3.17 AIR QUALITY

INTRODUCTION

The proposed action would not result in significant adverse impacts related to mobile or stationary source emissions. With respect to HVAC emissions, the proposed action would include (E) designations for air quality, which would restrict the placement of a building's vent stack and/or restrict the type of fuel used for HVAC systems.

As discussed in Chapter 3.1, "Project Description," the net increment the proposed action is expected to generate is approximately 2,328 dwelling units (DUs), 208,586 square feet (sf) of retail space, 436,015 sf of office/commercial space, and, 11,672 sf of hotel space on 26 projected development sites. In addition, DCP has identified 22 potential development sites in the rezoning area. If development does not occur on the projected development sites, the same overall amount of development could occur instead on some or all of the potential development sites. Although considered possible sites for future development based on the soft site criteria described above, these sites are considered less likely to be developed over the ten year analysis period. Site conditions, location, and market demand are among the factors contributing to the more limited likelihood for redevelopment of potential development sites.

Air quality issues associated with the proposed action relate to:

- Potential for increases and/or changes in vehicular travel associated with the action-generated development to result in significant mobile source air quality impacts;
- Potential for the emissions from the heating systems of the action-generated developments to significantly impact existing land uses and/or other action-generated developments;
- Potential of existing commercial, institutional or large-scale residential developments to impact action-generated residential/commercial uses on projected and potential development sites;
- Potential for action-generated residential/commercial uses on projected and potential development sites to be adversely affected by air toxic emissions generated by existing nearby industrial and commercial uses (including the 126th Street and Amsterdam Avenue MTA bus depots).

Air quality analyses were conducted, following the procedures outlined in the 2001 *CEQR Technical Manual*, to determine whether the proposed action would result in violations of ambient air quality standards or health-related guideline values. The methodologies and procedures utilized in these analyses along with corresponding results tables are described below.

Pollutants Of Concern

Criteria Pollutants

The following air pollutants have been identified by the U.S. Environmental Protection Agency (USEPA) as being of concern nationwide: carbon monoxide (CO), nitrogen oxides (NO_x), photochemical oxidants, particulate matter, sulfur dioxide (SO_2), and lead (Pb). In New York City, ambient concentrations of CO, and photochemical oxidants are predominantly influenced by motor vehicle activity; NO_x are emitted from both mobile and stationary sources; emissions of SO_2 are associated mainly with stationary sources; and emissions of particulate matter are associated with stationary sources, and to a lesser extent, diesel-fueled mobile sources (heavy trucks and buses). Lead emissions, which historically were principally influenced by motor vehicle activity, have been substantially reduced due to the elimination of lead from gasoline.

Carbon Monoxide

Carbon monoxide is a colorless, odorless, and toxic gas that results primarily from the incomplete combustion of fossil fuels. Particularly sensitive to its affects are infants and elderly persons, as well as other individuals who may suffer from respiratory diseases. In New York, more than eighty percent of all CO emissions are the result of motor vehicle exhaust. Roadways that experience high vehicular volumes, low travel speeds and traffic congestion, conditions often are usually associated with high CO concentrations. The implementation of the proposed project could exacerbate traffic conditions within the already heavily congested 125th street corridor. As a result CO is a pollutant of concern for this project.

Nitrogen Oxides and Photochemical Oxidants

Nitrogen dioxide is formed from the burning of fossil fuels and is considered a highly reactive gas that is also linked to the production of acid rain. Nitrogen dioxide and photochemical oxidants such as ozone (O_2) are linked in that the production of NO_2 is a precursor to the formation of O_2. Because the chemical reactions that form O_2 occur slowly and ordinarily take place far downwind from the site of actual pollutant emission, the effects of the pollutants involved are usually analyzed on a regional level. New York County is designated as a moderate non-attainment zone for the 8-hour standard; however, since the projected and potential developments would not significantly affect the amounts of these pollutants generated within the region, an analysis of these pollutants is usually not warranted. However, because nitrogen oxides could be emitted from heating systems associated with the proposed residential developments, NO_2 is a pollutant of concern.

Particulate Matter

Inhalable particulate matter is a respiratory irritant and is of most concern when classified as

being less than 10 microns in diameter, or PM_{10}. Particulate matter is primarily generated by stationary sources, such as industrial facilities and power plants, however, with respect to the proposed project could also be produced by the combustion of diesel fuel used in some buses and trucks as well as residential HVAC systems using oil fuel. It is also derived from mechanical breakdown of coarse particulate matter, e.g., from building demolition or roadway surface wear as well as other construction-related activities.

The USEPA has also promulgated standards for PM less than 2.5 microns in diameter ($PM_{2.5}$). While $PM_{2.5}$ and PM_{10} both emanate from similar sources, $PM_{2.5}$ of "fine particulates are considered the most damaging to human health because they penetrate and remain in the deepest passages of the lungs." In addition to health effects, it has been shown that fine particles are the major cause of visibility impairment within major urban landscapes. At the present time New York City is recognized as a non-attainment area for this pollutant. To assist in the prediction of potential impacts, the New York State Department of Environmental Conservation (NYSDEC) and New York City Department of Environmental Protection (NYCDEP) have developed recently updated interim guidelines (July 9, 2007) for the screening and assessment of potential project-related $PM_{2.5}$ emissions. The mobile source screening portion of the guidelines requires that a calculation of the HDD screening threshold be conducted for the particular project build year. For the Proposed Action, the results of the calculation indicated that 95 heavy duty diesel (HDD) vehicles (trucks and buses or their emissions equivalent in autos) at an intersection during a peak hour would have the potential to cause adverse air quality impacts from $PM_{2.5,}$ and require a detailed analysis. As the proposed project could generate HDD's, $PM_{2.5}$ and PM_{10} are pollutants of particular concern.

Sulfur Oxides

Oxides of sulfur (SO_2) are respiratory irritants associated with the combustion of sulfur-containing fuels (such as heating oil and coal). SO_2 is a precursor to acid rain and to $PM_{2.5}$, both of which create damage to individual health and the environment. This pollutant is typically associated with large industrial operations but can also result from much smaller sources. In urban areas, especially in the winter, smaller stationary sources such as HVAC systems contribute to elevated SO_2 levels. However, all NYSDEC sulfur dioxide monitoring sites have remained in compliance with the New York State/Federal annual mean standard for over twenty consecutive years. As the proposed heating systems of anticipated new mixed-use residential and commercial developments would potentially use oil fuel, SO_2 is a pollutant of concern.

Lead

Lead emissions are principally associated with industrial sources and motor vehicles using gasoline containing lead additives. As the availability of leaded gasoline has decreased, motor vehicle-related lead emissions have decreased resulting in a significant decline of concentrations of lead. Atmospheric lead concentrations in New York City are well below national standards.

Lead concentrations are expected to continually decrease; and as a result lead is not a pollutant of concern for the proposed project.

Air Toxic Pollutants

In addition to criteria pollutants, small quantities of a wide range of the non-criteria air pollutants (known as air toxic pollutants), which could be emitted from nearby industrial and commercial facilities, are also of concern. These pollutants can be grouped into two categories: carcinogenic air pollutants, and non-carcinogenic air pollutants. These two groups include hundreds of pollutants, ranging from high to low toxicity. No federal standards have been promulgated for toxic air pollutants. However, USEPA and the NYSDEC have issued guidelines that establish acceptable ambient levels for these pollutants based on human exposure criteria.

In summary, the air pollutants identified as being of concern are considered as follows:

- CO is considered as the pollutant of concern for the mobile source analysis because of the additions and/or changes in local vehicular traffic that are anticipated as a result of the proposed action;

- NO_2 and SO_2 are the pollutants of concern for the air quality analysis of emissions from the heating systems of project-related developments; and

- Air toxic emissions from existing industrial/manufacturing land uses are considered to determine the potential for significant impacts on projected and potential development sites.

Based on future traffic projections, the proposed action would not have a significant effect on the number of heavy duty and/or diesel fueled vehicles in the study area. As a result, $PM_{2.5}$ and PM_{10} were not considered for the mobile source analysis. A screening assessment is provided below.

Air Quality Standards And Guidelines

Air Quality Standards

National and New York State ambient air quality standards (NAAQS) are pollutant concentrations for each of the criteria pollutants specified by EPA that have been developed primarily to protect human health. The secondary goal is to protect the nation's welfare and account for the effect of air pollution on soil, water, vegetation and other aspects of general welfare. Time frames, based on how these pollutants adversely affect health, have also been established for these pollutants. These standards, together with their health-related averaging periods, are presented in Table 3.17-1.

Table 3.17-1, Ambient Air Quality Standards

Pollutant	Standard Value		Standard Type
Carbon Monoxide (CO)			
8-hour Average[1]	9 ppm	(10 μg/m^3)	Primary
1-hour Average[1]	35 ppm	(40 μg/m^3)	Primary
Nitrogen Dioxide (NO_2)			
Annual Arithmetic Mean	.053 ppm	(100 μg/m^3)	Primary & Secondary
Ozone (O_3)			
1-hour Average[1,6]	.12 ppm	(235 μg/m^3)	Primary & Secondary
8-hour Average[5]	.08 ppm	(235 μg/m^3)	Primary & Secondary
Lead (PB)			
Quarterly Average	1.5 μg/m^3		Primary & Secondary
Particulate (PM_{10})			
Annual Arithmetic Mean	(Revoked)[2]		Primary & Secondary
24-hour Average[1]	(150 μg/m^3)		Primary & Secondary
Particulate ($PM_{2.5}$)			
Annual Arithmetic Mean[3]	(15 μg/m^3)		Primary & Secondary
24-hour Average[4]	(35 μg/m^3)		Primary & Secondary
Sulfur Dioxide (SO_2)			
Annual Arithmetic Mean	.03 ppm	(80 μg/m^3)	Primary
24-hour Average[1]	.14 ppm	(365 μg/m^3)	Primary
3-hour Average[1]	.50 ppm	(1300 μg/m^3)	Secondary

1 - Not to be exceeded more than once per year
2 - As of December 17, 2006, the EPA revoked the annual PM_{10} standard
3 - 3 year average of annual mean within an area must not exceed 15 μg/m^3
4 - 3 year average of 98th percentile of 24-hour concentrations at each monitor within an area must not exceed 35 μg/m^3
5 - 3 year average of the 4th highest daily maximum 8-hour average ozone concentrations, measured at each monitor within an area over each year, must not exceed 0.08 ppm.
6 – As of June 15, 2005 EPA revoked the 1-hour ozone standard in all areas except the fourteen 8-hour ozone non-attainment Early Action Compact (EAC) Areas.

