III.G: Air Quality

G. Air Quality

1. Introduction

This section summarizes a comprehensive air quality impact assessment study performed for the Project. The study is in Appendix 3.G of this DEIS.

a. Existing Conditions

(1) Ambient Air Quality Standards

National and New York State Ambient Air Quality Standards (NAAQS/NYSAAQS) have been adopted in accordance with requirements of the Clean Air Act, for several criteria air pollutants. Criteria air pollutants include sulfur dioxide (SO_2), carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), inhalable particulates (i.e., particulates less than 10 μm in diameter, (PM_{10}), fine particulates (i.e., particulates less than 2.5 μm in diameter, ($PM_{2.5}$) and lead (Pb).

The Clean Air Act established two types of national air quality standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly. Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings. For NO_2, ozone, lead and particulate matter, the primary and secondary standards are the same; there is no secondary standard for carbon monoxide.

The NAAQS and the NYSAAQS for criteria pollutants are shown in Table III.G-1. The NYSAAQS also include hydrocarbons (HC) and total suspended particulates (TSP), which are not currently regulated as federal criteria air pollutants. The NAAQS and NYSAAQS for carbon monoxide are 35 parts per million (ppm) for a 1-hour averaging period and 9 ppm for an 8-hour averaging period. The NAAQS for carbon monoxide are not to be exceeded more than once per calendar year, while NYSAAQS are not to be exceeded more than once in any 12-month period.

b. Existing Air Quality

The New York State Department of Environmental Conservation (NYSDEC) Bureau of Air Quality Surveillance operates ambient air quality monitoring stations established throughout the State to assess air quality in relation to the NAAQS. Since there are no air quality monitoring stations at any of the Project sites the regional air quality can be characterized from a review of data collected at NYSDEC air quality monitoring stations around Westchester County in the general vicinity of the Project. The NYSDEC air quality monitoring stations used to assess potential impacts of the Project were chosen based on proximity to the proposed development and based on the highest ambient air quality concentration (Figure III.G-1). Available ambient air quality data from NYSDEC air monitoring stations (obtained from EPA AirData reports produced from a monthly extract of EPA's air pollution database, AQS) have been summarized. This data describes regional air quality characteristics near the

Project sites for criteria pollutants and is provided in Table III.G-2. Table III.G-2 includes the maximum monitored (existing/background) concentrations of these pollutants for 2004, 2005, and 2006 from NYSDEC air quality monitoring stations that are considered generally representative of the Project sites. Existing concentrations used to assess the potential impacts of the Project are identified in Table III.G-2. The measured ambient concentrations of criteria pollutants are compared to applicable NAAQS in Table III.G-2 (USEPA, 2004). The data for the year of 2006 was extracted on August 3rd, 2006.

(1) Attainment Status/Nonattainment Areas

The Clean Air Act requires that each state identify areas where NAAQS for criteria pollutants are exceeded, and designates these areas as "nonattainment" areas. Areas that meet the NAAQS for a criteria pollutant are designated as being in "attainment" of the air quality standards for that pollutant. Some "nonattainment" areas are subcategorized based on the severity of air contaminant concentrations (marginal, moderate, serious, severe, and extreme for ozone; and moderate and serious for PM_{10} and CO). According to the USEPA, Westchester County, New York's attainment status with respect to the NAAQS is listed in Table III.G-3.

Westchester County has been designated as attainment for criteria pollutants with the exception of CO for which it is designated as a maintenance area and it is designated as nonattainment for respirable particulates ($PM_{2.5}$) and photochemical oxidants/ozone (O_3).

(2) Class I areas

Class I areas were established by the Clean Air Act Amendments of 1977 as areas where air quality and visibility are important values. Class I areas include all international parks, national wilderness areas, national memorial parks and national parks (USEPA 1995a). The Clean Air Act Amendments of 1977 established very low maximum allowable increases (Prevention of Significant Deterioration (PSD) Increments) of sulfur dioxide and particulate matter concentrations in Class I areas, to protect the quality of these areas. The closest Class I Area to the proposed Project is the Brigantine Division of the Edwin B. Forsythe National Wilderness Refuge in Atlantic County, New Jersey, which is located approximately 120 miles to the south of Yonkers, New York. The next closest Class I area is Lye Brook Wilderness in Vermont, which is over 200 miles away from the Project.

Proposed major new source or major modification projects that are within 100 km (60 miles) of Class I Areas and/or have the potential to affect other Class I Areas are required to perform a Class I Area Impact Analysis including:

- performing Class I increment analyses (including any necessary cumulative impact analyses)
- performing any preliminary analyses (modeling) required by the reviewing agency to determine if the source may have potentially significant ambient

concentration impacts of any pollutant (i.e., increase concentrations by 1 µg/m3 (24-hour average) or more)
- performing an analysis for potential impacts on visibility
- providing information necessary to conduct the impact analyses (including any necessary cumulative impact analyses)
- performing any monitoring required by the reviewing agency
- providing the reviewing agency any additional relevant information the agency requests to "complete" the Class I Area Impacts Analysis.

A Class I Area impact analysis is not needed or required for the Project.

Table III.G-1 National and New York Ambient Air Quality Standards

Pollutant	Standard	Averaging Period	New York (a)		National (b)	
			(ug/m^3)	(ppm)	(ug/m^3)	(ppm)
Sulfur Dioxide	Primary	24-hour average	365	0.14	365	0.14
		12-month arith. Mean	80	0.03	80	0.03
	Secondary	3-hour average	1300	0.5	1300	0.5
		24-hour average	-	-	-	-
		12-month arith. Mean	-	-	-	-
Total Suspended (TSP) (c)	Primary	24-hour average	250	-	-	-
		12-month geom. Mean	75	-	-	-
	Secondary	24-hour average	-	-	-	-
		12-month geom. Mean	-	-	-	-
Inhalable Particulates (PM10)	Primary and Secondary	24-hour average (d)	-	-	150	-
		Annual arith. Mean (e)	-	-	50	-
Fine Particulates (PM2.5)	Primary and Secondary	24-hour average (f)	-	-	35 (k)	-
		Annual arith Mean (g)	-	-	15	-
Carbon Monoxide	Primary and Secondary (h)	1-hour average	40,000	35	40,000	35
		8-hour average	10,000	9	10,000	9
Ozone (i)	Primary	Max. Daily 1 Hr. Avg. (j)	235	0.12	235	0.12
	Secondary	1-hour average	235	0.12	235	0.12
	Primary and Secondary	8-hour average	157	0.08	157	0.08
Nitrogen Dioxide	Primary and Secondary	12-month arith. Mean	100	0.05	100	0.053
Lead	Primary and Secondary	Quarterly mean	-	-	1.5	-

Notes:

(a) New York State short-term standards are not to be exceeded more than once in any 12-month period.

(b) National short-term standards are not to be exceeded more than once in a calendar year, except as otherwise noted..

(c) As of 1991, the TSP National Standard was replaced by PM10 standards, which emphasizes the smaller particles (< 10 µm).

(d) Not to be exceeded more than once per year on average over 3 years.

(e) As of December 17, 2006, the PM10 Annual National Standard was rescinded.

(f) As of December 17, 2006, the PM2.5 24-hour National Standard was revised from 65 to 35 µg/m³. To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³.

(g) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

(h) National secondary standards for carbon monoxide have been rescinded.

(i) Former NYS Standard for ozone of 0.08 ppm was not officially revised via regulatory process to coincide with the Federal standard of 0.12 ppm which is currently being applied by NYS to determine compliance status.

(j) Maximum daily 1-hr average to be exceeded no more than once per year averaged over 3 consecutive years. The expected number of days above the standards must be less than or equal to one.

(k) The USEPA strengthened the NAAQS for PM2.5 in September 2006 from 65 ug/m3 to 35 ug/m3 for a 24 hour average.

