A. INTRODUCTION

Ambient air quality, or the quality of the surrounding air, may be affected by air pollutants produced by motor vehicles, referred to as "mobile sources"; by fixed facilities, usually referenced as "stationary sources"; or by a combination of both. Under City Environmental Review (CEQR), an air quality assessment determines both a proposed project's effects on ambient air quality and the effects of ambient air quality on the project.

As described in **Chapter 1, "Project Description,"** the Applicant seeks CPC approval for a zoning map amendment that would facilitate the demolition of the existing single-story building on Projected Development Site 1 and the construction of the Proposed Project. The Proposed Project would consist of a single-story building and a nine-story building separated by a pedestrian alleyway. The single-story structure and first two floors and cellar floor of the nine-story building would contain a combined total of approximately 75,586 gsf of retail uses; the second and third floors of the proposed nine-story building would contain approximately 40,732 gsf of light industrial uses; and the remaining floors (three through nine) of the proposed nine-story building would contain approximately 121,786 gsf of commercial office uses. Three loading bays would be provided with a single curb cut along Flushing Avenue to satisfy the M1-5 zoning requirements associated with the proposed office, retail, and light industrial uses; no accessory parking spaces would be required under the proposed M1-5 zoning district. In total, the Proposed Project would contain approximately 238,104 gsf of new development.

In addition, it is assumed that Lots 29 and 40 (both of which are non-Applicant-owned) would each be redeveloped in the future with approval of the Proposed Actions as well. It is anticipated that Lot 29 would be redeveloped with a six-story, predominantly commercial office building with ground-floor retail uses comprising approximately 79,821 gsf of office space and 16,730 gsf of retail space ("Projected Development Site 2"), and Lot 40 would be redeveloped with a five-story, predominantly commercial office building with ground-floor retail uses comprising approximately 32,547 gsf of office space and 6,250 gsf of retail space ("Projected Development Site 3").

The developments are anticipated to use fossil fuel(s) for heating/hot water, ventilation, and air conditioning (HVAC) systems, the Proposed Project would result in new uses within 400 feet of manufacturing or processing facilities, and the Proposed Project could potently include operation(s) of manufacturing processing facilities. As such, stationary source analyses were conducted to evaluate the development HVAC stack(s) emissions effects on ambient air quality, the effects of ambient air quality associated with existing manufacturing or processing facilities, and the effect of the Proposed Project potential air toxics emission on nearby land uses.

The peak hour project-generated traffic would not exceed the *CEQR Technical Manual* threshold for carbon monoxide (CO), nor would the Proposed Project's parking facilities exceed the threshold that requires a detailed analysis, nor do the developments be located near a highway or a very large parking facility. However, the project-generate peak hour heavy-duty diesel vehicles (HDDVs) traffic or its

equivalent in vehicular would exceed the *CEQR Technical Manual* threshold. As such, an air dispersion analysis was conducted for the most effected intersection.

B. PRINCIPAL CONCLUSIONS

The air quality analysis determined that both the Proposed Actions effects on ambient air quality and the effects of ambient air quality on the projected development sites would not result in significant adverse air quality impacts. A summary of the analysis is presented below.

The analysis for the projected development sites' heating/hot water, ventilation, and air conditioning (HVAC) systems included a screening analysis for Projected Development Site 1 stack emissions, a detailed air dispersion analysis for Projected Development Sites 2 and 3 (cumulative analysis), and a detailed air dispersion analysis for Projected Development Site 3 stack emissions. There are no buildings similar or greater in height than Projected Development Site 1 in the 400-foot study area surrounding the Project Area, and as such, a detailed air dispersion analysis was not required (Projected Development Site 1 screened out). The detailed air dispersion analysis of Projected Development Sites 2 and 3 (cumulative analysis) on the nearest building of similar or greater height (Projected Development Site 1) required a stack setback distance for Projected Development Site 3. The detailed air dispersion analysis for Projected Development Site 3 on Projected Development Site 2 required stack setback distance, use of natural gas in the HVAC equipment, and that the HVAC system be equipped with low-NOx burners. The control measures for each Projected Development Site are specified in the (E) Designation (E-617) language.

Projected Development Site 1 could potently include operation(s) of manufacturing processing facilities, occupying at most 40,732 gsf. A detailed analysis was conducted for land uses within 400 feet of the Projected Development Site 1. The analysis showed that potential air toxics emissions from the industrial/manufacturing uses introduced by the project would not result in significant adverse air quality impacts. The air toxics concentrations would not exceed the Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively) or the cumulative risk assessment, and criteria pollutants concentrations would be within the National Air Quality Standard (NAAQS) and/or the city *de minimis*.

The transportation trip-assignment analysis showed that no intersections would exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no CO detailed analysis is required. The screening analysis for the generate peak hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, showed exceedance at the intersections of Irving Avenue and Jefferson Street and the intersection of Irving Avenue and Troutman Street. $PM_{2.5}$ detailed air dispersion analysis was conducted for the intersection of Irving Avenue and Jefferson Street, the most effected intersection. The air dispersion analysis showed that the increment between the future with-action to the no-action $PM_{2.5}$ concentrations would not exceed the *de minimis* design values. Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic. In addition, the Proposed Actions would include no accessory parking spaces. Therefore, the Proposed Actions parking facilities screened out, and no detailed air quality analysis is required.

The silk screen facility Inkz Print Shop, a manufacturing or processing facility, is located in the 400 feet area surrounding the Project Area. Therefore, an air toxics air dispersion analysis was conducted for the facility. The industrial source analysis showed that the air toxics emissions from the silk screen facility would not result in significant adverse air quality impacts at the developments associated with the

Proposed Actions. The air toxics concentrations would not exceed the Annual and Short-Term Guideline Concentrations (AGCs and SGCs, respectively), and the cumulative inhalation excess cancer risk or the cumulative hazardous quotient threshold criterions would not be exceeded.

There are no Title V facilities nor Air State facilities (major or large sources) in the 1,000 feet study area surrounding the development sites. Therefore, a major/large source analysis was not required.

C. POLLUTANTS OF CONCERN

The Clean Air Act (CAA) is a comprehensive federal law that regulates all sources of air emissions. The CAA requires U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards (NAAQS) for pollutants that are common in outdoor air, considered harmful to public health and the environment, and that come from numerous and diverse sources. The EPA has identified six key pollutants considered harmful to public health and the environment. In addition, national and state regulations identified numerous other pollutants, primarily due to industrial activities.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas, which is primarily formed by incomplete combustion of carbon-containing fuels and by photochemical reactions in the atmosphere. Nationally, particularly in urban areas, the majority of CO emissions to ambient air come from mobile sources. The majority of these on-road CO emissions are derived from gasoline powered vehicles[1]. Because CO disperses quickly, its concentrations may vary greatly over relatively short distances. Elevated concentrations are usually limited to locations near congested intersections and along heavily traveled and congested roadways.

Nitrogen Dioxide VOC and Ozone

Nitrogen oxides (NOx) is emitted from both mobile and stationary sources. Nitric Oxide (NO) accounts for approximately 90% of the total oxidized nitrogen emitted. In the atmosphere, and in the presence of sunlight, NO reacts with radicals and ozone (O_3), mainly forming nitrogen dioxide (NO_2).[2] Ground-level ozone is formed when volatile organic compounds (VOCs), also known as hydrocarbons, and nitrogen oxides (NOx) interact in the presence of sunlight. Because the reactions are slow and occur as the pollutants are transported downwind, elevated ozone levels are often found many miles from the sources of the precursor pollutants.

The zone of elevated NO_2 concentration from vehicular emission extends away from the roadway. Therefore, the effects of NOx (NO and NO_2) emissions from mobile sources are generally examined on a regional basis. The Proposed Actions would not substantially increase the vehicle mile traveled or stationary source emissions at a regional scale. Therefore, mesoscale (regional) analysis for ozone precursor is not required. The Proposed Actions would include stationary fuel combustion sources (boiler(s) for heating and hot water). Therefore, the proposed project's effects on local NO_2 concentration were evaluated.

[1] EPA. *Integrated Science Assessment (ISA) for Carbon Monoxide (Final Report, Jan 2010)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-09/019F, 2010

[2] EPA. *Integrated Science Assessment (ISA) for Oxide of Nitrogen – Health Criteria (Final Report, Jan 2010)*. U.S. Environmental Protection Agency, Washington, DC, EPA/ EPA/600/R-15/068, 2016

Respirable Particulate Matter (PM_{10} and $PM_{2.5}$)

Airborne particulate matter (PM) is a mixture of substances suspended in air as small liquid and/or solid particles. In contrast to the other criteria pollutants, PM does not have a unique chemical composition. These individual particles range in size from less than 0.01 µm to more than 10 µm. $PM_{2.5}$ is the abbreviation for fine PM with a diameter smaller than 2.5 microns. PM_{10} refers to particulates with diameter less than or equal to 10 micrometers. Some particles, such as dust, dirt, soot, or smoke, are large or dark enough to be seen with the naked eye.

PM sources are both primary and secondary in nature. Primary sources are specific sources, such as particles produced by mechanical abrasion. Secondary PM sources originate from gas-phase chemical compounds that condensate with certain gasses or when different gasses react with each other. These small particles might then coagulate with other particles to form larger particles. Sulfur oxides, nitrogen oxides, and volatile organic compounds (VOC) are examples of PM precursors.[3] The burning of fossil fuel can produce both primary and secondary PM. $PM_{2.5}$ is extremely persistent in the atmosphere and has the ability to reach the lower regions of the respiratory tract, delivering with it other compounds that adsorb to the surfaces of the particles.

Anthropogenic sources of PM are prevalent in many activities. Common sources include fuel combustion, such as in boilers or vehicular engines, industrial processes, such as spray painting or sanding of wood, and construction activities. Fugitive road dust that gets airborne when vehicles traverse roadways is also a common source.

Sulfur Dioxide

Fossil fuel combustion is the main anthropogenic source of primary SO_2. The amount of SO_2 emitted is directly related to the amount of sulfur in the fuel. Therefore, fuels with low sulfur content produces little SO_2. Beginning in 2006, EPA began to phase-in more stringent regulations to lower the amount of sulfur in diesel fuel to 15 parts per million (ppm). This fuel is known as ultra-low sulfur diesel (ULSD). SO_2 is also a precursor for the formation of $PM_{2.5}$. As such, controlling SO_2 emissions, controls $PM_{2.5}$ concentrations.

The amount of SO_2 emitted from on-road vehicles is not significant. Therefore, mobile source analysis for SO_2 is not required. The developments could potentially include stationary fuel combustion sources (boiler(s) for heating and hot water), where fuel oil No. 2 is burned. Therefore, effects on local SO_2 concentration were examined.

Lead

Emissions of lead (Pb) have dropped substantially over the past 40 years as results of phasing out of Pb as an anti-knock agent in gasoline for on-road vehicles, and later from enhanced controls of the metal processing industry[4]. The Proposed Actions is unlikely to result in lead emission. Therefore, no analysis is required.