Significant Impact Thresholds

In addition to the Federal and State standards, under New York City's Environmental Quality Review (CEQR) guidelines, incremental impact criteria, known as "*de minimis*" criteria, have been established to measure the impact significance of estimated increments.

CO Thresholds

Significant CO increments are characterized as:

- An increase of 0.5 ppm or more for the 8-hour period, when baseline concentrations are above 8.0 ppm; or
- An increase of one-half the difference between the baseline and the standard concentration (9 ppm) for the 8-hour period when baseline concentrations are below 8 ppm.

Project-related impacts less than these values are not considered to be significant.

Non-Criteria Air Toxics Pollutant Thresholds

In order to evaluate short-term and annual impacts of non-carcinogenic toxic air pollutants, the NYSDEC has established short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs) for exposure limits. These are maximum allowable one-hour and annual guideline concentrations, respectively, that are considered acceptable concentrations below which there should be no adverse effects on the health of the general public.

When cumulative impacts of multiple air toxics from multiple sources could pose a potential health risk to proposed development, a cumulative impact analysis for industrial sources would be performed. Potential cumulative impacts are determined based on the USEPA's Hazard Index Approach for non-carcinogenic compounds and using the USEPA's Unit Risk Factors for carcinogenic compounds. These methods are based on equations that use USEPA health risk information (established for individual compounds with known health effects) to determine the level of health risk posed by an expected ambient concentration of that compound at a potentially sensitive receptor. The derived values of health risk are additive and can be used to determine the total risk posed by multiple air contaminants. For carcinogens, the public health risk would be based on calculations of the incremental risk associated with each toxic pollutant. These incremental values would then be summed to arrive at the total risk. If the total risk is predicted to be less than or equal to one in one million (1×10^{-6}), the carcinogenic risk is considered negligible. For non-carcinogens, the public health risk would be based on estimates for inhalation of non-carcinogenic pollutants (i.e. the Hazard Index). Once the hazard index of each compound is established, they are summed together. If the total hazard index is less than or equal to one, then the non-carcinogenic risk is considered negligible.

The following equations are used to calculate incremental risk for carcinogenic pollutants and the hazard index for non-carcinogenic pollutants:

- Incremental Risk = C x URF

  Where:
  C = annual average ambient air concentration of the compound in μg/m3
  URF = compound-specific inhalation unit risk factor in (μg/m3)-1

- Hazard Index = C / RfC

  Where:
  C = annual average ambient air concentration of compound in μg/m3
  RfC = compound-specific inhalation reference concentration in μg/m3

EXISTING POLLUTANT LEVELS AND REGULATORY SETTING

Monitored Data

Representative monitored ambient air quality data for the area are shown in Table 3.17-2. These data were compiled by the NYSDEC ~~for 2005 &~~ 2006, the latest calendar years for which data are currently available. Monitored levels for pollutants that are considered for this analysis (i.e., SO_2, NO_2, and PM_{10}) do not exceed National and State ambient air quality standards. Monitored values indicate that current $PM_{2.5}$ annual levels exceed the NAAQS.

Table 3.17-2, Representative Ambient Air Quality Data (~~2005 /~~ 2006)

Pollutant	***Monitor***	***Averaging Time***	***Value***	***NAAQS***
CO	Brooklyn Transit (Traffic Site Monitor)	8-hour	5.9 ppm	9 ppm
		1-hour	2.5 ppm	
	Botanical Gardens (Bronx) (Background Site Monitor)	8-hour	1.9 ppm	9 ppm
		1-hour	2.6 ppm	35 ppm
NO_2	IS 52 (Bronx)	Annual	.026 ppm	0.053 ppm (100 µg/m3)
Ozone	IS 52 (Bronx)	8-hour	0.072	0.080 ppm (157 µg/m3)
		1-hour	0.114	0.12 ppm
PM_{10}	No Data Available	Annual (revoked)	-	50 µg/m3
		24-hour	-	150 µg/m3
$PM_{2.5}$	JHS 45 (Manhattan)	Annual	13.4 µg/m3	15 µg/m3
		24-hour	37.0 µg/m3	35 µg/m3
SO_2	IS 52 (Bronx)	3-hour	.069 ppm	0.50 ppm (1300 µg/m3)
		24-hour	.036 ppm	0.14 ppm (365 µg/m3)
		Annual	.009 ppm	0.03 ppm (80 µg/m3)

Note: Values are the highest pollutant levels recorded during the latest available calendar years. Source: NYSDEC 2006 Data.

Regulatory Setting

Attainment Status / State Implementation Plan (SIP)

The Clean Air Act (CAA), as amended in 1990, defines non-attainment areas as geographic regions that have not meet one or more of the NAAQS. When an area within a state is designated as non-attainment by the USEPA, the state is required to develop and implement a State Implementation Plan (SIP), which would describes how it will meet the NAAQS under deadlines established by the CAA. New York City has been designated as non-attainment area for ozone and $PM_{2.5}$ but as an attainment area for CO. Violations of the CO standard have not been

recorded at the NYSDEC monitoring sites for several years. As part of its ongoing effort to maintain its attainment designation for CO, New York State has committed to the implementation of area-wide and site-specific control measures to continue to reduce CO levels.

On February 13, 2004, New York State formally recommended that the USEPA designate New York City (NYC) as non-attainment for $PM_{2.5}$; USEPA made their final non-attainment designation for $PM_{2.5}$ on December 17, 2004. On September 8, 2005, the United States Environmental Protection Agency (USEPA) proposed specific requirements that state and local governments have to meet as they implement the national ambient air quality standards for $PM_{2.5}$. State and local governments have three years from the date of the USEPA designation to develop implementation plans to meet the NAAQS. State plans are due in April 2008. $PM_{2.5}$ attainment designations would be effective by April 2010, $PM_{2.5}$ SIPs would be due by April 2013, and would be designed to meet the $PM_{2.5}$ standards by April 2015. On September 21, 2006 the USEPA tightened the 24-hour fine particle standard from 65 micrograms per cubic meter (µg/m3) to 35 µg/m3, but retained the current annual fine particle standard at 15 µg/m3. In addition, effective September 17, 2006 the USEPA has revoked the current annual PM_{10} standard based on a lack of evidence that links health problems to long-term exposure to coarse particle pollution.

Ozone SIP revisions have been submitted to the USEPA over the past several years. A November 1992 NYSDEC submission to USEPA provided SIP revisions which addressed the minimum air quality control requirements that were established by the CAA. In November 1993, a revision was submitted which documented how a 15% reduction in ozone precursors would be achieved by the end of 1996. Subsequent SIP revisions took into consideration the need to incorporate alternative procedures in order to reach an ozone attainment status by 2007. Phase I of this plan calls for a 9% rate of progress for the period 1997 through 1999. Phase II calls for future per annum rates of progress for the years 2002, 2005 and 2007 to be at 3%. On April 15, 2004 USEPA officially designated the five NYC counties as moderate non-attainment for the new 8-hour ozone standard (effective June 15, 2004). USEPA revoked the 1-hour standard on June 15, 2005, so that New York State can focus attention an attaining the stricter 8-hour standard. However, the very specific control measures for the 1-hour standard included in the SIP will be required to stay in place until the 8-hour standard is attained. A new SIP for ozone was to be adopted by the state no later than June 15, 2007, with a target attainment deadline of June 15, 2010. However, on June 20, 2007, USEPA proposed to strengthen the national ambient air quality standards for ground-level ozone. The proposed revisions reflect new scientific evidence about ozone and its effects on people and public welfare. The USEPA will issue final standards by March 12, 2008. Based on that date, USEPA estimates the following implementation schedule:

- By June 2009: States make recommendations for areas to be designated attainment and nonattainment.

- By June 2010: USEPA makes final designations of attainment and nonattainment areas. Those designations would become effective 60 days after publication in the Federal Register.
- 2013: State Implementation Plans, outlining how states will reduce pollution to meet the standards, are due to USEPA (three years after designations).
- 2013 to 2030: States are required to meet the standard, with deadlines depending on the severity of the problem.

3.17.1 MOBILE SOURCE ANALYSIS

Carbon Monoxide

Selection of Intersection Analysis Sites

A microscale modeling analysis was conducted to estimate CO levels at the most heavily congested intersections (i.e., analysis sites) in the study area. These intersections are also anticipated to be those which would be most affected by the Proposed Action. The following scenarios were analyzed: existing conditions and future conditions (2017), with and without the proposed action. In order to select analysis sites, data related to traffic volumes, levels of service and vehicular speeds at the major signalized intersections were evaluated with and without the proposed action. Selection of analysis sites was based on screening procedures described in the 2001 *CEQR Technical Manual.* The procedure utilizes total traffic volumes at intersections, operating levels of service, changes associated with speeds, and project-generated trips from the traffic analysis to make a final determination on the analysis sites which will be studied in detail. Intersections selected for analysis are shown in Table 3.17-3 and on Figure 3.17-1.