Source: 40 CFR Part 50 and NYSDEC Chapter III Part 257

Table III.G-2
Existing Ambient Air Quality Concentrations
Yonkers, Westchester County, New York

Contaminant (Concentration Units)	Averaging Period	AAQS (a) (ppm)	Background Concentration							Location	Location Number	Approx. Distance from Site (miles)
			Maximum				98th Percentile	Number of Exceedences (b)	Year (d)			
			1st	2nd	3rd	4th						
Sulfur Dioxide (ppm)	3-hour (c)	0.5	0.07	0.057	-	-	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			0.061	0.054	-	-	-	0	2005			
			0.047	0.046	-	-	-	0	2006			
			0.072	0.061	-	-	-	0	2004	E 156th St Bet Dawson and Kelly, New York, NY (g)	2	7.9
			0.079	0.067*	-	-	-	0	2005			
			0.054	0.049	-	-	-	0	2006			
			0.039	0.038	-	-	-	0	2004	NYSDEC Field Headquarters, Gypsy Trail Road, Putnam County, NY	3	36.9
			0.022	0.021	-	-	-	0	2005			
			0.018	0.018	-	-	-	0	2006			
	24-hour (c)	0.14	0.036	0.035	-	-	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			0.042	0.039	-	-	-	0	2005			
			0.03	0.03	-	-	-	0	2006			
			0.036	0.035	-	-	-	0	2004	E 156th St Bet Dawson and Kelly, New York, NY (g)	2	7.9
			0.047	0.042*	-	-	-	0	2005			
			0.031	0.03	-	-	-	0	2006			
			0.014	0.014	-	-	-	0	2004	NYSDEC Field Headquarters, Gypsy Trail Road, Putnam County, NY	3	36.9
			0.012	0.01	-	-	-	0	2005			
			0.011	0.01	-	-	-	0	2006			
	Annual	0.03	0.01	-	-	-	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			0.009	-	-	-	-	0	2005			
			0.007	-	-	-	-	0	2006			
			0.01	-	-	-	-	0	2004	E 156th St Bet Dawson and Kelly, New York, NY (g)	2	7.9
			0.011*	-	-	-	-	0	2005			
			0.01	-	-	-	-	0	2006			
			0.003	-	-	-	-	0	2004	NYSDEC Field Headquarters, Gypsy Trail Road, Putnam County, NY	3	36.9
			0.002	-	-	-	-	0	2005			
			0.002	-	-	-	-	0	2006			
Nitrogen Dioxide (ppm)	Annual	0.05	0.024	-	-	-	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			0.027	-	-	-	-	0	2005			
			0.025	-	-	-	-	0	2006			
			0.03*	-	-	-	-	0	2004	E 156th St Bet Dawson and Kelly, New York, NY (g)	2	7.9
			0.029	-	-	-	-	0	2005			
			0.027	-	-	-	-	0	2006			
Ozone	1-hour	0.12	0.102	0.096	0.093	0.092	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			0.109	0.105	0.1	0.095	-	0	2005			
			0.106	0.099	0.09	0.087	-	0	2006			
			0.094	0.091	0.089	0.089	-	0	2004	E 156th St Bet Dawson and Kelly, New York, NY	2	7.9
			0.108	0.101	0.101	0.099	-	0	2005			
			0.114	0.089	0.089	0.08	-	0	2006			
			0.105	0.099	0.096	0.091	-	0	2004	White Plains Pump Station, Orchard Street, White Plains, Westchester County, NY	4	10.9
			0.133	0.123	0.119	0.118	-	1	2005			
			0.145	0.11	0.106	0.099	-	1	2006			

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Contaminant (Concentration Units)	Averaging Period	AAQS (a) (ppm)	Background Concentration							Location	Location Number	Approx. Distance from Site (miles)
			Maximum				98th Percentile	Number of Exceedences (b)	Year (d)			
			1st	2nd	3rd	4th						
(ppm)	8-hour	0.08	0.087	0.081	0.079	0.074	-	1	2004			
			0.082	0.08	0.075	0.074	-	0	2005	200th St & Southern Blvd, New York, NY	1	4.6
			0.09	0.075	0.072	0.071	-	1	2006			
			0.08	0.08	0.077	0.07	-	0	2004			
			0.097	0.079	0.078	0.077	-	1	2005	E 156th St Bet Dawson and Kelly, New York, NY	2	7.9
			0.099	0.072	0.07	0.069	-	1	2006			
			0.079	0.079	0.078	0.078	-	0	2004			
			0.106	0.098	0.097	0.095	-	9	2005	White Plains Pump Station, Orchard Street,	4	10.9
			0.112	0.087	0.082	0.081	-	2	2006	White Plains, Westchester County, NY		
Carbon Monoxide (ppm)	1-hour (c)	35	3.3	2.8	-	-	-	0	2004			
			3.9	3.5*	-	-	-	0	2005	200th St & Southern Blvd, New York, NY (g)	1	4.6
			2.2	2.1	-	-	-	0	2006			
			2.9	2.6	-	-	-	0	2004			
			2.3	2.2	-	-	-	0	2005	PS 59, 288 E 57th St, New York, NY	5	12.4
			1.9	1.9	-	-	-	0	2006			
	8-hour (c)	9	2	2	-	-	-	0	2004			
			2.5	2.2*	-	-	-	0	2005	200th St & Southern Blvd, New York, NY (g)	1	4.6
			1.9	1.6	-	-	-	0	2006			
			2.1	2	-	-	-	0	2004			
			1.6	1.5	-	-	-	0	2005	PS 59, 288 E 57th St, New York, NY	5	12.4
			1.6	1.5	-	-	-	0	2006			
PM10 (ug/m3)	24-hour	150	49	40	35	34*	-	0	2004			
			62	61	58	53*	-	0	2005	E 156th St Bet Dawson & Kelly (1), New York, NY (g)	2	7.9
			-	-	-	-	-	-	2006			
			41	35	32	31	-	0	2004			
			55	29	20	19	-	0	2005	E 156th St Bet Dawson & Kelly (2), New York, NY	2	7.9
			-	-	-	-	-	-	2006			
			47	32	32	31	-	0	2004			
			21	20	18	16	-	0	2005	425 Leonard St, New York, NY	6	14.9
			-	-	-	-	-	-	2006			
	Annual	50	18	-	-	-	-	0	2004			
			11	-	-	-	-	0	2005	E 156th St Bet Dawson & Kelly (1), New York, NY	2	7.9
			-	-	-	-	-	-	2006			
			17	-	-	-	-	0	2004			
			19	-	-	-	-	0	2005	E 156th St Bet Dawson & Kelly (2), New York, NY	2	7.9
			-	-	-	-	-	-	2006			
			17	-	-	-	-	0	2004	424 Leonard St, New York, NY		
			13	-	-	-	-	0	2005	425 Leonard St, New York, NY	6	14.9
			-	-	-	-	-	-	2006			

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Existing Ambient Air Quality Concentrations
Yonkers, Westchester County, New York

Contaminant (Concentration Units)	Averaging Period	AAQS (a) (ppm)	Background Concentration							Location	Location Number	Approx. Distance from Site (miles)
			Maximum				98th Percentile	Number of Exceedences (b)	Year (d)			
			1st	2nd	3rd	4th						
PM2.5 (ug/m3)	24-hour (c)(e)	35	39	38	31	31	31	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			42	40	37	35	37	0	2005			
			40	30	25	24	40	0	2006			
			42	42	38	32	38*	0	2004	2351 1st Ave, New York, NY (1)	7	9.4
			40	37	37	36	37*	0	2005	2352 1st Ave, New York, NY (1) (g)		
			44	31	27	24	44*	0	2006	2353 1st Ave, New York, NY (1)		
			-	-	-	-	-	-	2004	2351 1st Ave, New York, NY (2)	7	9.4
			-	-	-	-	-	-	2005	2352 1st Ave, New York, NY (2)		
			44	32	27	25	44	0	2006	2353 1st Ave, New York, NY (2)		
			38	35	34	30	34	0	2004	5th Avenue & Madison, Thruway Exit 9, Mamaroneck, Westchester Co, NY	8	7.1
			42	33	33	32	33	0	2005			
			37	24	24	22	37	0	2006			
	Annual (f)	15	12.7	-	-	-	-	0	2004	200th St & Southern Blvd, New York, NY	1	4.6
			13.9	-	-	-	-	0	2005			
			13.4	-	-	-	-	0	2006			
			13.2*	-	-	-	-	1	2004	2351 1st Ave, New York, NY (1)	7	9.4
			14.3*	-	-	-	-	0	2005	2352 1st Ave, New York, NY (1) (g)		
			14.1*	-	-	-	-	0	2006	2353 1st Ave, New York, NY (1)		
			-	-	-	-	-	-	2004	2351 1st Ave, New York, NY (2)	7	9.4
			-	-	-	-	-	-	2005	2352 1st Ave, New York, NY (2)		
			14.5	-	-	-	-	0	2006	2353 1st Ave, New York, NY (2)		
			11.3	-	-	-	-	0	2004	5th Avenue & Madison, Thruway Exit 9, Mamaroneck, Westchester Co, NY	8	7.1
			12.4	-	-	-	-	0	2005			
			11.7	-	-	-	-	0	2006			
Lead (ug/m3)	3-month	1.5	0.05	0.04	-	-	-	0	2004	424 Leonard St, New York, NY	6	14.9
			0.04	0.03	-	-	-	0	2005			
			-	-	-	-	-	-	2006			
			1.03	0.75	-	-	-	0	2004	Ballard Rd, Wallkill, NY	9	43.7
			0.14	0.09	-	-	-	0	2005			
			-	-	-	-	-	-	2006			

Notes:

(a) AAQS presented are the most stringent of the New York or National AAQS for each contaminant and respective averaging periods.

