Pre-Construction Noise Analysis

for the

Voyager Battery Energy Storage System Project

Saline Township, Washtenaw County, Michigan

January 31, 2025

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Contents

Figures

Tables

Executive Summary

Jupiter Power LLC is proposing to construct and operate the Voyager Battery Energy Storage System (Project, Facility), an electrical power battery storage facility consisting of an array of 40 power conversion systems (PCS) and 120 battery energy storage systems (BESS). The proposed Facility would have a storage capacity of 400 megawatt-hours (MWh) and would be located on a 54-acre agriculturally zoned parcel in Saline Township, Washtenaw County, Michigan. At Jupiter Power's request, Hankard Environmental conducted an analysis of noise from the Facility and its potential impact on surrounding land uses. This report describes the methods and results of the noise analysis and how the Facility has been designed to reduce noise emissions.

- There are no federal noise laws, ordinances, or regulations that apply to noise from the Facility. In November 2024, Saline Township adopted an amended Zoning Ordinance that restricts noise levels generated from battery energy storage facilities to 55 dBA at the property line of the facility. The ordinance does not define numerical noise limits at noise-sensitive structures, e.g., residences.
- Existing noise levels were measured in the vicinity of the Project in December 2022. Given the rural nature of the area, existing noise levels are relatively low. Average daytime noise levels are in the high 30's (dBA) and nighttime levels are in the low 30's (dBA).
- Noise levels from the full and continuous operation of the Facility were predicted using an acoustic model based on the measurement of noise emissions provided by equipment manufacturers and industry standard methods. The model included the physical locations and number of BESS units, PCS units, the main power transformer at the Facility's substation, the location of the Facility's proposed noise berm, topography, and the location of nearby noise-sensitive receptors (residences).
- The Facility's design includes a 20-foot-high earthen berm along the western and a portion of the northern side, to reduce noise emissions and limit visibility of the Facility. The berm has a 2:1 slope and is located approximately 80 feet away from the Facility fence line. Predicted noise levels are below 55 dBA along the Facility's property line and at the nearest receptors noise levels range from 34 to 46 dBA.
- The predicted noise levels represent worst-case conditions, in that they assume that all equipment is operating at maximum noise emissions, i.e., during full electrical capacity. Additionally, predicted noise levels assume atmospheric conditions that are conducive to sound propagation. These conditions will not always be present.

1. Introduction and Description of Project

This report documents the results of a noise analysis conducted for the Voyager Battery Energy Storage System (Project, Facility), located in Saline Township, Washtenaw County, Michigan, southwest of Ann Arbor, as shown in Figure 1-1. The Project consists of an array of 40 PCS units and 120 BESS units. The primary noise sources associated with the Project include the cooling fans associated with each PCS unit and BESS unit.

There are 165 noise-sensitive receptors within 1.5 miles of the Project. Figure 1-2 shows the closest receptors to the Project. The terrain immediately surrounding the Project is relatively flat, consisting primarily of open fields, farmland, and some wooded areas.

This report contains the following sections:

- Section 1 provides general information about the Project.
- Section 2 describes the noise regulations applicable to the Project.
- Section 3 describes the results of an ambient noise survey conducted as part of this analysis.
- Section 4 describes the modeling methodology employed, the resulting predicted Project noise levels, and the noise mitigation measures recommended.