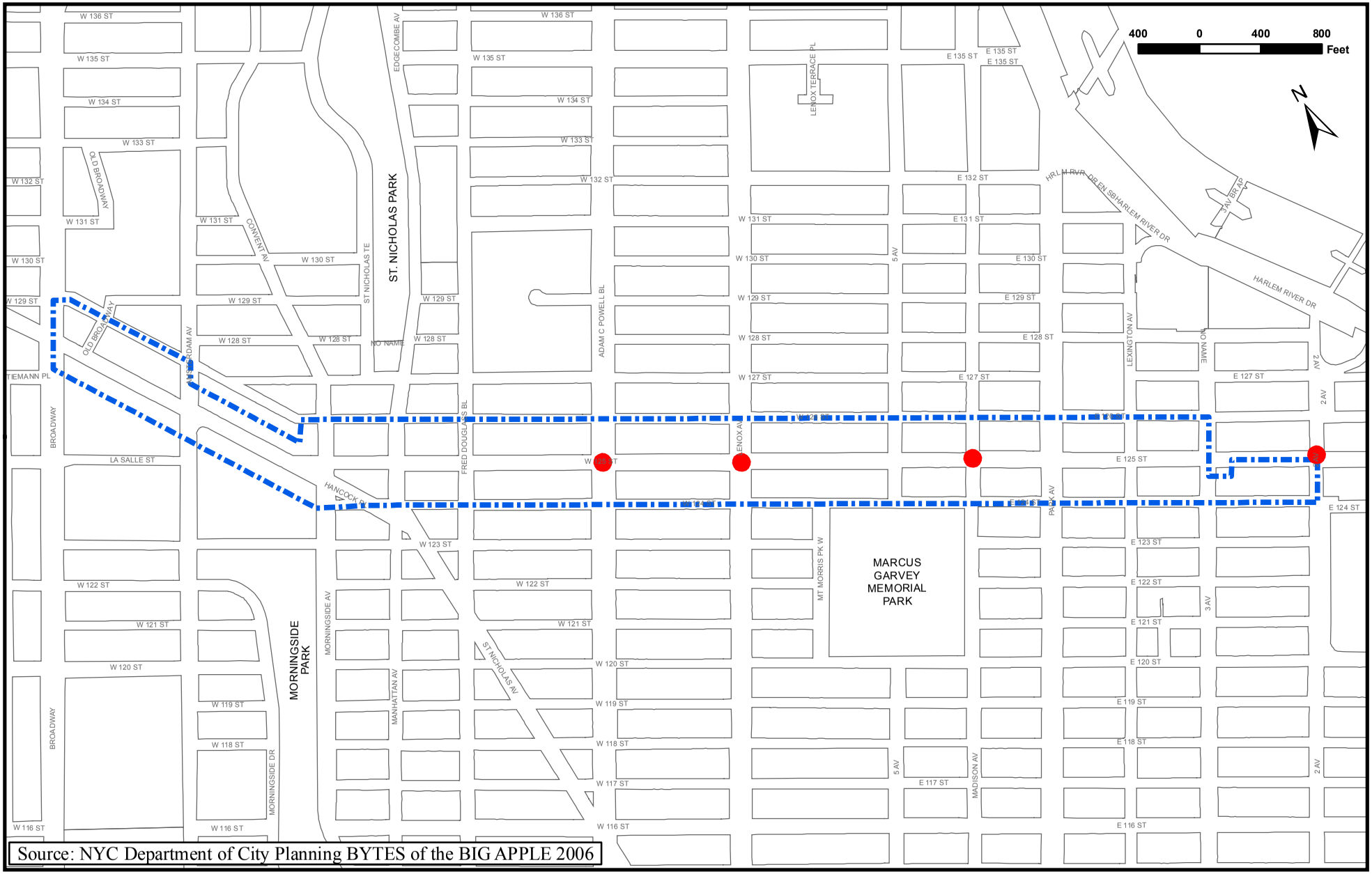
Table 3.17-3, Microscale Intersection Analysis Sites

Site Number	*Intersection*
1	East 125th Street & 2nd Avenue
2	East 125th Street & Madison Avenue
3	East 125th Street & Lenox Avenue
4	East 125th Street & Adam Clayton Powell Boulevard

Receptors

The exact locations at which pollutant concentrations are estimated are known as "receptors." Following guidelines established by the USEPA, receptors are typically located where the maximum concentration is likely to occur and where the general public is likely to have access.

For this analysis, receptors were distributed along sidewalks near the intersection selected for analysis and surrounding each analysis site.



Source: NYC Department of City Planning BYTES of the BIG APPLE 2006

Legend

- Air Quality Analysis Location
- Proposed Rezoning Area

Figure 3.17-1- Air Quality Intersections

125th Street Corridor Rezoning and Related Actions EIS

NYC Department of City Planning

Traffic Data

Traffic data for the air quality analysis were derived from traffic counts and other information developed as part of the traffic study analysis. Traffic periods considered in the analysis were the same periods selected for the traffic analysis. They consisted of the AM, MD and PM weekday peak as well as the PM weekend peak. These are the periods when the maximum changes in pollutant concentrations are expected based on overall traffic volumes and anticipated changes in traffic patterns due to the proposed action. Future proposed action traffic data utilized in the mobile source air quality analyses were based on unmitigated traffic conditions. This represents a conservative approach since traffic mitigation is usually employed to improve traffic flow at an intersection (i.e. by decreasing traffic delays or improving the Level of Service). Improvements in an intersections LOS will typically result in improvements to traffic-related air quality conditions at that intersection.

The *2000 Highway Capacity Manual* and HCS 2000 software were used to develop the traffic data necessary for the air quality analysis. The vehicle classification was determined through field data collection. Existing vehicle speeds were obtained from field measurements for the area, and adjusted to estimate future free flow speeds.

Vehicle Classification Data

Vehicle classification percentages required to determine composite emission factors were based on traffic survey data for the following categories: light duty gasoline vehicles (LDGVs), sport utility vehicles (SUVs), medallion taxis, light-duty trucks, heavy-duty trucks, and buses. Where appropriate, the six collected vehicle classification categories were expanded into eight categories. The eight expanded categories were based on NYSDEC's downstate registration data contained in the MOBILE CO emissions model for each appropriate analysis year. Light duty gasoline trucks were divided into two sub-groups (LDGT12, and LDGT34). Heavy-duty trucks were divided into heavy duty gas vehicles (HDGVs) and heavy-duty diesel vehicles (HDDVs). All buses were analyzed as heavy-duty diesel vehicles (HDDVs).

Vehicular Emissions

CO emission factors were estimated using the USEPA MOBILE6 mobile emission factor algorithm model released by the USEPA on January 29, 2002. This version includes the effects of the new vehicle standards, and covers vehicle turnover. MOBILE6.2 (the most current version), which includes emission factors for particulate matter, was released May 2004 and is used in this analysis.

The following assumptions were applied in using MOBILE6.2:

- NYSDEC input files with engine operating start and distribution parameters and vehicle

miles traveled (VMT) for New York County were used to estimate baseline conditions;
- 2006 New York State registration and diesel sales fraction data;
- 100 percent hot-stabilized LDGV emission factors were used for medallion taxis
- All project-generated trips were assumed to consist of 15% in (hot start) and 85% out (cold start) trips.
- SUVs were assumed to be LDGTs that have the same engine operating parameters as automobiles;
- A 24-hour average temperature distribution was used.

Dispersion Analysis

Mobile source dispersion models are the basic analytical tools used to estimate pollutant concentrations from the emissions generated by motor vehicles as expected under given conditions of traffic, roadway geometry, and meteorology. CAL3QHC Version 2 is a line-source dispersion model that predicts pollutant concentrations near congested intersection and heavily traveled roadways. CAL3QHC input variables include free flow and calculated idle emission factors, roadway geometries, traffic volumes, site characteristics, background pollutant concentrations, signal timing, and meteorological conditions. CAL3QHC predicts inert pollutant concentrations, averaged over a one-hour period near roadways. This model was used to predict concentrations at affected study-area intersections.

CAL3QHC predicts peak one-hour pollutant concentrations using assumed meteorology and peak-period traffic conditions. Different emission rates occur when vehicles are stopped (idling), accelerating, decelerating, and moving at different average speeds. CAL3QHC simplifies these different emission rates into the following two components:

- Emissions when vehicles are stopped (idling) during the red phase of a signalized intersection.
- Emissions when vehicles are in motion during the green phase of a signalized intersection.

The analyses followed USEPA's Intersection Modeling Guidelines (EPA-454/R-92-005) for CO modeling methodology and receptor placement. All major roadway segments (links) within approximately 1,000 feet from each analysis site (i.e., congested intersection) were considered. A mixing height of 1,000 meters and a surface roughness factor of 321 centimeters were included in all calculations.

A conservative analysis, which assumes that peak period vehicular emissions, traffic volumes, and intersection operating parameters occur every hour of each analysis year, was conducted. The use of peak hour baseline and project-generated traffic conditions would also result in conservative predictions of pollutant levels and project impacts.

Background Values

To properly represent the total impact of the proposed action in the analysis, it is necessary to consider representative background levels for each of the analyzed pollutants. The background level is the component of the total concentration not accounted for through the microscale modeling analysis. Applicable background concentrations were added to the modeling results to obtain total pollutant concentrations at each receptor site for each analysis year. Background concentrations were based either on monitored values collected by the NYSDEC or values obtained from NYCDEP. The CO background values were provided by NYCDEP using the latest NYSDEC procedures based on the most recent ambient monitoring data and future decreases in vehicular emissions. $PM_{2.5}$, NO_2 and SO_2 background values were also obtained from NYCDEP. These values were added to the modeling results as appropriate to obtain total pollutant concentrations at each receptor site for each analysis year. The background values used in the air quality analyses are provided in Table 3.17-4.

