

A. INTRODUCTION

The preceding chapters of this Draft Environmental Impact Statement (DEIS) discuss the potential for significant adverse environmental impacts resulting from the proposed Admirals Row Plaza project. Such potential impacts were identified in the areas of historic and cultural resources and transportation. Measures have been examined to minimize or eliminate these anticipated impacts. These mitigation measures are discussed below.

B. HISTORIC AND CULTURAL RESOURCES

As part of the separate federal disposition action, the United States Army-National Guard Bureau (NGB) has been undertaking a consultation process under Section 106 of the National Historic Preservation Act regarding the significant adverse direct impact on Admirals Row and the significant adverse contextual impact to the historic significance of the former Brooklyn Navy Yard, as described in Chapter 1, "Project Description" and Chapter 5, "Historic and Cultural Resources." As part of the ongoing, independent Section 106 consultation process, mitigation measures have been identified to partially mitigate the significant adverse impacts. The proposed project would incorporate this and other mitigation as described below. The mitigation measures are set forth in a draft Memorandum of Agreement (MOA) among the Advisory Council on Historic Preservation (ACHP), New York State Historic Preservation Office (SHPO), and NGB, which the City, as purchaser of the property, would be required to sign, and the terms of which would be included in documents effectuating the disposition of the property. Other consulting parties would have the opportunity to sign as concurring parties, including the Brooklyn Navy Yard Development Corporation (BNYDC), the United States Army Corps of Engineers, and the New York City Landmarks Preservation Commission. The MOA is expected to be executed in Summer 2011.

Mitigation measures included in the draft MOA for the Section 106 process for the disposition of the site include:

- Preservation of existing mature trees on the project site along Nassau Street where possible;
- Photo documentation of the outbuildings on the site;
- Update of the Historic American Buildings Survey (HABS) Level II documentation;
- Architectural salvage from Officers' Quarters;
- Site commemoration plan; and
- Additional archaeological work including further investigations of the front and rear yards of the Officers' Quarters and archaeological monitoring of all ground disturbing activities.

Although NGB notified the Section 106 consulting parties in January and April 2011 that stabilization, rehabilitation and/or reconstruction of the Timber Shed and Building B will not be required mitigation measures for the federal disposition of the property (as more fully described in Chapter 5, "Historic and Cultural Resources"), BNYDC is committed to the retention, reuse,

and rehabilitation and/or reconstruction of Building B and the Timber Shed as part of the proposed project, which measures would partially mitigate the significant adverse impact resulting from demolition of the majority of the Admirals Row buildings. BNYDC has incorporated Building B and the Timber Shed into the design for the proposed project and would stabilize and rehabilitate and/or reconstruct Building B to the Secretary of the Interior's Standards and the Timber Shed with the goal of meeting the Secretary of the Interior's Standards. BNYDC will make preserving and rehabilitating and/or reconstructing Building B and the Timber Shed a commitment in the lease or other legally binding agreement with the developer to be designated by BNYDC pursuant to a Request for Proposals. The stabilization and rehabilitation of Building B would preserve the oldest and largest of the Admirals Row residences and the residence that has the highest level of surviving interior detail. Rehabilitation or reconstruction and reuse of the Timber Shed would retain the earliest structure on the Admirals Row site and the only surviving example of this type of structure at a naval installation in the country.

Further mitigation to be undertaken by BNYDC and/or the developer to be designated pursuant to the obligations in its lease or other legally binding agreement with BNYDC would include a design of the proposed development that respects the height and materials of Building B and the Timber Shed. The design elements of the project, including massing, materials, height, and transparency, are subject to approval by the City of New York Public Design Commission. In addition, the ULURP application disposition action, which would authorize transfer of the project site from the City to BNYDC, would be conditioned on adherence to the site plans and drawings submitted with the application. BNYDC and the developer to be designated would also develop and implement a Construction Protection Plan to protect Building B and the Timber Shed during construction of the new buildings on the site.

C. TRANSPORTATION

TRAFFIC

As discussed in Chapter 9, "Transportation," the proposed project would result in significant adverse impacts at four study area intersections during one or more analyzed peak hours. Specifically, two intersections would be impacted in the weekday AM peak hour and three intersections would be impacted in the weekday PM peak hour. All four of the impacted intersections are signal-controlled with two-phase signal cycles. To alleviate these impacts, the feasibility of implementing mitigation measures was explored. The mitigation analysis results and recommendations are discussed below.

