Appendix F – Air Quality

APPENDIX F: Air Quality Related E-Designations (Revised for FEIS)

INTRODUCTION

Under the proposed zoning, (E) Designations are proposed to avoid impacts on privately owned parcels on projected or potential development sites with respect to air quality (heating and hot water systems and impacts by existing light industrial uses or major/large air emission sources). A description of the requirements of those (E) Designations follows. A list of the sites, blocks, and lots affected by the (E) Designations is presented in Tables F-1 through F-3. No (E) Designations are required for industrial sites.

PROPOSED E-DESIGNATIONS

Heating and Hot Water E-designations

The screening analysis was performed to evaluate whether potential air quality impacts from the heat and hot water systems associated with the projected and potential development sites could potentially impact other projected and potential development sites, or existing or other proposed buildings. Additional sites were screened out by applying a setback to the screening distance (these sites subsequently require an E-Designation).

A total of 27 projected and 3 potential development sites failed the refined screening analysis using Figure 17-2 from the *CEQR Technical Manual*. Each of these development sites required a refined modeling analysis, using AERMOD, for the use of natural gas.

Overall, to preclude the potential for significant adverse air quality impacts on other projected and potential development sites, or existing buildings, from the heat and hot water emissions, an (E) Designation (E-830) would be assigned as part of the Proposed Actions for 45 projected and potential development sites (including 42 projected and 3 potential development sites). These designations specify the various restrictions, such as the use of low NO_x burners or the distance that the vent stack on the building roof must be from its lot line(s).

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites (Revised for FEIS)

Site	Block	Lots	(E) Designation
1	761	31,32	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 215 feet above grade and stack location to southeast corner of the lot and no more than 30 feet from the east lot line facing 8th Avenue and no more than 25 feet from the south lot line facing West 37th Street.
3	778	34,46,47	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 68 feet from the north lot line facing West 29th Street.
4	779	8	Any new residential and/or commercial development must ensure that the heating and hot water stack(s) is located at least 30 feet from the east lot line facing 7th Avenue.
5	779	69	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is set back at least 60 feet from the south lot line facing West 29th Street.
6	779	25,26	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and ensure that heating and hot water system stack(s) is set back 45 feet from the north lot line facing West 29th Street.
8	779	43,44,45	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and ensure the heating and hot water system stack(s) is at least 230 feet above grade and is located at least 45 feet from the south lot line facing West 29th Street and at least 35 feet from the west lot line facing 8th Avenue.
11	786	66	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 331 feet above grade.
12	786	29,31	Any new residential and/or commercial development must ensure that the heating and hot water stack(s) is located at least 25 feet from the west lot line facing 8th Avenue.
15	788	43,44,45,46	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 45 feet from the north lot line facing West 40th Street.
16	789	78, 79, 82, 5	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and ensure that the heating and hot water system stack(s) is located at least 50 feet from the north lot line facing West 40th Street.

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites (Revised for FEIS)

Site	Block	Lots	(E) Designation
18	789	40,42,43	Any new residential and/or commercial development must ensure the use of electricity exclusively for the heating system and 30 ppm Low NOx burner for the hot water system and restrict the hot water system stack(s) to least 68 feet from the south lot line facing West 39th Avenue.
19	799	24	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 15 feet from the west lot line facing 7th Avenue and no more than 50 feet from the south lot line facing West 23th Street.
20	800	14,15	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.
21	800	19	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 25 feet from the south lot line facing West 24th Street.
22	801	28,29	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.
26	802	29	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and ensure that the heating and hot water system stack(s) is located at least 65 feet from the north lot line facing West 27th Street.
27	803	11	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 55 feet from the north lot line facing West 28th Street.
31	805	1,2,5	Any new residential and/or commercial development must ensure the use of electricity for the heating system and 30 ppm Low NOx burner for the hot water system and ensure that the hot water system stack(s) is located at least 30 feet from the north lot line facing West 30th Street.
32	805	87	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located no more than 40 feet from the west lot line abutting Block 805 Lot 94.
33	805	75	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 50 feet from the east lot line facing 6th Avenue.
34	806	63	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 22 feet from the north lot line facing West 31st Street.
35	806	54,56	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites (Revised for FEIS)