Table 3.17-4 Background Concentrations

Pollutant	***Averaging Time***	***Value***
CO	8-hour	2.0 ppm
NO_2	Annual	60 µg/m3
PM_{10}	24-hour	91 µg/m3
SO_2	3-hour	233 µg/m3
	24-hour	136 µg/m3
	Annual	34 µg/m3
*CO values are representative of 2007 data. NO2 and SO2 values are based on data collected for the years 2001 – 2005. PM10 values are based on data collected for the years 2002 – 2004. The monitoring station for NO2 and SO2 and PM10 was located at IS 52 in the Bronx.		

Existing Conditions

The results of the mobile source air quality modeling analysis under existing (2006) conditions are provided in Table 3.17-5. The values shown are the maximum CO concentrations estimated near each analysis site under the time frames that correspond to the NAAQS.

Table 3.17-5 Existing Conditions – Maximum 8-Hour CO Levels (2006)

Site #	*Analysis Site*	*8-hr CO Level (ppm)*	*Maximum Time Period*
1	East 125th Street & 2nd Avenue	3.5	SAT
2	East 125th Street & Madison Avenue	3.2	SAT
3	East 125th Street & Lenox Avenue	3.3	SAT
4	East 125th Street & AC Powell Boulevard	3.4	SAT

Notes: 1. Maximum results of all time periods analyzed.
2. All values include appropriate background concentration.
3. 8-hour CO background concentration = 2.0 ppm
Time Periods: AM peak period (7:45-8:45 AM); Midday peak period (12-1PM); PM peak period (5-6 PM)
SAT – PM weekend peak period (1-2 PM)

The results are summarized as follows:

- Carbon monoxide levels do not exceed the 8-hour CO standard of 9 ppm. The highest estimated concentration (4.4 ppm) occurs near the intersection of East 125th street and Second Avenue (Analysis Site #1) under the PM peak period.

Future Without the Proposed Action

A summary of the results of the mobile source air quality modeling analysis for the future without the proposed action in 2017 are provided in Table 3.17-6. The values shown are the maximum CO concentrations estimated near each analysis site under the time frames that correspond to the NAAQS.

Table 3.17-6 Future Without the Proposed Action – Maximum 8-Hour CO Levels (2017)

Site #	*Analysis Site*	*8-hr CO Level (ppm)*	*Maximum Time Period*
1	East 125th Street & 2nd Avenue	~~3.5~~ 3.1	SAT ~~PM~~
2	East 125th Street & Madison Avenue	~~3.1~~ 2.8	SAT ~~PM~~
3	East 125th Street & Lenox Avenue	~~3.1~~ 2.9	SAT ~~PM~~
4	East 125th Street & AC Powell Boulevard	3.1	SAT ~~PM~~

Notes: 1. Maximum results of all time periods analyzed.
2. All values include appropriate background concentration.
3. 8-hour CO background concentration = 2.0 ppm
Time Periods: AM peak period (7:45-8:45 AM); Midday peak period (12-1PM); PM peak period (5-6 PM)
SAT – PM weekend peak period (1-2 PM)

The results are summarized as follows:

- CO levels would not exceed the 8-hour standard at any of the analysis sites. The highest estimated concentration (3.6~~5~~ ppm) would occur near the intersection of East 125th Street and

Second Avenue (Analysis Site #1) under the PM peak period.

These results assume that the future year CO emission rates would be affected by decreases in future year emission factors due to increasing stringent emission control requirements and increases in traffic volumes due to anticipated increases in travel demand.

Future With the Proposed Action

A summary of the results of the mobile source air quality modeling analysis for the Future with the Proposed Action in 2017 is provided in Table 3.17-7. The values shown are the maximum CO concentrations increments estimated near each analysis site with the proposed action.

Table 3.17-7, 2017 Future With the Proposed Action – Maximum 8-Hour CO Levels

Site #	*Analysis Site*	*8-hr CO Level (ppm)*	*Maximum Time Period*
1	East 125th Street & 2nd Avenue	3.2	SAT
2	East 125th Street & Madison Avenue	3.054	SAT
3	East 125th Street & Lenox Avenue	3.1	SAT
4	East 125th Street & AC Powell Boulevard	3.3	SAT

Notes: 1. Maximum results of all time periods analyzed.
2. All values include appropriate background concentration.
3. 8-hour CO background concentration = 2.0 ppm
Time Periods: AM peak period (7:45-8:45 AM); Midday peak period (12-1PM);PM peak period (5-6 PM)
SAT – PM weekend peak period (1-2 PM)

The results of this analysis are summarized as follows:

- CO levels would not exceed the 8-hour standard at any of the analysis sites. The highest estimated 8-hour concentration (3.5 ppm) would occur near the intersection of East 125th Street and Second Avenue (Analysis Site #1) under the PM peak period.

  The highest project-generated CO increment would occur at the intersection of East 125th Street and ~~Adam Clayton Powell Boulevard~~ Lenox Avenue during the ~~PM~~ SAT peak period (increase of 0.2 ppm). The NYCDEP CO *de minimis* values would not be exceeded at this site or any other analysis site, indicating that the proposed action does not have the potential to cause CO impacts that are considered to be significant.

Parking Facilities Analysis

Pollutant concentrations could be affected near new parking facilities that could be built as part of the Proposed Action. To estimate the potential impacts from the emissions of these facilities, the two largest proposed underground parking garages that were located near the intersection which would accommodate the most project-generated traffic were selected for detailed analysis.

The largest facility would be a 258-space parking garage located at projected development site 9 along 125th Street between Frederick Douglass Boulevard and Adam Clayton Powell Boulevard. The second largest facility would be a 231-space parking garage located at projected development site 13 along 125th Street between Adam Clayton Powell Boulevard and Malcolm X Boulevard.

Because both garages would be used almost exclusively by gasoline-powered automobiles and not diesel-fueled trucks, CO was the only pollutant considered for this analysis. PM_{10} and $PM_{2.5}$ concentrations would not be materially affected by emissions from these facilities.

CO concentrations near the facility were estimated following the *CEQR Technical Manual* guidelines for a mechanically ventilated, enclosed garage. Pollutant concentrations were estimated at receptors (representative of a near and far sidewalk locations) located at 5 and 95 feet from the exhaust vents, with the assumed height of the vent a minimum of 10 feet above street level. An additional elevated receptor located above the vent on the near side of the street, was studied to determine potential impacts on residents at the development sites. The study analyzed one exhaust vent for each garage and the vent location was assumed to be located on the 125th Street side of each parking garage. These are conservative assumptions since 1) more than 1 vent would dilute pollutant emissions at a specific location, 2) 125th Street side would experience more traffic volume than 126th Street, and 3) contributions from emissions generated by 125th Street traffic under peak hour Build conditions could be added to these estimated concentrations to estimate the cumulative impacts of the garage and the corresponding street contribution.

This analysis was conducted for the 2017 analysis year, when this facility is anticipated to be in operation and for the PM peak period, when estimated garage emissions would be greatest because all of the exiting vehicles would be operating in the higher-polluting, cold-start mode.

The resulting maximum total 8-hour CO concentration (i.e., including background levels and street traffic contributions) predicted for any of the receptor sites are not estimated to cause or exacerbate the NAAQS of 9.0 ppm.

Table 3.17-8, 125th Street Rezone Garage Analysis Results*

	Near Receptor - South Side of 125th Street	Far Receptor– North Side of 125th Street	Elevated Near Receptor - South Side of 125th Street
Garage Site #	8-hr CO Impact (ppm)	8-hr CO Impact (ppm)	8-hr CO Impact (ppm)
9	5.9	3.7	6.4
13	6.2	3.8	6.8

* Results include contribution from on street traffic.

Particulate Matter

Project traffic data indicate the proposed project would induce a small number (less than nine heavy duty trucks per intersection) of heavy duty vehicles. A percentage of these heavy duty vehicles (approximately 30% based on MOBILE6.2 – registration data for the 2017 Build year) would actually be HDD vehicles. An additional, contribution of $PM_{2.5}$ would also result from automobile exhaust. To account for this, the NYCDEP has a procedure which determines the automobile equivalent of $PM_{2.5}$ emissions to HDD vehicle $PM_{2.5}$ emissions was used. For the proposed project, the procedure involves using the ratio of 2017 MOBILE6.2 Light Duty Gas Vehicle's (LDGV) emissions to 2017 MOBILE6.2 HDD vehicle emissions. The resulting emissions ratio would be approximately 4 to 1 (i.e., it would take approximately 4 autos to equal the $PM_{2.5}$ emissions equivalent of 1 HDD vehicle). Since the maximum number of induced autos at any of the studied intersections would be ~~299~~ 331, the equivalent number of HDD vehicle would be ~~67~~ 74.

When this result is combined with the actual number of induced HDD vehicles, the total number of equivalent project-generated HDD vehicles would not approach the 95 HDDV screening limit calculated for $PM_{2.5}$ and thus, combined with the fact that here are very few project induced trucks, both $PM_{2.5}$ and PM_{10} from mobile sources are not pollutants of concern for this project.

3.17.2 ANALYSIS OF PROJECT-GENERATED HEATING SYSTEM EMISSIONS

Introduction

The primary issues with regard to fuel combustion sources associated with HVAC systems include (1) the impact of HVAC systems from proposed (i.e., projected and potential) development sites on existing buildings; (2) the impact of HVAC systems from projected and

potential development sites on other projected and potential development sites; and (3) the impact of existing commercial, institutional, or large-scale residential developments on projected and potential development sites.

With regard to item one, since some projected and potential developments are shorter than existing nearby buildings (and thus emissions from a projected development site could potentially enter open windows or vent locations of an existing building), an analysis of the potential impacts of the HVAC emissions of the projected and potential development sites on existing buildings was conducted using the *2001 CEQR Technical Manual* procedures. The potential air quality impacts associated with item two above was addressed using screening analysis and/or detailed modeling procedures, as discussed below.