According to the 2010 *CEQR Technical Manual*, a significant traffic impact can be "considered fully mitigated when the resulting level of service (LOS) degradation under the mitigated future with the proposed project (With Action condition) compared to the future without the proposed project (No Action condition) is no longer deemed significant" based on the impact criteria previously described in Chapter 9, "Transportation." For No Action LOS A, B, or C, mitigation to mid-LOS D (45 seconds of delay) is required.

With the proposed traffic mitigation measures outlined below, all significant adverse traffic impacts due to the proposed project would be fully mitigated by low-cost, readily implementable measures.

Table 14-1 presents a summary of the intersections and movements that would be significantly impacted with the proposed project and mitigated with the proposed mitigation measures.

Table 14-1
Summary of Impacted Intersections

WEEKDAY AM PEAK HOUR		
Intersection	Impacted Movement	Type of Mitigation
Nassau St. & Navy St.	Southbound left	Signal timing modifications
Flushing Ave. & Carlton Ave.	Northbound left-right	Signal timing modifications
WEEKDAY PM PEAK HOUR		
Intersection	Impacted Movement	Type of Mitigation
Sands St. & Navy St.	Northbound left	Signal timing modifications
Flushing Ave./Nassau St. & Navy St.	Southbound left	Signal timing modifications
Park Ave./Tillary St. & Navy St.	Southbound through; Southbound left; northbound left	Signal timing modifications

PROPOSED MITIGATION MEASURES

Measures to mitigate project-generated significant adverse traffic impacts would consist of minor adjustments to signal timing to increase green time for impacted movements. The operational changes proposed for each intersection are presented in **Table 14-2** and discussed below. **Table 14-3** presents the results of the level of service analysis with the proposed mitigation measures.

Sands Street and Navy Street

This intersection consists of the two-way (north-south) Navy Street and the two-way (east-west) Sands Street (Sands Street is an internal roadway of the Navy Yard east of Navy Street with access controlled via an entry/exit gate). The northbound left-turn movement would be impacted during the weekday PM peak hour. As shown in **Table 14-2**, the proposed mitigation at this intersection is to transfer 1 second of green time from the eastbound-westbound phase to the northbound-southbound phase during the PM peak hour. As shown in **Table 14-3**, with the proposed mitigation, the northbound left-turn delay in the PM peak hour would be reduced from 94.7 seconds of delay (LOS F) under the unmitigated With Action condition to 75.5 seconds of delay (LOS E) under the mitigated With Action condition. Based on the 81.9 seconds of delay (LOS F) under the No Action condition, this would no longer be deemed significant based on the impact criteria. Accordingly, with the proposed mitigation measure the impact at this intersection would be mitigated.

Nassau Street and Navy Street

This intersection consists of the two-way (north-south) Navy Street and the two-way (east-west) Nassau Street. The southbound left-turn movement would be impacted during the weekday AM and PM peak hours. As shown in **Table 14-2**, the proposed mitigation at this intersection is to transfer 3 seconds of green time from the eastbound-westbound phase to the northbound-southbound phase during the AM and PM peak hours. As shown in **Table 14-3**, with the proposed mitigation, the southbound left-turn delay in the AM peak hour would be reduced from 117.9 seconds of delay (LOS F) under the unmitigated With Action condition to 79.0 seconds of delay (LOS E) under the mitigated With Action condition. Based on the 78.6 seconds of delay (LOS E) under the No Action condition, this would no longer be deemed significant based on the impact criteria. In the PM peak hour, the delay would be reduced from 143.4 seconds of delay (LOS F) under the unmitigated With Action condition to 99.4 seconds of delay (LOS F) under the mitigated With Action condition. Based on the 98.5 seconds of delay (LOS F) under the No Action condition, this would no longer be deemed significant based on the impact criteria. Accordingly, with the proposed mitigation measure the impacts at this intersection would be mitigated.

