
In addition, two barriers that are 16 feet high and 100 feet in length will be constructed approximately 10 feet to the east of the two inverter skids in Area 5. The Facility Substation transformer noise barrier will be constructed of materials that have a minimum surface weight of 4 pounds per square foot (lb/ft² or psf). Examples of materials that would meet these requirements include poured concrete, concrete panels, concrete masonry blocks, including “acoustical” block, or metal panels, including “acoustical” panels. The two noise barriers in Area 5 will be constructed of a product similar to Acustifence from Acustiblok and has a sound transmission class (STC) rating of 28. An Example of this noise barrier can be found in Attachment 5. The locations of the noise barriers are shown in Figures 25 and 27. Results in Attachment 1, Table A-2 and Table A-4, show mitigated sound levels are at or below 45 dBA (including the tonal penalty) at all receptors, meeting the §94-c limit for participating and nonparticipating residential receptors. In addition, the Facility Substation transformer is at or below 40 dBA (including the tonal penalty) at the closest home. All property line sound levels are at or below 43 dBA, well below the ORES limit of 55 dBA and the Town of Somerset’s limit of 50 dBA. Results also show compliance with the Town of Somerset’s Solar Law of 45 dBA at a residential structure.

In addition to the comprehensive acoustic modeling results tables presented in Attachment 1, summarized results are given in Table 25 through Table 28. Table 25 and Table 26 present the lowest and highest sound levels received during full operations and Facility Substation-only operations without and with the implementation of noise mitigation measures, respectively. Results are given for three receptor types in Table 25 and Table 26; at the property line, at the one receptor participating in the Facility, which is a non-residential use (i.e., museum), and at non-participating receptors. Table 27 and Table 28 show the number of non-participating NSAs that are expected to experience received sound levels of 35 dBA or more during full operations and Facility Substation-only operations without and with the implementation of noise mitigation measures, respectively. The location of all operating equipment included in the noise model can be found in Attachment 3.

Table 25: Summary of Modeled Unmitigated Operational Results, dBA

Receptor Type	Full Operations				Substation-Only			
	Min		Max		Min		Max	
	W/o Penalty	With Penalty	W/o Penalty	With Penalty	W/o Penalty	With Penalty	W/o Penalty	With Penalty
Property Line	27	27 ¹	59	59 ¹	19	19 ¹	41	41 ¹
Participating (Non-resident/museum)	43	48	43	48	40	45	40	45
Non-participating (Residential)	12	17	43	48	11	16	42	47

¹Tonal penalty does not apply to property line sound levels

dBA – A-weighted decibels

Table 26: Summary of Modeled Mitigated Operational Results, dBA

Receptor Type	Full Operations				Substation-Only			
	Min		Max		Min		Max	
	Without Penalty	With Penalty	Without Penalty	With Penalty	Without Penalty	With Penalty	Without Penalty	With Penalty
Property Line	26	26 ¹	43	43 ¹	19	19 ¹	35	35 ¹
Participating (Non-residential/museum)	42	46	42	46	39	44	39	44
Non-participating (Residential)	7	12	40	45	0	5	35	40

¹Tonal penalty does not apply to property line sound levels

dBA – A-weighted decibels

Table 27: Summary of Unmitigated Sound Pressure Levels (L_P) above 35 dBA

L _P – Maximum L _{8H} (dBA)	Number of Non-participating Sensitive Receptors			
	Full Operations		Substation-Only	
	Without Tonal Penalty	With Tonal Penalty	Without Tonal Penalty	With Tonal Penalty
35	1	3	0	3
36	0	4	1	5
37	0	5	0	5
38	1	8	0	2

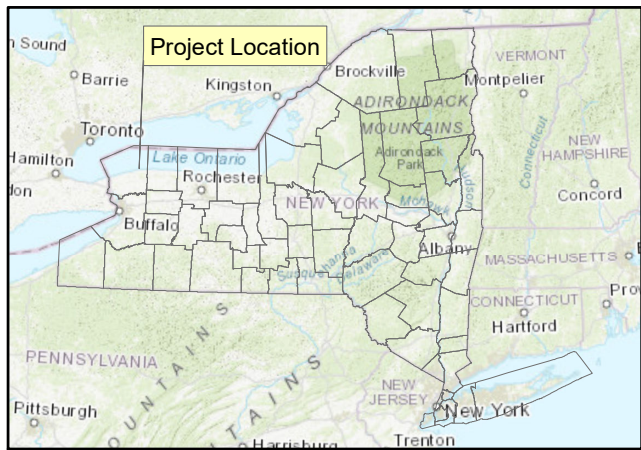
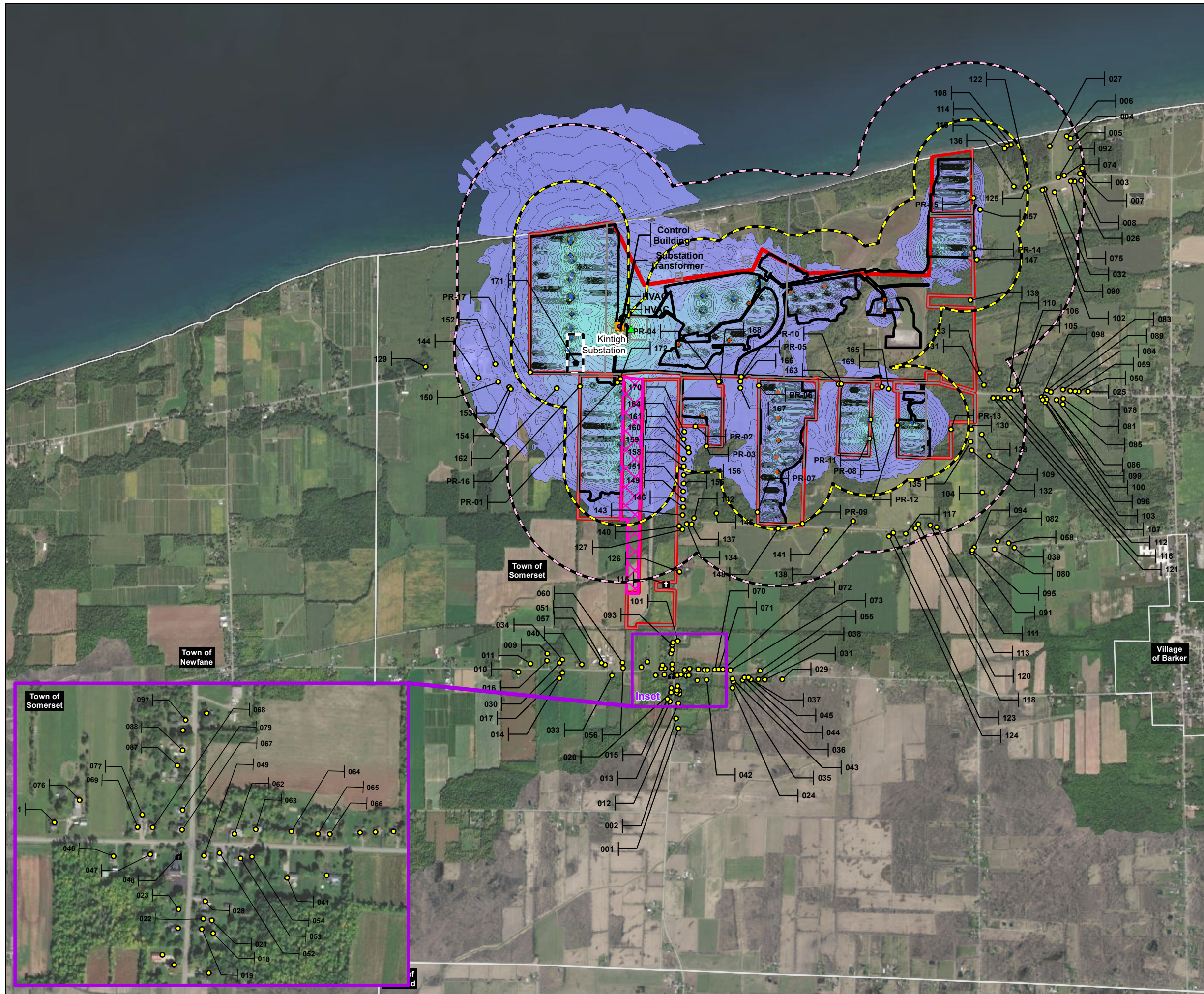
L _P – Maximum L _{8H} (dBA)	Number of Non-participating Sensitive Receptors			
	Full Operations		Substation-Only	
	Without Tonal Penalty	With Tonal Penalty	Without Tonal Penalty	With Tonal Penalty
39	0	2	0	0
40	0	1	0	0
41	0	0	0	1
42	0	0	1	0
43	1	1	0	0
44	0	0	0	0
45	0	0	0	0
46	0	0	0	0
47	0	0	0	1
48	0	1	0	0
49	0	0	0	0

