III-o | ACOUSTICS TECHNICAL SUMMARY

Project Double Reed's North and South Campuses are committed to minimizing sound levels at surrounding areas and aligning our development with STAMP's intended uses.

Acoustic Modeling and Compliance

Modeling was performed using Cadna/A software implementing ISO 9613-2 environmental sound propagation algorithms. The assessment accounts for distance attenuation, barrier effects from buildings/topography, and atmospheric absorption.

The project achieves full compliance with the New York State Department of Environmental Conservation (NYSDEC) guidelines, which are the most stringent criteria applicable to the site:

- Daytime Limit: 65 dBA at the property boundary.
- Nighttime Limit: 45 dBA at the property boundary.

Modeling confirmed that sound levels at proximate noise-sensitive areas—including residential receptors to the north and south and the Tonawanda Reservation boundary—remain well within these limits across all standard operating profiles.

Operational Acoustic Scenarios

For facilities of this type, the typical operational acoustic profile is covered by three main scenarios:

- **Peak Operations** This represents the facility's typical 24/7 operational profile.
- **Generator Maintenance:** A periodic scenario involving the testing of a limited number of generators during daytime hours for short durations, in conjunction with the equipment operating under the Constant Mechanical profile.
- **Emergency Backup:** An emergency scenario where all generators are operational, this is anticipated to be extremely infrequent, maybe once or twice every 3 to 5 years for short durations based on the reliability of the supporting grid infrastructure. As such, this impact is typically not considered when completing detailed noise models as the events are extremely infrequent and typically of a short duration when they do occur.

Integrated Design Measures

Compliance is achieved through primary architectural and engineering controls integrated into the site plan:

- **Rooftop Screening:** Each of the three data centers (housing 60 chillers each) includes full-perimeter solid rooftop screens extending 18 feet above the roofline (approximately 64 feet total structure height) to mitigate chiller noise.
- **Generator Barriers:** Ground-level generator yards include solid noise barriers of approximately 20 feet high for the South and North Campuses.
- **Operational Tuning:** Chillers are programmed to operate at reduced fan speeds (55%) during nighttime hours to further minimize the acoustic footprint.

Sound Measurement Methodology

Metric and Weighting Standards

The most common metric is the overall A-weighted sound level measurement adopted by Regulatory Agencies worldwide. Analysis of the project will focus on the A-weighted level consistent with the requirements established for STAMP. The A-weighting network mimics the human ears response to typical environmental sounds. There is consensus that A-weighting is appropriate for estimating the hazard of noise-induced hearing loss. With respect to other effects, such as annoyance, A-weighting is acceptable for typical sounds which are dominated by middle- and high-frequencies. However, if the noise is unusually high at low frequencies or contains prominent low-frequency tones, the A-weighting may not give a valid measure.

Equipment and Tonality Mitigation

The equipment associated with this project does not typically exhibit unusually high frequencies or contain low-frequency tones. This project utilizes magnetic-bearing centrifugal compressor technology within the proposed chiller systems. This choice significantly reduces tonal noise compared to conventional screw or oil-lubricated compressors. In these magnetic-bearing systems:

- The compressor shaft is fully levitated during operation, eliminating metal-to-metal contact and bearing friction noise.
- The primary sound source is shifted from mechanical vibration to the movement of refrigerant gas, resulting in sound levels substantially lower than traditional air-cooled screw chillers.

Because the compressors operate so quietly, fan noise becomes the dominant contributor to the sound profile. To mitigate this, the chillers are equipped with axial fans featuring sickle-shaped blade geometry, specifically designed to minimize aerodynamic blade-pass and tonal noise. Furthermore, the use of electronically commutated (EC) motors eliminates the electromagnetic hum typically found in conventional AC motors.

Physical and Dynamic Attenuation

Beyond the primary equipment design, the project employs a multi-layered mitigation strategy to control the acoustic footprint through both physical barriers and active management systems. Temporary point sources, such as generators, are housed within acoustical enclosures and fitted with high-efficiency silencers or mufflers to suppress noise at the origin. The chillers themselves feature integrated shielding, including factory-installed compressor enclosures and insulated discharge piping, which further dampen mechanical resonance.

To address fluctuating environmental conditions, a dynamic noise control system modulates fan speed in real-time based on specific acoustic requirements, ensuring that tonal sound levels are reduced during sensitive operating periods. These source-level controls are complemented by structural screening designed with a minimum surface mass of 4 lbs./sq. ft. This specific density ensures effective transmission loss across the entire audible spectrum; for high-frequency sound, the dense material acts as a rigid barrier to block shorter wavelengths, while for low-frequency sound, the mass provides the requisite inertia to resist the passage of longer wavelengths that typically bypass lighter materials.

Intended for
Stream Data Centers

Date
February 12, 2026

PROJECT DOUBLE REED STAMP SITE GENESEE COUNTY, NY

NOISE MODELING RESULTS

RAMBOLL Bright ideas. Sustainable change.

Project Double Reed
STAMP Site
Genesee County, NY
Noise Modeling Results

Project name	**Project Double Reed – STAMP Site - Noise Modeling Results**
Recipient	**Bradley Wells – Stream Data Centers**
Date	**2026-02-12**
Description	**Noise Modeling Results**

Contents

1.	Introduction	2
2.	Subject Site and Data Center Description	2
2.1	Site Description and Surrounding Area	2
2.2	Data Center Description	4
3.	Acoustical Criteria	5
3.1	State of New York	5
3.2	Genesee County	5
3.3	Town of Alabama	5
4.	Noise Modeling	6
4.1	Methodology	6
4.2	Operating Scenarios and Equipment Sound Levels	6
4.3	Assessment Locations	8
4.4	Noise Model Results	10
	4.4.1 Constant Mechanical	10
	4.4.2 Generator Maintenance	13
	4.4.3 Emergency Generator	15
5.	Conclusion	18
Appendix		
	Manufacturer Sound Data	19

Confidential

1. Introduction

Ramboll has completed an environmental noise assessment for the proposed Project Double Reed within the Science Technology and Advanced Manufacturing Park (STAMP) site located in the Town of Alabama, Genesee County, New York. The assessment includes a summary of the proposed data center, site configuration, relevant acoustic criteria, noise sensitive receptors and noise model results and presents the conservative, worst-case evaluation. The following documents presents our key findings and comments.

2. Subject Site and Data Center Description

2.1 Site Description and Surrounding Area

The site is located in the Town of Alabama, Genesee County, New York. The site is divided into two campuses, with both campuses located directly west of Crosby Road, and approximately 600 feet south of Highway 77 and 2600 feet north of Judge Road, respectively.

The site and surrounding parcels are zoned as Technology District 1 by the town. Other nearby land uses include Agricultural Residential to the north and south, Technology District 2 and Technology District 3 to the east. The Tonawanda Reservation is located to the south-west of the site. However, no zoning determination is applicable for the Reservation.

Nearby noise sensitive receivers include various scattered residences to north and south of the site. The nearest of which is approximately 450 feet from the northern property boundary to the residential dwelling.

Figure 1 below presents the approximate site location and county land zoning classifications.

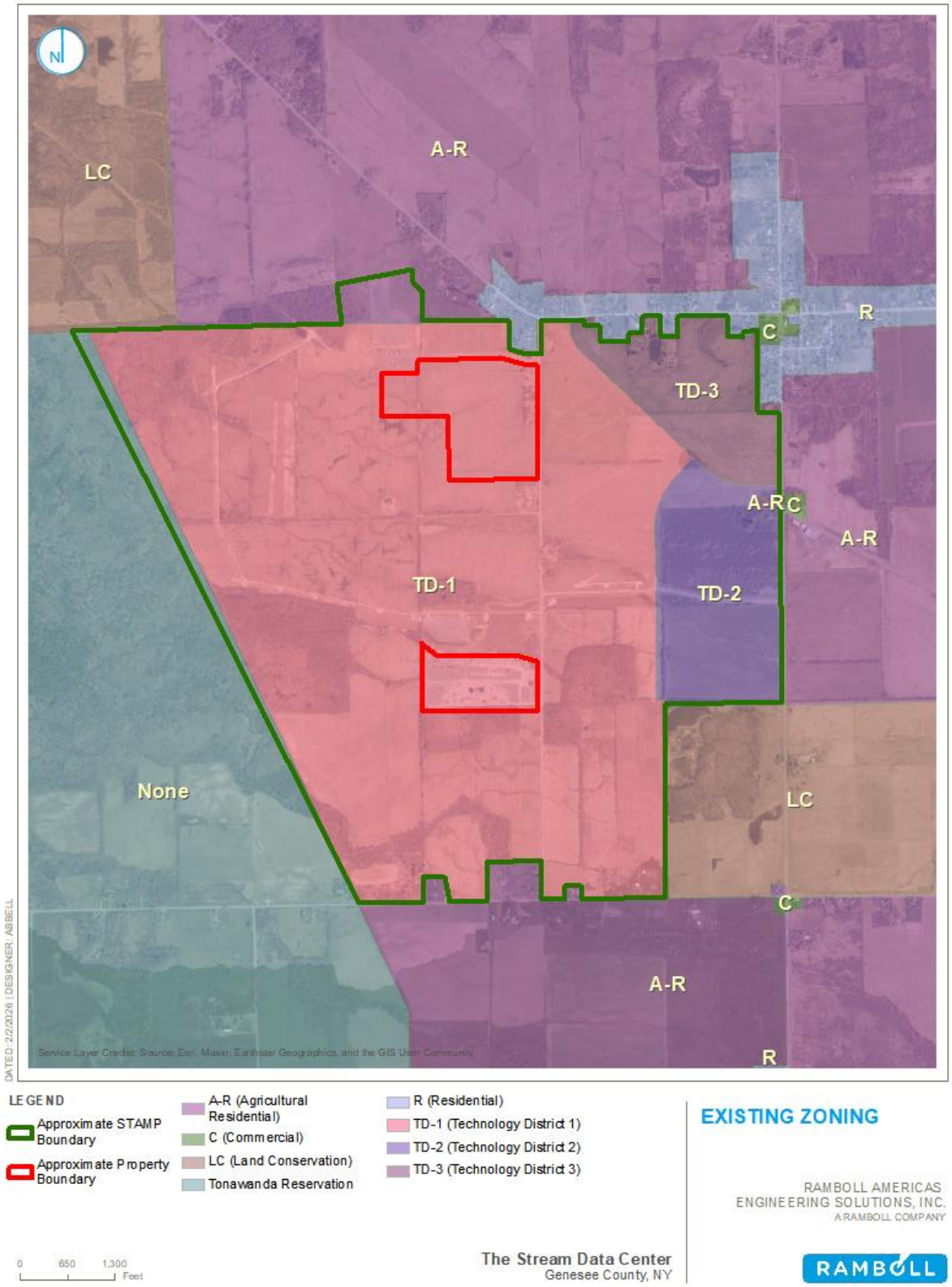

Figure 1: Site Location and County Zoning

2.2 Data Center Description

The site is proposed to include 2 data center buildings in the northern campus and 1 data center building in the southern campus. Each building will include 66 chillers per building. 5 generators are included for the northern campus and 7 generators for the southern campus.

