1.4.6. Climate and Air Quality

The New York State Department of Environmental Conservation's (NYSDEC's) review of the proposed wind turbine tower and transition piece manufacturing facility's (project's) Draft Environmental Impact Statement resulted in comments regarding the need to further address several climate and air quality issues. More specifically, this Supplemental Draft Environmental Impact Statement (SDEIS):

- Identifies and discusses potentially applicable Federal and New York State air regulations and permitting programs (e.g., New Source Review, New Source Performance Standards, National Emissions Standards for Hazardous Air Pollutants, Title V, State Facility permitting, etc.) based on project operations and potential emissions. Thereafter, and considering the project's potential emissions, an assessment is performed of potential air quality-related impacts on the surrounding community. This assessment is performed via detailed air dispersion modeling, following procedures outlined in NYSDEC DAR-1 and DAR-10 guidance, as well as the U.S. Environmental Protection Agency (US EPA) Guideline on Air Quality Models.
- Assesses project-related greenhouse gas emissions and explains how the project aligns with the Climate Leadership and Community Protection Act (CLCPA), in accordance with CLCPA Section 7(2).
- Identifies mitigation measures that will be used to reduce the impact of co-pollutant emissions from each greenhouse gas source on the facility's neighbors, in accordance with CLCPA Section 7(3). Furthermore, an assessment of project-related potential air quality impacts on a nearby environmental justice area (Ezra Prentice) is performed, demonstrating that project-related potential impacts will not disproportionately burden disadvantaged communities, such as Ezra Prentice.

1.4.6.1 Project Manufacturing Process Description and Emission Source Overview

The manufacturing process starts with receipt of raw materials. This can be grouped into steel plates, steel flanges and mechanical & electrical internals. Transformation of that raw material starts with the cutting and beveling of the steel plates. These are cut to size using oxyfuel cutting CNC machines and scribing using a plasma marker. Steel plates vary in size depending on the tower model. The beveling (cutting of the weld preparation) will be done as part of the oxy cutting process. Once cut to size, plates go thru descaling equipment (also referred as a plate blast) where steel abrasive media is used to remove oxides from the surface. The plates are then taken to the forming area.

Forming of the plate into a shell is performed using hydraulic rolling machines. The plates are turned into cylindrical forms before being welded at the longitudinal seam. Some shells then go thru another welding phase where a connecting flange welded to the shell. These shell & flange assemblies become the ends of sections. The drilled steel flange allows for a mechanical (bolted) connection between sections when they are erected into a tower. The quantity of sections to form a complete tower can vary from model to model but will usually be around 2 to 5.

Manufacturing of a section involves assembling, thru different circular welding stations, a given quantity of shells to one another. The number will also vary from 4 to 12 shells depending on the section length. Once the section has been assembled, fully welded and inspected, it is ready for finishing.

The finishing processes are composed of abrasive blasting, metallizing and painting. These steps are common operations involved in coating metal components. Just like for plates, descaling of the section uses metal abrasive media to remove rust, oxides and gives the steel a profile (roughness) to which the coating (paint) can adhere. Metallization (also known has thermal spray coating) has the purpose of applying a zinc coating to the section (or parts of the section) in order to offer a greater protection against corrosion. As a final step of the finishing process, a coating system (paint system) is applied to both the inside and outside of the section. These systems can vary from model to model but will usually be composed of an epoxy primer coating followed by a polyurethane coating. Some could have a zinc rich primer instead of the metallization.

The aforementioned description of the tower manufacturing processes would also apply to the facility's transition piece manufacturing. A Transition Piece serves as the connecting component between a monopile foundation (manufactured by others) and a Wind Tower.

The Marmen Welcon Albany facility (project) is designed to produce 150 Towers per year or a combination of 100 Towers and 100 Transition Pieces.

Emission sources and anticipated air pollution control systems are summarized as follows:

- Oxy cutting is conducted indoors and utilizes natural gas as a fuel source. Emissions associated with this activity will be released inside the building;
- Descaling and abrasive blasting activities will each be equipped with integral dust collectors to control particulate emissions, with minimum overall design particulate removal efficiencies of 99.9 percent;
- Various welding stations will be utilized to weld together sections of the towers. Air emissions from all welding activities will be released inside the facility (indoor fugitive emissions);
- The metallizing system is equipped with an emission capture and control system which will recirculate all exhaust indoors. It will be equipped with a state-of-the-art staged HEPA filtration and ventilation system;
- One "large" paint booth and one "small" paint booth will each be equipped with staged booth ventilation and filtration to capture and control particulate emissions. VOC

emissions will be minimized by use of add-on control system(s) (e.g., recuperative thermal oxidizer(s)). The VOC control system(s) will be designed to achieve a minimum overall VOC control efficiency of 90 percent. In addition, each booth's filtration system will be designed to achieve a minimum overall design particulate removal efficiency of 99.9 percent.

- Each of the paint booths will be equipped with natural gas-fired air make-up units (AMUs).
- There will be three (3) natural gas-fired emergency backup generators with electrical power output ratings ranging between 40 and 125 kilowatts (kW) each.

Potential emissions of VOC and certain HAP, as well as particulates (PM_{10}, $PM_{2.5}$) from process manufacturing related operations are anticipated. In addition, there will be emissions (NO_x, CO, VOC, SO_2, Pb, PM_{10}, $PM_{2.5}$, GHG, and HAP) associated with miscellaneous site operations that involve fuel combustion.

1.4.6.2 Air Permitting Requirements for the Project

This section identifies federal and State air quality regulations potentially applicable to the project.

1.4.6.2.1 Project Potential Emissions

Potential emissions for each applicable pollutant are calculated based on the maximum design capacity of the equipment, assuming the unit operates every hour of every day of the year. Potential emissions are conservative estimates of emissions, used to identify which air quality permit and control requirements are potentially applicable to the project. As a result, project-related actual emissions for each pollutant are expected to be significantly lower than the potential emissions presented below.

Table 1.4.6-1 summarizes facility-wide uncontrolled potential emissions from the project. It is important to note that applicability of major source permitting requirements is not determined based upon uncontrolled potential emissions. Permit program applicability is determined based upon potential emissions after consideration of air pollution controls (in accordance with US EPA's definition of potential to emit).

Table 1.4.6-1: Facility-wide Uncontrolled Potential Emissions

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Uncontrolled Potential Emissions (tpy)					
			Facility Potential to Emit	Paint Spray Booths	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO_X	NY210-00-0	100	28.9	--	--	--	--	28.9
CO	630-08-0	100	25.5	--	--	--	--	25.5
PM_{10}	NY075-00-5	100	636	175	12.9	445	1.54	2.06
$PM_{2.5}$	NY750-02-5	100	205	169	12.4	20.1	1.54	2.06
SO_2	7446-09-5	100	0.163	--	--	--	--	0.163
VOC	NY998-00-0	50	116	114	0.000	--	--	1.51
Pb	7439-92-1	-	6.10E-04	2.87E-04	1.88E-04	--	--	1.35E-04
CO_2	124-38-9	-	32,562	--	--	--	--	32,562
N_2O	10024-97-2	-	0.173	--	--	--	--	0.173
CH_4	74-82-8	-	0.624	--	--	--	--	0.624
CO_2e	NY750-00-0	100,000	32,629	--	--	--	--	32,629
NH_3	7664-41-7	-	0.866	--	--	--	--	0.866
Total HAPs	NY100-00-0	25	67.4	64.1	6.70E-04	2.67	8.21E-02	0.537
Any Single HAP	--	10	51.7	51.7	1.88E-04	2.67	8.13E-02	0.503

Table 1.4.6-1 Notes:

1. 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO_2 equivalents. CO_2 = 1; CH_4 = 21; N_2O = 310.
2. tpy = tons per year.

Table 1.4.6-2 summarizes facility-wide potential emissions after consideration of air pollution control.

Table 1.4.6-2: Facility-wide Potential Emissions After Control

Pollutant	Pollutant CAS No.	6 NYCRR 201-2.1 Major Source Thresholds (tpy)	Project Potential Emissions After Control (tpy)					
			Facility Potential to Emit	Paint Spray Booths (Including RTOs)	Metal Spray Booths	Abrasive Blast	Welding Activities	Natural Gas Combustion Sources
NO_X	NY210-00-0	100	29.7	0.770	--	--	--	28.9
CO	630-08-0	100	26.2	0.647	--	--	--	25.5
PM_{10}	NY075-00-5	100	6.99	0.175	1.29E-02	3.20	1.54	2.06
$PM_{2.5}$	NY750-02-5	100	6.99	0.169	1.24E-02	3.20	1.54	2.06
SO_2	7446-09-5	100	0.167	4.62E-03	--	--	--	0.163
VOC	NY998-00-0	50	12.9	11.4	0.000	--	--	1.51
Pb	7439-92-1	-	1.40E-04	4.14E-06	1.88E-07	--	--	1.35E-04
CO_2	124-38-9	-	33,486	924	--	--	--	32,562
N_2O	10024-97-2	-	0.178	4.93E-03	--	--	--	0.173
CH_4	74-82-8	-	0.642	1.77E-02	--	--	--	0.624
CO_2e	NY750-00-0	100,000	33,555	926	--	--	--	32,629
NH_3	7664-41-7	-	0.890	2.46E-02	--	--	--	0.866
Total HAPs	NY100-00-0	25	7.09	6.45	2.01E-07	2.40E-02	8.21E-02	0.537
Any Single HAP	--	10	5.17	5.17	1.88E-07	2.40E-02	8.13E-02	0.503

Table 1.4.6-2 Notes:

1. 6 NYCRR 231-13.9 Table 9 Global warming potential values for calculating CO_2 equivalents. CO_2 = 1; CH_4 = 21; N_2O = 310.
2. tpy = tons per year.

1.4.6.2.2 Federal Regulatory Applicability Review

A review of potentially applicable federal air quality regulations was performed. This section includes discussion of rules identified and whether the project is subject to each rule.