With regard to item three, a field examination determined that several of the existing buildings along the project corridor could potentially impact projected and potential developments. The results of an air quality analysis conducted to evaluate the potential impacts of these sources on projected and potential development sites are presented below.

In addition to estimating potential impacts from individual HVAC systems, the potential impacts from the combined emissions of multiple project-related HVAC sources with similar stack heights that are located near each other were also analyzed to determine the potential impact from the combined effects of the HVAC emissions on nearby proposed/potential development sites. Sites analyzed for potential cumulative impacts are shown in Figure 3.17-2. The analysis was performed in the same manner described for the individual HVAC sites except that after the emissions generated by the individual buildings within each cluster were calculated (based on floor area), a screening-level analysis was conducted using a single representative stack located in the approximate geographic center of each cluster as the emission source and estimated pollutant concentrations on nearby projected and potential development sites.

Analyses assumed that all projected and potential development sites under each scenario would be built, thereby maximizing potential HVAC system emissions.

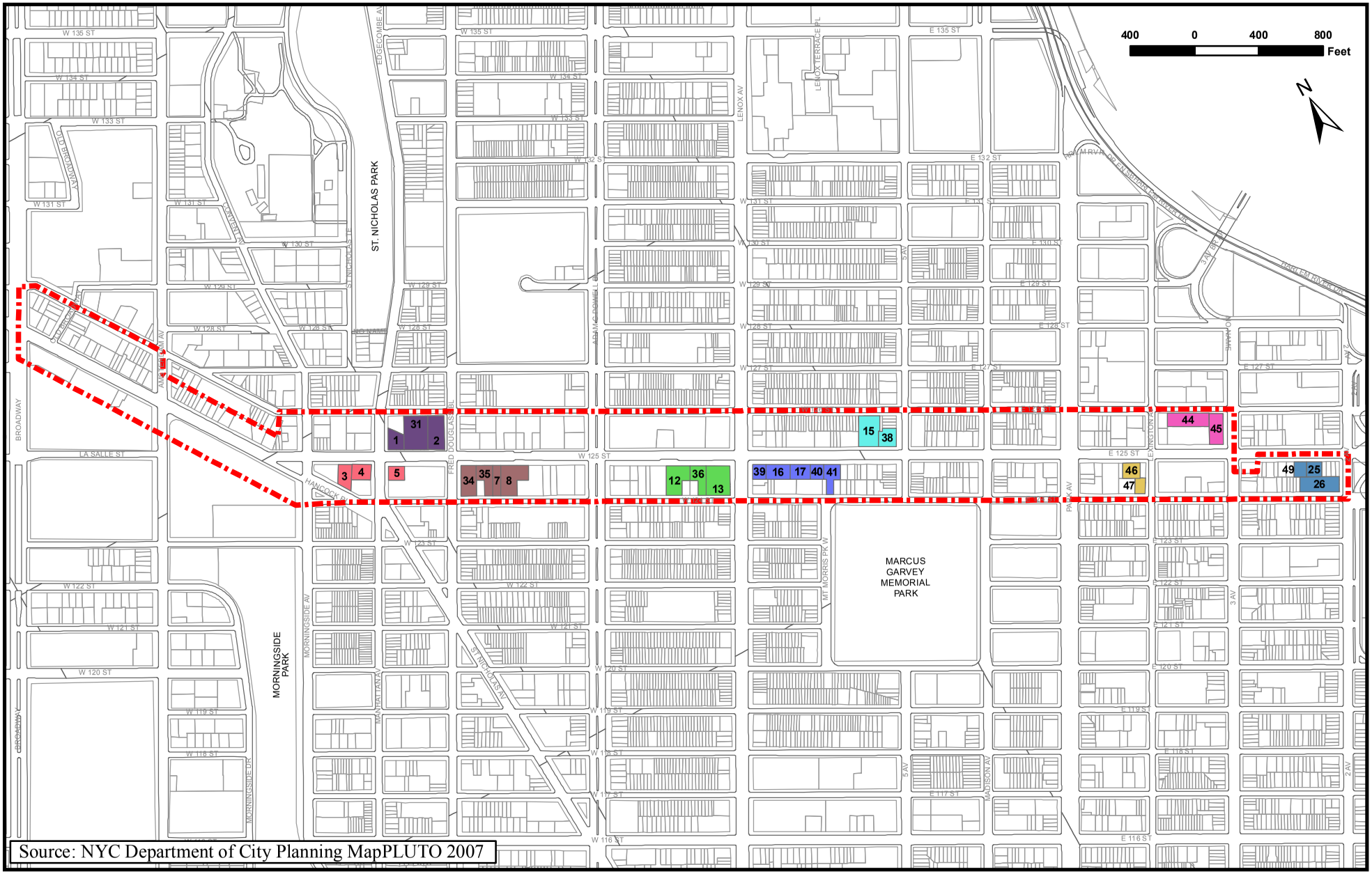
Methodology

Emissions from the heating (and hot water) systems of existing and projected and potential development sites may affect air quality levels at other nearby buildings. Potential impacts would be a function of fuel type, stack height, size of development, and location of the emission sources relative to the nearby buildings. Fuel uses may include oil or natural gas for space heating and hot water, and natural gas for cooking. Since the fuel types that would supply heat and hot water to the new developments have not been determined, analyses were conducted conservatively assuming that Nos. 2,or 4 fuel oil or natural gas would be used.

Each projected and potential development site was evaluated and all nearby projected or

potential residential developments of similar or greater height were considered as potential sensitive receptor sites. If the distance from a projected and potential development to the nearest building of similar or greater height would be less than the threshold distance provided in the *2001 CEQR Technical Manual*, there is a potential for significant air quality impact, and a detailed dispersion modeling analysis was conducted. Otherwise, the source passes the screening analysis, and no further analysis is required.

The maximum projected and potential development floor area of each site under each development scenario was used as input for the screening analysis. The average size of each new dwelling unit was assumed to be 900 square feet. It was assumed that all stacks would be located 3 feet above roof height (as per the *2001 CEQR Technical Manual*). If a source did not pass the CEQR screen, more detailed atmospheric dispersion analyses using USEPA's AERMOD model were conducted.



Legend

Proposed Rezoning Area

Cluster Analysis Sites

- Cluster 1 (1,31,2)
- Cluster 2 (3,4,5)
- Cluster 3 (34,35,7,8)
- Cluster 4 (12,33,36)
- Cluster 5 (16,17,39,40,41)
- Cluster 6 (15,38)
- Cluster 7 (46,47)
- Cluster 8 (44,45)
- Cluster 9 (25,26,49)

Figure 3.17-2 - Potential Cumulative Impact Sites

125th Street Corridor Rezoning and Related Actions EIS

NYC Department of City Planning

Screening-Level Analysis

An analysis was conducted to determine whether any of the projected and potential development sites would have the potential to significantly impact air quality levels at any of the other nearby projected and potential development sites (i.e., project-on-project impacts). The *2001 CEQR Technical Manual* provides a nomographic procedure that was used to determine the threshold distance between projected and potential development site heated by oil or natural gas and nearby projected and potential development site of similar or greater heights, based on the square footage and height of the building (provided that the buildings are at least 30 feet apart) for a potential impact to occur.

The following procedures were conducted:

- Figures 3Q-5 through 3Q-10 of the 2001 *CEQR Technical Manual Appendix* were used as a first screening to determine potential for significant SO_2 (i.e., the critical pollutant for facilities burning fuel oil) and NO_x (i.e., the critical pollutant for facilities burning natural gas) impacts.
- The estimated maximum size of each building was plotted on the nomograph against the distance to the potentially affected nearby taller building.
- Using the nomograph, the threshold distance at which a potentially significant impact is likely to occur was estimated for each fuel type and compared to the distance of the affected building.
- If the distance between buildings was greater than the threshold distance indicated on the nomograph, no potentially significant impact is anticipated, and no detailed analysis was conducted.
- If it is determined that for certain fuel types, the distance between buildings was less than the threshold distance indicated on the nomograph, a potentially significant impact is possible, and a more detailed analysis was provided.
- The more detailed analysis involved the use of table 3Q-3 from the 2001 *CEQR Technical Manual Appendix* to determine potential for significant SO_2 and PM_{10} (i.e., the critical pollutants for facilities burning fuel oil) as well as NO_x (i.e., the critical pollutant for facilities burning natural gas) impacts. This approach assumes a minimum distance between the exhaust vent and adjoining buildings of 30 feet. It used calculated emission rates and a conservative building height parameter to predict pollutant concentrations.
- If the predicted concentration was less than the NAAQS, significant impacts would be unlikely and no detailed dispersion modeling analysis was conducted.
- If the predicted concentration was greater than the NAAQS, a potentially significant impact is possible, and a detailed dispersion modeling analysis was conducted.

Detailed Analysis

Detailed dispersion modeling analyses using USEPA's AERMOD model were conducted for those projected and potential development sites that failed CEQR screening analysis or if the

distance between the vent stack and the proposed buildings is less than 30 feet (adjacent properties). AERMOD is a versatile model capable of predicting pollutant concentrations from continuous point, area, and volume sources. AERMOD uses enhanced plume and wake dispersion algorithms that are capable of estimating pollutant concentrations in a building's cavity and wake regions. The AERMOD model was used to estimate pollutant concentrations with downwash effects on plume dispersion incorporated.

Three pollutants emitted from fuel oil and/or natural gas combustion -- SO_2, NO_x, and PM_{10} -- were considered. Short-term (3hr & 24 hr) and long-term (i.e., annual average) concentrations of SO_2, NO_x, and PM_{10} were estimated.