The data center will operate 24 hours a day, 7 days a week. It is likely all chillers will operate simultaneously, and each building will require periodic generator maintenance testing. Specific operating details on quantity and testing configurations have been provided and are discussed below. Additionally, emergency power generators are likely to be used during emergency power outages only, which is expected to be infrequent given the projects connection to transmission level power infrastructure.

The proposed site plan is presented below in Figure 2.

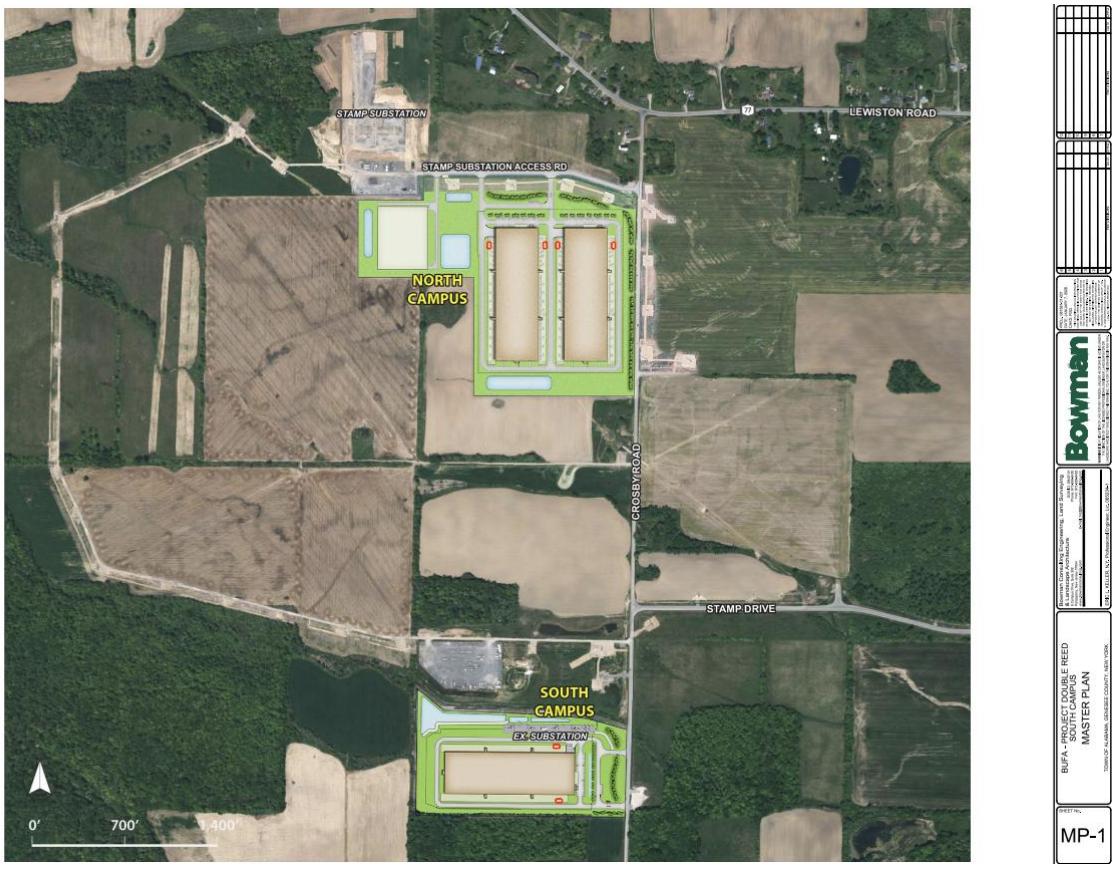

Figure 2: Proposed Site Plan

3. Acoustical Criteria

3.1 State of New York

No state-specific mandatory noise requirements applicable to the Site were identified. However, compliance with the State Environmental Quality Review Act will be required for any discretionary state or local approvals, which is anticipated to include an assessment of potential noise impact.

The GEIS/Findings for (STAMP) Project evaluated noise limits at the STAMP boundary to an Leq of 65 dBA during the day and 45 dBA at night. As noted there, these property line requirements of 65 dBA during the day and 45 dBA at night will ensure that the 65 NYSDEC guidelines for non-industrial areas are not exceeded. According to the GEIS/Findings, these levels are also "consistent with other technology manufacturing sites, including the Luther Forest Technology Campus in Malta, NY. It should also be noted that given the 65 dBA / 45 dBA (day/nighttime) limit proposed at the property line, lower levels would be realized at receptors which are not located immediately adjacent to the property boundary."

3.2 Genesee County

No county-specific noise requirements applicable to the Site were identified.

3.3 Town of Alabama

No quantifiable noise requirements applicable to the Site were identified within the Town of Alabama. However, the Town of Alabama Zoning law provides non-quantifiable noise requirements and are presented below.

> *'Section 104 Application of Regulations*
>
> *No building shall be erected, constructed, moved, altered, rebuilt or enlarged, nor shall any land, water or building be used, designed or arranged to be used for any purpose except in conformity with this Local Law. No buildings, structure, or premises shall be used, and no building or other structure shall be erected which is intended, arranged or designed to be used for any trade, industry, business or purpose of any kind, that is noxious by reason of the emission of odor, dust refuse matter, garbage, smoke, fumes, gas, noise or vibration, or that is dangerous to the health or safety of the community.'*
>
> Town of Alabama Zoning Law

The modeled noise levels described below demonstrate that the Project is not anticipated to emit noise of a character or magnitude that would be considered 'noxious' within the meaning of the Town's Zoning Law.

4. Noise Modeling

The following subsections present a summary of the noise model methodology, operating scenarios and equipment sound levels, assessment locations, and a modeling results summary.

4.1 Methodology

The noise emissions assessment for the STAMP site has been completed using a sound prediction software package, Cadna/A, published by Datakustik GmbH, which is configured to implement the ISO 9613-2 environmental sound propagation algorithms and has an accuracy of + / - 1 dB. It allows for the creation of complex acoustical models and predicts sound pressure levels due to sound emissions from a specific source(s). The modelling considers the following factors:

- Source sound level and directivity,
- Distance attenuation,
- Source-receptor geometry, including heights and elevations,
- Barrier effects of buildings and topography, and
- Ground and atmospheric attenuation.

4.2 Assessment of Regulatory Compliance

Regulatory compliance is based solely on dBA noise levels, which are designed to reflect how the human ear perceives sound across different frequencies. As the existing framework does not incorporate dBC or C-weighted metrics for this specific evaluation, our compliance process remains focused on the A-weighted criteria defined by the governing body.

4.3 Operating Scenarios and Equipment Sound Levels[1]

As discussed in Section 2.2, the site is proposed to include 2 data center buildings in the northern campus, and 1 data center building in the southern campus. Each building will include 66 chillers per building, positioned on platforms 12 feet above roof level. 5 generators are included for the northern campus and 7 generators for the southern campus and are located at ground level.

The data center buildings are understood to be 46 feet high and include a full perimeter rooftop screen. Extending 18 feet above roof level (top of screen 64 feet). For the purposes of the assessment, the rooftop screens have been assumed to be solid (minimum 4 lbs. per square foot) and containing sufficient enough density to prevent noise transmission through the barrier. We note that the specific details of the rooftop screen may change as the design progresses.

Additionally, generator yards are to include full perimeter solid noise barriers (minimum 4 lbs. per square foot). The barriers are to be 30 feet high for the southern campus and 20 feet high for the northern campus.

[1] To assess potential noise impacts at sensitive receptors, the modeling performed for this report has been compared to existing ambient noise level measurements of some of the areas surrounding the site, which were previously undertaken for the Town of Alabama on November 15th, 2023. Ramboll has been provided with a summary of results in the document entitled "STAMP Sound Study 12 23 for TB Review" for review. We note that Ramboll cannot independently verify the validity or the accuracy of these measurement results.

A schematic markup of the rooftop screen (yellow) and generator yard barrier (blue) locations are presented below in Figure 3.

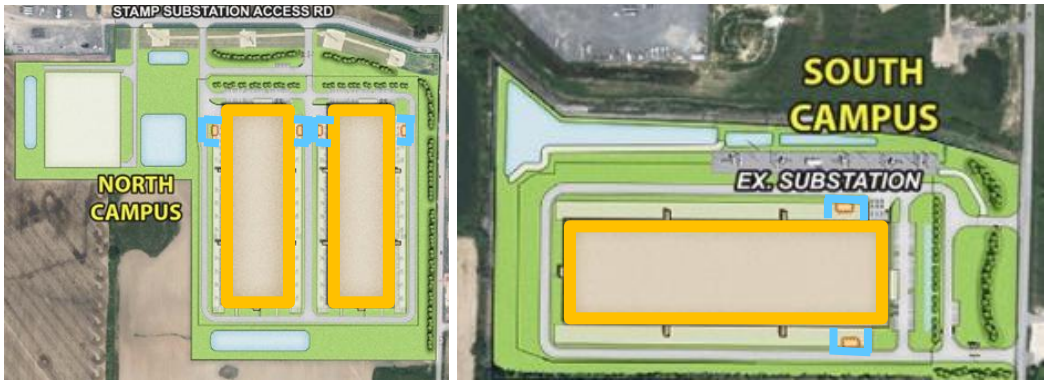

Figure 3: Barrier Details

Based on discussions with the client and design team, the data center will operate under 3 typical scenarios. The 3 operating scenarios are summarized below:

Constant Mechanical

Under the Constant Mechanical operating scenario, all chillers will operate simultaneously. This is considered the typical operating scenario, 24 hours per day, 7 days per week.

Chiller equipment specifications use two distinct atmospheric data scenarios representing the highest thermal stress the equipment will face during its respective time periods:

- Daytime 100% Load / 97.2 °F Ambient / 70% Fan Speed, and
- Nighttime 100% Load / 85.5 °F Ambient / 55% Fan Speed.

Both daytime and nighttime conditions have been assessed. Additionally, we note that at no time during nighttime hours will chillers operate at full speed.

Generator Maintenance

Under the periodic Generator Maintenance operating scenario, 1 generator per building will operate in conjunction with the equipment associated with a Constant Mechanical operating scenario. We note that generator maintenance is to be limited to daytime hours only.

Emergency Generator

Emergency power generators are likely to be used during emergency power outages. It is assumed all generators operating in conjunction with the equipment associated with a Constant Mechanical operating scenario.