[3] EPA. *Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2019)*. U.S. Environmental Protection Agency, Washington, DC, EPA EPA/600/R-19/188, 2019

[4] EPA. *Integrated Science Assessment (ISA) for Lead (Final Report, Jul 2013)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/075F, 2013

Air Toxics

Noncriteria pollutants, also referred to as toxic air pollutants or air toxics, are mainly associated with industrial sources. The CAA identifies 187 HAPs to be regulated by the EPA (current list include 185 HAPs), where the EPA regulates their emissions. These are substances that cause or may cause cancer or other serious health effects. In addition, the New York State Department of Environmental Conservation (NYSDEC) identified numerous other pollutants, known as "noncriteria pollutants," for which the EPA has no established standards, and these are pollutants of various toxicities.

D. AIR QUALTIY STANDARDS, REGULATIONS, AND BENCHMARKS

National and State Air Quality Standards

The EPA has established national ambient air quality standards (NAAQS) for seven of the most common air pollutants—known as “criteria” pollutants. The presence of these pollutants in ambient air is generally due to numerous diverse and widespread sources of emissions. The NAAQS primary standards are designed to protect public health with adequate margin of safety. The NAAQS secondary standards are designed to protect the public welfare from adverse effects, including those related to effects on soils, water, vegetation, visibility, and other aspects. As required by the CAA, EPA periodically conducts comprehensive reviews of the scientific literature on health and welfare effects associated with exposure to the criteria air pollutants. The NAAQS have been adopted as the ambient air quality standards for the State of New York. The NAAQS are presented in **Table 5-1**.

TABLE 5-1
National Air Quality Standards (NAAQS)[5]

Pollutant	Primary		Secondary	
	ppm	$\mu g/m^3$	ppm	$\mu g/m^3$
Carbon Monoxide (CO)				
Eight-Hour Average[1]	9	10,000	None	
One-Hour Average[1]	35	40,000		
Lead				
Rolling Three - Month Average	N.A.	0.15	N.A.	0.15
Nitrogen Dioxide (NO_2)				
One-Hour Average[2]	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O_3)				
Eight-Hour Average[3,4]	0.070	140	0.070	140
Respirable Particulate Matter (PM_{10})				
Twenty Four-Hour Average[5]	N.A.	150	N.A.	150
Fine Particulate Matter ($PM_{2.5}$)				
Annual Mean[6,10]	N.A.	12.0	N.A.	15
Twenty Four-Hour Average[7,9]	N.A.	35	N.A.	35
Sulfur Dioxide (SO_2)				
One-Hour Average[8]	0.075	196	N.A.	N.A.
Maximum Three-Hour Average[1]	N.A.	N.A.	0.50	1,300

Notes:
ppm – parts per million
$\mu g/m^3$ – micrograms per meter cube
N.A. – not applicable

1. Not to be exceeded more than once per calendar year
2. 98th percentile of 1-hour daily maximum concentrations, averaged over 3 years
3. Annual fourth-highest daily maximum 8-hr concentration, averaged over 3 years
4. NAAQS changed to 0.070 ppm beginning 1/1/2016
5. Not to exceed an expected average of one per year during the last 3 years
6. Average of last 3 years' annual means not to exceed 12 *µg/m3*
7. average of 98th percentile for last 3 years not to exceed 35 *µg/m3*
8. 99th percentile of 1-hour daily maximum concentrations, averaged over 3 years
9. Level of standard is defined as an integer (zero decimal places) as determined by rounding (40 CFR Parts 50, 51, 52 et al.)
10. level of standard is defined to one decimal place as determined by rounding (40 CFR Parts 50, 51, 52 et al.)

The New York State Department of Environmental Conservation (NYSDEC) measures air pollutants at more than 50 sites across the state using continuous and/or manual instrumentation. These sites are a mix of federally-mandated and supplemental monitoring networks. The primary NAAQS and background concentrations from the nearest federally-mandated monitoring station(s) are presented in **Table 5-2**.

TABLE 5-2

[5] https://www.epa.gov/criteria-air-pollutants/naaqs-table

NAAQS and Background Concentration Published in the NYSDEC 2020 Report

Pollutant	Averaging Period	National and State Standards	Background Concentration	Monitoring Station
$PM_{2.5}$	24-Hour	35 µg/m^3	18.7 µg/m^3	JHS 126
	Annual	12 µg/m^3	7.6 µg/m^3	
PM_{10}	24-Hour	150 µg/m^3	24 µg/m^3	Division Street
NO_2	1-Hour	188 µg/m^3	99.8 µg/m^3	Queens College
	Annual	100 µg/m^3	23.5 µg/m^3	
CO	1-Hour	35 ppm	2.13 ppm	
	8-Hour	9 ppm	1.60 ppm	
SO_2	1-Hour	196 µg/m^3	15.1 µg/m^3	
	Annual	80 µg/m^3	0.9 µg/m^3	
Ozone	8-Hour	0.070 ppm	0.070 ppm	Queens College
Lead	24-Hour	0.15 µg/m^3	0.0027 µg/m^3	IS 52
Note: Background concentrations NYSDEC Ambient Air Quality Report for 2020				

NAAQS Attainment Status and State Implementation Plans

The setting of the NAAQS in the CAA was coupled with directing the states to develop state implementation plans (SIPs), applicable to appropriate industrial sources in the state, in order to achieve these standards. The Act was amended in 1977 and 1990 primarily to set new goals (dates) for achieving attainment of NAAQS. The CAA 1990 amendment requires that each state with a nonattainment area (NAA) to submit a State Implementation Plan (SIP) that delineates the control strategies to achieve compliance with the NAAQS. New York City complies with the NAAQS for SO_2, NO_2, CO and lead, but is designated as a NAA for 8-hour ozone. New York County is also designated as a NAA for PM_{10}. **Table 5-3** summarizes the attainment status of Kings County for each pollutant.

TABLE 5-3
Kings County NAAQS Attainment Status

Pollutant	Status	Designation Date
Carbon Monoxide (CO)	Attainment (Maintenance Area)	5/20/2002
Lead	Attainment	
Nitrogen Dioxide (NO_2)	Attainment / Unclassified	
Ozone (O_3) Standard (2008-2015)	Nonattainment (Moderate)	8/3/2018
Respirable Particulate Matter (PM_{10})	Attainment / Unclassified	
Fine Particulate Matter ($PM_{2.5}$)	Attainment (Maintenance Area)	04/18/2014
Sulfur Dioxide (SO_2)	Attainment / Unclassified	

All five New York City boroughs have been designated as a $PM_{2.5}$ NAA area under the CAA by exceeding both the 24-hour and annual average standard. On December 31, 2012, the EPA determined that the New York-Northern New Jersey-Long Island, NY–NJ–CT fine particle ($PM_{2.5}$) nonattainment area for the 2006 24-hour $PM_{2.5}$ NAAQS has attained the 2006 24-hour $PM_{2.5}$ NAAQS. On November 15, 2010 EPA determined that the area has attained the 1997 annual $PM_{2.5}$ NAAQS. On March 18, 2013 the EPA revised the annual $PM_{2.5}$ standard by lowering the level to 12.0 micrograms per cubic meter (*$\mu g/m^3$*). Effective

April 18, 2014 all five New York City boroughs were re-designated in attainment and are under maintenance plan. The EPA designated New York County (Manhattan) as a nonattainment area for respirable particulate matter (PM_{10}). The other four New York City boroughs are designated as in attainment for the PM_{10} standards.

Historical monitoring data for New York City indicate that the ozone 8-hour standard is exceeded. To be in compliance, the 3-year average of the annual fourth highest maximum 8-hour average concentration should not exceed the ozone 8-hour standard. On March 2008, the EPA revised the 8-hour ozone NAAQS to 0.075 parts per million (ppm). On January 2016, the EPA revised the 8-hour ozone NAAQS to 0.070 ppm. On August 3, 2018 EPA designated the New York-Northern New Jersey-Long Island as moderate nonattainment. On July 19, 2017 NYSDEC requested (announcement made in a public hearing) that the EPA issue an expeditious reclassification to serious nonattainment so New York, New Jersey, and Connecticut have adequate time to develop complete SIPs that forecast attainment in the New York Metropolitan Area (NYMA) by the serious area deadline of July 20, 2021. On November 14, 2018 EPA proposed that the NYMA would be reclassified as serious nonattainment.

NYC GUIDELINES - Determining the Significance of Air Quality Impacts

The city's *de minimis* criteria are used to determine the significance of the incremental increase in CO and $PM_{2.5}$ concentrations that would result as a consequence of the proposed project. The CO criteria set the minimum change in 8-hour average CO concentration that constitutes a significant environmental impact. Significant increase of CO concentrations in New York City are:

- An increase of 0.5 parts per million (ppm) or more in the maximum 8-hour average CO concentration at a location where the predicted No-Action 8-hour concentration is equal to 8 ppm or between 8 ppm and 9 ppm; or
- An increase of more than half the difference between baseline (i.e., No-Action) concentrations and the 8-hour standard, when No-Action concentrations are below 8 ppm.

The following criteria are used for determination of significant adverse $PM_{2.5}$ incremental impacts for projects subject to CEQR:

- Predicted 24-hour maximum $PM_{2.5}$ concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.1 $\mu g/m^3$ at ground level on a neighborhood scale (i.e., the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance defined for locating neighborhood scale monitoring stations); or
- Predicted annual average $PM_{2.5}$ concentration increments greater than 0.3 $\mu g/m^3$ at any receptor location for stationary sources.

Accordingly, the 8-hour CO *de minimis* design value is 3.70 ppm and 24-hour $PM_{2.5}$ *de minimis* design value is 8.15 $\mu g/m^3$.

Noncriteria Pollutants

The EPA regulate toxic air pollutants, which include those pollutants that are known or suspected to cause cancer or other serious health effects. The list of toxic air pollutants currently includes 185 hazardous air pollutants (HAPs). In addition, the NYSDEC Division of Air Resources established short-term (one-hour) guideline concentration (SGC) and annual guideline concentrations (AGC) standards for contaminants that range in toxicity from high to low, which include HAPs. The standards are acceptable ambient concentrations, which are based on human exposure. The New York State standards for noncriteria pollutants are published in the DAR-1 guidance document (version dated February 12, 2021). In addition, the NYSDEC also regulates pollutants that produce discomfort due to odors. The AGC and SGC concentration standards of compounds emitted from existing manufacturing or processing facilities in the area are presented in **Table 5-4**.

TABLE 5-4
Relevant Noncriteria Pollutants Guidelines - NYSDEC

Pollutant Name	CAS Number	SGC ($\mu g/m^3$)	AGC ($\mu g/m^3$)
Benzyl Alcohol	100-51-6	1300.0	350.0
Cyclohexone	108-94-1	20000.0	190.0
Butoxyethyl Acetate	112-07-2	---	310.0
Diacetone Alcohol	123-42-2	---	570.0
Source: NYSDEC, DAR-1 AGC/SGC Tables, Feb. 2021.			

