exceedance levels are designated L_n, where n can have a value between 0 and 100 in terms of percentage. Several sound level metrics that are reported in community sound monitoring are described below.

- L_{90} is the sound level exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the same as the residual sound level, which is the sound level observed when there are no obvious nearby intermittent sound sources.

- L_{eq}, the equivalent level, is the level of a hypothetical steady sound that would have the same energy (*i.e.,* the same time-averaged mean square sound pressure) as the actual fluctuating sound observed. The equivalent level is designated L_{eq} and is typically A-weighted. The equivalent level represents the time average of the fluctuating sound pressure, but because sound is represented on a logarithmic scale and the averaging is done with linear mean square sound pressure values, the L_{eq} is mostly determined by loud sounds if there are fluctuating sound levels.



References:

1. Harris, Cyril, "Handbook of Noise Acoustical Measurements and Noise Control", p 1-10., 1998
2. "Controlling Noise", USAF, AFMC, AFDTC, Elgin AFB, Fact Sheet, August 1996
3. California Dept. of Trans., "Technical Noise Supplement", Oct, 1998

Figure 3-1

Common Indoor and Outdoor Sound Levels

4.0 NOISE REGULATIONS

4.1 Federal Regulations

There are no federal community noise regulations applicable to this Project.

4.2 State Regulations

The Project will look to the State Environmental Quality Review Act (SEQRA) for guidance. According to 6 NYCRR 617.2(l), noise is a characteristic of the environment, and substantial adverse change in existing noise levels can be (if not mitigated to the maximum extent practicable) among the indicators of potential significant adverse impacts on the environment.

The New York State Department of Conservation (NYS DEC) published a guidance document for assessing noise impacts (NYS DEC, 2001) which states that the addition of any noise source, in a non-industrial setting, should not raise the ambient noise level above a maximum of 65 dBA. Ambient sound levels in industrial or commercial areas may not exceed 79 dBA. In instances where these recommended sound levels are exceeded, mitigation measures utilizing best management practices should be used in an effort to minimize or avoid impacts. The NYS DEC guidance document also states that sound level increases from 0-3 dBA should have no appreciable effect on receptors; increases from 3-6 dBA may have the potential for adverse noise impact only in cases where the most sensitive of receptors are present; and increases of more than 6 dBA may require a closer analysis of impact potential depending on existing ambient sound levels and the character of surrounding land use and receptors. An increase of 10 dBA deserves consideration of avoidance and mitigation measures in most cases.

The typical ability of an individual to perceive changes in noise levels is summarized in Table 4-1. These guidelines provide an estimate of an individual's probable perception of a change in community noise levels.

Table 4-1 Thresholds for Sound Pressure Level Increases

Increase in Sound Pressure (dBA)	Community Reaction
0-3	No appreciable effect
3-6	Potential effect for sensitive receptors
Over 6	Closer analysis required
Source: NYS DEC, "Assessing and Mitigating Noise Impacts", Division of Environmental Permits, February 2, 2001.	

4.3 Local Regulations

The Project is located within the Town of Glen, NY. Although the Town has no existing quantitative noise regulations for wind projects, the town has elected to reference a bylaw of a neighboring town as a benchmark. The bylaw states:

> "We recommend the applicant perform a noise study on both the proposed wind turbine and any proposed equipment set to stay on site for the lifetime of the turbine. The study should include the types of sound expected of the proposed turbine and the decibels expected from all proposed equipment at the surrounding property lines. * Such noise study should be prepared to determine predicted sound at off-site property lines and residences from operation of the proposed turbine. Such analysis should be referred to as "Wind Turbine Only Sound". "Wind Turbine Only Sound" shall be predicted based upon appropriate ambient sound levels obtained from field or lab measurements of the proposed wind turbine, as well as appropriate background sound levels of the site and nearby off-site areas. This analysis should show that the proposed location of the wind turbine will not exceed 50 dB(A) at off-site property lines and 45 dB(A) at surrounding residences. If the proposed wind turbine contains a pure tone component, it shall be located so that "Wind Turbine Only Sound" at off-site property lines shall not exceed 45 dB(A) at off-site property lines and 40 dB(A) at surrounding residences. **"
>
> a. A pure tone is defined to exist when 1/3 octave band noise level exceeds arithmetic average of the two adjacent 1/3 octave band levels by the following:

Band Range	Exceedance
31.5-125 Hz	15 dB(A)
160-400 Hz	8 dB(A)
500-8,000 Hz	5 dB(A)

5.0 EXISTING SOUND LEVEL MONITORING PROGRAM

5.1 Overview

The Project is located in the town of Glen, NY northeast of Reynolds Road. The property is bordered by residential homes to the east, south, and west. To the north is farmland.

A sound level survey was conducted to characterize the existing acoustical environment in the vicinity of the site. Three continuous sound level monitoring stations were deployed for a 1-week period within the Project area. Figure 5-1 shows the three sound level monitoring locations over aerial imagery of the Project area.

5.2 Sound Level Monitoring Locations

Sound level monitoring locations were chosen by Epsilon. These three locations were used to measure the existing sound levels in the area surrounding the Project. Each sound level monitoring location is described in the following subsections.

The coordinates for the sound level monitoring locations are listed in Table 5-1, which were slightly adjusted as needed from the field-measured Global Positioning System (GPS) points for refined accuracy.

Table 5-1 GPS Coordinates – Sound Level Monitoring Locations

Location	Latitude	Longitude
L1	42.8727°	-74.3256°
L2	42.8669°	-74.3255°
L3	42.8651°	-74.3159°

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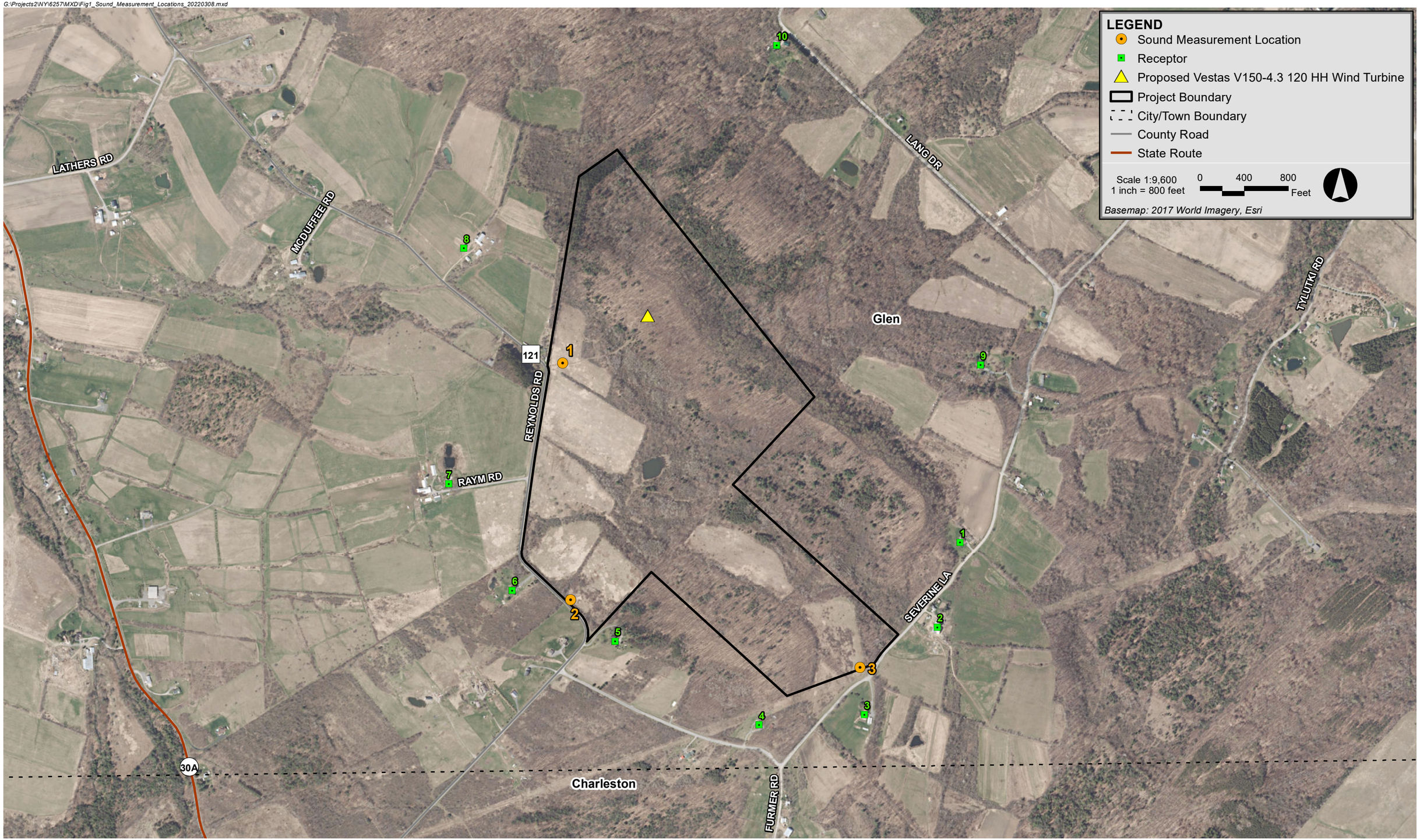

411 Reynolds Road Wind **Montgomery County, New York**

Epsilon ASSOCIATES INC.

Figure 5-1
Sound Measurement Locations

5.2.1 L1 — Reynolds Road

One continuous programmable, unattended sound level meter was placed west of Reynolds Road near Raym Road in the Town of Glen. The meter was placed approximately 120 feet east of Reynolds Road. This location is representative of existing sound levels in the northwest corner of the Project Area. Figure 5-2 shows a photo of the sound level meter at this location.