A summary of the operating scenarios and associated equipment for each scenario is presented below. The summary includes source sound level data provided by the client. Full details are included in the Appendix.

Table 1: Operating Scenarios and Equipment Source Sound Levels

Operating Scenario	Noise Source	Sound Level, dBA	Quantity and Location
Constant Mechanical	Chillers[1]	Day - 95 L_W[1] Night - 92 L_W[1]	66 Rooftop chillers per building (198 total)
Generator Maintenance (Includes Constant Mechanical)	Generator	75 dBA @ 7m L_p[2]	1 Generator per building (3 total)
Emergency (Includes Constant Mechanical)	Generators	75 dBA @ 7m L_p[2]	5 Generators north campus 7 Generators south campus (12 total)
Notes: 1 – C28 SOUND DATA BUF – rev2 min fan speed. Daytime 100% load @ 70% fan speed. Nighttime 100% load @ 55% fan speed. 2 – Kohler KD2500-A KH07801T04D.			

4.4 Assessment Locations

The location of nearby noise sensitive receptors that have been adopted as the assessment locations are presented in Figure 4.

Assessment locations R5 to R7 and R16 to R19 are zoned as Residential. Assessment locations R8 and R9 are on the boundary of the Tonawanda Reservation. Assessment locations R1 to R4 and R11 to R14 are property boundary locations for the north and south campuses respectively and are zoned as Technology Districts. Assessment location R10 is an onsite location (within site boundary) and has been included for information purposes only.

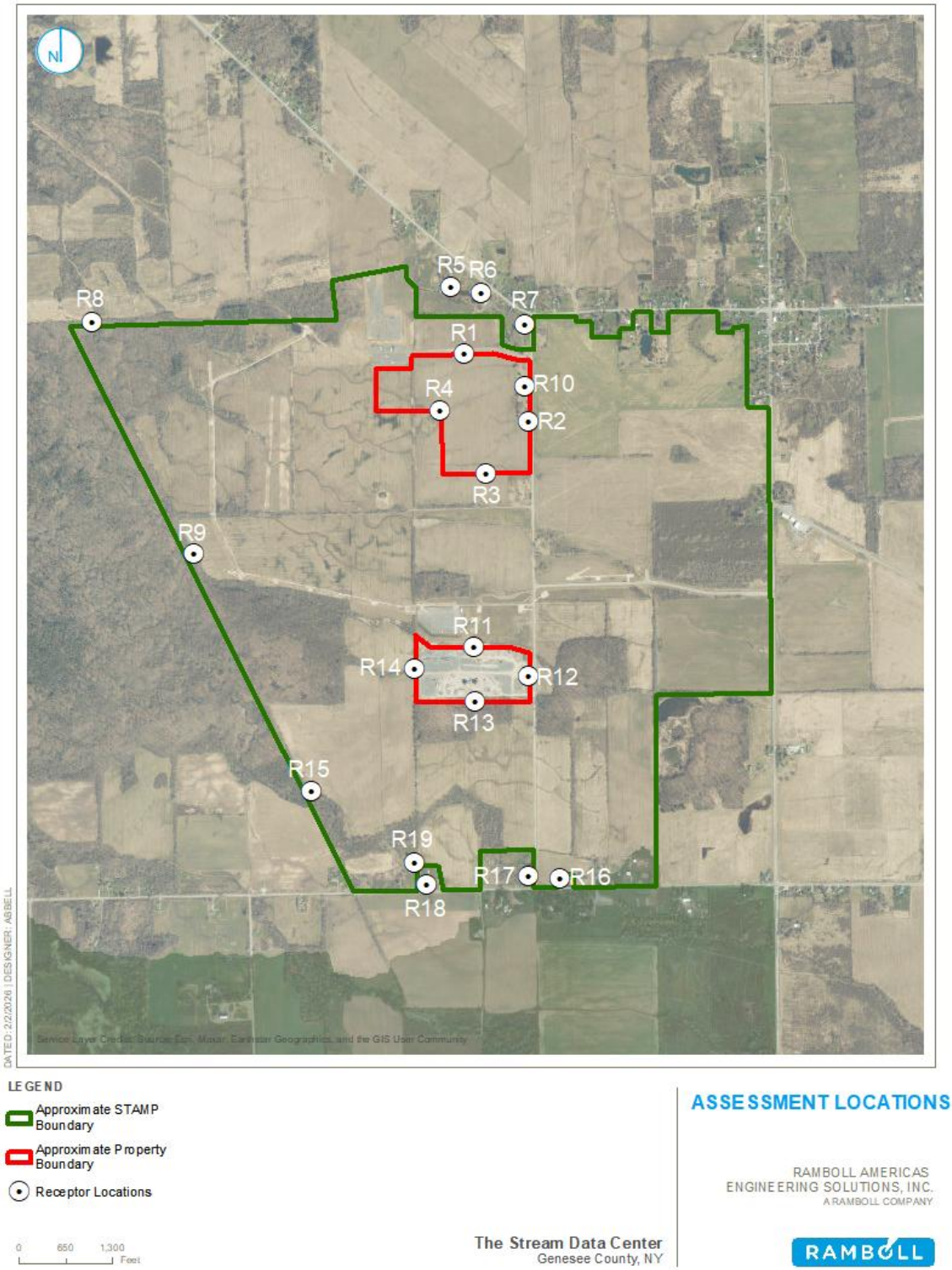

Figure 4: Assessment Receptor Locations

4.5 Noise Model Results

4.5.1 Constant Mechanical

The noise model results for the Day/Night Constant Mechanical operating scenarios are presented below in Table 2,Figure 5 and Figure 6 below. The results have been compared to the threshold criteria established by the GEIS/Findings for the STAMP site. The results are predicted to comply with the threshold criteria. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site.

Table 2: Noise Model Results – Constant Mechanical

Receptor	Zoning Classification	Predicted Noise Level, dBA		GEIS/Findings, dBA	
		Daytime	Nighttime	Daytime	Nighttime
R1	Technology District	48	44	65[1]	45[1]
R2	Technology District	48	44	65[1]	45[1]
R3	Technology District	46	42	65[1]	45[1]
R4	Technology District	46	42	65[1]	45[1]
R5	Residential	44	40	65	45
R6	Residential	45	41	65	45
R7	Residential	47	43	65	45
R8	Tonawanda Reservation	31	27	65	45
R9	Tonawanda Reservation	35	31	65	45
R10[2]	Technology District	48	43	N/A	N/A
R11	Technology District	47	43	65[1]	45[1]
R12	Technology District	43	39	65[1]	45[1]
R13	Technology District	46	42	65[1]	45[1]
R14	Technology District	43	39	65[1]	45[1]
R15	Tonawanda Reservation	37	33	65	45
R16	Residential	36	31	65	45
R17	Residential	36	32	65	45
R18	Residential	36	32	65	45
R19	Residential	37	33	65	45

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' night threshold/criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

