

## Table of Contents

---

<b>Executive Summary .....</b>	<b>1-1</b>
<b>1: Project Description .....</b>	<b>1-1</b>
A. Project Identification .....	1-1
B. Project Purpose and Need .....	1-1
C. Project Background.....	1-3
History of Willets Point.....	1-3
Redevelopment Efforts.....	1-4
D. Project Description.....	1-4
Existing Conditions on Project Site.....	1-4
Proposed Actions.....	1-7
Components of the Proposed Plan.....	1-8
Design Considerations.....	1-12
<b>2: Procedural And Analytical Framework .....</b>	<b>2-1</b>
A. Introduction .....	2-1
B. Environmental Review Process.....	2-1
Coordination With Other Review Processes .....	2-3
C. Framework for Environmental Analysis .....	2-4
Scope of Environmental Analysis .....	2-4
Analysis Year .....	2-4
Definition of Study Areas .....	2-5
Defining Baseline Conditions .....	2-5
Analysis Framework for the Environmental Review .....	2-8
Mitigation .....	2-12
Alternatives .....	2-12
Potential Effects of Acquisition and Relocation .....	2-12
<b>3: Land Use, Zoning, and Public Policy .....</b>	<b>3-1</b>
A. Introduction .....	3-1
Principal Conclusions.....	3-1
B. Methodology .....	3-4
C. Existing Conditions.....	3-5
Land Use .....	3-5
Zoning .....	3-14
Public Policy .....	3-18
D. Future Without the Proposed Plan .....	3-21
Land Use .....	3-21
Zoning .....	3-23
Public Policy .....	3-24

## Willets Point Development Plan

---

E.	Probable Impacts of the Proposed Plan .....	3-24
	Proposed Plan .....	3-25
	No Convention Center Scenario .....	3-33
<b>4:</b>	<b>Socioeconomic Conditions .....</b>	<b>4-1</b>
A.	Introduction .....	4-1
	Principal Conclusions .....	4-2
B.	Methodology.....	4-7
	CEQR Overview .....	4-7
	Assessment Methods .....	4-9
C.	Preliminary Assessment .....	4-11
	Direct Business Displacement .....	4-11
	Indirect Residential Displacement .....	4-16
	Indirect Business and Institutional Displacement.....	4-20
	Adverse Effects on Specific Industries .....	4-29
D.	Detailed Analysis of Direct Business and Institutional Displacement .....	4-31
	Existing Conditions .....	4-32
E.	Detailed Analysis of Indirect Residential Displacement .....	4-45
	Existing Conditions .....	4-45
	Rent-Regulated and Non-Regulated Housing.....	4-51
	Identifying Population at Risk .....	4-52
	Future Without the Proposed Plan .....	4-57
	Probable Impacts of the Proposed Plan .....	4-58
F.	Detailed Analysis of Indirect Business Displacement Due to Competition .....	4-61
	Delineation of the Trade Area .....	4-61
	Retail Employment and Sales Trends in the Primary Trade Area .....	4-62
	Demographic Market Factors Affecting Market Potential .....	4-63
	Household Retail Expenditure Potential and Trade Area Capture Rates.....	4-65
	The Future Without the Proposed Plan.....	4-66
	Probable Impacts of the Proposed Plan .....	4-68
	Probable Impacts on Local Shopping Areas.....	4-74
G.	Detailed Analysis of Adverse Effects on Specific Industries .....	4-83
H.	Economic and Fiscal Benefits and Costs.....	4-86
	Construction Period Impacts.....	4-86
	Annual Operation Impacts .....	4-93
	Public Sector Costs .....	4-99
<b>5:</b>	<b>Community Facilities.....</b>	<b>5-1</b>
A.	Introduction .....	5-1
B.	Principal Conclusions .....	5-2
	Public Schools .....	5-2
	Libraries.....	5-2
	Health Care Facilities .....	5-2
	Day Care Centers.....	5-2
	Police and Fire Protection Services .....	5-2
C.	Methodology.....	5-2
	Public Schools .....	5-3
	Libraries.....	5-4

Health Care Facilities .....	5-4
Day Care Centers .....	5-5
Police and Fire Protection Services .....	5-5
D. Existing Conditions .....	5-5
Public Schools .....	5-5
Libraries .....	5-8
Health Care Facilities .....	5-9
Day Care Centers .....	5-10
Police and Fire Services .....	5-12
E. The Future Without the Proposed Plan .....	5-12
Public Schools .....	5-12
Libraries .....	5-18
Health Care Facilities .....	5-18
Day Care Centers .....	5-19
F. Probable Impacts of the Proposed Plan .....	5-19
Public Schools .....	5-19
Libraries .....	5-25
Health Care Facilities .....	5-26
Day Care Centers .....	5-26
Police and Fire Protection Services .....	5-28
<b>6: Open Space .....</b>	<b>6-1</b>
A. Introduction .....	6-1
Principal Conclusions .....	6-1
B. Methodology .....	6-1
Study Areas .....	6-1
Open Space User Populations .....	6-2
Inventory of Open Space Resources .....	6-2
Adequacy of Open Space Resources .....	6-3
C. Existing Conditions .....	6-3
Study Area Population .....	6-3
Study Area Open Space Inventory .....	6-5
Adequacy of Open Spaces .....	6-8
D. The Future Without the Proposed Plan .....	6-10
Study Area Population .....	6-10
Study Area Open Spaces .....	6-11
Adequacy of Open Spaces .....	6-12
E. Probable Impacts of the Proposed Plan .....	6-12
Study Area Population .....	6-12
Study Area Open Spaces .....	6-13
Adequacy of Open Spaces .....	6-14
F. Conclusions .....	6-17
Quantitative Discussion .....	6-17
Qualitative Discussion .....	6-19
<b>7: Shadows .....</b>	<b>7-1</b>
A. Introduction .....	7-1
Principal Conclusions .....	7-1

