

**Appendix H**  
**Visual Impact Assessment**

**Agricultural and Renewable Energy Park**

**Town of Lincoln  
Madison County, New York**

**Appendix H  
Visual Impact Assessment**

**November 2011**

Agricultural and Renewable Energy Park

Town of Lincoln  
Madison County, New York

Visual Impact Assessment

November 2011

Prepared For:

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Figure 1: Noise Meter Locations

## **1.0 Introduction**

A visual impact assessment was conducted for the proposed construction of the Madison County Agriculture and Renewable Energy Park (ARE Park) located in a rural area in the Town of Lincoln, Madison County, New York. The purpose of the visual impact assessment was to determine existing visual characteristics surrounding the proposed site, and use this information to assess potential impacts to the viewshed for sensitive receptors (residential dwellings) under the build out condition for the proposed ARE Park.

## **2.0 Existing Visual Conditions**

The existing landscape of the project site is predominantly rural. Sites 1A and 1B are currently used for row crops. They are located along the east side of Tuttle Road, a low-traffic local road. Two residences are located in proximity to these sites. Site 2 is a larger, rural property with a mix of land uses, including row crops, hedgerows, wooded areas, wetlands and a stream channel. A handful of homesteads and private properties are located adjacent to Site 2. The existing landfill is visible from several vantage points around the project site, but several of the residential properties nearby are screened by hedgerows, topography, and other features.

Aesthetic resources within a 5 mile radius of the project site include:

- Lenox No. 4 School House (96NR00926), hamlet of Clockville – 1.5 miles distant
- DeFerriere House (06NR05598), City of Oneida – 3.0 miles distant

### **3.0 Methodology**

The Visual Impact Analysis (VIA) procedures utilized for the proposed ARE development project are consistent with methodologies developed by the NYSDEC and the U.S. Department of Transportation (USDOT). Viewshed mapping was completed using United States Geological Survey (USGS) 10-meter digital elevation model (DEM) data with ESRI's ArcInfo 10.0 desktop Geographic Information System (GIS) software in conjunction with ESRI's Spatial Analyst extension. This software allows the user to determine topographic limits to the viewable area from data contained in the digital elevation model. These viewshed maps define the maximum viewable areas from which any portion of the existing and proposed landfill on the project site could potentially be seen within the five (5) mile radius from the ARE development study area.

Two viewshed analyses were completed for the project area. The first viewshed analysis used only the topographic data contained in the DEM model. The second viewshed analysis was utilized topography as well as modeled vegetation for sight obstruction within the five-mile radius of the study area. For both analyses, proposed development areas a maximum building height of 50 feet was assumed throughout each of the sites.

#### **4.0 Visual Impact Assessment**

Significant aesthetic or visual impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place.

Figure 1 shows the area within a 5 mile radius of the project site that is visible under existing conditions, and under the ARE Park build out condition. This analysis indicates that the ARE Park will be visible to approximately 5% more of the 5 mile radius viewshed area than under the current condition, not taking into account the screening effects of vegetation. The Lenox No. 4 School House property may have a partial view of the ARE Park development. This impact will not cause a diminution of the public use or appreciation of this resource because it is over a mile distant from the proposed ARE Park.

The recently listed DeFerriere House in the City of Oneida will not have a view of the proposed ARE Park and therefore will not experience a visual impact. T

The 5% increase in visibility is not considered to be significant.

Properties adjacent to proposed utility corridors will not be adversely affected visually due to the installation of underground utilities. Some ground surface disruption will occur during project construction, but these impacts will be temporary and will not be significant. The existing ground surface condition will be restored once construction is completed.

#### 4.1 Potential Mitigation Measures

Placement of visual screens and maintenance of existing vegetative features such as hedgerows and forested areas will naturally reduce the visibility of the proposed ARE Park buildings. The viewshed analysis that incorporated the presence of vegetation screening showed that the visibility of the ARE Park would be reduced from 5% (with no vegetation) to 3% more than the undeveloped condition.

No specific mitigation measures are proposed for the project site. However, individual site developers may choose to use one or more of the following visual impact mitigation strategies:

- a) Screening (berms, vegetation)
- b) Relocation (placement of buildings on site to minimize external visibility)
- c) Camouflage/Disguise (use of natural materials to reduce visual impacts)
- d) Low Profile Buildings (single story or partially earth covered)
- e) Use of non-reflective surfaces in building materials to prevent excess glare from windows, solar or thermal surfaces, etc.
- f) Use of down-lighting, and other methods to prevent off-site spillover of lighting from parking lots and buildings at night