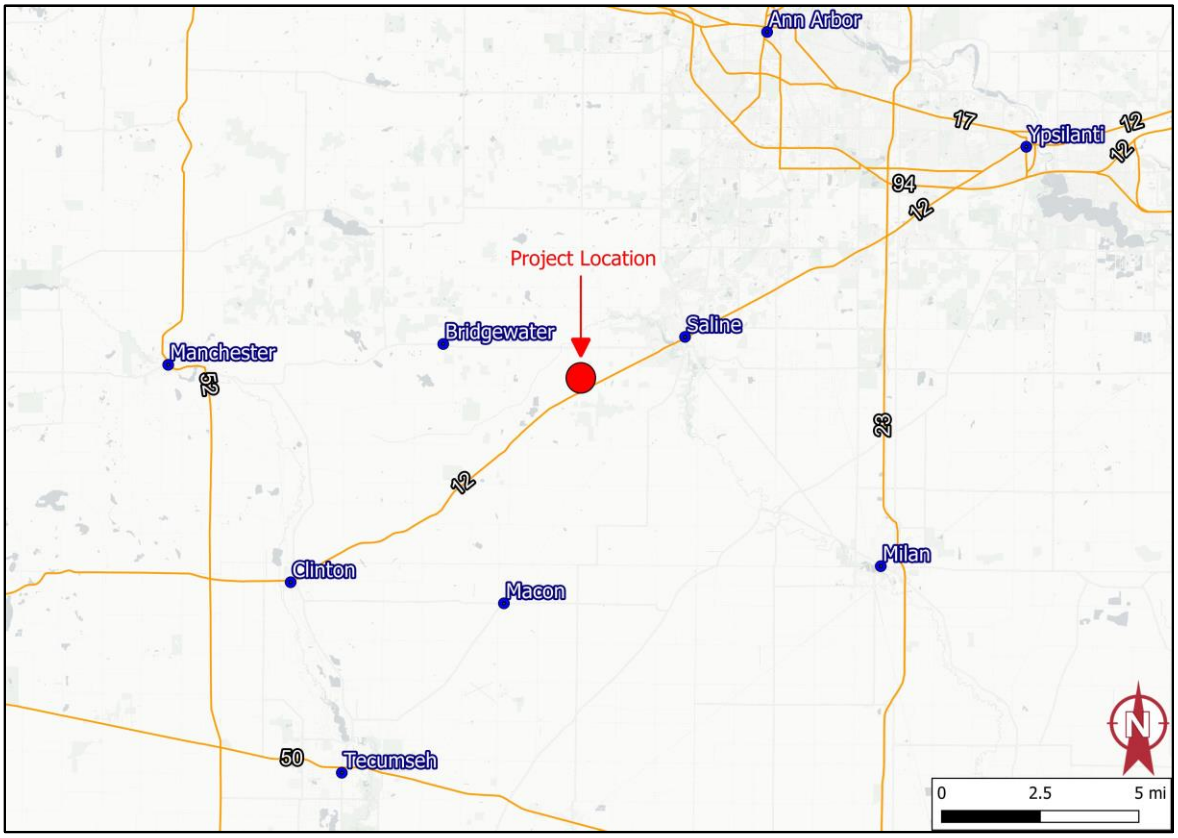


Figure 1-1. General Location of the Project

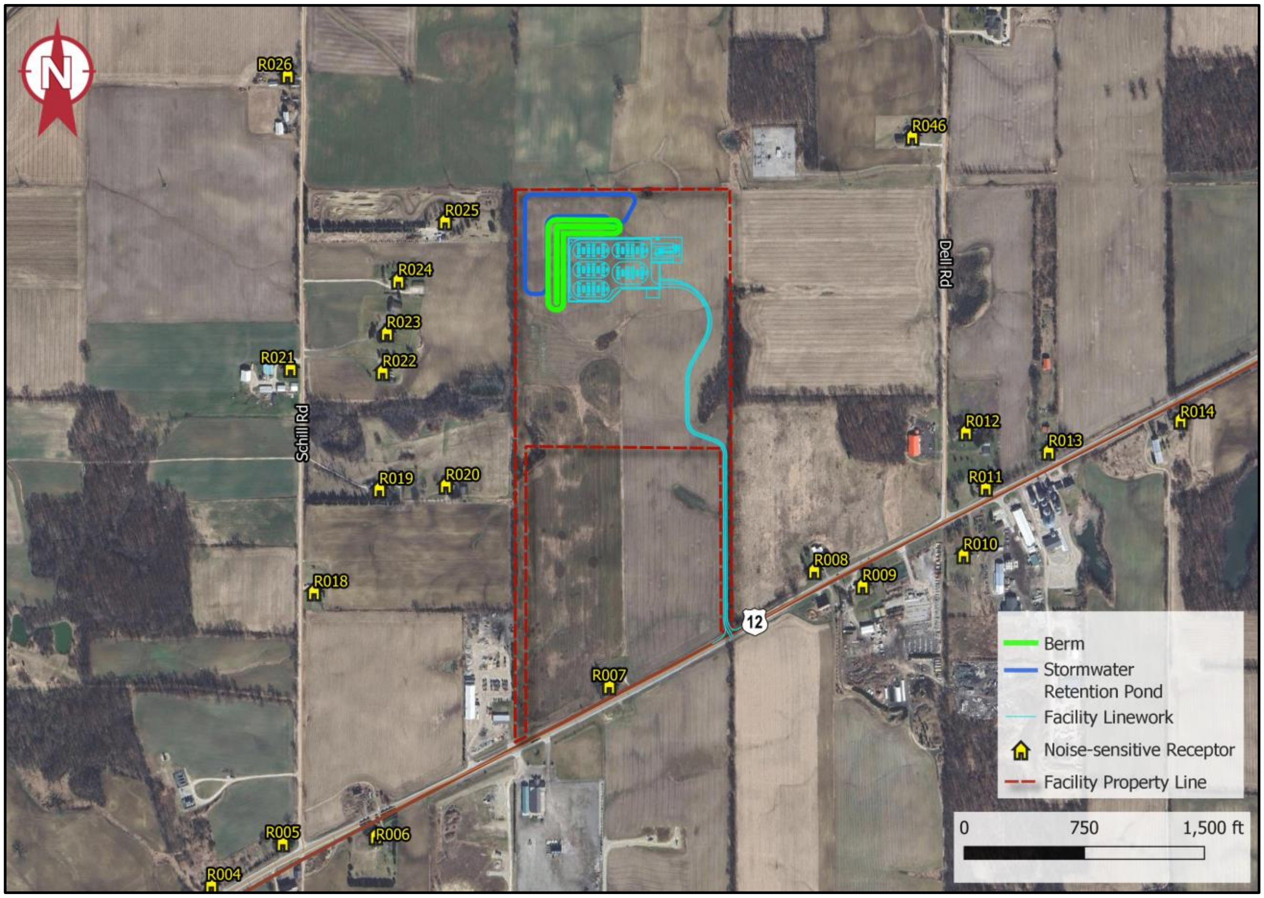


Figure 1-2. Voyager Battery Energy Storage System Site Layout

2. Applicable Regulations and Laws

There are no federal laws or regulations that apply to noise emissions from the Project. The proposed Project would be located in Saline Township, Washtenaw County, Michigan, and has been designed to comply with the November 2024 Saline Township Zoning Ordinance Amendment, Section 11.10 - Battery Energy Storage Systems. The noise-related requirement of the Ordinance Amendment is in Subsection 11.10.D.5. Noise, and is provided below.

The 1-hour average noise generated from the battery energy storage systems, components, and associated ancillary equipment shall not exceed a noise level of 55 dBA as measured at any property line where the system is located. Applicants may submit equipment and component manufacturers noise ratings to demonstrate compliance. The Zoning Inspector or Planning Commission may require an applicant to provide an acoustic assessment or sound study prepared by a licensed engineer from a reasonable number of sampled locations at the perimeter of the battery energy storage system to demonstrate compliance with this standard.

3. Ambient Noise Levels

Existing sound levels were measured in the vicinity of the Project in December 2022. The purposes of the survey were to measure and document existing sound levels and assess the character of the existing sound environment near noise-sensitive receptors. This section describes the standards followed in the design and execution of the survey, the locations where ambient noise levels were measured, the measurement equipment and methods employed, data processing methods, and the results of the analysis of the measured data.

3.1 Measurement Standards and Metrics

The sound level measurements were conducted in accordance with the relevant requirements of (1) American National Standards Institute (ANSI) standard S12.9, *Quantities and Procedures for Description and Measurement of Environmental Sound – Part 2: Measurements of Long-term Wide-area sound*, and (2) ANSI Type 1 measurement equipment. The sound level meters were configured to continuously measure and record both the 10-second and 10-minute averages of the overall L_{eq}, L_{10} and L_{90}, as well as one-third octave band L_{eq}, L_{10} and L_{90} levels (6.3 Hz to 20 kHz).

3.2 Measurement Locations and Times

Measurement locations were selected to achieve an even geographical distribution around the Facility. Selection of the long-term monitoring locations considered the availability of land access and equipment security. Attended noise measurements were taken at each of the six "short-term" locations (ST1 to ST6) shown in Figure 3-1. Noise levels were measured for approximately 10 minutes at each location on four occasions over two days: during morning, evening, and nighttime periods (December 6 and 7, 2022) for a total of 24 individual measurements. In addition, unattended noise monitors continually measured ambient noise levels for 48 hours at two "long-term" locations (LT1 and LT2). Figure 3-2 shows photographs of both the long-term and short-term monitoring equipment. Photographs of all measurement sites are provided in Appendix B.

3.3 Measurement Equipment

Noise levels were measured using Larson Davis Model 831 sound level meters with associated preamplifiers and ½ inch free-field precision microphones meeting ANSI Type 1 specifications. All measurement and field calibration equipment were certified by a traceable laboratory within 18 months prior to the measurement. Field calibrations were conducted before and after the measurements. The drift in the measured noise level was minimal (less than 0.5 dB) over the measurement survey. Calibration certificates and records are available upon request. The microphones were mounted on tripods and positioned five feet above the ground per ANSI S12.9. The microphones were covered with hydrophobically treated 7-inch diameter, 80-pores-per-inch density windscreens. Local wind speeds, temperature, and relative humidity were measured using a Kestrel 3000 handheld wind meter at short-term locations. The vendor specifications for the wind data logging system include accuracies of ±2% for 0 to 10 mph and ±2.5% of reading for 10 to 100 mph; environmental conditions of -4° F to +140° F; and 0% RH to 100% RH. An anemometer was installed at LT2. Ten-second averages of ground wind speed and direction were measured using a Vaisala WXT532 sonic anemometer mounted on a steel pole approximately 6.5 feet above the ground (per ANSI S12.18).

3.5 Measured Ambient Noise Levels

Figure 3-3 shows noise levels over time measured during the 48-hour survey period. Shown are the 10-minute average L_{eq} dBA for LT1 (blue trace) and LT2 (red trace). Table 3-1 lists the average noise levels recorded by the long-term monitors. During the daytime, the average noise level (L_{eq}) measured at LT1 and LT2 ranged from 37 to 40 dBA. At night, the average noise level (L_{eq}) measured at LT1 and LT2 ranged from 30 to 36 dBA. In general, ambient noise levels in the area surrounding the Facility follow a typical diurnal pattern, with louder levels during the day due to distant traffic or other human activity.