**Willets Point Development Plan**

---

B. Methodology.....7-1

C. Screening .....7-2

D. Resources of Concern.....7-3

E. Assessment of Shadows.....7-3

    Proposed Plan .....7-3

    Lots B and D.....7-5

    No Convention Center Scenario .....7-5

F. Conclusions .....7-5

**8: Historic Resources .....8-1**

    A. Introduction .....8-1

        Principal Conclusions .....8-1

    B. Historic Background.....8-2

    C. Existing Conditions .....8-3

        Architectural Resources.....8-3

    D. The Future Without the Proposed Plan.....8-4

    E. Probable Impacts of the Proposed Plan .....8-4

        Architectural Resources.....8-4

**9: Urban Design and Visual Resources .....9-1**

    A. Introduction .....9-1

        Principal Conclusions .....9-1

    B. Methodology.....9-2

    C. Existing Conditions .....9-3

        Willets Point Development District.....9-3

        Study Area .....9-5

    D. The Future Without the Proposed Plan.....9-10

        District .....9-10

        Study Area .....9-10

    E. Probable Impacts of the Proposed Plan .....9-11

        District .....9-11

        Lots B and D.....9-16

        No Convention Center Scenario .....9-16

        Study Area .....9-16

**10: Neighborhood Character.....10-1**

    A. Introduction .....10-1

        Principal Conclusions .....10-1

    B. Methodology.....10-3

        Study Areas.....10-3

        Neighborhood Character Components.....10-3

    C. Existing Conditions .....10-5

        Willets Point Development District.....10-5

        Adjacent Areas.....10-6

    D. The Future Without the Proposed Plan.....10-7

        Willets Point Development District.....10-7

        Adjacent Areas.....10-8

    E. Probable Impacts of the Proposed Plan .....10-9

Willets Point Development District .....	10-9
Lots B and D .....	10-12
No Convention Center Scenario.....	10-12
Adjacent Areas .....	10-13
<b>11: Natural Resources.....</b>	<b>11-1</b>
A. Introduction.....	11-1
Principal Conclusions.....	11-1
Methodology .....	11-1
B. Regulatory Context .....	11-2
Federal.....	11-2
New York State .....	11-3
C. Existing Conditions.....	11-6
Terrestrial Resources.....	11-6
Floodplains and Wetlands .....	11-7
Aquatic Resources.....	11-8
Threatened, Endangered, and Special Concern Species.....	11-13
D. The Future Without the Proposed Plan .....	11-14
Terrestrial Resources.....	11-14
Floodplains and Wetlands .....	11-14
Aquatic Resources.....	11-15
E. Probable Impacts of the Proposed Plan.....	11-16
Proposed Plan.....	11-16
No Convention Center Scenario.....	11-20
F. References .....	11-20
<b>12: Hazardous Materials .....</b>	<b>12-1</b>
A. Introduction.....	12-1
Principal Conclusions.....	12-2
B. Methodology .....	12-3
Potential Areas and Contaminants of Concern.....	12-3
Phase I Environmental Site Assessment (ESA)—District .....	12-5
Phase I Environmental Site Assessments (ESA)—Private Lots .....	12-5
Phase II Environmental Site Assessment (ESA)—District.....	12-5
Phase I Environmental Site Assessment (ESA)—Lot D.....	12-6
Phase II Environmental Site Assessment (ESA) – Lot B.....	12-6
C. Existing Conditions.....	12-6
Topography, Geology, and Groundwater.....	12-6
District History and Current Conditions .....	12-6
D. Future Without the Proposed Plan .....	12-13
E. Probable Impacts of the Proposed Plan.....	12-14
Proposed Plan.....	12-14
Lot D and Lot B .....	12-19
No Convention Center Scenario.....	12-20
Conclusions .....	12-20
<b>13: Waterfront Revitalization Program.....</b>	<b>13-1</b>
A. Introduction.....	13-1

**Willets Point Development Plan**

---

Overview ..... 13-1  
Principal Conclusions ..... 13-2  
B. Consistency of the Proposed Plan With the Waterfront Revitalization Program Policies 13-2

**14: Infrastructure ..... 14-1**

A. Introduction ..... 14-1  
Principal Conclusions ..... 14-1  
Water Supply ..... 14-1  
Sanitary Sewage..... 14-1  
Stormwater..... 14-2

B. Methodology..... 14-3  
Sustainable Design Features Related to Infrastructure ..... 14-4

C. Existing Conditions ..... 14-4  
Water Supply ..... 14-4  
Sanitary Sewage..... 14-6  
Bowery Bay WPCP Service Area..... 14-6  
Stormwater..... 14-7

D. The Future Without the Proposed Plan..... 14-8  
Water Supply ..... 14-8  
Sanitary Sewage..... 14-8  
Stormwater..... 14-9

E. Probable Impacts of the Proposed Plan ..... 14-9  
Water Supply ..... 14-9  
Sanitary Sewage..... 14-10  
Stormwater..... 14-14  
Global Climate Change Adaptation..... 14-16

F. The No Convention Center Scenario ..... 14-18  
Water Supply ..... 14-18  
Sanitary Sewage..... 14-19  
Stormwater..... 14-21

**15: Solid Waste and Sanitation ..... 15-1**

A. Introduction ..... 15-1  
Principal Conclusions ..... 15-1

B. Methodology..... 15-1

C. Existing Conditions ..... 15-2  
Description of Solid Waste and Sanitation Services ..... 15-2  
Solid Waste Generation ..... 15-3

D. Future Without the Proposed Plan..... 15-4  
Solid Waste And Sanitation..... 15-4

E. Probable Impacts of the Proposed Plan ..... 15-4  
Proposed Plan ..... 15-4  
No Convention Center Scenario ..... 15-6

**16: Energy ..... 16-1**

A. Introduction ..... 16-1  
Principal Conclusions ..... 16-1

B. Methodology..... 16-1

C.	Existing Conditions .....	16-2
	Energy Providers .....	16-2
	Energy Initiatives .....	16-3
	Existing Willets Point Development District Demand.....	16-3
D.	Future Without the Proposed Plan .....	16-4
E.	Probable Impacts of the Proposed Plan.....	16-4
	Proposed Plan.....	16-5
	No Convention Center Scenario.....	16-5
<b>17:</b>	<b>Traffic and Parking .....</b>	<b>17-1</b>
A.	Introduction .....	17-1
B.	Principal Conclusions.....	17-2
C.	Methodology .....	17-3
D.	Existing Conditions .....	17-4
	Roadway Network and Traffic Study Area.....	17-4
	Existing Traffic Volumes and Levels of Service .....	17-8
	Parking .....	17-21
E.	The Future Without the Proposed Plan .....	17-28
	No Build Background Projects.....	17-28
	No Build Traffic Conditions .....	17-34
	Parking .....	17-39
	Dual Event Condition.....	17-39
F.	Probable Impacts of the Proposed Plan.....	17-40
	Trip Generation and Modal Split.....	17-40
	Travel Demand Analysis Results .....	17-47
	Trip Distribution and Assignment to the Roadway Network.....	17-51
	Generated Traffic Volumes .....	17-54
	Game Day Circulation Changes .....	17-56
	Traffic Levels of Service and Impacts .....	17-56
	Parking .....	17-60
	Dual Event Condition.....	17-62
	No Convention Center Scenario.....	17-65
G.	Highway Network Analysis .....	17-66
	Introduction and Methodology.....	17-66
	Existing Conditions .....	17-68
	Existing Levels of Service.....	17-69
	Future Without the Proposed Plan.....	17-72
	Probable Impacts of the Proposed Plan.....	17-74
H.	Traffic and Safety.....	17-79
<b>18:</b>	<b>Transit and Pedestrians .....</b>	<b>18-1</b>
A.	Introduction .....	18-1
	Principal Conclusions.....	18-1
B.	Methodology .....	18-1
	Transit and Pedestrian Study Areas.....	18-1
	Operational Analysis Methodology.....	18-3
C.	Existing Conditions .....	18-6
	Subway Station Operations .....	18-6