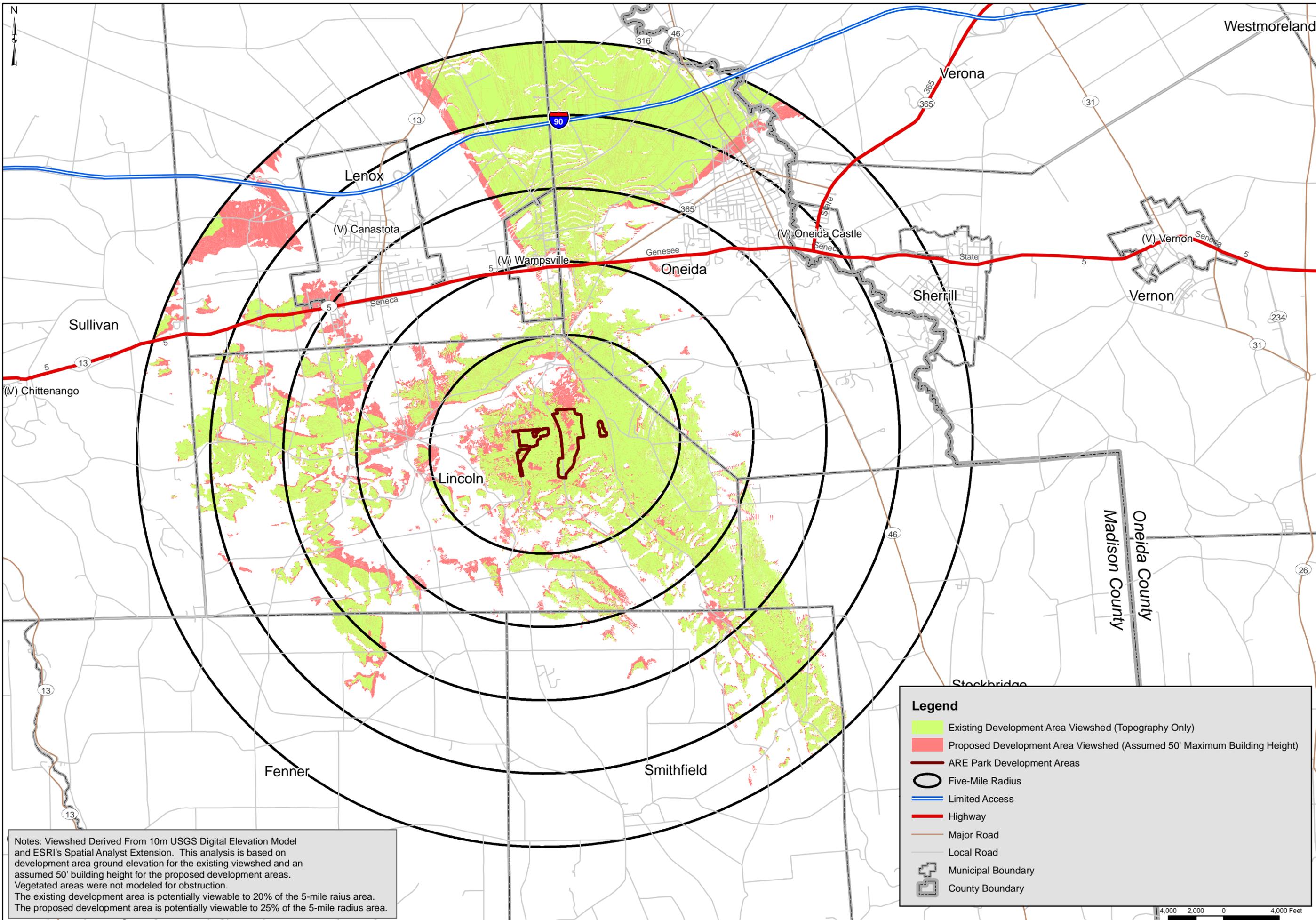
## **5.0 Conclusion**

Based on the viewshed analyses, no significant changes will be experienced in the visibility of the project site.

## **6.0 References**

New York State Department of Environmental Conservation, Division of Environmental Permits. July 31, 2000. *Assessing and Mitigating Visual Impacts*. Department ID No. DEP-00-2. 15 pages. Accessed from:  
[http://www.dec.ny.gov/docs/permits\\_ej\\_operations\\_pdf/visual2000.pdf](http://www.dec.ny.gov/docs/permits_ej_operations_pdf/visual2000.pdf).

**Figure 1**  
**Viewshed with No Vegetation**



Notes: Viewshed Derived From 10m USGS Digital Elevation Model and ESRI's Spatial Analyst Extension. This analysis is based on development area ground elevation for the existing viewshed and an assumed 50' building height for the proposed development areas. Vegetated areas were not modeled for obstruction. The existing development area is potentially viewable to 20% of the 5-mile radius area. The proposed development area is potentially viewable to 25% of the 5-mile radius area.