The following dispersion modeling options and assumptions were applied:

- Emissions would be released through a single stack located at the edge of building closed to the nearest taller building; and
- A conservative set of default values (stack exhaust temperature of $293^{O}K$, velocity of 0.001 m/s and a stack diameter of 0.0 m) were used (unless otherwise indicated), as recommended by the *2001 CEQR Technical Manual.*

Emission Rates

Emission rates were estimated as follows:

- A fuel consumption rate for each proposed or projected residential / commercial building was estimated using fuel consumption tables found in the 2001 *CEQR Technical Manual*. These factors were then multiplied by the square footage of the projected and potential development sites to estimate total gallons of fuel consumed annually.
- When available, daily values were divided by 24 to obtain hourly values for use in the short-term dispersion analysis, and
- Average annual pollutant emission rates were estimated, as recommended in 2001 *CEQR Technical Manual*, by dividing the total amount of pollution estimated to be emitted in a year by the number of hours in one year (8,760 hours).

Emission factors were obtained from USEPA's "Compilation of Air Pollutant Emission Factors" (AP-42), assuming fuel oil Nos. 2 and 4, with sulfur contents of 0.2 percent, would be used to heat the new buildings. It was conservatively assumed that all emissions of NO_X released from the stack would be in form of NO_2 at the receptor sites.

Coordinate System and Receptors

A GIS coordinate system was utilized that included the location of each stack on the roof of an affected building and nearby elevated receptors. Because highest impacts would occur along the

level of the plume centerline at approximately the height of the stack, elevated receptors were placed at varying elevations. It was assumed that all nearby taller buildings would have operable windows at these levels and were therefore considered as potential sensitive receptor sites.

Meteorology

The latest five years of meteorological data from La Guardia Airport was used for the years 2000 through 2004.

Background Values

Background concentrations (i.e., pollutant levels from other sources in the study area) for the pollutants of concern were obtained from the NYCDEP and based on the latest monitoring data collected by the NYSDEC. These values, which are provided in Table 3.17-4 above, were added to estimate project impacts, and the resulting total concentrations were compared with appropriate NAAQS.

Stationary Source Analysis

Project-on-Project Impacts

A total of forty-eight ~~forty-nine~~ (~~49~~ 48) projected and potential development sites were considered for this analysis. These developments are anticipated to range from 18 to 264 dwelling units, with lot sizes ranging from approximately 5,000 to 60,000 square feet, and total floor area ranging from approximately 20,184 to 602,520 square feet.

An analysis was conducted to determine whether any of the projected and potential development sites would have the potential to significantly impact air quality levels at any of the other nearby projected and potential development sites (i.e., project-on-project impacts). Table 3.17-8 provides a list of the projected and potential development sites, and the results of the screening analysis.

Screening analysis results from Table 3.17-8 indicate that

- No. 4 Oil

  Of the ~~49~~ 48 projected and potential development sites associated with this scenario, thirteen sites passed, six sites failed and thirty sites require a minimum distance to pass the screening using the CEQR Technical Manual nomographs as indicated in Table 3.17-8.

- No. 2 Oil

  Of the ~~49~~ 48 projected and potential development sites associated with this scenario, thirteen sites passed, five sites failed and thirty-one sites require a minimum distance to pass the

screening using the CEQR Technical Manual nomographs as indicated in Table 3.17-8.

- Natural Gas

Of the ~~49~~ 48 projected and potential development sites associated with this scenario, thirteen sites passed, one site failed and thirty-five sites require a minimum distance to pass the screening using the CEQR Technical Manual nomographs as indicated in Table 3.17-8.

For those sites which were unable to pass the initial screening using fuel oil, a more detailed assessment using the *CEQR Technical Manual* industrial source screening process was used for No. 2 and No 4 fuel oil as indicated in CEQR Technical Manual Appendices 7 and 8. The results of the assessment indicated that sites 7, 35, 36, 40 and ~~49~~ 48 would fail and thus would have to be analyzed in detail for natural gas. Site 17 also failed the industrial source assessment for No. 4 fuel but passed the CEQR nomograph screening for No. 2 fuel oil (The E designation for site 17 using No. 2 fuel oil is described below and referenced in Table 3.17-10).

Detail Analysis

As a result, sites 7, 35, 36, 40 and 49 were studied in detail using the USEPA's AERMOD model, utilizing the standard CEQR Technical Manual parameters assumptions for stationary source analysis with the AERMOD model (stack exit velocity of 0.001 m/s and a stack diameter of 0.0 m). The results of this analysis indicated that when using natural gas, emissions from the development sites would not result in air quality impacts to neighboring developments sites. E designations restricting the location of the exhaust vent are recommended. The results are shown in Table 3.17-9.

Table 3.17-9, Air Quality Impacts: Summary of Maximum Predicted NO_2 Concentrations

Site #	Averaging Period	Background Concentration (µg/m3)	Maximum Predicted Concentration (µg/m3)	Maximum Predicted Total Concentration (µg/m3)	NAAQS (µg/m3)
7	Annual	60	5.6	65.6	100
17	Annual	60	17.1	77.1	100
35	Annual	60	17.7	77.7	100
36	Annual	60	17.9	77.9	100
40	Annual	60	18.7	78.7	100
49	Annual	60	3.9	63.9	100

The result of this analysis is that the proposed build scenario, with its (E) designation, would cause no violations of the NAAQS, and would have no significant adverse environmental impacts on air quality at all development sites.

Table 3.17-10, Results of HVAC Source Impact Analysis for Projected and Potential Sites Under the Reasonable Worst Case Development Scenario[6]

HVAC Source ID	CEQR Technical Manual Screening Results for No. 4 Fuel Oil – Minimum Required Distance (feet) From Edge of Roof [1]	CEQR Technical Manual Screening Results for No. 2 Fuel Oil – Minimum Required Distance (feet) From Edge of Roof [2]	CEQR Technical Manual Screening Results for Natural Gas – Minimum Required Distance (feet) From Edge of Roof [3]	CEQR Technical Manual Industrial Source Analysis Results for No. 4 Fuel Oil – Minimum Required Distance (feet) From Edge of Roof [4]	CEQR Technical Manual Industrial Source Analysis Results for No. 2 Fuel Oil – Minimum Required Distance (feet) From Edge of Roof [4]	Detailed AERMOD Results for Natural Gas – Minimum Required Distance (feet) From Edge of Roof [5]
1	54	43	33	NA	NA	NA
2	84	65	54	NA	NA	NA
3	70	55	40	NA	NA	NA
4	55	43	32	NA	NA	NA
5	Pass	Pass	Pass	-	-	-
6	Pass	Pass	Pass	-	-	-
7	Fail	Fail	Fail	Fail	Fail	11
8	100	82	65	NA	NA	NA
9	Pass	Pass	Pass	-	-	-
10	156	130	~~104~~ 59	NA	NA	NA
11	Pass	Pass	Pass	-	-	-
12	95	78	62	NA	NA	NA
13	117	93	70	NA	NA	NA
14	Pass	Pass	Pass	-	-	-
15	88	71	52	NA	NA	NA
16	72	59	48	NA	NA	NA
17	Fail	53	46	Fail	NA	27
18	53	45	32	NA	NA	NA
19	76	56	47	NA	NA	NA
20	39	30	28	NA	NA	NA
21	149	122	~~99~~ 56	NA	NA	NA
22	Pass	Pass	Pass	-	-	-
23	Pass	Pass	Pass	-	-	-
24	Pass	Pass	Pass	-	-	-
25	62	54	39	NA	NA	NA
26	95	79	58	NA	NA	NA

27	Pass	Pass	Pass	-	-	-
28	Pass	Pass	Pass	-	-	-
29	Pass	Pass	Pass	-	-	-
30	Pass	Pass	Pass	-	-	-
31	113	91	70	NA	NA	NA
32	93	79	56	NA	NA	NA
33	79	63	47	NA	NA	NA
34	70	56	46	NA	NA	NA
35	Fail	Fail	47	Fail	Fail	13
36	Fail	Fail	48	Fail	Fail	16
37	Pass	Pass	Pass	-	-	-
38	62	49	39	NA	NA	NA
39	62	46	35	NA	NA	NA
40	Fail	Fail	33	Fail	Fail	20
~~41~~	~~66~~	~~53~~	~~46~~	~~NA~~	~~NA~~	~~NA~~
42	65	50	40	NA	NA	NA
43	83	66	51	NA	NA	NA
44	93	66	56	NA	NA	NA
45	71	59	47	NA	NA	NA
46	65	50	40	NA	NA	NA
47	50	43	28	NA	NA	NA
48	165	133	~~93~~ 65	NA	NA	NA
49	Fail	Fail	30	Fail	Fail	26

1) For sites that pass the CEQR screening for No. 4 fuel oil, the minimum distance for which the source would pass the CEQR Technical Manual screening nomograph procedures was provided. The following (E) designation would be placed on these development sites: Any new development on the property must use No. 4 fuel oil and locate the HVAC stack no closer to the edge of roof than the distance indicated.
2) For sites that pass the CEQR Technical Manual screening for No. 2 fuel oil, the minimum distance for which the source would pass the CEQR Technical Manual screening nomograph procedures was provided. The following (E) designation would be placed on these development sites: Any new development on the property must use No. 2 fuel oil and locate the HVAC stack no closer to the edge of roof than the distance indicated.
3) For sites that pass the CEQR Technical Manual screening for natural gas, the minimum distance for which the source would pass the CEQR Technical Manual screening nomograph procedures was provided. The following (E) designation would be placed on these development sites: Any new development on the property must use natural gas and locate the HVAC stack no closer to the edge of roof than the distance indicated.
4) For sites that failed the CEQR Technical Manual screening procedures for No. 4 and No. 2 fuel oil, a CEQR Technical Manual Industrial Source screen was performed.
5) For sites that failed the CEQR Technical Manual Industrial Source screen for No. 4 and No. 2 fuel oil, a detailed AERMOD analysis was performed for natural gas. For sites that pass the detailed AERMOD analysis for natural gas, the minimum distance for which the source would pass was provided. The following (E) designation would be placed on these development sites: Any new development on the property must use natural gas and locate the HVAC stack no closer to the edge of roof than the distance indicated.
6) Site 41 has been remover as a potential site, due to a new proposal since the DEIS for the village Academies School (see Chapter 3.1).