The meter continuously measured and stored broadband (A-weighted) and one-third octave band sound level statistics from 3:10 p.m. Tuesday, February 15, 2022 until 1:10 p.m. on Wednesday, February 23, 2022. In total, 1141 10-minute measurement periods were recorded during the monitoring program.

In addition to sound data collection, continuous ground-level wind speed data were collected at this location. The meteorological equipment setup is shown in Figure 5-3.

Figure 5-2 Location L1 - Sound Level Meter

Figure 5-3 Location L1 – Meteorological Equipment

5.2.2 L2 — Reynolds Road

One continuous programmable, unattended sound level meter was placed across from 460 Reynolds in the Town of Glen. The meter was placed approximately 40 feet northeast of the road and is representative of existing sound levels at the residences along Reynolds Road at the southwest region of the Project Area. Figure 5-4 shows a photo of the sound level meter at this location.

The meter continuously measured and stored broadband (A-weighted) and one-third octave band sound level statistics from 4:10 p.m. Tuesday, February 15, 2022 until 1:00 p.m. on Wednesday, February 23, 2022. In total, 1134 10-minute measurement periods were recorded during the monitoring program.

Figure 5-4 Location L2 - Sound Level Meter

5.2.3 L3 – Severine Road

One continuous programmable, unattended sound level meter was placed across from 253 Severine Lane in the Town of Glen. The meter was placed approximately 120 feet north of Severine Lane and is representative of existing sound levels for the residences southeast of the site and along Severine Road. Figure 5-5 shows a photo of the sound level meter at this location.

The meter continuously measured and stored broadband (A-weighted) and one-third octave band sound level statistics from 5:10 p.m. Tuesday, February 15, 2022 until 12:40 p.m. on Wednesday, February 23, 2022. In total, 1126 10-minute measurement periods were recorded during the monitoring program.

Figure 5-5 Location L3 - Sound Level Meter

5.3 Sound Level Monitoring Instrumentation

Each of the monitoring locations used a Larson Davis (LD) model 831C sound level meter (SLM) to measure A-weighted (dBA) sound pressure levels. Each instrument was equipped with a LD PRM 831 preamplifier and a PCB 377B20 half inch microphone along with an environmental protection kit. The kit included a manufacturer open cell wind screen to reduce wind-induced noise over the microphone.

Each microphone was tripod-mounted at a height of five feet above ground level. Each meter was programmed to log statistical data every 10-minutes for the following parameters: L_{10}, L_{50}, L_{90}, and L_{eq} along with a one-second time history using a "fast" response setting.

The LD831C meters meet Type 1 ANSI/ASA S1.4, ANSI S1.43-1997 (R2007), and IEC 61672 Class 1 standards for sound level meters and were calibrated and certified as accurate to standards set by the National Institute of Standards and Technology. These calibrations were conducted by an independent laboratory within 12 months of field placement and certificates of calibration are provided in Appendix A. All monitoring equipment was calibrated in the field before and after the surveys with the manufacturer's acoustical calibrator which meets the standards of IEC 60942-2003 Class 1L and ANSI/ASA S1.40-2006 (R2016).

5.4 Meteorological Equipment

Wind speed can have a strong influence on ambient sound levels. In order to understand how the existing sound levels are influenced by wind speed, continuous ground-level wind speed data was recorded at Location 1. A HOBO H21-USB micro-weather station (manufactured by Onset Computer Corporation) was used to continuously measure the ground-level wind speed. The wind sensor was mounted at a height of approximately six feet above the ground and data was logged every hour to be synced with the sound level measurements. These sensors have a measurement range of 0 to 44 m/s (99 mph) and an accuracy of ±1.1 m/s (2.4 mph), or better.

In addition to Epsilon's portable weather station, The Project on-site meteorological tower measured and logged wind speeds during the monitoring program. This data was measured at heights of 32 meters, 48 meters, and 59 meters. In order to represent hub height wind speeds, the wind speed data from the two highest anemometers was scaled up to a height of 120 meters.

Meteorological data collected during the monitoring program at the Albany International Airport National Weather Service (NWS) station in Albany, NY was also archived from the National Centers for Environmental Information (NCEI) . These data are included in Appendix B and were used to determine precipitation periods during the monitoring program.

6.0 SOUND LEVEL MONITORING RESULTS

Sound levels were continuously measured at three locations for over 1 week. Observations at each of the three locations were made throughout the monitoring program during the time periods described below.

- Upon deployment (daytime)
- During the first night of monitoring (nighttime)
- Upon pickup (daytime)

6.1 Location L1 – Reynolds Road

Sound levels at location L1 were influenced by vehicular traffic, birds, wind, rustling vegetation, occasional horse and carriage, and occasional aircraft. The sound monitoring program included periods of high ground-level wind speeds (greater than 5 m/s) and precipitation. These periods of precipitation and high ground-level wind speeds were excluded from the analysis. The resulting dataset includes a total of 876 10-minute periods of valid data. The valid data was aligned with the calculated onsite hub-height wind speed. From this dataset, a trendline of existing background sound levels vs. hub height wind speeds was created and is shown in Appendix C of this report.

6.2 Location L2 – Reynolds Road

Sound levels at location L2 were influenced by vehicular traffic, birds, wind, rustling vegetation, dogs barking, occasional horse and carriage, and occasional aircraft. The sound monitoring program included periods of high ground-level wind speeds (greater than 5 m/s) and precipitation. These periods of precipitation and high ground-level wind speeds were excluded from the analysis. The resulting dataset includes a total of 869 10-minute periods of valid data. The valid data was used to compare with the onsite Hub-Height wind speed in order to create a trendline, which can be found in Appendix C of this report. The valid data was aligned with the calculated onsite hub-height wind speed. From this dataset, a trendline of existing background sound levels vs. hub height wind speeds was created and is shown in Appendix C of this report.

6.3 Location L3 – Severine Lane

Sound levels at location L3 were influenced by vehicular traffic, birds, wind, rustling vegetation, dogs barking, occasional horse and carriage, electrical hum from powerlines, and occasional aircraft. The sound monitoring program included periods of high ground-level wind speeds (greater than 5 m/s) and precipitation. These periods of precipitation and high ground-level wind speeds were excluded from the analysis. The resulting dataset includes a total of 861 10-minute periods of valid data. The valid data was aligned with the calculated onsite hub-height wind speed. From this dataset, a trendline of existing background sound levels vs. hub height wind speeds was created and is shown in Appendix C of this report.

7.0 EVALUATION OF SOUND LEVELS

The results of the sound monitoring program and the sound modeling were used to evaluate the predicted total future sound levels against the NYS DEC guidance, and the local bylaws outlined in section 4 of this report.

7.1 State Regulations

Tables 7-1 and 7-2 below present an evaluation of total (wind turbine + ambient) sound levels at the ten modeling locations outlined in the Epsilon Modeling Report. The monitoring locations utilized in the existing sound level monitoring program were assigned to each modeling receptor based on proximity. The ambient sound levels presented in the tables were calculated by using the trend line for each monitoring location as shown in Appendix C. The ambient sound levels are representative of the time periods when hub height wind speeds are high enough for the wind turbine to produce its maximum sound level. For both wind turbine models, this occurs at a hub height wind speed of 9 m/s. Modeled Project Only L_{eq} sound levels for the ten modeling receptor locations are provided in the tables. Table 7-1 shows the evaluation of the sound levels for the Vestas V150-4.3 wind turbine, and Table 7-2 shows the evaluation of the sound levels for the GE140-3.4 wind turbine. The non-wind-turbine ambient sound levels are logarithmically added to the modeled sound levels to determine the total L_{eq} sound level for each modeling location. The values in Tables 7-1 and 7-2 demonstrate compliance with the NYS DEC guidance.

Table 7-1 Evaluation of Total Sound Levels at Modeling Locations – Vestas V150-4.3

Receptor ID	Address	Project Only L_{eq} Broadband Sound Level [dBA][1,3]	Representative Monitoring Location ID	Ambient Leq Sound Level (from trendline) [dBA][2,3]	Total Sound level (Project + Ambient) [dBA][3]	Total Sound Level Increase Over Ambient [dB]
1	196 Severine Ln	24	3	40	40	0
2	219 Severine Ln	32	3	40	40	1
3	253 Severine Ln	31	3	40	40	1
4	286 Severine Ln	32	3	40	40	1
5	487 Reynolds Rd	35	2	40	41	1
6	460 Reynolds Rd	35	2	40	42	1
7	128 Raym Rd	37	1	40	42	2
8	351 Reynolds Rd	40	1	40	43	4[4]
9	138 Severine Ln	34	3	40	41	1
10	314 Lang Dr	35	1	40	41	1

Notes:

1. As presented in Table B-1 of Epsilon's "Sound Level Modeling Report - Reynolds Road Wind Project" dated March 16, 2022
2. Based on the trendlines presented in Appendix C of this report, the Leq ambient sound level at 9 m/s was calculated (9 m/s is the hub height wind speed at which the V150-4.3 and the GE 140-3.4 turbines reach maximum sound power).
3. Sound pressure levels rounded to the nearest whole decibel are shown. Sound level addition was performed with greater precision.
4. Receptor 8 is a non-residential receptor, and therefore is not a noise sensitive location per the NYS DEC guidelines.