Of the chemicals presented in **Table 5-4**, Butoxyethyl Acetate is Hazardous Air Pollutants (HAPs).

The AGC and SGC concentration standards of compounds that could be emitted from the Proposed Actions manufacturing or processing operations are presented in **Table 5-5**.

Of the chemicals presented in **Table 5-5**, Methyl Chloroform, Hydrogen Cyanide, Dibutyl Phthalate, Toluene, Sodium Cyanide, Copper Cyanide, Lead Dioxide, Xylene Mixt, Lead Oxide, Zinc, Hydrogen Chloride are carcinogens, listed Hazardous Air Pollutants (HAPs) by the EPA. In addition to evaluating each chemical with its AGCs standard, cumulative noncriteria pollutants concentration is evaluated with the inhalation risk for carcinogen pollutants and the hazardous quotient for non-carcinogenic pollutants.

TABLE 5-5
Relevant Noncriteria Pollutants Guidelines - NYSDEC

Pollutant Name	CAS Number	SGC ($\mu g/m^3$)	AGC ($\mu g/m^3$)	Note
Methyl Chloroform	00071-55-6	9000	5000	Hazardous Air Pollutants (HAP) or Other Carcinogen [2]
Hydrogen Cyanide	00074-90-8	340	0.8	
Dibutyl Phthalate	00084-74-2	---	12	
Toluene	00108-88-3	37000	5000	
Sodium Cyanide	00143-33-9	380	3.5	
Copper Cyanide	00544-92-3	380	3.5	
Lead Dioxide	01309-60-0	---	0.044	
Xylene Mixt	01330-20-7	22000	100	
Lead Oxide	07439-92-1	---	0.038	
Zinc	07440-66-6	---	45	
Hydrogen Chloride	07647-01-0	2100	20	
Glycerin	00056-81-5	No CAS	No CAS	
Ethanol	00064-17-5	---	45000	
Isopropyl Alcohol	00067-63-0	98000	7000	
Acetone	00067-64-1	180000	30000	
Butoxyethanol, 2-	00111-76-2	4700	1600	
Butyl Acetate	00123-86-4	71300	565	
Ethyl Acetate	00141-78-6	---	3400	
Carbon Monoxide	00630-08-0	40000	N.A.	
Iron Oxide	01309-37-1	---	12	
Aluminum	07429-90-5	---	2.4	
Copper	07440-50-8	100	0.48	
Zinc Chloride	07646-85-7	200	2.4	
Ammonia	07664-41-7	2400	500	
Nitric Acid	07697-37-2	86	12.3	
VM&P Naphtha	08032-32-4	---	900	

Note:
1. Source: NYSDEC, DAR-1 AGC/SGC Tables, Feb. 2021.
2. Hazardous Air Pollutants (HAP), or AGC equivalent to one in a million excess cancer risk, or ACGIH Human Carcinogen, or ACGIH Suspected Human Carcinogen.

E. MOBILE SOURCE ANALYSIS

According to the *CEQR Technical Manual,* projects may result in significant mobile source air quality impacts when they increase or cause a redistribution of traffic, create any other mobile sources of pollutants (e.g., diesel trains, helicopters, boats), or add new uses near mobile sources (e.g., roadways, garages, parking lots). Detailed analyses are required to predict whether a Proposed Actions could potentially result in significant adverse air quality impact if certain threshold criterions are met or exceeded. Proposed Actions that do not meet or exceed the threshold criterions (screen out) are not expected to result in mobile source impacts.

Screening Assessment

Project-Generated Traffic

Screening analyses for the project's peak hour auto traffic and peak hour heavy-duty diesel vehicle (HDDVs) traffic were conducted. Per the *CEQR Technical Manual*, a detailed analysis for carbon monoxide (CO) is required if the project generated peak hour auto traffic or diversion of existing peak hour traffic would result in an increment of 170 auto trips (in this area of the city). A detailed analysis for particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$) is required if the project generated peak hour HDDVs traffic or its equivalent in vehicular emissions, depending on the type of road, would be met or exceeded.

According to the transportation analysis for this project, the Proposed Project would generate a total of 343, 206, 334, and 266 net vehicle trip ends (inbound and outbound combined) during the AM, midday, PM, and Saturday peak hour periods, respectively.

The trip assignment's peak-hour increments at seven intersections were assessed for CO and HDDVs screens. However, none of the identified intersections would exceed the threshold of 170 vehicular trips (condition outlined in Sections 210 of Chapter 17 of *the CEQR Technical Manual*). Therefore, no further analysis of CO is required. The analyzed intersections and the maximum peak-hour traffic traversing each intersection are listed below:

- Flushing Avenue and Irving Avenue – 118 vehicle per hour at the PM peak-hour period.
- Flushing Avenue and Stewart Street – 144 vehicle per hour at the AM peak-hour period.
- Flushing Avenue and Wyckoff Avenue – 124 vehicle per hour at the AM peak-hour period.
- Wyckoff Avenue and Jefferson Street – 120 vehicle per hour at the PM peak-hour period.
- Wyckoff Avenue and Troutman Street – 78 vehicle per hour at the AM peak-hour period.
- Irving Avenue and Troutman Street – 53 vehicle per hour at the PM peak-hour period.
- Irving Avenue and Jefferson Street – 74 vehicle per hour at the Saturday midday peak-hour period.

The $PM_{2.5}$ equivalent truck calculation in vehicular emission screen ranges from 12 to 23 HDDVs depending on the type of road. All autos were assumed to be LDGT1 class vehicles, based on guidance from the New York City Department of City Planning (DCP). Truck traffic was assigned to truck routes and distributed between Cypress Avenue and Varick Avenue. The worst-case HDDVs or its equivalent in vehicular emissions would result in a maximum of 36 equivalent trucks at the intersection of Irving Avenue and Jefferson Street during the Saturday midday peak-hour period. The intersection of Irving Avenue and Troutman Street also exceeded the HDDVs screen threshold (26 HDDVs during the weekday PM peak-hour period). **Table 5-6** shows the *CEQR Technical Manual* Equivalent Truck Calculation for the intersections of Irving Avenue at Jefferson Street and Irving Avenue at Troutman Street.

As seen in **Table 5-6**, both the intersections of Irving Avenue with Jefferson Street and Iring Avenue with Troutman Street fail the $PM_{2.5}$ equivalent truck calculation in vehicular emission during all peak-hour periods. Therefore, a detailed analysis is required.

TABLE 5-6
***CEQR Technical Manual* Equivalent Truck Calculations for the Intersection of Irving Avenue and Jefferson Street and the Intersection of of Irving Avenue and Troutman Street**

Intersection	Roadway Classification (Threshold HDDVs screen) [1]	Peak-Hour Period	Truck Per Hour	Auto Per Hour	Equivalent Truck	Pass / Fail
Irving Avenue and Jefferson Street	Local (12)	AM	0	68	32.8	Fail
		MD	0	55	26.5	Fail
		PM	0	73	35.2	Fail
		SAT	0	74	35.7	Fail
Irving Avenue and Troutman Street	Local (12)	AM	0	26	12.5	Fail
		MD	0	29	14.0	Fail
		PM	0	53	25.6	Fail
		SAT	0	40	19.3	Fail

Note: Roadway classification obtained from the New York State Department of Transportation (NYSDOT) map application (Feb. 2020). https://gis3.dot.ny.gov/html5viewer/?viewer=FC.

Because the intersection of Irving Avenue and Jefferson Street represent the worst-case condition (36 HDDVs compared with 26 HDDVs at the Irving Avenue and Troutman Street intersection), a detailed analysis was conducted for the intersection of Irvine Avenue and Jefferson Street.

Parking Garage

The Proposed Actions would not include any accessory parking spaces. Therefore, no analysis is required.

Existing Mobile Source of Pollutants

According to the *CEQR Technical Manual*, projects that would result in new sensitive uses within 200 feet of an atypical roadway or near other major mobile source of pollutant may result in significant adverse mobile source air quality impacts. The Proposed Project is not located near a highway or a very large parking facility, and thus, significant adverse air quality impact due to existing major mobile source of pollutants is unlikely. Therefore, no further analysis is required.

Detailed Intersection Analysis

Mobile source impacts are a function of vehicular related emissions and pollutants' dispersion. Emissions of vehicular mechanical components (exhaust, crank case, break ware, and tire wear) were generated with the EPA's MOVES3. Fugitive road dust emissions were added to estimate total particulate matter emissions. Pollutants' concentrations at sensitive receptors were modeled with Lakes Environmental CALRoad, the commercial version of EPA's CAL3QHCR dated 13196 Gaussian dispersion model.

The Saturday midday peak hour period traffic was analyzed for both the annual and 24-hour averaging times (tier 1 approach). Kings County vehicle population database, part of MOVES3 database, was used to further classify vehicle types and engines technologies. No-Action traffic was assumed to travel at 15-mile per hour and With-Action at 10-mile per hour. MOVES3 database (inspection/maintenance, fuel data, age distribution, and meteorology) was obtained from the NYSDEC.

In addition to vehicular mechanical and combustible related $PM_{2.5}$ emissions, vehicle related $PM_{2.5}$ emissions of dust generated by vehicles traveling on roadways were added to estimate total particulate matter emission factors for the short-term analysis (per the New York City Department of Environmental Protection (DEP), annual fugitive dust emission is negligible). Both Irving Avenue and Jefferson Streets are local paved roadways.[6] Silt loading factor of 0.4 for local paved roadway was obtained from the *CEQR Technical Manual,* and the equation from Section 13.2.1-3 of EPA's AP-42 manual was used to calculate each link's fugitive dust emission factor. In addition, based on DEP guidance, the conservative assumptions of "dry" road condition was used for the short-term calculation (precipitation reduced silt loading).

Dispersion analysis was conducted using the EPA's CAL3QHCR dispersion model version 13196 (Lakes Environmental CALRoad commercial version). $PM_{2.5}$ concentrations were predicted with model-ready meteorology data, obtained from DCP. Models specified settling and deposition velocities of 0-meter per second, 60-minute averaging time, and urban surface roughness of 108-centimeter (applicable to single family residential land use). Links were modeled as free flowing, at grade, links. Short-term receptors were placed in the middle of sidewalks, at 1.8-meter height around the intersection, and in spaced intervals. Annual receptors were placed 15-meter from the curb side at 1.8-meter height in spaced intervals. The map application built into Lakes Environmental, Inc. CALRoad was used to spatially locate links and receptors.

The With-Action 24-hour $PM_{2.5}$ concentration and the annual $PM_{2.5}$ increment between the With-Action and No-Action concentration were evaluated with the NYC Guideline, *de minimis*. **Table 5-7** shows the dispersion analysis results.