dBA – A-weighted decibels; L_{8H} – 8-hour average

Table 28: Summary of Mitigated Sound Pressure Levels (L_P) above 35 dBA

L _P – Maximum L _{8H} (dBA)	Number of Non-participating Sensitive Receptors			
	Full Operations		Substation-Only	
	Without Tonal Penalty	With Tonal Penalty	Without Tonal Penalty	With Tonal Penalty
35	0	2	1	3
36	1	10	0	4
37	0	2	0	1
38	0	5	0	0
39	0	1	0	1
40	1	0	0	1
41	0	1	0	0
42	0	0	0	0
43	0	0	0	0
44	0	0	0	0
45	0	1	0	0

dBA – A-weighted decibels; L_{8H} – 8-hour average



Legend

- Noise Sensitive Receptor (with NSR ID)
- Noise Sensitive Receptor (Non-participating)
- Ⓜ Noise Sensitive Receptor (Non-participating, Cemetery)
- Ⓜ Noise Sensitive Receptor (Non-participating, Church)
- Ⓜ Noise Sensitive Receptor (Participating, Museum)
- Control Building HVAC (Height: 7')
- Inverter SG3150 (Height: 10')
- Inverter SG3600 (Height: 10')
- Control Building (Height: 12')
- Substation Transformer (Height: 16')
- Project Parcel/Non-participating Property
- Project Parcel/Participating Property
- Facility Site
- Project Site Boundary
- Municipal Boundary
- Utility ROW
- ▲ Kintigh Substation

Received Sound Levels (dBA)

30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

3000ft Buffer
1500ft Buffer

1:30,000

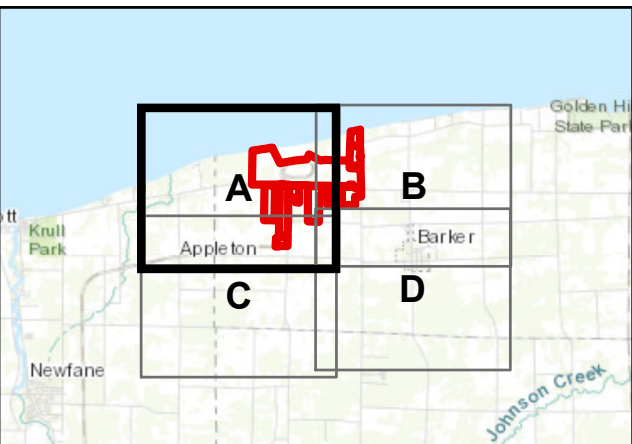
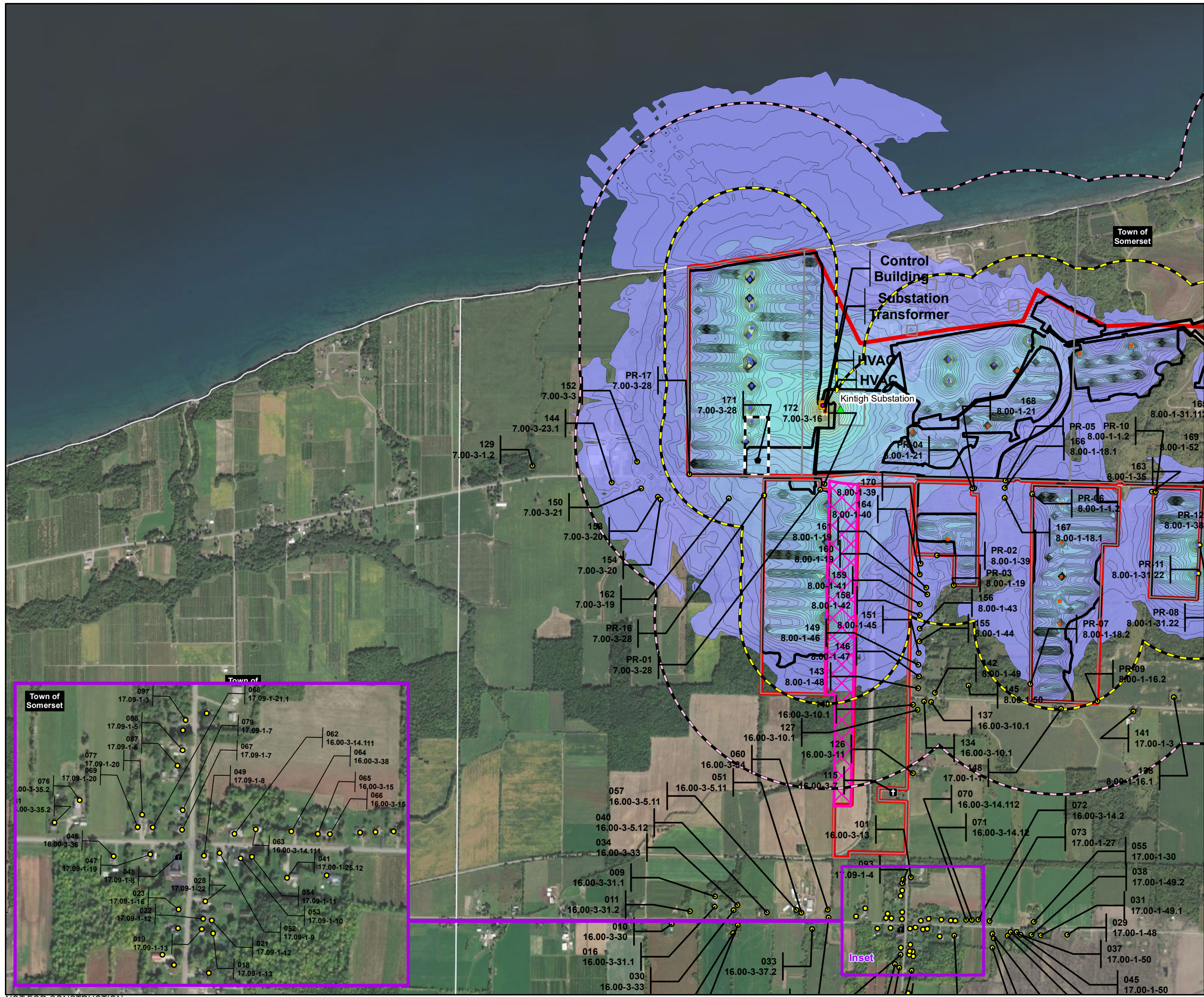
0 0.25 0.5 0.75 Miles

Figure 24
Unmitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



Legend

- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - Noise Sensitive Receptor (Non-participating, Cemetery)
 - Noise Sensitive Receptor (Non-participating, Church)
 - Noise Sensitive Receptor (Participating, Museum)
- Control Building HVAC (Height: 7')
- Inverter SG3150 (Height: 10')
- Inverter SG3600 (Height: 10')
- Control Building (Height: 12')
- Substation Transformer (Height: 16')
- Project Parcel/Non-participating Property
- Project Parcel/Participating Property
- Facility Site
- Project Site Boundary
- Municipal Boundary
- Utility ROW
- Kintigh Substation