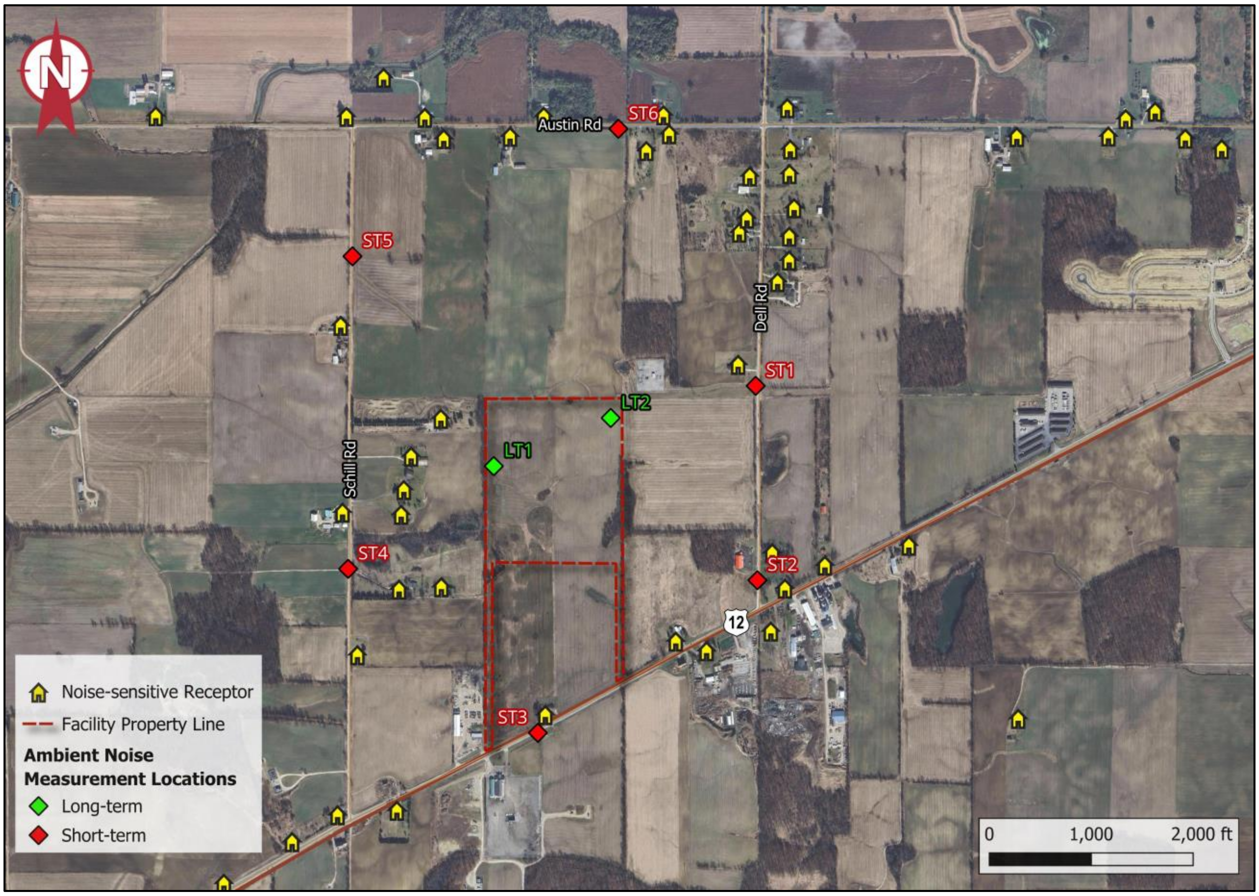


Figure 3-1. Ambient Noise Measurement Locations

Figure 3-2. Photograph of Noise Monitors

During daytime hours, ambient noise levels are primarily driven by traffic on nearby W. Michigan Ave., while during nighttime hours, ambient noise levels are primarily driven by natural sources such as animals and rustling vegetation, as well as the hum from the nearby substation. The levels at LT2 are slightly louder than those at LT1 due to its proximity to the existing Dorset substation. Background noise levels were as low as approximately 30 dBA at night.

Table 3-2 lists the average noise levels measured at each of the six short-term measurement locations. Traffic is the most noticeable noise source in this area. Morning and evening rush hour traffic noise was present at all sites and was most pronounced at ST3 and ST6. ST4 is next to a pig farm and an agricultural dryer, which were audible during both day and night. During the evening when the Facility will be most likely to run at full capacity, L_{90} noise levels ranged from 36 to 54 dBA. The quieter end of this range exists in the absence of traffic, and the louder end occurs at locations where traffic is present. A complete list of all measured levels and observations, and measured morning, evening, and night one-third octave band noise levels are provided in Appendix C.

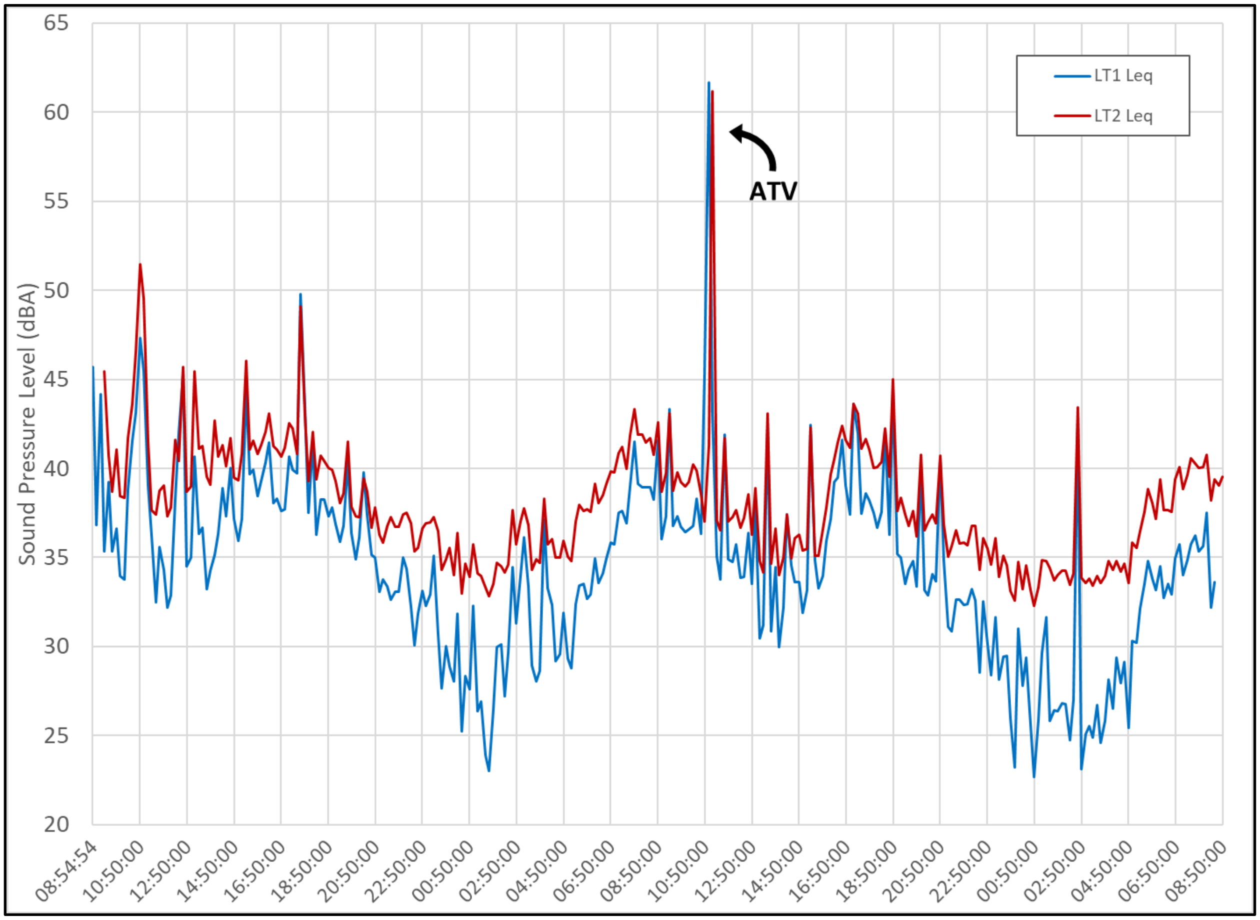


Figure 3-3. Ambient Noise Levels

Table 3-1. Long-term Ambient Noise Levels

Time Period and Location	L_{eq} Daytime (dBA)	L_{eq} Nighttime (dBA)	L_{90} Daytime (dBA)	L_{90} Nighttime (dBA)
LT1	37	30	32	24
LT2	40	36	37	33