TABLE 5-7
Irving Avenue and Jefferson Streets Dispersion Analysis Results

Pollutant and Averaging Time	Modeled Concentration	Increment	Threshold Concentration	Threshold Standard
$PM_{2.5}$ 24-hour	4.55 µg/m^3	4.55 µg/m^3	8.15 µg/m^3	*de minimis*
PM2.5 Annual Increment (1)	0.07 µg/m^3	0.07 µg/m^3	0.1 µg/m^3	*de minimis*
Note: The annual concentration is the With-Action concentration. As the With-Action concentration is less than the *de minimis*, no analysis was needed for the No-Action concentration (No-Action concentration was assumed to be 0 µg/m^3).				

As seen in **Table 5-7**, the Proposed Actions $PM_{2.5}$ increment concentrations do not exceed the *de minimis* (24-hour or annual averaging times). Therefore, no significant adverse air quality impacts are expected at intersections effected by the project-generated traffic.

F. STATIONARY SOURCE ANALYSIS

Heating and Hot Water Systems

Per the *CEQR Technical Manual*, the HVAC analysis considers the potential for emissions from the HVAC system of the Proposed Actions to result in development that significantly impact existing land uses (project-on-existing), and the potential of the Proposed Actions to result in two or more developments

[6] https://gis.dot.ny.gov/html5viewer/?viewer=FC

that significantly impact each other (project-on-project). Based on CEQR guidance, a preliminary screening assessment is to be conducted as a first step to predict whether the potential impacts of the heat and hot water system(s) boiler emissions can be significant. The screening analysis determines the threshold of development size below which the action would not have a significant impact. This CEQR screening procedure is applicable to buildings that are not less than 30 feet from the nearest building of similar or greater height. Otherwise, a detailed dispersion analysis is required.

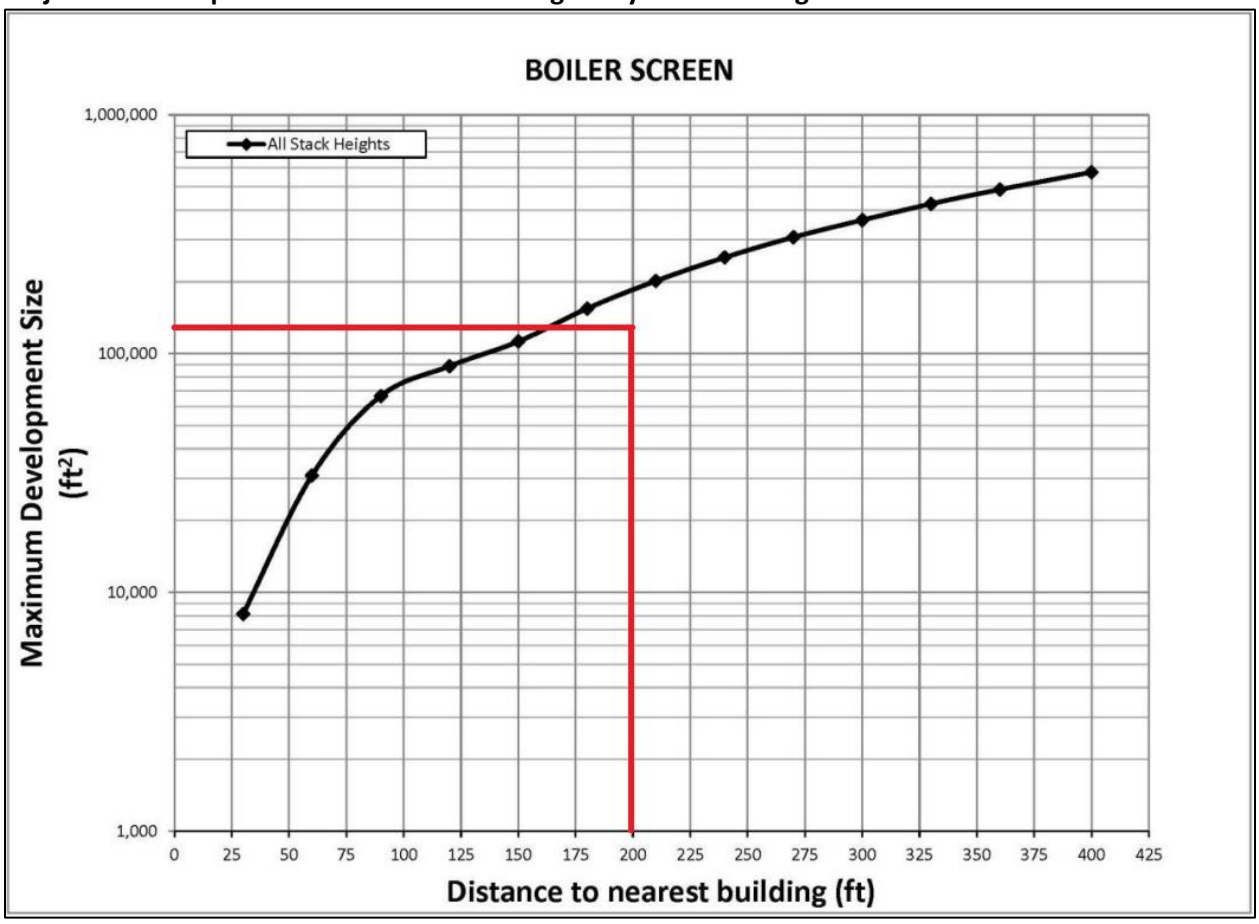
Screening Assessment

The potential for the heat and hot water system(s) to have a significant adverse impact on nearby receptors depends on the type of fuel that would be used by the HVAC system, the height of the stack venting the emissions, the distance to the nearest building of similar or greater height, the building's use which effects and the square footage of the development that would be served by the system which effects the amount of fossil fuel consumed. The *CEQR Technical Manual* screening analysis is based on these factors. A detailed analysis is required if the screening analysis failed. In addition, as screening analysis is only applicable to a single smokestack, for the purposes of a cumulative screening analysis emissions from multiple stacks were combined in a single stack situated as close as possible to the receiving building. The following screening analyses were conducted:

- Project-on-Existing – Projected Development Site 2 and 3 on existing land uses: Based on the methodology above, Projected Development Sites 2 and 3 were combined and analyzed as a 71-foot-tall commercial building, containing 135,348 gsf. A distance of approximately 200 feet, which is the distance between Projected Development Site 2 and the planned hotel development at 25 Stewart Avenue (Block 2994, Lot 75), was used in the screening analysis. The CEQR nomograph, depicted on Figure 17-3 of the *CEQR Technical Manual,* was used for the screening analysis. **Figure 5-1** shows the screening analysis.

  As seen in the screening analysis (see **Figure 5-1**), using the nomograph provided in the *CEQR Technical Manual*, Projected Development Sites 2 and 3 on the closest existing building with a similar or taller building height would fall below the curve. As such, Projected Development Sites 2 and 3 pass the HVAC screening analysis on existing land uses.

FIGURE 5-1
Projected Development Site 2 and 3 Screening Analysis on Existing Land Uses

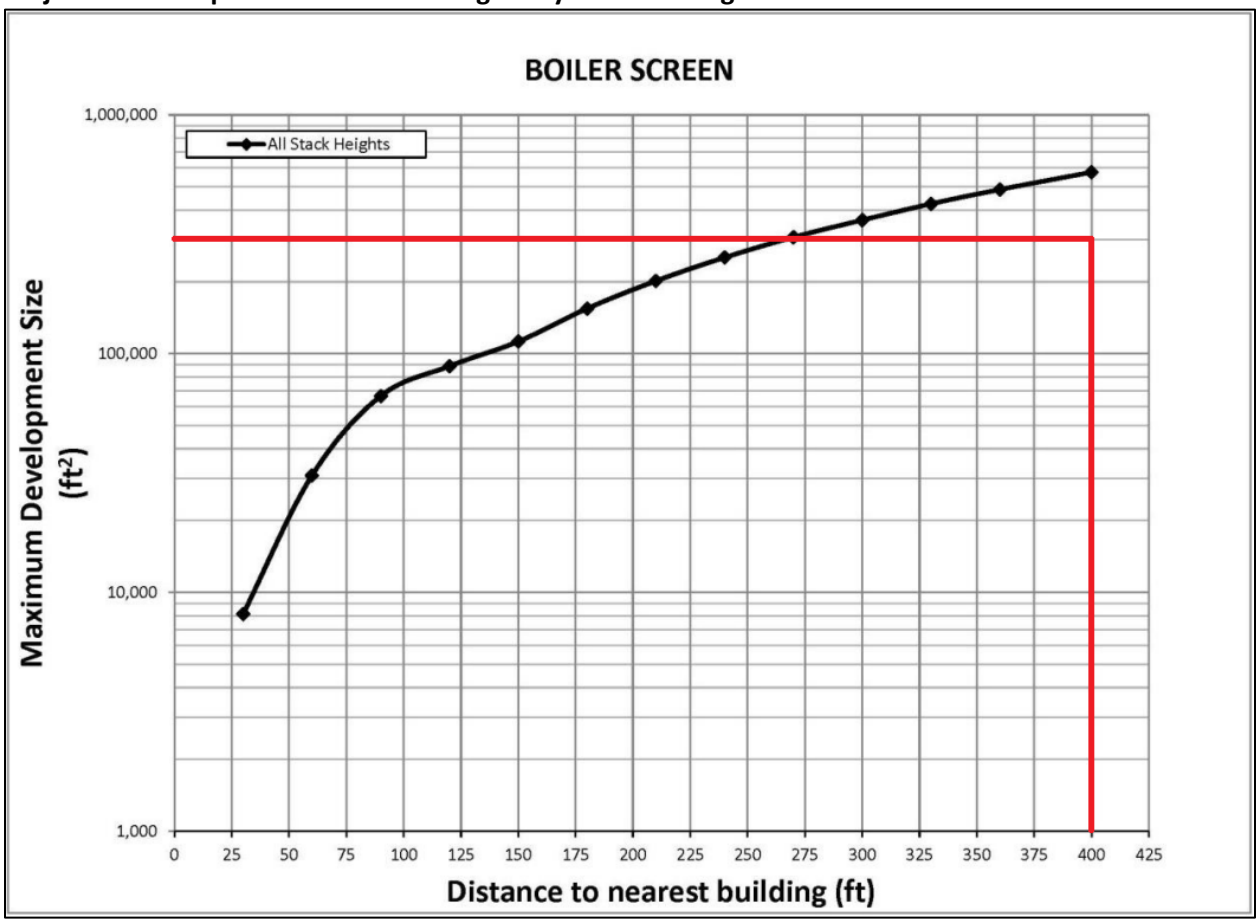


- Project-on-Existing – Projected Development Site 1 on existing land uses: For screening analysis purposes, it was assumed that Projected Development Site 1 is a 138-foot-tall building containing 298,077 gsf.[7] A distance of 400 feet (the *CEQR Technical Manual* maximum distance) was used in the analysis as no existing buildings within 400 feet of Projected Development Site 1 is 138-feet or taller. **Figure 5-2** (using Figure 17-3 of the *CEQR Technical Manual*) shows the screening analysis.

