



**TECHNICAL MEMORANDUM 001
NEW YORK CITY BOROUGH-BASED JAIL SYSTEM
CEQR No. 18DOC001Y**

**ULURP Nos. 190333 PSY, N190334 ZRY, 190335 ZSX, 190336 ZMX, N190337
ZRX, 190338 HAX, 190339 ZSK, 190340 ZSM, 190341 PQM, 190342 ZSQ, 190116
MMK, 190252 MMM, 190117 MMQ**

October 11, 2019

A. INTRODUCTION

The City of New York, through the New York City Department of Correction (DOC) and the Mayor's Office of Criminal Justice (MOCJ), is proposing to implement the New York City Borough-Based Jail System project as part of the City's continued commitment to create a modern, humane, and safe justice system. On August 23, 2019, DOC, as lead agency, issued a Notice of Completion for the Final Environmental Impact Statement (FEIS) for the proposal. The City Planning Commission (CPC) approved the proposal on September 3, 2019 and referred the application to the City Council. The actions as approved by the CPC are referred to as the "proposed project" in this memorandum.

The proposed project requires several approvals. Site selection actions are required at each site to allow the City to select the locations for the proposed facilities. In addition, the proposed project would require a zoning text amendment to create a special permit, exclusively for a borough-based jail system (the Borough-Based Jail System special permit),¹ to modify zoning requirements including use; bulk, including an increase in floor area ratio (FAR) related to prison use;² and accessory and public parking and loading. A Borough-Based Jail System special permit would be sought for each site to waive zoning requirements and allow for a zoning envelope that would

¹ The Borough-Based Jail System special permit would only be available for the proposed borough-based jail system and would not be available for other applicants or sites.

² "Prison" is the term used in the New York City Zoning Resolution.

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accommodate the proposed structure, permit the necessary density, and/or permit the proposed parking. Certain sites would also require changes to the City map.

Since the CPC's approval of the proposed project, potential modifications have been brought under consideration by the City Council. The project with the potential City Council modifications is referred to as the "modified project" in this memorandum and is summarized below. This Technical Memorandum examines whether the modified project would result in any new or different significant adverse environmental impacts not already identified in the FEIS.

As set forth below, this Technical Memorandum concludes that the modified project would not result in any new or different significant adverse impacts not already identified in the FEIS.

B. DESCRIPTION OF THE MODIFIED PROJECT

The modified project includes the changes described below.

Separate from the modified project, there will be a separate land use action that would prohibit the detention of individuals in correctional custody on Rikers Island as of December 31, 2026, when the City's system of four new Borough-Based Jails are expected to be completed and in operation. This separate land use action will be subject to its own environmental review and ULURP process.

OUTPOSTED THERAPEUTIC UNITS

As noted in the FEIS, the City has explored the feasibility of siting Outposted Therapeutic Housing Units within NYC Health + Hospitals facilities. These units would be secured, clinical units operated by NYC Health + Hospitals/Correctional Health Services with DOC providing custody management. The City has determined that it is feasible to locate 250 beds from therapeutic housing units, currently at Rikers, in NYC Health + Hospitals facilities. These Outposted Therapeutic Housing Units would serve patients in custody whose clinical conditions are not so acute as to necessitate inpatient medical or psychiatric admission, but would benefit from close and frequent access to the specialty and subspecialty medical care available in NYC Health + Hospitals facilities. Therefore, the modified project does not include the 250 therapeutic housing unit beds. Separate environmental review and approvals would be undertaken as warranted, and the City expects to move forward with siting these Outposted Therapeutic Housing Units in NYC Health + Hospitals locations that have been deemed feasible, regardless of the outcome of the Borough-Based Jail System project.

REDUCED AVERAGE DAILY POPULATION AND CAPACITY

Subsequent to the FEIS, the City has been refining the projections for average daily population of people in detention, given the passage of criminal justice reform legislation by New York State in April 2019. At this time, DOC and MOCJ project an average daily population of 3,300 people in detention by the 2026 analysis year. After accounting for the removal of 250 therapeutic housing unit beds, as described above, the modified project would provide approximately 3,545 beds to accommodate an average daily population of approximately 3,080 people in detention in the four borough-based jails. Each of the facilities in the modified project would provide approximately 886 beds to house people in detention. In comparison, the proposed project would have provided approximately 4,600 beds to accommodate an average daily population of 4,000 people in a system of four borough-based jails with approximately 1,150 beds each. The modified project, like the proposed project, would allow space for population-specific housing separation

requirements, such as those related to safety, security, and physical and mental health, among other factors, and fluctuations in the jail population.

CHANGES TO THE SPECIAL PERMIT BULK MODIFICATIONS

The potential City Council modifications would reduce the zoning envelope heights and permitted floor area at each borough-based detention facility. The program components by site under the proposed project and the modified project are summarized in **Table 1**. **Table 2** summarizes the total gross square footage of the proposed buildings on each site under the proposed project and the modified project. Other elements of each site, such as the amount of retail and/or community facility space, access plan, setbacks, and pedestrian bridges to adjacent court facilities, would remain unchanged with the modified project.