In all instances where the project is determined to be subject to an applicable rule or standard, the facility will be constructed and operated to comply with the rule or standard. Federal rules may be administered by US EPA and/or NYSDEC, where NYSDEC has specifically received delegated authority by US EPA.

New Source Performance Standards (NSPS) – Subpart JJJJ

The project will include three (3) new natural gas-fired, US EPA certified, emergency generators which will comply with US EPA emission standards applicable to emergency-only stationary spark ignition internal combustion engines, as stipulated under Subpart JJJJ.

Each of the project's emergency generators will be installed at facility for backup power in the event of emergencies. The units will be tested periodically, and in a staggered manner (such that only one unit would be tested at any time to mitigate potential air quality impact). Each unit would be operated for brief periods, to ensure availability and reliability during any sudden loss in utility electrical power. The generators would not participate in any peak load shaving (demand-response) program, thereby minimizing the use of this equipment during non-emergency periods. The emergency generators would be installed and operated in accordance with Subpart JJJJ requirements, manufacturer written operating instructions, as well as all other applicable codes and standards. Potential air quality impacts from the emergency generators would be insignificant, since their use would be intermittent, and only for testing purposes outside of an actual emergency.

New Source Review (NSR)

Part 231 of Title 6 of the New York Codes, Rules and Regulations (6 NYCRR 231) states that NSR regulations apply to the construction and/or operation of any proposed facility which has the potential to emit a non-attainment contaminant at or above major facility thresholds[1] located in non-attainment areas and attainment areas of New York State within the ozone transport region. As illustrated in Table 1.4.6-2, the project does not meet the definition of a major facility since potential emissions for volatile organic compounds and nitrogen oxides will remain well below the major facility thresholds in Table 1 of 6 NYCRR 231-13.1. Therefore, the project is not subject to New Source Review.

Prevention of Significant Deterioration (PSD)

A federal PSD review applies to new major stationary sources and major modifications to existing major stationary sources in areas designated as attainment under Section 107 of the Clean Air Act for any regulated air pollutant (also regulated under 6 NYCRR 231-7). The following is a list of regulated air pollutants under the PSD program:

- Particulate Matter (PM);
- Particulate matter with a diameter less than or equal to 10 microns (PM_{10});
- Particulate matter with a diameter less than or equal to 2.5 microns ($PM_{2.5}$);
- Sulfur dioxide (SO_2);
- Nitrogen oxides (NO_X);
- Carbon monoxide (CO);
- Ozone – measured as volatile organic compounds (VOC) or NO_X;

[1] The project will be located in the Albany, New York area, which is in attainment or unclassifiable for all pollutants regulated under the Clean Air Act. However, the area is considered part of the ozone transport region. Therefore, the major facility thresholds for VOC and NO_X are 50 and 100 tons per year each, respectively.

- Lead (elemental);
- Fluorides;
- Sulfuric acid mist;
- Hydrogen sulfide (H_2S);
- Reduced sulfur compounds;
- Total reduced sulfur (including H_2S);
- Greenhouse gases (carbon dioxide, methane, nitrous oxide, etc.); and,
- Any other regulated NSR contaminant.

If the project is considered one of the 28 "Named Sources" (source categories) listed in Section 169 of the Clean Air Act (and 6 NYCRR 201-2.1), the major source threshold is 100 tons per year of any regulated air pollutant, except for greenhouse gases. The major source threshold for all other sources is 250 tons per year of any regulated air pollutant, except for greenhouse gases.

The project is not one of the 28 "Named Sources" under the PSD program. Therefore, its PSD threshold for emitted pollutants is 250 tons per year, except for greenhouse gas emissions. In order for a PSD program evaluation of greenhouse gas emissions to be triggered, a facility must exceed one of the major source thresholds for another regulated pollutant.

Based on emission estimates summarized in Table 1.4.6-2 and in comparison to major facility thresholds stipulated in Table 5 (of 6 NYCRR Part 231-13.5), the project is considered a minor source for criteria pollutants and therefore is not subject to the PSD program.

National Emission Standards for Hazardous Air Pollutants (NESHAP)

Upon regulatory review and based on project design and raw materials to be used, it was determined the project is not subject to any federal NESHAP promulgated under 40 CFR Part 61.

Maximum Achievable Control Technology Standards (MACT)

The federal MACT standards, codified under 40 CFR Part 63, are potentially applicable to both major and area (minor) sources of hazardous air pollutants (HAP). A major source of HAP is defined as having the potential to emit 10 tons or more per year of a single HAP, or 25 tons per year or more of a combination of HAPs. An area source is a source that is not a major source of HAPs. Based on the project's potential emissions after air pollution control, as shown in Table 1.4.6-2, the project is an area source of HAPs.

Upon regulatory review and based on project design and raw materials to be used, the following MACT standards were reviewed further to determine if they are applicable to the project.

Surface Coating of Metal Parts MACT – Subpart MMMM

MACT Subpart MMMM standards for surface coating of miscellaneous metal parts and products applies to new affected sources that use 250 gallons per year, or more, of coatings that contain HAPs in the surface coating of miscellaneous metal parts and products and that is either a major source, is located at a major source, or is part of a major source of HAPs.

The project will be an area source of HAPs. Therefore, the facility is not subject to Subpart MMMM.

Metal Finishing MACT – Subpart XXXXXX

The provisions of Subpart XXXXXX apply to area sources primarily engaged in the operations in any of the following nine (9) source categories:

1. Electrical and Electronic Equipment Finishing Operations (NAICS codes 335999 and 335312);
2. Fabricated Metal Products (NAICS codes 332117 and 332999);
3. Fabricated Plate Work (Boiler Shops) (NAICS codes 332313, 332410 and 332420);
4. Fabricated Structural Metal Manufacturing [2] (NAICS code 332312);
5. Heating Equipment, except Electric (NAICS code 333414);
6. Industrial Machinery and Equipment Finishing Operations (NAICS codes 333120, 333132 and 333911);
7. Iron and Steel Forging (NAICS code 33211);
8. Primary Metal Products Manufacturing (NAICS code 332618); and
9. Valves and Pipe Fittings (NAICS code 332919).

Project operations constitute North American Industry Classification System (NAICS) code 332312 (Fabricated Structural Metal Manufacturing). Therefore, the project must meet applicable requirements of Subpart XXXXXX.

Applicable requirements of Subpart XXXXXX apply to certain equipment using materials that contain or have the potential to emit metal fabrication or finishing metal HAP (MFHAP), defined to be the compounds of cadmium, chromium, lead, manganese, and nickel, or any of these metals in the elemental form with the exception of lead. Materials used must contain 0.1 percent by weight or more of cadmium, chromium, lead or nickel, and/or 1 percent by weight or more of manganese to be applicable. As such, the projects' abrasive blast equipment (i.e., Tower Blast, Plate Blast) are subject to applicable requirements of Subpart XXXXXX since the steel shot used in each process contains up to 1.25 percent by weight manganese.

Metal Plating and Polishing MACT – Subpart WWWWWW

---

[2] Establishments primarily engaged in fabricating iron and steel or other metal for structural purposes, such as bridges, buildings, and sections for ships, boats, and barges.

Subpart WWWWWW applies to owners or operators of plating and polishing operations that are an area source of HAP, that plate or polish metal, and that uses one or more plating and polishing metal HAP. The coatings that are applied must contain more than 0.1 percent by weight to be applicable. The metal HAP under Subpart WWWWWW are chromium, lead, manganese, nickel, or cadmium.

Safety data sheets for coatings to be used at the facility indicate that none of the coatings contain the listed compounds. Therefore, the facility is not subject to Subpart WWWWWW.

1.4.6.2.3 New York State Regulatory Applicability Review

A review of applicable New York State air quality regulations was performed and is discussed in this section. These include review of potentially applicable air pollution control requirements and air permitting applicability.

Permits and Registrations – Part 201

Initial estimates of the project's uncontrolled potential emissions (as illustrated in Table 1.4.6-1 above) indicate that Part 201 major facility (Title V) thresholds could be exceeded. The uncontrolled potential emissions estimates are based on the maximum capacity of each of the project's air contaminant sources to emit any regulated air pollutant under its physical and operational design without consideration of pollution control, based on 8,760 hours of operation per year. Under such a scenario, the project would be required to apply for and obtain a Title V Operating Permit with NYSDEC, pursuant to Subpart 201-6. However, per the regulatory definition of potential to emit[3]:

"…Any physical or operational limitation on the capacity of the emission source to emit a regulated air pollutant, including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount of material combusted, stored, or processed, shall be treated as part of the design if the limitation is enforceable by the department and the administrator…" (italics added)

As such, NYSDEC allows facility owners and operators the option to request limitations on their potential to emit regulated air pollutants in order to avoid otherwise applicable requirements, such as obtaining a Title V Operating Permit, via federally enforceable emission caps, pursuant to Subpart 201-7.

After consideration of all air pollution controls to be operated and maintained as part of the facility, the project's potential emissions for each regulated air pollutant are well below major facility (Title V) thresholds (see Table 1.4.6-2 above). The facility is therefore eligible to apply for a NYSDEC Air State Facility Permit as a minor facility of regulated air pollutants after taking

[3] As defined in 6 NYCRR 200.1 Definitions.

federally enforceable restrictions (e.g., limiting VOC emissions to less than 50 tons per year, limiting HAP emissions to less than 25 tons per year, limiting particulate (PM_{10}, $PM_{2.5}$) emissions to less than 100 tons per, etc.). This would be accomplished by constructing the facility as proposed, and operating and maintaining emission sources and related air pollution control equipment in accordance with good air pollution control practices at all times.

Surface Coating Processes – Subpart 228-1

The project's new paint booths meet applicability criteria identified in 6 NYCRR 228-1.1 and must comply with VOC control requirements set forth in the rule. In order to comply, the facility will need to meet VOC control requirements by either using VOC compliant coatings (i.e., use coatings which meet certain VOC content limits), or by installing a VOC control system capable of achieving a minimum 90 percent overall VOC control efficiency.