**Table 14-2
Traffic Mitigation Measures**

Intersection	Impacted Peak Hour(s)	Approach	No Action Signal Timing (seconds) ¹		Proposed Mitigation Signal Timing (seconds) ¹				Proposed Improvement Measures
			AM/PM	MD/SAT MD	AM	MD	PM	SAT MD	
Sands St. & Navy St.	PM	EB-WB NB-SB	30 30	30 30	30 30	30 30	<u>29</u> <u>31</u>	30 30	Transfer 1 second from EB-WB to NB-SB in PM peak hour
Nassau St. & Navy St.	AM, PM	EB-WB NB-SB	79 41	49 41	<u>76</u> <u>44</u>	49 41	<u>76</u> <u>44</u>	49 41	Transfer 3 seconds from EB-WB to NB-SB in AM and PM peak hours
Park Ave./Tillary St. & Navy St. ²	PM	NS WB NS NB-SB SS EB SS NB-SB	72 48 72 48	72 48 72 48	72 48 72 48	72 48 72 48	<u>70</u> <u>50</u> <u>70</u> <u>50</u>	72 48 72 48	Transfer 2 seconds from EB-WB to NB-SB in PM peak hour
Flushing Ave. & Carlton Ave.	AM	EB-WB NB	89 31	59 31	<u>87</u> <u>33</u>	59 31	<u>86</u> <u>34</u>	59 31	Transfer 2 seconds from EB-WB to NB in AM peak hour

Notes:

¹ Signal timings indicate green time plus yellow and all red for each signal phase. Proposed changes are *italicized* and underlined.

² Park Ave./Tillary St. eastbound and westbound roadways are divided by the elevated Brooklyn-Queens Expressway. There are separate traffic signals at Navy Street's intersection with the westbound Park Ave. (north side signal, abbreviate NS) and with the eastbound Tillary St. (south side signal, abbreviated SS).

**Table 14-3
2014 Mitigated With Action Condition: Level of Service at Analyzed Intersections**

Signalized Intersection	Lane Group	2014 No Action AM Peak Hour			2014 With Action AM Peak Hour			2014 Mitigated With Action AM Peak Hour			
		V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	
Nassau Street (E-W) @	EB-LTR	0.17	10.3	B	0.18	10.4	B	0.19	11.8	B	
Navy Street (N-S)	WB-LT	0.66	18.7	B	0.69	19.8	B	0.72	22.6	C	
	WB-R	0.69	20.6	C	0.70	21.0	C	0.73	24.2	C	
	NB-L	0.78	59.3	E	0.79	61.9	E	0.72	51.0	D	
	NB-T	0.63	42.6	D	0.69	45.3	D	0.63	40.6	D	
	NB-R	0.29	34.7	C	0.33	35.7	D	0.30	32.7	C	
	SB-L	0.83	78.6	E	0.99	117.9	F*	0.85	79.0	E	
	SB-TR	0.37	35.8	D	0.40	36.4	D	0.37	33.4	C	
Flushing Ave (E-W)	EB-T	0.27	7.4	A	0.30	7.7	A	0.31	8.5	A	
Carlton Ave (NB)	WB-T	0.77	8.2	A	0.79	9.2	A	0.81	11.3	B	
	NB-LR	0.69	62.0	E	0.77	69.0	E*	0.70	59.3	E	
Signalized Intersection	Lane Group	2014 No Action PM Peak Hour			2014 With Action PM Peak Hour			2014 Mitigated With Action PM Peak Hour			
		V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	V/C Ratio	Delay (sec/veh)	LOS	
Sands Street (E-W) @	EB-LTR	0.25	11.9	B	0.27	12.2	B	0.29	13.0	B	
Navy Street (N-S)	WB-LTR	0.18	11.2	B	0.29	12.2	B	0.30	12.9	B	
	NB-L	1.06	81.9	F	1.10	94.7	F*	1.05	75.5	E	
	NB-TR	0.66	19.2	B	0.68	19.9	B	0.66	18.3	B	
	SB-LTR	0.39	13.3	B	0.39	13.3	B	0.38	12.5	B	
Nassau Street (E-W) @	EB-LTR	0.18	10.3	B	0.19	10.5	B	0.20	11.9	B	
Navy Street (N-S)	WB-R	0.61	17.5	B	0.69	20.2	C	0.72	23.2	C	
	WB-LT	0.72	21.9	C	0.73	22.1	C	0.76	25.6	C	
	NB-L	0.26	34.8	C	0.28	35.4	D	0.25	32.3	C	
	NB-T	0.51	38.7	D	0.56	40.2	D	0.52	36.6	D	
	NB-R	0.50	40.1	D	0.57	42.9	D	0.53	38.7	D	
	SB-L	0.97	98.5	F	1.12	143.4	F*	0.99	99.4	F	
	SB-TR	0.46	37.6	D	0.52	39.1	D	0.48	35.7	D	
Park Ave (E-W) @	NS	WB-R	0.75	26.5	C	0.75	26.5	C	0.77	29.0	C
Navy Street (N-S)	NS	WB-LT	0.29	15.8	B	0.29	15.8	B	0.30	17.0	B
		NB-L	0.52	48.5	D	0.58	55.0	D*	0.50	44.8	D
		NB-T	0.39	31.4	C	0.47	33.3	C	0.45	31.4	C
		SB-T	0.88	52.0	D	0.93	59.0	E*	0.88	51.3	D
	SS	EB-LT	0.58	20.4	C	0.61	21.2	C	0.63	22.9	C
		NB-T	0.38	31.2	C	0.42	32.1	C	0.40	30.3	C
		SB-L	1.08	116.0	F	1.16	142.9	F*	1.07	111.8	F
		SB-T	0.62	37.7	D	0.68	39.9	D	0.65	37.1	D