BRONX SITE

With the modified project, the permitted floor area of the proposed detention facility at the Bronx site would be reduced from 1,170,000 gsf of above-grade floor area to approximately 925,800 gsf, and the maximum zoning height would be reduced from 245 feet to 195 feet. In addition, the maximum zoning envelope has been modified to require lower heights on the western portion of the site adjacent to the proposed mixed-use building. Specifically, the modified project would permit a height of 155 feet on the southern portion of the site adjacent to the proposed mixed-use building and 175 feet on the northern portion of the site adjacent to the proposed mixed-use building; a maximum height of 195 feet would be permitted on the eastern portion of the site. The modified project would not affect the projected development program for the proposed mixed-use building on the Bronx site; it would remain the same as contemplated under the proposed project. **Figures 1 through 4** show the modified project at the Bronx site.

BROOKLYN SITE

With the modified project, the permitted floor area of the proposed detention facility at the Brooklyn site would be reduced from 1,120,000 gsf of above-grade floor area to approximately 816,900 gsf, and the maximum zoning height would be reduced from 395 feet to 295 feet. In addition, retail use would not be permitted at the Brooklyn site with the modified project; it would have 30,000 gsf of community facility use. **Figures 5 through 8** show the modified project at the Brooklyn site.

MANHATTAN SITE

With the modified project, the permitted floor area of the proposed detention facility at the Manhattan site would be reduced from 1,210,000 gsf of above-grade floor area to approximately 806,000 gsf, and the maximum zoning height would be reduced from 450 feet to 295 feet. In addition, the maximum zoning envelope has been modified to require setbacks from the adjacent residential building to the north. Specifically, above the building base the modified project would require a setback of 20 feet on the western portion of the site and 40 feet on the eastern portion of the site from the adjacent residential building to the north. **Figures 9 through 12** show the modified project at the Manhattan site.

Table 1
Program Components by Project Site—FEIS Proposed Project Compared with the Modified Project

Site Name		Housing for People in Detention ¹	Support Services ²	Community Facility Space and/or Retail ³	Court/Court-Related Facilities ⁴	Parking	Residential Use	Maximum Zoning Height (in feet) ⁵
Bronx ⁶	Proposed Project (FEIS)	775,000 gsf (1,150 beds)	345,000 gsf	40,000 gsf (community and/or retail associated with proposed facility) 31,000 gsf (community and/or retail associated with proposed mixed-use building)	10,000 gsf	575 (accessory)	178,025 gsf (approx. 235 units)	245
	Modified Project	525,000 gsf (886 beds)	350,800 gsf	No change	No change	No change	No change	195
Brooklyn	Proposed Project (FEIS)	800,000 gsf (1,150 beds)	290,000 gsf	30,000 gsf (community and/or retail)	0	292 (accessory)	0	395
	Modified Project	500,000 gsf (886 beds)	286,900 gsf	No change ⁷	No change	No change	No change	295
Manhattan	Proposed Project (FEIS)	825,000 gsf (1,150 beds)	365,000 gsf	20,000 gsf (community and/or retail)	0	125 (accessory)	0	450
	Modified Project	483,000 gsf (886 beds)	303,000 gsf	No change	No change	No change	No change	295
Queens ⁸	Proposed Project (FEIS)	780,000 gsf (1,150 beds)	323,000 gsf	25,000 gsf (community associated with proposed community facility building)	0	1,281 (605 accessory and 676 public)	0	270
	Modified Project	604,100 gsf (886 beds)	325,000 gsf	No change	No change	No change	No change	195

Notes:

gsf = gross square feet

- 1) The proposed project includes beds for persons who are detained with medical or mental health conditions (i.e., “therapeutic units”). Under the modified project, the City determined that a portion of those detained with medical or mental health conditions would be better served in a hospital-like setting and, therefore, based on a feasibility study, a portion of these beds have been re-allocated to NYC Health + Hospitals Facilities
- 2) Support services include public entrance and lobby, visitation space, space for quality educational programming and services for people in detention, health services and therapeutic unit support, and administrative space.
- 3) At the Bronx site, for analysis purposes, it is assumed that 13,000 gsf will be allocated for retail use and 27,000 gsf will be allocated for community facility use. In addition, it is assumed that 15,500 gsf will be allocated for retail use and 15,500 gsf will be allocated for community facility use in connection with the adjacent proposed mixed-use development.
- 4) The Bronx site court facilities would be a parole court. If an alternate location is identified for parole hearings outside of a borough-based facility, this court space would be removed from the proposed project.
- 5) As measured from ground-floor project base level. Maximum height is based on conceptual designs for each facility and does not include possible rooftop mechanical penthouses. Actual building height above grade would include up to an additional 40 feet at each location for rooftop mechanical space.
- 6) Bronx site gsf includes the proposed detention facility and proposed mixed-use building.
- 7) With the modified project, retail use would not be permitted at the Brooklyn site. The Brooklyn site would have 30,000 gsf of community facility use.
- 8) Queens site gsf includes the proposed detention facility and separate community facility building with public parking above.