**Legend**

- Existing Development Area Viewshed (Topography Only)
- Proposed Development Area Viewshed (Assumed 50' Maximum Building Height)
- ARE Park Development Areas
- Five-Mile Radius
- Limited Access
- Highway
- Major Road
- Local Road
- Municipal Boundary
- County Boundary



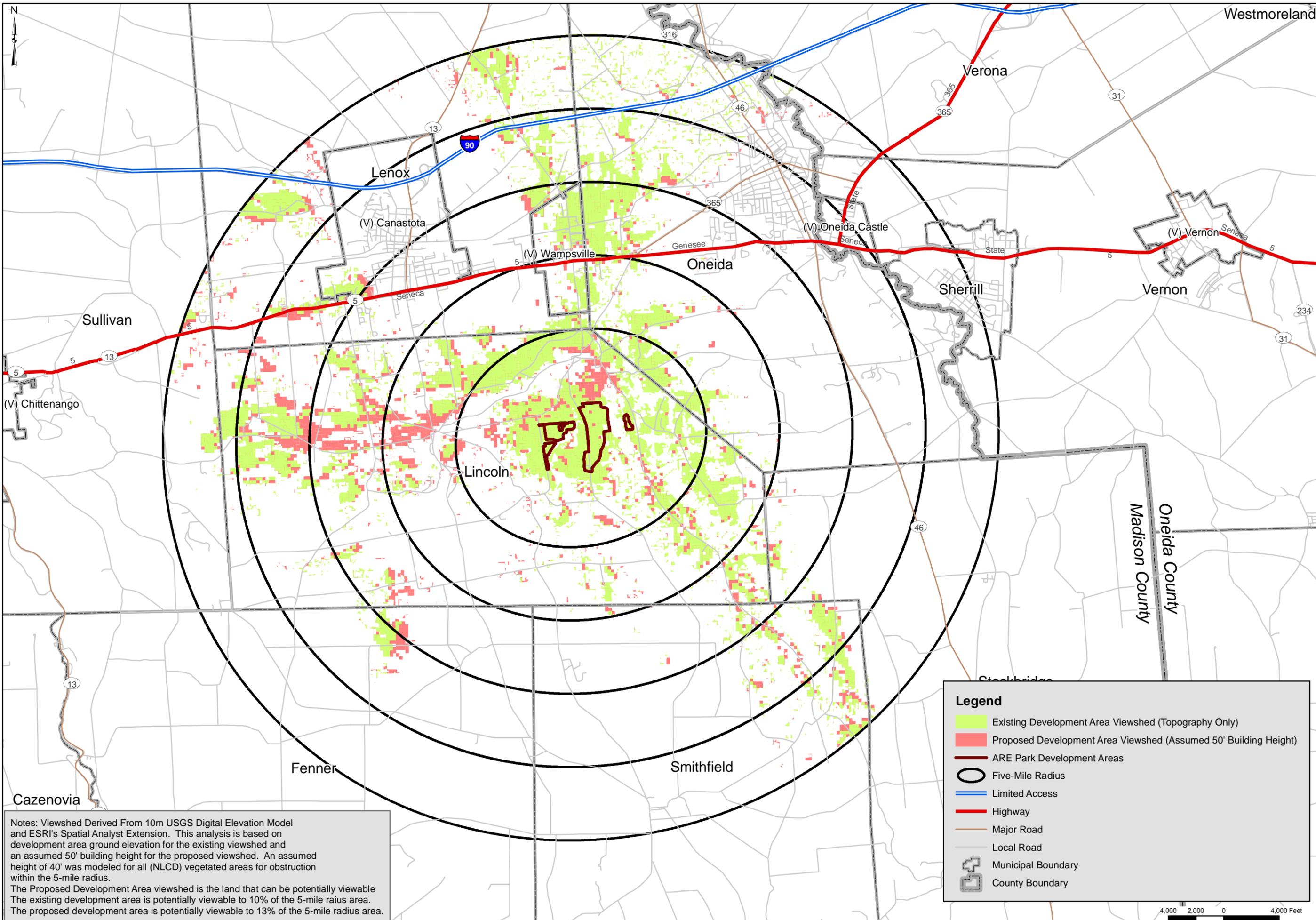
Madison County ARE Park  
Existing and Proposed ARE Park Development Viewshed  
(No Modeled Vegetation)

Madison County ARE Park  
Madison County, New York

Town of Seneca

Date	September, 2011
Scale	As Shown
Figure Number	1
Project Number	154.091

**Figure 2**  
**Viewshed with Vegetation**



Notes: Viewshed Derived From 10m USGS Digital Elevation Model and ESRI's Spatial Analyst Extension. This analysis is based on development area ground elevation for the existing viewshed and an assumed 50' building height for the proposed viewshed. An assumed height of 40' was modeled for all (NLCD) vegetated areas for obstruction within the 5-mile radius.  
 The Proposed Development Area viewshed is the land that can be potentially viewable  
 The existing development area is potentially viewable to 10% of the 5-mile radius area.  
 The proposed development area is potentially viewable to 13% of the 5-mile radius area.