Table 3-2. Short-term Ambient Noise Levels

Site	Day	Time Period	L_{eq} (dBA)	L_{10} (dBA)	L_{90} (dBA)	Wind	Audible Sources
ST1	1	Morning	49	51	38	Calm	Local traffic, distant traffic on Highway 12, geese overhead
	1	Evening	46	49	39	Calm	2 cars, distant traffic, distant aircraft
	1	Night	30	30	28	Calm	Hum from substation
	2	Evening	41	43	37	Calm	Hum from substation, 3 cars
ST2	1	Morning	63	61	44	Calm	Local traffic of trucks and cars, nearby traffic on highway 12
	1	Evening	56	59	47	Breezy	Local traffic of trucks and cars, nearby traffic on highway 12
	1	Night	51	46	25	Calm	1 truck, hum from power lines
	2	Evening	59	61	51	Calm	Local Traffic of cars and trucks, distant aircraft
ST3	1	Morning	74	77	47	Breezy	Constant cars/trucks, oil wells audible with no traffic
	1	Evening	70	74	51	Calm	Local traffic, oil wells audible with no traffic
	1	Night	58	55	28	Calm	Local traffic, noise from oil wells, hum from power line
	2	Evening	72	75	54	Calm	Local traffic, oil wells audible with no traffic
ST4	1	Morning	53	48	40	Breezy	Hum, clanking, pig farm, rustling leaves, geese, 2 vehicles
	1	Evening	54	45	35	Calm	Hum, clanking, and pigs from farm, 1 vehicle passed by
	1	Night	32	33	30	Calm	Hum, clanking, noises from pig farm, rustling leaves
	2	Evening	38	39	36	Calm	Hum, clanking, and pig noises from pig farm
ST5	1	Morning	45	44	34	Calm	Distant traffic, 1 car, distant aircraft
	1	Evening	52	49	40	Calm	Distant traffic, 1 car, distant aircraft
	1	Night	30	35	21	Calm	Distant traffic, distant aircraft, noise from animal
	2	Evening	50	51	40	Calm	Distant traffic, 3 cars, distant aircraft
ST6	1	Morning	71	73	38	Calm	Local traffic, distant traffic, birds
	1	Evening	71	74	48	Calm	Local traffic, distant traffic, birds
	1	Night	33	31	22	Calm	Nearby vehicle, distant train, distant aircraft, owl
	2	Evening	72	76	45	Calm	Local traffic, distant aircraft

4. Predicted Noise Levels During Operation

The following sections describe the selection of modeling methodology and input data used in this analysis, including the locations of the noise sources and receivers, noise source spectral characteristics, terrain and ground type, and atmospheric conditions.

4.1 Noise Modeling Methodology

To assess noise levels during Facility operations, a three-dimensional, computer-generated acoustical model of the Project was developed using SoundPLAN® 9.1. Figure 4-1 provides a three-dimensional image of the acoustical model. The following provides a description of the input parameters used in the model.

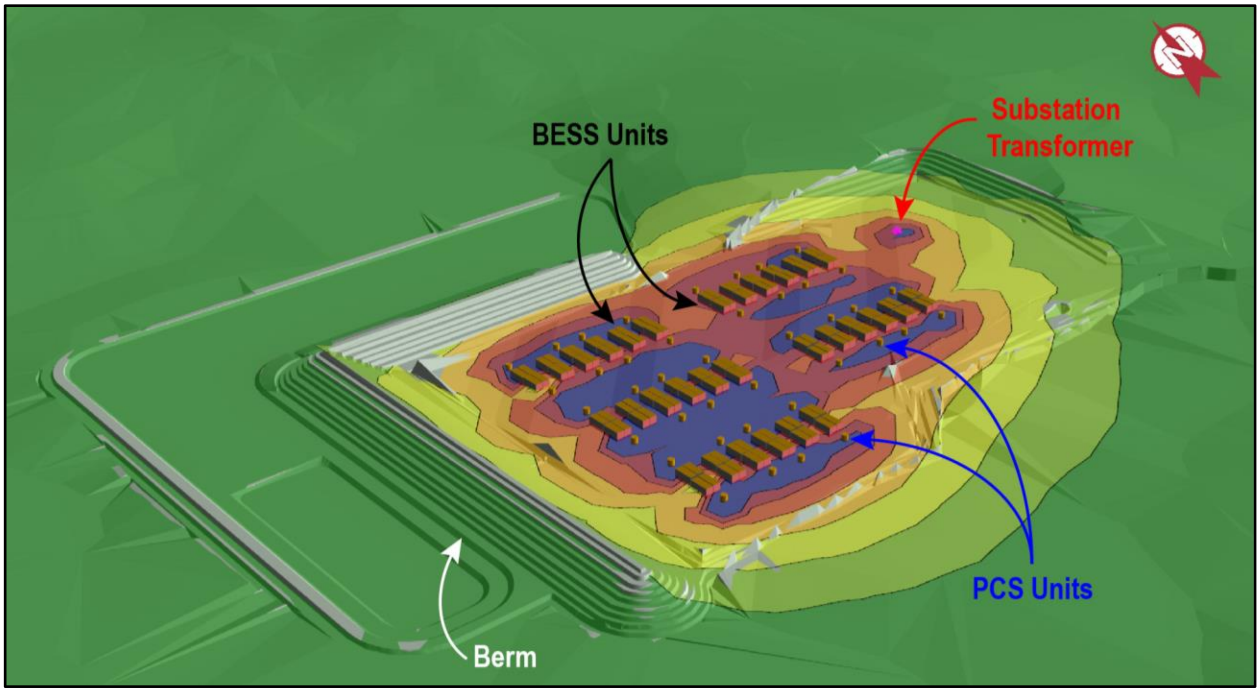


Figure 4-1. Three-Dimensional View of the SoundPLAN Model for the Project

Acoustical Modeling Standard. Acoustical modeling was based on ISO 9613-2:2024, "Attenuation of Sound during Propagation Outdoors," adopted by the International Standards Organization (ISO) in 1996 and last revised in 2024. This standard provides a widely accepted method for predicting outdoor environmental sound levels from sources of known emission. ISO 9613-2:2024 predictions are expected to agree with field measurements within a 3 dB range out to 1,000 meters for the meteorological and environmental conditions described.

Meteorology. ISO 9613-2:2024 is designed to estimate far-field outdoor sound levels under favorable propagation conditions, with the wind blowing from the site towards receivers, or under well-developed temperature inversions which can occur on clear, calm nights. For other weather patterns, such as during upwind conditions, or for ground-based temperature inversions observed levels would generally be less than predicted.

Air Absorption. Absorption/attenuation of sound by air is dependent on a source's spectral character or frequency, as well as air temperature and to a lesser degree, relative humidity. In general, high temperatures and low humidity increase high-frequency sound absorption, which tends to reduce far-field predicted levels. Specific values used in the model for temperature (10°C), relative humidity (70%) and barometric pressure (1013 mbar) represent cold and humid conditions, resulting in a generally lower estimate of atmospheric attenuation.

Ground Absorption. The acoustical effect of the ground was modeled using the ISO 9613-2:2024 General Method. This method requires the selection of ground factors for the ground near the source, near the receiver, and in between. A ground factor of 0.0 represents a completely reflective surface such as pavement, which results in higher levels of sound reaching a receiver. A ground factor of 1.0 represents absorptive ground such as thick grass or fresh snow, resulting in lower levels of sound. For this analysis a ground factor of 0.5, which is representative of partially absorptive ground surfaces such as gravel, was assumed for areas within the Facility fence line. Areas outside of the Facility fence line consist of open farm fields and forested land, and a ground factor of 1.0 was assumed. Topography of the site and surrounding areas was based on United States Geological Survey (USGS) 2-meter resolution National Elevation Datasets. Site grading was provided by the Project.

Reflections and Barrier Effects. For installations with many sources and obstacles, such as the Project, reflected energy and the effect of shielding can be considerable. For example, the BESS units on the west side of the Facility act as a barrier shielding receptors from the noise emitted from the units located further east. The model was constructed such that this was taken into account. The number of reflections for the model was conservatively set at two, allowing for the effects of multiple sound paths from a single source to be considered. In addition, the shielding effect of an earthen berm was modeled.

Directivity. Noise sources, and more specifically their frequency characteristics, are not always emitted evenly in all directions. For example, the BESS units for this Project emit most of their noise from each end where the fans are located. This directivity was accounted for by modeling the BESS fans at the ends of each BESS unit, which is described below.

Operating Periods and Capacity. The analysis assumes 24-hour operation of the Project and that all equipment is at full-load capacity.

Noise Emission Factors. Sound power levels (PWL) for all major pieces of equipment were estimated using measurements taken by equipment manufacturers and industry-standard prediction methods. Table 4-1 lists the noise emission level for each major piece of equipment associated with the Project. The levels shown are per unit. Each source was modeled as follows:

- The BESS unit cooling systems were modeled at the end of each BESS unit, facing outwards to the north and south, away from other nearby BESS units.
- The PCS units and the main substation transformer were modeled as point sources at a height of approximately 5 feet above the proposed site grade.