Received Sound Levels (dBA)

30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

3000ft Buffer
1500ft Buffer

Scale: 1:20,000
0 0.25 0.5 Miles

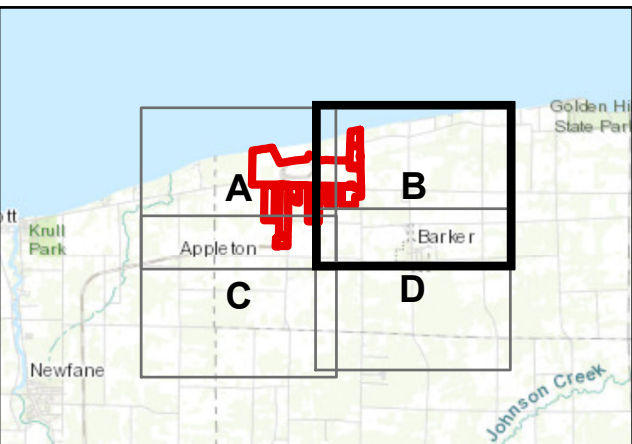
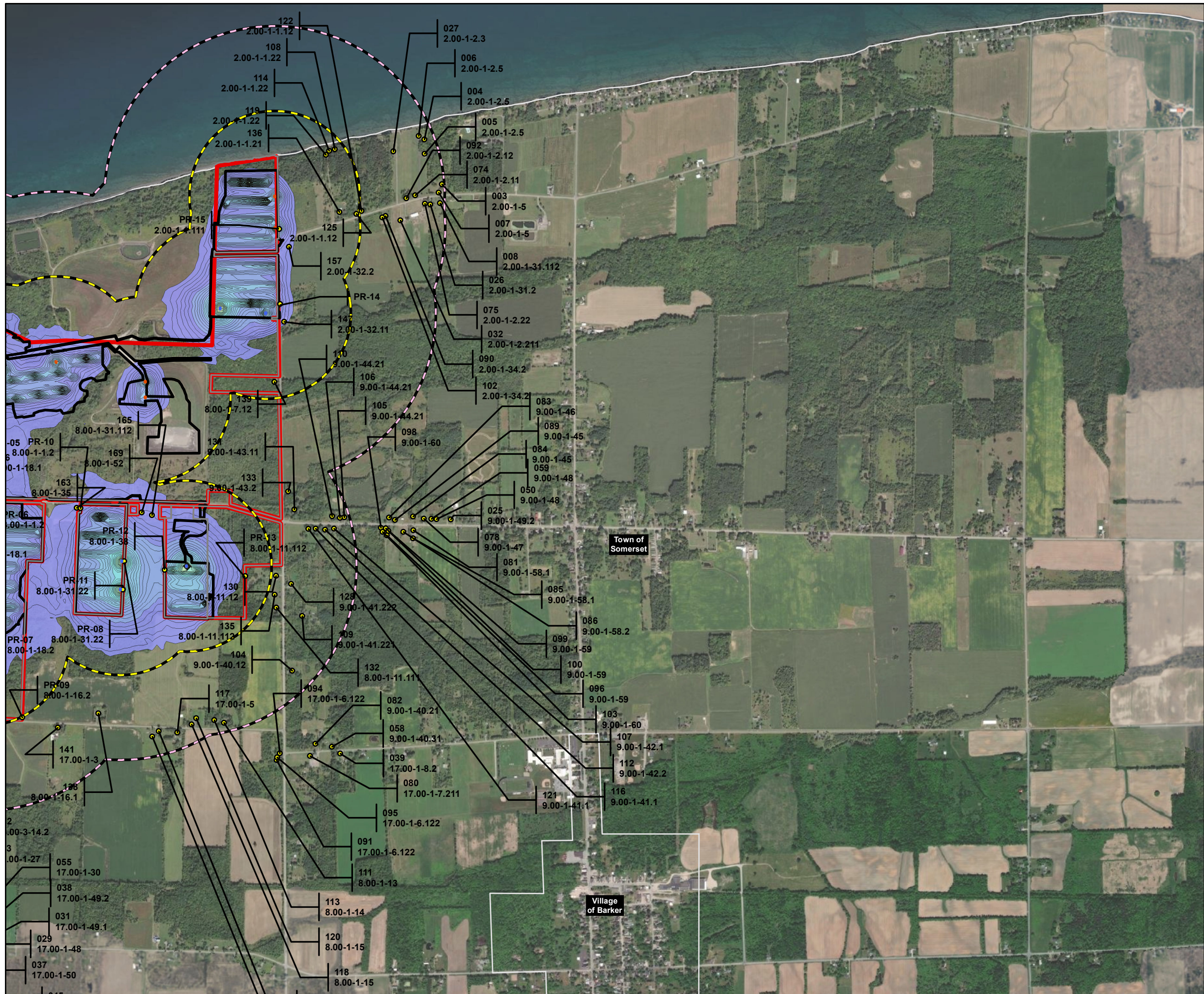
Figure 24A

Unmitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023

TETRA TECH aes

Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



Legend

Noise Sensitive Receptor (with NSR ID and Tax ID)

- Noise Sensitive Receptor (Non-participating)
- Inverter SG3150 (Height: 10')
- Inverter SG3600 (Height: 10')
- Project Parcel/Non-participating Property
- Facility Site
- Project Site Boundary
- Municipal Boundary
- ▬ 3000ft Buffer
- ▬ 1500ft Buffer

Received Sound Levels (dBA)