  As seen in the screening analysis **Figure 5-2**, using the nomograph provided in the *CEQR Technical Manual*, Projected Development Site 1 on the closest existing building with a similar or taller building height would fall below the curve. As such, Projected Development Site 1 passes the HVAC screening analysis on existing land uses.

[7] For conservative analysis purposes, the building height of the Proposed Project (138 feet) was used for this analysis rather than the height of the RWCDS building (208 feet) at Projected Development Site 1.

FIGURE 5-2
Projected Development Site 1 Screening Analysis on Existing Land Uses

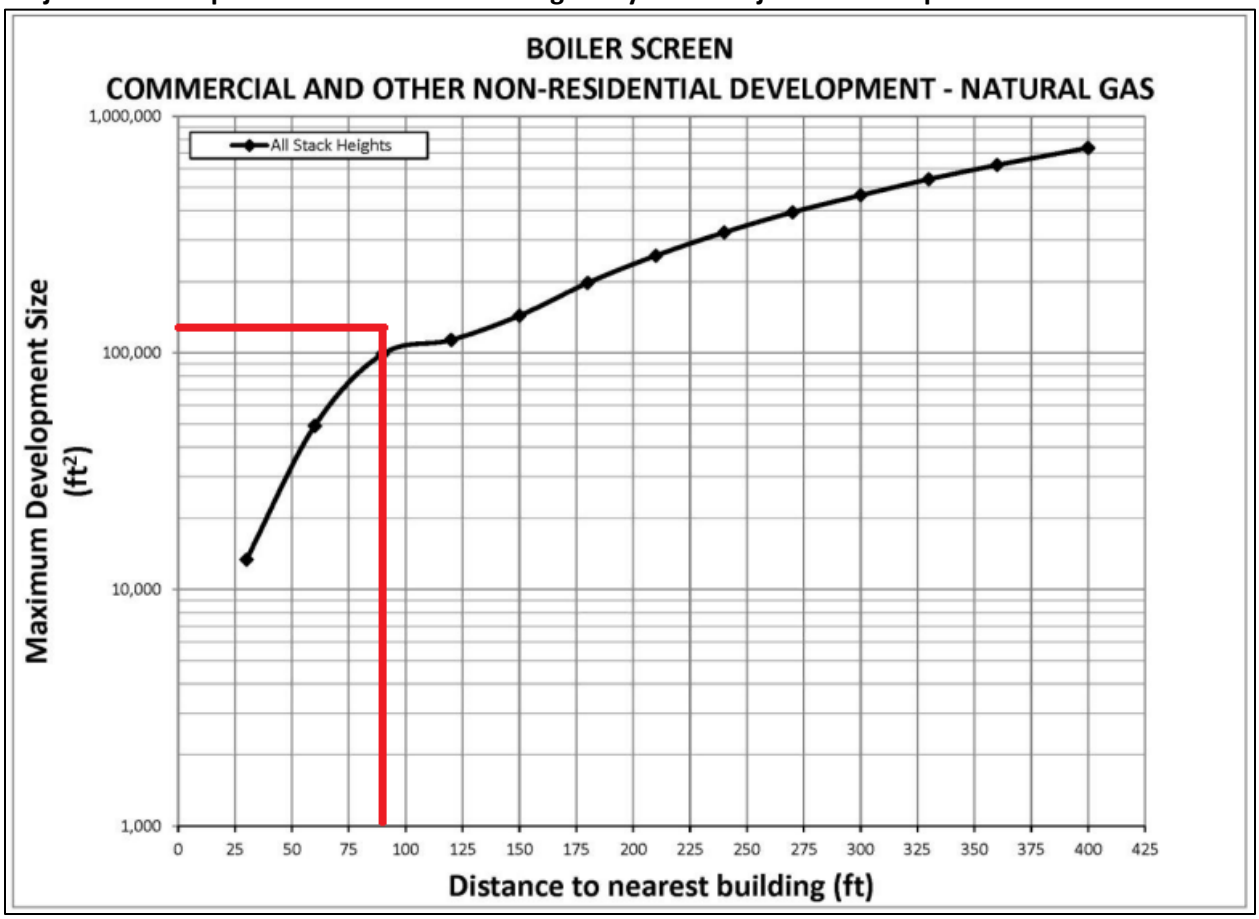


- Project-on-Project – Projected Development Site 2 and 3 on Projected Development Site 1: As described above, for conservative analysis purposes, it is assumed that Projected Development Sites 2 and 3 are combined and analyzed as a 71-foot tall commercial building containing 135,348 gsf. For the screening analysis purposes, it is assumed that natural gas would be used in the HVAC system.[8] A distance of 90 feet, which is the distance between Projected Development Site 2 and Projected Development Site 1 was used in the screening analysis. **Figure 5-3** (using Figure 17-3 of the *CEQR Technical Manual Appendices*) shows the screening analysis.

  As seen in the screening analysis **Figure 5-3**, using the nomograph provided in the *CEQR Technical Manual*, Projected Development Sites 2 and 3 on Projected Development Site 1 would fall above the curve for natural gas. As such, a detailed analysis is required for Projected Development Sites 2 and 3 on Projected Development Site 1.

[8] The *CEQR Technical Manual Appendices* Figure App 17-3 (boiler screen for commercial and other non-residential development using natural gas) is more conservative than the *CEQR Technical Manual Appendices* Figure App 17-1 (boiler screen for commercial and other non-residential development using fuel oil No. 2).

FIGURE 5-3
Projected Development Site 2 and 3 Screening Analysis on Projected Development Site 1



- Project-on-Project – Projected Development Site 3 on Projected Development Site 2: As Projected Development Site 3 abuts Projected Development Site 2, the screening analysis is not applicable, and a detailed analysis is required.

Detailed Analysis

A stationary source modeling was conducted to evaluate the potential impacts associated with the boilers stacks emissions. Lakes Environmental MPI executable was used in the analysis. The MPI executable take advantage of computers with multiple processors, reducing run-time significantly. Lakes Environmental has adjusted the US EPA AERMOD source code and recompiled the model to parallelize the processing of receptors. The latest MPI executable (used in the analysis) modified the EPA's AERMOD latest executable model version 21112. The AERMOD model incorporates air dispersion based on planetary boundary layer turbulence structure and scaling concepts, including treatment of both surface and elevated sources, and both simple and complex terrain. The model was run with the regulatory default option and for both with and without downwash effects options, where the Building Profile Input Program (BPIP) was run with the downwash effect enabled. All analyses were conducted using the latest five consecutive years of meteorological data (2016-2020), obtained from the NYSDEC, Division of Air Resources, BAQAR, Impact Assessment and Meteorology Section. Surface data used in the analysis is from LaGuardia Airport, upper air data is from Brookhaven station, New York. The meteorological data provided hour-by-hour wind

speeds and directions, stability states, and temperature inversion elevations over the 5-year period. Population in Brooklyn, obtained from the U.S. Census Bureau (July 2019), was specified to account for the effects of increased surface heating from an urban area on pollutant dispersion under stable atmospheric conditions.

Natural gas would be the type of fuel used in Projected Development Site 3's boiler(s) and the boiler(s) would be fitted with low-NOx burners. The pollutants of concern of natural gas fueled boilers are NO_2 and $PM_{2.5}$. The boiler's energy intensity was calculated based on energy consumption rate, obtained from the *CEQR Technical Manual Appendices*, corresponding to non-residential use in the building. Emissions were calculated based on emission factors obtained from the EPA's AP-42 manual for external combustion sources.[9] All fuel was assumed to be consumed during the 100-day (or 2,400 hour) heating season, based on *CEQR Technical Manual*. **Table 5-8** shows the boiler's energy intensity and pollutants emission rates.

TABLE 5-8
RWCDS HVAC Systems Short-term and Annual Emission Rates

Site ID	Development Site RWCDS Floor Area (gsf)	Boiler's Energy Intensity (MMBtu); Fuel Used	Pollutant	Short-term Emission Rate (g/s)	Annual Emission Rate (g/s)
Projected Development Site 2	96,551	1.7; Oil No. 2	NO_2	3.04E-02	8.33E-03
			$PM_{2.5}$	3.24E-03	8.87E-04
			SO_2	3.24E-04	8.87E-05
Projected Development Site 3	38,797	0.75; Natural gas Low-NOx	NO_2	4.60E-03	1.26E-03
			$PM_{2.5}$	7.00E-04	1.92E-04

The Projected Development Site 2 boiler stack's diameter and stack exit temperature were estimated based on values obtained from the DEP "CA Permit" database for the corresponding boiler sizes (i.e., rated heat input or million Btu per hour).[10] The stack's exit velocity was calculated based on the fuel dry volume of combustion components per unit of heat content. The Projected Development Site 3 boiler's stack diameter and exit velocity applied the *CEQR Technical Manual* default values, and the stack's exit temperature was assumed to be 426°K, which is appropriate for boilers, based on the DEP CA Permit database. Each development HVAC stack was located on its building highest-level, 3 feet above the roofline, and as close as possible to the receiving building. A stack set back distance was specified if impact was predicted.

The projected development sites were modeled as buildings that cover their entire lot(s) area(s) (the wall façade located on the outer lot lines) and rise to their RWCDS heights. Buildings in the surrounding area were accounted for in the downwash effect on plums dispersions (BPIP). Receptors on the receiving building were placed on all wall façade from the ground floor to the roof-top height in spaced intervals.

The USGS National Elevation Dataset (NED) 1/3 arc-second resolution (GeoTIFF dataset), the terrain data set recommended by the US EPA for use in the United States for regulatory purposes, was used to process buildings base elevations. The base elevations of receptors and stacks were set to their buildings base

[9] EPA. *Compilation of Air Pollutant Emission Factors AP-42 Fifth Edition, Vol. 1:* Chapter 1: External Combustion Sources, https://www3.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf. July 1998.
[10] DEP "CA Permit" database obtained from the New York City Department of City Planning, February 2020.

elevations. Roof heights of buildings in the area were obtained from the NYC Building Footprint database.[11]

One-hour NO_2 concentration of Projected Development Sites 2 and 3 on Projected Development Site 1 was modeled with a Tier 1 approach. One-hour NO_2 concentration of Projected Development Site 3 on Projected Development Site 2 was modeled with a Tier 2 approach (ARM 2). The 1-hour NO_2 NAAQS, promulgated in the United States in February 2010, is based on a percentile rank from the annual distribution of daily maximum 1-hour values, averaged across the number of years processed. The 1-hour NO_2 modeled design value is based on the 98th percentile, or 8th highest, of the daily maximum 1-hour values across the year. For typical multi-year modeling analysis based on 5 years of National Weather Service (NWS) meteorological data, the modeled design value is the 5-year average of the 8th highest values for NO_2. For determining compliance with the 1-hour NO_2 standard, the EPA has developed a three-tiered modeling approach. Tier 1 approach assumes a full conversion of NOx to NO_2, which is the most conservative approach. Tier 2 Ambient Ratio Method 2 (ARM 2) assumes ambient equilibrium between NO and NO_2. ARM 2 adjusts the modeled NOx concentrations based on an empirical relationship between ambient NOx and ambient NO_2 concentrations. Tier 3, which is the most precise approach, accounts for the chemical transformation of NO emitted from the stack to NO_2 within the source plume using hourly ozone background concentrations. For the Tier 2 approach, the national default in-stack and ambient ratios of 0.5 and 0.9, respectively, were applied.