Noise Prediction Locations. There are 165 noise-sensitive receptors located within 1.5 miles of the Project. Noise levels were predicted at the 25 receptors closest to the Facility, which range from roughly 440 feet to over one-half mile from the Facility property line. Predicted noise levels at the more distant receptors will be less than those shown herein. To assess compliance with the Township Ordinance, noise levels were also predicted in the form of contours, where lines representing specific noise levels, e.g., 55 dBA, are plotted over an aerial photograph of the site. Between the Facility and a given contour line the predicted noise level is greater than the value represented by the contour line. All point and noise contour predictions were done at 5 feet above the ground level.

Table 4-1. Noise Emission Factors Used in Acoustic Model

Equipment Description And Quantity	Source Type	Overall Sound Power Level (dBA)	Octave Band Sound Emission Levels (dBA)								
			31.5 Hz	63 Hz	125 Hz	250 Hz	500 Hz	1,000 Hz	2,000 Hz	4,000 Hz	8,000 Hz
BESS Unit Cooling (120)	Area	95	-	69	85	87	88	89	88	85	78
PCS Unit (40)	Point	93	52	66	76	84	83	84	84	89	81
Substation Transformer (1)	Point	100	54	76	90	92	97	93	87	79	65

Noise Mitigation

Compliance with the 55 dBA property line noise limit was achieved using a 20-foot-high earthen berm along the entire western and approximately 330 feet of the northern side of the Facility. The berm has a 2:1 slope and is located approximately 80 feet away from the Facility fence line.

4.2 Predicted Noise Levels

Table 4-2 lists the predicted noise level at the loudest 25 receptors. The predicted noise levels are shown graphically in Figure 4-2. Predicted noise levels at these receptors range from 35 to 46 dBA, and are below 55 dBA along the entirety of the Facility property line.

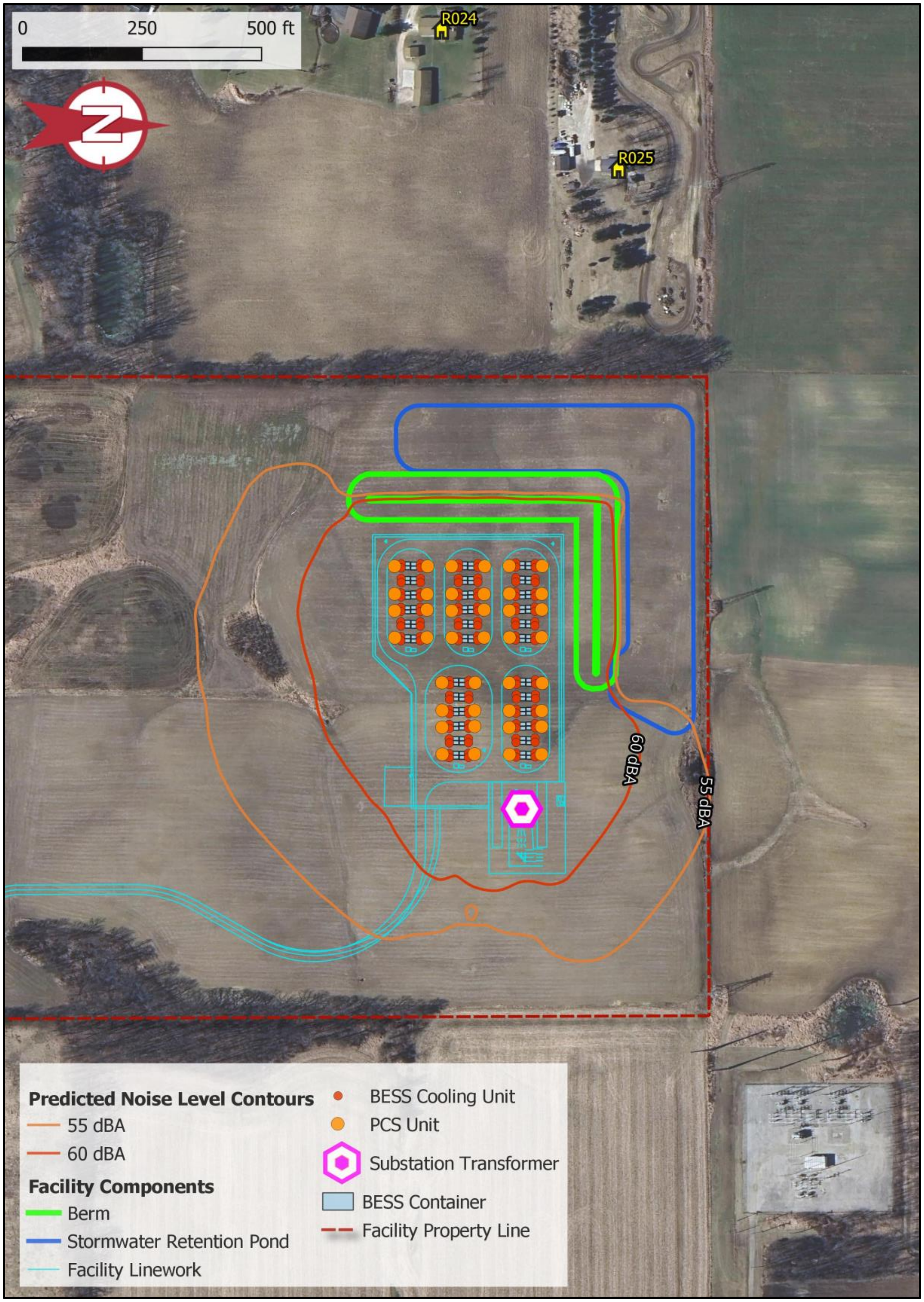


Figure 4-2. Predicted Noise Level Contours

Table 4-2. Predicted Noise Levels at Loudest 25 Receptors

Receptor	Ground Elevation (m asl)	Receptor Height (m agl)	UTM 17N		Overall Noise Level (dBA)
			Easting (m)	Northing (m)	
R025	265576	4670694	262	260	46
R024	265486	4670581	264	262	45
R023	265465	4670481	264	262	44
R020	265577	4670191	268	267	44
R022	265457	4670407	262	260	44
R019	265450	4670183	269	268	42
R046	266465	4670855	264	262	41
R021	265281	4670414	262	260	41
R008	266279	4670028	268	266	40
R026	265276	4670972	260	258	39
R012	266568	4670292	268	266	39
R009	266371	4669999	266	264	39
R007	265888	4669809	270	268	38
R018	265326	4669987	274	272	38
R011	266605	4670186	268	266	38
R010	266563	4670058	268	266	38
R047	266583	4671102	261	260	38
R050	266469	4671250	258	257	37
R013	266725	4670255	269	267	37
R048	266618	4671167	262	260	37
R051	266492	4671292	258	256	36
R041	265783	4671537	256	254	36
R049	266619	4671238	262	260	36
R043	266191	4671494	257	256	36
R040	265584	4671530	252	250	35

Appendix A

Noise Terminology and Primer

Noise is generally defined as loud, unpleasant, unexpected, or undesired sound that interferes or disrupts normal human activities, such as talking and sleeping. Although exposure to high noise levels has been demonstrated to cause hearing loss, annoyance is the principal human response to environmental noise. The reaction of individuals to similar noise events is diverse and is influenced by a number of factors, such as the type of noise, its perceived importance, the time of day during which the noise occurs, and its duration, frequency, and level.

Decibel (dB) is a logarithmic unit of any measured physical quantity and commonly used in quantifying sound and vibration. Whenever the word "level" is used (e.g., "sound level" versus just "sound"), this logarithmic quantity is implied. The logarithmic scale is used to compress an otherwise very large range of numbers into a more manageable and relatable range. For example, humans are capable of detecting a very wide range of pressure fluctuations in the air, from $20x10^{-6}$ to 200 Pascals. When expressed on the logarithmic scale this reduces to approximately 0 to 140 dB. Figure A-1 shows the relative decibel levels of some familiar sources of sound (note that the levels in the figure are A-weighted, which is discussed below).

Weighted Decibels (dBA and dBC): Human hearing is more sensitive to high frequency sound (e.g., 1,000 Hz) than to low frequency sound. However, microphones are designed to measure sound at all frequencies equally (within their stated range). To approximate human hearing the A-weighting scale was developed to mimic human hearing at moderate levels and can be applied to both measured and predicted noise levels. Most sound level meters have the capability to measure both un-weighted (also called "linear" and sometimes "Z-weighted") noise levels and A-weighted noise levels. Similarly, measured or predicted noise levels can be expressed on a C-weighted scale. This scale represents human hearing at higher levels, where sensitivity to low frequency noise becomes greater. This metric is often used to assess the potential impact of low frequency noise.