Given these requirements, along with the intent to limit the project's potential emissions below major source thresholds (and be permitted as a minor facility after taking credit for federally enforceable emissions reductions), the project will be designed to meet VOC control requirements of Subpart 228-1. This will be done via operation of a VOC control system such that overall VOC emissions are controlled by at least 90 percent. This SDEIS analysis assumes that the VOC control system(s) will consist of four (4) recuperative thermal oxidizers (RTOs). Each paint spray booth ("Large Booth", "Small Booth") will have two (2) exhaust points. There will be two (2) RTOs controlling VOC emissions from each of the paint spray booths. VOC emission reductions expected to be achieved by each of the RTOs will satisfy VOC control requirements of Subpart 228-1.

Process Operations – Part 212

For emission sources identified as process emission sources as defined in 212-1.2(b)(19), the facility must submit all material required by 6 NYCRR Parts 201, 212, 621, and all other applicable regulations. Part 212 requires the facility to precisely identify all air contaminants emitted from each applicable process emission source. Part 212 review involves evaluating the emissions of criteria and non-criteria air contaminants from process operations in New York State and determining the level of air pollution control required and/or whether potential off-property air quality impacts from these contaminants are acceptable using an US EPA preferred air dispersion model (e.g., AERMOD, AERSCREEN).

The project's new abrasive blast equipment is subject to Part 212 review and must comply with applicable requirements of 6 NYCRR 212-2.1. Pursuant to 212-1.4, and since the project's paint booths are subject to and in compliance with VOC control requirements of Subpart 228-1 (as noted above), VOC emissions from the paint booths are generally excluded from Part 212 review. That is, Part 212 review applies to the paint booths only where particulate-based pollutant emissions as well as highly toxic VOCs have the potential to be released. The project's metallizing process is technically subject to Part 212 review, however; since the metallizing process' high efficiency capture and control system vents indoors, and since requirements of §212-2.1 only apply to air contaminants to the outdoor atmosphere, the project's metallizing process inherently meets requirements of Part 212.

Sources subject to Part 212 must not exceed allowable emissions limits stipulated in Subpart 212-2. For "high toxicity air contaminants" (HTACs) such as benzene, listed in 212-2.2 Table 2, the project will either need to limit actual annual emissions from all process operations at the facility so as to not exceed the mass emission limit listed for the individual HTAC (e.g., 100 pounds per year for benzene); or, demonstrate compliance with the air cleaning requirements for the HTAC as specified in 212-2.3 Table 4.

For individual air contaminants not listed as a HTAC, the facility must not allow emissions of an air contaminant to violate requirements specified in 212-2.3 Table 3 (for criteria air contaminants), or 212-2.3 Table 4 (for non-criteria air contaminants). In each instance, the degree of air cleaning required is determined for each air contaminant based on the process emission source's hourly "emission rate potential" (ERP[4]) and the "environmental rating" (A, B, C or D) assigned to each air contaminant. The hourly ERP was determined for each contaminant based on available project equipment engineering and design information, including: process material throughputs, coating usage, application rates and spray gun design, fuel usage, pollution control performance specifications, published emission factors, etc.

Note too that Part 212 limits emissions of solid particulates from new process sources to no more than 0.050 grains per cubic foot of exhaust gas. All process particulate emission sources will be equipped with state-of-the-art pollution control equipment for the control of solid particulates and will therefore meet requirements of Part 212.

Following Part 212 procedures outlined in NYSDEC's DAR-1 guidance, along with NYSDEC DAR-10 air dispersion modeling procedures, assessment of applicable air pollution control and potential air quality impacts from each process emission source was performed. After consideration of proposed air pollution controls, an evaluation of potential off-property air quality impacts was performed using AERMOD.

In addition to the Part 212 review, and for purposes of this SDEIS, the evaluation of potential off-property air quality impacts includes impacts from the project's proposed natural gas combustion

[4] Per 6 NYCRR 200.1(u), emission rate potential is defined as the maximum rate at which a specified air contaminant from an emission source would be emitted to the outdoor atmosphere in the absence of any control equipment. The emission rate potential of a specified air contaminant from an emission source is calculated by dividing the weight of such contaminant (expressed in pounds) that would be emitted to the outdoor atmosphere during maximum emission conditions in the absence of any control equipment, by the duration (expressed in hours) of such emissions…

sources (natural gas-fired RTOs, air make-up units (AMUs), other small miscellaneous equipment), where NO_X, SO_2, PM_{10} and $PM_{2.5}$ are assessed.

Air Quality Impact Modeling – Methodology

Table 1.4.6-3 identifies project emission sources and modeled pollutants selected for inclusion in the air quality impact analysis.

Table 1.4.6-3: Project Air Quality Impact Analysis - Modeled Emission Sources and Pollutants

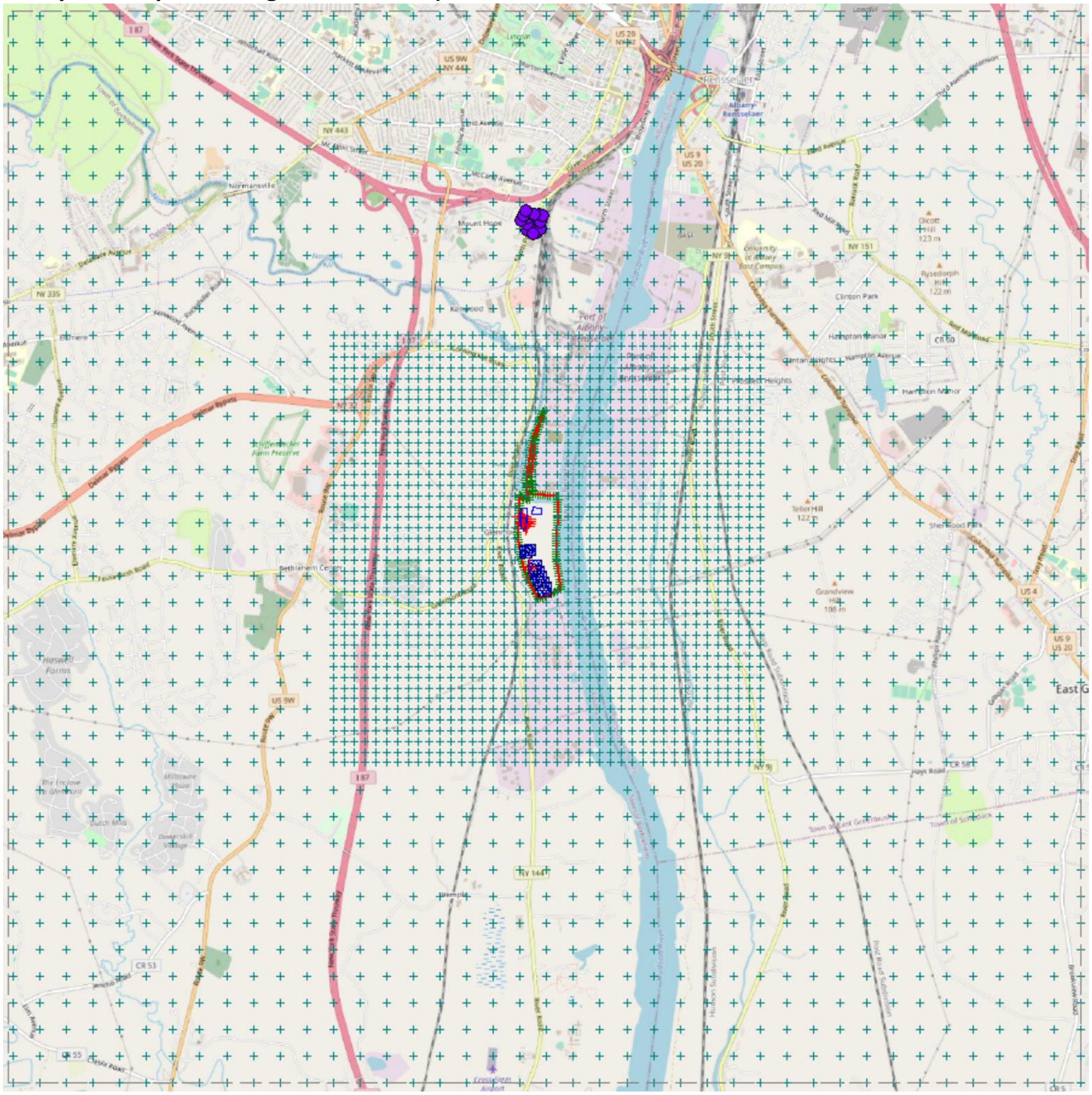
Source Description	Modeled Source Type	Model ID	Modeled Pollutants
Large Spray Booth	Point Source	STCK1	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Large Spray Booth	Point Source	STCK2	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Small Spray Booth	Point Source	STCK3	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Small Spray Booth	Point Source	STCK4	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Building C Blast Booth	Point Source	STCK5	PM_{10}, $PM_{2.5}$, NC Pollutants
Building C Blast Booth	Point Source	STCK6	PM_{10}, $PM_{2.5}$, NC Pollutants
Building C Blast Booth	Point Source	STCK7	PM_{10}, $PM_{2.5}$, NC Pollutants
Building A Plate Blast Booth	Point Source	STCK8	PM_{10}, $PM_{2.5}$, NC Pollutants
Large Spray Booth AMU	Point Source	STCK9	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Small Spray Booth AMU	Point Source	STCK10	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Building A Natural Gas Combustion Equipment	Volume Sources	BLDGA_GAS1-5	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Building B Natural Gas Combustion Equipment	Volume Sources	BLDGB_GAS1-2	NO_2, PM_{10}, $PM_{2.5}$, SO_2

Table 1.4.6-3 Notes:
1. NC Pollutants = non-criteria pollutants.