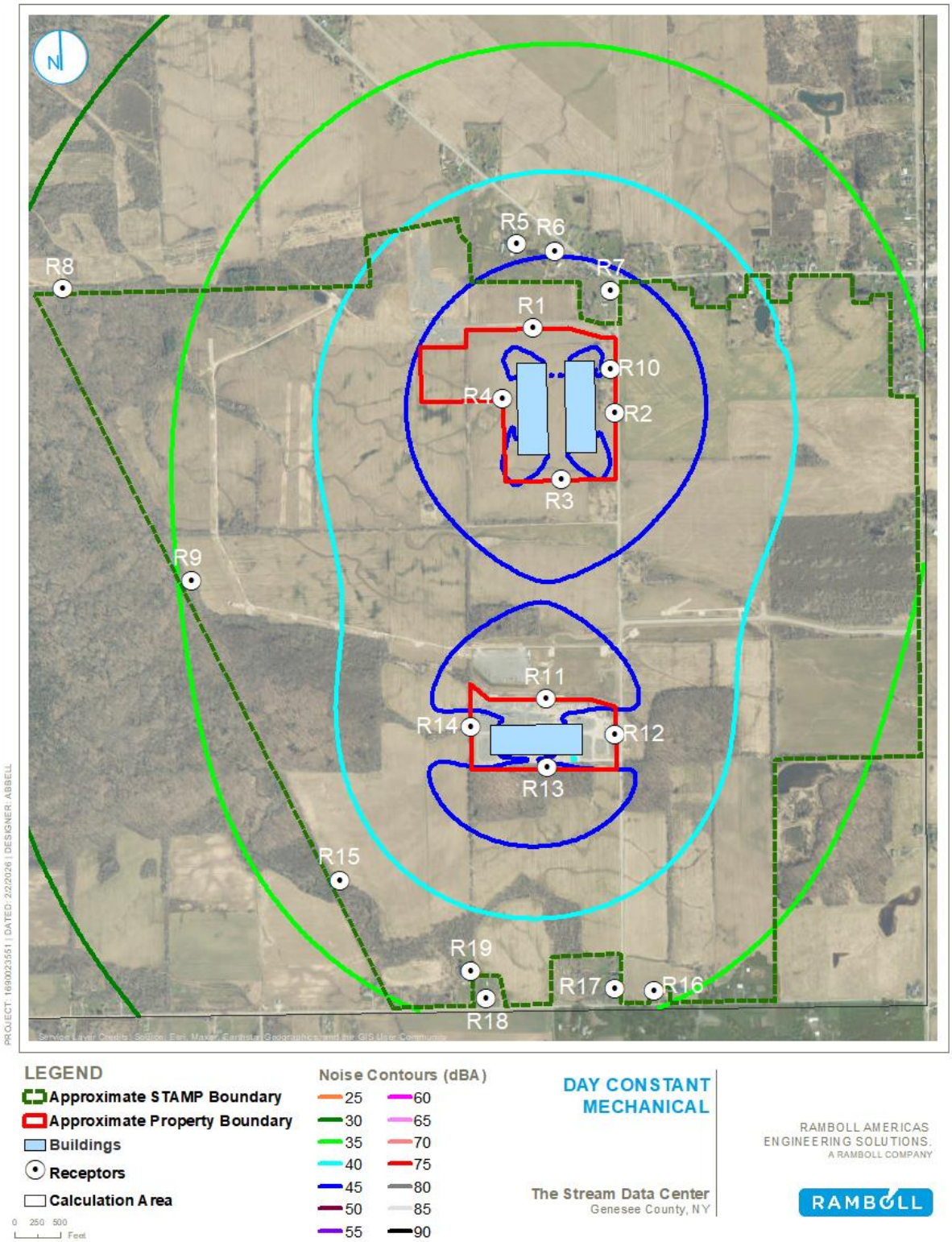

Figure 5: Noise Model Results – Day Constant Mechanical

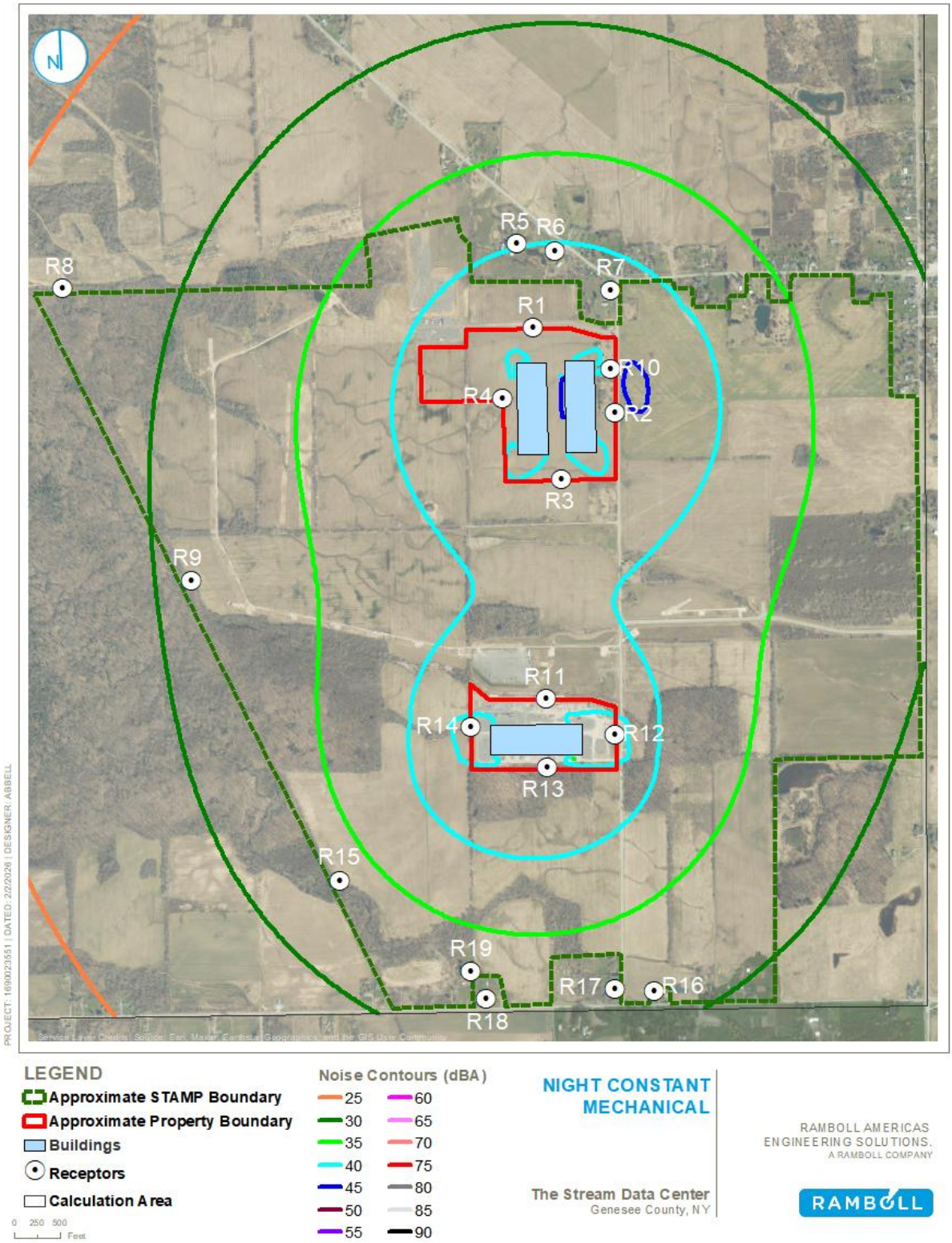

Figure 6: Noise Model Results – Night Constant Mechanical

4.5.2 Generator Maintenance

The noise model results for the Generator Maintenance operating scenario are presented below in Table 3 and Figure 7. The results have been compared to the daytime threshold criteria established by the GEIS/Findings for the STAMP site due to generator maintenance being limited to daytime hours. The results are predicted to comply with the guidelines. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site.

Table 3: Noise Model Results – Generator Maintenance

Receptor	Zoning Classification	Predicted Noise Level, dBA	GEIS/Findings, dBA
			Daytime
R1	Technology District	48	65[1]
R2	Technology District	48	65[1]
R3	Technology District	46	65[1]
R4	Technology District	46	65[1]
R5	Residential	44	65
R6	Residential	45	65
R7	Residential	47	65
R8	Tonawanda Reservation	31	65
R9	Tonawanda Reservation	35	65
R10[2]	Technology District	48	N/A
R11	Technology District	47	65[1]
R12	Technology District	43	65[1]
R13	Technology District	46	65[1]
R14	Technology District	43	65[1]
R15	Tonawanda Reservation	37	65
R16	Residential	36	65
R17	Residential	36	65
R18	Residential	36	65
R19	Residential	37	65

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' day threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

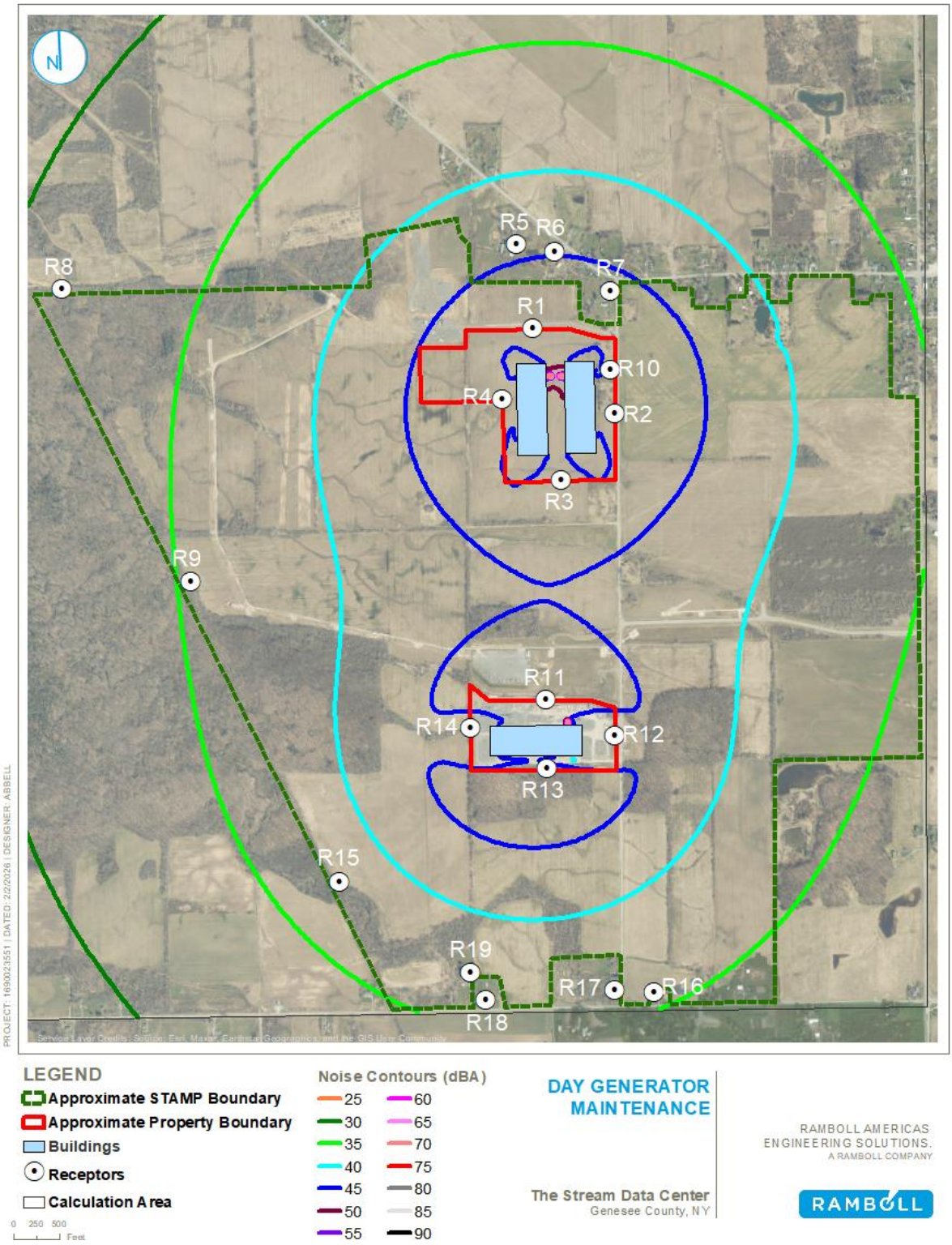

Figure 7: Noise Model Results – Generator Maintenance

4.5.3 Emergency Generator

The noise model results for the Day/Night Emergency operating scenario are presented below in Table 4, Figure 8 and Figure 9. As discussed above, the chillers are to operate at a lower fan speed during nighttime hours, which result in lower cumulative levels during this period. Additionally, no significant level variation is projected between Constant Mechanical and Emergency due to the inclusion of generator yard noise barriers.

The results have been compared to the threshold criteria established by GEIS/Findings for the STAMP site. The results are predicted to comply with the threshold criteria. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site. Emergency generator operation is infrequent and temporary in nature and is generally treated differently from routine operational noise for enforcement purposes.