(b) Denotes an exceedance of National AAQS. (NOTE - 0.12 ppm standard is not exceeded unless hourly ozone concentrations > 0.124 ppm.)

(c) Not to be exceeded more than once per year (NAAQS). The PM2.5 standard was revised in September 2006 from 65 ug/m3 to 35 ug/m3.

(d) AirData reports are produced from a monthly extract of EPA's air pollution database, AQS. Data for this report were extracted on August 3, 2006. They represent the best information available to EPA from state agencies on that date.

(e) To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 65 ug/m3 (NAAQS).

(f) To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 ug/m3 (NAAQS).

(g) Existing concentrations were used to assess the potential impacts associated with the project.

Source: USEPA AIRS Database, Monitor Values Report - Criteria Air Pollutants (URL: http://www.epa.gov/air/data/monvals.html)

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Table III.G-3
National Ambient Air Quality Standards Attainment Status for Westchester County, NY

Pollutant	National Ambient Air Quality Attainment Status(a)
NO_2	Attainment
CO	Attainment (maintenance)
SO_2	Attainment
8-hour Ozone	Nonattainment (moderate)
1-hour Ozone	NAAQS: Standard Revoked (b) NYSAAQS: Nonattainment (severe)
PM_{10}	Attainment
$PM_{2.5}$	Nonattainment
Lead	Attainment

Notes:

(a) Source: The Green Book Nonattainment Areas for Criteria Pollutants (http://www.epa.gov/air/oaqps/greenbk/index.html)

(b) Discussions with NYSDEC have indicated that the 8-hour federal ozone standard is not currently being used as a benchmark for attainment status. Therefore NYSDEC continues to classify Westchester County as in "severe non-attainment" under the 1-hour ozone NAAQS. NYSDEC uses the "major stationary source" definitions (NYSDEC regulations subpart 201-2).

2. Anticipated Impacts

a. Traffic Related Air Quality

Traffic information including Levels of Service (LOS), volumes, speeds and delay time for each of the 60 intersections studied in the traffic impact study for the Project was compiled and tabulated from data provided by the Project traffic engineer. A three-step screening analysis performed in accordance with the methodology in the New York State Department of Transportation (NYSDOT) EPM (NYSDOT 2001) was used to identify which of the 60 intersections should be considered for a more detailed analysis of CO emissions. The screening evaluated "Build" conditions during peak hours and peak ballpark traffic hour.

Mobile source analysis was performed based on the traffic scenarios presented in the traffic study. The analysis assumes that all recommended traffic improvements will be implemented as a part of the Project. NYSDOT guidance indicates that roadway improvements assumed in the LOS analyses and used in air quality modeling must be completed before full operation of the proposed development.

(1) Recommended Improvements

Traffic information indicated that several intersections would require modifications to signal timing and phasing, and/or some form of physical improvement to accommodate future Build traffic operations. Recommended improvements included adding additional lanes on selected approaches and departures to modifying the existing lane usages such that Build conditions could be accommodated with desirable Levels of Service. Roadway capacity analyses performed for the No-Build and the Build conditions indicate that physical improvements will be required at a majority of the intersections to operate with desirable Levels of Service.

(2) The Build Condition

The two Build condition scenarios identified in the traffic impact study were examined – Build with Ballpark, and Build without Ballpark – and it was assumed that all recommended traffic improvements will be implemented. The scenarios were explored to determine how the traffic associated with each would impact the roadway network in the vicinity of the two major development components, River Park Center and Palisades Point.

(3) Intersection Screening

(a) Level of Service Screening

The initial screening step was to evaluate the intersections based on the LOS during the peak hours of the Build scenarios. Analysis of the Project traffic study indicates that 39 of the 60 intersections studied will operate at LOS C or better during the AM, PM and Saturday peak traffic hours for the Build without Ballpark scenario. The analysis of the Build with Ballpark scenario indicated that 37 of the 60 intersections studied will operate at LOS C or better during the PM and Saturday peak traffic hours. The intersections that

will operate at LOS D or worse pass on to the second screening step, the Capture Criteria Screening.

(b) Capture Criteria Screening

This screening step considers five criteria:

- a 10% or more reduction in source/receptor distance;
- a 10% or more increase in traffic volume;
- a 10% or more increase in emissions;
- an increase in the number of queued lanes (i.e., the number of lanes at an intersection approach);
- a 10% or more reduction in speed.

More stringent criteria apply to intersections that have been analyzed in the State Implementation Plan for carbon monoxide ("SIP" intersections) and that are located within ½ mile of the Project. These criteria are the following:

- a 5% or more reduction in source/receptor distance;
- a 5% or more increase in traffic volume;
- a 5% or more increase in emissions;
- an increase in the number of queued lanes (i.e., the number of lanes at an intersection approach);
- a 5% or more reduction in speed.

The Yonkers Ave and Ashburton Ave intersection (#18 in the traffic impact study) is a SIP intersection, but is located more than ½ mile from the Project. Therefore, this intersection is subject to the same capture criteria as the other intersections.

If any of the criteria are met, the intersection passes on to the next screening step. Eighteen (18) of the twenty-one (21) intersections studied that will operate at LOS D or worse met the 10% or more increase in traffic volume threshold for the Build without Ballpark scenario. Twenty-one (21) of the twenty-three (23) intersections studied that will operate at LOS D or worse met the 10% or more increase in traffic volume threshold for the Build with Ballpark scenario. These intersections passed to the volume threshold screening step.

(c) Volume Threshold Screening

This screening step compared peak hour approach volumes to a corresponding threshold volume. The threshold volume was determined from Table 3C in the NYSDOT EPM (NYSDOT, 2001), based on the free flow and idling emission factors for the approach. The emission factors were calculated using the form on the NYSDOT EPM website and are included in the air quality impact assessment study in Appendix III.G of this DEIS. If an approach volume is greater than the threshold volume, the subject intersection would be a candidate for mobile source air quality

modeling. A volume screening threshold of 4,000 vehicles per hour for any given approach was used.

None of the intersections warrant mobile source air quality modeling based on volume threshold screening.

(d) SIP-Related Intersections

Volume threshold screening does not apply to intersections located within ½ mile of a SIP intersection. Intersections located within ½ mile of a SIP intersection ("SIP-related" intersections) that exceed the LOS and capture criteria screening steps are subject to air quality modeling for carbon monoxide.

(4) Air Quality Modeling for SIP-Related Intersections

As shown in Tables III.G-4 and III.G-5, of the ten SIP related intersections, the following seven intersections have a future LOS of D or worse and exceed the capture criteria. Modeling was performed for these intersections for the PM Peak hour traffic for the Build with Ballpark scenario (the traffic "worst-case"):

14 Ashburton Ave and Nepperhan Ave
15 Ashburton Ave and NYS Rt 9A/Walnut St
16 Yonkers Ave and Walnut St
17 Yonkers Ave and Prescott St
18 Yonkers Ave and Ashburton Ave (SIP intersection)
19 Yonkers Ave and Sawmill R Pkwy SB Ramps
20 Yonkers Ave and Sawmill R Pkwy NB Ramps
Saw Mill River Parkway mainline

NYSDOT guidance specifies that traffic links and intersections located within 1000 feet of a receptor should be modeled together. Because of proximity, the Ashburton Avenue intersections (#14 and #15) were modeled together and the Yonkers Avenue intersections (#16 - #20) were modeled together with the Sawmill River Parkway mainline.

(a) Results

Modeled 1-hour carbon monoxide concentrations for the Build with Ballpark scenario were converted to 8-hour concentrations using a persistence factor of 0.7 in conformance with the latest guidance from NYSDEC and NYSDOT. Background 1-hour and 8-hour CO concentrations listed in the NYSDOT EPM were added to the modeled concentrations for comparison with the NAAQS (NYSDOT, 2001).

The results are presented in Table III.G-6. The modeled CO concentrations plus background concentrations are less than the applicable NAAQS. It can be concluded that CO emissions associated with the Build with Ballpark scenario will not have a significant impact on air quality.