30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

1:20,000
0 0.25 0.5 Miles

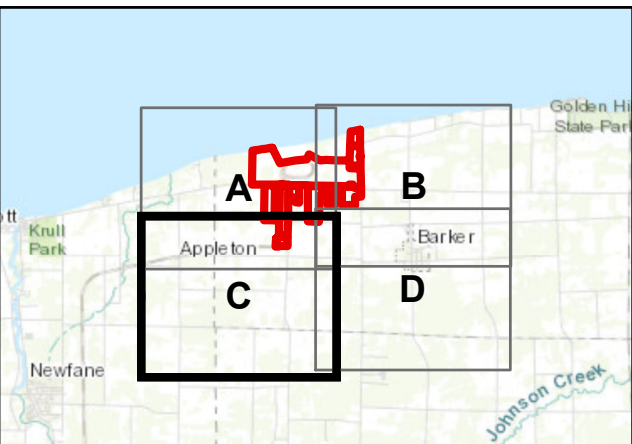
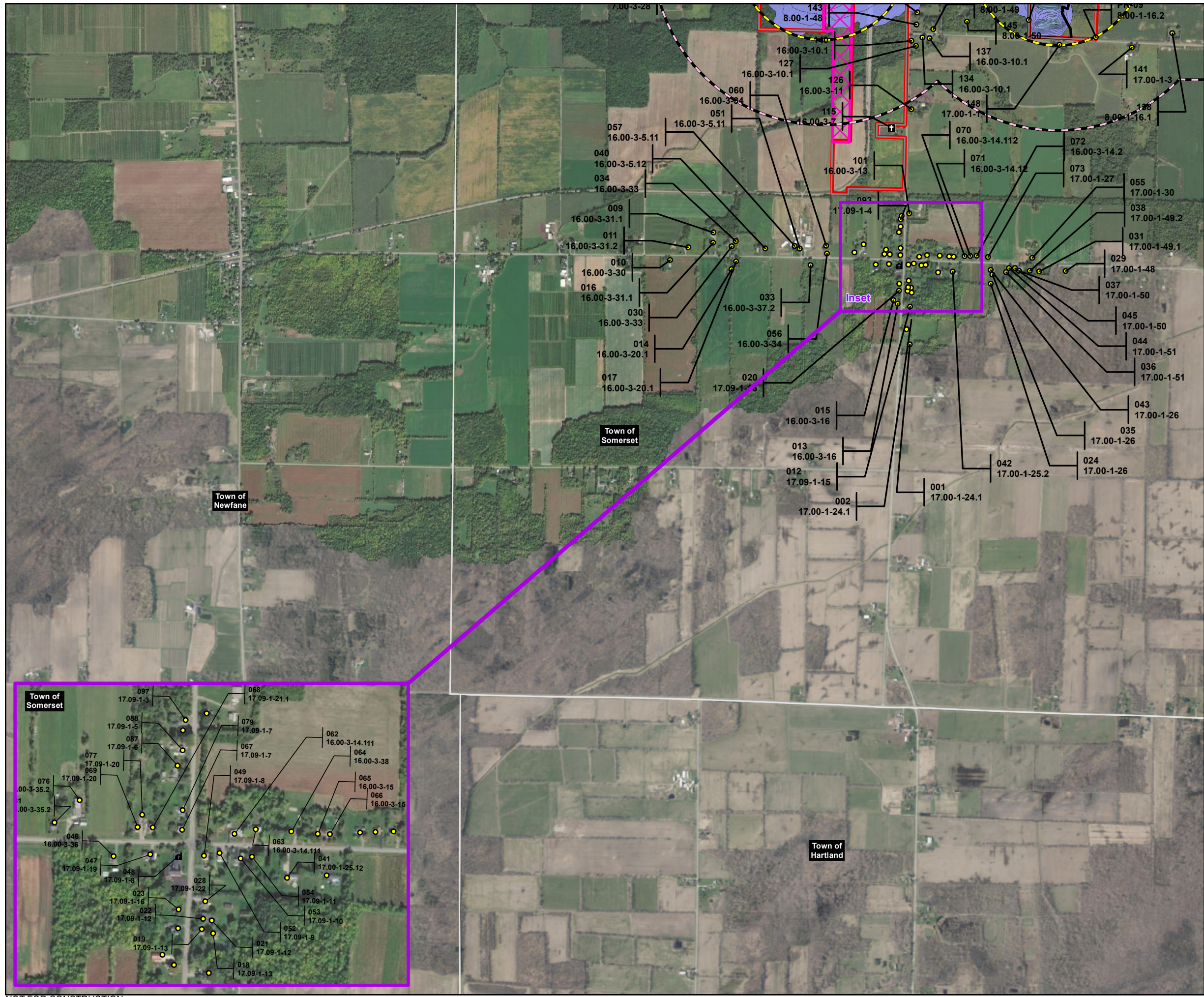
Figure 24B

Unmitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



- Legend**
- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - Ⓜ Noise Sensitive Receptor (Non-participating, Cemetery)
 - Ⓜ Noise Sensitive Receptor (Non-participating, Church)
 - ▭ Project Parcel/Non-participating Property
 - ▭ Facility Site
 - ▭ Project Site Boundary
 - ▭ Municipal Boundary
 - ▭ Utility ROW
 - ▭ 300ft Buffer
 - ▭ 1500ft Buffer

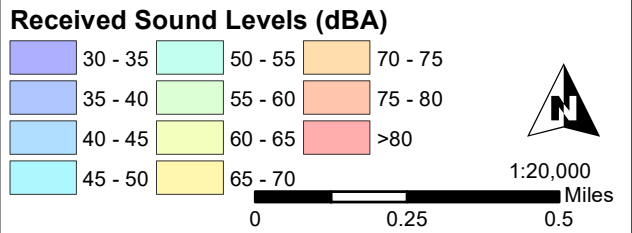
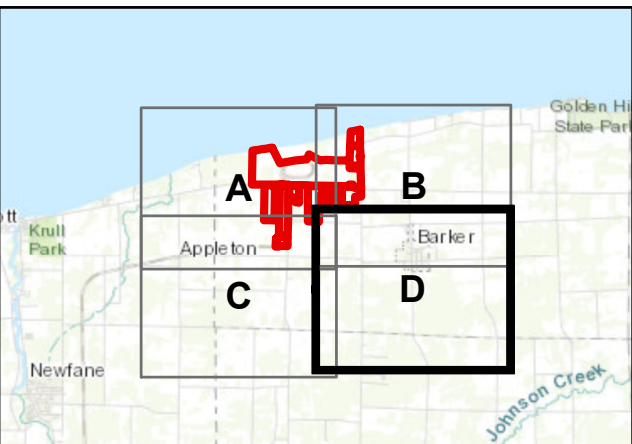
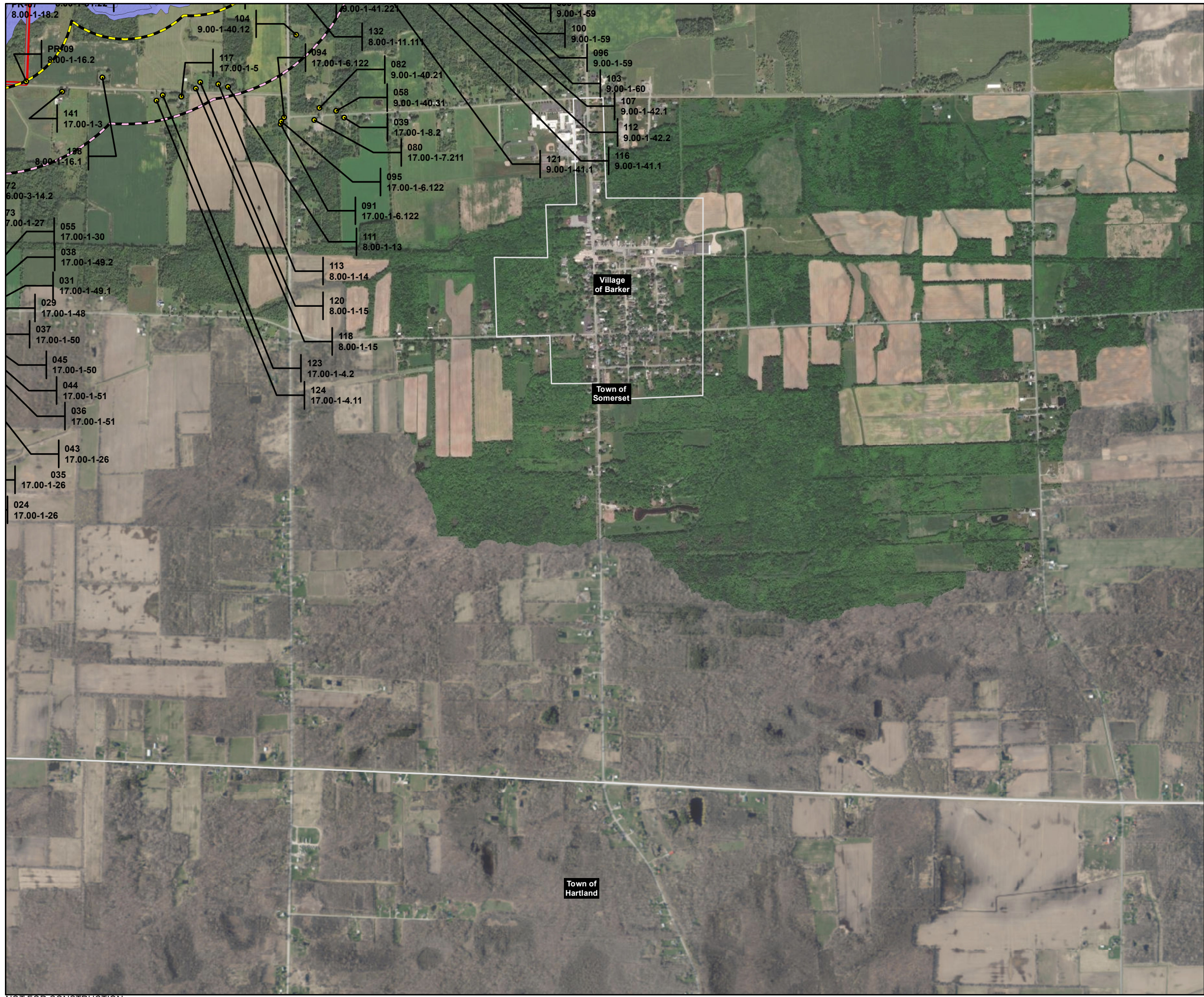