Table 7-2 Evaluation of Total Sound Levels at Modeling Locations – GE 140-3.4

Receptor ID	Address	Project Only L_{eq} Broadband Sound Level [dBA][1,3]	Representative Monitoring Location ID	Ambient Leq Sound Level (from trendline) [dBA][2,3]	Total Sound level (Project + Ambient) [dBA][3]	Total Sound Level Increase Over Ambient [dB]
1	196 Severine Ln	25	3	40	40	0
2	219 Severine Ln	33	3	40	41	1
3	253 Severine Ln	32	3	40	41	1
4	286 Severine Ln	33	3	40	41	1
5	487 Reynolds Rd	36	2	40	42	1
6	460 Reynolds Rd	37	2	40	42	2
7	128 Raym Rd	38	1	40	42	2
8	351 Reynolds Rd	41	1	40	44	3[4]
9	138 Severine Ln	36	3	40	41	1
10	314 Lang Dr	37	1	40	42	2

Notes:

1. As presented in Table B-1 of Epsilon's "Sound Level Modeling Report - Reynolds Road Wind Project" dated March 16, 2022
2. Based on the trendlines presented in Appendix C of this report, the Leq ambient sound level at 9 m/s was calculated (9 m/s is the hub height wind speed at which the V150-4.3 and the GE 140-3.4 turbines reach maximum sound power).
3. Sound pressure levels rounded to the nearest whole decibel are shown. Sound level addition was performed with greater precision.
4. Receptor 8 is a non-residential receptor, and therefore is not a noise sensitive location per the NYS DEC guidelines.

7.2 Local Regulations

As shown in Table 7-1, the maximum Project Only broadband sound level at residences from the Vestas V150-4.3 turbine is 37 dBA. As shown in Table 7-2, the maximum Project Only broadband sound level at residences from the GE 140 3.4 turbine is 38 dBA. Therefore, the Project will be below the local limit of 45 dBA at surrounding residences. The maximum modeled sound levels are also below the limit of 50 dBA at all property lines.

A paper by Pedersen and Persson Waye states that modern wind turbines with upwind blades do not have prominent discrete tones (PDTs) from aerodynamic sources and that mechanical equipment associated with the wind turbine may emit prominent discrete tones; however, tones due to mechanical equipment can be reduced "efficiently".[1] In addition, Epsilon has measured

[1] Eja Pedersen and Kerstin Persson Waye, Dept of Environmental Medicine, Goteborg University, Sweden, "Perception and annoyance due to wind turbine noise-a dose-relationship," published by the Journal of the Acoustical Society of America, Melville, NY. JASA 116(6), December 2004, pgs 3460-3470.

sound levels at residences near several existing wind farms and has not found any prominent discrete tones from wind turbines. Therefore, no PDT resulting from the operation of the proposed wind turbines is expected in the community, and the Project will meet the PDT criteria presented in the local bylaw.

8.0 CONCLUSIONS

The predicted sound levels due to operation of the Project at each modeling receptor were compared to existing ambient sound levels pursuant to the NYS DEC Noise Policy guidance document. The document notes that sound level increases of 6 dBA or less are acceptable.

Future sound levels from the Project will increase existing ambient sound levels by no more than 4 dBA if either the Vestas V150-4.3 wind turbine or the GE 140-3.4 wind turbine is used. Therefore, the Project is anticipated to meet the NYS DEC recommended guidelines with respect to noise.

In addition, the maximum Project Only modeled sound levels are below 50 dBA at all property lines and are below 45 dBA at all surrounding residences. Therefore, the Project will also meet the limits of the local bylaw.

Appendix A

Certificates of Sound Level Instrument Calibration

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PRECISON INTEGRATING SOUND LEVEL METER

Manufactured by:	LARSON DAVIS
Model No:	831C
Serial No:	11385
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 831C LARS

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements: ANSI/NCSL Z540-1, ISO 9001, and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

James Zhu

Quality Manager
ISO/IEC 17025:2017

Calibration Date: 23-Dec-21

Certificate No: 32648 - 1

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

MICROPHONE

Manufactured by:	PCB PIEZOTRONICS
Model No:	377B20
Serial No:	112245
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 377B20 PCB PI

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

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Note: With this Certificate, Report of Calibration is included.

Approved by:

James Zhu

Quality Manager

ISO/IEC 17025:2017

Calibration Date: 23-Dec-21

Certificate No: 32648 - 3

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PRECISION INTEGRATING SOUND LEVEL METER

Manufactured by:	LARSON DAVIS
Model No:	831C
Serial No:	11386
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 831C LARS

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements: ANSI/NCSL Z540-1, ISO 9001, and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

James Zhu

Quality Manager

ISO/IEC 17025:2017

Calibration Date: 23-Dec-21

Certificate No: 32648 - 4

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

MICROPHONE

Manufactured by:	PCB PIEZOTRONICS
Model No:	377B20
Serial No:	112340
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 377B20 PCB PI

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements: ANSI/NCSL Z540-1, ISO 9001, and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

James Zhu

Quality Manager
ISO/IEC 17025:2017

Calibration Date: 23-Dec-21

Certificate No: 32648 - 6

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

PRECISION INTEGRATING SOUND LEVEL METER

Manufactured by:	LARSON DAVIS
Model No:	831C
Serial No:	11387
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 831C LARS

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements: ANSI/NCSL Z540-1, ISO 9001, and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Approved by:

James Zhu

Quality Manager

ISO/IEC 17025:2017

Calibration Date: 23-Dec-21

Certificate No: 32648 - 7

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

West Caldwell Calibration Laboratories Inc.

Certificate of Calibration

for

MICROPHONE

Manufactured by:	PCB PIEZOTRONICS
Model No:	377B20
Serial No:	LW130579
Calibration Recall No:	32648

Submitted By:

Customer:	ANTHONY SAVINO JR.
Company:	EPSILON ASSOCIATES, INC
Address:	3 MILL & MAIN PLACE
	MAYNARD MA 01754

The subject instrument was calibrated to the indicated specification using standards traceable to the SI through the National Institute of Standards and Technology or to accepted values of natural physical constants. This document certifies that the instrument met the following specification upon its return to the submitter.

West Caldwell Calibration Laboratories Procedure No. 377B20 PCB PI

Upon receipt for Calibration, the instrument was found to be:

Within (X)

tolerance of the indicated specification. See attached Report of Calibration.
The information supplied relates to the calibrated item listed above and statement of conformance for ALL given specifications and standards fall under the decision rule: A= (L-(U95)*M), where A is acceptance limit, L is manufacturer specifications, U95 is confidence level of 95% at k=2, and M is managed guard-band mulitiplier. The guard-band multiplier increases false-accept risk in favor of decreasing false-reject risk. Although the false accept risk increases, it is still below the Z540.3 2% risk requirement. The decision rule has been communicated and approved by customer during contract review.

West Caldwell Calibration Laboratories' calibration control system meets the following requirements: ANSI/NCSL Z540-1, ISO 9001, and ISO 17025.

Note: With this Certificate, Report of Calibration is included.

Calibration Date: 23-Dec-21

Certificate No: 32648 - 9

Approved by:

James Zhu

Quality Manager

ISO/IEC 17025:2017

West Caldwell Calibration Laboratories, Inc.
uncompromised calibration
1575 State Route 96, Victor, NY 14564, U.S.A.

ACCREDITED

Calibration Lab. Cert. # 1533.01

Appendix B

NCEI Meteorological Data: NWS Station – Albany International Airport, Albany, NY

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-15T00:24:00	30.41	2	10	T		69	BKN:07 35	30.09	9	8	290		7
72518014735	2022-02-15T00:51:00	30.41	2	10	T		69	BKN:07 35	30.09	10	8	280		3
72518014735	2022-02-15T01:00:00		2	10			69	41	30.09	9.94	8	280		3
72518014735	2022-02-15T01:51:00	30.42	2	10	0		69	BKN:07 35	30.1	10	8	280		5
72518014735	2022-02-15T02:39:00	30.42	2	11	T	-SN:03 |SN |	67	BKN:07 34	30.1	10	9	290		6
72518014735	2022-02-15T02:51:00	30.42	3	11	T	-SN:03 |SN |	70	BKN:07 34	30.1	9	9	280		6
72518014735	2022-02-15T03:35:00	30.43	3	11	T	-SN:03 |SN |	70	OVC:08 29	30.11	9	9	280		9
72518014735	2022-02-15T03:40:00	30.43	3	11	T		70	BKN:07 29	30.11	9	9	290		8
72518014735	2022-02-15T03:49:00	30.43	3	10			72	SCT:04 29	30.11	10	9	290		7
72518014735	2022-02-15T03:51:00	30.44	3	11	T		70	SCT:04 29	30.12	10	9	290		9
72518014735	2022-02-15T04:00:00		3	11			70	26	30.12	9.94	9	290		9
72518014735	2022-02-15T04:51:00	30.47	2	10	0		69	FEW:02 25	30.15	10	8	300		7
72518014735	2022-02-15T05:51:00	30.5	2	9	0		73	CLR:00	30.18	10	8	290		6
72518014735	2022-02-15T06:51:00	30.53	2	8	0		76	CLR:00	30.21	10	7	310		3
72518014735	2022-02-15T07:00:00		2	8			76		30.21	9.94	7	310		3
72518014735	2022-02-15T07:51:00	30.56	4	11	0		73	FEW:02 90	30.24	10	10	0		0
72518014735	2022-02-15T08:51:00	30.59	4	13	0		67	FEW:02 30 FEW:02 95	30.27	10	11	240		8
72518014735	2022-02-15T09:51:00	30.59	3	16	0		56	FEW:02 35 FEW:02 100	30.27	10	13	VRB		5
72518014735	2022-02-15T10:00:00		3	16			56	41	30.27	9.94	13			5
72518014735	2022-02-15T10:51:00	30.58	4	19	0		51	FEW:02 40 FEW:02 110	30.26	10	15	200		5
72518014735	2022-02-15T11:51:00	30.58	4	23	0		44	FEW:02 46 FEW:02 110 FEW:02 250	30.26	10	18	200		7
72518014735	2022-02-15T12:51:00	30.56	4	25	0		40	BKN:07 50	30.24	10	20	240		9
72518014735	2022-02-15T13:00:00		4	25			40	57	30.24	9.94	20	240		9
72518014735	2022-02-15T13:51:00	30.56	6	29	0		38	BKN:07 55 BKN:07 100 BKN:07 250	30.24	10	23	270	24	17
72518014735	2022-02-15T14:51:00	30.58	7	28	0		41	BKN:07 50	30.26	10	22	300	24	18
72518014735	2022-02-15T15:51:00	30.6	8	26	0		46	BKN:07 45	30.28	10	21	270	24	15
72518014735	2022-02-15T16:00:00		8	26			46	41	30.28	9.94	21	270		15
72518014735	2022-02-15T16:51:00	30.61	9	26	0		48	FEW:02 45	30.29	10	21	260		11
72518014735	2022-02-15T17:51:00	30.63	10	24	0		55	FEW:02 45	30.31	10	20	280		9
72518014735	2022-02-15T18:51:00	30.66	10	22	0		60	FEW:02 45	30.34	10	19	270		5
72518014735	2022-02-15T19:00:00		10	22			60	41	30.34	9.94	19	270		5
72518014735	2022-02-15T19:51:00	30.68	10	22	0		60	CLR:00	30.36	10	19	240		5
72518014735	2022-02-15T20:51:00	30.68	10	20	0		65	CLR:00	30.36	10	17	220		3
72518014735	2022-02-15T21:51:00	30.69	10	17	0		74	CLR:00	30.37	10	15	0		0