(5) PM10/2.5 Analysis

As specified in the Scoping Outline for the DEIS, the air quality analysis for particulate matter (PM_{10} and $PM_{2.5}$) was performed following the NYSDOT EPM (New York State Department of Transportation Project Level Particulate Matter Analysis Final Policy dated September, 2004). This policy document requires analysis of particulate matter impacts for all NYSDOT projects that result in increased particulate matter emissions, regardless of project location or attainment status. The document specifies that the three highest volume intersections shall be modeled for the build and no-build scenarios. The increases in PM10 and PM2.5 concentrations (build minus no-build) are compared to the following Significant Impact Thresholds: for PM10 , 1.0 µg/m3 annual concentration or 5.0 µg/m3 on a 24-hour basis; for PM2.5 , 0.3 µg/m3 annual concentration or 5.0 µg/m3 on a 24-hour basis.

Air quality sites for microscale particulate matter (PM_{10} and $PM_{2.5}$) analysis were selected in coordination with the traffic impact study. The three highest volume intersections were identified and analyzed, in accordance with the NYSDOT EPM. The following intersections were ranked as the three highest volume intersections for the peak traffic hour (PM peak hour of the Build with Ballpark scenario):

1. Nepperhan Ave and Elm St

18. Yonkers Ave and Ashburton Ave

19. Yonkers Ave and Sawmill River Parkway Southbound Ramps

NYSDOT guidance specifies that traffic links and intersections located within 1000 feet of a receptor should be modeled together. Because of proximity, the Yonkers Avenue intersections (#18 and #19) were analyzed together. The following adjacent intersections and roadways were also analyzed together with intersections #18 and #19:

17. Yonkers Ave and Prescott St
20. Yonkers Ave and Sawmill River Parkway Northbound Ramps
Sawmill River Parkway mainline

Modeling was performed for these locations for the peak traffic hour (PM peak hour of the Build with Ballpark scenario) and the corresponding PM peak hour for the No-Build condition.

Results

For PM_{10} and $PM_{2.5}$, 1-hour modeled concentrations for the Build with Ballpark scenario and No-Build condition were converted to 24-hour and annual concentrations using a 24-hour persistence factor of 0.4 and an annual persistence factor of 0.08, in conformance with the latest guidance from NYSDEC and NYSDOT. Predicted PM_{10} and $PM_{2.5}$ concentrations with the

Project were compared to No-Build concentrations to determine compliance with 24-hour and annual average significant impact thresholds.

The results are presented in Tables III.G-7 and III.G-8. The increases in PM_{10} and $PM_{2.5}$ concentrations do not exceed the 24-hour and annual average significant impact thresholds listed in the NYSDOT EPM.

b. Parking Facilities

The maximum 1-hour and 8-hour CO concentrations from the River Park Center parking garage were predicted to be 10.1 ppm and 7.1 ppm, respectively. The values include impacts due to the adjacent street system and background levels (see Table III.G-9). These concentrations do not exceed the NAAQS of 35 ppm and 9 ppm for the maximum 1-hour and 8-hour CO concentrations, respectively.

c. Project Related Stationary Sources

Stationary emission sources associated with various Project components will include combustion equipment such as boilers, emergency generators and heating units. This equipment will be used for space heating, HVAC, and emergency services to support various components of the Project. Appropriate air permits will be obtained for these stationary sources. Preliminary design of this equipment indicates that neither the equipment nor the Project will be classified as "major source" emitters.

Fuel fired equipment will be provided within the buildings. Fuel gas boilers will be provided to produce heating hot water and domestic hot water. Multiple units will be provided and will be sized in the 100 to 500 boiler horsepower range. Boiler equipment will be located indoors in either basements or penthouse machine rooms. Burners will be of the low NOx type. Heating boilers are expected to operate 2600 hours (2000 equivalent full load hours) and domestic hot water burners are expected to operate 4500 hours.

Emergency electric generators will be provided and will be of the reciprocating engine type. Emergency power will support fire pumps, life safety lighting, fire alarm, life safety ventilation and emergency operation of elevators. The engines will be fuel oil fired with a maximum of 660 gallons of fuel oil stored in the building. The generators will be sized in the 500 to 1000 KW range. Generators will be located indoors in parking garage machine rooms. The generator will be run tested throughout the year resulting in a run time of 15 hours without considering an emergency event. Engine exhaust pipes will be in the range of 8 to 12 inches.

(1) Estimated Potential to Emit ("PTE")

The proposed Project will utilize natural gas fired boilers, natural gas fired roof-top heating units, and No. 2 oil fired emergency electrical generators. Table III.G-10 shows the proposed Project combustion equipment. Annual air emissions from the proposed combustion equipment was estimated using typical

equipment operating conditions (i.e., annual operating hours), and air pollutant emission factors such as those from USEPA AP 42, Fifth Edition, *Compilation of Air Pollutant Emission Factors, Volume 1: Stationary Point and Area Sources.* Based on this assessment, the PTE for criteria pollutants is shown in Table III.G-11. The estimated PTE as shown in Table III.G-11 indicates that the Project will be below NYSDEC major facility thresholds and will not be a major source emitter.

(2) Other Stationary Sources

A review of existing stationary sources of emissions indicates that a number of minor sources with emissions of less than 100 tons per year are present in the vicinity of the Project as shown in Figure III.G-2. None of the minor sources identified are within 400 feet from any of the Project sites. No further assessment was performed on these sources. The minor sources consist mostly of dry cleaners, auto body shops, etc.

The only major stationary source within 1000 feet of any of the Project sites is the American Sugar Refinery Company, Inc. plant (NYSDEC ID 3551800214) (the "Sugar Plant"). This facility emits particulate matter from the processing and refining of sugar, and criteria pollutants (NOx, CO, SO_2, PM10, PM2.5) from combustion sources (boiler, diesel engine generator, gas turbine cogeneration system).

3. Major Source Assessment of the Sugar Plant

Preliminary screening modeling indicated that there is potential for interactions of emissions from the Sugar Plant and the proposed Palisades Point structures. Therefore, atmospheric dispersion modeling of the potential interaction was performed. The assessment is described in detail in Appendix C of the Atmospheric Dispersion Modeling Report (Appendix III.G. of this DEIS).

Emissions Estimation

Emissions data for the Sugar Plant were estimated from the NYSDEC Title V Operating Permit and permit application for the facility. The Title V Operating Permit contains information on the emission sources at the Sugar Plant but does not clearly identify each emission point, stack release point, exit gas temperatures, stack heights and flows, etc. Because this information is not available to the Applicant, certain reasonable assumptions about the emissions were made to establish modeling scenarios.

AERMOD Atmospheric Dispersion Modeling

Atmospheric Dispersion Modeling was performed to assess the potential for Sugar Plant emissions to impact Palisades Point. Modeling was performed in accordance with current USEPA and New York State Department of Environmental Conservation modeling guidance, as applicable. The most recent version (Version 07026) of the AMS/EPA Regulatory Model with the PRIME downwash algorithm (AERMOD) was used for this analysis. AERMOD is a steady-state gaussian plume model that can be used

to assess pollutant concentrations from a wide variety of sources associated with an industrial source complex.

Modeling Results and Summary

The modeling results are presented in detail in Appendix C of the Atmospheric Dispersion Modeling Report (Appendix III.G of this DEIS). Atmospheric Dispersion Modeling was performed for Sugar Plant emissions of NOx, SO_2, CO, and PM10/2.5 from combustion sources and PM10/2.5 from process sources. The combustion sources include a cogeneration system with duct burner, boiler, and diesel generator. The primary fuel for the cogeneration system/duct burner and boiler is natural gas with secondary fuel (No. 2 fuel oil). The generator burns No. 2 fuel oil. Annual operating hours for each of the major equipment items are not identified in the Title V Operating Permit for the Sugar Plant. However, typical operating hours that correlate with the Title V Operating Permit emission limits and facility PTE (Potential to Emit) were assumed and used for modeling purposes. Emission rates were based on information in the Title V Operating Permit as related to the type and capacity of the equipment.

All modeling scenarios conservatively assume that the cogeneration system/duct burner and boiler and the generator are operating at full capacity at the same time continuously for five years of hour by hour meteorology. This provides worst-case estimates of short-term concentrations, which is an extremely conservative approach.