The weighting process is illustrated in Figure A-2, which shows a representative measured environmental noise frequency spectrum. The black trace represents the unweighted levels measured in each of nine standard octave bands (defined bands of frequency). The area under the black trace represents the total energy of the sound. The blue trace shows the octave band levels after being adjusted by the C-weighting filter, and the orange trace shows the levels adjusted by the A-weighting filter. The overall sound level (representative of the total energy across the entire audible frequency spectrum) for each weighting can be calculated by logarithmically adding the noise level in the individual octave band levels. In this example, the overall levels are 61 dB (unweighted), 59 dBC, and 45 dBA. Table A1 below shows the octave band weighting values (specified by the American National Standards Institute, ANSI) and the weighted and unweighted octave band levels for this example.

Equivalent Level (L_{eq}): The L_{eq} is the most commonly used metric for predicting, regulating, and measuring noise. It is the quantity referenced or required by relevant acoustic standards, such as ANSI S12.9 Part 3 and ISO 9613-2:2024. It can be expressed on any of the weighting scales discussed above (but typically A-weighted) and requires a stated time interval, with one hour being common. The L_{eq} has the same acoustic energy as the time-varying sound level over the interval. The L_{eq} accounts for noise fluctuations from moment to moment by averaging the louder and quieter moments and giving more weight to the louder moments.

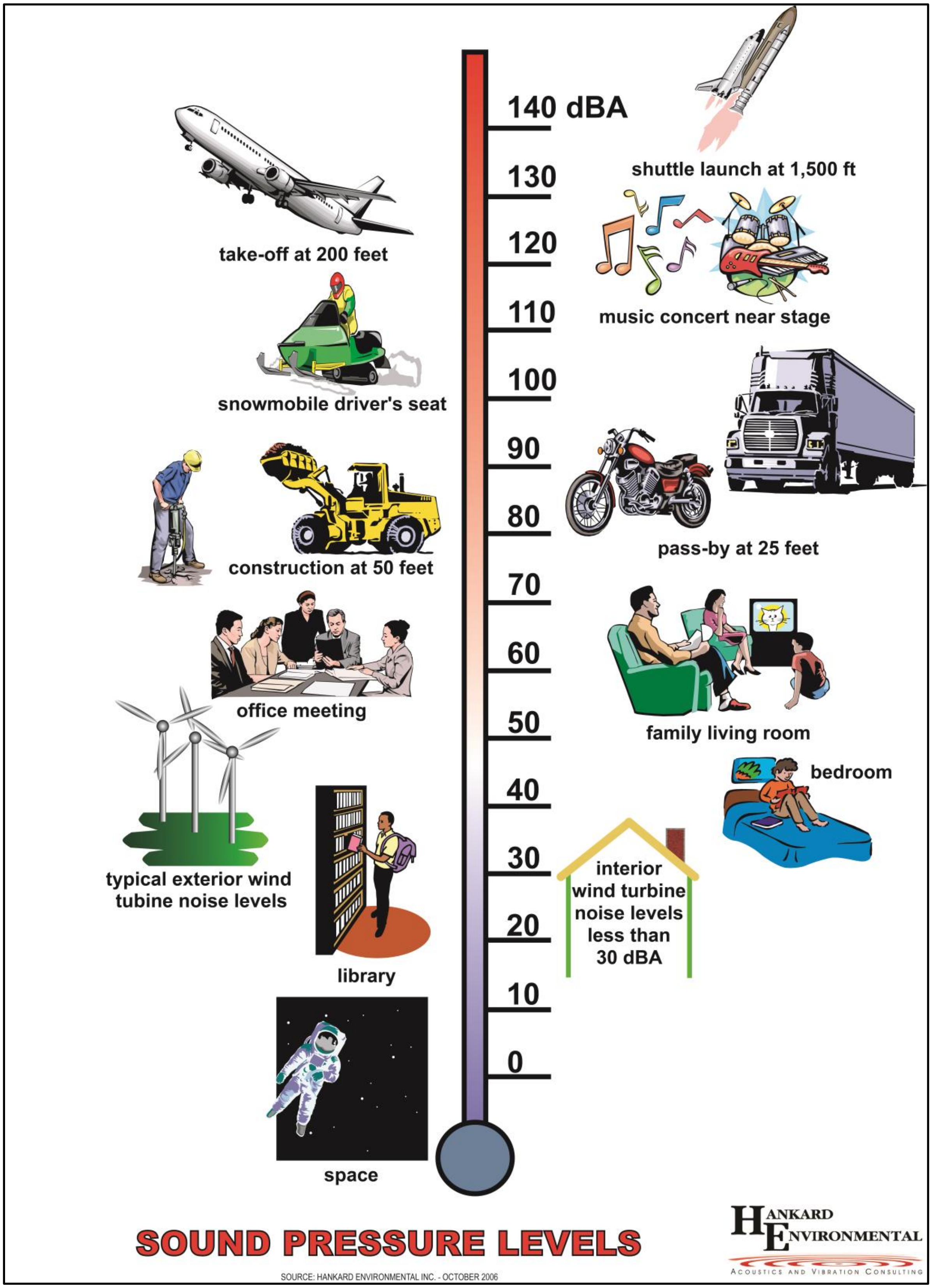


Figure A-1. Noise Levels of Typical Sources (dBA)