Source: Perkins Eastman.

**Table 2
Total GSF by Site**

Site	Building	Total GSF		Change (GSF)
		Proposed Project (FEIS)	Modified Project	
Bronx	Detention Facility	1,170,000	925,800	-244,200
	Mixed-Use Building ¹	209,025	209,025	0
Brooklyn	Detention Facility	1,120,000	816,900	-303,100
Manhattan	Detention Facility	1,210,000	806,000	-404,000
Queens	Detention Facility	1,103,000	929,100	-173,900
	Community Facility Building / Public Parking ²	227,800	227,800	0

Notes:
 1) The proposed mixed-use building at the Bronx site would contain approximately 178,025 gsf residential space and approximately 31,000 gsf community facility and/or retail space.
 2) The community facility building at the Queens site would contain 25,000 gsf of community facility space and approximately 202,800 gsf of above-grade public parking space.
Sources: Perkins Eastman.

QUEENS SITE

With the modified project, the permitted floor area of the proposed detention facility at the Queens site would be reduced from 1,103,000 gsf of above-grade floor area to approximately 929,100 gsf, and the maximum zoning height would be reduced from 270 feet to 195 feet. The modified project would not affect the proposed adjacent building with ground-floor community facility use and public parking above; it would remain the same as contemplated under the proposed project. **Figures 13 through 16** show the modified project at the Queens site.

C. ENVIRONMENTAL REVIEW OF THE MODIFIED PROJECT

The following sections examine whether the modified project would result in any new or different significant adverse environmental impacts not already identified in the FEIS for each borough detention facility.

At each site, the modified project would result in a shorter detention facility with fewer beds, less overall floor area, and fewer projected staff and visitors as compared with the detention facility that would be developed with the proposed project. As such, the modified project would not alter the conclusions of the FEIS with respect to land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space; historic and cultural resources; hazardous materials; natural resources; water and sewer infrastructure; solid waste and sanitation services; energy; noise; public health, neighborhood character; and greenhouse gases and climate change.

An assessment of the remaining technical areas that could be affected by the modified project—shadows, urban design and visual resources, transportation, air quality, and construction—are assessed for each borough below. A brief discussion of historic and cultural resources is also provided for the Manhattan and Brooklyn sites.

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As noted above, 250 Outposted Therapeutic Unit beds, currently at Rikers, would now be locating in NYC Health + Hospitals facilities rather than in the detention facilities proposed with the modified project. Specific NYC Health + Hospitals sites have not been identified, but it is expected that the therapeutic housing unit beds would be located at existing NYC Health + Hospitals hospital facilities. Existing NYC Health + Hospitals hospital facilities are approximately 1 mile or more away from the proposed detention facility sites. This distance is well beyond the technical analysis study areas assessed in the FEIS and in this technical memorandum (e.g., the ¼-mile study areas used for the analyses of land use, zoning, and public policy; socioeconomic conditions; open space; and urban design and visual resources). At these distances, there would not be the potential for cumulative noise, air quality, or construction-period impacts. Moreover, with respect to transportation and transportation-related analyses, these sites are far enough away from the FEIS analysis locations that they would not add substantial operational or construction traffic to the study area intersections analyzed in the FEIS. Therefore, there would not be the potential for cumulative or overlapping impacts resulting from the Outposted Therapeutic Housing Unit beds at existing NYC Health + Hospitals hospital facilities.

BRONX SITE

An assessment of the potential environmental impacts of the modified project at the Bronx site is provided below for the following technical analysis areas: shadows, urban design and visual resources, transportation, air quality, and construction.

SHADOWS—BRONX

The FEIS concluded that the proposed project at the Bronx site would not result in any significant adverse impacts related to new shadows. The modified project would result in a shorter facility with the same footprint, and would consequently cast less shadow compared with the proposed project. Therefore, similar to the proposed project, the modified project would not result in any significant adverse shadow impacts and would not alter the conclusions of the FEIS.

URBAN DESIGN AND VISUAL RESOURCES—BRONX

Neither the proposed project nor the modified project would result in significant adverse impacts on urban design and visual resources. The modified project would result in a shorter detention facility with less overall floor area than the proposed project. The modified project would be a maximum of 195 feet in height, with additional height for rooftop mechanical bulkheads, which would be shorter than the 245-foot-tall detention facility under the proposed project. As with the proposed project, the size and height of the project with the modified project would constitute a substantial change to the site, and the detention facility would be larger and taller than the surrounding buildings in the study area, introducing a development of a scale out of context with the surrounding area. However, the proposed facility would positively contribute to the pedestrian's experience of the area. The proposed detention facility would replace a tow pound enclosed primarily by a tall, metal fence and bordered by narrow and discontinuous sidewalks with a more active pedestrian environment. In addition, as noted above the modified project would also require lower building heights for the proposed detention facility on the western portion of the site, which would provide a transition from the existing built context to the west and the detention facility. Therefore, the proposed project would not have a significant adverse impact on urban design.