Notes:

EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
 L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
 V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
 LOS - Level of service
 * Significant Impact in the 2014 With Action condition
 Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS+™ 5.4).

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Park Avenue/Tillary Street and Navy Street

This intersection consists of the two-way (north-south) Navy Street and the two-way (east-west) Park Avenue (designated name east of Navy Street) and Tillary Street (designated name west of Navy Street). The Park Avenue/Tillary Street corridor's eastbound and westbound roadways are separated by the elevated Brooklyn-Queens Expressway structure and there are separate traffic signals located at the roadways' intersection with Navy Street. These include the north side of the intersection, where there is a traffic signal at Navy Street and the westbound Park Avenue approach and the south side of the intersection where there is a traffic signal at Navy Street and the eastbound Tillary Street approach. The southbound through approach at the north side of the intersection, the southbound left-turn at the south side of the intersection, and the northbound left-turn at the north side of the intersection would be impacted during the weekday PM peak hour. As shown in **Table 14-2**, the proposed mitigation at this intersection is to transfer 2 seconds of green time from the eastbound-westbound phase to the northbound-southbound phase during the PM peak hour. As shown in **Table 14-3**, with the proposed mitigation, the southbound through delay in the PM peak hour would be reduced from 59.0 seconds of delay (LOS D) under the unmitigated With Action condition to 51.3 seconds of delay (LOS D) under the mitigated With Action condition. Based on the 52.0 seconds of delay (LOS D) under the No Action condition, this would no longer be deemed significant based on the impact criteria. As also shown in the table, the southbound left-turn delay in the PM peak hour would be reduced from 142.9 seconds of delay (LOS F) under the unmitigated With Action condition to 111.8 seconds of delay (LOS F) under the mitigated With Action condition. Based on the 116.0 seconds of delay (LOS F) under the No Action condition, this would no longer be deemed significant based on the impact criteria. Also at this intersection, the northbound left-turn delay in the PM peak hour would be reduced from 55.0 seconds of delay (LOS D) under the unmitigated With Action condition to 44.8 seconds of delay (LOS D) under the mitigated With Action condition. Based on the 48.5 seconds of delay (LOS D), this would no longer be deemed significant based on the impact criteria. Accordingly, with the proposed mitigation measure the impacts at this intersection would be mitigated.

Flushing Avenue and Carlton Avenue

This T-intersection consists of the two-way (northbound approach) Carlton Avenue and the two-way (east-west) Flushing Avenue. The northbound approach (left and right turns) would be impacted during the weekday AM peak hour. As shown in **Table 14-2**, the proposed mitigation at this intersection is to transfer 2 seconds of green time from the eastbound-westbound phase to the northbound phase during the AM peak hour. As shown in **Table 14-3**, with the proposed mitigation, the northbound approach in the AM peak hour would be reduced from 69.0 seconds of delay (LOS E) under the unmitigated With Action condition to 59.3 seconds of delay (LOS E) under the mitigated With Action condition. Based on the 62.0 seconds of delay (LOS E) under the No Action condition, this would no longer be deemed significant based on the impact criteria. Accordingly, with the proposed mitigation measure the impact at this intersection would be mitigated.