To avoid the potential for significant adverse air quality impacts related to HVAC emissions, an (E) designation for air quality would be incorporated into the rezoning proposal for each of the following properties:

Block 1952; Lots 19, 21, 22 (Site 1)

Block 1952; Lot 29 (Site 2)
Block 1951; Lot 7 (Site 3)
Block 1951; Lot 51 (Site 4)
Block 1930; Lot 55 (Site 7)
Block 1930; Lots 49, 50, 51, 53 (Site 8)
Block 1910; Lots 1, 7501 (Site 10)
Block 1909; Lots 44, 46 (Site 12)
Block 1909; Lots 26, 27, 28, 29, 30, 31, 32, 38, 39, 129 (Site 13)
Block 1723; Lots 31, 45, 144 (Site 15)
Block 1722; Lots 63, 65, 66, 67, 68, 168 (Site 16)
Block 1722; Lots 58, 59, 60, 61, 62 (Site 17)
Block 1750; Lots 28, 29, 30, 44 (Site 18)
Block 1750; Lots 40, 34 (Site 19)
Block 1749; Lots 48, 49 (Site 20)
Block 1749; Lots 24, 31, 33, 35, 40, 43 (Site 21)
Block 1789; Lot 30 (Site 25)
Block 1789; Lots 16, 18, 19, 20, 21, 22, 23, 24, 25, 121 (Site 26)
Block 1952; Lots 23, 25, 27, 28, 37, 38, 41, 138 (Site 31)
Block 1931; Lots 56, 61, 63, 64 (Site 32)
Block 1931; Lot 1 (Site 33)
Block 1930; Lot 1 (Site 34)
Block 1930; Lots 59, 57 (Site 35)
Block 1909; Lots 24, 25, 40, 41, 42, 140 (Site 36)
Block 1723; Lots 33, 37 (Site 38)
Block 1722; Lots 69, 168 (Site 39)
Block 1722; Lots 55, 56, 57, 155, 156 (Site 40)
Block 1722; Lot 51 (Site ~~41~~)
Block 1774; Lot 68 (Site 42)
Block 1774; Lots 5, 6, 7, 8, 65, 66, 67 (Site 43)
Block 1774; Lot 48 (Site 44)
Block 1774; Lot 33 (Site 45)
Block 1773; Lots 58, 61 (Site 46)
Block 1773; Lots 15, 17, 18 (Site 47)
Block 1773; Lot 20 (Site 48)
Block 1789; Lots 34, 35, 36 (Site 49)

The text for the (E) designations is as follows:

Block 1952, Lots 19, 21, 22 (Projected Development Site 1)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 54 and 43 feet for Oil No. 4 and Oil No. 2 from the lot lines, or use Natural Gas as the type

of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1952, Lot 29 (Projected Development Site 2)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 84 and 65 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1951, Lot 7 (Potential Development Site 3)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 70 and 55 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1951, Lot 51 (Projected Development Site 4)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 55 and 43 feet for Oil No. 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1930, Lot 55 (Projected Development Site 7)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning systems (HVAC) use Natural Gas as the type of fuel for space heating and hot water, to avoid any potential significant adverse air quality impacts.

Block 1930, Lots 49, 50, 51, 53 (Potential Development Site 8)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 100 and 82 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1910, Lots 1, 7501 (Projected Development Site 10)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 156, 130 and 59 feet for Oil No. 4, Oil No.2 and Natural Gas from the lot lines as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1909, Lots 44, 46 (Projected Development Site 12)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 95 and 78 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1909, Lots 26, 27, 28, 29, 30, 31, 32, 38, 39, 129 (Potential Development Site 13)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 117 and 93 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1723, Lots 31, 45, 144 (Projected Development Site 15)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 88 and 71 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1722, Lots 63, 65, 66, 67, 68, 168 (Projected Development Site 16)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 72 and 59 feet for Oil No. 4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1722, Lots 58, 59, 60, 61, 62 (Potential Development Site 17)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 53 feet for Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1750, Lots 28, 29, 30, 44 (Projected Development Site 18)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 53 and 45 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1750, Lots 40, 34 (Projected Development Site 19)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 76 and 56 feet for Oil No. 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1749, Lots 48, 49 (Projected Development Site 20)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 39 and 30 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1749, Lots 24, 31, 33, 35, 40, 43 (Projected Development Site 21)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 149, 122 and 56 feet for Oil No.4, Oil No. 2 and Natural Gas from the lot lines as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1789, Lot 30 (Projected Development Site 25)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 62 and 54 feet for Oil No. 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1789, Lots 16, 18, 19, 20, 21, 22, 23, 24, 25, 121 (Projected Development Site 26)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 95 and 79 feet for Oil No. 4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1952, Lots 23, 25, 27, 28, 37, 38, 41, 138 (Potential Development Site 31)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 113 and 91 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1931, Lots 56, 61, 63, 64 (Potential Development Site 32)

Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 93 and 79 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1931, Lot 1 (Potential Development Site 33)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 79 and 63 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1930, Lot 1 (Potential Development Site 34)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 70 and 56 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1930, Lots 59, 57 (Potential Development Site 35)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning systems (HVAC) use Natural Gas as the type of fuel for space heating and hot water, to avoid any potential significant adverse air quality impacts.

Block 1909; Lots 24, 25, 40, 41, 42, 140 (Potential Development Site 36)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning systems (HVAC) use Natural Gas as the type of fuel for space heating and hot water, to avoid any potential significant adverse air quality impacts.

Block 1723, Lots 33, 37 (Potential Development Site 38)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 62 and 49 feet for Oil No.4 and oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1722, Lots 69, 168 (Potential Development Site 39)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 62 and 46 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of

fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1722, Lots 55, 56, 57, 155, 156 (Potential Development Site 40)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning systems (HVAC) use Natural Gas as the type of fuel for space heating and hot water, to avoid any potential significant adverse air quality impacts.

~~Block 1722, Lot 51 (Potential Development Site 41)~~
~~Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 66 and 53 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.~~

Block 1774, Lot 68 (Potential Development Site 42)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 65 and 50 feet for Oil No. 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1774, Lots 5, 6, 7, 8, 65, 66, 67 (Potential Development Site 43)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 83 and 66 for Oil No 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1774, Lot 48 (Potential Development Site 44)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 93 and 66 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1774, Lot 33 (Potential Development Site 45)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 71 and 59 feet for Oil No. 4 and No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1773, Lots 58, 61 (Potential Development Site 46)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 65 and 50 feet for Oil No. 4 and Oil No.2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1773, Lots 15, 17, 18 (Potential Development Site 47)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 50 and 43 feet for Oil No.4 and Oil No. 2 from the lot lines or use Natural Gas as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1773, Lot 20 (Potential Development Site 48)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning stack(s) are located at least 165, 133 and 65 feet for Oil No. 4, Oil No. 2 and Natural Gas from the lot lines as the type of fuel for space heating and hot water (HVAC) systems, to avoid any potential significant adverse air quality impacts.

Block 1789, Lots 34, 35, 36 (Potential Development Site 49)
Any new residential and/or commercial development on the above-referenced properties must ensure that the heating, ventilating and air conditioning systems (HVAC) use Natural Gas as the type of fuel for space heating and hot water, to avoid any potential significant adverse air quality impacts.

With the placement of the (E) designations on the above blocks and lots, no impacts related to stationary source air quality would be expected.

Cumulative Impacts from HVAC Sources

Many of the projected development sites are within close proximity to one another and therefore their HVAC emissions could have a cumulative effect on other nearby individual projected development sites. As a result, nine projected development site clusters (i.e. projected development sites in close proximity to one another and having similar heights) were identified. These clusters, described below and shown in Figure 3.17-2, were evaluated to determine the potential impact from the combined effects of the HVAC emissions from buildings on nearby proposed and potential development sites.

- Cluster #1: development sites 1, 2 & 31 – comprising total floor area of 419,126 square feet with a stack height of approximately 120 feet;

- Cluster #2: development sites 3, 4 and 5 – comprising a total floor area of 206,743 square feet with a stack height of approximately 120 feet;
- Cluster #3: development sites 7, 8, 34 and 35 – comprising a total floor area of 501,255 square feet with a stack height of approximately 160 feet;
- Cluster #4: development sites 12, 13 and 36 – comprising a total floor area of 543,641 square feet with a stack height of approximately 160 feet;
- Cluster #5: development sites 16, 17, 39, 40 and 41 – comprising a total floor area of 460,132 square feet with a stack height of approximately 160 feet;
- Cluster #6: development sites 15 and 38 – comprising a total floor area of 153,024 square feet with a stack height of approximately 80 feet;
- Cluster #7: development sites 46 and 47 – comprising a total floor area of 124,389 square feet with a stack height of approximately 120 feet;
- Cluster #8: development sites 44 and 45 – comprising a total floor area of 259,414 square feet with a stack height of approximately 120 feet;
- Cluster #9: development sites 25, 26 and 49 – comprising a total floor area of 301,998 square feet with a stack height of approximately 120 feet;

Using the CEQR nomograph screening procedure (assuming that the stack for the cluster was located in its approximate center) the results of the analysis indicated that there would be no potential air quality impacts of combined emissions from these HVAC clusters, using No. 4 fuel oil.

Impacts from Proposed HVAC Sources on Existing Buildings

With respect to the impact the proposed action would have on existing buildings, there are only three projected development sites that would be shorter than the nearby existing buildings. These are potential development site 32 which could affect the 14 story Saint Nicholas Houses, projected development site 24 which could affect the 35-story Taino Towers and projected development site 26 which could affect both the 35-story Taino Towers and 16-story Wagner Houses. Using the CEQR nomograph procedure it was determined that none of the proposed buildings would impact the nearby taller existing buildings. Therefore, impacts on existing buildings from proposed buildings are unlikely to occur.