The modified project would not obstruct views to visual resources in the study area. Similar to the proposed project, the modified project would be visible from a distance in the study area, including from visual resources such as St. Mary’s Park and Samuel Gompers Industrial High School, though it would not adversely affect the pedestrian’s experience of these resources. Furthermore, the modified project would result in a detention facility that is shorter and therefore less visible from these visual resources. Therefore, the potential City Council modifications would have no potential for impact on visual resources.

TRANSPORTATION—BRONX

The FEIS concluded that the proposed project at the Bronx site would have the potential to result in significant adverse impacts to vehicular traffic at eight intersections in one or more peak hours and would not result in any significant adverse impacts to transit, pedestrians, vehicular/pedestrian safety, and parking. The FEIS identified mitigation for some, but not all, of the Bronx site’s potential anticipated traffic impacts; some impacts would remain unmitigated and therefore constitute unavoidable significant adverse traffic impacts.

Under the modified project that would be implemented pursuant to the potential City Council modifications, there would be increments of 398 (weekday) and 337 (Saturday) uniformed staff at the Bronx site compared with 513 (weekday) and 435 (Saturday) uniformed staff with the proposed project, and fewer authorized visitors and other visitors because there would be fewer beds. Accordingly, there would be fewer action-generated vehicle, transit, and pedestrian trips and less parking demand for on- and off-street public parking compared with the proposed project. Based on the trip generation assumptions detailed in Section 2.10, “Transportation-Bronx,” of the FEIS, the modified project would generate approximately 80, 85, 26, and 69 fewer incremental person trips in the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively (see **Tables 3 and 4**). This would represent decreases ranging from approximately 3 to 13 percent in net incremental peak hour trips compared with the proposed project.

**Table 3
Travel Demand Summary: Bronx
FEIS (Proposed Project)**

Bronx						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	128	47	78	253	617	327
MD	233	171	834	1,238	1,713	410
PM	157	97	434	688	814	107
SAT	202	117	504	823	1,197	325

City Council (Modified Project)

Bronx						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	117	45	76	238	537	267
MD	219	166	832	1,217	1,628	349
PM	146	92	433	671	788	98
SAT	188	115	503	806	1,128	278

**Table 4
Travel Demand Change: Modified Project Compared With Proposed Project
Reduction in Trips
Percent Change**

Bronx						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-11	-2	-2	-15	-80	-60
MD	-14	-5	-2	-21	-85	-61
PM	-11	-5	-1	-17	-26	-9
SAT	-14	-2	-1	-17	-69	-47

Bronx						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-9%	-4%	-3%	-6%	-13%	-18%
MD	-6%	-3%	0%	-2%	-5%	-15%
PM	-7%	-5%	0%	-2%	-3%	-8%
SAT	-7%	-2%	0%	-2%	-6%	-14%

Traffic

As presented in **Table 4**, compared with the proposed project the modified project would generate approximately 60, 61, 9, and 47 fewer incremental vehicle trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively. This would represent decreases ranging from approximately 8 to 18 percent in net incremental peak hour vehicle trips compared with the proposed project. With fewer peak hour vehicle trips, it is anticipated that modified project could possibly result in fewer significant adverse traffic impacts than the proposed project. Additionally, with fewer vehicle trips in each analyzed peak hour, the mitigation measures recommended in the FEIS for the proposed project's significant adverse traffic impacts would remain effective at mitigating traffic impacts with the modified project. Furthermore, based on the reduction in peak hour vehicle trips, some of the unmitigated significant adverse traffic impacts identified in the FEIS could potentially be mitigated under the modified project.

Transit

As presented in **Table 4**, compared with the proposed project the modified project would generate 11, 14, 11, and 14 fewer incremental subway trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 6 to 9 percent in net incremental peak hour subway trips compared with the proposed project. As with the proposed project, incremental subway trips generated under the modified project would not result in significant adverse subway station or subway line haul impacts in any peak hour.

As presented in **Table 4**, compared with the proposed project the modified project would generate 2, 5, 5, and 2 fewer incremental bus trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 2 to 5 percent in net incremental peak hour bus trips compared with the proposed project. As with the proposed project, incremental bus trips generated under the modified project would not result in significant adverse bus route impacts in any peak hour.

Pedestrians

As presented in **Table 4**, compared with the proposed project the modified project would generate 15, 21, 17, and 17 fewer incremental pedestrian trips (including walk-only trips, trips to/from area transit services and off-site parking facilities) during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 2 to 6 percent in net incremental peak hour pedestrian trips compared with the proposed project. As with the proposed project, incremental pedestrian trips generated under the modified project would not result in significant adverse pedestrian facility impacts in any peak hour.

Vehicular and Pedestrian Safety

As the proposed project would not result in significant adverse impacts to vehicular and pedestrian safety in any analysis period and, as summarized above, the modified project would result in fewer net incremental vehicular and pedestrian trips than the proposed project, the modified project would not result in significant adverse impacts to vehicular and pedestrian safety in any peak hour.