Emission factors for NO_X, SO_2, PM_{10} and $PM_{2.5}$ from natural gas-fired combustion equipment were obtained from US EPA AP-42 “Compilation of Air Pollutant Emission Factors” for uncontrolled commercial boilers with less than 100 MMBtu/hr heat input. AMU exhaust volumetric flowrates (Model IDs: STCK9, STCK10), were estimated based on the anticipated maximum heat input rating for each AMU (i.e., 8.6 and 12.2 MMBtu/hr) and published fuel factors for natural gas (8,710 dry standard cubic feet of exhaust gases per million Btu of heat input (dscf/MMBtu)). These factors are referenced under 40 CFR Part 60, Appendix A-7, Table 19-2 of US EPA Method 19. AMU exhaust exit temperatures, were estimated based on values for corresponding natural gas-fired boilers of similar design capacities, and similar stack heights, as noted in other facility permits (i.e., State Facility permits, Title V permits) in New York State.

Maximum predicted off-property pollutant impacts from the project were assessed by conducting a refined modeling analysis using the latest US EPA approved AERMOD model (Version 19191). The model estimates "worst-case" 1-hour, 3-hour, 24-hour and annual pollutant concentrations across a defined modeling domain and receptor grid. For this analysis, the modeling domain was defined with a cartesian receptor grid extending out 5 kilometers (km) in all directions from the center of the project property boundary. Receptor spacing ranges from 100 meters (out to 2 km) and 250 meters (out to 5 km). The receptor grid also includes seventeen (17) discrete sensitive receptor locations, which were added to represent and model impacts at each of the buildings comprising "Ezra Prentice", a nearby Environmental Justice Area, as shown in Figure 1.4.6-1 below.

Figure 1.4.6-1: AERMOD 5 km Modeling Domain and Receptor Grid (Including 17 Discrete Receptors Representing Ezra Prentice)



Source characteristics (point, area, or volume) and exhaust parameter data (maximum emission rates, exhaust diameters, release heights, exhaust exit temperature, exhaust volumetric flow rates, etc.) were incorporated into the analysis. The most recent five (5) consecutive year period (2016–2020) of pre-processed hourly meteorological data from Albany International Airport were obtained from NYSDEC and used to account for plume effects due to ambient air temperatures, wind speed and direction, site-specific surface characteristics such as albedo ratio (reflectivity), Bowen ratio (atmospheric stability), and surface roughness (effects of surface friction on atmospheric dispersion). The model incorporates the PRIME downwash algorithms that are part of the AERMOD refined model and utilizes the PRIME plume rise model enhancements to the Building Profile Input Program (BPIPRIM) to provide a detailed analysis of downwash influences on a direction-specific basis. AERMOD's complex terrain algorithms and AERMAP terrain processor were also utilized to account for the actual terrain in the vicinity of the source on a direction-specific basis.

In order to directly compare model predicted impacts to the respective National Ambient Air Quality Standards (NAAQS) for NO_2, SO_2, PM_{10} and $PM_{2.5}$; the pollutant design value is calculated after combining maximum predicted impacts available background air quality data, as summarized in the *New York State Ambient Air Quality Report for 2020*. Maximum 24-hour and annual impact concentrations combined with 24-hour and average annual background concentrations were then compared to the respective NAAQS.

Results of model predicted off-property impacts for air contaminants were compared to National Ambient Air Quality Standards (NAAQS) and representative NYSDEC DAR-1 Short-term and Annual Guideline Concentrations (SGCs/AGCs). Results demonstrate that potential project-related emissions will not cause significant adverse air quality impacts within the surrounding community, and that the project will comply with applicable requirements of Part 212. Further refinement of the analysis will be completed as part of the future Part 212 and minor facility permitting requirements.

1.4.6.2.4 Conclusion

With the project maintaining status as a minor facility, and utilizing state-of-the-art air pollution control technologies to mitigate impacts from potential VOC, particulates and HAP sources, and based on results from the Part 212 review and supporting air quality impact assessment, it is concluded that the project's potential impacts to air quality will be minimal and acceptable.

1.4.6.3 Greenhouse Gas Emissions, Climate Leadership and Community Protection Act (CLCPA) Compliance

Marmen, Inc. (Marmen) is committed to doing its part to help assure that statewide greenhouse gas (GHG) emissions limits established in the Climate Leadership and Community Protection Act (CLCPA) are attained. Section 7(2) of CLCPA requires NYSDEC (and other state agencies) to consider air permit (and other) authorizations for consistency with the goals of CLCPA. CLCPA targets include 85% reduction in GHG emissions by 2050, 100% zero-emission electricity by 2040, 70% renewable energy by 2030, 9,000 MW of offshore wind by 2035, 3,000 MW of energy storage by 2030, 6,000 MW of solar by 2025, and 22 million tons of carbon reduction through energy efficiency and electrification. The project is the largest manufacturing facility of renewable offshore wind towers and transition pieces in the U.S., and will support New York State (NYS) in meeting CLCPA targets and goals.

Annual GHG emission calculations from this project are summarized in Table 1.4.6-4 in accordance with the latest NYS procedures and guidance for calculating CO_2 equivalent (CO_2e) emissions. Direct emissions occur physically within the boundary of the project, such as those emitted by burning natural gas. Indirect (i.e., upstream) emissions are associated with the extraction, production, and transmission of fossil fuels imported into NYS. CO_2e emissions are calculated using the AR5 20-year Global Warming Potential (as opposed to the AR4 100-yr Global Warming Potential that US EPA uses) in accordance with Preliminary Interim Draft Emission Factors for Use by State Agencies and Project Proponents, NYSDEC, Version 02/2021.

The total direct and indirect CO_2e emissions from the project's proposed combustion sources is estimated at 53,968 metric tons of CO_2e per year. The primary sources of GHG emissions are the recuperative thermal oxidizers, miscellaneous natural gas-fired equipment, air make-up units (AMUs), emergency generators, and the indirect emissions associated with the extraction, production, and transmission of natural gas to power these sources. The opportunities for Marmen to address CLCPA with respect to mitigating GHG emissions from these sources are primarily available through the selection of equipment. As such, the equipment used for this project has been carefully selected to ensure that the facility can effectively operate using the most energy efficient and environmentally friendly technology available.

Table 1.4.6-4: Project Direct and Indirect CO_2e Emissions

Attribution	Source	CO_2e Emissions (metric tons/year)
Direct Emissions	Large Paint Spray Booth Natural Gas Fired Recuperative Thermal Oxidizer (BLDG C)	504
	Small Paint Spray Booth Natural Gas Fired Recuperative Thermal Oxidizer (BLDG C)	336
	Natural Gas Fired Miscellaneous Equipment (BLDG A)	15,100
	Natural Gas Fired Miscellaneous Equipment (BLDG B)	4,974
	Natural Gas Fired AMUs (BLDG C)	9,469
	Natural Gas Fired Emergency Generators	85
Indirect Emissions	Natural Gas for Recuperative Thermal Oxidizer 1 (BLDG C)	389
	Natural Gas for Recuperative Thermal Oxidizer 2 (BLDG C)	259
	Natural Gas Fired Miscellaneous Equipment (BLDG A)	11,646
	Natural Gas Fired Miscellaneous Equipment (BLDG B)	3,836
	Natural Gas Fired AMUs (BLDG C)	7,303
	Natural Gas for Emergency Generators	64
	Total:	53,968

Table 1.4.6-4 Notes:

1. AR5 Synthesis Report: Climate Change 2014 - IPCC, 20-year Global Warming Potential for calculating CO_2e. CO_2 = 1; CH_4 = 84; N_2O = 264.

2. Preliminary Interim Draft Emission Factors for Use by State Agencies and Project Proponents, NYSDEC, Version 02/2021. Natural gas 20-year GWP CO_2e emission rate = 44,205 g/MMBtu.

Other relevant factors to consider are the project's consistency with efforts to transition away from fossil fuel usage (e.g., 85% reduction in GHG emissions by 2050, 100% zero-emission electricity by 2040, 70% renewable energy by 2030, and 9,000 MW of offshore wind by 2035). The purpose of the facility is to manufacture wind towers and transition pieces for offshore renewable wind turbines for the U.S. market. Transition pieces, made up of heavy steel fabrication, are the lower support structures beneath offshore wind towers that connect the tower to the foundation. The operation of this highly automated state-of-the-art facility will accelerate the growth of the U.S. offshore wind energy supply chain, and will offer offshore wind developers the opportunity to source their wind towers and transition pieces in NYS.

Marmen is already one of the largest manufacturers of onshore wind towers in North America and is proud to have contributed to the growth and development of the wind industry. As the demands for offshore wind intensify, Marmen is prepared to serve as the largest manufacturer of renewable offshore wind towers in the U.S., and eager to help NYS transition away from fossil fuel usage and meet CLCPA targets and goals.

1.4.6.4 Project-Related Potential Air Quality Impacts on the Environmental Justice Community

Section 7(3) of CLCPA requires NYSDEC (and other state agencies), in considering and issuing permits, to not allow impacts from an approved project to disproportionately burden disadvantaged communities. Furthermore, NYSDEC must prioritize reductions of GHG emissions and co-pollutants in disadvantaged communities, also known as environmental justice areas (EJ Areas).

Marmen is committed to doing its part to minimize its environmental footprint on neighboring communities, especially nearby disadvantaged communities. Marmen accomplishes this by promoting a culture of safety, integrity, and environmental stewardship, across its workforce. Marmen institutes mitigation strategies and procedures, and utilizes high precision, state-of-the-art manufacturing equipment and technologies at its facilities. Marmen provides its employees with the tools and resources they need to perform their jobs safely and effectively every day. All employees will receive on the job, site specific training, with emphasis on worker safety, pollution prevention and environmental compliance.

In addition to the above stated company policies, Marmen is committed to implementing mitigation measures which will profoundly benefit its neighboring communities by significantly reducing pollutant emissions from site activities and emission sources. For example, the project will perform metallizing activities completely indoors with a state-of-the-art capture and staged filtration and ventilation system, which recirculates purified air indoors. The project will also institute state-of-the-art VOC control on its paint booths using recuperative thermal oxidizers. Use of the VOC control equipment will result in a significant decrease in the project's potential to emit VOC (overall decrease of more than 100 tpy in potential VOC emissions) and HAP (overall decrease of more than 60 tpy in potential HAP emissions). Likewise, with the project utilizing state-of-the-art dust suppression (particulate control) on its abrasive blast equipment and its paint booths, particulate ($PM_{2.5}$). The combined effect of implementing these mitigation measures leads to significant reductions in the project's potential emissions. Implementation of these mitigation measures will lead to:

- An overall decrease of more than 100 tpy in potential VOC emissions;
- An overall decrease of more than 60 tpy in potential HAP emissions;
- An overall decrease of at least 200 tpy in potential $PM_{2.5}$ emissions.