Summary

The significant adverse traffic impacts expected at four intersections in one or more peak hours can all be mitigated by proposed traffic signal modifications involving adjustments of 3 seconds or less to traffic signal phasing. This type of mitigation is described in the 2010 *CEQR Technical*

Manual as being a low-cost, readily implementable measure and will be subject to the review and approval of the New York City Department of Transportation.

BUS SERVICE

As discussed in Chapter 9, “Transportation,” pursuant to *CEQR Technical Manual* guidelines, northbound B62 local bus service would experience a significant adverse impact due to project-generated demand in the weekday PM peak hour. As shown in Table 9-23, there would be a shortfall in capacity of seven passengers at the peak load point, with 331 passengers exceeding the available capacity of 324.

According to the *CEQR Technical Manual*, the shortfall in capacity would be considered a significant adverse impact. The general policy of New York City Transit (NYCT) is to provide additional bus service where demand warrants, taking into account financial and operational constraints. Based on NYCT’s ongoing passenger monitoring program, comprehensive service plans are generated to respond to specific known needs with capital and/or operational improvements where fiscally feasible and operationally practicable. Therefore, at the time the proposed project is operational, NYCT will determine the need to implement specific mitigation measures to address the significant adverse impact on the northbound B62 local bus service in the weekday PM peak hour.

D. AIR QUALITY

Chapter 10, “Air Quality” described the maximum predicted particulate matter (PM) concentrations from mobile sources (traffic) that would be generated by the proposed project. The chapter concluded that there would be no potential for any significant adverse air quality impacts and no air quality mitigation would be required. However, an analysis is warranted of the proposed project’s potential effects on air quality with the implementation of the traffic mitigation measures discussed above.

EFFECTS OF TRAFFIC MITIGATION MEASURES ON AIR QUALITY

An analysis of particulate matter emissions was performed for Site 2 (the intersection of Sands and Navy Streets), because the greatest number of truck trips (PM_{2.5} emissions from diesel vehicles, primarily trucks, are of concern) is expected at the site, as discussed in Chapter 10, “Air Quality.” Traffic mitigation measures did not result in changes to the traffic conditions at Site 1 (the intersection of Flushing and Carlton Avenues) during the time periods for which the air quality analysis was conducted.

The highest predicted PM₁₀ concentrations without the proposed project and with the proposed project and traffic mitigation measures for the 2014 With Action year are shown in **Table 14-4**. Concentrations represent the maximum for all locations analyzed and include the PM₁₀ ambient background concentration. The results indicate that the project with the proposed traffic mitigation measures would not result in PM₁₀ concentrations that would exceed the NAAQS.

Table 14-4
Maximum Predicted 24-Hour Average PM₁₀
Concentrations With Traffic Mitigation (µg/m³)

Receptor Site	Location	Without the Project	With the Project and Traffic Mitigation
2	Sands Street and Navy Street	61.32	61.66
Note: The National Ambient Air Quality Standard for PM ₁₀ is 150 µg/m ³ , for a 24-hour average.			

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The maximum predicted localized 24-hour average and neighborhood-scale annual average incremental PM_{2.5} concentrations with traffic mitigation are presented in **Tables 14-5** and **14-6**, respectively. PM_{2.5} concentrations without the proposed project are not presented, since impacts are assessed on an incremental basis. The results show that the PM_{2.5} concentration increments would not exceed the interim guidance criteria. Therefore, there would be no potential for significant adverse impacts from mobile sources with the proposed traffic mitigation measures on air quality.

Table 14-5
Maximum Predicted 24-Hour Average PM_{2.5}
Increments with Traffic Mitigation (µg/m³)

Receptor Site	Location	Increment
2	Sands Street and Navy Street	0.06
Note: PM _{2.5} interim guidance criteria—24-hour average, 2 µg/m ³ (5 µg/m ³ not-to-exceed value).		

Table 14-6
Maximum Predicted Annual Average PM_{2.5}
Increments with Traffic Mitigation (µg/m³)

Receptor Site	Location	Increment
2	Sands Street and Navy Street	0.02
Note: PM _{2.5} interim guidance criteria—annual (neighborhood scale), 0.1 µg/m ³ .		

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