**Legend**

- Existing Development Area Viewshed (Topography Only)
- Proposed Development Area Viewshed (Assumed 50' Building Height)
- ARE Park Development Areas
- Five-Mile Radius
- Limited Access
- Highway
- Major Road
- Local Road
- Municipal Boundary
- County Boundary



**Madison County ARE Park**  
**Existing and Proposed ARE Park Development Viewshed**  
**(With Modeled Vegetation)**

Madison County, New York  
 Town of Seneca

Date	September, 2011
Scale	As Shown
Figure Number	2
Project Number	154.091

**Appendix I**  
**Noise Assessment**

**Agricultural and Renewable Energy Park**

**Town of Lincoln  
Madison County, New York**

**Appendix I  
Noise Impact Assessment**

**November 2011**

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Madison County, New York

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Figure 1 – Noise Meter Locations

## **1.0 Introduction**

A noise impact assessment was conducted for the proposed construction of the Madison County Agriculture and Renewable Energy Park (ARE Park) located in a rural area in the Town of Lincoln, New York. The purpose of this noise impact assessment was to determine existing “background” noise levels at locations surrounding the proposed site, and use this information to assess potential noise impacts at nearby sensitive receptors (residential dwellings) due to the proposed ARE Park operations. Currently, the existing background noise levels around the project site are predominately influenced by traffic noise on surrounding roadways, operations at the Town of Lincoln Highway Garage as well as noise generated by truck traffic and operations at the Madison County Landfill. The assessment consisted of collecting background noise data during landfill operational and non-operational hours to determine the existing background noise levels near the project site.

## **2.0 Background Noise Analysis**

Background noise levels were measured at three (3) monitoring locations adjacent to the proposed project location on September 20, 2011. Background, or ambient, noise levels were monitored between 2:00 PM and 4:00 PM when the landfill was operational and between 4:00 PM and 5:00 PM when the landfill was non-operational to establish the existing background noise levels. The noise monitoring locations are shown on Figure 1.

Quest SoundPro DL Type 1 Sound Level Meters, herein referred to as “meters”, were used to measure and record sound levels at each monitoring location. Prior to initiating sound level measurements, field measurements of temperature, humidity and wind speed were taken to verify that weather conditions were within the operating parameters recommended by the manufacturer of the noise meter. Each meter was also calibrated before and after every sound level reading with a Quest QC-10 Calibrator. Following calibration, each meter was set up on a tripod at a height of approximately 5 feet above the ground and set to record at an A-weighting and slow response measuring options. The equivalent steady state sound levels (Leq) were recorded by the meters to obtain background, or ambient, sound levels. The Leq is the average sound energy over time, and is utilized in sound level studies as it is considered to be directly related to the observable effects of sound on people. Throughout the sampling period, observations regarding specific sources of noise that contributed to overall background noise levels were recorded.

Meter location Receptor-1 was setup to measure and record ambient sound levels along Tuttle Road located west of the operational Madison County Landfill and adjacent to proposed project Sites 1 and 1A. Meter locations Receptor-2, and Receptor-3 were setup to record ambient sound levels at the closest receptors along Buyea Road located east of the Madison County Landfill (see Figure 1) and adjacent to proposed project Site 2. The predominant noise contributor observed at all locations

was traffic noise associated with Buyea and Tuttle Roads. Additionally, backup beepers from Lincoln Highway Garage operational equipment were audible at Receptor-1, and backup beepers from operating equipment at the landfill were also audible at Receptor-2. During the non-operational portion of the monitoring event (4 PM – 5 PM) geese flying and landing near the monitoring locations were audible along Buyea Road locations (Receptors 2 & 3). Noise monitoring results indicate the background noise at receptors along Buyea Road (Receptors 2 & 3) are greater than Receptor-1 due predominately to the increased number of vehicle passes and associated traffic noise on Buyea Road compared to Tuttle Road. Steady state sound level ( $L_{eq}$ ) results of the background noise analysis are presented Table 1:

<b>Table 1 – Madison County ARE Park Background Noise Results</b>			
<b>Location</b>	<b>Session <math>L_{eq}</math> (dBA) 2 PM to 5 PM</b>	<b>Operational <math>L_{eq}</math> (dBA) 2 PM to 4 PM</b>	<b>Non-Operational <math>L_{eq}</math> (dBA) 4 PM to 5 PM</b>
Receptor-1*	51.6, 51.8	51.6, 49.8	52.9
Receptor-2	62.0	62.9	60.0
Receptor-3	63.2	63.8	62.1