**Willets Point Development Plan**

---

Subway Line Haul Levels.....	18-9
Bus Line Haul Levels .....	18-10
Street-Level Pedestrian Operations .....	18-11
D. The Future Without the Proposed Plan.....	18-11
Changes in the Pedestrian Environment.....	18-14
Subway Station Operations.....	18-15
Subway Line Haul Levels.....	18-15
Bus Line Haul Levels .....	18-18
Street-Level Pedestrian Operations .....	18-18
E. Probable Impacts of the Proposed Plan .....	18-21
Trip Distribution and Assignment .....	18-22
Changes in the Pedestrian Environment.....	18-22
Subway Station Operations.....	18-23
Subway Line Haul Levels.....	18-25
Bus Line Haul Levels .....	18-27
Street-Level Pedestrian Operations .....	18-27
The No Convention Center Scenario.....	18-30
<b>19: Air Quality.....</b>	<b>19-1</b>
A. Introduction .....	19-1
Principal Conclusions .....	19-1
B. Pollutants for Analysis.....	19-2
Carbon Monoxide .....	19-2
Nitrogen Oxides, VOCs, and Ozone.....	19-2
Lead .....	19-3
Respirable Particulate Matter—PM <sub>10</sub> and PM <sub>2.5</sub> .....	19-3
Sulfur Dioxide .....	19-4
Air Toxics .....	19-4
C. Air Quality Regulations, Standards, and Benchmarks .....	19-5
National and State Air Quality Standards.....	19-5
NAAQS Attainment Status and State Implementation Plans .....	19-5
Determining the Significance of Air Quality Impacts .....	19-7
D. Methodology for Predicting Pollutant Concentrations .....	19-8
Introduction .....	19-8
Mobile Sources .....	19-9
Parking Facilities .....	19-14
Stationary Sources .....	19-15
E. Existing Conditions .....	19-18
Modeled CO Concentrations for Existing Traffic Conditions.....	19-18
F. Future Without the Proposed Plan.....	19-19
Mobile Sources .....	19-19
Stationary Sources .....	19-20
G. Probable Impacts of the Proposed Plan .....	19-20
Proposed Plan .....	19-20
No Convention Center Scenario .....	19-26
<b>20: Noise .....</b>	<b>20-1</b>
A. Introduction .....	20-1



Principal Conclusions.....	20-1
Noise Fundamentals .....	20-2
B. Methodology .....	20-4
General Methodology.....	20-4
TNM Model.....	20-5
FTA Guidance Manual.....	20-5
Analysis Procedure.....	20-5
Applicable Noise Codes and Impact Criteria .....	20-6
C. Existing Conditions.....	20-8
Study Area.....	20-8
Selection of Noise Receptor Locations .....	20-8
Noise Monitoring .....	20-8
Equipment Used During Noise Monitoring .....	20-9
Existing Noise Levels at Noise Receptor Locations .....	20-9
D. The Future Without the Proposed Plan .....	20-9
E. Probable Impacts of the Proposed Plan.....	20-11
Mechanical Equipment.....	20-12
Attenuation Requirements.....	20-13
Lots B and D .....	20-14
No Convention Center Scenario.....	20-14
<b>21: Construction Impacts.....</b>	<b>21-1</b>
A. Introduction.....	21-1
B. Principal Conclusions.....	21-1
C. Description of Construction Schedule and Activities .....	21-2
Conceptual Construction Phasing and Schedule .....	21-2
Construction Activities.....	21-4
General Construction Practices .....	21-10
D. Existing Conditions.....	21-12
E. The Future Without the Proposed Plan .....	21-13
F. Probable Impacts of the Proposed Plan.....	21-13
Land Use .....	21-13
Socioeconomic Conditions.....	21-13
Community Facilities and Services.....	21-13
Historic Resources.....	21-13
Natural Resources .....	21-14
Hazardous Materials.....	21-14
Traffic and Parking.....	21-15
Transit and Pedestrians.....	21-20
Air Quality.....	21-21
Noise .....	21-24
Rodent Control .....	21-26
<b>22: Public Health.....</b>	<b>22-1</b>
A. Introduction.....	22-1
B. Principal Conclusions.....	22-1
C. Methodology .....	22-2
D. Summary of Air and Noise Pollution Sources From the Proposed Plan.....	22-3

## Willets Point Development Plan

---

Construction.....	22-3
Project Operations .....	22-3
E. Pollutants Of Concern .....	22-4
Particulate Matter.....	22-4
F. Air Quality and Noise Regulations and Standards .....	22-5
Air Quality .....	22-5
Noise .....	22-6
G. Determining The Significance of Public Health Impacts .....	22-6
Air Quality .....	22-7
Noise .....	22-8
H. Health Effects Related to Asthma.....	22-8
Background.....	22-8
Causes and Triggers.....	22-9
Asthma and Traffic and Construction Equipment Sources of Air Pollution .....	22-9
Prevalence, Morbidity, and Mortality .....	22-11
I. Probable Impacts of the Proposed Plan .....	22-11
Air Quality .....	22-12
Noise.....	22-12
Hazardous Materials .....	22-12
J. Conclusion.....	22-13
<b>23: Mitigation.....</b>	<b>23-1</b>
A. Introduction .....	23-1
B. Historic Resources .....	23-1
C. Traffic And Parking.....	23-1
Astoria Boulevard .....	23-4
Northern Boulevard .....	23-4
34th Avenue.....	23-6
Roosevelt Avenue.....	23-6
Sanford Avenue .....	23-8
Other Study Area Locations .....	23-8
Implementation .....	23-9
D. Transit And Pedestrians.....	23-10
Overview .....	23-10
Subway Station Operations.....	23-10
Bus Line Haul Levels .....	23-11
Street Level Pedestrian Operations.....	23-13
E. Air Quality.....	23-14
F. Noise.....	23-14
G. Construction .....	23-15
<b>24: Alternatives.....</b>	<b>24-1</b>
A. Introduction .....	24-1
Principal Conclusions .....	24-2
B. No Action Alternative .....	24-7
Description.....	24-7
No Action Alternative Compared With the Proposed Plan .....	24-7
C. No Unmitigated Impact Alternatives.....	24-15