Parking

With less incremental travel demand and the same number of on-site accessory parking spaces provided as with the proposed project, the modified project would generate less net incremental parking demand than would the proposed project. As the proposed project would not result in any significant adverse impacts to on- or off-street parking conditions in any analysis period, and as the modified project would generate less incremental parking demand, the modified project would not result in any significant adverse parking impacts.

AIR QUALITY—BRONX

FEIS Analysis

The FEIS concluded that the proposed project would not have significant adverse impacts from mobile source or stationary source emissions. For the Bronx site, restrictions were placed on fuel type for the proposed detention facility. For the future mixed-use building, restrictions were placed on fuel type, low NO_x burners, and stack placement on the rooftop to ensure that no significant adverse impacts on nearby buildings would occur from stationary source emissions.

Modified Project

As the modified project would have fewer beds and less overall floor area than the proposed project, traffic volumes would be slightly lower as compared with those analyzed in the FEIS; therefore, no significant adverse mobile source air quality impacts would occur with the modified project. For industrial sources of emissions, no other sources of emissions were identified in the land use and field surveys conducted for the FEIS; therefore, no potential for significant air quality impacts on the proposed project are anticipated from industrial source emissions with the modified project.

For the purposes of evaluating potential stationary source air quality impacts with the modified project, it was assumed that the Bronx detention facility would be approximately 195 feet tall and the development size would be 1,337,730 gsf (which is a larger floor area and therefore more conservative than the one described above in Section B.). As noted above, the modified project would not affect the development program for the proposed mixed-use building on the Bronx site. **Table 5** summarizes the emission rates and stack parameters used to analyze the modified project.

Table 5
Bronx Site - Exhaust Stack Parameters and Emission Rates
with the Modified Project

Stack Parameter	Proposed Detention Facility	Future Mixed-Use Building
Stack Height (feet)	198	148
Stack Diameter (feet) ⁽¹⁾	5.0 ⁽¹⁾	2.0 ⁽¹⁾
Exhaust Velocity (meters/second) ⁽¹⁾	2.37	2.25
Exhaust Temperature (degrees Fahrenheit) ⁽¹⁾	307.8	307.8
<i>Emission Rate (grams/second)</i>		
NO ₂ (1-hour average)	0.43	0.024
NO ₂ (Annual average)	0.12	0.0066
PM _{2.5} (24-hour average)	0.032	0.0049
PM _{2.5} (Annual average)	0.0089	0.0014
Note:		
1. Stack parameter assumptions are based on boiler specifications for similar sized systems from boiler permit data provided by DEP.		

The stationary source analysis presented in the FEIS was revised to assess air quality impacts associated with emissions from the heating and hot water systems of the proposed Bronx detention facility and mixed-use building under the modified project. The analysis was performed using the same methodology as presented in Section 2.11 of the FEIS.

AERMOD Analysis

Tables 6 and 7 present the maximum predicted concentrations from the heating and hot water systems from the future mixed-use building on the proposed detention facility and of the mixed-use building and proposed detention facility at off-site receptors, respectively, with the modified project. The maximum predicted total 1-hour and annual NO₂ concentrations were compared with the applicable National Ambient Air Quality Standards (NAAQS). The 24-hour and annual average PM_{2.5} concentration was compared with the PM_{2.5} *de minimis* criteria. As shown in the tables, no exceedance of thresholds was identified in the AERMOD analysis.

Table 6
Maximum Modeled Pollutant Concentrations from Heating and Hot Water Systems on the Proposed Detention Facility ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	160 ⁽¹⁾	N/A	160	188 ⁽²⁾
	Annual	0.76	37.9	38.7	100 ⁽²⁾
PM _{2.5}	24-hour	7.1	N/A	7.1	8.9 ⁽³⁾
	Annual	0.22	N/A	0.22	0.3 ⁽⁴⁾

Notes:
 N/A = Not Applicable
 1. The 1-hour average NO₂ concentration presented represents the maximum of the total 98th percentile 1-hour NO₂ concentration predicted at any receptor using seasonal-hourly background concentrations.
 2. NAAQS.
 3. PM_{2.5} *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$.
 4. PM_{2.5} *de minimis* criteria—annual (discrete receptor).

Table 7
Maximum Modeled Pollutant Concentrations from Heating and Hot Water Systems on Existing Buildings ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	111 ⁽¹⁾	N/A	111	188 ⁽²⁾
	Annual	0.24	37.9	38.1	100 ⁽²⁾
PM _{2.5}	24-hour	0.58	N/A	0.58	8.9 ⁽³⁾
	Annual – Discrete	0.03	N/A	0.03	0.3 ⁽⁴⁾
	Annual – Neighborhood	0.010	N/A	0.010	0.1

Notes:
 N/A = Not Applicable
 1. The 1-hour average NO₂ concentration presented represents the maximum of the total 98th percentile 1-hour NO₂ concentration predicted at any receptor using seasonal-hourly background concentrations.
 2. NAAQS.
 3. PM_{2.5} *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$.
 4. PM_{2.5} *de minimis* criteria—annual (discrete receptor).