\*Receptor-1 had two sessions due to battery replacement at 3:10 PM

### **3.0 Noise Level Assessment**

The proposed ARE Park is expected to attract agriculture related industrial and commercial operations to the proposed site. The additional of these new operations are expected to increase the ambient noise levels surrounding the proposed ARE Park. There are three (3) main categories of potential noise sources associated with the proposed ARE Park including: 1) fixed equipment or process operations; 2) traffic noise from commuter vehicles and trucks traveling into and out of the Park; and 3) mobile equipment or process operations including mobile transport of raw materials, new products, and waste products. Fixed equipment sources will largely consist of HVAC systems and refrigeration compressor units located on the exterior of buildings that will contribute to noise levels at the project site; however, proper operation and maintenance of this equipment will ensure noise levels generated are minimized. Noise generated within buildings such as process operations and associated fixed equipment is typically attenuated by the building structure to a level that is not expected to contribute to an increase in noise levels beyond the proposed site. Mobile equipment and transport related noise will be limited in duration, and is not anticipated to have significant contributions to noise levels beyond the proposed ARE Park site.

The NYSDEC policy document *Assessing and Mitigating Noise Impacts* (NYSDEC, 2011) defines a significant Sound Pressure Level (SPL) impact as an increase of 6 dB from ambient levels; while an increase in noise by 10 dB is perceived as a doubling of SPL. For the purpose of this analysis, an Leq sound level of 65 dBA at 50 feet from the source (source noise), which is considered a typical sound level in rural industrial settings, was utilized to evaluate potential impacts to nearby sensitive receptor locations. In order to determine the affect of source noise to existing background noise, source sound levels were projected using the “inverse square law”. The “inverse square law” predicts that sound levels decrease at an incremental rate with the increase in distance from a noise source. This noise law states that 50 feet from a noise source,

the noise level decreases by 6 dBA (A-weighted decibels) with the doubling of the distance from the source (NYSDEC, 2001). It should be noted that additional attenuation factors such as ground cover and topography (for example, differences in elevation or barriers of line of sight between the source and the receptor) also reduce noise levels between a source and a receptor. For the purposes of this noise assessment, we have only included attenuation due to distance; therefore, this assessment provides a conservative estimate of source noise attenuation and potential residential receptor impacts.

Utilizing the estimated rural industrial source sound level of 65 dBA at 50 feet, Table 2 below, summarizes the sound levels at varying distances and the associated combined sound level at the residential receptor location. The procedure for adding source and background noise at a location is outlined in the NYSDEC policy guidance document. As an example, if the difference between two sound levels is 1 dB or less, then 3 dB is added to the greater of the two sound levels; a difference of 2 to 3 dB requires the addition of 2 dB; a difference of 4 to 9 dB requires the addition of 1 dB; and for a difference of 10 dB or more, the lower sound level is not noticeable and adds nothing to the higher sound level.

<b>Background Location</b>	<b>Source Leq at 50 feet (dBA)</b>	<b>Attenuation Distance (Ft.)</b>	<b>Source Leq at Attenuation Distance (dBA)</b>	<b>Background (Receptor) Leq (dBA)</b>	<b>Estimated Combined Leq at Receptor (dBA)</b>	<b>Estimated Change in Leq – Background Leq (dBA)</b>
Receptor-1	65.0	100	59.0	52.9	60.0	7.1
Receptor-1	65.0	200	53.0	52.9	56.0	3.1
Receptor-2	65.0	100	59.0	60.0	63.0	3.0
Receptor-2	65.0	200	53.0	60.0	61.0	1.0
Receptor-3	65.0	100	59.0	62.1	64.1	2.0
Receptor-3	65.0	200	53.0	62.1	63.1	1.0

For all locations at a distance of 200 feet from the source, the noise level increase at the receptor locations range from approximately 1.0 to 3.1 dBA. In accordance with the NYSDEC policy document, increases from 0 to 3 dBA should have no appreciable effect on receptors. Based on the estimates above, it is anticipated that ARE Park operations will be required to be located at least 200 feet from nearby sensitive receptors to have no appreciable effect on sensitive receptors.

Future ARE Park noise sources will be evaluated to ensure additional noise does not produce a 6 dB increase at nearby sensitive receptor locations, which constitutes a significant increase. Based on the typical rural industrial source data presented above, it is unlikely that receptors will experience an increase in measured sounds levels above 6 dB, which would correspond to resulting sound levels of 66 dBA at receptors along Buyea Road; and 58.9 dBA at receptors along Tuttle Road. Should noise impacts from ARE Park operations exceed these levels based on analysis of actual noise sources to be installed, it is recommended that the proposed operations be required to complete a detailed noise assessment to include all existing attenuation factors and noise mitigation measures prior to commencing operations.