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-15T22:00:00		10	17			74		30.37	9.94	15	0		0
72518014735	2022-02-15T22:51:00	30.69	10	17	0		74	CLR:00	30.37	10	15	0		0
72518014735	2022-02-15T23:51:00	30.71	10	15	0		80	FEW:02 200	30.39	10	14	190		3
72518014735	2022-02-15T23:59:00													
72518014735	2022-02-16T00:51:00	30.71	9	14	0		80	CLR:00	30.39	10	13	0		0
72518014735	2022-02-16T01:00:00		9	14			80		30.39	9.94	13	0		0
72518014735	2022-02-16T01:51:00	30.69	10	17	0		74	CLR:00	30.37	10	15	160		3
72518014735	2022-02-16T02:51:00	30.66	10	15	0		80	FEW:02 250	30.34	10	14	0		0
72518014735	2022-02-16T03:51:00	30.64	9	13	0		84	FEW:02 250	30.32	10	12	310		3
72518014735	2022-02-16T04:00:00		9	13			84		30.32	9.94	12	310		3
72518014735	2022-02-16T04:51:00	30.66	9	13	0		84	FEW:02 150 SCT:04 250	30.34	10	12	0		0
72518014735	2022-02-16T05:51:00	30.63	9	14	0		80	FEW:02 150 BKN:07 250	30.31	10	13	140		3
72518014735	2022-02-16T06:51:00	30.62	10	22	0		60	FEW:02 150 BKN:07 240	30.3	10	19	160	17	13
72518014735	2022-02-16T07:00:00		10	22			60		30.3	9.94	19	160		13
72518014735	2022-02-16T07:51:00	30.61	9	25	0		50	FEW:02 150 BKN:07 250	30.29	10	21	160	26	18
72518014735	2022-02-16T08:51:00	30.6	10	27	0		49	FEW:02 150 BKN:07 250	30.28	10	22	160	26	14
72518014735	2022-02-16T09:51:00	30.58	13	31	0		47	BKN:07 110 BKN:07 250	30.26	10	25	150	29	22
72518014735	2022-02-16T10:00:00		13	31			47		30.26	9.94	25	150		22
72518014735	2022-02-16T10:51:00	30.55	16	34	0		48	FEW:02 110 FEW:02 250	30.23	10	28	170	36	25
72518014735	2022-02-16T11:51:00	30.52	18	35	0		50	FEW:02 110 FEW:02 220 BKN:07 250	30.2	10	29	160	38	24
72518014735	2022-02-16T12:51:00	30.47	19	37	0		48	FEW:02 110 FEW:02 220 BKN:07 240	30.15	10	31	150	34	17
72518014735	2022-02-16T13:00:00		19	37			48		30.15	9.94	31	150		17
72518014735	2022-02-16T13:51:00	30.43	21	38	0		51	FEW:02 120 SCT:04 230 BKN:07 250	30.11	10	32	160	34	23
72518014735	2022-02-16T14:51:00	30.39	21	39	0		48	SCT:04 150 BKN:07 250	30.07	10	33	150	33	20
72518014735	2022-02-16T15:51:00	30.37	21	40	0		47	SCT:04 150 BKN:07 250	30.05	10	33	160	33	24
72518014735	2022-02-16T16:00:00		21	40			47		30.05	9.94	33	160		24
72518014735	2022-02-16T16:51:00	30.33	22	40	0		49	FEW:02 150 FEW:02 230 BKN:07 260	30.01	10	33	150	34	23
72518014735	2022-02-16T17:51:00	30.29	23	40	0		51	FEW:02 150 SCT:04 220 BKN:07 260	29.97	10	34	160	34	23
72518014735	2022-02-16T18:51:00	30.3	25	40	0		55	FEW:02 150 FEW:02 220 BKN:07 250	29.98	10	34	170	33	24
72518014735	2022-02-16T19:00:00		25	40			55		29.98	9.94	34	170		24
72518014735	2022-02-16T19:51:00	30.31	29	39	0		67	FEW:02 150 FEW:02 220 BKN:07 250	29.99	10	35	170	33	22
72518014735	2022-02-16T20:51:00	30.29	30	39	0		70	BKN:07 250	29.97	10	35	170	28	20
72518014735	2022-02-16T21:51:00	30.26	30	39	0		70	BKN:07 250	29.94	10	35	160	25	17
72518014735	2022-02-16T22:00:00		30	39			70		29.94	9.94	35	160		17

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-16T22:51:00	30.26	30	40	0		68	BKN:07 100 BKN:07 250	29.94	10	36	170	21	10
72518014735	2022-02-16T23:51:00	30.24	30	41	0		65	OVC:08 95	29.92	10	37	150		14
72518014735	2022-02-16T23:59:00													
72518014735	2022-02-17T00:51:00	30.22	31	42	0		65	OVC:08 85	29.9	10	37	150	21	15
72518014735	2022-02-17T01:00:00		31	42			65		29.9	9.94	37	150		15
72518014735	2022-02-17T01:51:00	30.19	31	43	0		63	OVC:08 80	29.87	10	38	150	23	15
72518014735	2022-02-17T02:51:00	30.15	31	44	T		60	BKN:07 85 OVC:08 110	29.83	10	39	150	24	13
72518014735	2022-02-17T03:51:00	30.13	32	44	T		63	BKN:07 90 OVC:08 110	29.81	10	39	150		14
72518014735	2022-02-17T04:00:00		32	44			63		29.81	9.94	39	150		14
72518014735	2022-02-17T04:51:00	30.12	33	45	0		63	BKN:07 90 OVC:08 110	29.8	10	40	150	26	17
72518014735	2022-02-17T05:51:00	30.11	34	46	0		63	OVC:08 100	29.79	10	41	160	24	16
72518014735	2022-02-17T06:51:00	30.08	35	46	0		66	FEW:02 100 BKN:07 120 OVC:08 230	29.76	10	41	170	31	21
72518014735	2022-02-17T07:00:00		35	46			66		29.76	9.94	41	170		21
72518014735	2022-02-17T07:51:00	30.07	37	46	0		71	SCT:04 110 BKN:07 200 BKN:07 250	29.75	10	42	160	24	18
72518014735	2022-02-17T08:51:00	30.07	38	47	0		71	FEW:02 35 BKN:07 110 OVC:08 250	29.75	10	43	170	30	17
72518014735	2022-02-17T09:51:00	30.05	39	49	0		69	FEW:02 40 FEW:02 110 BKN:07 200	29.73	10	44	160	28	17
72518014735	2022-02-17T10:00:00		39	49			69	41	29.73	9.94	44	160		17
72518014735	2022-02-17T10:51:00	30.03	41	51	0		69	FEW:02 45 FEW:02 110 BKN:07 190	29.71	10	46	160	26	16
72518014735	2022-02-17T11:51:00	30	42	53	0		66	FEW:02 45 SCT:04 90 BKN:07 140	29.68	10	48	170	28	16
72518014735	2022-02-17T12:51:00	29.98	42	53	T	|RA |	66	FEW:02 50 BKN:07 75 BKN:07 100	29.67	10	48	170	25	20
72518014735	2022-02-17T13:00:00		42	53		||RA	66	57	29.66	9.94	48	170		20
72518014735	2022-02-17T13:51:00	29.95	43	54	T		67	FEW:02 50 BKN:07 80 BKN:07 100	29.64	10	49	170		16
72518014735	2022-02-17T14:51:00	29.9	43	55	0		64	FEW:02 80 BKN:07 95 OVC:08 140	29.59	10	49	170		14
72518014735	2022-02-17T15:51:00	29.85	45	54	0		72	FEW:02 80 BKN:07 90 OVC:08 140	29.54	10	49	160		14
72518014735	2022-02-17T16:00:00		45	54			72	74	29.54	9.94	49	160		14
72518014735	2022-02-17T16:51:00	29.81	45	54	0		72	BKN:07 75 OVC:08 100	29.5	10	49	160		14
72518014735	2022-02-17T17:51:00	29.77	45	54	0		72	BKN:07 55 OVC:08 95	29.46	10	49	160		14
72518014735	2022-02-17T18:51:00	29.74	47	54	T	-RA:02 |RA |RA	77	OVC:08 75	29.43	10	50	160	24	16
72518014735	2022-02-17T19:00:00		47	54		||RA	77	74	29.43	9.94	50	160		16
72518014735	2022-02-17T19:51:00	29.69	47	51	0.03	-RA:02 |RA |RA	86	OVC:08 80	29.38	9	49	150	22	14
72518014735	2022-02-17T20:51:00	29.64	48	51	0.05	-RA:02 BR:1 |RA |RA	89	OVC:08 75	29.33	6	49	160	23	14
72518014735	2022-02-17T21:51:00	29.58	48	51	0.03	-RA:02 |RA |RA	89	FEW:02 13 SCT:04 75 OVC:08 90	29.27	8	49	150	25	15
72518014735	2022-02-17T22:00:00		48	51		||RA	89	15	29.27	7.46	49	150		15
72518014735	2022-02-17T22:14:00	29.56	48	51	0.01	-RA:02 |RA |RA	89	SCT:04 9 BKN:07 75 OVC:08 90	29.25	8	49	160	28	15