Potentially Significant Existing Emission Sources

An examination of existing buildings located within 400 feet of any of the proposed development sites identified the following potentially significant HVAC combustion sources in the study area: the 14-story Saint Nicholas Houses in the proximity to the potential development site 32, the 35-story Taino Towers building complex in the proximity of projected development sites 24 and 26, and the 16-story Wagner Houses building complex in the proximity to the project development site 26.

A screening-level analysis was conducted using the CEQR nomographic procedure to evaluate

the potential impacts from these existing large combustion sources on the affected development sites. The result of this analysis is that emissions from existing large combustion sources would not significantly impact any of the projected and potential development sites.

An additional field examination confirmed that there was no large industrial emission source (e.g., power plant, co-generation facility, etc) located within 1,000 feet of any of the projected and potential development sites.

MTA Bus Depots - 126th Street / Second Avenue & 128th Street / Amsterdam Avenue

Project field surveys identified two MTA bus depots located at 126th Street / Second Avenue & 128th Street / Amsterdam Avenue. Based on emissions data obtained from the MTA, a detailed analysis using USEPA's AERMOD was conducted to determine the potential impact that the two bus depots could have on the proposed developments. According to the MTA, pollutant emissions would result from bus exhaust within the depot and space heating. No spray booths or other painting activities were indicated by the MTA at these sites. Natural gas is used for the space heating and the overwhelming majority of buses would be using diesel fuel. Consequently, a detailed analysis was conducted for PM_{10} (resulting from bus exhaust) and NO_2 (resulting from space heating) for each of the garages. MTA estimates of yearly pollutant emissions for NO_2 and PM_{10} would be 13,238 and 703 lbs, respectively. Emissions from both depots would be similar. The results of the modeling analysis indicate that there would be no exceedances of the NAAQS for NO_2 or PM_{10} at any of the proposed development sites from those sources. Therefore, there would be no significant adverse impact from the pollutant emissions of the two MTA bus depots.

3.17.3 ANALYSIS OF AIR TOXICS

Introduction

This section addresses potential impacts from existing toxic emission sources on the future residential development sites along the 125th Street corridor. These emissions are of concern because a large portion of the proposed action would include the development of residential uses. As a result, emissions of toxic pollutants from the operation of these existing facilities may result in pollutant concentrations that could affect the action's projected and potential residential/commercial uses.

The following procedures were used to estimate the potential air quality impacts of these toxic emissions:

- To ensure that the air toxics analysis included existing sources with the most potential to affect the proposed action, an analysis zone within approximately 1000 feet of all of the projected and potential residential / commercial sites was selected;

- Air permits for all facilities within the analysis zone were acquired from the NYSDEC, NYCDEP or USEPA Envirofacts databases. A review of these permits along with a separate field review of potential existing sites not included in any database was conducted; and
- Dispersion analyses were conducted to determine the potential of the toxic emissions released from the permitted emission sources to adversely affect the new residential / commercial areas.

Permit Information

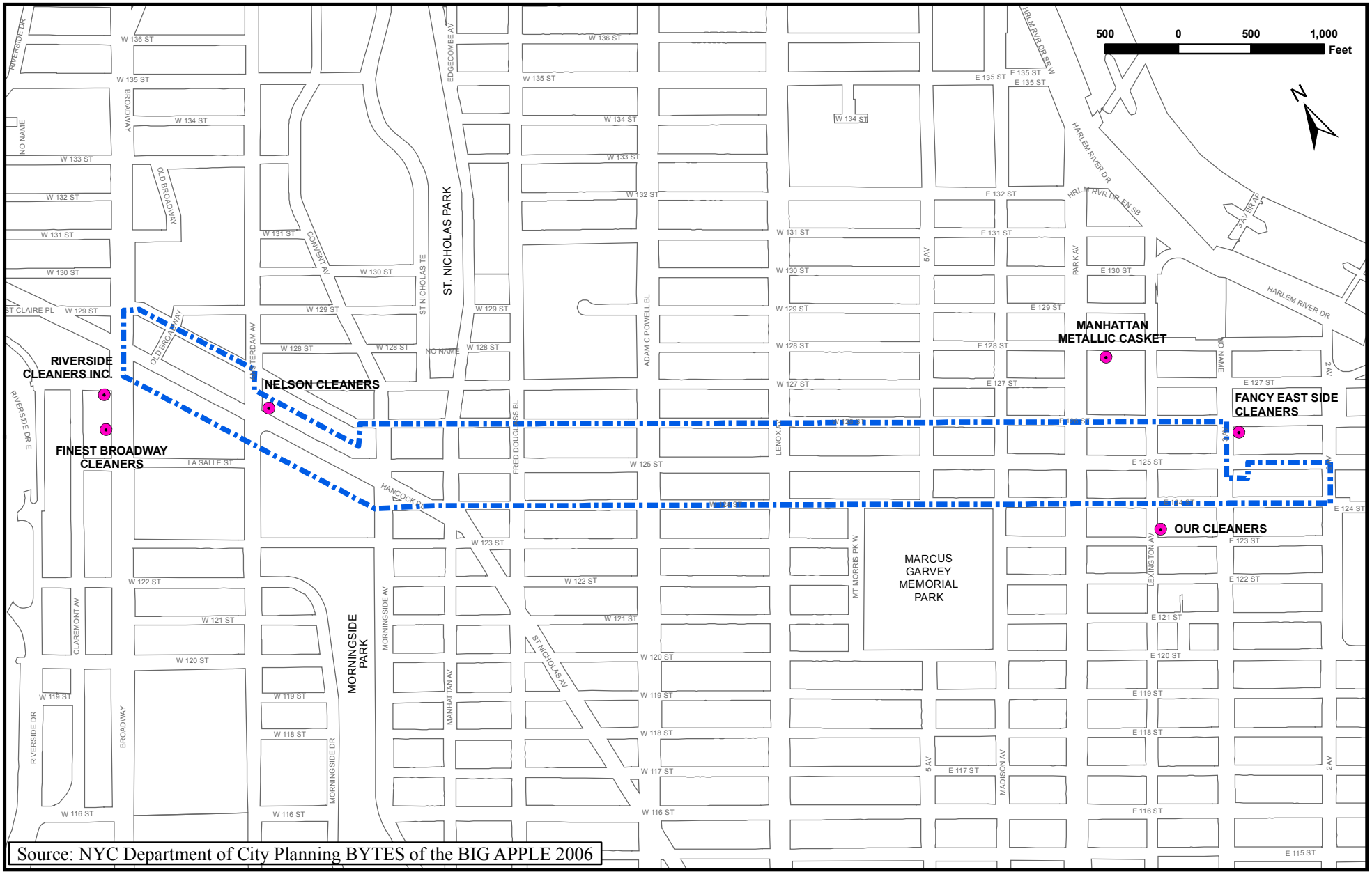
Information on emission data for the manufacturing and industrial facilities with air toxics within the study area were developed as follows:

- NYSDEC's Air Guide-1 (AG-1), which includes a database with information on all facilities in the state that have an air quality permit (as of 1996), was searched to identify facilities located within the area that had received state air quality permits.
- The NYCDEP Bureau of Environmental Compliance's (BEC) files of current air quality permits for all facilities operating within the air toxics study area were examined.

The information on the NYCDEP permits (e.g., pollutant emission rates and stack parameters) is considered to be the most current and comprehensive, and served as the primary basis of data for this analysis. The following information was obtained from these permits"

- A total of 14 locations in and around the 125th Street corridor were identified as potential emission sources.
- Eight facilities were for operations that were canceled, had ceased operations, or are no longer engaged in operations that would require a permit. These facilities were omitted from further consideration.
- The six (6) remaining facilities, which consist of one industrial site (Manhattan Metallic Casket) and five dry cleaning operations emit three different toxic pollutants (tetrachloroethylene, particulates and toluene.) Of these pollutants, only tetrachloroethylene is identified by the USEPA as a carcinogen.

Figure 3.17-3 provides the locations of the six facilities considered in the detailed analysis.



Source: NYC Department of City Planning BYTES of the BIG APPLE 2006

Legend

- Air Toxic Facility Location
- Proposed Rezoning Area

Figure 3.17-3 - Air Toxic Facilities

125th Street Corridor Rezoning and Related Actions EIS

NYC Department of City Planning

Analysis

A dispersion modeling analysis was conducted to determine whether the currently operating permitted facilities within the air toxics study area would have the potential to adversely affect the sensitive analysis sites. USEPA's conservative screening model SCREEN3 was used to predict NYSDEC Annual Guideline Concentrations (AGC) and Short-term Guideline Concentrations (SGC) resulting from operations at the Manhattan Metallic Casket Company. To predict concentrations of the remaining five dry cleaning facilities, USEPA's AERMOD was utilized.

Results

The result of the air toxic analysis is that no exceedance of an NYSDEC SGC or an AGC acceptable limit was predicted at any of the proposed development sites, and that the total hazard index impact of the non-carcinogenic air toxics pollutants emitted from all of sources combined is 7.48×10^{-2}, which is well below the level of 1.0 that is considered by USEPA to be significant. In addition, the one carcinogen emitted by the identified facilities, tetrachloroethylene would result in a cancer threshold risk of 9.15×10^{-7} which is below the USEPA acceptable risk value of one in one million (i.e., 1.0×10^{-6}).

CONCLUSION

The result of the air quality analysis is that the proposed action would not cause or exacerbate an exceedance of an air quality standard nor cause the exceedance of a significant impact criterion. This conclusion assumes that an (E) designation for HVAC systems would be placed on thirty-six projected and potential development sites with the specified requirements detailed above, which would preclude the potential for significant adverse air quality impacts. As such, the proposed action would not cause significant adverse air quality impacts.

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