Figure 24C
Unmitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



- Legend**
- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - ▭ Project Parcel/Non-participating Property
 - ▭ Project Site Boundary
 - ▭ Municipal Boundary
 - ▭ 3000ft Buffer
 - ▭ 1500ft Buffer

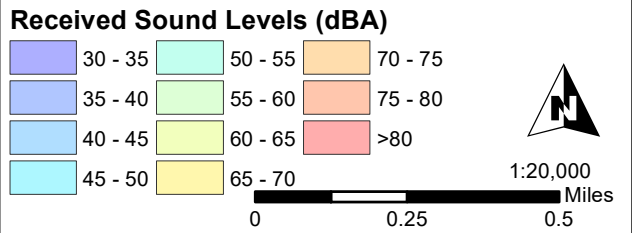
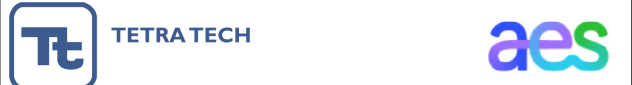
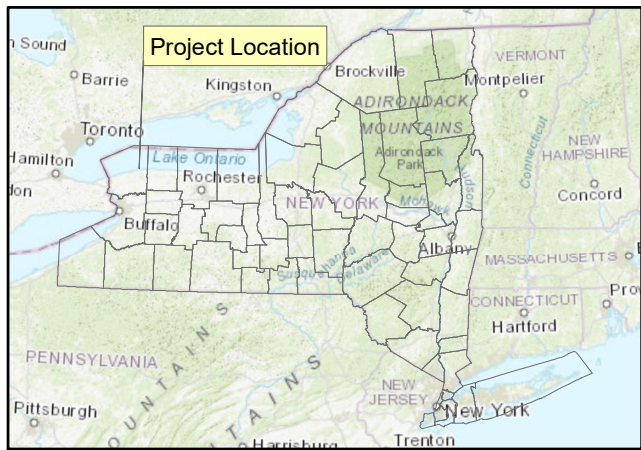
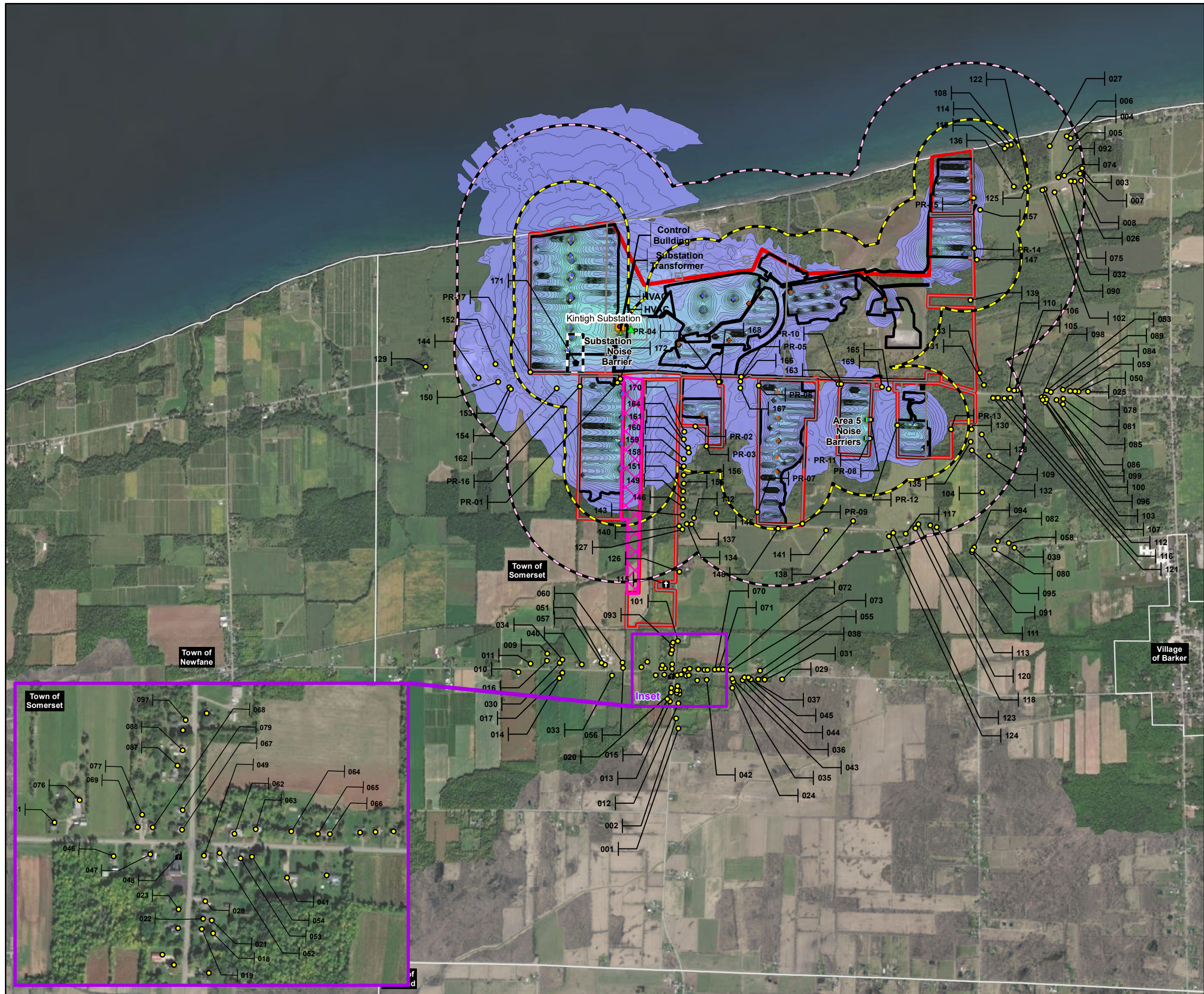


Figure 24D
Unmitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



Legend

Noise Sensitive Receptor (with NSR ID)

- Noise Sensitive Receptor (Non-participating)
- Ⓜ Noise Sensitive Receptor (Non-participating, Cemetery)
- Ⓜ Noise Sensitive Receptor (Non-participating, Church)
- Ⓜ Noise Sensitive Receptor (Participating, Museum)

Noise Barrier

- Substation Noise Barrier: 28' Height x 43' Length
- Area 5 Noise Barriers: 16' Height x 100' Length

- Control Building HVAC (Height: 7')
- Inverter SG3150 (Height: 10')
- Inverter SG3600 (Height: 10')
- Control Building (Height: 12')
- Substation Transformer (Height: 16')

- Project Parcel/Non-participating Property
- Project Parcel/Participating Property
- Facility Site
- Project Site Boundary
- Municipal Boundary
- Utility ROW
- Kintigh Substation