Historic Resources.....	24-15
Traffic.....	24-15
Pedestrians.....	24-16
Noise .....	24-16
D. Flushing Bridge Alternative.....	24-16
Description .....	24-16
Flushing Bridge Alternative Compared With the Proposed Plan.....	24-17
E. Municipal Services Alternative.....	24-22
Description .....	24-22
Municipal Services Alternative Compared With the Proposed Plan.....	24-24
F. Staged Acquisition Alternative .....	24-32
Description .....	24-32
Staged Acquisition Alternative Compared With the Proposed Plan .....	24-34
<b>25: Unavoidable Significant Adverse Impacts.....</b>	<b>25-1</b>
A. Historic Resources .....	25-1
B. Traffic And Parking .....	25-1
C. Transit And Pedestrians .....	25-2
D. Noise .....	25-3
<b>26: Growth-Inducing Aspects of the Proposed Plan.....</b>	<b>26-1</b>
<b>27: Irreversible and Irretrievable Commitment of Resources .....</b>	<b>27-1</b>
<b>28: Potential Effects of Acquisition and Relocation.....</b>	<b>28-1</b>
A. Introduction.....	28-1
B. Relocation Planning and Assistance .....	28-1
C. Potential Relocation Sites .....	28-2
D. Potential Effects of Relocation.....	28-3
Site 1—Queens Block 4206, Lot 100; Block 4207, p/o Lot 1 .....	28-3
Site 2—Queens Block 4317, Lots 1 and 20 .....	28-8
<b>Chapter 29: Response to Comments on the DGEIS .....</b>	<b>29-1</b>
A. Introduction.....	29-1
B. List of Elected Officials, Organizations, and Individuals Who Commented on the DGEIS .....	29-1
Elected Officials.....	29-1
Community Board.....	29-2
Organizations .....	29-2
Interested Public.....	29-3
C. Comments And Responses.....	29-4
Project Review Process and Public Participation.....	29-4
Chapter 1: Project Description .....	29-9
Chapter 3: Land Use, Zoning, and Public Policy .....	29-26
Chapter 4: Socioeconomic Conditions .....	29-27
Chapter 5: Community Facilities .....	29-41
Chapter 6: Open Space.....	29-44
Chapter 7: Shadows.....	29-47
Chapter 8: Historic Resources.....	29-47

## Willets Point Development Plan

---

Chapter 9: Urban Design and Visual Resources.....	29-48
Chapter 10: Neighborhood Character .....	29-49
Chapter 11: Natural Resources .....	29-50
Chapter 12: Hazardous Materials .....	29-51
Chapter 13: Waterfront Revitalization Program .....	29-56
Chapter 14: Infrastructure .....	29-57
Chapter 17: Traffic and Parking .....	29-58
Chapter 18: Transit and Pedestrians .....	29-68
Chapter 19: Air Quality .....	29-71
Chapter 20: Noise .....	29-74
Chapter 21: Construction Impacts .....	29-76
Chapter 22: Public Health.....	29-78
Chapter 23: Mitigation.....	29-79
Chapter 24: Alternatives .....	29-82
Chapter 27: Irreversible and Irretrievable Commitment of Resources .....	29-89
General Comments .....	29-89

<b>Appendix A:</b>	Urban Renewal Plan Text
<b>Appendix B:</b>	Special District Text
<b>Appendix C:</b>	Historic Resources Correspondence
Appendix C.1:	Archaeology Correspondence
Appendix C.2:	Architectural Correspondence
<b>Appendix D:</b>	New York City Waterfront Revitalization Program Consistency Assessment Form
<b>Appendix E:</b>	Traffic Volume Networks
<b><u>Appendix F:</u></b>	<u>Transit and Pedestrians</u>
<b>Appendix G:</b>	Noise
<b>Appendix H:</b>	Construction Traffic
<b><u>Appendix I:</u></b>	<u>Municipal Services Alternative Report</u>
<b><u>Appendix J:</u></b>	<u>LEED-ND Project Checklist</u>
<b><u>Appendix K:</u></b>	<u>Public Comments on the DGEIS</u>
<u>Appendix K.1:</u>	<u>Transcript of the New York City Planning Commission Public Hearing on the Willets Point DGEIS, August 13, 2008</u>
<u>Appendix K.2:</u>	<u>Written Comments Received on the Willets Point DGEIS</u>

## List of Tables

---

1-1	Blocks and Lots Affected by Proposed Action.....	1-5
1-2	Willetts Point Development Plan.....	1-9
2-1	Projects in the Study Area Expected to be Completed by 2017 or Expected to be Completed by 2017 .....	2-6
2-2	Willetts Point Development Plan.....	2-8
2-3	Cumulative Development For Analysis.....	2-11
3-1	Zoning Districts Located in Primary and Secondary Study Areas .....	3-15
4-1	District Employment by Business Type and Sector.....	4-12
4-2	Study Area Employment by Industry .....	4-15
4-3	Directly Displaced Employment as a Percentage of Study Area Employment .....	4-16
4-4	3rd Quarter 2006 Employment by Industry .....	4-22
4-5	2007 District Employment by Industry.....	4-23
4-6	Household Retail Expenditures and Total Retail Sales, Queens.....	4-25
4-7	Industrial Rents: Queens County, July 2007.....	4-39
4-8	Population Change 1990 to 2006.....	4-46
4-9	Age Distribution as Percent of Total Population .....	4-46
4-10	Household Characteristics .....	4-47
4-11	Income and Poverty Status.....	4-48
4-12	1999 Household Income Distribution.....	4-48
4-13	Housing Unit Characteristics .....	4-49
4-14	2000 Units by Year Built .....	4-50
4-15	Households and Housing Value Characteristics .....	4-50
4-16	Current Monthly Rental Rates .....	4-51
4-17	Unprotected Units.....	4-53
4-18	Average Household Income for Renters in Small Buildings and all Renter-Occupied Buildings in Queens (1999) and Number of Unprotected Housing Units by Tract.....	4-54
4-19	Population and Housing Growth: the Future Without the Proposed Plan, 2006-2017 .....	4-58
4-20	Population and Housing Growth: Proposed Plan Condition, 2017.....	4-58

**Willets Point Development Plan**

---

4-21 Retail Employment and Sales in Queens, 1987 - 2005 ..... 4-62

4-22 Retail Employment and Sales in New York City, 1987 - 2005..... 4-63

4-23 Population and Households, Primary Trade Area, Queens, New York City, 1990-20004-63

4-24 Median Household Income, Primary Trade Area, Queens, and New York City, 1989 and 1999..... 4-64

4-25 Vehicles Available for Use by Household Members, Primary Trade Area, Queens, and New York City, 2000 ..... 4-65

4-26 Household Retail Demand in the Primary Trade Area, Queens, and New York City, 20074-65