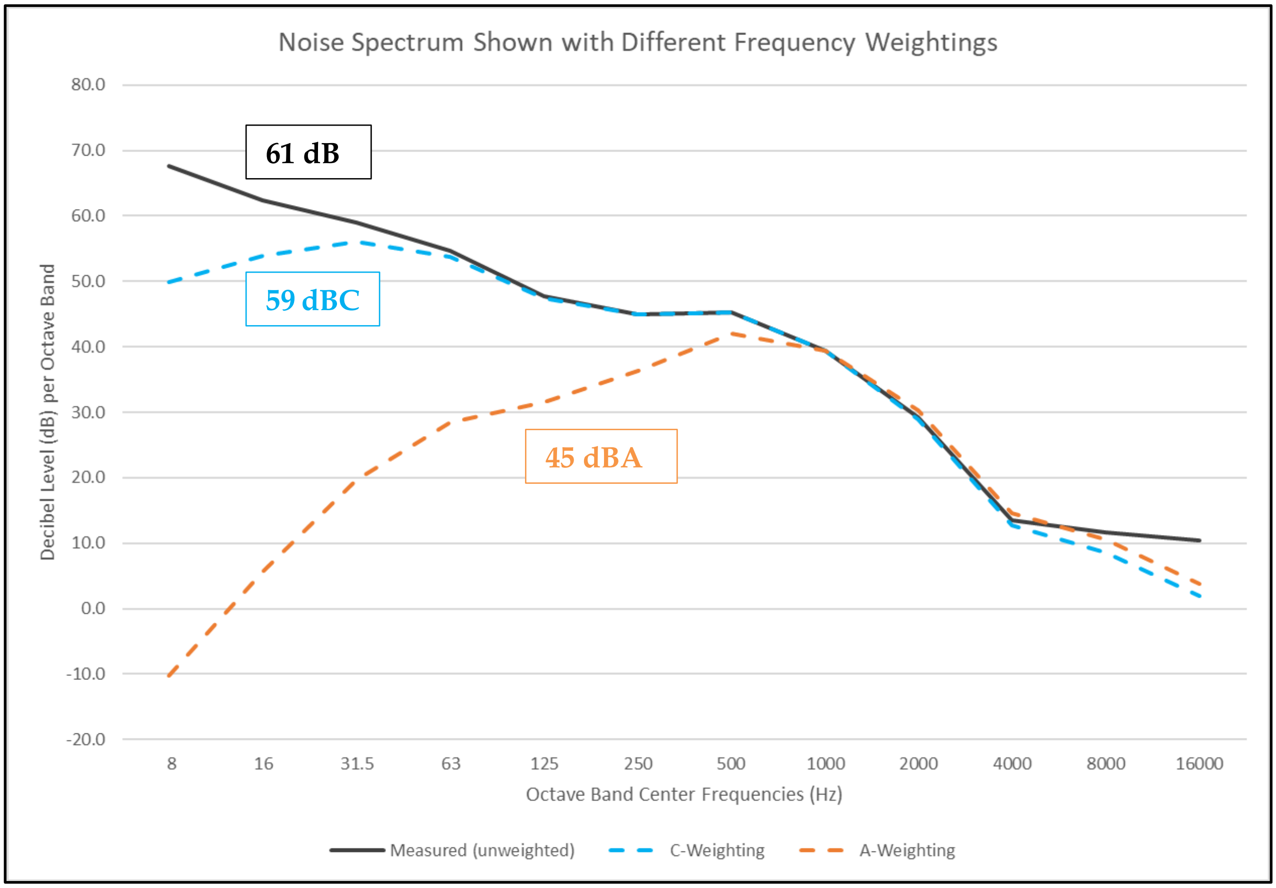


Figure A-2. Example of A- and C-weighting

Table A-1. Octave Band A- and C-Weighting Factors

	Overall	Octave Band Center Frequency (Hz)								
	Level	**31.5**	**63**	**125**	**250**	**500**	**1000**	**2000**	**4000**	**8000**
A-Weight Filter	-	-39.4	-26.2	-16.1	-8.6	-3.2	0.0	1.2	1.0	-1.1
C-Weight Filter	-	-3.0	-0.8	-0.2	0.0	0.0	0.0	-0.2	-0.8	-3.0
Measured (unweighted)	61 dB	59	55	48	45	45	39	29	14	12
A-Weighting	45 dBA	20	28	32	36	42	39	30	15	11
C-Weighting	59 dBC	56	54	47	45	45	39	29	13	9

Statistical Descriptors: The most commonly employed statistical descriptors are the L_{10}, L_{50}, and L_{90}, which are the level exceeded 10, 50, and 90% of the time, respectively, over a stated interval, respectively. These too can be expressed using any weighting scale and over any time interval.

- The L_{90} is representative of the lower, constant noise levels in an environment. It is often used to quantify the ambient or background noise level. It is used mainly as a noise measurement tool, in that it can filter the higher, varying noises in an environment. It is not often used as a standard.
- The L_{50} is the median level and is used as a standard in some applications or jurisdictions (e.g., Minnesota).
- The L_{10} is representative of the louder sounds in an environment, such as passing cars, barking dogs, gusts of wind, etc. This is often used in local regulations.

Frequency-Specific Descriptors: Almost all noise standards in the U.S. are inclusive of all frequencies across the human audible spectrum, such as the overall A-weighted noise level (dBA). Noise levels can also be predicted, measured, and assessed in individual bands of frequency.

- ANSI has divided the human hearing range into nine standard octave bands, with center frequencies as shown in Figure 2, above. The Town of Huntington regulates noise from all sources on an octave band basis. Octave band noise levels are most commonly expressed as unweighted decibels but can also be expressed on any scale (e.g., A or C).
- Octave bands can be divided into one-third octave band noise levels. One-third octave band levels can also be expressed on any scale.