Based on atmospheric dispersion modeling, the Sugar Plant has the ability to emit high concentrations of SO2 based on the three combustion sources permitted by the Title V Operating Permit operating at the same time, at full capacity, burning No. 2 fuel oil. The predicted 24-hour SO_2 concentrations are greater than the applicable NYSDEC significant impact levels (SIL) and with the addition of background concentrations, are greater than the 24-hour SO_2 NAAQS at a number of receptor points located at the Palisade Point buildings. In general, facilities similar to the Sugar Plant burn gas instead of oil when gas is available. Gas is sometimes not available to commercial consumers in winter. Therefore it has been assumed that the Sugar Plant would be most likely to burn oil in the three combustion sources in the winter and gas in the cogeneration system/duct burner and boiler most of the rest of the year. The estimated usage of No. 2 fuel oil in the cogeneration system/duct burner is approximately 11% of the time, in the boiler approximately 16% of the time, and in the generator 5% of the time. Based on meteorological conditions, if the cogeneration system/duct burner and the boiler were operating at the same time on No. 2 fuel oil during the winter months of January, February and December, the potential for high, worst-case, SO_2 levels at Palisades Point would be less than 4%. The emissions for the Sugar Plant for 2005 and 2006 indicate that for the past two years, the Sugar Plant has used less than 1% of the amount of No. 2 fuel oil that the Sugar Plant is permitted to use. Assuming this mode of operation continues, the worst-case SO_2 emission scenario is extremely unlikely.

Predicted 24-hour $PM_{2.5}$ concentrations were modeled based on simultaneous operation of all combustion sources firing oil, together with all process sources. These predicted 24-hour concentrations (without background) are below the NAAQS at many of the

receptors, with a few locations above the NAAQS. As discussed above for SO_2, the worst case scenarios associated with these results are extremely unlikely. The 24-hour monitored background levels are also above the NAAQS at the monitoring sites, as shown in Table III.G-2. The predicted annual concentrations of $PM_{2.5}$ (without background) are below the NAAQS at all of the receptors.

The predicted annual concentrations of NO_2 along with background concentrations are less than the NAAQS at Palisades Point receptors. The predicted 8-hour concentrations of CO are above the applicable SIL at some receptor locations at Palisades Point, but along with background concentrations were well below the applicable CO NAAQS. The predicted concentrations of PM_{10} along with background concentrations are below the NAAQS at all of the receptors.

4. Construction

The building demolition/construction along with the improvements to the roadways and publicly accessible space affects ambient air quality temporarily and is not anticipated to be significant. Construction equipment for the Project may include mobile cranes, jackhammers, trucks, concrete cutters, bulldozers, graders, asphalt pavers, rollers etc.

Table III.G-4 - Intersection Screening - Build without Ballpark						
			1st Level	2nd Level	3rd Level	
			D or worse	>10%	>4000 vph	Detailed Modeling Required (c)
Key	Intersection	Peak Hour	LOS (a)	Project Traffic % Increase	Max Approach (vph)(b)	
1	Nepperhan Ave & Elm St	PM	D	32%	2674	
2	Nepperhan Ave & School St/New School St	AM,PM,Sat	A			
3	Nepperhan Ave & New Main St	PM	D	39%	1711	
4	So Broadway & Prospect St/Nepperhan Ave	AM	D	17%	1630	
		PM	D	26%	1876	
5	So Broadway & Hudson St (No-Build unsig.)	PM,Sat	C			
6	So Broadway & Main St	AM,Sat	B			
7	Palisade Ave & Main St	PM,Sat	C			
8	Palisade Ave & Locust Hill Ave (all-way stop)	AM,PM,Sat	C			
9	Palisade Ave & Elm St/School St/Site Access	PM,Sat	C			
10	Ashburton Ave & Warburton Ave	AM,PM	C			
11	Ashburton Ave & No Broadway	AM,PM,Sat	C			
12	Ashburton Ave & Locust Hill Rd (unsig.)	PM	D	18%	658	
13	Ashburton Ave & Palisade Ave	PM	D	15%	611	
14	Ashburton Ave & Nepperhan Ave (d)	AM	E	13%	827	
		PM	F	22%	1019	Yes
		Sat	E	29%	884	
15	Ashburton Ave & NYS Rt 9A/Walnut St (d)	AM	F	7%		
		PM	F	13%	809	Yes
		Sat	D	17%	682	
16	Yonkers Ave & Walnut St (d)	AM	D	20%	1632	
		PM	D	30%	1753	Yes
17	Yonkers Ave & Prescott St (d)	PM	D	25%	2335	Yes
18	Yonkers Ave & Ashburton Ave (SIP) (d)	AM	E	11%	2767	
		PM	E	17%	2991	Yes
19	Yonkers Ave & SMRP SB Ramps (d)	PM	D	17%	2899	Yes
20	Yonkers Ave & SMRP NB Ramps (d)	AM	E	9%		
		PM	E	13%	2216	Yes
21	Buena Vista Ave & Dock St (all-way stop)	PM	C			
22	Buena Vista Ave & Main St	AM,PM,Sat	B			
23	Buena Vista Ave & Hudson St (unsig.)	AM,PM,Sat	B			
24	Warburton St & Dock St/Nepperhan St	AM,PM	C			
25	Riverdale Ave/Warburton Ave & Main St	AM,PM,Sat	C			
26	Riverdale Ave & Hudson St	AM,PM,Sat	B			
27	Riverdale Ave & Prospect St	AM	D	11%	1081	
		PM	E	21%	1196	
		Sat	D	29%	1027	
28	Riverdale Ave & Vark St	AM,PM,Sat	C			
29	Riverdale Ave & Herriot St	AM,PM,Sat	B			
30	Riverdale Ave & Ludlow St	AM,PM	C			

Table III.G-4 - Intersection Screening - Build without Ballpark						
			1st Level	2nd Level	3rd Level	
			D or worse	>10%	>4000 vph	Detailed Modeling Required (c)
Key	Intersection	Peak Hour	LOS (a)	Project Traffic % Increase	Max Approach (vph)(b)	
31	Riverdale Ave & Radford St	AM,PM,Sat	B			
32	Riverdale Ave & Valentine Ln	AM,PM,Sat	B			
33	So Broadway & Vark St	PM	D	25%	417	
34	So Broadway & Herriot St	AM,PM,Sat	B			
35	So Broadway & Bright Place	PM	C			
36	So Broadway & Ludlow St	AM,PM,Sat	B			
37	So Broadway & McLean Ave	PM	C			
38	So Broadway & Radford St	AM,PM,Sat	C			
39	So Broadway & Valentine Ln	AM,PM,Sat	B			
40	Yonkers Ave & Midland Ave - West	AM,PM,Sat	C			
41	Yonkers Ave & Midland Ave - East	AM	C			
42	Yonkers Ave & Seminary Ave	PM,Sat	C			
43	Yonkers Ave & Central Park SB	PM	D	13%	922	
44	Yonkers Ave & Central Park NB	PM	D	7%		
45	Warburton Ave & Glenwood Ave	AM,PM,Sat	B			
46	Warburton Ave & Lamartine Ave	AM,PM,Sat	B			
47	North Broadway & Glenwood Ave	AM,PM,Sat	B			
48	North Broadway & Lamartine Ave	AM,PM,Sat	B			
49	Nepperhan Ave & Lake St	AM,PM,Sat	C			
50	Prospect St & Buena Vista Ave (all way stop)	PM	D	15%	547	
51	Prospect St & Hawthorne Ave	PM	C			
52	Rumsey Rd & SMRP/CCP Ramps (d)	AM	C			
53	Rumsey Rd & Spruce St	AM	D	6%		
54	Van Cortlandt Park Ave & Spruce St (AWS)	AM,PM,Sat	B			
55	Elm St & Van Cortlandt Park Ave (unsig) (d)	PM,Sat	C			
56	Elm St & Walnut St (d)	PM,Sat	C			
57	Elm St & Linden St (all way stop)	PM	C			
58	Lockwood Ave & SMRP SB Ramp (unsig)	AM	E	15%	502	
		PM	F	27%	496	
		Sat	E	36%	425	
59	Palmer Rd & SMRP NB Ramp (unsig)	AM	F	9%		
		PM	F	20%	543	
		Sat	F	27%	463	
60	Nepperhan Ave & Executive Blvd	AM	D	2%		
		PM	D	3%		

Notes:
(a) Worst LOS of intersection for any of the peak traffic hours (AM, PM, Sat)
(b) Maximum vehicle per hour approach of intersection
(c) Modeling is required for SIP intersection or intersections located within 1/2 mile of SIP intersection if LOS D or worse and > 10% traffic increase. Modeling performed for peak Build hour (PM with ballpark event).
(d) SIP intersection or intersection located within 1/2 mile of SIP intersection