4-27 Household Retail Expenditures and Total Retail Sales, Primary Trade Area, 2007 .... 4-67

4-28 Household Retail Expenditures and Total Retail Sales, Queens, 2007 ..... 4-67

4-29 Household Retail Expenditures and Total Retail Sales, New York City, 2007 ..... 4-67

4-30 Estimated Sales for Retail Projects to be Built in the Primary Trade Area By 2017 ... 4-69

4-31 Estimated Retail Sales at Stores Introduced Under the Proposed Plan and Lot B ..... 4-71

4-32 Comparison of Estimated Retail Capture Rates in Primary Trade Area: Existing Conditions, Future Without the Proposed Plan and Future With the Proposed Plan ... 4-73

4-33 Selected Supermarkets in 1½-Mile Trade Area ..... 4-77

4-34 Comparison of Estimated Grocery Store Capture Rates in the 1½-Mile Trade Area: Existing Conditions and Future Without and With the Proposed Plan ..... 4-80

4-35 Auto-Related Firms and Jobs In New York City, 2000 and 2006..... 4-84

4-36 Existing Economic Activity ..... 4-88

4-37 Employment and Economic Benefits From Construction of the Proposed Plan..... 4-90

4-38 Employment and Economic Benefits From Construction of the No Convention Center Scenario ..... 4-92

4-39 Estimated Permanent On-Site Employment With the Proposed Plan ..... 4-93

4-40 Annual Employment and Economic Benefits From Operation of the Completed Proposed Plan ..... 4-94

4-41 Estimated Permanent On-Site Employment With the No Convention Center Scenario4-96

4-42 Annual Employment and Economic Benefits From Operation of the Completed No Convention Center Scenario..... 4-97

5-1 Preliminary Screening Analysis Criteria ..... 5-3

5-2 Public Elementary and Intermediate Schools Serving the Proposed Plan Area ..... 5-6

5-3 Queens Public High Schools Serving the Study Area..... 5-8

5-4 Library Locations ..... 5-9

5-5 Hospitals and Emergency Rooms Within One Mile of the District ..... 5-9

5-6 Outpatient Health Care Facilities Within One Mile Study Area ..... 5-10

5-7	Public Day Care Centers Within One Mile of the District .....	5-11
5-8	Police Protection Facilities .....	5-12
5-9	Fire Protection Facilities .....	5-12
5-10	Expected Residential Development: 2017 Future Without the Proposed Plan.....	5-14
5-11	Projected New Housing Units and Estimated Number of Students Generated in Study Area: 2017 Future Without the Proposed Plan .....	5-16
5-12	Estimated Public Elementary/Middle School Enrollment, Capacity, and Utilization: 2017 Future Without the Proposed Plan .....	5-16
5-13	Projected Public High School Enrollment, Capacity, and Utilization: 2017 Future Without the Proposed Plan.....	5-18
5-14	Projected New Housing Units and Estimated Number of Students Generated in Study Area: 2017 Future With the Proposed Plan .....	5-20
5-15	Estimated Public Elementary/Middle School Enrollment, Capacity, and Utilization: 2017 Future With the Proposed Plan .....	5-20
5-16	Projected Public High School Enrollment, Capacity, and Utilization: 2017 Future With the Proposed Plan.....	5-22
5-17	Projected New Housing Units and Estimated Number of Students Generated in Study Area: 2017 Future With the No Convention Center Scenario .....	5-22
5-18	Estimated Public Elementary/Middle School Enrollment, Capacity, and Utilization: 2017 Future With the No Convention Center Scenario .....	5-23
5-19	Projected Public High School Enrollment, Capacity, And Utilization: 2017 Future With the No Convention Center Scenario .....	5-25
6-1	Existing Population in Commercial and Residential Study Areas.....	6-4
6-2	Residential Study Area: Existing Residential Population by Age .....	6-5
6-3	Open Space Inventory.....	6-6
6-4	Existing Conditions: Adequacy of Open Space Resources .....	6-9
6-5	2017 Future Without the Proposed Plan Adequacy of Open Space Resources .....	6-11
6-6	2017 Future With the Proposed Plan Adequacy of Open Space Resources Proposed Plan.....	6-15
6-7	2017 Future With the Proposed Plan Adequacy of Open Space Resources No Convention Center Scenario .....	6-16
6-8	2017 Future With the Proposed Plan: Open Space Ratios Summary Proposed Plan ...	6-17
6-9	2017 Future With the Proposed Plan: Open Space Ratios Summary No Convention Center Scenario.....	6-18
7-1	Incremental Shadow Durations.....	7-3
11-1	Birds With the Potential to Breed Within the District .....	11-7
11-2	Essential Fish Habitat Designated Species for the Upper New York Bay.....	11-14

## Willetts Point Development Plan

---

12-1	Potential Media Impacts and Potential Contaminants by Industry Type .....	12-9
14-1	Existing Water Consumption and Sewage Generation Rate .....	14-5
14-2	2007 Monthly Average Daily Flows at Bowery Bay WPCP .....	14-7
14-3	Projected Water Usage With the Proposed Plan and Lots B and D .....	14-10
14-4	Estimated Wastewater Generation for the Proposed Plan and Lots B and D.....	14-11
14-5	CSO Discharges – Existing and Proposed Conditions .....	14-13
14-6	Projected Water Usage for No Convention Center Scenario .....	14-19
14-7	Conceptual Wastewater Flow Rate Generation Based on the No Convention Center Scenario.....	14-20
14-8	2006 CSO Discharges - Existing Conditions and Proposed Conditions for the No Convention Center Scenario.....	14-21
15-1	Existing Solid Waste Generation in the Willetts Point Development District .....	15-3
15-2	Solid Waste Generation for the Proposed Development Plan and Lots B and D in 2017.....	15-5
15-3	Solid Waste Generation for the No Convention Center Scenario and Lots B and D in 2017.....	15-6
16-1	Existing Energy Consumption in the Willetts Point Development District .....	16-4
16-2	Energy Consumption for the Proposed Development Plan and Lots B and D in 2017.....	16-6
17-1	Traffic Study Peak Hours .....	17-9
17-2	Existing Overall Intersection Level of Service Summary .....	17-11
17-3	Existing Traffic Lane Group Level of Service Summary .....	17-11
17-4	Hourly Parking Occupancy by Percentage of Spaces Occupied per Facility Off-Street Parking Survey – Weekday Non-Game Day.....	17-22
17-5	Hourly Parking Occupancy by Percentage of Spaces Occupied per Facility Off-Street Parking Survey – Saturday Non-Game Day.....	17-22
17-6	Hourly Parking Occupancy by Percentage of Spaces Occupied per Facility Off-Street Parking Survey – Weekday Game Day .....	17-22
17-7	Hourly Parking Occupancy by Percentage of Spaces Occupied per Facility Off-Street Parking Survey – Weekend Game Day .....	17-23
17-8	Existing Hourly On-Street Parking .....	17-26
17-9	No-Build Projects in the Traffic Study Area.....	17-29
17-10	No Build Project Clusters.....	17-31
17-11	Vehicle Trips From Background Development Projects – Non-Game Day .....	17-31
17-12	Vehicle Trips From Background Development Projects – Game Day .....	17-32
17-13	Overall Intersection Level of Service Summary Comparison Existing vs. 2017 No Build Conditions – Non-Game Day .....	17-37