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-17T22:34:00	29.53	49	51	0.01	-RA:02 |RA |RA	92	BKN:07 8 BKN:07 13 OVC:08 80	29.22	8	50	150	31	22
72518014735	2022-02-17T22:51:00	29.51	49	52	0.01	-RA:02 |RA |RA	89	BKN:07 8 OVC:08 12	29.2	10	50	150	25	17
72518014735	2022-02-17T23:51:00	29.43	51	54	T		90	BKN:07 10 OVC:08 43	29.12	10	52	160	34	22
72518014735	2022-02-17T23:59:00													
72518014735	2022-02-18T00:51:00	29.34	51	55	0		87	BKN:07 13 OVC:08 50	29.03	10	53	160	33	22
72518014735	2022-02-18T01:00:00		51	55			87	15	29.03	9.94	53	160		22
72518014735	2022-02-18T01:51:00	29.29	51	55	0		87	OVC:08 13	28.98	10	53	160	28	15
72518014735	2022-02-18T02:13:00	29.28	51	56			84	SCT:04 13 OVC:08 48	28.97	10	53	150	29	18
72518014735	2022-02-18T02:51:00	29.22	51	56	0		84	FEW:02 13 OVC:08 49	28.91	10	53	150	24	17
72518014735	2022-02-18T03:51:00	29.17	51	58	T	|RA |RA	78	FEW:02 13 BKN:07 50 BKN:07 100	28.86	10	54	160	32	23
72518014735	2022-02-18T04:00:00		51	58		||RA	78	15	28.86	9.94	54	160		23
72518014735	2022-02-18T04:51:00		52	57	T		83	SCT:04 60 BKN:07 75 OVC:08 100		10		170	24	16
72518014735	2022-02-18T05:04:00	29.24	52	55	T	:02 BR:1 SQ:2 |SQ RA |	90	FEW:02 14 BKN:07 55 OVC:08 75	28.93	2	53	290	47	36
72518014735	2022-02-18T05:12:00	29.27	42	45	0.05	:02 BR:1 SQ:2 |SQ RA |	90	FEW:02 14 BKN:07 29 OVC:08 60	28.96	3	44	280	47	24
72518014735	2022-02-18T05:19:00	29.29	40	44	0.09	-RA:02 BR:1 |RA |RA	85	FEW:02 14 BKN:07 33 OVC:08 50	28.98	3	42	280	39	16
72518014735	2022-02-18T05:51:00	29.34	34	39	0.11		82	FEW:02 55 SCT:04 85 BKN:07 110	29.03	10	37	280	38	26
72518014735	2022-02-18T06:51:00	29.49	26	33	0		75	BKN:07 24 BKN:07 100 BKN:07 120	29.18	10	30	280	44	22
72518014735	2022-02-18T07:00:00		26	33			75	26	29.18	9.94	30	280		22
72518014735	2022-02-18T07:32:00	29.56	23	31			72	SCT:04 24 SCT:04 100 BKN:07 120	29.25	10	28	270	38	23
72518014735	2022-02-18T07:51:00	29.58	21	30	0		69	BKN:07 24 BKN:07 120	29.27	10	27	280	38	22
72518014735	2022-02-18T08:16:00	29.62	21	30			69	FEW:02 26 FEW:02 120	29.31	10	27	280	28	18
72518014735	2022-02-18T08:51:00	29.67	21	30	0		69	FEW:02 32 FEW:02 120	29.36	10	27	280	37	28
72518014735	2022-02-18T09:45:00	29.74	19	28			69	BKN:07 24	29.43	10	25	280	38	24
72518014735	2022-02-18T09:51:00	29.75	19	28	0		69	BKN:07 24 BKN:07 36	29.44	10	25	290	44	33
72518014735	2022-02-18T10:00:00		19	28			69	26	29.44	9.94	25	290		33
72518014735	2022-02-18T10:03:00	29.76	18	28	T	-SN:03 |SN |	66	BKN:07 24 BKN:07 36	29.45	10	25	280	39	32
72518014735	2022-02-18T10:45:00	29.81	16	27	T		64	SCT:04 28 SCT:04 65	29.5	10	24	280	38	30
72518014735	2022-02-18T10:51:00	29.81	15	28	T		58	SCT:04 28 SCT:04 65	29.5	10	24	280	38	21
72518014735	2022-02-18T11:51:00	29.86	13	27	0		55	BKN:07 38	29.54	10	23	300	38	29
72518014735	2022-02-18T12:45:00	29.87	14	27	T	-SN:03 |SN |	59	BKN:07 37	29.56	10	23	290	37	22
72518014735	2022-02-18T12:51:00	29.87	14	27	T	-SN:03 |SN |	58	BKN:07 37	29.56	10	23	290	30	23
72518014735	2022-02-18T13:00:00		14	27			58	41	29.55	9.94	23	290		23
72518014735	2022-02-18T13:42:00	29.9	13	27	T		55	BKN:07 36	29.59	10	23	290	30	20
72518014735	2022-02-18T13:51:00	29.9	12	26	T		55	BKN:07 36	29.59	10	22	270	31	17

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-18T14:24:00	29.92	12	27	T	-SN:03 |SN |	53	BKN:07 38	29.61	10	23	280	37	16
72518014735	2022-02-18T14:40:00	29.93	12	27	T		53	BKN:07 38	29.62	10	23	290	32	20
72518014735	2022-02-18T14:48:00	29.93	10	28	T	-SN:03 |SN |	47	BKN:07 38	29.62	10	23	290	33	24
72518014735	2022-02-18T14:51:00	29.93	11	27	T	-SN:03 |SN |	51	BKN:07 38	29.62	10	22	270	33	23
72518014735	2022-02-18T14:57:00	29.94	11	28	T		49	BKN:07 38	29.62	10	23	280	33	24
72518014735	2022-02-18T15:51:00	29.97	9	25	0		50	SCT:04 38	29.65	10	21	270	39	29
72518014735	2022-02-18T16:00:00		9	25			50	41	29.65	9.94	21	270		29
72518014735	2022-02-18T16:51:00	29.99	8	23	0		53	FEW:02 38	29.67	10	19	280	33	17
72518014735	2022-02-18T17:51:00	30.03	9	22	0		57	SCT:04 35	29.71	10	19	300	24	20
72518014735	2022-02-18T18:48:00	30.06	9	21	T	-SN:03 |SN |	58	SCT:04 37	29.75	10	18	290		15
72518014735	2022-02-18T18:51:00	30.06	9	21	T	-SN:03 |SN |	59	SCT:04 36	29.75	10	18	290	30	20
72518014735	2022-02-18T19:00:00		9	21			59	41	29.74	9.94	18	290		20
72518014735	2022-02-18T19:40:00	30.07	9	20	T		62	FEW:02 29 SCT:04 39	29.75	10	17	290		17
72518014735	2022-02-18T19:51:00	30.07	8	20	T		60	FEW:02 29 SCT:04 37	29.75	10	17	300	23	11
72518014735	2022-02-18T20:51:00	30.07	8	20	0		60	FEW:02 35 FEW:02 42	29.75	10	17	280		10
72518014735	2022-02-18T21:51:00	30.08	9	19	0		65	FEW:02 41	29.76	10	16	270		5
72518014735	2022-02-18T22:00:00		9	19			65	41	29.76	9.94	16	270		5
72518014735	2022-02-18T22:51:00	30.08	9	18	0		68	CLR:00	29.76	10	16	0		0
72518014735	2022-02-18T23:51:00	30.06	10	18	0		71	CLR:00	29.75	10	16	150		3
72518014735	2022-02-18T23:59:00													
72518014735	2022-02-19T00:51:00	30.06	10	17	0		74	CLR:00	29.75	10	15	0		0
72518014735	2022-02-19T01:00:00		10	17			74		29.74	9.94	15	0		0
72518014735	2022-02-19T01:51:00	30.02	9	17	0		70	FEW:02 250	29.7	10	15	140		5
72518014735	2022-02-19T02:51:00	30	9	17	0		70	FEW:02 250	29.68	10	15	160		7
72518014735	2022-02-19T03:51:00	29.95	9	17	0		70	FEW:02 250	29.64	10	15	150		8
72518014735	2022-02-19T04:00:00		9	17			70		29.63	9.94	15	150		8
72518014735	2022-02-19T04:51:00	29.92	8	19	0		62	FEW:02 50 FEW:02 120	29.61	10	16	150	18	13
72518014735	2022-02-19T05:51:00	29.88	9	20	0		62	FEW:02 65 BKN:07 100	29.57	10	17	160	24	15
72518014735	2022-02-19T06:51:00	29.84	10	22	0		60	FEW:02 50 BKN:07 95 OVC:08 120	29.53	10	19	170	29	18
72518014735	2022-02-19T07:00:00		10	22			60	57	29.52	9.94	19	170		18
72518014735	2022-02-19T07:51:00	29.83	10	24	0		55	BKN:07 80 BKN:07 120	29.52	10	20	170	29	21
72518014735	2022-02-19T08:35:00	29.85	11	24	T	-SN:03 |SN |	57	FEW:02 49 BKN:07 60 BKN:07 75	29.54	10	20	170		13
72518014735	2022-02-19T08:51:00	29.84	11	25	T	-SN:03 |SN |	55	FEW:02 49 BKN:07 55 BKN:07 70	29.53	9	21	170		14
72518014735	2022-02-19T09:24:00	29.83	14	24	T	-SN:03 |SN |	65	BKN:07 20 BKN:07 28 OVC:08 35	29.52	2	21	160	25	16