In any event, project-related potential air quality impacts on the nearby EJ Area (Ezra Prentice community) from transient activities and mobile sources (construction activities and truck traffic), along with potential impacts from the project's permanent (stationary) sources have been reviewed and are discussed more fully below.

Potential transient air quality impacts associated with project construction activities will be mitigated by dust suppression techniques including spray of water on dry materials and soils. Dust suppression effectiveness will be measured with a community air monitoring program (CAMP), following procedures in Appendices 1A and 1B of NYSDEC's DER-10 guidance for CAMP. Project-related truck traffic will be routed through existing City streets through the Port or via South Port Road; however, prohibiting right hand turns to eliminate adding new truck traffic to South Pearl Street (adjacent to Ezra Prentice community). Level of Service at project impacted intersections will be maintained at Level of Service "C" or better. This will assure that traffic related impacts of the project on air quality will be acceptable.

As detailed in earlier in the Climate and Air Quality Section of this SDEIS, the project will consist of several stationary sources of air emissions, releasing pollutants related to natural gas combustion (i.e., NO_X, CO, SO_2, VOC, PM_{10}, $PM_{2.5}$, GHG) as well as pollutants related to abrasive blasting and surface coating (i.e., PM_{10}, $PM_{2.5}$, VOC, HAP).

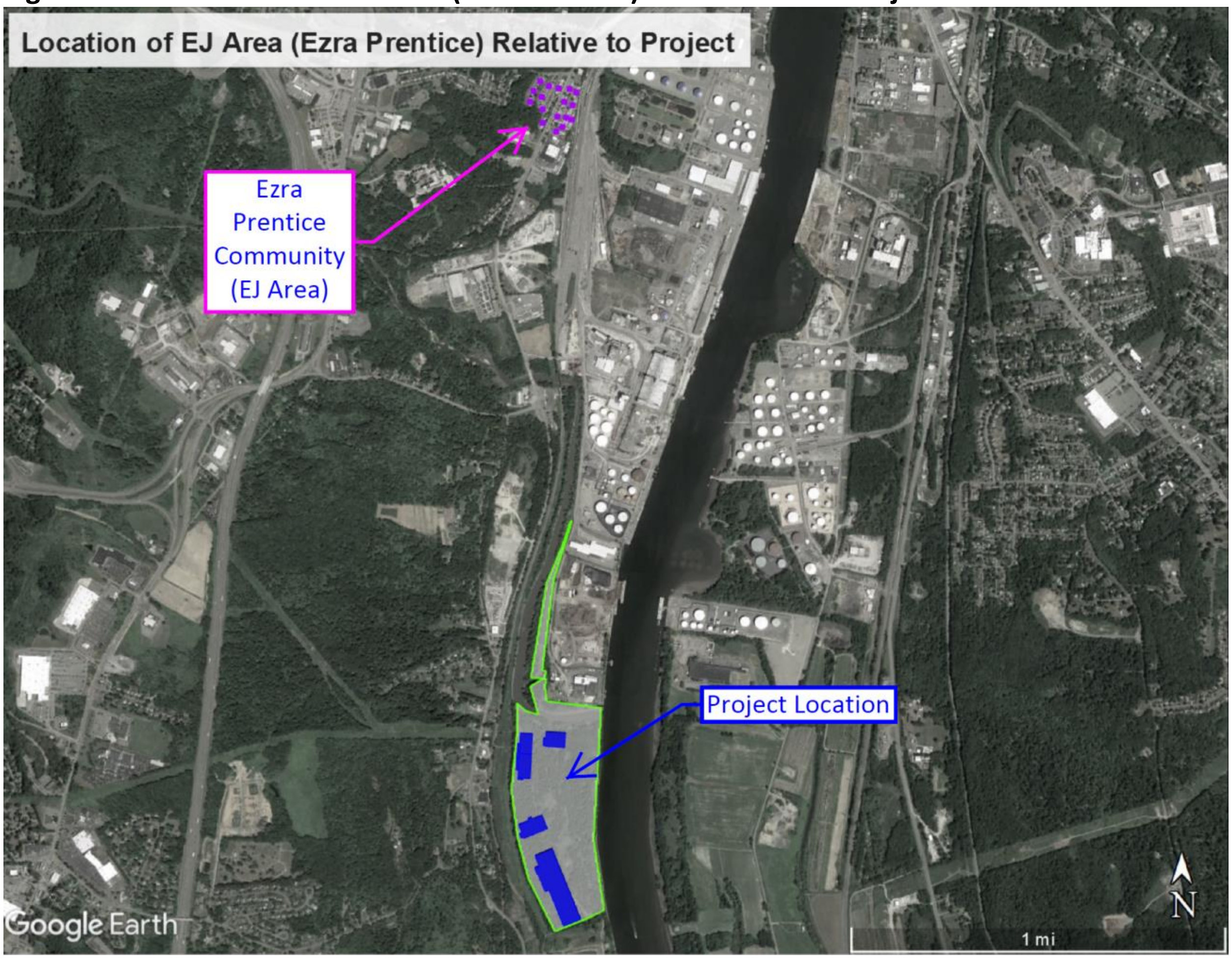
To evaluate whether project-related GHG emissions and co-pollutants have the potential to disproportionately burden disadvantaged communities, potential air quality impacts from project emission sources on the nearby EJ Area are compared to other off-property locations surrounding the project. Air dispersion modeling was performed using AERMOD.

Table 1.4.6-5 identifies project emission sources and modeled pollutants selected for inclusion in the EJ Area air quality impact analysis. The location of the EJ Area relative to the project location is shown on Figure 1.4.6-2.

Table 1.4.6-5: Modeled Project Emission Sources and Pollutants

Source Description	Modeled Source Type	Model ID	Modeled Pollutants
Large Spray Booth	Point Source	STCK1	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Large Spray Booth	Point Source	STCK2	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Small Spray Booth	Point Source	STCK3	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Small Spray Booth	Point Source	STCK4	NO_2, PM_{10}, $PM_{2.5}$, SO_2, NC Pollutants
Building C Blast Booth	Point Source	STCK5	PM_{10}, $PM_{2.5}$, NC Pollutants
Building C Blast Booth	Point Source	STCK6	PM_{10}, $PM_{2.5}$, NC Pollutants
Building C Blast Booth	Point Source	STCK7	PM_{10}, $PM_{2.5}$, NC Pollutants
Building A Plate Blast Booth	Point Source	STCK8	PM_{10}, $PM_{2.5}$, NC Pollutants
Large Spray Booth AMU	Point Source	STCK9	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Small Spray Booth AMU	Point Source	STCK10	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Building A Natural Gas Combustion Equipment	Volume Sources	BLDGA_GAS1-5	NO_2, PM_{10}, $PM_{2.5}$, SO_2
Building B Natural Gas Combustion Equipment	Volume Sources	BLDGB_GAS1-2	NO_2, PM_{10}, $PM_{2.5}$, SO_2

Figure 1.4.6-2: Location of EJ Area (Ezra Prentice) Relative to the Project



Potential air quality impacts from each of the project's proposed emission sources were combined to estimate worst-case (cumulative) impacts for NO_2, PM_{10}, $PM_{2.5}$ and SO_2 as well as non-criteria (NC) pollutants. Potential air quality impacts from project emission sources on the nearby EJ Area are compared to other off-property locations surrounding the project for each aforementioned pollutant.

Model predicted air quality impacts were then combined with available background air quality data, as summarized in the *New York State Ambient Air Quality Report for 2020*. Maximum 1-hour, 24-hour and annual impact concentrations combined with 1-hour, 24-hour and average annual background concentrations (design values) were then compared directly to each pollutants' respective NAAQS.

Results of the analyses for NO_2 impacts are summarized in Table 1.4.6-6 and illustrated in Figure 1.4.6-3. Results of the analyses for SO_2 impacts are summarized in Table 1.4.6-7 and illustrated in Figure 1.4.6-4. Finally, results of the analyses for PM_{10} and $PM_{2.5}$ impacts are summarized in Tables 1.4.6-8 through 1.4.6-10 and illustrated in Figures 1.4.6-5 through 1.4.6-7.

Table 1.4.6-6: Comparison of Project-Related Annual NO_2 Impacts at EJ Area

Off-Property Peak Annual NO_2 Impact ($\mu g/m^3$)	EJ Area Peak Annual NO_2 Impact ($\mu g/m^3$)	Annual NO_2 Background Concentration ($\mu g/m^3$) [1.]	Annual NO_2 Design Value ($\mu g/m^3$)	Annual NO_2 NAAQS ($\mu g/m^3$)	Will Potential Air Quality Impacts Exceed NAAQS?
10.85	0.40	10.68	21.53	100.0	No

Table 1.4.6-6 Notes:
1. Background NO_2 concentration based upon the 2020 average of the annual arithmetic mean NO_2 values recorded at the "Rochester Near-Road" ambient air monitoring site (Site No.: 36-055-0015).