- 3000ft Buffer
- 1500ft Buffer

Scale: 1:30,000
0 0.25 0.5 Miles

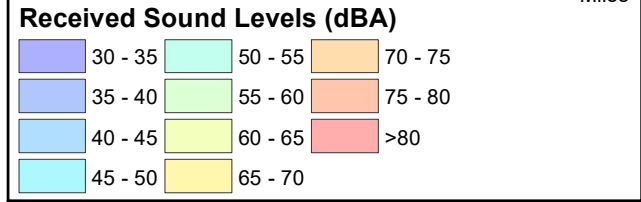
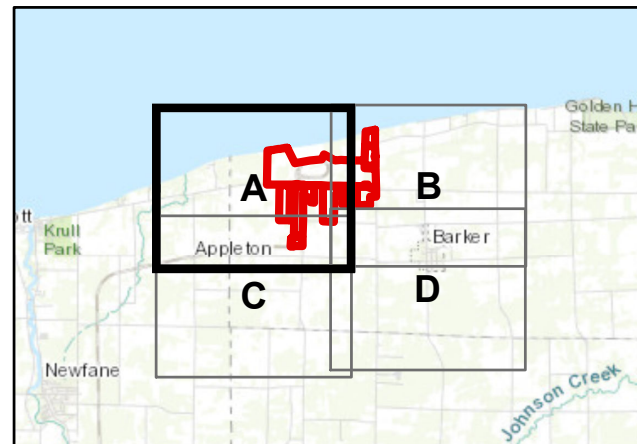
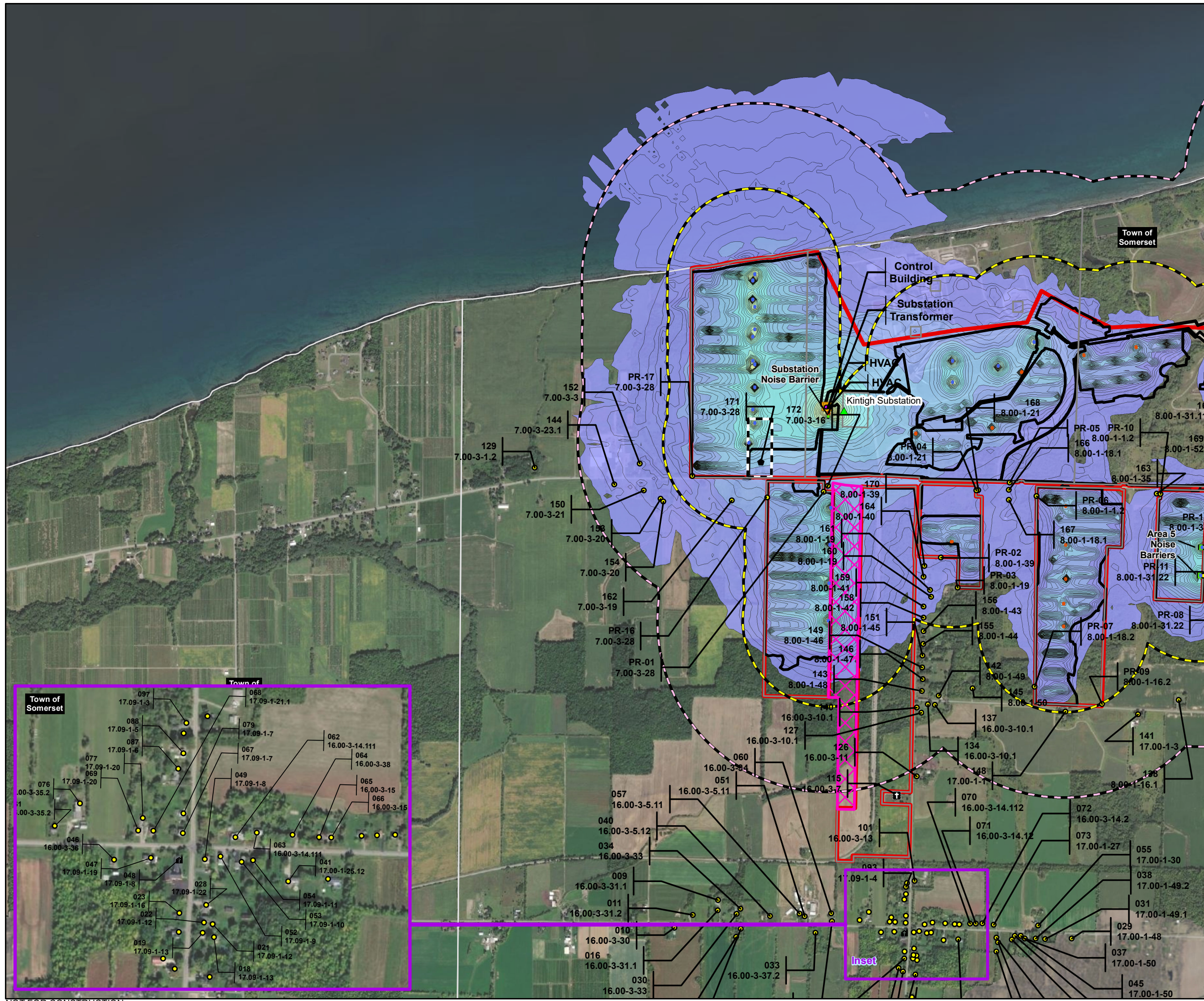


Figure 25
Mitigated Full Operational Sound Levels, (dBA)
Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



Legend

Noise Sensitive Receptor (with NSR ID and Tax ID)

- Noise Sensitive Receptor (Non-participating)
- Ⓜ Noise Sensitive Receptor (Non-participating, Cemetery)
- Ⓜ Noise Sensitive Receptor (Non-participating, Church)
- Ⓜ Noise Sensitive Receptor (Participating, Museum)

Noise Barrier

- Substation Noise Barrier: 28' Height x 43' Length
- Area 5 Noise Barriers: 16' Height x 100' Length

- Control Building HVAC (Height: 7')
- Inverter SG3150 (Height: 10')
- Inverter SG3600 (Height: 10')
- Control Building (Height: 12')
- Substation Transformer (Height: 16')
- Project Parcel/Non-participating Property
- Project Parcel/Participating Property
- Facility Site
- Project Site Boundary
- Municipal Boundary
- Utility ROW
- Kintigh Substation

3000ft Buffer

1500ft Buffer

1:20,000

0 0.25 0.5 Miles

Received Sound Levels (dBA)