Table III.G-5 - Intersection Screening - Build with Ballpark

			1st Level D or worse	2nd Level >10%	3rd Level >4000 vph	Detailed Modeling Required
Key	**Intersection**	**Peak Hour**	**LOS (a)**	**Project Traffic % Increase**	**Max Approach (vph)(b)**	
1	Nepperhan Ave & Elm St	PM	D	41%	2853	
2	Nepperhan Ave & School St/New School St	PM,Sat	A			
3	Nepperhan Ave & New Main St	PM	D	49%	1754	
4	So Broadway & Prospect St/Nepperhan Ave	PM	D	26%	1876	
5	So Broadway & Hudson St (No-Build unsig.)	PM	D	65%	786	
		Sat	D	104%	857	
6	So Broadway & Main St	PM	C			
7	Palisade Ave & Main St	PM	D	159%	1172	
		Sat	D	217%	962	
8	Palisade Ave & Locust Hill Ave (all-way stop)	PM	C			
9	Palisade Ave & Elm St/School St/Site Access	PM,Sat	C			
10	Ashburton Ave & Warburton Ave	PM,Sat	C			
11	Ashburton Ave & No Broadway	PM,Sat	C			
12	Ashburton Ave & Locust Hill Rd (unsig.)	PM	D	18%	658	
13	Ashburton Ave & Palisade Ave	PM	D	17%	621	
14	Ashburton Ave & Nepperhan Ave (d)	PM	F	25%	1045	Yes
		Sat	F	36%	936	
15	Ashburton Ave & NYS Rt 9A/Walnut St (d)	PM	F	15%	809	Yes
		Sat	E	23%	682	
16	Yonkers Ave & Walnut St (d)	PM	D	40%	1897	Yes
		Sat	D	60%	1987	
17	Yonkers Ave & Prescott St (d)	PM	E	34%	2646	Yes
		Sat	D	50%	2584	
18	Yonkers Ave & Ashburton Ave (SIP) (d)	PM	E	23%	3301	Yes
		Sat	E	34%	3108	
19	Yonkers Ave & SMRP SB Ramps (d)	PM	E	23%	2899	Yes
		Sat	E	34%	2312	
20	Yonkers Ave & SMRP NB Ramps (d)	PM	E	17%	2216	Yes
		Sat	E	26%	1790	
21	Buena Vista Ave & Dock St (all-way stop)	PM	C			
22	Buena Vista Ave & Main St	PM,Sat	B			
23	Buena Vista Ave & Hudson St (unsig.)	PM,Sat	B			
24	Warburton St & Dock St/Nepperhan St	PM,Sat	B			
25	Riverdale Ave/Warburton Ave & Main St	PM,Sat	C			
26	Riverdale Ave & Hudson St	PM,Sat	B			
27	Riverdale Ave & Prospect St	PM	E	22%	1196	
		Sat	D	32%	1027	
28	Riverdale Ave & Vark St	PM,Sat	C			
29	Riverdale Ave & Herriot St	PM,Sat	B			
30	Riverdale Ave & Ludlow St	PM	C			

Table III.G-5 - Intersection Screening - Build with Ballpark

Key	Intersection	Peak Hour	1st Level D or worse LOS (a)	2nd Level >10% Project Traffic % Increase	3rd Level >4000 vph Max Approach (vph)(b)	Detailed Modeling Required
31	Riverdale Ave & Radford St	PM,Sat	B			
32	Riverdale Ave & Valentine Ln	PM,Sat	B			
33	So Broadway & Vark St	PM	D	30%	452	
34	So Broadway & Herriot St	PM,Sat	B			
35	So Broadway & Bright Place	PM,Sat	C			
36	So Broadway & Ludlow St	PM,Sat	B			
37	So Broadway & McLean Ave	PM,Sat	C			
38	So Broadway & Radford St	PM,Sat	C			
39	So Broadway & Valentine Ln	PM,Sat	B			
40	Yonkers Ave & Midland Ave - West	PM	C			
41	Yonkers Ave & Midland Ave - East	PM,Sat	B			
42	Yonkers Ave & Seminary Ave	PM,Sat	C			
43	Yonkers Ave & Central Park SB	PM	D	15%	948	
44	Yonkers Ave & Central Park NB	PM	D	7%		
45	Warburton Ave & Glenwood Ave	PM,Sat	B			
46	Warburton Ave & Lamartine Ave	PM,Sat	B			
47	North Broadway & Glenwood Ave	PM,Sat	B			
48	North Broadway & Lamartine Ave	PM,Sat	B			
49	Nepperhan Ave & Lake St	Sat	D	32%	760	
50	Prospect St & Buena Vista Ave (all way stop)	PM	D	15%	547	
51	Prospect St & Hawthorne Ave	PM	C			
52	Rumsey Rd & SMRP/CCP Ramps (d)	PM,Sat	B			
53	Rumsey Rd & Spruce St	PM	C			
54	Van Cortlandt Park Ave & Spruce St (AWS)	PM,Sat	C			
55	Elm St & Van Cortlandt Park Ave (unsig) (d)	PM,Sat	C			
56	Elm St & Walnut St (d)	PM,Sat	C			
57	Elm St & Linden St (all way stop)	PM	C			
58	Lockwood Ave & SMRP SB Ramp (unsig)	PM	F	32%	522	
		Sat	F	50%	477	
59	Palmer Rd & SMRP NB Ramp (unsig)	PM	F	24%	569	
		Sat	F	36%	515	
60	Nepperhan Ave & Executive Blvd	PM	D	6%		

Notes:
(a) Worst LOS of intersection for any of the peak traffic hours (PM, Sat)
(b) Maximum vehicle per hour approach of intersection
(c) Modeling is required for SIP intersection or intersections located within 1/2 mile of SIP intersection if LOS D or worse and > 10% traffic increase. Modeling performed for peak Build hour (PM with ballpark event).
(d) SIP intersection or intersection located within 1/2 mile of SIP intersection

Table III.G-6
Carbon Monoxide Modeling Results – SIP-Related Intersections
Build with Ballpark
PM Peak Hour

	Intersection (a)		**AAQS**
	#14, 15	**#16, 17, 18, 19, 20**	
Maximum 1-hr concentration (ppm)	**1.1**	**2.4**	
+ 1-hr background (ppm) (b)	3.7	3.7	
= Total 1-hr concentration (ppm)	**4.8**	**6.1**	35
Maximum 1-hr concentration (ppm)	1.1	2.4	
× persistence factor (b)	0.7	0.7	
= Maximum 8-hr concentration (ppm)	**0.8**	**1.7**	
+ 8-hr background (ppm) (b)	2.6	2.6	
= Total 8-hr concentration (ppm)	**3.4**	**4.3**	9

Notes:

(a) Intersection numbers:
14 Ashburton Ave & Nepperhan Ave
15 Ashburton Ave & NYS Rt 9A/Walnut St
16 Yonkers Ave & Walnut St
17 Yonkers Ave & Prescott St
18 Yonkers Ave & Ashburton Ave (SIP)
19 Yonkers Ave & SMRP SB Ramps
20 Yonkers Ave & SMRP NB Ramps

(b) NYSDOT EPM background concentrations for Westchester County

1-hr background (ppm)	3.7
8-hr background (ppm)	2.6
Persistence factor	0.7

Table III.G-7-PM10/2.5 Modeling Results- Intersections 18 and 19
Yonkers Avenue and Ashburton Avenue
Yonkers Avenue and Sawmill River Parkway Southbound Ramps
PM Peak Hour with Ballpark Event

		PM_{10} ($\mu g/m^3$)					$PM_{2.5}$ ($\mu g/m^3$)				
Averaging Time	Persistence Factor (a)	Build	No Build	Concentration Increase		Significant Increase Threshold	Build	No Build	Concentration Increase		Significant Increase Threshold
1-hour	-	12	8	4 (b)	6 (c)	-	7	6	1 (b)	2 (c)	-
24-hour	0.4	4.8	3.2	1.6 (b)	2.4 (c)	5	2.8	2.4	0.4 (b)	0.8 (c)	5
Annual	0.08	0.96	0.64	0.32 (b)	0.48 (c)	1	0.56	0.48	0.08 (b)	0.16 (c)	0.3

(a) Conversion factor from 1-hour average.
(b) Maximum Build concentration (all receptors) - Maximum No-Build concentration (all receptors).
(c) Maximum increase at same receptor.