Figure 1.4.6-3: Project-Related Annual NO_2 Impacts on Surrounding Community

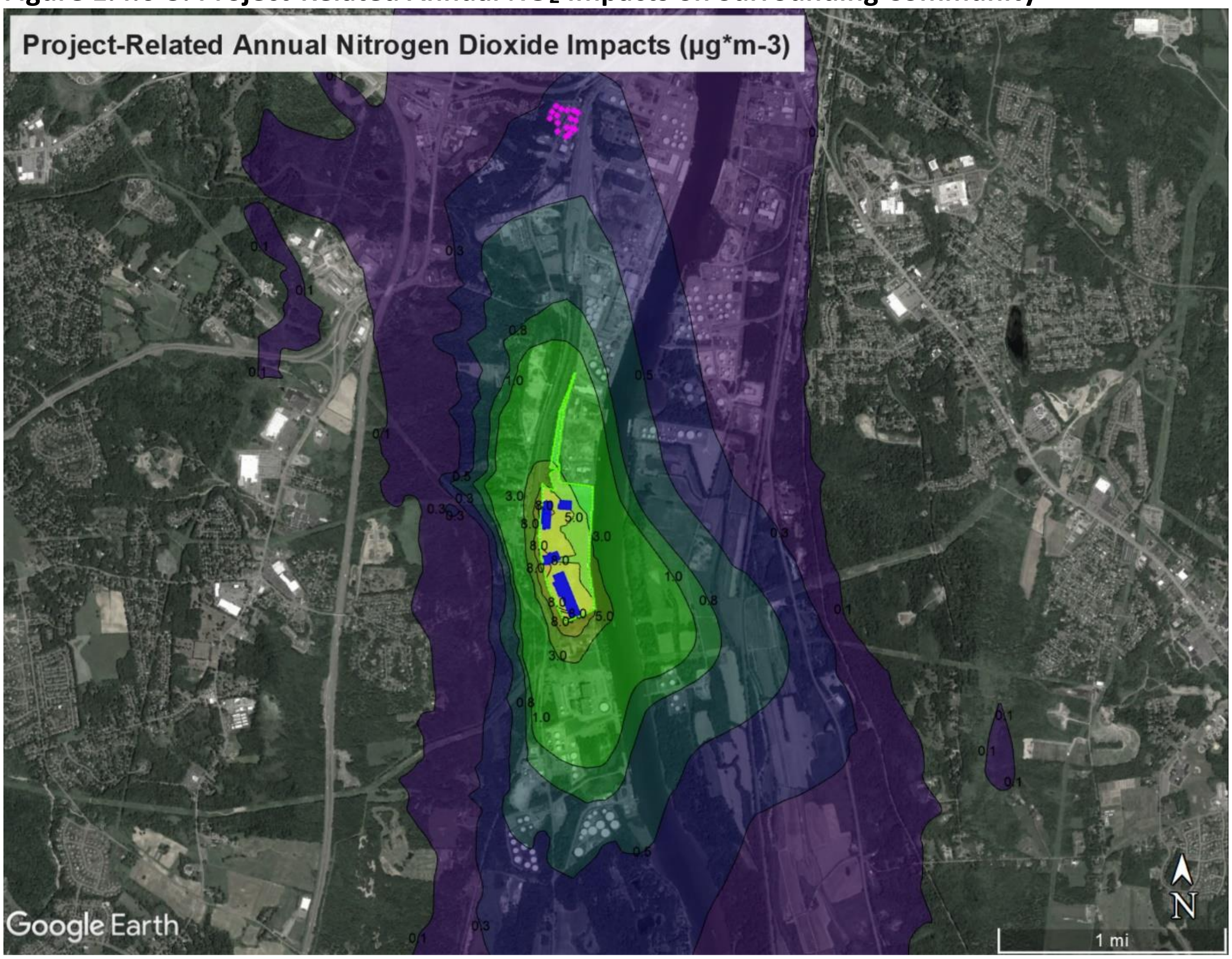


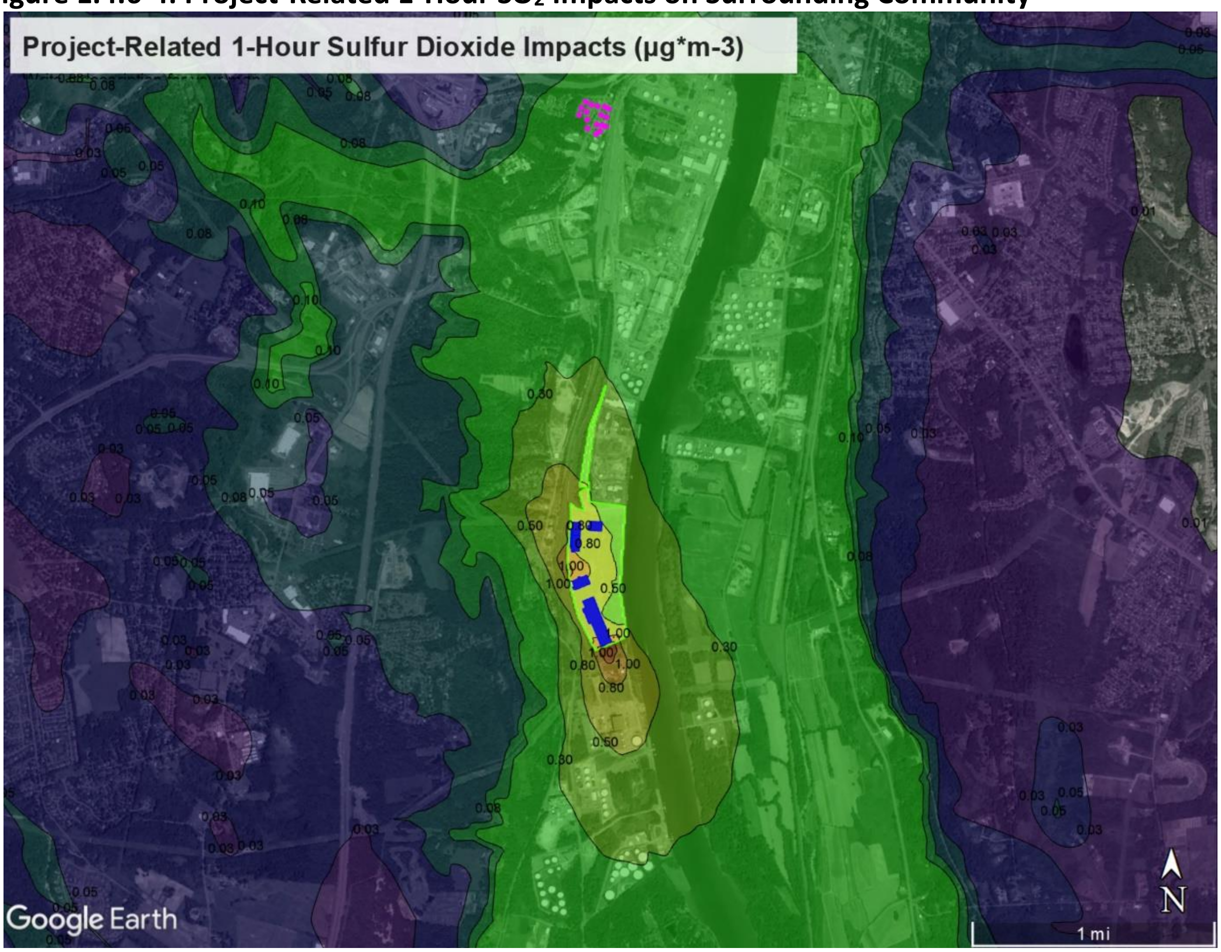
Table 1.4.6-7: Comparison of Project-Related 1-Hour SO_2 Impacts at EJ Area [5]

Off-Property Peak 99th Percentile 1-Hour SO_2 Impact ($\mu g/m^3$) [1.]	EJ Area Peak 99th Percentile 1-Hour SO_2 Impact ($\mu g/m^3$) [1.]	1-Hour SO_2 Background Concentration ($\mu g/m^3$) [2.]	1-Hour SO_2 Design Value ($\mu g/m^3$)	1-Hour SO_2 NAAQS ($\mu g/m^3$) [3.]	Potential Air Quality Impacts Exceed NAAQS?
1.18	0.16	6.47	7.65	196.0	No

Table 1.4.6-7 Notes:

1. Model predicted cumulative 1-hour SO_2 impacts calculated as the 99th Percentile (4th Highest) daily maximum based on the 5-year average of ranked maximum daily values.
2. Background 1-hour SO_2 concentration based upon the 3-year average of the 99th percentile of the daily maximum 1-hour average values recorded at the "Loudonville" ambient air monitoring site (Site No.: 36-001-0012) for the period 2018-2020.
3. Not to be exceeded more than once per year on average over 3 years.

Figure 1.4.6-4: Project-Related 1-Hour SO_2 Impacts on Surrounding Community



[5] For purposes of this analysis, and since the project is an insignificant source of SO_2 emissions, only 1-hour SO_2 impacts are presented here.

Table 1.4.6-8: Comparison of Project-Related 24-Hour PM_{10} Impacts at EJ Area

Off-Property Peak 24-Hour PM_{10} Impact ($\mu g/m^3$)	EJ Area Peak 24-Hour PM_{10} Impact ($\mu g/m^3$)	24-Hour PM_{10} Background Concentration ($\mu g/m^3$) [1.]	1-Hour PM_{10} Design Value ($\mu g/m^3$)	24-Hour PM_{10} NAAQS ($\mu g/m^3$) [2.]	Potential Air Quality Impacts Exceed NAAQS?
11.16	0.86	37.74	48.90	150.0	No

Table 1.4.6-8 Notes:

1. Background 24-hour PM_{10} concentration based upon maximum 24-hour values recorded at the "Rochester" ambient air monitoring site (Site No.: 36-055-1007) in 2020.
2. Not to be exceeded more than once per year on average over 3 years.