30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

Figure 25A

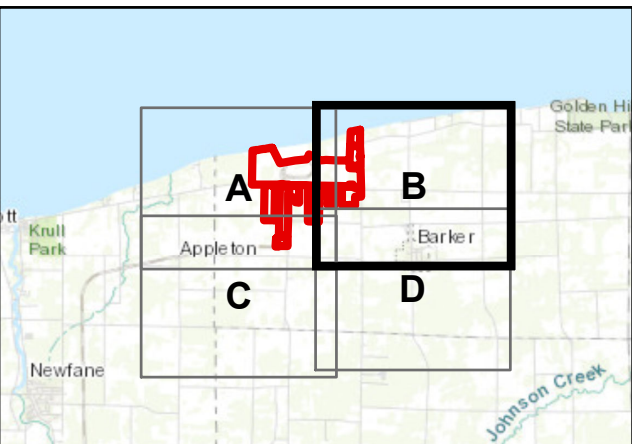
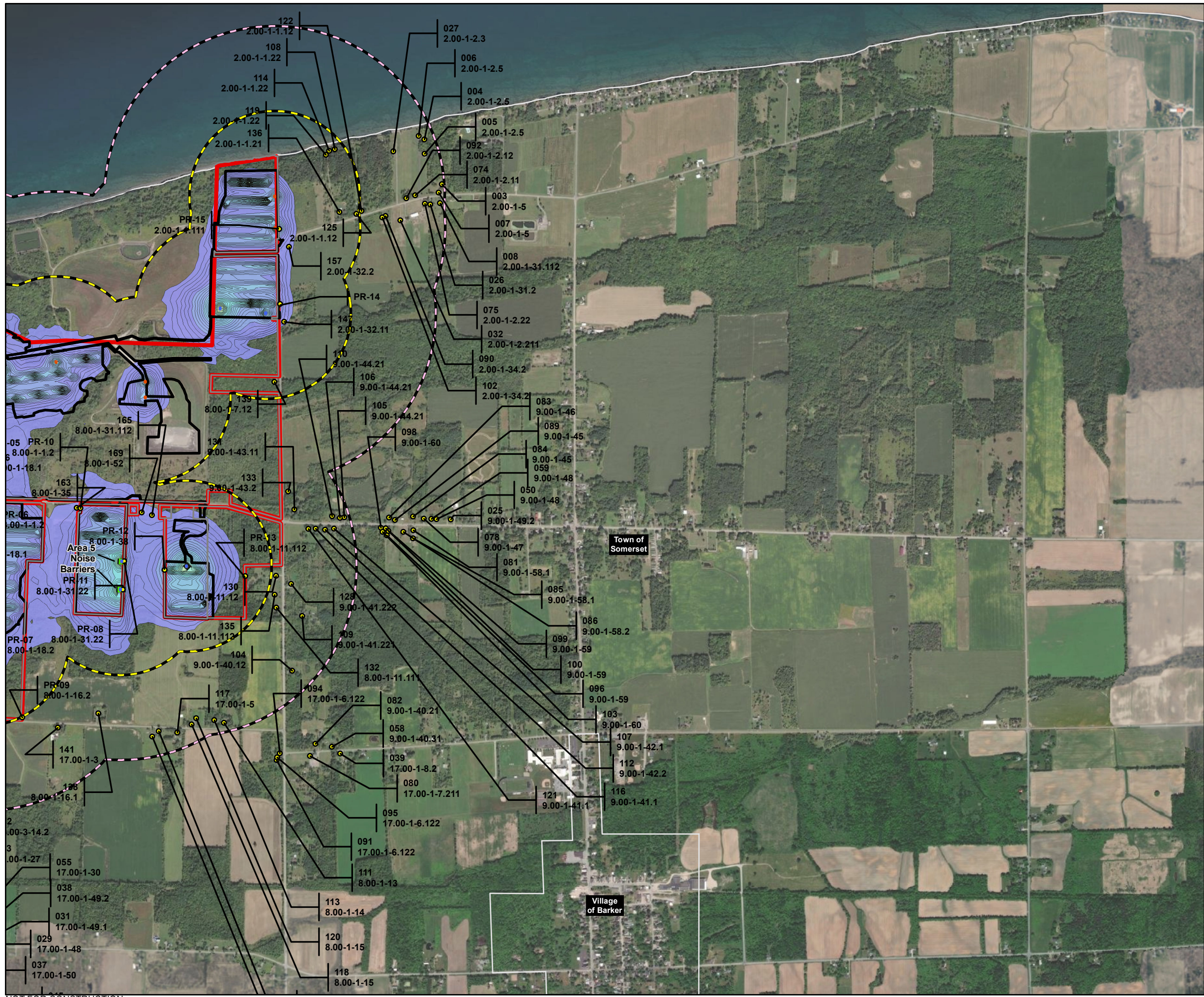
Mitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023

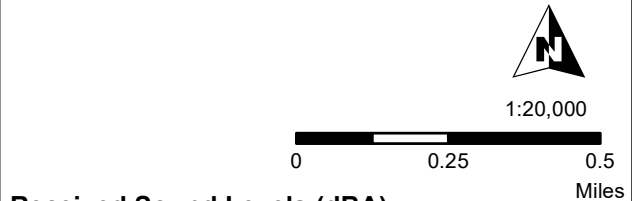
TETRA TECH aes

Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021

NOT FOR CONSTRUCTION



- Legend**
- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - Noise Barrier
 - Substation Noise Barrier: 28' Height x 43' Length
 - Area 5 Noise Barriers: 16' Height x 100' Length
 - Inverter SG3150 (Height: 10')
 - Inverter SG3600 (Height: 10')
 - Project Parcel/Non-participating Property
 - Facility Site
 - Project Site Boundary
 - Municipal Boundary
 - 3000ft Buffer
 - 1500ft Buffer



Received Sound Levels (dBA)

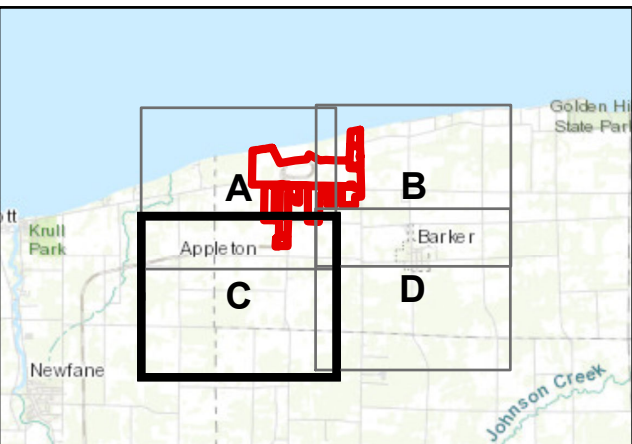
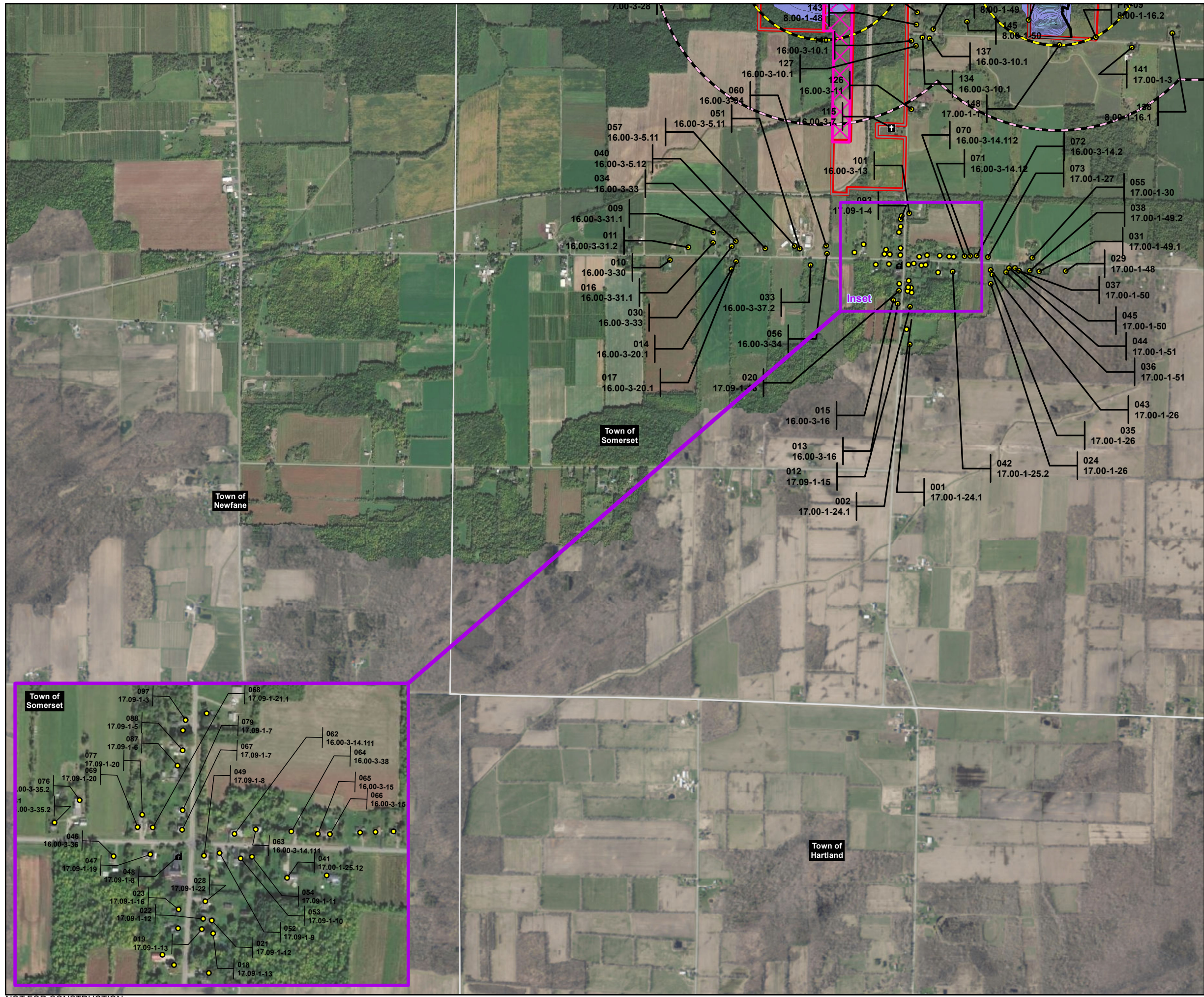
30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