The results of the analyses determined that like the proposed project there would be no significant adverse air quality impacts from the heating and hot water systems with the modified project. The same restrictions identified in the FEIS would apply with respect to fuel type, low NO_x burners, and stack placement for the modified project.

CONSTRUCTION—BRONX

The modified project would result in substantially similar duration and intensity of construction activities as the proposed project. Therefore, the modified project would result in the same construction-period impacts as described for the proposed project in the FEIS. The modified project would not result in any new or different significant adverse construction impacts not

already identified in the FEIS. The measures to mitigate the significant adverse construction-period transportation impacts of the modified project would be the same as those described for the proposed project in the FEIS. As in the FEIS, some impacts would remain unmitigated and therefore constitute unavoidable significant adverse impacts.

BROOKLYN SITE

An assessment of the potential environmental impacts of the modified project at the Brooklyn site is provided below for the following technical analysis areas: shadows, historic and cultural resources, urban design and visual resources, transportation, air quality, and construction.

SHADOWS—BROOKLYN

The FEIS concluded that the proposed project at the Brooklyn site would not result in any significant adverse impacts related to new shadows. The modified project would result in a shorter facility with the same footprint, and would consequently cast less shadow compared with the proposed project. Therefore, similar to the proposed project, the modified project would not result in any significant adverse shadow impacts and would not alter the conclusions of the FEIS.

HISTORIC AND CULTURAL RESOURCES

As noted above, the modified project would not alter the FEIS conclusions with respect to historic and cultural resources. The modified project would result in the same significant adverse impact related to construction activities within 90 feet of the State and National Register-eligible (S/NR-eligible) Brooklyn Central Courthouse (also known as the Kings County Criminal Court) at 120 Schermerhorn Street. The measures to mitigate the significant adverse impacts of the modified project on architectural resources (i.e., the development and implementation of a Construction Protection Plan) at the Brooklyn site would be the same as those described for the proposed project in the FEIS.

URBAN DESIGN AND VISUAL RESOURCES—BROOKLYN

Neither the proposed project nor the modified project would result in significant adverse impacts on urban design and visual resources. Similar to the proposed project, the modified project would be consistent with the urban design of the study area and would not block visual resources. The modified project would result in a shorter detention facility with less overall floor area than the proposed project. The modified project would be 295 feet in height, with additional height for rooftop mechanical bulkheads, which would be shorter than the 395-foot-tall detention facility under the proposed project. With the modified project, the proposed detention facility would be shorter than the existing nearby 32-story, approximately 388-foot-tall apartment building at 66 Court Street, and the proposed approximately 591-foot-tall building at 11 Hoyt Street. Similar to the proposed project, the modified project would fit within the densely developed Downtown Brooklyn setting of the northern portion of the study area. The building's massing with a tower set on a base would be consistent with the existing urban design of the project site and would be consistent with the design of other, more recently constructed buildings in the study area. Similar to the proposed project, the modified project would include an activated ground floor that would enliven the pedestrian experience and fit in with the busy Atlantic Avenue street corridor. Therefore, the modified project would not have a significant adverse impact on urban design.

The modified project would not obstruct views to visual resources in the study area. As with the proposed project, the north wall of the existing detention facility that contains the "Justice

Mandala” mural on State Street would be demolished, as would the rest of the building. A portion of the mural would be salvaged and reinstalled within a publicly accessible location in the new building and would feature a description of the artwork and its history. On Smith Street, the wider tower of the proposed detention facility would block northern views of the Classical style limestone-clad façade and arched windows of the Brooklyn Central Courthouse. However, as concluded in the FEIS, full views of the Brooklyn Central Courthouse would remain from the north, east, and west. Therefore, the modified project would not result in significant adverse impacts on visual resources.

TRANSPORTATION—BROOKLYN

The FEIS concluded that the proposed project at the Brooklyn site would have the potential to result in significant adverse impacts to vehicular traffic at ten intersections in one or more peak hours and would not result in any significant adverse impacts to transit, pedestrians, vehicular/pedestrian safety, and parking. The FEIS identified mitigation for some, but not all, of the Brooklyn site’s potential anticipated traffic impacts; some impacts would remain unmitigated and therefore constitute unavoidable significant adverse traffic impacts.

Under the modified project that would be implemented pursuant to the potential City Council modifications, there would be increments of 170 (weekday) and 148 (Saturday) uniformed staff at the Brooklyn site compared with 285 (weekday) and 246 (Saturday) uniformed staff with the proposed project, and fewer authorized visitors and other visitors because there would be fewer beds. Accordingly, there would be fewer action-generated vehicle, transit, and pedestrian trips and less parking demand for on- and off-street public parking compared with the proposed project. Based on the trip generation assumptions detailed in Section 3.9, “Transportation-Brooklyn,” of the FEIS, the modified project would generate approximately 81, 87, 26, and 69 fewer incremental person trips in the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively (see **Tables 8 and 9**). This would represent decreases ranging from approximately 5 to 29 percent in net incremental peak hour trips compared with the proposed project.