Table 4: Noise Model Results – Emergency Generator

Receptor	Zoning Classification	Predicted Noise Level, dBA		GEIS/Findings, dBA	
		Daytime	Nighttime	Daytime	Nighttime
R1	Technology District	48	44	65[1]	45[1]
R2	Technology District	48	44	65[1]	45[1]
R3	Technology District	46	42	65[1]	45[1]
R4	Technology District	47	44	65[1]	45[1]
R5	Residential	44	40	65	45
R6	Residential	45	41	65	45
R7	Residential	47	43	65	45
R8	Tonawanda Reservation	32	27	65	45
R9	Tonawanda Reservation	35	31	65	45
R10[2]	Technology District	49	46	N/A	N/A
R11	Technology District	48	44	65[1]	45[1]
R12	Technology District	44	39	65[1]	45[1]
R13	Technology District	46	42	65[1]	45[1]
R14	Technology District	43	39	65[1]	45[1]
R15	Tonawanda Reservation	37	33	65	45
R16	Residential	36	32	65	45
R17	Residential	36	32	65	45
R18	Residential	36	32	65	45
R19	Residential	37	33	65	45

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' night threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

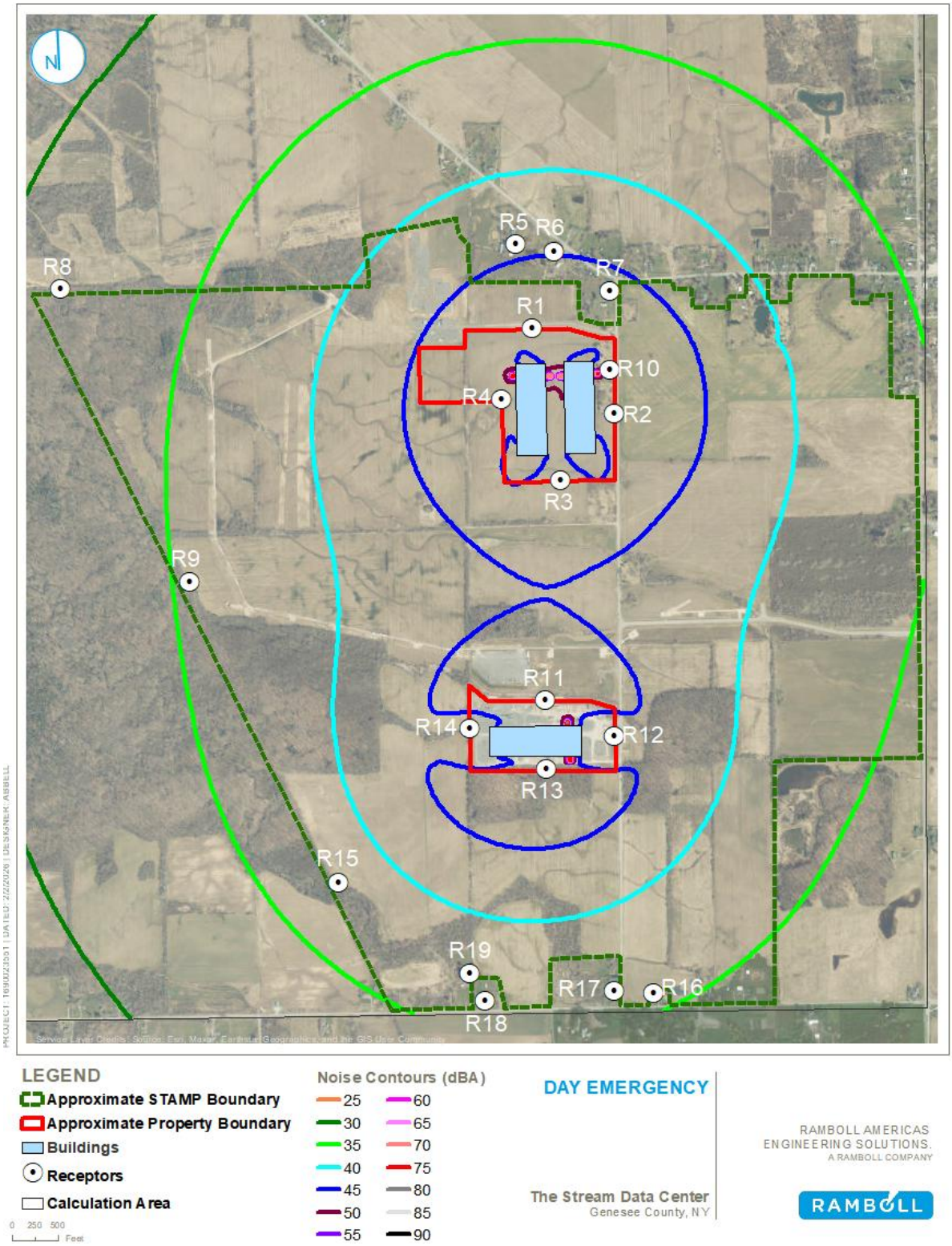

Figure 8: Noise Model Results – Day Emergency Scenario

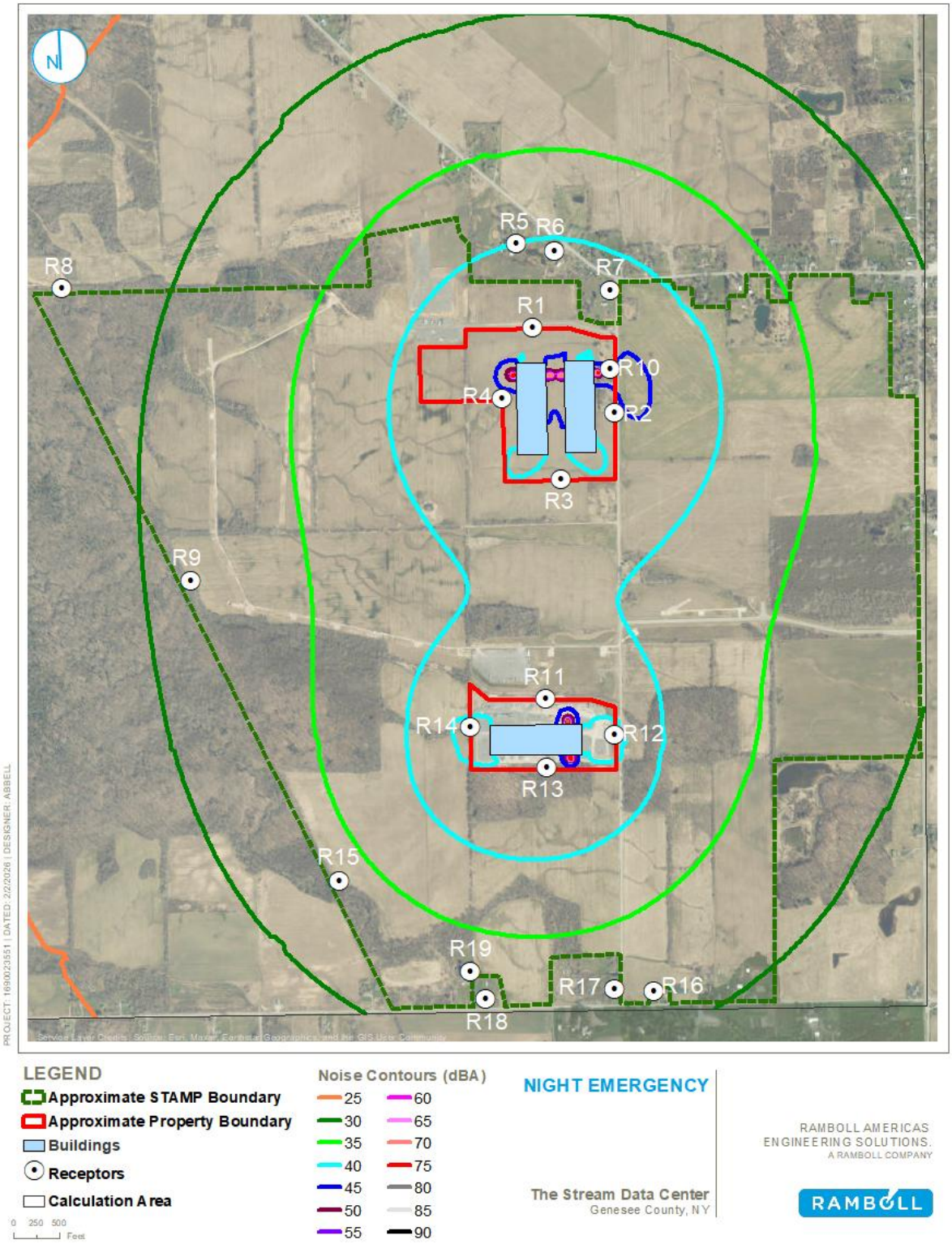

Figure 9: Noise Model Results – Night Emergency Scenario

Based on the modeling for the proposed data center, the threshold criteria for the STAMP site are not projected to be fully consumed by the proposed data center. Future development within the STAMP site is projected to be permitted. The nature and extent of which will depend on the specifics of future tenants, including their footprint within STAMP as well as their anticipated noise sources and levels.

5. Conclusion

Ramboll has completed an environmental noise assessment for the proposed Stream Data Centers Science Technology and Advanced Manufacturing Park (STAMP) site located in the Town of Alabama, Genesee County, New York. The assessment includes a summary of the proposed data center, site configuration, relevant acoustic criteria, noise sensitive receptors and noise model results.

The key findings of the assessment were as follows:

- No independent state, county or town numerical noise limits apply to the Site. However, the STAMP GEIS/Findings established maximum noise levels of 65 dBA during the day, and 45 dBA during the night at the STAMP boundary in non-industrial areas, which are treated as the controlling criteria for this assessment.

- Project generated noise levels at the proposed Projects property boundaries are expected to remain below 65 dBA during the day and 45 dBA during the night.

- Noise levels during a Day/Night Constant Mechanical operating scenario are projected to be consistent with the GEIS/Findings.

- Noise levels during a Generator Maintenance operating scenario are projected to be consistent with the GEIS/Findings. Generator Maintenance testing is to be undertaken during daytime hours.

- Noise levels during a Day/Night Emergency operating scenario are projected to be consistent with the GEIS/Findings.

Appendix

Manufacturer Sound Data

Chiller

MINIMUM POSSIBLE FANS SPEED

SOUND POWER OCTAVE BAND	Hz	63	125	250	500	1000	2000	4000	8000	Pressure	Power
4D C28 13 1W_97.2°F 100%load fans70% 150ft	dB(A)	63.3	76.4	85.0	88.1	91.3	89.5	85.1	78.2	50.8	95.5
4D C28 13 1W_97.2°F 75%load fans40% 150ft	dB(A)	49.6	63.3	74.2	79.9	85.5	83.7	80.3	72.5	44.8	89.5
4D C28 13 1W_97.2°F 50%load fans30% 150ft	dB(A)	48.6	61.8	72.2	78.9	84.5	82.7	79.3	71.5	43.8	88.5
4D C28 13 1W_97.2°F 25%load fans25% 150ft	dB(A)	46.6	59.8	69.2	73.6	79.1	78.1	73.7	67.0	38.5	83.2
4D C28 13 1W_85.5°F 100%load fans55% 150ft	dB(A)	56.4	69.5	78.7	83.3	88.0	86.2	82.5	74.9	47.5	92.1
4D C28 13 1W_85.5°F 75%load fans35% 150ft	dB(A)	48.7	62.3	73.4	79.3	85.0	83.2	79.8	72.0	44.3	89.0
4D C28 13 1W_85.5°F 50%load fans25% 150ft	dB(A)	46.8	60.1	71.2	78.5	84.3	82.5	79.2	71.3	43.6	88.3
4D C28 13 1W_85.5°F 25%load fans20% 150ft	dB(A)	46.0	59.2	68.7	73.3	78.9	78.0	73.6	66.8	38.4	83.0
4D C28 13 1W_97.2°F 100%load fans70% 122ft	dB(A)	63.3	76.4	85.0	88.1	91.3	89.5	85.1	78.2	52.5	95.5
4D C28 13 1W_97.2°F 75%load fans40% 122ft	dB(A)	49.6	63.3	74.2	79.9	85.5	83.7	80.3	72.5	46.5	89.5
4D C28 13 1W_97.2°F 50%load fans30% 122ft	dB(A)	48.6	61.8	72.2	78.9	84.5	82.7	79.3	71.5	45.5	88.5
4D C28 13 1W_97.2°F 25%load fans25% 122ft	dB(A)	46.6	59.8	69.2	73.6	79.1	78.1	73.7	67.0	40.2	83.2
4D C28 13 1W_85.5°F 100%load fans55% 122ft	dB(A)	56.4	69.5	78.7	83.3	88.0	86.2	82.5	74.9	49.1	92.1
4D C28 13 1W_85.5°F 75%load fans35% 122ft	dB(A)	48.7	62.3	73.4	79.3	85.0	83.2	79.8	72.0	46.0	89.0
4D C28 13 1W_85.5°F 50%load fans25% 122ft	dB(A)	46.8	60.1	71.2	78.5	84.3	82.5	79.2	71.3	45.3	88.3
4D C28 13 1W_85.5°F 25%load fans20% 122ft	dB(A)	46.0	59.2	68.7	73.3	78.9	78.0	73.6	66.8	40.0	83.0