Example mitigation methods for the industrial facilities include sound barriers, mufflers, and building enclosures. Mitigation measures are available if necessary to reduce noise impacts from the Madison County ARE Park.

### 3.1 Construction Noise Assessment

Noise generated from construction activities for the proposed ARE Park will be unavoidable, but limited in duration. Noise sources associated with construction will primarily consist of construction equipment and vehicles, and associated noise from site work and the construction of buildings, access roads, parking lots and utilities. During construction, care will be taken to limit construction noise to daytime hours. Mitigation measures, such as requiring

adequate mufflers for heavy equipment as a condition of any construction contracts will minimize construction noise impacts.

#### **4.0 Conclusion**

Based on the source noise and background sound levels evaluated herein, it is unlikely that sensitive receptors will experience appreciable or noticeable increases in noise levels over the current background levels. In the event that an industry is to be located within the proposed ARE Park with noise levels above the rural industrial noise level included herein (65 dBA at 50 feet), then additional noise assessment will be required to verify the impact on nearby sensitive receptors.

## **5.0 References**

New York State Department of Environmental Conservation. 2001. *Assessing and Mitigating Noise Impacts*, New York State Department of Environmental Conservation Division of Environmental Permits – Program Policy Memorandum.

United States Department of Transportation Federal Highway Administration. 1980. *Noise Fundamentals Training Document Highway Noise Fundamentals*.

**Figure 1**  
**Noise Meter Locations**



**Legend**

- Noise Monitoring Location
- ⊕ ARE Park Sites
- Tax Parcel Boundary

Sources: NYS GIS Clearinghouse, GUGIR, B&L, ArcGIS Online



0 500 1,000  
 Feet

**Noise Monitoring Locations**

Madison County September 2011 New York

Figure 1  
 Project No. 154.091.003

**Appendix J**  
**Air Quality Assessment**

**Agricultural and Renewable Energy Park**

**Town of Lincoln  
Madison County, New York**

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## **1.0 Introduction**

An air quality assessment was conducted for the proposed Madison County Agriculture and Renewable Energy Park (ARE Park) located in a rural area in the Town of Lincoln, New York. The purpose of this air quality assessment is to determine existing ambient air quality at the proposed site, and use this information to assess potential air quality impacts at nearby sensitive receptors (residential dwellings) due to the proposed ARE Park operations. Currently, the existing background air levels around the project site are predominately influenced by dust and odors generated from nearby agricultural activities, traffic on surrounding roadways, operations at the adjacent Town of Lincoln Highway Garage as well as operations at the Madison County Landfill. The assessment consisted of background air quality data from existing landfill monitoring reports and reviewing thresholds and potential emissions from businesses and industries likely to occupy the ARE Park site.

## **2.0 Background Air Quality Conditions**

The project site is located in the Town of Lincoln, Madison County, New York, which is classified as an attainment area for criteria air pollutants. Level 1 Ambient Air Quality Standards apply to this site per NYSDEC regulation 6 NYCRR Part 284.3. Level 1 air quality standards apply to areas dominated by timber, agricultural crops, dairy farming, or recreation, and residences and sparsely scattered industries.

Permitted air emission sources located adjacent to the project site include the Madison County Landfill, a Title V Air Facility, and the Waste Management Renewable Energy Facility, a State Air Facility. In general, potential emissions resulting from the project may include combustion emissions from facility heating systems and minor industrial process specific emissions associated with each agricultural or food industry.

### **2.1 Potential Permitting Requirements**

Air emissions from a new facility may be subject to air regulation by the New York State Department of Environmental Conservation (NYSDEC) or the U.S. Environmental Protection Agency (EPA). The NYSDEC air permitting program is required by the USEPA Clean Air Act, and is administered by the NYSDEC's Division of Air Resources (DAR). NYSDEC requires that sources operating in New York State obtain air permits prior to constructing and operating the source of air emissions, unless the activity or air source is specifically exempt from regulation. All non-exempt air emission sources are regulated under one of the following permitting structures:

- Title V Facility Permit
- State Facility Permit
- Air Facility Registration

Facilities which generate emissions greater than the Major Source Threshold Values summarized in Table 1 will be required to obtain a Title V permit. Title V Permits include facilities that are considered to be major by NYSDEC regulations, or that are subject to USEPA New Source Performance Standards (NSPS) or other requirements regulating hazardous air pollutants (HAPs) such as the National Emission Standards for Hazardous Air Pollutants (NESHAP). These two (2) programs maintain industry specific regulations that require permitting and control of regulated emissions sources.