**Table 8
Travel Demand Summary: Brooklyn
FEIS (Proposed Project)**

Brooklyn						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	73	19	16	108	280	156
MD	110	40	752	902	1,178	214
PM	31	14	389	434	493	36
SAT	93	32	468	593	807	172

City Council (Modified Project)

Brooklyn						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	59	16	12	87	199	100
MD	91	37	749	877	1,091	156
PM	19	11	386	416	467	27
SAT	77	30	465	572	738	127

**Table 9
Travel Demand Change: Modified Project Compared With Proposed Project
Reduction in Trips
Percent Change**

Brooklyn						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-14	-3	-4	-21	-81	-56
MD	-19	-3	-3	-25	-87	-58
PM	-12	-3	-3	-18	-26	-9
SAT	-16	-2	-3	-21	-69	-45

Brooklyn						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-19%	-16%	-25%	-19%	-29%	-36%
MD	-17%	-8%	0%	-3%	-7%	-27%
PM	-39%	-21%	-1%	-4%	-5%	-25%
SAT	-17%	-6%	-1%	-4%	-9%	-26%

Traffic

As presented in **Table 9**, compared with the proposed project the modified project would generate approximately 56, 58, 9, and 45 fewer incremental vehicle trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively. This would represent decreases ranging from approximately 25 to 36 percent in net incremental peak hour vehicle trips compared with the proposed project. With fewer peak hour vehicle trips, it is anticipated that modified project could possibly result in fewer significant adverse traffic impacts than the proposed project. Additionally, with fewer vehicle trips in each analyzed peak hour, the mitigation measures recommended in the FEIS for the proposed project's significant adverse traffic impacts would remain effective at mitigating traffic impacts with the modified project. Furthermore, based on the reduction in peak hour vehicle trips, some of the unmitigated significant adverse traffic impacts identified in the FEIS could potentially be mitigated under the modified project.

Transit

As presented in **Table 9**, compared with the proposed project the modified project would generate 14, 19, 12, and 16 fewer incremental subway trips during the weekday AM, weekday midday, and weekday PM, Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 17 to 39 percent in net incremental peak hour subway trips compared with the proposed project. As with the proposed project, incremental subway trips generated under the modified project would not result in significant adverse subway station or subway line haul impacts in any peak hour.

As presented in **Table 9**, compared with the proposed project the modified project would generate 4, 3, 3, and 2 fewer incremental bus trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 6 to 21 percent in net incremental peak hour bus trips compared with the proposed project. As with the proposed project, incremental bus trips generated under the modified project would not result in significant adverse bus route impacts in any peak hour.

Pedestrians

As presented in **Table 9**, compared with the proposed project the modified project would generate 21, 25, 18, and 21 fewer incremental pedestrian trips (including walk-only trips, trips to/from area transit services and off-site parking facilities) during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 3 to 19 percent in net incremental peak hour pedestrian trips compared with the proposed project. As with the proposed project, incremental pedestrian trips generated under the modified project would not result in significant adverse pedestrian facility impacts in any peak hour.

Vehicular and Pedestrian Safety

As the proposed project would not result in significant adverse impacts to vehicular and pedestrian safety in any analysis period and, as summarized above, the modified project would result in fewer net incremental vehicular and pedestrian trips than the proposed project, the modified project would not result in significant adverse impacts to vehicular and pedestrian safety in any peak hour.

Parking

With less incremental travel demand and the same number of on-site accessory parking spaces provided as with the proposed project, the modified project would generate less net incremental parking demand than would the proposed project. As the proposed project would not result in any significant adverse impacts to on- or off-street parking conditions in any analysis period, and as the modified project would generate less incremental parking demand, the modified project would not result in any significant adverse parking impacts.

AIR QUALITY-BROOKLYN

FEIS Analysis

The FEIS concluded that the proposed project would not have significant adverse impacts from mobile source or stationary source emissions. For the Brooklyn site, restrictions were placed on fuel type and stack height for the proposed detention facility.

Modified Project

As the modified project would have fewer beds and less overall floor area than the proposed project, traffic volumes would be slightly lower as compared with those analyzed in the FEIS; therefore, no significant adverse mobile source air quality impacts would occur with the modified project.

For the purpose of evaluating potential stationary source air quality impacts with the modified project, it was assumed that the Brooklyn detention facility would be approximately 295 feet tall and the development size would be 1,149,284 gsf (which is a larger floor area and therefore more conservative than the one described above in Section B.). **Table 10** summarizes the emission rates and stack parameters used to analyze the modified project.

Cogen Corp-111 Livingston Street, a facility with a Title V permit, was analyzed as part of the proposed project. The analysis for the FEIS assumed that the Brooklyn Detention Facility would be 395 feet tall. Since the modified project would result in a reduction in height, and would affect fewer receptors as compared with the proposed project, there would also be no significant adverse air quality impacts with the modified project.