Generator

NOTES:

1. GENERATOR, KOHLER KD2500-A KH07801TO4D
   DIMENSIONS: 244.7"L x 128.6"W x 130.1"H
   WEIGHT: 52,000 LBS
   DRAWING # : ADV-9824 REV -
2. TOTAL AIRFLOW REQUIRED: 107500 CFM
3. SOUND ATTENUATION LEVEL: 75 DBA@ 7M
4. INSULATION: DOUBLE LAYER OF 2" MINERAL WOOL
5. LINING: MILL-FINISH PERFORATED ALUMINUM
6. ENCLOSURE WALLS: 4" ALUMINUM TUBE WELDED FRAME
7. ENCLOSURE ROOF: 2" X 3" X $\frac{1}{4}$" ALUMINUM TUBE WELDED FRAME
8. ENCLOSURE DIMENSIONS: 542"L x 140"W x 161"H
9. ENCLOSURE WEIGHT (APPROX.): 21,000 LBS
10. ENCLOSURE COLOR: RAL 7042 TRAFFIC GRAY
11. ENCLOSURE SHALL BE PROVIDED w / 4-POINT LIFTING LUGS

TECHNICAL MEMORANDUM

Job	**Project Double Reed – STAMP Site** **Revised Noise Modeling Results**
Client	**Stream**
Date	**March 10, 2025**
To	**Bradley Wells, Stream Data Centers**
From	**Andrew Bell, Kevin Peterson, Patrick Murray**

Revised Noise Modeling Results

The following document presents a summary of the revised noise modeling results, following a reduction of the quantity of rooftop chillers and generators associated with the project, as well as alterations to barrier designs. The document presents a summary of the noise model results, inclusive of noise contour plots.

Previous modeling results, zoning information and the establishment of acoustic criteria can be found in the document entitled '*Project Double Reed Alabama NY - Noise Modeling Results_260211 (Rev6)*', dated February 12th, 2026.

DESIGN CHANGES

Based on email correspondence on February 23rd, 2026, we understand the number of rooftop chillers has reduced from 66 to 60 per building. Additionally, the number of generators has reduced from 4 generators for the northern campus and 2 generators for the southern campus, to just 2 generators per building.

A summary of the operating scenarios and associated equipment for each scenario is presented below in **Table 1**.

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Table 1. Operating Scenarios and Equipment Source Sound Levels

Operating Scenario	Noise Source	Sound Level, dBA	Quantity and Location
Constant Mechanical	Chillers[1]	Day - 95 $_{Lw}$[1] Night - 92 $_{Lw}$[1]	60 Rooftop chillers per building (180 total)
Generator Maintenance (Includes Constant Mechanical)	Generator	75 dBA @ 7m $_{Lp}$[2]	1 Generator per building (3 total)
Emergency (Includes Constant Mechanical)	Generators	75 dBA @ 7m $_{Lp}$[2]	4 Generators north campus 2 Generators south campus (6 total)
Notes: 1 – C28 SOUND DATA BUF – rev2 min fan speed. Daytime 100% load @ 70% fan speed. Nighttime 100% load @ 55% fan speed. 2 – Kohler KD2500-A KH07801T04D.			

Based on the revised equipment quantities and the results of the noise modeling results presented below, the generator yard barriers for the southern campus are likely to be able to reduce down from 30 feet to 20 feet. However, no reductions for the northern campus generator yard barriers are likely to be acceptable.

After previous analysis, alterations to the rooftop barrier design were required for mechanical and structural design requirements. Including a 3 ft opening at the bottom of one side of the barrier, as discussed below.

All barriers have been assumed to be solid (minimum 4 lbs. per square foot) and contain sufficient density to prevent noise transmission through the barrier. The barriers are free of any gaps between (i.e no louvers) barrier sections and roof level, except where indicated.

A schematic markup of the 18 ft rooftop screen (orange) and 20 ft generator yard barrier (blue) locations are presented below in Figure 1. The rooftop screen with 3 ft opening at the bottom is also shown (green). Where no barrier is shown, a 7.5 ft parapet is included.

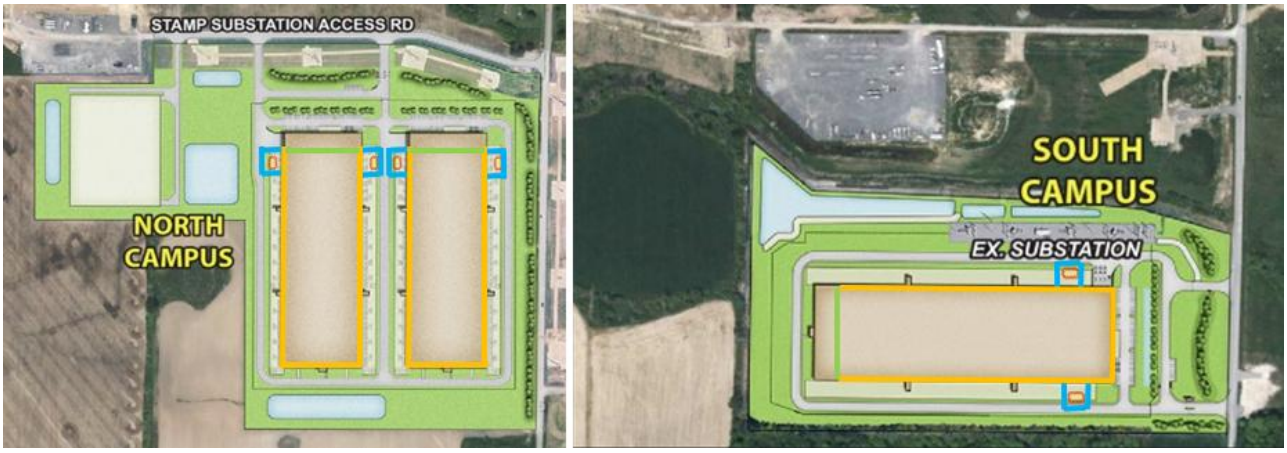

Figure 1. Barrier Details

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NOISE MODELING RESULTS

Constant Mechanical

The noise model results for the Day/Night Constant Mechanical operating scenarios are presented below in **Table 2**, **Figure 2** and **Figure 3** below. The results have been compared to the threshold criteria established by the GEIS/Findings for the STAMP site. The results also include the addition of a new receptor R20, located at 1183 Lewiston Rd, Basom, NY.

The results are predicted to comply with the threshold criteria. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site.

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Table 2. Noise Model Results – Constant Mechanical

Receptor	Zoning Classification	Predicted Noise Level, dBA		GEIS/Findings, dBA	
		Daytime	Nighttime	Daytime	Nighttime
R1	Technology District	47	43	65[1]	45[1]
R2	Technology District	48	44	65[1]	45[1]
R3	Technology District	47	43	65[1]	45[1]
R4	Technology District	46	42	65[1]	45[1]
R5	Residential	43	39	65	45
R6	Residential	44	40	65	45
R7	Residential	46	42	65	45
R8	Tonawanda Reservation	31	26	65	45
R9	Tonawanda Reservation	35	31	65	45
R10[2]	Technology District	47	42	N/A	N/A
R11	Technology District	47	43	65[1]	45[1]
R12	Technology District	45	41	65[1]	45[1]
R13	Technology District	47	42	65[1]	45[1]
R14	Technology District	42	37	65[1]	45[1]
R15	Tonawanda Reservation	37	32	65	45
R16	Residential	35	31	65	45
R17	Residential	36	32	65	45
R18	Residential	36	31	65	45
R19	Residential	37	32	65	45
R20	Residential	43	39	65	45

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' night threshold/criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

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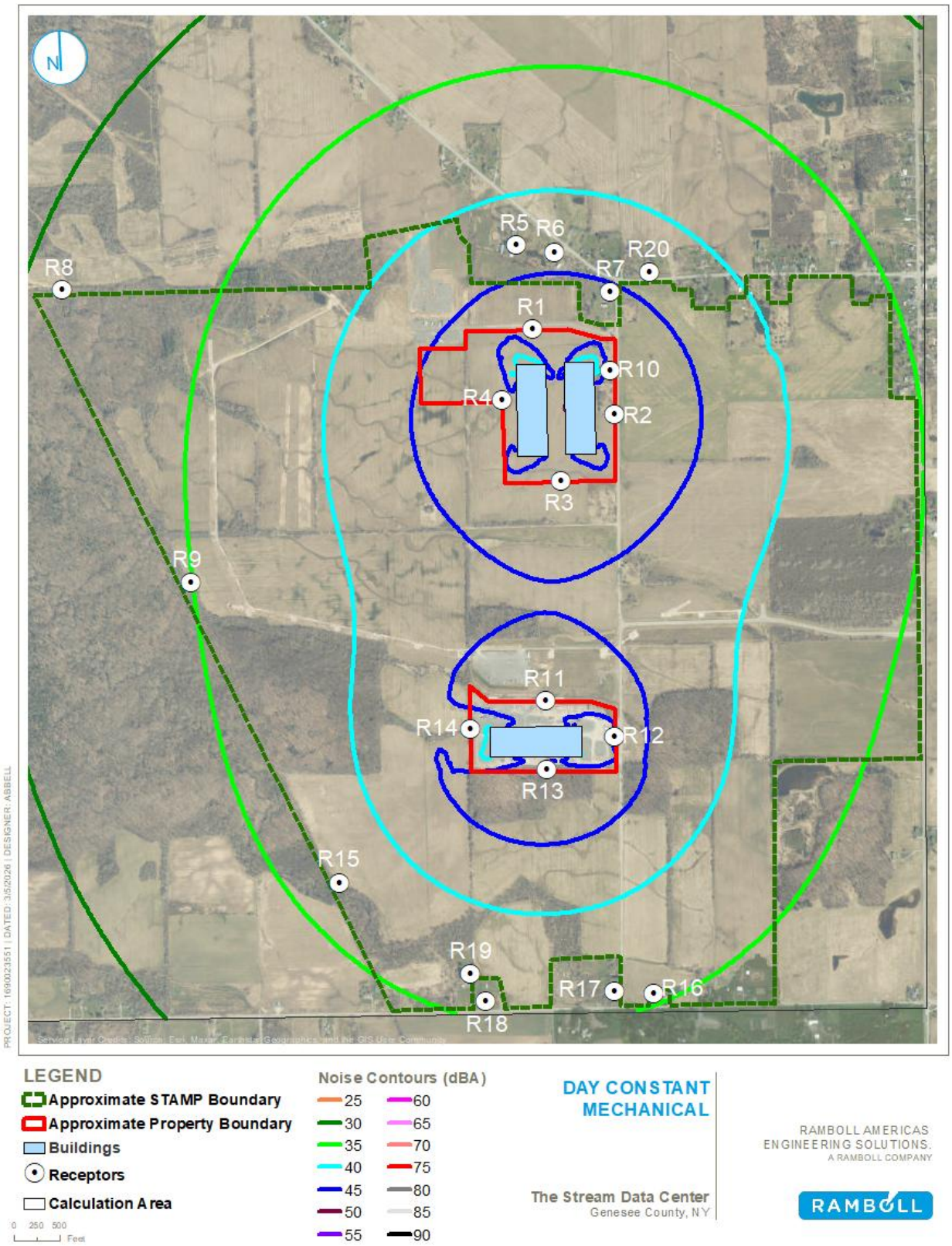