Figure 1.4.6-5: Project-Related 24-Hour PM_{10} Impacts on Surrounding Community

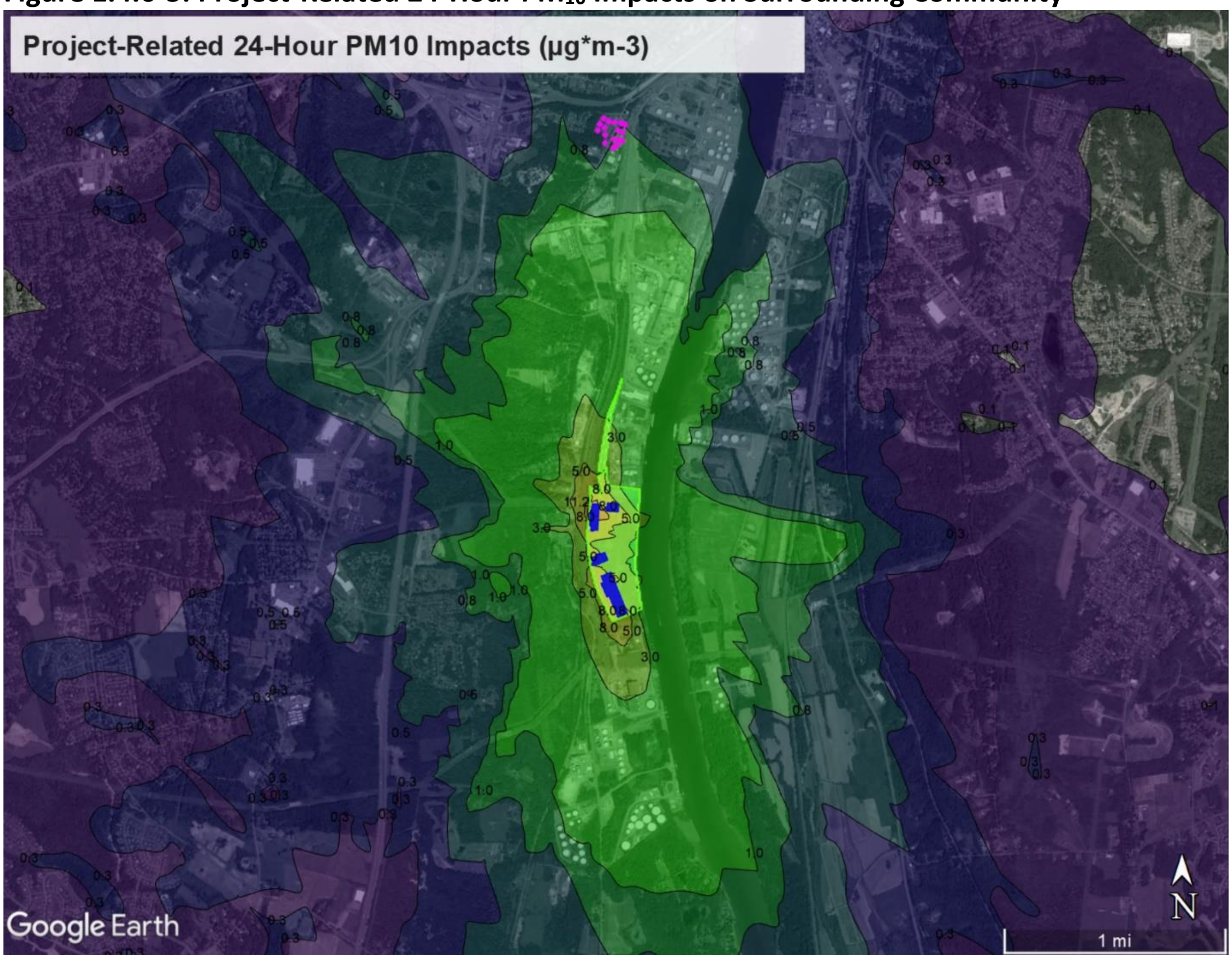


Table 1.4.6-9: Comparison of Project-Related 24-Hour $PM_{2.5}$ Impacts at EJ Area

Off-Property Peak 98th Percentile 24-Hour $PM_{2.5}$ Impact ($\mu g/m^3$) [1.]	EJ Area Peak 98th Percentile 24-Hour $PM_{2.5}$ Impact ($\mu g/m^3$) [1.]	24-Hour $PM_{2.5}$ Background Concentration ($\mu g/m^3$) [2.]	24-Hour $PM_{2.5}$ Design Value ($\mu g/m^3$)	24-Hour $PM_{2.5}$ NAAQS ($\mu g/m^3$) [3.]	Will Potential Air Quality Impacts Exceed NAAQS?
7.47	0.43	19.90	27.37	35.0	No

Table 1.4.6-9 Notes:

1. Model predicted cumulative 24-hour 98th Percentile (8th Highest) daily maximum based on the 5-year average of ranked maximum daily values.
2. Background 24-hour $PM_{2.5}$ concentration based upon the 2018-2020 average of the 98th percentile 24-hour $PM_{2.5}$ values recorded at the "Albany Co. HD (FEM)" ambient air monitoring site (Site No.: 36-001-0005).
3. Compliance with the NAAQS is determined by using the average of 98th percentile 24-hour value during the past three years, which cannot exceed 35 $\mu g/m^3$.

Figure 1.4.6-6: Project-Related 24-Hour $PM_{2.5}$ Impacts on Surrounding Community