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-19T09:31:00	29.84	15	24	T	-SN:03 |SN |	68	BKN:07 17 OVC:08 25	29.53	1	21	160	26	15
72518014735	2022-02-19T09:42:00	29.83	17	24	T	-SN:03 |SN |	75	FEW:02 15 BKN:07 18 OVC:08 28	29.52	0.75	22	160	21	11
72518014735	2022-02-19T09:51:00	29.83	18	23	T	-SN:03 |SN |	81	BKN:07 16 OVC:08 25	29.52	0.75	21	150	21	9
72518014735	2022-02-19T10:00:00		18	23			81	15	29.52	0.75	21	150		9
72518014735	2022-02-19T10:04:00	29.83	18	24	T	-SN:03 |SN |	77	OVC:08 20	29.52	1.25	22	150	21	11
72518014735	2022-02-19T10:51:00	29.8	19	25	T	-SN:03 |SN |	78	BKN:07 23 OVC:08 28	29.49	1.25	23	150	26	14
72518014735	2022-02-19T11:12:00	29.79	20	25	T	-SN:03 |SN |	81	FEW:02 17 BKN:07 32 OVC:08 44	29.48	1.25	23	160		11
72518014735	2022-02-19T11:19:00	29.79	20	26	T	-SN:03 |SN |	78	FEW:02 32 SCT:04 44 OVC:08 65	29.48	3	24	160	21	17
72518014735	2022-02-19T11:51:00	29.78	21	27	T		78	SCT:04 40 BKN:07 60 BKN:07 75	29.47	10	25	150	23	15
72518014735	2022-02-19T12:51:00	29.75	23	29	0		78	SCT:04 14 BKN:07 32 BKN:07 49	29.44	10	27	170		14
72518014735	2022-02-19T13:00:00		23	29			78	15	29.44	9.94	27	170		14
72518014735	2022-02-19T13:08:00	29.78	23	29	T	|SN |	78	SCT:04 14 BKN:07 42 BKN:07 55	29.47	10	27	190		13
72518014735	2022-02-19T13:20:00	29.8	23	28	0.01	SN:03 s |SN s |s	81	BKN:07 13 BKN:07 23 OVC:08 47	29.49	0.50Vs	26	VRB	17	7
72518014735	2022-02-19T13:27:00	29.79	24	27		+SN:03 FZ:8 FG:2 |FG SN	89	BKN:07 8 BKN:07 15 OVC:08 22	29.48	0.25	26	230		10
72518014735	2022-02-19T13:31:00	29.79	24	27	0.03	SN:03 FZ:8 FG:2 |FG SN	89	SCT:04 10 BKN:07 15 OVC:08 24	29.48	0.25	26	210		10
72518014735	2022-02-19T13:33:00	29.79	24	27	0.03	SN:03 FZ:8 FG:2 |FG SN	89	BKN:07 10 BKN:07 15 OVC:08 35	29.48	0.5	26	230		9
72518014735	2022-02-19T13:37:00	29.79	24	27	0.03	BR:1 ||	89	BKN:07 12 BKN:07 19 OVC:08 33	29.48	1.25	26	210		8
72518014735	2022-02-19T13:51:00	29.8	22	28	0.03s	-SN:03 |SN |	78	BKN:07 14 OVC:08 25	29.49	1.25	26	270	30	22
72518014735	2022-02-19T13:59:00	29.8	20	28	T		72	SCT:04 14 SCT:04 26 OVC:08 38	29.49	1.25	25	280	31	15
72518014735	2022-02-19T14:07:00	29.81	17	29	T		61	FEW:02 12 BKN:07 36 OVC:08 50	29.5	10	25	270	32	20
72518014735	2022-02-19T14:51:00	29.84	7	28	0		41	SCT:04 49 BKN:07 75 BKN:07 95	29.53	10	22	270	40	26
72518014735	2022-02-19T15:51:00	29.9	6	27	0		41	FEW:02 30 SCT:04 49 SCT:04 95	29.59	10	21	270	40	22
72518014735	2022-02-19T16:00:00		6	27			41	26	29.58	9.94	21	270		22
72518014735	2022-02-19T16:51:00	29.93	6	26	0		42	FEW:02 35 SCT:04 60	29.62	10	21	280	38	24
72518014735	2022-02-19T17:51:00	29.98	6	25	0		44	FEW:02 30 BKN:07 60	29.67	10	20	260	37	30
72518014735	2022-02-19T18:15:00	30.01	9	24	T	-SN:03 |SN |	52	FEW:02 30 BKN:07 60	29.7	10	20	260	37	25
72518014735	2022-02-19T18:32:00	30.04	11	23	T	-SN:03 |SN |	60	SCT:04 38 BKN:07 48 OVC:08 60	29.72	2.00V	20	280	36	22
72518014735	2022-02-19T18:39:00	30.05	11	23	T	-SN:03 |SN |	60	BKN:07 32 BKN:07 48 BKN:07 55	29.73	3	20	270	29	20
72518014735	2022-02-19T18:46:00	30.06	14	21	T	-SN:03 |SN |	74	BKN:07 32 BKN:07 48 BKN:07 55	29.75	1.5	19	270	34	22
72518014735	2022-02-19T18:49:00	30.06	14	21		-SN:03 |SN |	74	BKN:07 32 BKN:07 48 BKN:07 55	29.75	3	19	270	34	16
72518014735	2022-02-19T18:51:00	30.06	13	22	T	-SN:03 |SN |	68	SCT:04 27 BKN:07 48 BKN:07 55	29.75	3	19	270	33	22
72518014735	2022-02-19T18:58:00	30.06	11	22	T	-SN:03 |SN |	63	SCT:04 14 BKN:07 29 BKN:07 37	29.75	7	19	280	38	24
72518014735	2022-02-19T19:00:00		13	22			68	26	29.74	2.98	19	270		22
72518014735	2022-02-19T19:06:00	30.06	11	22	T	-SN:03 |SN |	63	FEW:02 14 BKN:07 31 BKN:07 41	29.75	7	19	290	37	21

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-19T19:21:00	30.09	9	21	T		59	FEW:02 14 SCT:04 33 BKN:07 42	29.78	10	18	270	37	18
72518014735	2022-02-19T19:36:00	30.1	8	21	T	-SN:03 |SN |	57	FEW:02 33 BKN:07 40	29.78	10	18	270	34	24
72518014735	2022-02-19T19:48:00	30.1	7	19	T		58	FEW:02 33 SCT:04 40	29.78	10	16	280	41	24
72518014735	2022-02-19T19:51:00	30.1	6	20	T		55	FEW:02 33 SCT:04 40	29.78	10	16	290	41	22
72518014735	2022-02-19T20:30:00	30.14	5	20	T	-SN:03 |SN |	52	BKN:07 38	29.82	10	16	280	34	24
72518014735	2022-02-19T20:51:00	30.17	6	19	T	-SN:03 |SN |	57	FEW:02 30 BKN:07 42 BKN:07 49	29.85	10	16	290	37	24
72518014735	2022-02-19T21:09:00	30.17	4	19	T		51	FEW:02 30 SCT:04 44	29.85	10	15	280	36	22
72518014735	2022-02-19T21:51:00	30.19	2	18	T		49	FEW:02 40	29.87	10	14	280	51	32
72518014735	2022-02-19T22:00:00		2	18			49	41	29.87	9.94	14	280		32
72518014735	2022-02-19T22:51:00	30.25	4	17	0		56	FEW:02 40	29.93	10	14	300	31	16
72518014735	2022-02-19T23:51:00	30.29	4	15	0		61	FEW:02 40	29.97	10	12	290	26	16
72518014735	2022-02-19T23:59:00													
72518014735	2022-02-20T00:51:00	30.33	3	14	0		61	FEW:02 40 FEW:02 90	30.01	10	12	320		15
72518014735	2022-02-20T01:00:00		3	14			61	41	30.01	9.94	12	320		15
72518014735	2022-02-20T01:51:00	30.34	2	14	0		58	FEW:02 28	30.02	10	11	310		15
72518014735	2022-02-20T02:51:00	30.34	1	13	0		59	CLR:00	30.02	10	10	310		10
72518014735	2022-02-20T03:51:00	30.35	1	11	0		64	CLR:00	30.03	10	9	320		7
72518014735	2022-02-20T04:00:00		1	11			64		30.03	9.94	9	320		7
72518014735	2022-02-20T04:51:00	30.38	1	10	0		67	FEW:02 50	30.06	10	8	260		7
72518014735	2022-02-20T05:51:00	30.4	0	10	0		63	FEW:02 250	30.08	10	8	250		6
72518014735	2022-02-20T06:51:00	30.41	0	11	0		61	FEW:02 250	30.09	10	9	250		8
72518014735	2022-02-20T07:00:00		0	11			61		30.09	9.94	9	250		8
72518014735	2022-02-20T07:51:00	30.44	0	14	0		53	FEW:02 250	30.12	10	11	240		5
72518014735	2022-02-20T08:51:00	30.45	2	16	0		54	FEW:02 150 FEW:02 250	30.13	10	13	180		3
72518014735	2022-02-20T09:51:00	30.42	3	18	0		52	BKN:07 130 BKN:07 200	30.1	10	15	130		8
72518014735	2022-02-20T10:00:00		3	18			52		30.1	9.94	15	130		8
72518014735	2022-02-20T10:51:00	30.4	7	22	0		52	BKN:07 130 BKN:07 200	30.08	10	18	160		10
72518014735	2022-02-20T11:51:00	30.37	8	23	0		53	BKN:07 130 OVC:08 200	30.05	10	19	150		8
72518014735	2022-02-20T12:51:00	30.33	9	25	0		50	BKN:07 130 BKN:07 200	30.01	10	21	160		13
72518014735	2022-02-20T13:00:00		9	25			50		30.01	9.94	21	160		13
72518014735	2022-02-20T13:51:00	30.28	10	28	0		47	BKN:07 130 BKN:07 200	29.96	10	23	170		21
72518014735	2022-02-20T14:51:00	30.24	10	30	0		43	FEW:02 130 SCT:04 250	29.92	10	24	150	22	15
72518014735	2022-02-20T15:51:00	30.2	10	32	0		40	FEW:02 130 FEW:02 250	29.88	10	25	160	25	20
72518014735	2022-02-20T16:00:00		10	32			40		29.88	9.94	25	160		20