Site	Block	Lots	(E) Designation
37	825	7,8	Any new residential and/or commercial development must use 30 ppm Low NOx burner and restrict the heating and hot water system stack location to at least 72 feet from the north lot line facing West 24th Street and at least 28 feet from the west lot line facing 6th Avenue.
38	826	61	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 24 feet from the east lot line facing 5th Avenue and at least 60 feet from the south lot line facing West 24th Street.
41	829	65,66,67	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 45 feet from the east lot line facing 5th Avenue.
42	829	62,63,64	Any new residential and/or commercial development must use electricity for the heating system and 15 ppm Low NOx burner for the hot water system and restrict the hot water system stack location to at least 55 feet from the east lot line facing Broadway.
43	829	59,61	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.
44	829	55,56	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 60 feet from the west lot line facing 6th Avenue.
45	830	69	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 30 feet from the south lot line facing West 28th Avenue and at least 35 feet from the east lot line facing Broadway.
46	830	32,34,48,51	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 150 feet from the north lot line facing West 29th Street.
47	831	7,9,10	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to no more than 27 feet from the west lot line facing 6th Avenue and no more than 28 feet from the south lot line facing West 29th Avenue.
48	831	55,59,61,19	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to either the southwest corner no more than 27 feet from the south lot line facing West 29th Street and no more than 28 feet

Table F-1
Heating and Hot Water System Analysis – E-Designations for Projected Development Sites (Revised for FEIS)

Site	Block	Lots	(E) Designation
			from the west lot line facing Broadway or to the northwest corner no more than 30 feet from the north lot line facing West 30th Street and no more than 28 feet from the west lot line facing Broadway,
49	831	28,29,30,33,48,49,50,51,52	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.
50	832	36,37	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 20 feet from the south lot line facing West 30th Street.
51	837	26,27,28,29	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 348 feet above grade and stack location to at least 55 feet from the east lot line facing 5th Avenue.
52	837	30	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located no more than 70 feet from the south lot line facing West 35th Street and no more than 70 feet from the west lot line abutting Block 837 Lot 29..
53	838	65,66,68,69	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system.
55	839	78,79	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 351 feet above grade and stack location to at least 55 feet from the west lot line facing 6th Avenue.
56	839	14,15	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 331 feet above grade and stack location to at least 50 feet from the north lot line facing West 38th Street.
60	840	21	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is at least 60 feet from the north lot line facing West 39th Street.
61	840	60	Any new residential and/or commercial development must ensure that the heating and hot water system stack height is at least 328 feet above grade.
62	841	12,13,14	Any new residential and/or commercial development must ensure that the heating and hot water system stack(s) is located at least 60 feet from the south lot line facing West 39th Street.

Table F-2
Heating and Hot Water System Analysis – E-Designations for Potential Development Sites

Site	Block	Lots	(E) Designation
C	786	68	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack height to at least 335 feet above grade and stack location to at least 55 feet from the south lot line facing West 36th Street and at least 45 ft from the east lot line facing 7th Avenue.
F	838	34,35	Any new residential and/or commercial development must use 30 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack location to at least 50 feet from the north lot line facing West 37th Street.
G	1012	25,26	Any new residential and/or commercial development must use 15 ppm Low NOx burner for the heating and hot water system and restrict the heating and hot water system stack to at least 355 feet above grade and stack location to at least 50 feet from the east lot line facing 7th Avenue.

Light Industrial Source E-designations

To avoid unacceptable cancer risk caused resulted by Cadmium emissions, (E) Designation (E830) would be placed on projected development Site 13 to restrict operable windows and air intakes vents at some façade locations.

(E) Designations - Light Industrial Sources

Projected Development Site 13 (Block 787, Lot 31)

Under current conditions, Cadmium emissions from Ben-Amun Co., Inc.at 246 W 38th Street require that development or enlargement on the above referenced property to prohibit operable windows and air intake vents on portions of west, east and north façades between a height of 145 feet and 159 feet above grade.

The City may determine that these requirements are no longer in effect if the emission source is no longer operating, or new air quality impact analysis based on updated operation and Cadmium emission data from Ben-Amun Co. has proved that it would not cause unacceptable cancer risk based on NYSDEC DAR-1 evaluation guidelines.

Large/Major Source E-designations

To avoid significant adverse air quality impacts of exceedance of NAAQS NO_2 1-hour threshold caused by the New York Times Building Condominium's co-generation emission source, (E) Designation (E830) would

be placed on projected development Site 17 and potential development site G to restrict operable windows and air intakes at some façade locations.

(E) Designations – Large/Major Sources

Projected Development Site 17 and Potential Development Site G

To avoid significant adverse air quality impact, development or enlargement on the properties listed in Table F-3 shall prohibit operable windows or air intakes vents on portions of building façade specified in Table F-3.

Table F-3 Operable Window and Air Intake Restriction – Projected Development Site 17 and Potential Development Site G

Site	Block	Lots	Locations Prohibited Operable Windows or Air Intake Vents	
			Wall Façade	Height Above Grade (ft)
17	789	60	Eastern	115 - 158
			Western	115 - 168
			Northern	115 - 165
			Southern	125 - 138
G	1012	25,26	Western	125 – 135