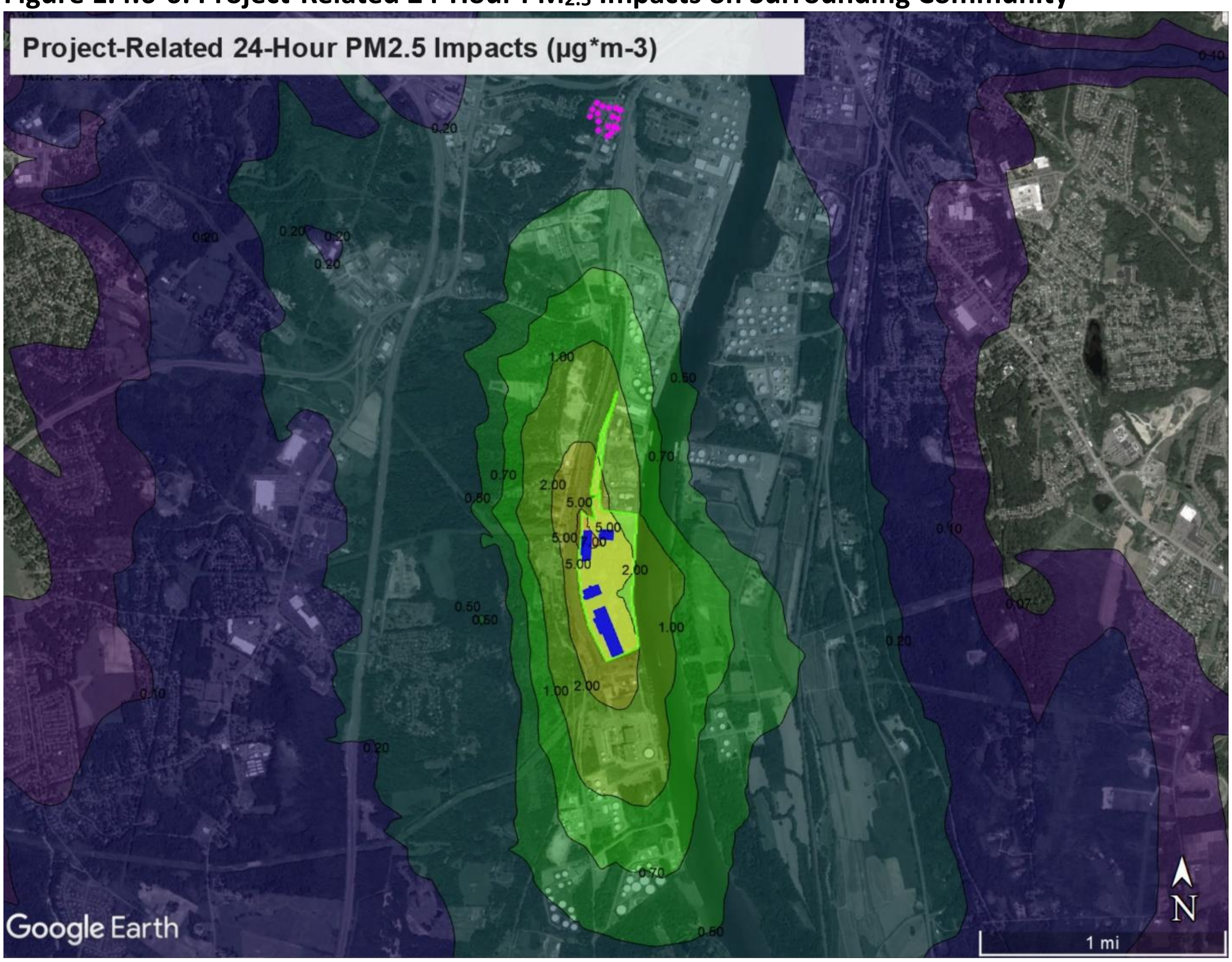


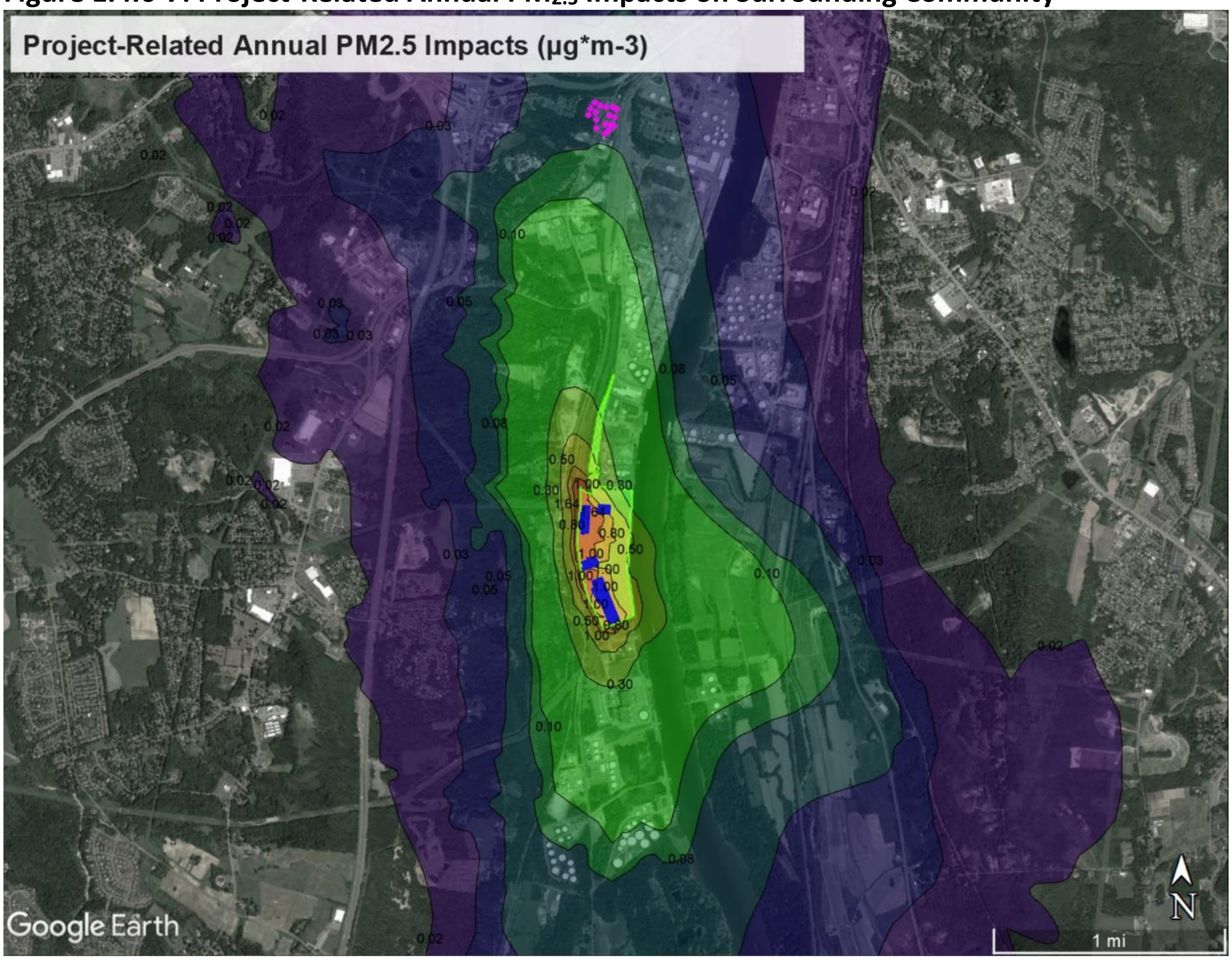
Table 1.4.6-10: Comparison of Project-Related Annual $PM_{2.5}$ Impacts at EJ Area

Off-Property Peak Annual $PM_{2.5}$ Impact ($\mu g/m^3$)	EJ Area Peak Annual $PM_{2.5}$ Impact ($\mu g/m^3$)	Annual $PM_{2.5}$ Background Concentration ($\mu g/m^3$) [1.]	Annual $PM_{2.5}$ Design Value ($\mu g/m^3$)	Annual $PM_{2.5}$ NAAQS ($\mu g/m^3$) [2.]	Will Potential Air Quality Impacts Exceed NAAQS?
1.64	0.08	8.10	9.74	12.0	No

Table 1.4.6-10 Notes:

1. Background annual mean $PM_{2.5}$ concentration based upon the 2018-2020 annual mean $PM_{2.5}$ values recorded at the "Albany Co. HD (FEM)" ambient air monitoring site (Site No.: 36-001-0005).
2. Compliance with NAAQS based upon annual mean $PM_{2.5}$ concentration averaged over three consecutive years.

Figure 1.4.6-7: Project-Related Annual $PM_{2.5}$ Impacts on Surrounding Community



Next, to assess for project-related potential non-criteria pollutant emissions, model predicted maximum 1-hour impacts were compared to respective NYSDEC DAR-1 short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) using AERMOD's multi-chemical modeling module. Results of the analyses are summarized in Tables 1.4.6-11 and 1.4.6-12 below.

Table 1.4.6-11: Comparison of Project-Related 1-Hour NC Pollutant Impacts at EJ Area

Modeled Air Contaminant	Air Contaminant CAS No.	Off-Property Peak 1-Hour Impact (μg/m^3)	EJ Area Peak 1-Hour Impact (μg/m^3)	NYSDEC DAR-1 SGC (μg/m^3) [1., 2.]	Will Potential Air Quality Impacts Exceed DAR-1 SGC?
Isobutyl Alcohol	78-83-1	0.48	3.7E-02	--	No
Methyl Styrene	98-83-9	0.42	3.2E-02	--	No
Diisobutyl Ketone	108-83-8	1.74	0.13	--	No
Triethylenetetramine	112-24-3	66.4	5.00	--	No
Aluminium oxide	1344-28-1	2.1E-02	1.6E-03	--	No
Barium sulfate	7727-43-7	0.33	2.5E-02	--	No
Benzene	71-43-2	0.18	1.4E-02	27.0	No
Benzyl alcohol	100-51-6	96.6	7.28	1,300.0	No
Chromium	7440-47-3	3.9E-02	3.9E-03	--	No
Copper	7440-50-8	3.9E-02	3.9E-03	100.0	No
Cumene	98-82-8	1.80	0.14	--	No
Ethanol	64-17-5	174.8	13.17	--	No
Ethylbenzene	100-41-4	57.2	4.31	--	No
Methyl Amyl Ketone	110-43-0	20.6	1.55	--	No
Manganese	7439-96-5	0.47	4.7E-02	--	No
Methanol	67-56-1	5.00	0.38	33,000.0	No
Mica	12001-26-2	1.3E-02	9.6E-04	--	No
n-Butyl Alcohol	71-36-3	117.8	8.87	--	No
n-Butyl acetate	123-86-4	125.2	9.43	71,300.0	No
Naphthalene	91-20-3	0.12	9.4E-03	7,900.0	No
Nickel	7440-02-0	3.9E-02	3.9E-03	0.2	No
Nonane	111-84-2	0.19	1.5E-02	--	No
Phenol	108-95-2	0.42	3.2E-02	5,800.0	No
Isopropyl Alcohol	67-63-0	67.4	5.07	98,000.0	No
Respirable quartz	14808-60-7	5.9E-02	4.5E-03	--	No
Naphtha Light Aromatic	64742-95-6	154.5	11.6	--	No
Talc (non-asbestiform)	14807-96-6	0.66	5.0E-02	--	No
Titanium dioxide	13463-67-7	0.96	7.2E-02	--	No
Toluene	108-88-3	2.44	0.18	37,000.0	No
Xylene	1330-20-7	258.5	19.5	22,000.0	No

Table 1.4.6-11 Notes:

1. Per NYSDEC DAR-1 "Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212", issued February 12, 2021.
2. "--" indicates NYSDEC SGC not available for the referenced chemical.

Table 1.4.6-12: Comparison of Project-Related Annual NC Pollutant Impacts at EJ Area

Modeled Air Contaminant	Air Contaminant CAS No.	Off-Property Peak Annual Impact (µg/m^3)	EJ Area Peak Annual Impact (µg/m^3)	NYSDEC DAR-1 AGC (µg/m^3) [1., 2.]	Will Potential Air Quality Impacts Exceed DAR-1 AGC?
Isobutyl Alcohol	78-83-1	1.2E-03	2.7E-05	360.0	No
Methyl Styrene	98-83-9	4.1E-04	8.9E-06	115.0	No
Diisobutyl Ketone	108-83-8	5.2E-03	1.1E-04	350.0	No
Triethylenetetramine	112-24-3	0.37	8.1E-03	10.0	No
Aluminium oxide	1344-28-1	5.0E-05	1.1E-06	2.4	No
Barium sulfate	7727-43-7	7.8E-04	1.7E-05	12.0	No
Benzene	71-43-2	1.8E-03	3.9E-05	1.3E-01	No
Benzyl alcohol	100-51-6	0.29	6.4E-03	350.0	No
Chromium	7440-47-3	5.1E-04	2.2E-05	45.0	No
Copper	7440-50-8	5.1E-04	2.2E-05	4.8E-01	No
Cumene	98-82-8	4.4E-03	9.6E-05	400.0	No
Ethanol	64-17-5	4.2E-02	9.2E-04	45,000.0	No
Ethylbenzene	100-41-4	0.39	8.6E-03	1,000.0	No
Methyl Amyl Ketone	110-43-0	2.0E-02	4.4E-04	550.0	No
Manganese	7439-96-5	6.2E-03	2.6E-04	5.0E-02	No
Methanol	67-56-1	4.5E-02	9.8E-04	4,000.0	No
Mica	12001-26-2	3.1E-06	6.7E-08	7.1	No
n-Butyl Alcohol	71-36-3	0.73	1.6E-02	1,500.0	No
n-Butyl acetate	123-86-4	0.30	6.7E-03	565.0	No
Naphthalene	91-20-3	2.9E-04	6.4E-06	3.0	No
Nickel	7440-02-0	5.1E-04	2.2E-05	4.2E-03	No
Nonane	111-84-2	8.7E-04	1.9E-05	25,000.0	No
Phenol	108-95-2	8.7E-04	1.9E-05	20.0	No
Isopropyl Alcohol	67-63-0	1.6E-02	3.6E-04	7,000.0	No
Respirable quartz	14808-60-7	3.1E-04	6.9E-06	2.0	No
Naphtha Light Aromatic	64742-95-6	0.37	8.0E-03	100.0	No
Talc (non-asbestiform)	14807-96-6	1.9E-03	4.1E-05	4.8	No
Titanium dioxide	13463-67-7	5.7E-03	1.3E-04	24.0	No
Toluene	108-88-3	1.8E-02	4.0E-04	5,000.0	No
Xylene	1330-20-7	1.77	3.9E-02	100.0	No

Table 1.4.6-12 Notes:
1. Per NYSDEC DAR-1 "Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212", issued February 12, 2021.
2. "--" indicates NYSDEC AGC not available for the referenced chemical.

1.4.6.4.1 Conclusion

Based upon review of relevant data, and in accordance with CLCPA Section 7(3), a discussion of mitigation measures to reduce co-pollutant emissions from the project's GHG sources and an evaluation of project-related potential air quality impacts on the surrounding community has been performed. Results from site-wide air quality impact modeling demonstrate that project-related impacts will not disproportionately burden the nearby disadvantaged community (Ezra Prentice). It is therefore concluded that the project's impact on air quality in the surrounding community will be minimal and acceptable.