Table III.G-8 PM10/2.5 Modeling Results- Intersection 1
Nepperhan Avenue and Elm Street
PM Peak Hour with Ballpark Event

		PM_{10} ($\mu g/m^3$)					$PM_{2.5}$ ($\mu g/m^3$)				
Averaging Time	Persistence Factor (a)	Build	No Build	Concentration Increase		Significant Increase Threshold	Build	No Build	Concentration Increase		Significant Increase Threshold
1-hour	-	9	6	3 (b)	3 (c)	-	5	4	1 (b)	2 (c)	-
24-hour	0.4	3.6	2.4	1.2 (b)	1.2 (c)	5	2.0	1.6	0.4 (b)	0.8 (c)	5
Annual	0.08	0.72	0.48	0.24 (b)	0.24 (c)	1	0.40	0.32	0.08 (b)	0.16 (c)	0.3

(a) Conversion factor from 1-hour average.
(b) Maximum Build concentration (all receptors) - Maximum No-Build concentration (all receptors).
(c) Maximum increase at same receptor

Table III. G-9 River Park Center Parking Garage Modeling Results SCREEN3 Point Source with Building Downwash				
				NAAQS
	Modeled normalized 1-hr concentration	703.6	(ug/m3)/(g/s)	
×	1-hr average CO emission rate from garage	6.96	g/s	
=	Modeled 1-hr CO concentration from garage	4,897.4	ug/m3	
=		4.3	ppm	
+	Modeled 1-hr CO concentration from adjacent street traffic	2.1	ppm	
=	**Total modeled 1-hr CO concentration**	**6.4**	ppm	
+	Background 1-hr CO concentration*	3.7	ppm	
=	**Total 1-hr CO concentration**	**10.1**	**ppm**	**35.0 ppm**
	Total modeled 1-hr CO concentration	6.4	ppm	
×	Persistence factor*	0.7		
=	**Total modeled 8-hr CO concentration**	**4.5**	ppm	
+	Background 8-hr CO concentration*	2.6	ppm	
=	Total 8-hr CO concentration, ppm*	**7.1**	ppm	**9.0 ppm**
	*NYSDOT EPM 2001, Chapter 1.1, Table 8			

Table III.G-10
Project Combustion Equipment

PROJECT COMPONENT	EQUIPMENT TYPE	SIZE	NO. OF UNITS	FUEL
Palisades Point	Boilers	400 Boiler HP, low NOx burners	4 (2 per tower)	NG
	Emergency Generators	500 kW	2 (1 per tower)	No. 2 FO
River Park Center Residential Towers	Boilers	600 Boiler HP, low NOx burners	4 (2 per tower)	NG
	Emergency Generators	500 kW	2 (1 per tower)	No. 2 FO
River Park Center Retail Component	Roof Top Package Heaters	approx. 0.975 MMBTU/hr	approx. 15	NG

Table III.G-10
Project Combustion Equipment

PROJECT COMPONENT	EQUIPMENT TYPE	SIZE	NO. OF UNITS	FUEL
	Emergency Generators	1000 kW	2 (1 per tower)	No. 2 FO
River Park Center Office Space	Boilers	200 HP	2	NG
	Emergency Generator	500 kW	1	No. 2 FO
New Fire Department Headquarters	Emergency Generator	500 kW	1	No. 2 FO
	Roof Top Package Heaters	approx. 0.975 MMBTU/hr	approx. 6	NG
Cacace Center Parking Garage	Emergency Generator	500 kW	1	No. 2 FO
Cacace Center Office/Hotel	Boilers	300 HP	2	NG
	Emergency Generator	500 kW	1	No. 2 FO
Palisade Avenue Office Building	Boilers	400 HP	2	NG
	Emergency Generator	500 kW	1	No. 2 FO
Government Center Parking Garage	Emergency Generator	500 kW	1	No. 2 FO

Table III.G-11
Estimated Potential to Emit
(tons/year)

Project Component	NOx	CO	PM10	PM2.5	SO_2	VOC
Palisades Point	5.95	9.63	0.88	0.88	0.13	0.64
River Park Center Residential	8.78	14.38	1.31	1.31	0.16	0.95
River Park Center Retail	2.23	1.56	0.15	0.15	0.17	0.12
River Park Center Office Space	1.57	2.44	0.22	0.22	0.05	0.16
Fire Department Headquarters	1.16	0.91	0.08	0.08	0.04	0.06
Cacace Center Garage	0.15	0.07	0.01	0.01	0.03	0.01
Cacace Center Office/Hotel	1.81	2.85	0.26	0.26	0.05	0.16
Palisade Avenue Office Building	2.98	4.82	0.44	0.44	0.06	0.32
Government Center Parking Garage	0.15	0.07	0.01	0.01	0.03	0.01
TOTAL PROJECT PTE	**24.78**	**36.73**	**3.37**	**3.37**	**0.72**	**2.42**

5. Mitigation

a. Traffic Related Air Quality

Traffic associated with the Project is not expected to result in significant impacts to air quality in the study area, based on a number of analyses of Project related traffic data and assuming the implementation of the improvements to the traffic network recommended by the traffic engineer. Based on results of modeling and mobile source analysis for CO and $PM_{2.5}$, concentrations will not result in any exceedance of ambient air quality standards or significant impact thresholds.

Assuming the recommended traffic improvements are implemented, future operating conditions in the study area will be similar to current operating conditions. Other than the implementation of the recommended traffic improvements, no mitigation is required.

b. Stationary Sources

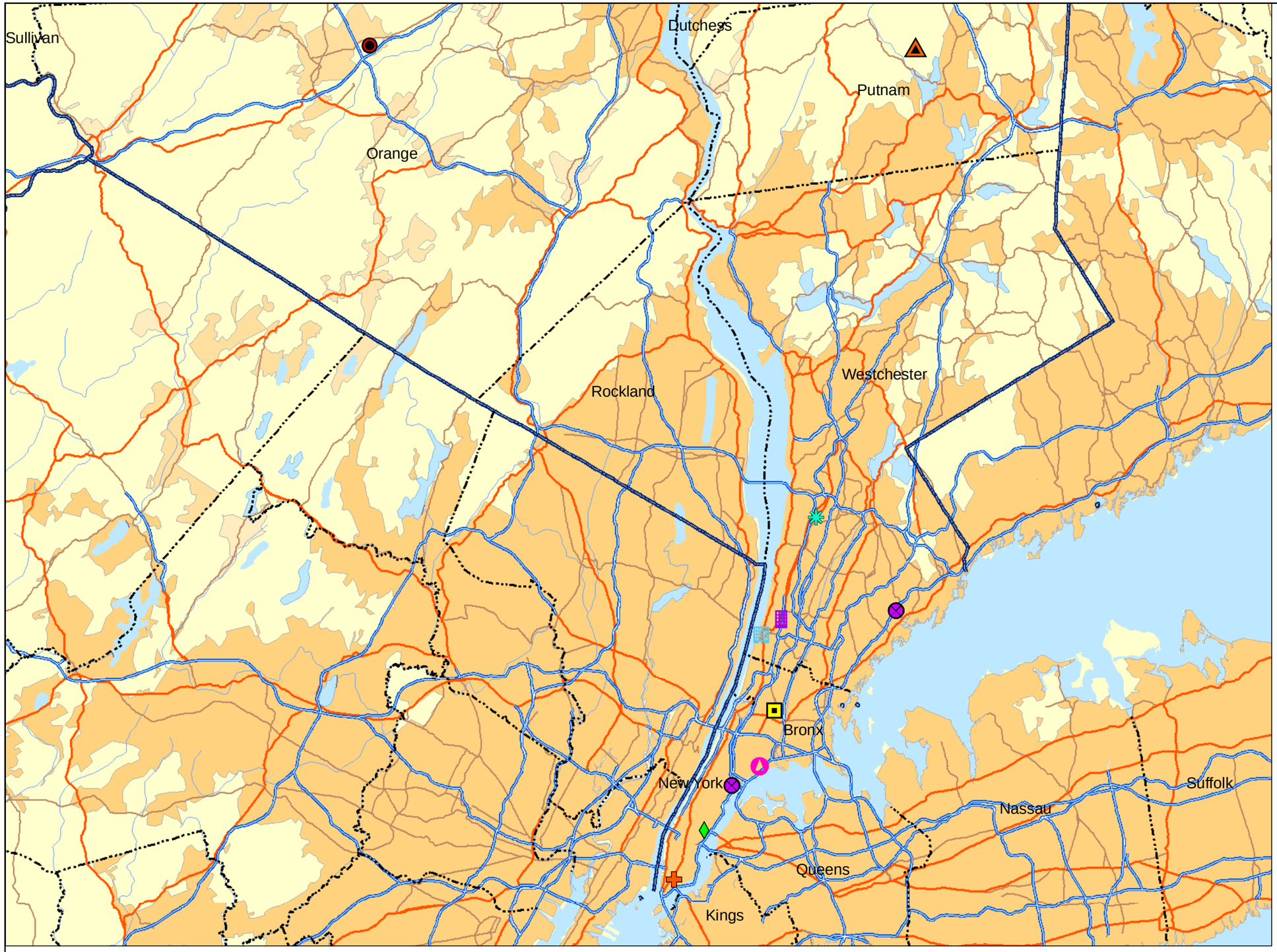
Although there is potential for impacts from Sugar Plant emissions at Palisades Point, the occurrence and severity of impacts is dependent on a number of variable factors including current process operations, type of fuel combustion, and seasonal and other meteorological conditions, especially wind direction. A number of mitigation measures will be incorporated into the design of the Palisades Point buildings to prevent or minimize impacts. The Palisades Point towers will be ventilated by a central HVAC system with fresh air inlets located at the top of the towers. The system will provide fresh/conditioned air that will be injected into the residential units and provide a positive flow of air to the living space. The systems will incorporate high efficiency particulate air filters on the outside fresh air inlets. In addition the systems will include carbon filters on the air inlets. Other design considerations may include units with non-opening windows and balconies without patios. The building design phase of the development will include evaluation and further analysis of potential impacts from Sugar Plant emissions to the proposed Palisades Point structures and will address/mitigate predicted impacts with appropriate design considerations.