Appendix B

Photographs of Ambient Noise Measurement Locations

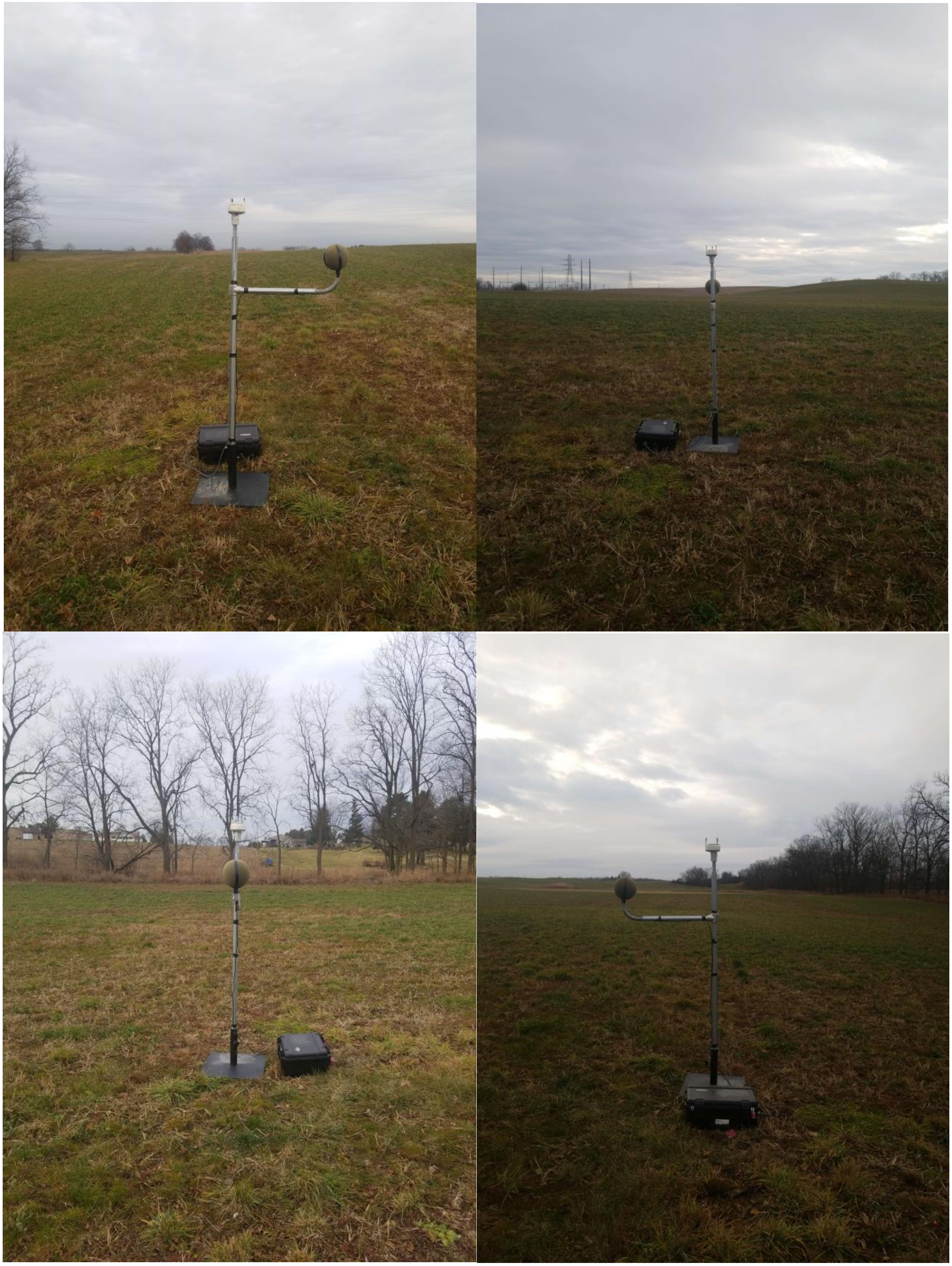


Figure B-1. LT1 North, East, South, West

Figure B-2. LT2 North, East, South, West

Figure B-3. ST1 North, East, South, West

Figure B-4. ST2 North, East, South, West

Figure B-5. ST3 North, East, South, West

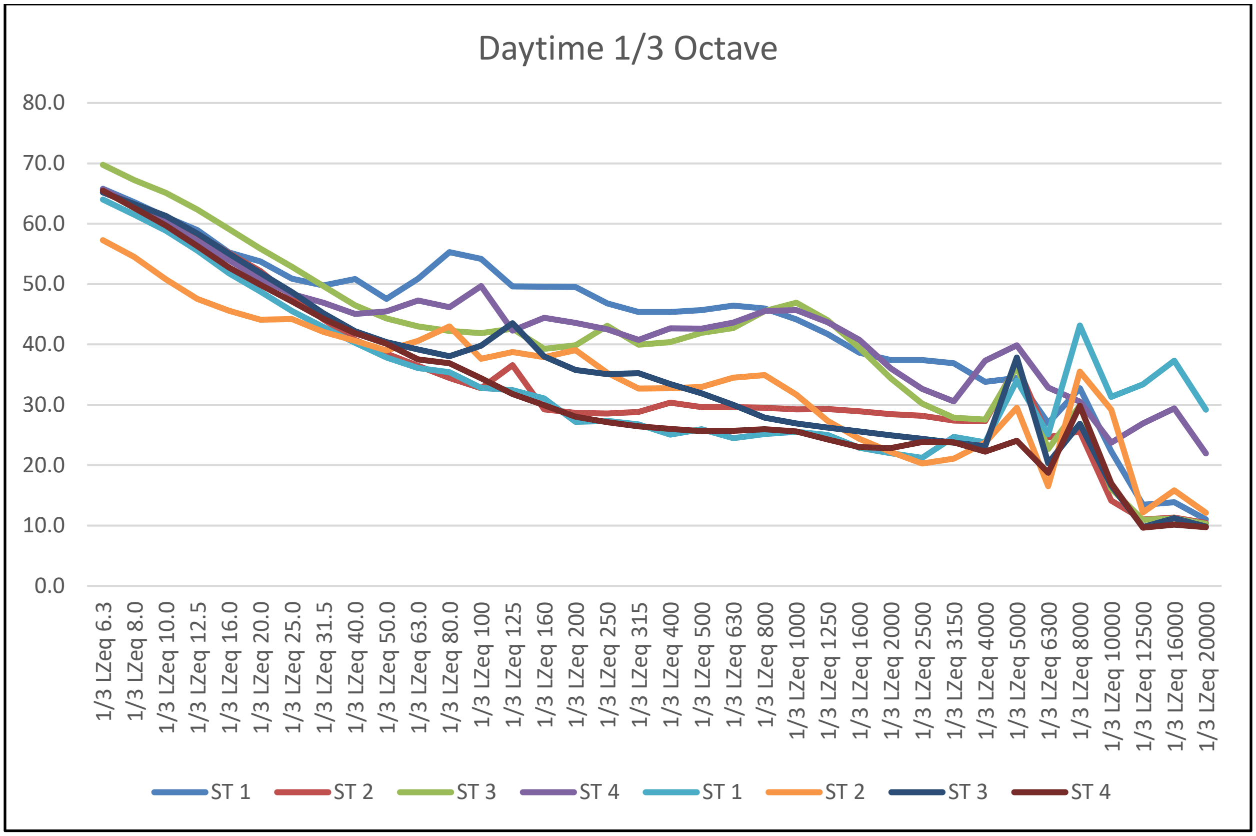
Figure B-6. ST4 North, East, South, West

Figure B-7. ST5 North, East, South, West

Figure B-8. ST6 North, East, South, West

Appendix C

Ambient Noise Level Spectral Plots


Daytime 1/3 Octave
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/3 LZeq 6.3
1/3 LZeq 8.0
1/3 LZeq 10.0
1/3 LZeq 12.5
1/3 LZeq 16.0
1/3 LZeq 20.0
1/3 LZeq 25.0
1/3 LZeq 31.5
1/3 LZeq 40.0
1/3 LZeq 50.0
1/3 LZeq 63.0
1/3 LZeq 80.0
1/3 LZeq 100
1/3 LZeq 125
1/3 LZeq 160
1/3 LZeq 200
1/3 LZeq 250
1/3 LZeq 315
1/3 LZeq 400
1/3 LZeq 500
1/3 LZeq 630
1/3 LZeq 800
1/3 LZeq 1000
1/3 LZeq 1250
1/3 LZeq 1600
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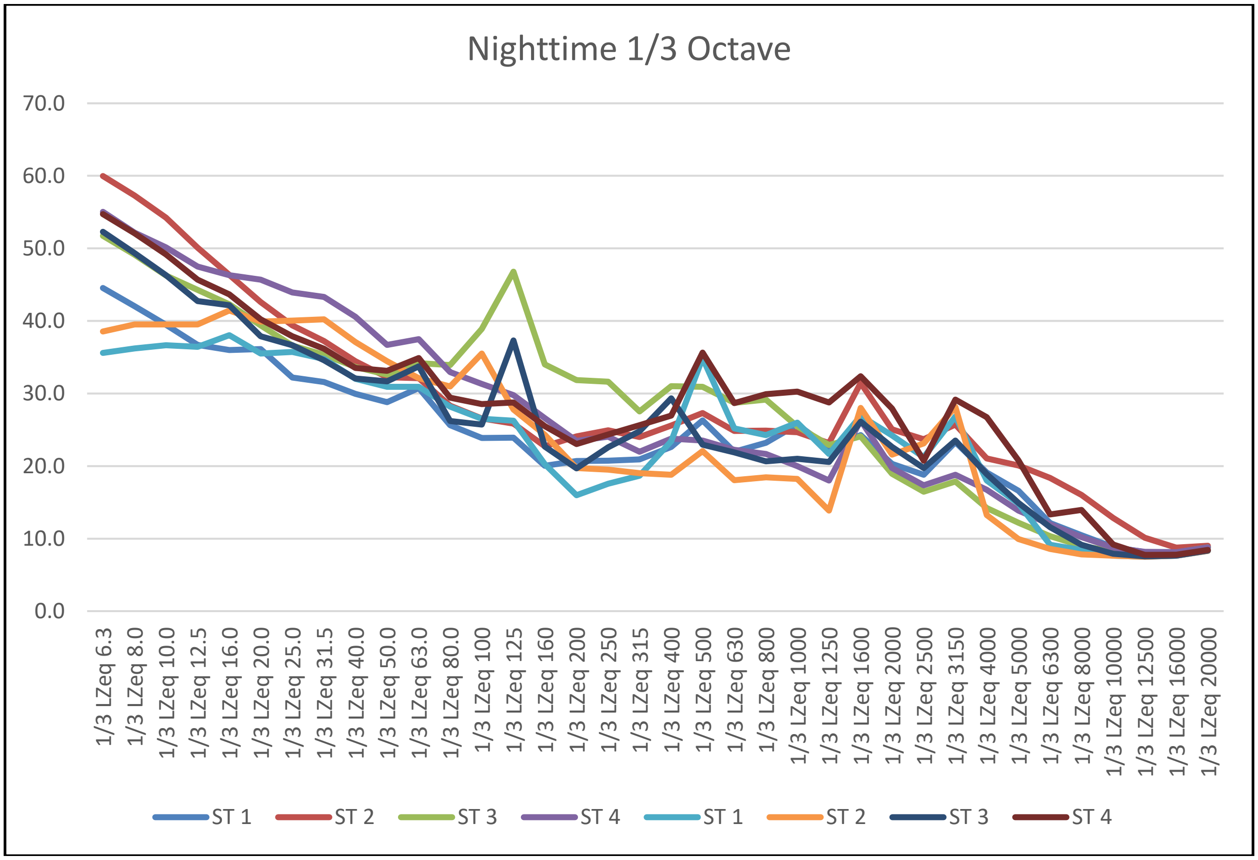
1/3 LZeq 4000
1/3 LZeq 5000
1/3 LZeq 6300
1/3 LZeq 8000
1/3 LZeq 10000
1/3 LZeq 12500
1/3 LZeq 16000
1/3 LZeq 20000
ST 1
ST 2
ST 3
ST 4
ST 1
ST 2
ST 3
ST 4


Nighttime 1/3 Octave
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
1/3 LZeq 6.3
1/3 LZeq 8.0
1/3 LZeq 10.0
1/3 LZeq 12.5
1/3 LZeq 16.0
1/3 LZeq 20.0
1/3 LZeq 25.0
1/3 LZeq 31.5
1/3 LZeq 40.0
1/3 LZeq 50.0
1/3 LZeq 63.0
1/3 LZeq 80.0
1/3 LZeq 100
1/3 LZeq 125
1/3 LZeq 160
1/3 LZeq 200
1/3 LZeq 250
1/3 LZeq 315
1/3 LZeq 400
1/3 LZeq 500
1/3 LZeq 630
1/3 LZeq 800
1/3 LZeq 1000
1/3 LZeq 1250
1/3 LZeq 1600
1/3 LZeq 2000
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1/3 LZeq 3150
1/3 LZeq 4000
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ST 1
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