17-14	Traffic Lane Group Level of Service Summary Comparison Existing vs. 2017 No Build Conditions – Non-Game Day.....	17-37
17-15	Overall Intersection Level of Service Summary Comparison Existing vs. 2017 No Build Conditions – Game Day.....	17-37
17-16	Traffic Lane Group Level of Service Summary Comparison Existing vs. 2017 No Build Conditions – Game Day.....	17-38
17-17	Cumulative Development Program for Analysis.....	17-41
17-18	Weekday Trip Generation Factors.....	17-42
17-19	Saturday Trip Generation Factors.....	17-43
17-20	Proposed Plan Person Trips by Mode.....	17-48
17-21	Proposed Plan Vehicle Trips by Type.....	17-49
17-22	Lot B Person Trips by Mode.....	17-52
17-23	Lot B Vehicle Trips by Type.....	17-52
17-24	Overall Intersection Level of Service Summary Comparison 2017 No Build vs. 2017 Build Conditions – Non-Game Day.....	17-57
17-25	Traffic Lane Group Level of Service Summary Comparison 2017 No Build vs. 2017 Build Conditions – Non-Game Day.....	17-58
17-26	Overall Intersection Level of Service Summary Comparison 2017 No Build vs. 2017 Build Conditions – Game Day.....	17-58
17-27	Traffic Lane Group Level of Service Summary Comparison 2017 No Build vs. 2017 Build Conditions – Game Day.....	17-58
17-28	2017 Build Condition Significant Impact Summary.....	17-61
17-29	Proposed Plan Weekday Parking Accumulation.....	17-63
17-30	Proposed Plan Saturday Parking Accumulation.....	17-64
17-31	Lot B Weekday and Saturday Parking Accumulation.....	17-65
17-32	Existing Highway Levels of Service Summary – Non-Game Day.....	17-70
17-33	Existing Highway Levels of Service Summary – Game Day.....	17-71
17-34	No Build Highway Levels of Service Summary – Non-Game Day.....	17-73
17-35	No Build Highway Levels of Service Summary – Game Day.....	17-75
17-36	Build Highway Levels of Service Summary – Non-Game Day.....	17-77
17-37	Build Highway Level of Service Summary – Game Day.....	17-78
17-38	Accident Data.....	17-80
17-39	2006 Existing Traffic Levels of Service – Non-Game Day.....	17-82
17-40	2006 Existing Traffic Levels of Service – Game Day.....	17-85
17-41	2017 No Build Traffic Levels of Service – Non-Game Day.....	17-88

**Willets Point Development Plan**

---

17-42 2017 No Build Traffic Levels of Service – Game Day ..... 17-91

17-43 2017 Build Traffic Levels of Service – Non-Game Day ..... 17-94

17-44 2017 Build Traffic Levels of Service – Game Day ..... 17-98

18-1 Local Bus Routes Serving the Study Area ..... 18-2

18-2 Level of Service Criteria for Subway Station Elements ..... 18-3

18-3 Level of Service Criteria for Pedestrian Elements ..... 18-6

18-5 2007 Existing Conditions: Subway Station Control Area Analysis ..... 18-9

18-6 2007 Existing Condition: Peak Hour Subway Line Haul ..... 18-10

18-7 2007 Existing Conditions: Bus Line Haul at NYCT Maximum Load Points ..... 18-10

18-8 2007 Existing Conditions: Bus Line Haul at District Load Points ..... 18-11

18-9 2007 Existing Conditions: Weekday Pedestrian LOS Analysis for Sidewalks ..... 18-12

18-10 2007 Existing Conditions: Saturday Pedestrian LOS Analysis for Sidewalks ..... 18-13

18-11 2007 Existing Conditions: Pedestrian LOS Analysis for Corners ..... 18-13

18-15 2017 No Build Condition: Subway Station Control Area Analysis ..... 18-17

18-16 2017 No Build Condition: Peak Hour Subway Line Haul ..... 18-18

18-17 2017 No Build Condition: Bus Line Haul at NYCT Maximum and District Load Points 18-18

18-18 2017 No Build Condition: Weekday Pedestrian LOS Analysis for Sidewalks ..... 18-19

18-19 2017 No Build Condition: Saturday Pedestrian LOS Analysis for Sidewalks ..... 18-20

18-20 2017 No Build Condition: Pedestrian LOS Analysis for Corners ..... 18-20

18-24 2017 Build Condition: Subway Station Control Area Analysis ..... 18-25

18-25 Distribution of District Subway Trips ..... 18-26

18-26 2017 Build Condition: Peak Hour Subway Line Haul ..... 18-26

18-27 2017 Build Condition: Bus Line Haul at NYCT Maximum and District Load Points ..... 18-27

18-28 2017 Build Condition: Weekday Pedestrian LOS Analysis for Sidewalks ..... 18-28

18-29 2017 Build Condition: Saturday Pedestrian LOS Analysis for Sidewalks ..... 18-29

18-30 2017 Build Condition: Pedestrian LOS Analysis for Corners ..... 18-29

19-1 National Ambient Air Quality Standards (NAAQS) ..... 19-6

19-2 Mobile Source Analysis Intersection Locations ..... 19-13

19-3 Maximum Criteria Pollutant Concentrations Recorded at Representative Monitoring Stations in 2007 ..... 19-18

19-4 Modeled Existing 8-Hour Average CO Concentrations (2006) ..... 19-19

19-5 Future Modeled 8-Hour Average CO Concentrations Without the Proposed Plan (2017) 19-19

19-6 Future Modeled 24-Hour PM<sub>10</sub> Concentrations Without the Proposed Plan (2017). 19-20