Each pollutant averaging time was modeled twice; with building wake effect enabled/disabled. The predicted concentrations are the highest concentration of these. The NO_2 modeled concentrations were added to the background concentrations. The $PM_{2.5}$ modeled concentrations were evaluated with the *de minimis* design values for stationary sources. The HVAC dispersions analysis results are shown in **Table 5-9**.

TABLE 5-9
HVAC Dispersion Analysis Results

Pollutant and Averaging Time	Modeled Concentration ($\mu g/m^3$)	Background Concentration ($\mu g/m^3$)	Evaluated Concentration ($\mu g/m^3$)	Threshold Concentration ($\mu g/m^3$)	Threshold Standard
Projected Development Site 3 – on – Projected Development Site 2					
1-hour NO_2	82.74	99.8	183	**188**	NAAQS
Annual NO_2	1.44	23.5	25	**100**	NAAQS
24-hour $PM_{2.5}$	4.32	18.7	4.32	**8.15**	*de minimis*
Annual $PM_{2.5}$	0.22	7.6	0.22	**0.3**	*de minimis*
Projected Development Site 2 and 3 – on – Projected Development Site 1					
1-hour NO_2	83.74	99.8	184	**188**	NAAQS
Annual NO_2	1.45	23.5	25	**100**	NAAQS
24-hour $PM_{2.5}$	3.29	18.7	3.29	**8.15**	*de minimis*
Annual $PM_{2.5}$	0.16	7.6	0.16	**0.3**	*de minimis*
1-hour SO_2	0.9	15.1	16	**188**	NAAQS
Annual SO_2	0.02	0.9	1	**100**	NAAQS

[11] City of New York, nyc-geo-metadata (May 03, 2016); https://data.cityofnewyork.us/Housing-Development/Building-Footprints/nqwf-w8eh

The concentrations shown in **Table 5-9** were predicted with certain restrictions to ensure that no significant adverse air quality impact(s) would occur. The restrictions for the Proposed Actions are specified in the Air Quality E-Designations that would be placed on the Development Site(s), which are detailed further below.

Existing Industrial Sources

Identifying Potential Emission Sources

Per the *CEQR Technical Manual*, projects that would result in new uses (particularly schools, hospitals, parks, and residences) within 400 feet of manufacturing processing facilities may result in potentially significant adverse impacts. The analysis first determines if there are any existing manufacturing uses within the 400-foot study area containing exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project. If warranted, an air dispersion analysis is then conducted for any existing industrial source(s) located in the study area.

Existing manufacturing uses with exhaust stacks, vents, or other emission sources that may have the potential to adversely affect the uses introduced by the project were identified by reviewing the DEP online Clean Air Tracking System (CATS) database, the NYSDEC map application (DECinfo Locator), and through a field survey. The field survey took place on March 1st, 2021.

The study area encompasses all or part of Blocks 2994, 3001, 3002, 3007, 3166, 3167, 3168, 3175, 3176, 3177, 3188, and 3189, and includes properties along Flushing Avenue, St. Nicholas Avenue, Wyckoff Avenue, Irving Avenue, Varick Avenue, Stewart Avenue, Gardner Avenue, Ingram Street, Harrison Place, Jefferson Street, and Troutman Street. The area is characterized by predominantly commercial uses including warehousing and distribution, retail stores, bars and restaurants, contractor's yards, artist and craftsman live/workspaces, event venues, and art galleries. The results of the study are as follows:

- There is a cancelled Processing permit for Reliable Coated Products at 28 Varick Avenue (Block 2994, Lot 105). Permit PA014185 was cancelled sometime before 11/22/1988. Reliable Coated Products no longer operates at this location. At the time of the field survey, the building at 28 Varick Avenue was occupied by wholesale consumer goods warehousing and distribution operations. No stacks, odors, or emissions were observed at this location.

- There are 18 Processing permits identified on Block 3001, Lot 1 (60 Stewart Avenue & 203 Harrison Place). Of these, 17 were issued to the Dialight Corporation, and all 17 permits were cancelled before 10/31/1992 (PA013380, PA013480, PA013580, PA027383, PA030285, PA030385, PA038771, PA039071, PA039271, PA039771, PA039971, PA049581, PA052881, PA052981, PA059981, PA060081, & PA215473). The Dialight Corporation no longer operates in the building on Block 3001, Lot 1. According to the company's website, the Dialight Corporation's United States manufacturing facilities are located in Farmingdale, New Jersey, and Houston, Texas. The other processing permit identified at this location was issued to Roy Albanese Plant, and this permit expired 6/29/87 (PA033981). Roy Albanese Plant no longer operates on Block 3100, Lot 1. The building on this lot is currently occupied by B(x) Spaces, which provides workspace for artists, crafts people, and small businesses. One of the identified businesses at this location is Inkz Print Shop, which is a small shop that specializes in silk screen printing of T-shirts. Inkz Print Shop emission stack (emission stack determined to be associated with the company based on company's website[12] and online search), was observed at this location

[12] https://www.inkzny.com/services

during the field survey, and a detailed analysis was conducted for this facility. There were no other stacks, emissions or odors observed at this location during the field survey.

- There are four Processing permits identified at 1226 Flushing Avenue, Block 3168, Lot 1 (PA033481, PA033581, PA033681, PA033881). All four of these permits were issued to Anton Machine Works, and all four were cancelled prior to 6/29/91. Anton Machine Works no longer operates at 1226 Flushing Avenue. The building at 1226 Flushing Avenue is currently occupied by a Hotel. At the time of the site visit, an emergency diesel generator was present in an outdoor enclosure on the lot. This generator was not operating at the time, and no odors or emissions were observed. According to New York City Department of Buildings (DOB) records, an application for the installation of a 700-kW diesel emergency generator in an outdoor enclosure was approved on 11/24/04 and was signed off on 4/27/05 (Job Number 301866504). Emergency generators are exempt, and therefore, no analysis of this facility is required.

- There are four Processing permits identified at 1250 Flushing Avenue (Block 3168, Lot 14). All four of these permits were issued to El Dorado Coffee, and all four were cancelled prior to 8/2/99 (PA030080, PA024183, PA030180, PA024083). El Dorado Coffee no longer operates at 1250 Flushing Avenue. The building at 1250 Flushing Avenue is currently occupied by a plastic bag warehousing and distribution operation. No stacks, odors or emissions were observed at this location.

- There is a Processing permit identified at 362 Jefferson Street (Block 3176, Lot 13). Permit PA087289 was issued to European American Construction, and this permit was cancelled on 10/17/89. European American Construction no longer operates at this location. The building at 362 Jefferson Street is currently occupied by B(x) Spaces, which provides workspace for artists, crafts people, and small businesses. No stacks, odors or emissions were observed at this location.

- There are three Processing permits identified at 4 Wyckoff Avenue (Block 3176, Lot 34). Permits PB030101 and PA016493 were issued to Quality Chinese Laundry, and both permits were cancelled prior to 6/24/05. The third permit was issued to Chang Hahn (PA021697). This permit was cancelled on 5/16/97. Neither Quality Chinese Laundry nor Chang Hahn currently operate at 4 Wyckoff Avenue. At the time of the field survey, this lot was occupied by an event venue, and no stacks, odors or emissions were observed at this location.

- There are five Processing permits identified at 385 Troutman Street (Block 3176, Lot 44). Permits PA034683, PA034783, and PA034883 were issued to SC Plated Plastic, Inc., and all three permits were cancelled prior to 8/27/90. Permit PA037081 was issued to Plated Plastic, Inc., and was cancelled sometime prior to 7/28/94. Finally, permit PA253173 was issued to Plastic Tech Enterprise and was cancelled sometime prior to 4/29/97. SC Plated Plastic, Inc., Plated Plastic, Inc. or Plastic Tech Enterprise do not currently operate at 385 Troutman Street. At the time of the site visit, the building at 385 Troutman Street was occupied by a residential apartment building, and no stacks, odors or emissions were observed at this location.

- There is one Processing permit identified at 17 Wyckoff Avenue (Block 3177, Lot 2). Permit PA061471 was issued to I. Zwornick & Sons. This permit was cancelled on 5/3/88. I. Zwornick & Sons no longer operates at 17 Wyckoff Avenue. At the time of the field survey, this lot was occupied by a residential apartment building with a ground floor restaurant, and no stacks, odors or emissions were observed at this location.

- There is one Processing permit identified at 1 Wyckoff Avenue (Block 3177, Lot 4). Permit PA001091 was issued to Nassau Tape & Thread Mills. This permit was cancelled on 1/8/91. Nassau Tape & Thread Mills no longer operates at 1 Wyckoff Avenue. According to information in the New York State Department of State, Division of Corporation's Entity Information database,[13] Nassau Tape & Thread Mills is inactive (Dissolution by Proclamation/Annulment of Authority – June 26th, 1996). At the time of the field survey, this lot was occupied by an industrial/warehouse building that appeared to be vacant. No stacks, odors or emissions were observed at this location.

- There are six Processing permits identified at 427 Troutman Street (Block 3177, Lot 25). All six of these permits were issued to the Putnam Rolling Ladder Company. Permits PA017392, PA019771, and PA063287 were all cancelled prior to 11/14/20. Permits PA019671, PA060772, and PB044805 are all current, and all expire on 11/14/23. The Putnam Rolling Ladder Company at 427 Troutman Street also has a NYSDEC Air Facility Registration Certificate (Registration ID 2-6104-00209/00003). In February of 2021, the Putnam Rolling Ladder Company was acquired by Custom Service Hardware of Cedarburg, Wisconsin. On March 1st, 2021, a telephone interview was conducted with Mr. Peter Monsees of the Putnam Rolling Ladder Company. Mr. Monsees confirmed that the Putnam Rolling Ladder Company had been acquired by Custom Service Hardware. He also stated that the Putnam Rolling Ladder Company had ceased operations in the building at 427 Troutman Street, and that they were in the process of vacating the building, which would be completed sometime in March of 2021. At the time of the site visit, the building at 427 Troutman Street appeared to be vacant. An air emission control device is visible on the roof of the building; however, no emissions from this device were noted. Given that it has been confirmed that the Putnam Rolling Ladder Company no longer manufactures at 427 Troutman Street, no analysis is required.