Facilities emitting between 50% and 99% of the Major Source values are eligible for the State Facility permit. State facility permits are issued to facilities that are not considered to be major, and meet department specifications. Sources that accept federally enforceable limits on the potential to emit (PTE) of the facility to less than major source levels may also qualify for a State Facility Permit. Facilities emitting below 50% of the threshold values are eligible to obtain and Air Facility Registration.

<b>Table 1 - Summary of Major Source Threshold Values in New York</b>	
<b>Pollutant</b>	<b>Major Source Threshold (Tons per Year)</b>
Volatile Organic Carbons (VOC)	50
Oxides of Nitrogen (NO <sub>x</sub> )	100
Sulfur Dioxide (SO <sub>2</sub> )	100
Carbon Monoxide (CO)	100
Particulate Matter (PM <sub>10</sub> )	100
Total Hazardous Air Pollutants (HAP)	25
Individual HAP	10
Any Other Pollutant	100

The determination of source status must be made on a case by case basis prior to construction of the source. Facilities seeking air permits must conduct a

detailed emission inventory and satisfy all the permitting requirements of the NYSDEC. It should be noted that actual permitting requirements and the review process can be complex and depend on site specific scenarios. In addition, for the purposes determining major source status, all contiguous operations operating under common control would be considered a single facility, which must also be determined on a case-by-case basis.

### **3.0 Air Quality Assessment**

Based on potential project industries reviewed, emissions are anticipated to be less than major source thresholds. It is anticipated that combustion units such as facility boilers, heaters and process dryers will be the predominant emission sources from the project. Depending upon the size and fuel type, these sources may be exempt from permitting, or subject to NSPS and/or NESHAP regulations. For example, NSPS regulates small boilers with a maximum heat input capacity between 10 million BTU/hr and 100 million BTU/hr. Currently, NYSDEC exempt activities per 6 NYCRR Subpart 201-3 include stationary or portable combustion installations with a maximum rated heat input capacity less than 10 million BTU/hr burning fossil fuels, other than coal, and coal and wood fired stationary combustion units with a maximum heat input less than 1 million BTU/hr. These exempt sources do not specifically require permitting.

In addition, for any new industry there will be minor particulate emissions from mobile sources (employee cars, truck traffic, site vehicles), which are not subject to NYSDEC permitting, as well as minor particulate emissions from industrial process operations. Based on AP-42 emissions review, there could also be minor emissions of VOCs from the agricultural and food production processes. Currently agricultural and food service industry exempt processes per 6 NYCRR Subpart 201-3 include:

- Feed and grain milling, cleaning, conveying, drying and storage operations including grain storage silos, where such silos exhaust to an appropriate emission control device, excluding grain terminal elevators with permanent storage capacities over 2.5 million U.S. bushels, and grain storage elevators with capacities above one million bushels.
- Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.

- Flour silos at bakeries, provided all such silos are exhausted through an appropriate emission control device.
- Emissions from flavorings added to a food product where such flavors are manually added to the product.

It is anticipated that industrial process particulate emissions will be mitigated as required through operational practice, equipment installations and designed air pollution control strategies as required to prevent significant air quality impacts.

Table 2 summarizes common pollutants associated with certain manufacturing, commercial, and industrial practices likely to be located within the Project Site.

<b>Table 2 - Summary of Emission Sources, Pollutants, and Control Strategies</b>				
<b>Industry</b>	<b>Air Emission Source</b>	<b>Regulated Air Pollutants</b>	<b>Greenhouse Gas Emissions</b>	<b>Typical Regulated Air Pollutant Control Strategies</b>
All	Heating Systems & Boilers (LP or fuel oil)  Emergency Generators (LP or fuel oil)	Particulate Matter (PM) Sulfur Dioxide (SO <sub>2</sub> ) Nitrogen Oxides (NO <sub>x</sub> ) Carbon Monoxide (CO) Volatile Organic Compounds (VOCs) Hazardous Air Pollutants (HAPs)	Carbon Dioxide (CO <sub>2</sub> ) Methane (CH <sub>4</sub> ) Nitrous Oxide (N <sub>2</sub> O)	N/A
Food Processing				
Meat Processing, Smoking, Rendering	Scalding/Singeing  Smoking  Washing/Weighing	PM CO VOC HAPs NO <sub>x</sub>	CO <sub>2</sub>	VOCs: Wet Scrubbers Dry Sorbents Cyclones PM: Venturi Scrubbers ESP CO: Afterburners
Cheese Production	Grating/Grinding  Coagulation/Ripping	PM VOCs	CO <sub>2</sub>	PM: Wet Scrubbers Cyclones Fabric Filters
Fruit/Vegetable Canning Dehydrated Fruits/Vegetables Pickles/Sauces/Dressings Cereal/Pasta Manufacturing Deep Frying Operations	Solids Handling/Drying  Cooking/Evaporation	PM VOCs	N/A	VOCs: Adsorption Absorption Afterburners PM: ESP Venturi Scrubbers Cyclones
Aquaculture	Fish Processing  Dryers  Water Recirculation	PM VOCs	CH <sub>4</sub>	VOCs: Chlorinated Scrubbers Afterburners PM: Cyclones
Commercial Greenhouses	Heating, Emergency Power	See All, above	See All, above	See All, above
Cold Storage Facility	Refrigeration Equipment	N/A	Hydrofluorocarbons (HFC) Chlorofluorocarbons (CFC)	N/A