Figure 2. Noise Modeling Results – Day Constant Mechanical

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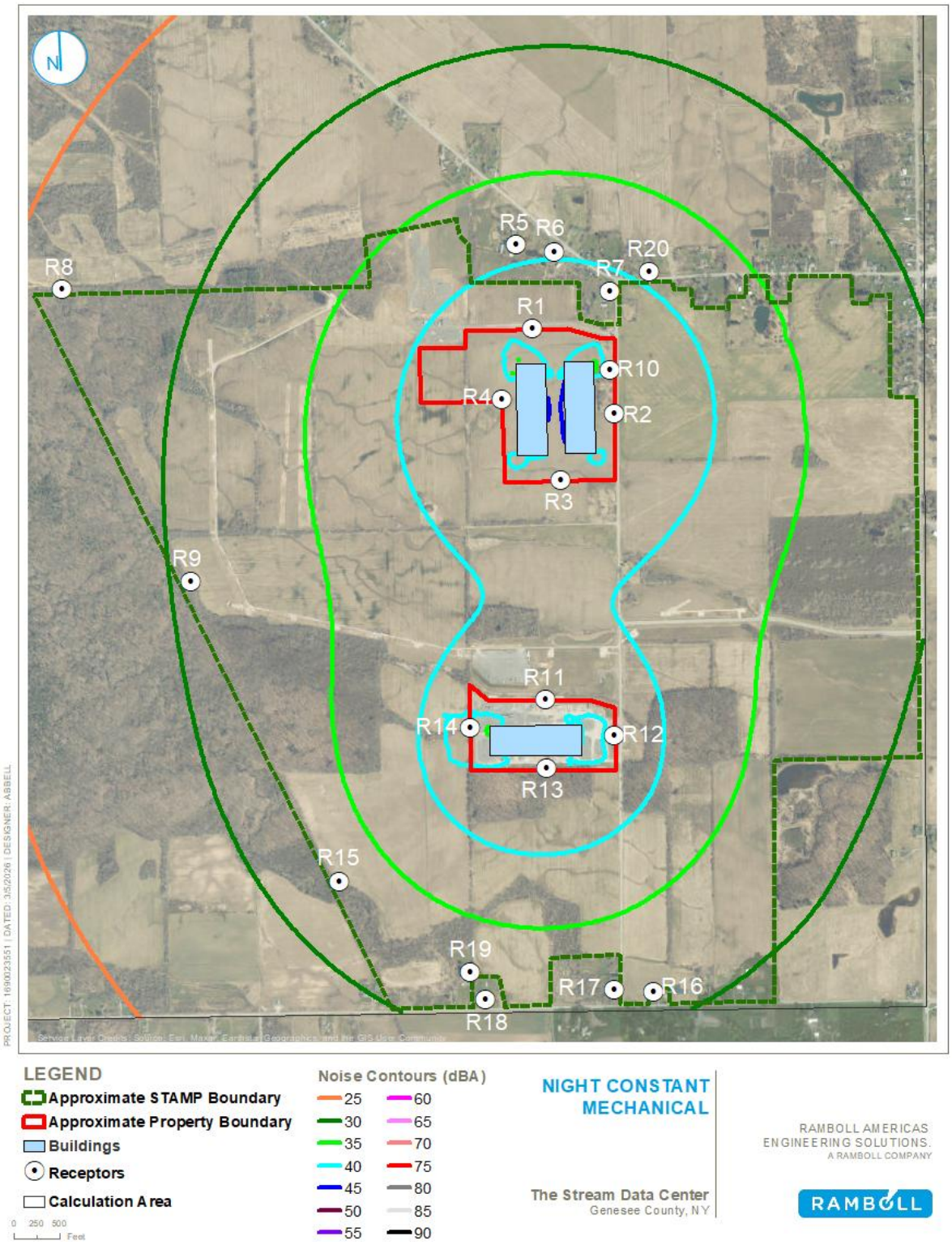

Figure 3. Noise Modeling Results – Night Constant Mechanical

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Generator Maintenance

The noise model results for the Generator Maintenance operating scenario are presented below in **Table 3** and **Figure 4**. The results have been compared to the daytime threshold criteria established by the GEIS/Findings for the STAMP site due to generator maintenance being limited to daytime hours. The results are predicted to comply with the guidelines. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site.

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Table 3. Noise Model Results – Generator Maintenance

Receptor	Zoning Classification	Predicted Noise Level, dBA	GEIS/Findings, dBA
			Daytime
R1	Technology District	47	65[1]
R2	Technology District	48	65[1]
R3	Technology District	47	65[1]
R4	Technology District	46	65[1]
R5	Residential	43	65
R6	Residential	44	65
R7	Residential	46	65
R8	Tonawanda Reservation	31	65
R9	Tonawanda Reservation	35	65
R10[2]	Technology District	47	N/A
R11	Technology District	48	65[1]
R12	Technology District	45	65[1]
R13	Technology District	47	65[1]
R14	Technology District	42	65[1]
R15	Tonawanda Reservation	37	65
R16	Residential	35	65
R17	Residential	36	65
R18	Residential	36	65
R19	Residential	37	65
R20	Residential	43	65

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' day threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

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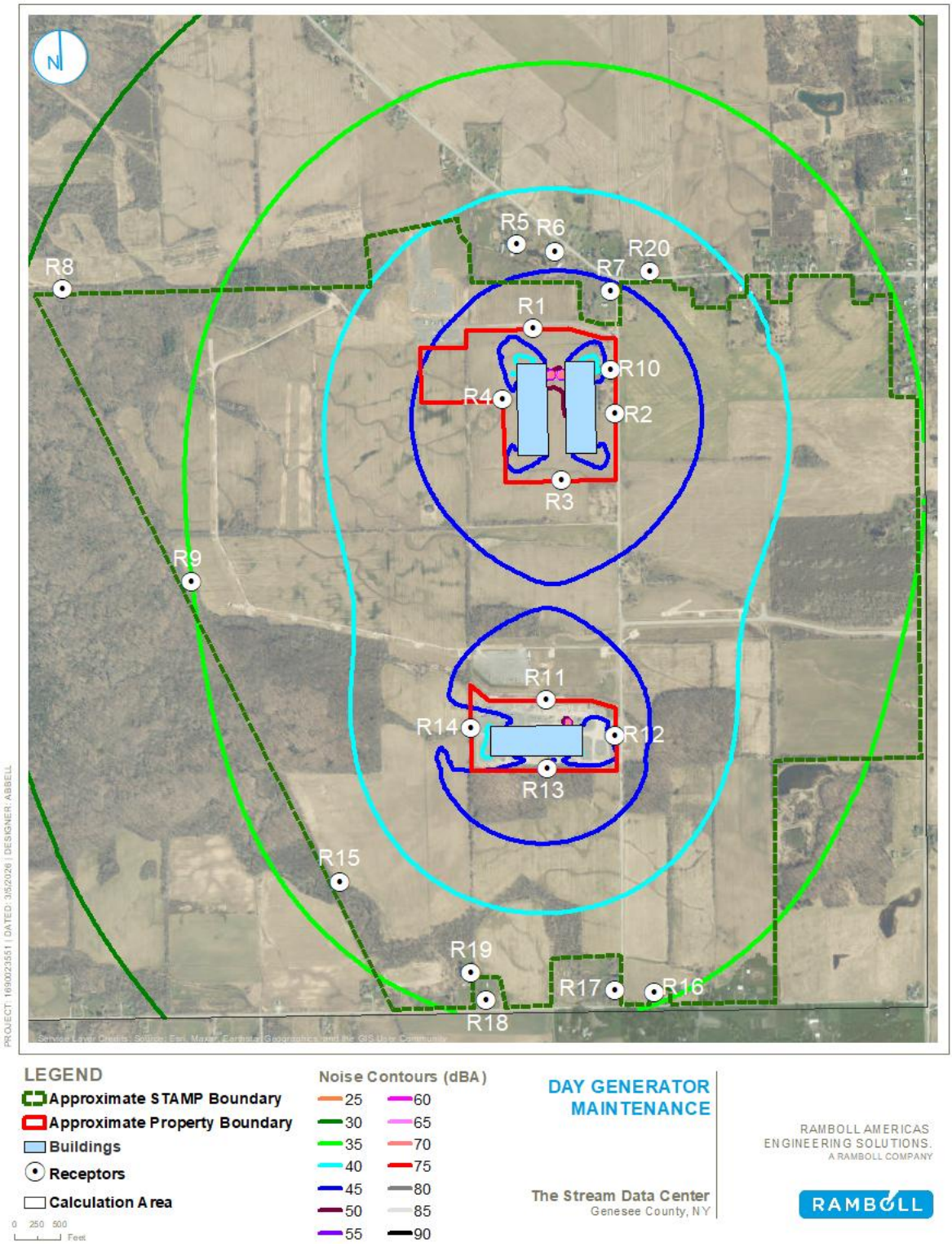

Figure 4. Noise Modeling Results – Night Constant Mechanical

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Emergency Generator

The noise model results for the Day/Night Emergency operating scenario are presented below in **Table 4**, **Figure 5** and **Figure 6**. No significant level variation is projected between Constant Mechanical and Emergency due to the inclusion of generator yard noise barriers.