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-20T16:51:00	30.18	10	32	0		40	FEW:02 110 FEW:02 240	29.86	10	25	160	25	18
72518014735	2022-02-20T17:51:00	30.16	10	32	0		40	FEW:02 110 FEW:02 240	29.84	10	25	150	25	14
72518014735	2022-02-20T18:51:00	30.15	10	32	0		40	CLR:00	29.83	10	25	150	26	18
72518014735	2022-02-20T19:00:00		10	32			40		29.83	9.94	25	150		18
72518014735	2022-02-20T19:51:00	30.13	9	32	0		38	CLR:00	29.81	10	25	150	30	16
72518014735	2022-02-20T20:51:00	30.14	10	32	0		40	CLR:00	29.82	10	25	160	26	17
72518014735	2022-02-20T21:51:00	30.15	10	32	0		40	FEW:02 120	29.83	10	25	160	22	16
72518014735	2022-02-20T22:00:00		10	32			40		29.83	9.94	25	160		16
72518014735	2022-02-20T22:51:00	30.15	10	32	0		40	BKN:07 140	29.83	10	25	150	24	17
72518014735	2022-02-20T23:51:00	30.18	10	32	0		40	FEW:02 140	29.86	10	25	160	22	14
72518014735	2022-02-20T23:59:00													
72518014735	2022-02-21T00:51:00	30.19	11	32	0		41	FEW:02 140	29.87	10	26	160		11
72518014735	2022-02-21T01:00:00		11	32			41		29.87	9.94	26	160		11
72518014735	2022-02-21T01:51:00	30.19	11	32	0		41	FEW:02 150	29.87	10	26	160	24	14
72518014735	2022-02-21T02:51:00	30.19	13	31	0		47	CLR:00	29.87	10	25	150	22	11
72518014735	2022-02-21T03:51:00	30.18	13	31	0		47	FEW:02 250	29.86	10	25	160	18	11
72518014735	2022-02-21T04:00:00		13	31			47		29.86	9.94	25	160		11
72518014735	2022-02-21T04:51:00	30.21	14	31	0		49	FEW:02 250	29.89	10	26	170		8
72518014735	2022-02-21T05:51:00	30.22	15	30	0		54	SCT:04 250	29.9	10	25	160		7
72518014735	2022-02-21T06:51:00	30.24	16	30	0		56	FEW:02 60 SCT:04 250	29.92	10	26	160		8
72518014735	2022-02-21T07:00:00		16	30			56	57	29.92	9.94	26	160		8
72518014735	2022-02-21T07:51:00	30.26	17	32	0		54	FEW:02 60 FEW:02 180 BKN:07 250	29.94	10	27	160		9
72518014735	2022-02-21T08:51:00	30.29	18	35	0		50	FEW:02 60 FEW:02 180 SCT:04 250	29.97	10	29	170		9
72518014735	2022-02-21T09:51:00	30.3	19	38	0		46	FEW:02 65 FEW:02 200 SCT:04 250	29.98	10	31	170		9
72518014735	2022-02-21T10:00:00		19	38			46	57	29.98	9.94	31	170		9
72518014735	2022-02-21T10:51:00	30.3	19	42	0		40	FEW:02 60 FEW:02 200 SCT:04 250	29.98	10	34	150		8
72518014735	2022-02-21T11:51:00	30.29	20	46	0		35	FEW:02 140 FEW:02 200 FEW:02 250	29.97	10	36	VRB		6
72518014735	2022-02-21T12:51:00	30.26	21	49	0		33	FEW:02 140 FEW:02 200 FEW:02 250	29.94	10	38	150		5
72518014735	2022-02-21T13:00:00		21	49			33		29.94	9.94	38	150		5
72518014735	2022-02-21T13:51:00	30.24	22	51	0		32	FEW:02 150 SCT:04 250	29.92	10	40	140		7
72518014735	2022-02-21T14:51:00	30.23	22	52	0		31	SCT:04 250	29.91	10	40	140		7
72518014735	2022-02-21T15:51:00	30.23	23	53	0		31	SCT:04 250	29.91	10	41	170		9
72518014735	2022-02-21T16:00:00		23	53			31		29.91	9.94	41	170		9
72518014735	2022-02-21T16:51:00	30.24	24	51	0		35	BKN:07 250	29.92	10	40	120		5

NCEI Meteorological Data
NWS Station - Albany International Airport, Albany, NY
Latitide: 42.7479; Longitide:-73.8026; Elevation: 285 ft.

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-21T17:51:00	30.25	24	46	0		42	BKN:07 250	29.93	10	37	0		0
72518014735	2022-02-21T18:51:00	30.27	24	39	0		55	SCT:04 250	29.95	10	33	0		0
72518014735	2022-02-21T19:00:00		24	39			55		29.95	9.94	33	0		0
72518014735	2022-02-21T19:51:00	30.29	23	34	0		64	FEW:02 250	29.97	10	30	0		0
72518014735	2022-02-21T20:51:00	30.32	24	35	0		64	FEW:02 240	30	10	31	330		5
72518014735	2022-02-21T21:51:00	30.33	23	35	0		61	BKN:07 250	30.01	10	31	VRB		5
72518014735	2022-02-21T22:00:00		23	35			61		30.01	9.94	31			5
72518014735	2022-02-21T22:51:00	30.34	23	36	0		59	SCT:04 250	30.02	10	31	360		6
72518014735	2022-02-21T23:51:00	30.34	22	31	0		69	SCT:04 250	30.02	10	28	0		0
72518014735	2022-02-21T23:59:00													
72518014735	2022-02-22T00:51:00	30.36	22	31	0		69	FEW:02 250	30.04	10	28	0		0
72518014735	2022-02-22T01:00:00		22	31			69		30.04	9.94	28	0		0
72518014735	2022-02-22T01:51:00	30.34	22	28	0		78	BKN:07 250	30.02	10	26	0		0
72518014735	2022-02-22T02:51:00	30.32	22	28	0		78	BKN:07 250	30	10	26	320		5
72518014735	2022-02-22T03:51:00	30.33	22	28	0		78	BKN:07 250	30.01	10	26	0		0
72518014735	2022-02-22T04:00:00		22	28			78		30.01	9.94	26	0		0
72518014735	2022-02-22T04:51:00	30.32	23	27	0		85	BKN:07 100 OVC:08 250	30	10	26	0		0
72518014735	2022-02-22T05:51:00	30.32	23	28	0		81	OVC:08 100	30	10	26	0		0
72518014735	2022-02-22T06:51:00	30.3	23	28	0		81	BKN:07 110 OVC:08 250	29.98	10	26	0		0
72518014735	2022-02-22T07:00:00		23	28			81		29.98	9.94	26	0		0
72518014735	2022-02-22T07:51:00	30.31	25	31	0		79	BKN:07 110 BKN:07 250	29.99	10	29	0		0
72518014735	2022-02-22T08:51:00	30.31	26	35	0		70	BKN:07 110 BKN:07 250	29.99	10	32	140		3
72518014735	2022-02-22T09:51:00	30.26	28	41	0		60	SCT:04 100 BKN:07 250	29.94	10	36	160		8
72518014735	2022-02-22T10:00:00		28	41			60		29.94	9.94	36	160		8
72518014735	2022-02-22T10:51:00	30.22	35	49	0		59	SCT:04 100 OVC:08 240	29.9	10	43	160	18	11
72518014735	2022-02-22T11:45:00	30.18	37	52			58	BKN:07 23 BKN:07 100 BKN:07 240	29.86	10	45	170		10
72518014735	2022-02-22T11:51:00	30.18	38	52	0		59	BKN:07 23 BKN:07 100 BKN:07 240	29.86	10	45	170		13
72518014735	2022-02-22T12:51:00	30.13	40	50	0		68	OVC:08 22	29.81	10	45	170		11
72518014735	2022-02-22T13:00:00		40	50			68	26	29.81	9.94	45	170		11
72518014735	2022-02-22T13:51:00	30.09	41	48	0		77	OVC:08 16	29.78	10	45	160		11
72518014735	2022-02-22T14:51:00	30.08	41	47	T		80	OVC:08 15	29.76	10	44	170		9
72518014735	2022-02-22T14:59:00	30.07	41	47	T	-DZ:01 |DZ |DZ	80	OVC:08 14	29.75	10	44	150		9
72518014735	2022-02-22T15:51:00	30.03	43	47	T	-DZ:01 BR:1 |DZ |DZ	86	BKN:07 10 BKN:07 34 OVC:08 50	29.71	5	45	150		14
72518014735	2022-02-22T16:00:00		43	47		||DZ	86	15	29.71	4.97	45	150		14

NCEI Meteorological Data
NWS Station - Albany International Airport, Albany, NY
Latitide: 42.7479; Longitide:-73.8026; Elevation: 285 ft.