19-7	Future Modeled 8-Hour Average CO Concentrations With and Without the Proposed Plan.....	19-21
19-8	Future Modeled 24-Hour Average PM <sub>10</sub> Concentrations (2017).....	19-21
19-9	Future (2017) Modeled 24-Hour Average PM <sub>2.5</sub> Concentration Increments in µg/m <sup>3</sup> .....	19-22
19-10	Future (2017) Neighborhood Scale PM <sub>2.5</sub> Concentration Increments in µg/m <sup>3</sup> .....	19-22
19-11	Future (2017) Maximum Predicted 1-Hour and 8-Hour Carbon Monoxide Concentrations on Proposed Uses Near Northern Boulevard (ppm) .....	19-22
19-12	Contaminant Concentrations Resulting From Businesses With BEC Permits .....	19-25
20-1	Common Noise Levels.....	20-3
20-2	Average Ability to Perceive Changes in Noise Levels .....	20-3
20-3	Community Response to Increases in Noise Levels .....	20-3
20-4	New York City Noise Codes .....	20-6
20-5	Noise Exposure Guidelines for Use in City Environmental Impact Review .....	20-7
20-6	Required Attenuation Values to Achieve Acceptable Interior Noise Levels.....	20-8
20-7	2007 Existing Noise Levels During Non-Game Time Periods (in dBA).....	20-10
20-8	2007 Existing Noise Levels During Game Time Periods (in dBA).....	20-10
20-9	2017 No Build Noise Levels (in dBA) .....	20-11
20-10	2017 Build Noise Levels (in dBA) .....	20-12
20-11	Minimum Building Attenuation to Comply With CEQR Requirements .....	20-13
21-1	Conceptual Construction Schedule .....	21-3
21-2	Number of Construction Workers and Delivery Trucks (per Day).....	21-12
21-3	Peak Construction Trip Projections—Fourth Quarter of 2012 .....	21-17
21-4	Comparison of Vehicle Trips—Construction and Operational.....	21-17
22-1	1997 and 2005 Hospitalization Rates Per 1,000 Persons (Aged 0 to 14 Years) .....	22-11
23-1	Traffic Impact Mitigation Summary—Year 2017 .....	23-2
23-2	Summary of Unmitigated Intersections .....	23-4
23-3	2017 Mitigated Build Condition: Subway Station Vertical Circulation Analysis .....	23-11
23-4	2017 Mitigated Build Condition: Bus Line Haul Levels .....	23-12
23-5	Future Maximum Predicted 8-Hour Average Carbon Monoxide With Proposed Traffic Mitigation.....	23-14
23-6	2017 Build Noise Levels With Traffic Mitigation Measures (dBA) .....	23-15
23-7	Summary of Non-Game Day Traffic Mitigation Measures .....	23-16
23-8	Summary of Game Day Traffic Mitigation Measures .....	23-16

**Willets Point Development Plan**

---

23-9	No Build vs Build Traffic Levels of Service Comparison - Weekday AM (Non Game Day).....	23-16
23-10	No Build vs Build Traffic Levels of Service Comparison - Weekday Midday (Non Game Day).....	23-16
23-11	No Build vs Build Traffic Levels of Service Comparison - Weekday PM (Non Game Day).....	23-16
23-12	No Build vs Build Traffic Levels of Service Comparison - Saturday Midday (Non Game Day).....	23-16
23-13	No Build vs Build Traffic Levels of Service Comparison - Weekday Pre-Game.....	23-16
23-14	No Build vs Build Traffic Levels of Service Comparison - Saturday Pre-Game.....	23-16
23-15	No Build vs Build Traffic Levels of Service Comparison - Saturday Post-Game.....	23-16
24-1	Staged Acquisition Alternative—Program.....	24-33
24-2	Summary of Open Space Ratios Staged Acquisition Alternative .....	24-37
24-3	Projected Water Usage With the Staged Acquisition Alternative.....	24-42
24-4	Estimated Wastewater Generation With the Staged Acquisition Alternative .....	24-43
24-5	Staged Acquisition Alternative Vehicle Trip Generation for 2013.....	24-46
24-6	Transit and Pedestrian Trip Generation: Staged Acquisition Alternative (2013) vs. Proposed Plan.....	24-49
24-7	Contaminant Concentrations Resulting From Businesses With Dec Permits .....	24-52
28-1	Relocation Sites and Potential Uses .....	28-2

## List of Figures<sup>1</sup>

---

S-1	Development District Site.....	S-2
S-2	Block and Lot Map .....	S-2
S-3	Proposed Zoning .....	S-4
S-4	Illustrative Rendering – View Northeast .....	S-6
S-5	Van Wyck Access Ramp Alternatives.....	S-8
S-6	Proposed Special District Zones .....	S-8
S-7	Entertainment and Commercial Center – Elevation .....	S-8
S-8	Residential Community Elevation .....	S-10
S-9	Proposed Street Network .....	S-10
S-10	Illustrative Site Plan.....	S-10
S-11	Lot B and Lot D Development Sites.....	S-12
1-1	Project Location.....	1-2
1-2	Development District Site.....	1-2
1-3	Block and Lot Map .....	1-6
1-4	Aerial View.....	1-6
1-5	Existing Zoning.....	1-8
1-6	Proposed Zoning .....	1-8
1-7	Illustrative Rendering—View Northeast .....	1-8
1-8	Commercial and Entertainment Center.....	1-8
1-9	Illustrative Rendering—Residential Community.....	1-8
1-10	Van Wyck Access Ramp Alternatives.....	1-12
1-11	Proposed Special District Zones .....	1-14
1-12	Entertainment and Commercial Center—Elevation .....	1-14
1-13	Residential Community Elevation .....	1-14
1-14	Proposed Street Network .....	1-14
1-15	Illustrative Site Plan.....	1-14

---

<sup>1</sup> All illustrative renderings created by PortoFolio, Inc. and Beyer Blinder Belle Architects & Planners LLP.

**Willets Point Development Plan**

---

1-16 ICAO and FAA Height Limits ..... 1-14

2-1 No Build Project Locations ..... 2-6

2-2 Lot B and Lot D Development Sites ..... 2-10

3-1 Land Use Study Area ..... 3-4

3-2 Existing Zoning ..... 3-14

3-3 Land Use Study Area Future with the Proposed Plan ..... 3-26

3-4 Proposed Zoning ..... 3-32

4-1 Neighborhood Study Area..... 4-10

4-2 Business Study Area..... 4-10

4-3 Auto Repair Businesses..... 4-34

4-4 Bay Ridge, Brooklyn Auto Cluster ..... 4-36

4-5 Hunts Point, Bronx Auto Cluster ..... 4-36

4-6 Port Richmond/West New Brighton Staten Island Auto Cluster ..... 4-36

4-7 Percentage of Population Below Poverty Level, 1999..... 4-48

4-8 Census Tracts Containing Population Vulnerable to Indirect Displacement ..... 4-54