<b>Table 2 - Summary of Emission Sources, Pollutants, and Control Strategies</b>				
<b>Industry</b>	<b>Air Emission Source</b>	<b>Regulated Air Pollutants</b>	<b>Greenhouse Gas Emissions</b>	<b>Typical Regulated Air Pollutant Control Strategies</b>
Cellulosic Ethanol Production	Milling Grain Handling/Drying Fermentation	SO <sub>2</sub> PM VOCs	CO <sub>2</sub>	SO <sub>2</sub> : Wet Scrubbing PM: Mechanical Collectors Fabric Filters VOCs: Ionizing Wet Collectors
Office Space	Air Conditioning Refrigeration Heating	PM SO <sub>2</sub> NO <sub>x</sub> CO VOCs HAPS	CO <sub>2</sub> CH <sub>4</sub> N <sub>2</sub> O HFC CFC	N/A

### 3.1 Potential GHG Emissions

Greenhouse Gas (GHG) emissions are currently regulated through the USEPA's "GHG Tailoring Rule". The final rule has three (3) steps for implementation, and presents GHG emission limits for stationary sources that trigger both Prevention of Significant Deterioration (PSD) of Air Quality regulations and Title V Permitting. Beginning July 1, 2011, facilities with potential carbon dioxide equivalent (CO<sub>2</sub>e) emissions of 100,000 tons per year (tpy) or more are subject to Title V permitting requirements. This threshold is subject to review in the future to determine if changes are needed.

GHG emissions associated with the proposed industries for this project will consist predominately of carbon dioxide (CO<sub>2</sub>) emissions from the combustion of fossil fuels from stationary sources such as heating systems and emergency generators. Minor emissions of refrigerant utilized in cold storage facilities and office air conditioning and refrigeration units may also emit very small amounts of HFCs and CFCs. The efficiency and proper maintenance of such units will be evaluated to ensure that they are operating to minimize GHG emissions. Emissions of GHGs alone are not anticipated to require permitting.

Looking at the project as a whole, there will be an increase in GHG emissions from the increase in the number of vehicles traveling to and from the site. Since the relative number of vehicles expected for the proposed project site are relatively small (on the order of 100s) and emissions from mobile sources are not subject to GHG permitting, the resulting GHG emissions from commuter vehicles and industrial trucks are expected to be minimal with no significant environmental impact.

Some reduction in GHG emissions is likely to result from the elimination of truck trips required to transport landfill leachate to the City of Oneida Wastewater

Treatment Plant. It is anticipated that approximately 3-4 trips per business day will be eliminated.

### 3.2 Potential Temporary Impacts from Construction

Temporary air quality impacts may occur during the construction phases of the project. The impacts will primarily be the result of particulate matter (PM) emissions and dust generation from construction equipment and vehicles. These activities will be limited in duration, and will be controlled with engineering controls as necessary such as wetting of surfaces and construction roads with water trucks to minimize dust.

#### **4.0 Conclusion**

Based on the potential sources of air emissions evaluated herein, it is unlikely that the project area will experience appreciable or noticeable increases in priority pollutants over the current background levels. If an industry is located within the proposed ARE Park with potential emissions above the 50% thresholds for regulated air pollutants (reference Table 1) will be provided to provide mitigation and obtain the necessary registrations or permits for operation.

## **5.0 References**

New York State Department of Environmental Conservation. June, 2010. *Air Quality Management Plan – Final Draft*. Available from:  
<http://www.dec.ny.gov/chemical/72352.html>

New York State Department of Environmental Conservation. *Regulations. Chapter III – Air Resources. Subpart 201 et seq.*

United States Environmental Protection Agency, Office of Air Quality Planning and Standards, Office of Air and Radiation. January, 1995. *Compilation of Air Pollution Emission Factors, Volume I. Stationary Point and Area Sources*. Available at website: <http://www.epa.gov/ttn/chief/ap42/>