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-22T16:01:00	30.02	44	46	T	-DZ:01 BR:1 |DZ |DZ	93	SCT:04 8 OVC:08 32	29.7	3	45	140		14
72518014735	2022-02-22T16:17:00	30.01	44	46	T	-DZ:01 BR:1 |DZ |DZ	93	SCT:04 6 BKN:07 12 OVC:08 30	29.7	3	45	150		11
72518014735	2022-02-22T16:40:00	29.98	44	46	0.01	-RA:02 BR:1 |RA |RA	93	BKN:07 5 OVC:08 11	29.67	3	45	150		10
72518014735	2022-02-22T16:51:00	29.97	44	46	0.01	-RA:02 BR:1 |RA |RA	93	BKN:07 5 OVC:08 11	29.65	3	45	150		11
72518014735	2022-02-22T17:01:00	29.96	44	46	T	-RA:02 BR:1 |RA |RA	93	OVC:08 4	29.65	3	45	150		13
72518014735	2022-02-22T17:16:00	29.94	44	46	0.01	-RA:02 BR:1 |RA |RA	93	OVC:08 5	29.62	3	45	150		10
72518014735	2022-02-22T17:35:00	29.92	44	46	0.01	-RA:02 BR:1 |RA |RA	93	OVC:08 4	29.61	3	45	150		14
72518014735	2022-02-22T17:51:00	29.9	44	46	0.02	-RA:02 BR:1 |RA |RA	93	OVC:08 4	29.59	3	45	150		16
72518014735	2022-02-22T18:51:00	29.85	45	47	0.02	-RA:02 BR:1 |RA |RA	93	OVC:08 4	29.54	3	46	150	22	15
72518014735	2022-02-22T19:00:00		45	47		||RA	93	5	29.54	2.98	46	150		15
72518014735	2022-02-22T19:49:00	29.82	48	50		-RA:02 BR:1 |RA |RA	94	BKN:07 6 BKN:07 75 OVC:08 95	29.51	6	49	160	29	20
72518014735	2022-02-22T19:51:00	29.82	48	50	0.03	-RA:02 |RA |RA	93	BKN:07 6 BKN:07 75 OVC:08 95	29.51	7	49	160	29	17
72518014735	2022-02-22T20:51:00	29.78	50	52	0.01	-RA:02 |RA |RA	93	BKN:07 7 OVC:08 90	29.47	10	51	160	33	22
72518014735	2022-02-22T21:51:00	29.79	51	54	0.01	-DZ:01 |DZ |DZ	90	BKN:07 8 BKN:07 40 OVC:08 55	29.48	10	52	170	32	18
72518014735	2022-02-22T22:00:00		51	54		||DZ	90	8	29.47	9.94	52	170		18
72518014735	2022-02-22T22:01:00	29.79	52	54	0.01	-DZ:01 |DZ |DZ	93	SCT:04 9 OVC:08 55	29.48	9	53	170		17
72518014735	2022-02-22T22:28:00	29.79	52	55	0.01	-DZ:01 |DZ |DZ	90	BKN:07 8 OVC:08 60	29.48	10	53	170		14
72518014735	2022-02-22T22:49:00	29.8	52	55			88	SCT:04 8 SCT:04 40 BKN:07 49	29.49	10	53	170		15
72518014735	2022-02-22T22:51:00	29.8	52	55	0.01		90	SCT:04 8 SCT:04 40 BKN:07 49	29.49	10	53	170		14
72518014735	2022-02-22T23:51:00	29.78	53	56	0		90	FEW:02 8 SCT:04 65 BKN:07 80	29.47	10	54	170		16
72518014735	2022-02-22T23:59:00													
72518014735	2022-02-23T00:51:00	29.78	53	56	0		90	FEW:02 39 SCT:04 60 BKN:07 110	29.47	10	54	180		13
72518014735	2022-02-23T01:00:00		53	56			90	41	29.47	9.94	54	180		13
72518014735	2022-02-23T01:51:00	29.79	53	56	0		90	BKN:07 55 BKN:07 75 OVC:08 100	29.48	10	54	180		13
72518014735	2022-02-23T02:51:00	29.79	53	56	0		90	FEW:02 42 BKN:07 80 BKN:07 95	29.48	10	54	160		10
72518014735	2022-02-23T03:51:00	29.8	53	57	0		87	BKN:07 65 OVC:08 90	29.49	10	55	170		8
72518014735	2022-02-23T04:00:00		53	57			87	57	29.49	9.94	55	170		8
72518014735	2022-02-23T04:51:00	29.81	53	57	0		87	SCT:04 48 BKN:07 60 OVC:08 80	29.5	10	55	160		9
72518014735	2022-02-23T05:51:00	29.82	53	57	0		87	BKN:07 36 BKN:07 47 OVC:08 70	29.51	10	55	180		10
72518014735	2022-02-23T06:51:00	29.81	53	56	T		90	FEW:02 28 BKN:07 60 OVC:08 70	29.5	10	54	160		9
72518014735	2022-02-23T07:00:00		53	56			90	26	29.49	9.94	54	160		9
72518014735	2022-02-23T07:51:00	29.85	52	56	0		87	SCT:04 23 BKN:07 30 OVC:08 60	29.54	10	54	290		8
72518014735	2022-02-23T08:51:00	29.88	48	54	0		80	SCT:04 26 BKN:07 46 BKN:07 55	29.57	10	51	300		9
72518014735	2022-02-23T09:51:00	29.89	42	50	0		74	FEW:02 26 FEW:02 46 BKN:07 250	29.57	10	46	270	21	11

NCEI Meteorological Data
NWS Station - Albany International Airport, Albany, NY
Latitide: 42.7479; Longitide:-73.8026; Elevation: 285 ft.

Table B-1: NCEI Meteorological Data

Station	Date	HourlyAltimeterSetting	HourlyDewPointTemperature	HourlyDryBulbTemperature	HourlyPrecipitation	HourlyPresentWeatherType	HourlyRelativeHumidity	HourlySkyConditions	HourlyStationPressure	HourlyVisibility	HourlyWetBulbTemperature	HourlyWindDirection	HourlyWindGustSpeed	HourlyWindSpeed
72518014735	2022-02-23T10:00:00		42	50			74	26	29.57	9.94	46	270		11
72518014735	2022-02-23T10:44:00	29.93	38	47			71	BKN:07 24 BKN:07 30 BKN:07 250	29.62	10	43	300		14
72518014735	2022-02-23T10:51:00	29.94	37	46	0		71	BKN:07 24 BKN:07 30 BKN:07 250	29.62	10	42	290		16
72518014735	2022-02-23T11:51:00	29.96	37	47	0		69	BKN:07 25 BKN:07 45 BKN:07 250	29.65	10	42	280	24	14
72518014735	2022-02-23T12:51:00	29.97	33	42	0		71	BKN:07 23 OVC:08 250	29.65	10	38	300	23	13
72518014735	2022-02-23T13:00:00		33	42			71	26	29.65	9.94	38	300		13
72518014735	2022-02-23T13:51:00	30.02	30	39	0		70	BKN:07 23 OVC:08 250	29.7	10	35	290	34	20
72518014735	2022-02-23T14:51:00	30.06	26	36	0		67	BKN:07 26	29.75	10	32	280	34	22
72518014735	2022-02-23T15:51:00	30.11	24	35	0		64	BKN:07 27 BKN:07 32	29.79	10	31	280	25	18
72518014735	2022-02-23T16:00:00		24	35			64	26	29.79	9.94	31	280		18
72518014735	2022-02-23T16:24:00	30.11	23	34			64	BKN:07 30 OVC:08 38	29.79	10	30	300	30	16
72518014735	2022-02-23T16:51:00	30.15	21	33	0		61	OVC:08 32	29.83	10	29	270	34	16
72518014735	2022-02-23T17:51:00	30.2	19	32	T	-SN:03 |SN |	59	FEW:02 32 BKN:07 42 BKN:07 49	29.88	10	28	VRB	32	10
72518014735	2022-02-23T18:51:00	30.24	17	30	T	-SN:03 |SN |	58	BKN:07 33 BKN:07 42 BKN:07 49	29.92	10	26	290	36	16
72518014735	2022-02-23T19:00:00		17	30			58	26	29.92	9.94	26	290		16
72518014735	2022-02-23T19:51:00	30.29	14	28	T	-SN:03 |SN |	56	BKN:07 35 BKN:07 42	29.97	10	24	300	33	18
72518014735	2022-02-23T19:56:00	30.29	14	28	T		56	BKN:07 38	29.97	10	24	280	33	21
72518014735	2022-02-23T20:27:00	30.31	13	27	T	-SN:03 |SN |	55	BKN:07 38	29.99	10	23	270	31	21
72518014735	2022-02-23T20:51:00	30.31	13	27	T	-SN:03 |SN |	55	BKN:07 38	29.99	10	23	300	34	21
72518014735	2022-02-23T21:04:00	30.31	12	26	T		55	BKN:07 38	29.99	10	22	290	28	17
72518014735	2022-02-23T21:51:00	30.33	12	25	T		58	BKN:07 38	30.01	10	21	280	28	18
72518014735	2022-02-23T22:00:00		12	25			58	41	30.01	9.94	21	280		18
72518014735	2022-02-23T22:16:00	30.33	12	25	T	-SN:03 |SN |	58	BKN:07 38	30.01	10	21	280		21
72518014735	2022-02-23T22:35:00	30.34	12	25	T		58	SCT:04 38	30.02	10	21	300		14
72518014735	2022-02-23T22:51:00	30.35	11	24	T		57	SCT:04 38	30.03	10	20	290		15
72518014735	2022-02-23T23:51:00	30.38	9	23	0		55	FEW:02 38	30.06	10	19	300		14
72518014735	2022-02-23T23:59:00													

Appendix C

Existing Background Sound Level vs. Hub-Height Wind Speed – All Locations

Appendix C: Existing Background Sound Level vs. Hub-Height Wind Speed – All Locations