Figure 25B
Mitigated Full Operational Sound Levels, (dBA)
Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021

NOT FOR CONSTRUCTION



- Legend**
- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - Ⓜ Noise Sensitive Receptor (Non-participating, Cemetery)
 - Ⓜ Noise Sensitive Receptor (Non-participating, Church)
 - ▭ Project Parcel/Non-participating Property
 - ▭ Facility Site
 - ▭ Project Site Boundary
 - ▭ Municipal Boundary
 - ▭ Utility ROW
 - ▭ 3000ft Buffer
 - ▭ 1500ft Buffer

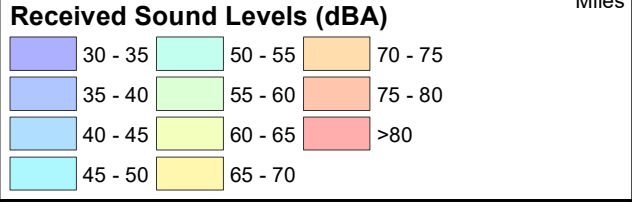
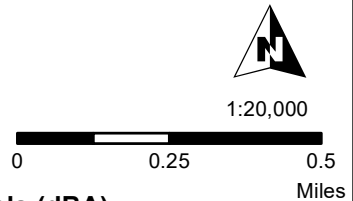
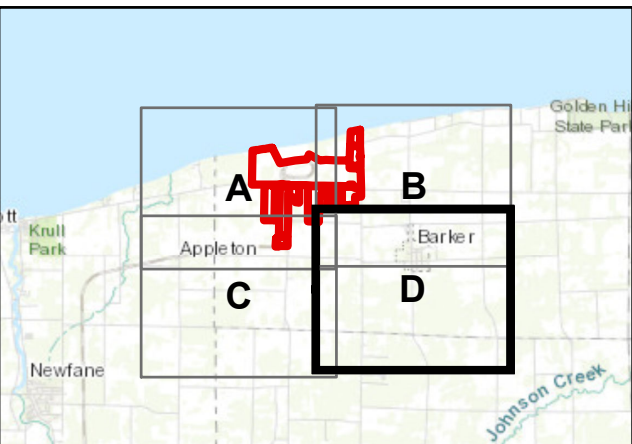
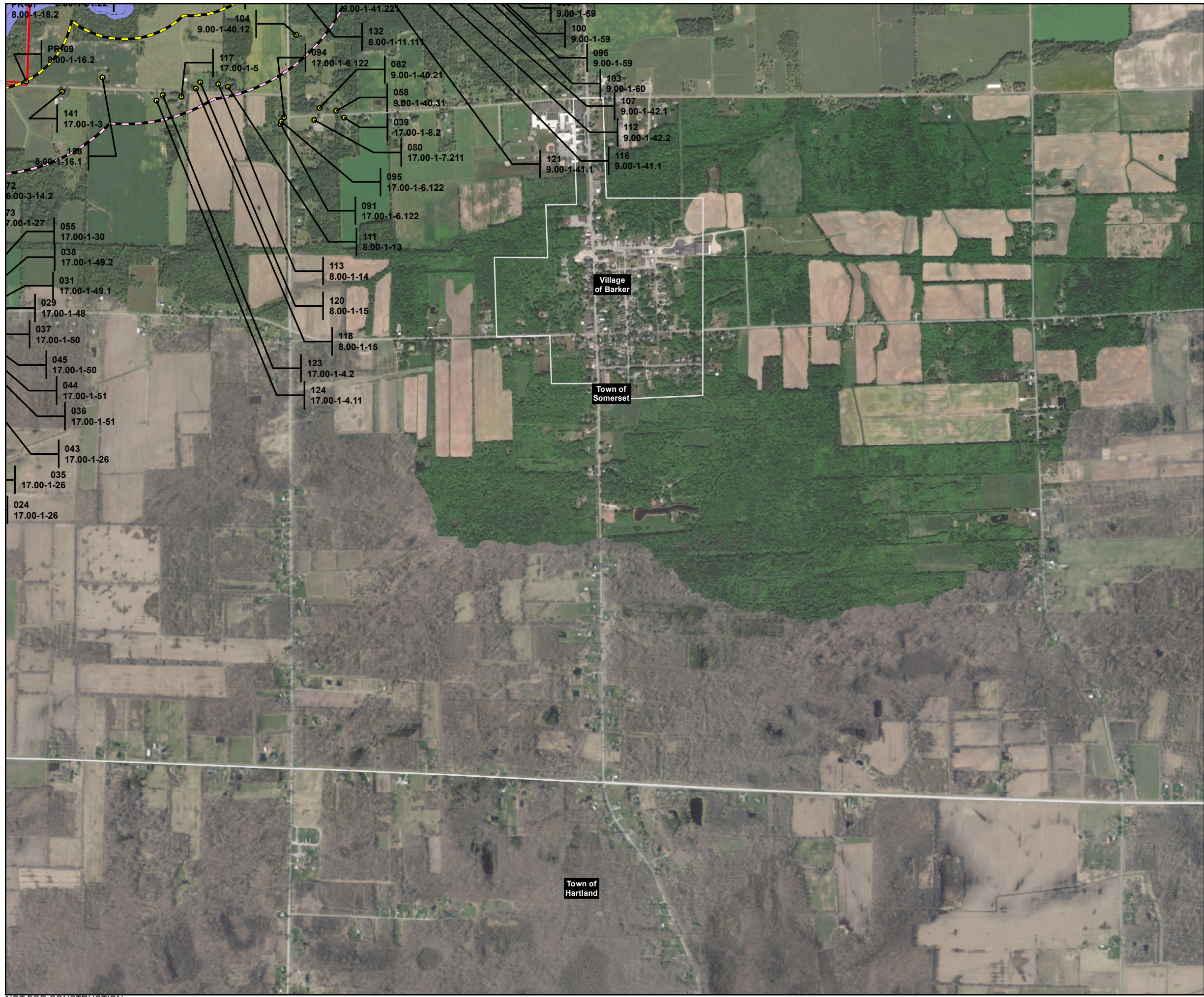


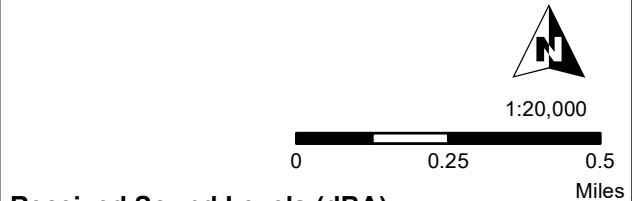
Figure 25C
 Mitigated Full Operational Sound Levels, (dBA)
 Somerset Solar
 Niagara County, NY
 March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021



- Legend**
- Noise Sensitive Receptor (with NSR ID and Tax ID)
 - Noise Sensitive Receptor (Non-participating)
 - ▭ Project Parcel/Non-participating Property
 - ▭ Project Site Boundary
 - ▭ Municipal Boundary
 - ▭ 3000ft Buffer
 - ▭ 1500ft Buffer



Received Sound Levels (dBA)

30 - 35	50 - 55	70 - 75
35 - 40	55 - 60	75 - 80
40 - 45	60 - 65	>80
45 - 50	65 - 70	

Figure 25D

Mitigated Full Operational Sound Levels, (dBA)

Somerset Solar
Niagara County, NY
March 2023



Source: Aerial Imagery- ESRI 2017/2018; NYS GIS Civil Boundaries, Sept 2021