- There is one Processing permit identified at 421 Troutman Street (Block 3177, Lot 35). Permit PA244573 was issued to the George Hirn Co., Inc. This permit expired on 9/21/03. The George Hirn Co., Inc. no longer operates at 421 Troutman Street. At the time of the field survey, the building at 421 Troutman Street was occupied by a retail artwork framing business, and no stacks, odors or emissions were observed at this location. Therefore, no analysis is required.

In addition to the potential toxic air emission sources identified in the regulatory agency databases, the following potential sources of toxic air emissions were identified in the study area:

- There is an auto repair shop located at 1239 Flushing Avenue, Block 3002, Lot 3 (F&T Auto Repair Shop, Inc.). There is also an auto repair shop located at 1136 Flushing Avenue, Block 3167, Lot 6 (Flushing Auto Repair Center, Inc.). Both of these shops perform general auto repairs, and do not perform auto body or painting operations. No stacks, odors, emissions, or indications of auto body painting operations were observed at either location.

- Billie-Ann Plastics is located at 360 Troutman Street (Block 3188, Lot 18). According to the company's website, Billie-Ann Plastics specializes in designing and manufacturing custom plastic packaging cylinders and containers. At the time of the field survey, this building appeared to be used for warehousing and distribution purposes, with stacks of boxes visible in the building. No stacks, odors or emissions were noted at this location.

[13] https://appext20.dos.ny.gov/corp_public/CORPSEARCH.ENTITY_SEARCH_ENTRY

On March 15th, 2021 at 1:15 PM, a telephone interview was conducted with Mr. Bill Rubinstein, President of Billie-Ann Plastics. According to Mr. Rubinstein, the manufacturing operations in the building include the bending, folding, and forming of pre-made plastic sheets or rolls to make packaging containers. Billie-Ann Plastics does not manufacture any of the plastics used in the packaging, and there are not any air emissions associated with their packaging manufacturing operations. The operations also include a hot stamp printing process which is occasionally used to place custom labels on some of the plastic containers. However, these operations also do not produce any air emissions. Therefore, based on the observations made during the field survey, and the information provided by the company, the operations of Billie-Ann Plastics do not result in toxic air emission, and therefore, no analysis is required.

- There is a steel-products warehousing and distribution company (GCM Steel Products) located at 349 Troutman Street (Block 3176, Lot 59). There were not any indications of painting or other metal finishing operations observed at this location during the field survey. In addition, no stacks, odors or emissions were observed at this location.

There were no additional potential sources of toxic air emission identified in the study area.

Inkz Print Shop – Dispersion Analysis

Inkz Print Shop: The Inkz Print Shop facility is located at 201 Harrison Place (Block 3001, Lot 1) on the 2nd floor. The stack protruding through the 2nd floor window is located approximately 230 feet from the proposed project. Per the EPA *AP-42* manual *Chapter 4.11 textile Fabric Printing*, emissions associated with screen printing facilities are VOC from mineral spirit solvents in print pastes or inks. However, representative emission of a screening printing facility was obtained from the CEQR action *Industry City Final Environmental Impact Statement* (FEIS). The contaminants listed in the FEIS are specific chemicals and particulates (New York Identification Number NY075-00-0) as PM_{10}. Each specific chemical was analyzed with the SGC/AGC guideline concentration. PM_{10} concentration was evaluated with the NAAQS. The maximum 1-hour and annual emission rates of the chemicals that make up the representative coating compound, along with their CAS numbers, are presented in **Table 5-10**.

TABLE 5-10
VOC Emission Rates from the Inkz Print Shop Screen Printing Facility

Contaminant Name	CAS No.	1-Hour	Annual
		lb/hr	lb/yr
Benzyl Alcohol	100-51-6	0.06	51.7
Cyclohexone	108-94-1	0.02	18.8
Butoxyethyl Acetate (1)	112-07-2	0.006	4.7
Diacetone Alcohol	123-42-2	0.004	2.9
Naphtha Light	64742-95-6	0.04	30.4

Note:
1. Butoxyethyl Acetate is a Hazardous Air Pollutant (HAP)

The *CEQR Technical Manual* Industrial Source Screen methodology was used to predict pollutants' maximum short-term(s) and annual average concentrations. This methodology can be used to predict a pollutant concentration emitted from a single source at various distances (from 30 to 400 feet). A distance

of 210 feet from the source, which is a distance less than or equal to the actual distance from the source, was used in the screening analysis. **Table 5-11** shows the noncriteria pollutants predicted concentrations evaluated with the SGC/AGC standards.

TABLE 5-11
Inkz Print Shop – Noncriteria Pollutants Concentrations and the SGC/AGC Standards

Contaminant	CAS No.	1-Hour	SGC	Annual	AGC
		(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)
Benzyl Alcohol	100-51-6	19.6	1300.0	0.1	350.0
Cyclohexone	108-94-1	6.5	20000.0	0.04	190.0
Butoxyethyl Acetate (1)	112-07-2	2.0	---	0.009	310.0
Diacetone Alcohol	123-42-2	1.3	---	0.006	570.0
Naphtha Light	64742-95-6	13.1	---	0.06	100.0

Note:
1. Butoxyethyl Acetate is a HAP.

As seen in **Table 5-11**, the pollutants concentrations are within the SGC/AGC design values. In addition, the inhalation risk for the HAP is 0.00003 (less than 1), and the hazardous quotient is 0.001 (less than 1) for the non-carcinogenic pollutants.

PM_{10} short-term concentration was evaluated with the NAAQS, where the average 24-hour emission was based on 8-hour activity rate (PM_{10} emission in the *Industry City FEIS* is based on 2,000 hour per year activity). **Table 5-12** shows the PM_{10} 24-hour predicted concentration evaluated with the NAAQS.

TABLE 5-12
Inkz Print Shop – PM_{10} Concentration

Contaminant	24-Hour Emission Rate (lb/day)	24-Hour Increment Concentration (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS (µg/m³)
PM_{10}	1.36	7.6	24	32	150

As seen in **Table 5-12**, PM_{10} predicted concentration is within the NAAQS. Therefore, no adverse air quality impacts on project-generated buildings are anticipated due to existing nearby industrial sources within the study area.

Major and Large Source

Per the *CEQR Technical Manual*, projects that would introduce new uses near major sources, large sources, or odor producing facilities may result in potentially significant adverse air quality impacts. The study area considers major sources, large sources, and odor producing facilities within 1,000 feet of the proposed project. Major emission sources are identified as those sources located at Title V facilities; large emission sources are identified as sources located at facilities which require an Air State Facility permit. Solid waste or medical waste incinerators, asphalt and concrete plants, power generating plants, large

boilers of large public facilities for example, and large industrial facilities are typical type of sources requiring these permits. Odor producing facilities are operations that have the potential to cause discomfort, such as: solid waste management facilities, water pollution control plants (i.e., sewage treatment plants), and incinerators.

No existing large combustion source(s), such as power plants, cogeneration facilities, etc., located within 1,000 feet of the proposed project, was identified in the study area. The nearest major/large source is the Wyckoff Heights Medical Center Air State Facility, which is located approximately 1,800 feet from the Project Area. In addition, no odor producing facility was identified within the 1,000 feet study area. As such, no significant adverse air quality impacts related to major source facilities is anticipated, and no further analysis is warranted.

Industrial Sources Introduced by the Proposed Project

The Proposed Project could potently include operation(s) of manufacturing processing facilities, occupying at most 40,732 gsf. The Proposed Project is similar to the approved applications for IBIA development projects located at 25 Kent Avenue (CEQR No: 16DCP065K; ULURP Nos: C 160124 ZSK; C 160125 ZSK; N 160126 ZRK), 103 North 13th Street (CEQR No: 18DCP182K, ULURP Nos: N 190083 ZRK; C 190084 ZSK; C 190085 ZSK), and 1 Wythe Avenue (CEQR No: 21DCP075K, ULURP Nos: 210272ZSK; N210273ZRK), all of which allocated a portion of their floor area to accommodate light industrial/manufacturing uses pursuant to IBIA regulations. Due to similarities between the Proposed Project and these three previously approved applications, the same approach and methodology was utilized for the Proposed Project.

Emission profile of the potential industrial manufacturing processing operation(s) was based on the previously mentioned approved applications for IBIA development projects. The analysis conservatively assumed that ten (10) of light industrial uses would operate simultaneously. Pollutants emitted by the manufacturing processing operation could potentially include $PM_{2.5}$, NOx, CO, and 25 noncriteria pollutants with varying toxicities. While particulate emission could be a mixture of PM_{10}/$PM_{2.5}$ combined, the analysis assumed that all particulate emission is $PM_{2.5}$ as a conservative measure ($PM_{2.5}$ standard (*de minimis* or NAAQS) is significantly more conservative than PM_{10} NAAQS.) **Table 5-13** shows the emission rates of criteria pollutants emitted from the manufacturing processing operations.

TABLE 5-13
Criteria Pollutants – Emission Rates From Industrial Sources Introduced By The Project

Facility Type	Pollutant	Emission Rate	
		(lb/hr)	(lb/yr)
Jewelry Cleaning	$PM_{2.5}$	0.001	0.002
Commercial Art & Graphic Design		0.068	26
Gold Precipitation		0.001	0.25
Baking of Cookies		0.011	21.1
Baking of Bread		0.008	15.4
Gold Precipitation	NOx	0.019	372
Baking of Cookies		0.07	134.4
Baking of Bread		0.046	88.3
Baking of Cookies	CO	0.001	1.92
Baking of Bread		0.001	1.90

Table 5-14 shows the emission rates of noncriteria pollutants emitted from the manufacturing processing operations.