The results have been compared to the threshold criteria established by GEIS/Findings for the STAMP site. The results are predicted to comply with the threshold criteria. Additionally, with consideration to the existing ambient, cumulative noise levels (predicted + ambient) are also anticipated to be below the GEIS/Findings for the STAMP site.

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Table 4. Noise Model Results – Emergency Generator

Receptor	Zoning Classification	Predicted Noise Level, dBA		GEIS/Findings, dBA	
		Daytime	Nighttime	Daytime	Nighttime
R1	Technology District	47	44	65[1]	45[1]
R2	Technology District	48	44	65[1]	45[1]
R3	Technology District	47	43	65[1]	45[1]
R4	Technology District	47	43	65[1]	45[1]
R5	Residential	43	39	65	45
R6	Residential	44	40	65	45
R7	Residential	46	42	65	45
R8	Tonawanda Reservation	31	27	65	45
R9	Tonawanda Reservation	35	31	65	45
R10[2]	Technology District	48	46	N/A	N/A
R11	Technology District	48	44	65[1]	45[1]
R12	Technology District	45	41	65[1]	45[1]
R13	Technology District	47	43	65[1]	45[1]
R14	Technology District	42	37	65[1]	45[1]
R15	Tonawanda Reservation	37	33	65	45
R16	Residential	36	31	65	45
R17	Residential	36	32	65	45
R18	Residential	36	32	65	45
R19	Residential	37	33	65	45
R20	Residential	43	39	65	45

Notes:
1 – Property boundary location zoned as Technology District has been conservatively compared to GEIS/Findings' night threshold criteria. Locations are adjacent to less sensitive roadways and rural farmland.
2 – Onsite location (within site boundary) and has been included for information purposes only.

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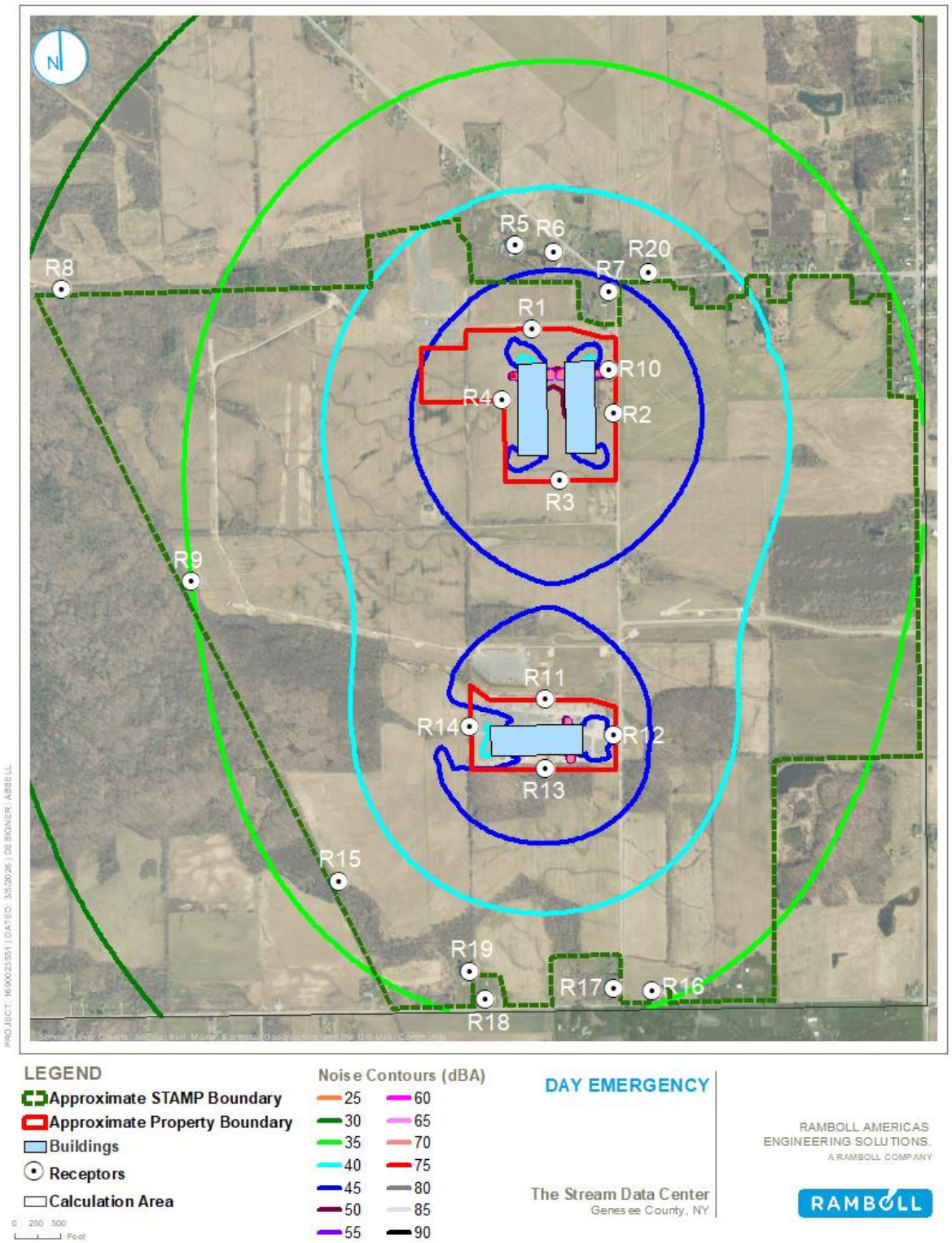

Figure 5. Noise Modeling Results – Day Emergency Scenario

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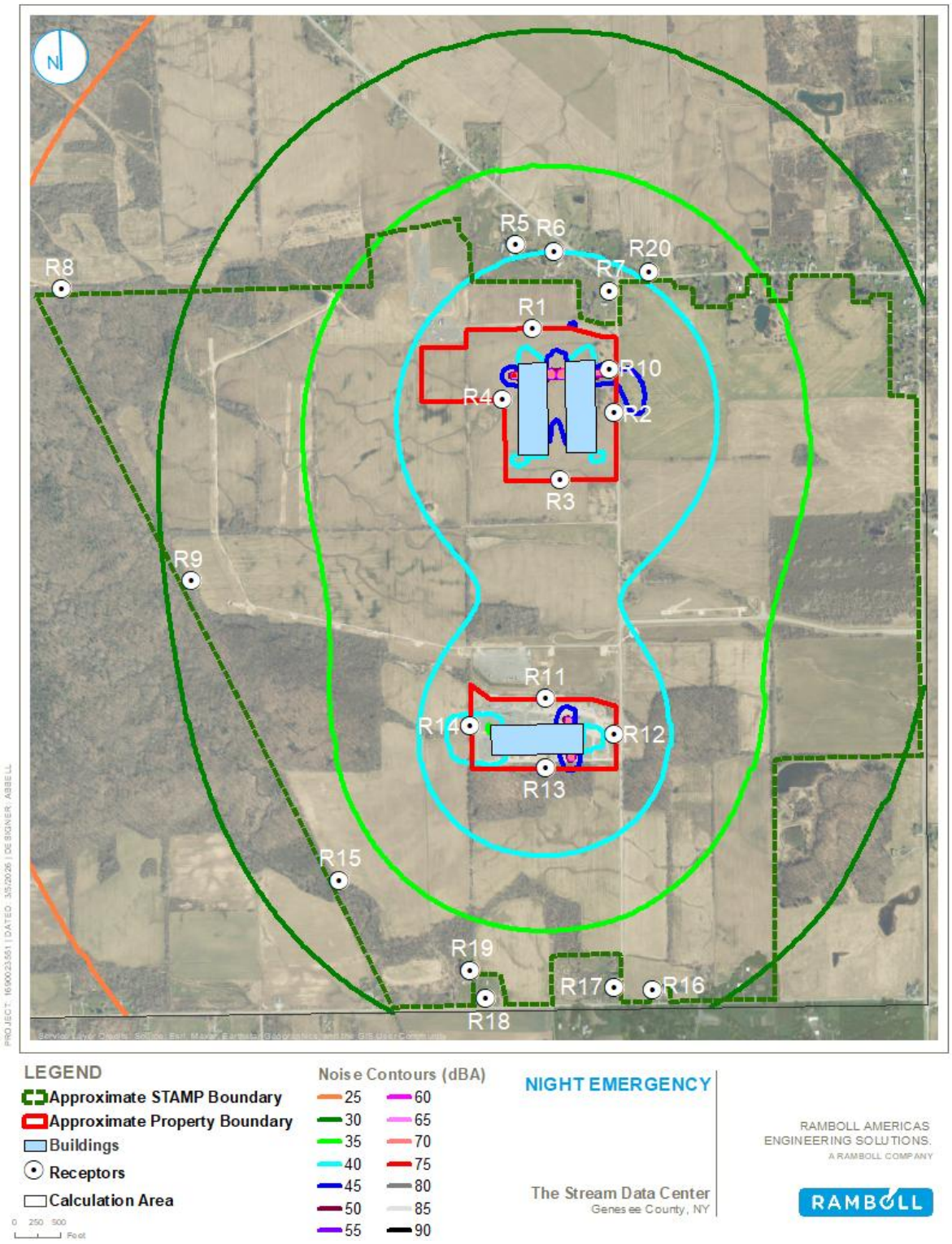

Figure 6. Noise Modeling Results – Night Emergency Scenario

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Tonality Considerations

Tonality is an important consideration for noise mitigation on this project, and a variety of measures have been implemented to ensure it does not become a concern. The proposed chiller systems incorporate magnetic-bearing centrifugal compressor technology, which significantly reduces tonal noise compared to conventional screw or oil-lubricated compressors. In magnetic-bearing systems, the compressor shaft is fully levitated during operation, eliminating metal-to-metal contact and associated bearing friction noise. As a result, the primary remaining sound source is the movement of refrigerant gas rather than mechanical vibration. Typical operating sound levels for these chillers are substantially lower than traditional air-cooled screw chillers. Due to the quiet operation of the compressors, fan noise becomes the dominant contributor to the overall sound profile. The chillers are equipped with axial fans featuring a sickle-shaped blade geometry designed to minimize aerodynamic blade-pass and tonal noise, along with electronically commutated (EC) motors that avoid the electromagnetic hum characteristic of conventional AC motors. Additional noise mitigation measures include factory-installed compressor enclosures, insulated discharge piping, and a dynamic noise control system that modulates fan speed in response to real-time acoustic requirements, providing further reductions in overall and tonal sound levels during operation.

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