c. Construction

The potential emissions during construction activities will be localized and of a temporary nature. The following are mitigation measures that can be used to minimize construction emissions:

- Use of tarps over open-body trucks transporting materials to and within the sites;
- Use of temporary vegetative cover such as annual grasses on soil stockpiles and disturbed areas awaiting additional construction;
- Application of water or other dust suppressant to on-site dirt roads during construction to mitigate dust;
- Prohibition of on-site burning of construction wastes;

- Unnecessary idling of internal combustion engines will be prohibited;
- Keeping equipment well maintained;
- Use of ultra-low sulfur diesel (ULSD) to reduce emissions from non-road equipment; and
- Use of PM Traps on diesel equipment to minimize $PM_{2.5}$ emissions.



0 25,000'

Legend

- Gateway District
- Parcels H & I
- State Boundary
- County Boundary

Monitor Points

Sites

- CO
- O3
- PM10 / Pb
- PM2.5
- Pb
- SO2
- SO2 / NO2 / O3 / CO / PM2.5
- SO2 / NO2 / O3 / PM10

Exhibit III.G-1

AIR QUALITY MONITOR LOCATOR MAP

SFC PHASE I PROJECTS

STRUEVER FIDELCO CAPPELLI LLC

0 560’

Legend

- Redevelopment Projects
- Development Areas
- 400 Foot Buffer
- 1000 Foot Buffer

NYSDEC Title V Permit

- Emission Point

AIRS Facility Subsystem (Region 2)

- Air Major
- Air Minor
- Air Synthetic Minor
- Air Major, Air Minor
- Air Major, Air Synthetic Minor
- Air Minor, Air Synthetic Minor

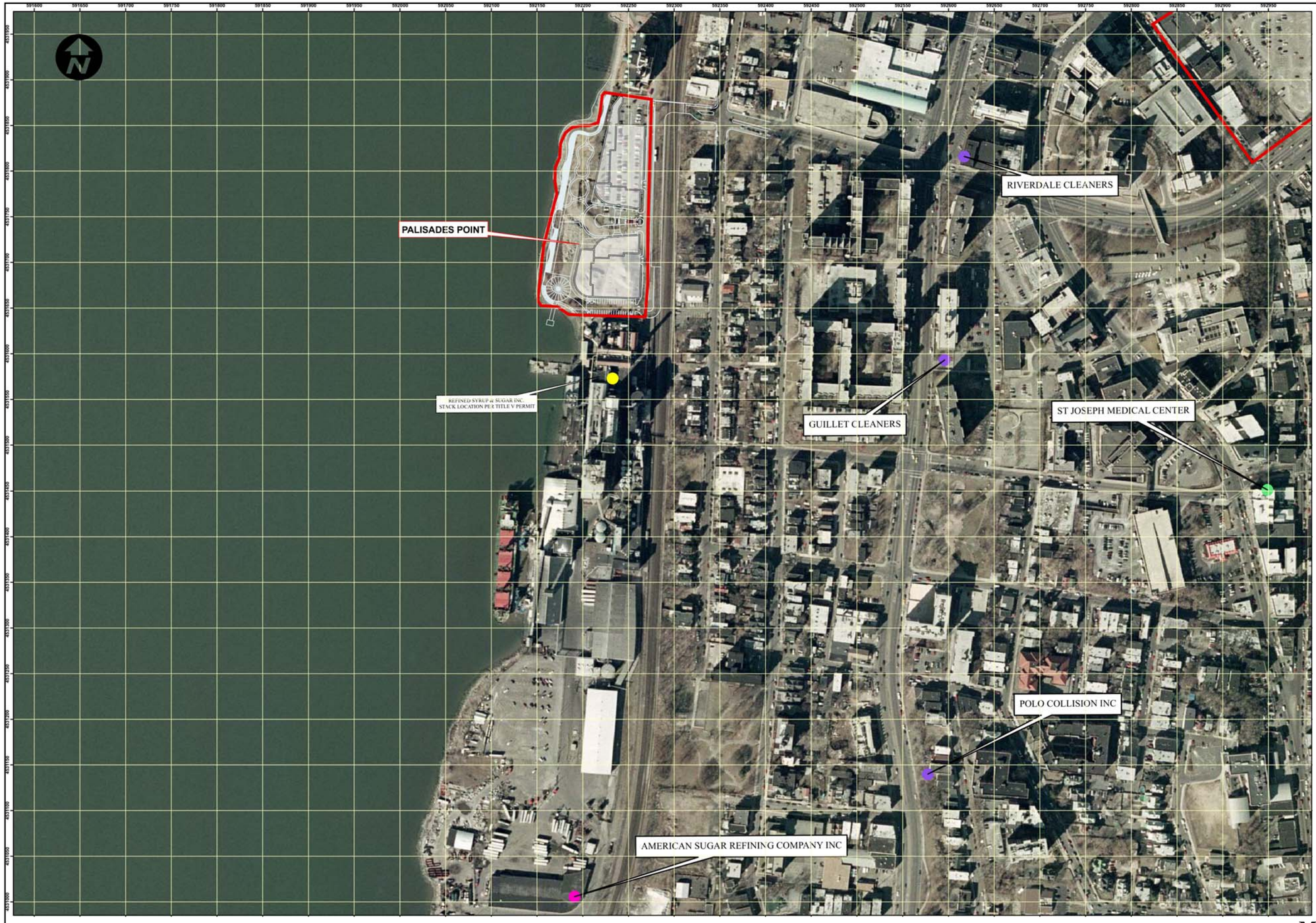
Source:
Parcel data based on Tax Maps from 1952-1955
NYS Office of Cyber Security & Critical Infrastructure Coordination
Spring 2004 Imagery
Aerometric Information Retrieval System (AIRS)/ AIRS Facility Subsystem (AIRS/AFS) Permits in EPA Region 2 - U.S. EPA Air Releases - AIRS/AFS
Permits in EPA Region 2 (Clean Air Act), 2007
Proposed Development Areas taken from SFC Infrastructure Budget Water Main Improvements Plan, SFC Phase I Sites, Yonkers, New York, 4/30/2007 and PS&S Plan, 0311300fc-bs07-yk.dwg, 4/13/2007
Emission Point from NYDEC Title V Database, 2007
Proposed Junior League Ballpark taken from SFC plan entitled, Field Level Plan, dated 04/03/07.

Exhibit III.G-2

AIR SOURCES IN PROJECT AREA

SFC PHASE I PROJECTS

STRUEVER FIDELCO CAPPELLI LLC



0 300’

Legend

- Redevelopment Projects
- Development Areas
- 400 Foot Buffer
- 1000 Foot Buffer

NYSDEC Title V Permit

- Emission Point

AIRS Facility Subsystem (Region 2)

- Air Major
- Air Minor
- Air Synthetic Minor
- Air Major, Air Minor
- Air Major,Air Synthetic Minor
- Air Minor,Air Synthetic Minor
- 50x50 Meter Grid

Source:
Parcel data based on Tax Maps from 1952-1955
NYS Office of Cyber Security & Critical Infrastructure Coordination
Spring 2004 Imagery
Aerometric Information Retrieval System (AIRS)/ AIRS Facility Subsystem (AIRS/AFS) Permits in EPA Region 2 - U.S. EPA Air Releases - AIRS/AFS
Permits in EPA Region 2 (Clean Air Act), 2007
Proposed Development Areas taken from SFC Infrastructure Budget Water Main Improvements Plan, SFC Phase I Sites, Yonkers, New York, 4/30/2007 and PS&S Plan, 03113006c-bs07-yk.dwg, 4/13/2007
Emission Point from NYDEC Title V Database, 2007.

Exhibit III.G-3

MAJOR AIR SOURCES IN PROJECT AREA

SFC PHASE I PROJECTS

STRUEVER FIDELCO CAPPELLI LLC