TABLE 5-14
Noncriteria Pollutants – Emission Rates From Industrial Sources Introduced By The Project

Facility Type	Pollutant	CAS No.	Emission Rate	
			(lb/hr)	(lb/yr)
Commercial Art & Woodworking	Isopropyl Alcohol	00067-63-0	2.48	446
	Acetone	00067-64-1	4.5	810
	Methyl Chloroform	00071-55-6	4.8	864
	Butyl Acetate	00123-86-4	1.8	324
Jewelry Manufacturing	Zinc Chloride	07646-85-7	0.001	2
	Lead Oxide	07439-92-1	0.001	2
Jewelry Plating	Sodium Cyanide	00143-33-9	0.001	2
	Copper Cyanide	00544-92-3	0.001	2
Jewelry Cleaning	Sodium Cyanide	00143-33-9	0.002	0.5
	Hydrogen Cyanide	00074-90-8	0.002	0.5
	Ammonia	07664-41-7	0.001	0.002
Printing	Toluene	00108-88-3	2.12	4.23
	Xylene Mixt	01330-20-7	0.06	110
	Butoxyethanol, 2-	00111-76-2	0.07	147
Printing	VM&P Naphtha	08032-32-4	0.004	7.97
	Butoxyethanol, 2-	00111-76-2	0.042	84.04
	Glycerin	00056-81-5	0.011	22.41
	Aluminum	07429-90-5	0.003	34
	Iron Oxide	01309-37-1	0.002	25.5
	Copper	07440-50-8	0.001	3.6
	Zinc	07440-66-6	0.001	0.27
Commercial Art & Graphic Design	Butoxyethanol, 2-	00111-76-2	0.231	480
	Isopropyl Alcohol	00067-63-0	0.032	668
	Ethyl Acetate	00141-78-6	0.05	104
	Toluene	00108-88-3	0.444	888
	Acetone	00067-64-1	0.034	71
	Dibutyl Phthalate	00084-74-2	0.02	62
	Butyl Acetate	00123-86-4	0.3	624
	Ethyl Acetate	00141-78-6	0.05	104
Gold Precipitation	Sodium Cyanide	00143-33-9	0.001	2
	Lead Oxide	01309-60-0	0.09	18
	Nitric Acid	07697-37-2	0.033	64.3
	Hydrogen Chloride	07647-01-0	0.002	2.25
Baking of Cookies	Ethanol	00064-17-5	3.75	885
Baking of Bread	Ethanol	00064-17-5	3.75	885

AERMOD version 21112 was used to predict concentration at land uses within 400 feet of the Projected Development Site 1. The AERMOD modeling application and model setup are discussed in the HVAC analysis. Four stack locations, set back from the rooftop edge, were considered to predict maximum concentration. In addition, the stacks were raised to a height of 10 feet above the roof (148 feet above grade). The *CEQR Technical Manual* default stack parameters were specified for the industrial source stack(s). Receptors were placed around the envelope of the Projected Development Sites from ground floor to rooftop height in spaced intervals. Receptors for the existing land uses were placed in a grid extending 400 feet from the Projected Development Site 1 and at height of 6-53 feet above grade, which is the 2nd highest existing building within 400 feet of Projected Development Site 1. Receptors were also placed around the 116.5 feet tall building, located at 25 Stewart Avenue (Block 2994, Lot 75), from ground floor to rooftop height in spaced intervals.

CO and noncriteria pollutants concentrations were predicted with a generic emission rate of 1 gram per second. 1-hour NO_2 concentration was modeled with the 8th highest concentration (the NAAQS design value) and a Tier 1 approach. Twenty-four-hour $PM_{2.5}$ concentration was predicted by specifying emission during 12-hour day, based on the approved applications for IBIA development projects (previously discussed applications). The model was run twice; with building wake effect enabled/disabled. The predicted concentration is the highest concentration of these. **Table 5-15** shows the criteria pollutants dispersion analysis results.

TABLE 5-15
Criteria Pollutants Dispersion Analysis Results

Criteria Pollutant	Modeled Concentration	Background Concentration	Evaluated Concentration	Threshold Standard	Threshold Criteria
NO_2 1-Hour ($\mu g/m^3$)	49.3	99.8	149.1	NAAQS	188
NO_2 Annual ($\mu g/m^3$)	0.94	23.5	24.5	NAAQS	100
$PM_{2.5}$ 24-Hour ($\mu g/m^3$)	7.56	18.7	7.56	*de minimis*	8.15
$PM_{2.5}$ Annual ($\mu g/m^3$)	0.10	7.6	0.10	*de minimis*	0.3
CO 1-Hour (ppm)	0.001	2.13	2.13	NAAQS	35
CO 8-Hour (ppm)	0.001	1.60	1.60	NAAQS	9

As seen in **Table 5-15**, the $PM_{2.5}$ predicted concentrations do not exceed the *de minimis* and NO_2 and CO concentration are within the NAAQS. **Table 5-16** shows the noncriteria pollutants dispersion analysis results, where pollutant concentrations were predicted using a generic emission rate of 1 gram per second.

As seen in **Table 5-16**, the noncriteria pollutants concentrations are within the SGC/AGC standard. In addition, the inhalation risk for HAPs is 0.7 (less than 1), and the hazardous quotient is 0.05 (less than 1) for the non-carcinogenic pollutants. Therefore, no adverse air quality impact is predicted from industrial source emission introduced by the project. The (E) Designation that would be assigned to Projected Development Site 1 in order to preclude the potential for any significant adverse air quality impacts due to manufacturing uses introduced by the Proposed Project is detailed in the section below.

TABLE 5-16
Noncriteria Pollutants Dispersion Analysis Results

Pollutant	CAS No.	1-Hour	SGC	Annual	AGC
		(µg/m³)	(µg/m³)	(µg/m³)	(µg/m³)
Glycerin	00056-81-5	7.7	No CAS	0.04	No CAS
Ethanol	00064-17-5	5280.3	---	2.8	45000.0
Isopropyl Alcohol	00067-63-0	1768.5	98000.0	1.8	7000.0
Acetone	00067-64-1	3192.1	180000.0	1.4	30000.0
Butoxyethanol, 2-	00111-76-2	241.5	4700.0	1.1	1600.0
Butyl Acetate	00123-86-4	1478.5	71300.0	1.5	565.0
Ethyl Acetate	00141-78-6	70.4	---	0.3	3400.0
Iron Oxide	01309-37-1	1.4	---	0.04	12.0
Aluminum	07429-90-5	2.1	---	0.05	2.4
Copper	07440-50-8	0.7	100.0	0.006	0.48
Zinc Chloride	07646-85-7	0.7	200.0	0.003	2.4
Ammonia	07664-41-7	0.7	2400.0	0.000003	500.0
Nitric Acid	07697-37-2	23.2	86.0	0.1	12.3
VM&P Naphtha	08032-32-4	2.8	---	0.01	900.0
Lead Dioxide **	01309-60-0	63.4	---	0.03	0.044
Methyl Chloroform **	00071-55-6	3379.4	9000.0	1.4	5000.0
Hydrogen Cyanide **	00074-90-8	1.4	340.0	0.001	0.8
Dibutyl Phthalate **	00084-74-2	14.1	---	0.1	12.0
Toluene **	00108-88-3	1805.2	37000.0	1.4	5000.0
Sodium Cyanide **	00143-33-9	2.8	380.0	0.01	3.5
Copper Cyanide **	00544-92-3	0.7	380.0	0.003	3.5
Xylene Mixt **	01330-20-7	42.2	22000.0	0.2	100.0
Lead Oxide **	07439-92-1	0.7	---	0.003	0.038
Zinc **	07440-66-6	0.7	---	0.0004	45.0
Hydrogen Chloride **	07647-01-0	1.4	2100.0	0.004	20.0

Note:
** Indicates HAP.

(E) Designation

HVAC

As described above, the projected NO_2 and $PM_{2.5}$ concentrations presented in **Table 5-9** were predicted with certain restrictions to ensure that no significant adverse air quality impact(s) would occur. The (E) Designation that would be assigned to preclude the potential for any significant adverse air quality impacts related to HVAC systems as a result of the Proposed Actions is as follows:

Brooklyn Block 3167; Lots 18 and 24 (Projected Development Site 1)

Stationary Source – HVAC Source

Any new commercial, light industrial, and/or community facility development on the above‐referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 141 feet above grade to avoid any potential significant adverse air quality impacts.

Brooklyn Block 3167; Lot 29 (Projected Development Site 2)

Any new commercial development on the above‐referenced property must ensure that the heating, ventilation, air conditioning (HVAC) and hot water system(s) stack is located at the building's highest level or at least 88 feet above grade and that the stack is located at least 60 feet from the southern lot line facing Irving Avenue to avoid any potential significant adverse air quality impacts.

Brooklyn Block 3167; Lot 40 (Projected Development Site 3)

Any new commercial development on the above-referenced property must exclusively use natural gas as the type of fuel for heating, ventilating, air conditioning (HVAC), and hot water system(s) and must be fitted with low NOx (30 ppm) burners, ensure that the stack is located at the building's highest level at a minimum of 74 feet above grade, and that the stack is located at least 36 feet from the western lot line facing Flushing Avenue and 50 feet from the southern lot line facing Irving Avenue to avoid any potential significant adverse air quality impacts.

Industrial Sources Introduced by the Proposed Project

As described above, the Proposed Actions would facilitate the introduction of approximately 40,732 gsf of light manufacturing uses on the second and third floors of Projected Development Site 1. The (E) Designation that would be assigned to Projected Development Site 1, in order to preclude the potential for any significant adverse air quality impacts due to manufacturing uses introduced by the Proposed Project, is as follows:

Brooklyn Block 3167; Lots 18 and 24 (Projected Development Site 1)

Stationary Source – Industrial/Manufacturing Source

To preclude any potential significant adverse air quality impacts from industrial uses listed in Table J-14, special features that go beyond the normal construction practices must be installed at this site.

(a) A licensed architect or engineer must certify with the Department of Buildings, and provide proof of filing to OER, that the manufacturing use on the above-referenced property will adhere to the following restrictions:

(i) The manufacturing use in the building does not have a New York City or New York State environmental rating of "A", "B" or "C" under Section 24–153 of the New York City Administrative Code for any process equipment requiring a New

York City Department of Environmental Protection Certificate of Operation (C of O) or New York State Department of Environmental Conservation state facility air permit; and

(ii) is not required, under the City Right-to-Know Law, to file a Risk Management Plan for Extremely Hazardous Substances.

(b) The emission stack of the proposed light industrial/manufacturing uses listed in Table J-14 developed pursuant to Section 74-962 of the Zoning Resolution of the City of New York must be located at the building's highest tier and at least 148 feet above grade and that the stack is located at least 50 feet from the western lot line facing Flushing Avenue, 70 feet from the southern lot line of Lot 18 facing Irving Avenue, 50 feet from the eastern lot line facing Jefferson Street, and 50 feet from the northern lot line of Lot 24 facing Wyckoff Avenue.

(c) Install an odor/vapor barrier and a modified mechanical ventilation system.

(i) The mechanical ventilation prevention system will be comprised of a mechanical ventilation system designed to operate in parallel and separate from the mechanical ventilation system of the commercial and/or community facility uses, providing fresh air to, and exhaust from, the second floor and the third floor, with vents running above the roof line of the commercial and/or community facility towers.

(ii) An odor/vapor barrier willbe installed at the structural slab and/or partition walls separating the manufacturing and commercial and/or community facility spaces eliminating vapor exchange across interior partitions.

Any other permitted processes must provide an air quality analysis to OER in order to demonstrate that such process would not cause a significant adverse air quality impact.

Conclusion

Based on the detailed air quality analysis, conditions associated with the Proposed Actions would not result in any violations of the ambient air quality standards. Therefore, there is no reason to believe that the Proposed Actions would result in any potentially significant adverse stationary or mobile source air quality impacts, and further assessment is not warranted.