4-9 Factors Limiting District’s Potential to Affect Housing Values ..... 4-60

4-10 Primary Trade Area..... 4-62

4-11 Trends in Retail Sales..... 4-62

4-12 Retail Concentrations within the 1½-mile Trade Area..... 4-74

5-1 School Locations..... 5-4

5-2 Library Location..... 5-4

5-3 Hospitals..... 5-10

5-4 Outpatient Health Services..... 5-10

5-5 Publicly Funded Day Care Centers ..... 5-12

5-6 Police and Fire Services ..... 5-12

6-1 Open Space Resources ..... 6-2

6-2 Bicycle and Pedestrian Connections ..... 6-20

7-1 ICAO and FAA Height Limits ..... 7-2

7-2 Maximum Development Envelope—View Southwest ..... 7-2

7-3 Shadows March 21/Sept. 21—9:00 AM EDT..... 7-4

7-4 Shadows March 21/Sept. 21—5:15 PM EDT ..... 7-4

7-5 Shadows May 6/Aug. 6—7:30 AM EDT ..... 7-4

7-6 Shadows May 6/Aug. 6—6:00 PM EDT..... 7-4

7-7	Shadows June 21—6:30 PM EDT .....	7-4
7-8	Shadows Dec. 21—9:30 AM EST .....	7-4
8-1	Historic Resources .....	8-2
8-2	Known Historic Resources .....	8-4
9-1	Urban Design and Visual Resources.....	9-4
9-2	Willetts Point Development District Views.....	9-4
9-3	Willetts Point Development District Views.....	9-4
9-4	Willetts Point Development District Views.....	9-4
9-5	Willetts Point Development District Views.....	9-4
9-6	Willetts Point Development District Views.....	9-4
9-7	Willetts Point Development District Views.....	9-6
9-8	Study Area Views .....	9-6
9-9	Study Area Views .....	9-6
9-10	Study Area Views .....	9-6
9-11	Study Area Views .....	9-6
9-12	Study Area Views .....	9-8
9-13	Study Area Views .....	9-8
9-14	Study Area Views .....	9-8
9-15	Study Area Views .....	9-8
9-16	Study Area Views .....	9-10
9-17	Study Area Views .....	9-10
9-18	Study Area Views .....	9-10
9-19	Study Area Views .....	9-10
9-20	Study Area Views .....	9-10
9-21	Development District Views.....	9-10
9-22	Illustrative Rendering—View Northeast .....	9-12
9-23	Proposed Street Network .....	9-12
9-24	Entertainment and Commercial Center—Elevation .....	9-12
9-25	Illustrative Site Plan.....	9-14
9-26	Residential Street Plan .....	9-14
9-27	Residential Community Elevation .....	9-14
11-1	100 and 500 Year Floodplain.....	11-8
11-2	DEC Wetlands .....	11-8

**Willets Point Development Plan**

---

11-3 National Wetlands Inventory ..... 11-8

12-1 Soil Boring and Groundwater Well Sampling Locations..... 12-6

13-1 Coastal Zone Boundary ..... 13-2

14-1 Bowery Bay Existing Sewer System..... 14-6

14-2 Bowery Bay CSO Collection System..... 14-12

17-1 Traffic Study Area Existing and No Build Conditions ..... 17-4

17-2 Traffic Study Area, Build Conditions ..... 17-8

17-3 Existing Traffic Levels of Service Weekday Non-Game AM Peak Hour ..... 17-10

17-4 Existing Traffic Levels of Service Weekday Non-Game Midday Peak Hour ..... 17-10

17-5 Existing Traffic Levels of Service Weekday Non-Game PM Peak Hour ..... 17-12

17-6 Existing Traffic Levels of Service Saturday Non-Game Midday Peak Hour ..... 17-12

17-7 Existing Traffic Levels of Service Weeknight Pre-Game Peak Hour ..... 17-12

17-8 Existing Traffic Levels of Service Saturday Pre-Game Peak Hour ..... 17-12

17-9 Existing Traffic Levels of Service Saturday Post-Game Peak Hour..... 17-12

17-10 Parking Facilities..... 17-24

17-11 Transportation Analysis No Build Project Locations..... 17-28

17-12 No Build Traffic Levels of Service Weekday Non-Game AM Peak Hour ..... 17-36

17-13 No Build Traffic Levels of Service Weekday Non-Game Midday Peak Hour ..... 17-38

17-14 No Build Traffic Levels of Service Weekday Non-Game PM Peak Hour..... 17-38

17-15 No Build Traffic Levels of Service Saturday Non-Game Midday Peak Hour ..... 17-38

17-16 No Build Traffic Levels of Service Weekday Pre-Game Peak Hour ..... 17-38

17-17 No Build Traffic Levels of Service Saturday Pre-Game Peak Hour ..... 17-40

17-18 No Build Traffic Levels of Service Saturday Post-Game Peak Hour ..... 17-40

17-19 Build Traffic Levels of Service Weekday Non-Game AM Peak Hour ..... 17-58

17-20 Build Traffic Levels of Service Weekday Non-Game Midday Peak Hour ..... 17-58

17-21 Build Traffic Levels of Service Weekday Non-Game PM Peak Hour..... 17-58

17-22 Build Traffic Levels of Service Saturday Non-Game Midday Peak Hour..... 17-58

17-23 Build Traffic Levels of Service Weekday Pre-Game Peak Hour ..... 17-58

17-24 Build Traffic Levels of Service Saturday Pre-Game Peak Hour..... 17-58

17-25 Build Traffic Levels of Service Saturday Post-Game Peak Hour ..... 17-58

18-1 Subway and Bus Routes ..... 18-2

18-2 Pedestrian Study Area ..... 18-2

19-1 Mobile Source Analysis Intersection Locations..... 19-14



**List of Figures**

---

20-1 Noise Receptors .....20-8

21-1 Conceptual Construction Schedule .....21-2

21-2 Conceptual Construction Sequence .....21-2

23-1 Traffic Impact Mitigation Summary—Year 2017 ..... 23-2

23-2 Summary of Unmitigated Intersections ..... 23-2

23-3 2017 Mitigated Build Condition: Subway Station Vertical Circulation Analysis ..... 23-11

23-4 2017 Mitigated Build Condition: Bus Line Haul Levels ..... 23-12

23-5 Future Maximum Predicted 8-Hour Average Carbon Monoxide With Proposed Traffic Mitigation ..... 23-14

23-6 2017 Build Noise Levels With Traffic Mitigation Measures (dBA) ..... 23-15

24-1 Flushing Bridge Alternative.....24-16

24-2 Staged Acquisition Alternative—2013 .....24-34

24-3 Staged Acquisition Alternative—Full Buildout .....24-34

28-1 Potential Relocation Site—Zoning .....28-4

28-2 Potential Relocation Site—Zoning .....28-8

29-1 18- and 24-foot Topographic Elevations in the Willets Point Area.....29-94

29-2 18- and 24-foot Topographic Elevations in New York City.....29-94

\*