The stationary source analysis presented in the FEIS was revised to assess air quality impacts associated with emissions from the heating and hot water systems of the proposed Brooklyn detention facility with the modified project. The analysis was performed using the same methodology as presented in Section 3.10 of the FEIS.

Table 10
Brooklyn Site - Exhaust Stack Parameters and Emission Rates
With the Modified Project

Stack Parameter	Value
Stack Height (feet)	298
Stack Diameter (feet) ⁽¹⁾	5.0 ⁽¹⁾
Exhaust Velocity (meters/second) ⁽¹⁾	1.96
Exhaust Temperature (degrees Fahrenheit) ⁽¹⁾	307.8
<i>Emission Rate (grams/second)</i>	
NO ₂ (1-hour average)	0.36
NO ₂ (Annual average)	0.10
PM _{2.5} (24-hour average)	0.027
PM _{2.5} (Annual average)	0.0074
Note:	
1. Stack parameter assumptions are based on boiler specifications for similar sized systems from boiler permit data provided by DEP.	

Table 11 presents the maximum predicted concentrations from the heating and hot water system from the proposed detention facility at off-site receptors with the modified project. The maximum predicted total 1-hour NO₂ and annual concentrations were compared with the applicable NAAQS. The 24-hour and annual average PM_{2.5} concentration was compared with the PM_{2.5} *de minimis* criteria. As shown in the table, no exceedance of thresholds was identified in the AERSCREEN analysis.

Table 11
Maximum Modeled Pollutant Concentrations from Heating and Hot Water
Systems (µg/m³)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	186 ⁽¹⁾	N/A	186	188 ⁽²⁾
	Annual	2.73	32.3	35.0	100 ⁽²⁾
PM _{2.5}	24-hour	4.5	N/A	4.5	8.9 ⁽³⁾
	Annual	0.21	N/A	0.21	0.3 ⁽⁴⁾
Notes:					
N/A = Not Applicable					
1. The 1-hour average NO ₂ concentration presented represents the maximum of the total 98th percentile 1-hour NO ₂ concentration predicted at any receptor using seasonal-hourly background concentrations.					
2. NAAQS.					
3. PM _{2.5} <i>de minimis</i> criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m ³ .					
4. PM _{2.5} <i>de minimis</i> criteria—annual (discrete receptor).					

The results of the analyses determined that as with the proposed project there would be no significant adverse air quality impacts from the heating and hot water systems with the modified project. The revised restrictions with the modified project would be as follows:

Brooklyn Detention Facility

Any new development on the Bronx site (Block 175, Lot 1) must utilize only natural gas in any fossil fuel-fired heating and hot water equipment, and locate heating and hot water exhaust stacks at least 298 feet above grade to avoid potential significant air quality impacts.

CONSTRUCTION—BROOKLYN

The modified project would result in substantially similar duration and intensity of construction activities as the proposed project. Therefore, the modified project would result in the same construction-period impacts as described for the proposed project in the FEIS. The modified project would not result in any new or different significant adverse construction impacts not already identified in the FEIS. The measures to mitigate the significant adverse construction-period transportation impacts of the modified project would be the same as those described for the proposed project in the FEIS. As in the FEIS, some impacts would remain unmitigated and therefore constitute unavoidable significant adverse impacts.

MANHATTAN SITE

An assessment of the potential environmental impacts of the modified project at the Manhattan site is provided below for the following technical analysis areas: shadows, historic and cultural resources, urban design and visual resources, transportation, air quality, and construction.

SHADOWS—MANHATTAN

The FEIS concluded that the proposed project at the Manhattan site would not result in any significant adverse impacts related to new shadows. The modified project would result in a shorter facility with the same footprint, and would consequently cast less shadow compared with the proposed project. Therefore, similar to the proposed project, the modified project would not result in any significant adverse shadow impacts and would not alter the conclusions of the FEIS.

HISTORIC AND CULTURAL RESOURCES—MANHATTAN

As noted above, the modified project would not alter the FEIS conclusions with respect to historic and cultural resources. The modified project would result in the same potential significant adverse impacts to architectural and archaeological resources as the proposed project because it would involve development on the same site and would affect the same architectural resources. The measures to mitigate the significant adverse impacts of the modified project to architectural and archaeological resources at the Manhattan site would be the same as those described for the proposed project in the FEIS.

URBAN DESIGN AND VISUAL RESOURCES—MANHATTAN

Neither the proposed project nor the modified project would result in significant adverse impacts on urban design and visual resources. Similar to the proposed project, the modified project would be consistent with the urban design of the study area and would not block visual resources. The modified project would result in a shorter detention facility with less overall floor area than the proposed project. The modified project would be 295 feet in height, with additional height for rooftop mechanical bulkheads, which would be shorter than the 450-foot-tall detention facility under the proposed project. The modified project would introduce a building shorter in height as compared with the taller buildings within three blocks of the project site; these include the 584-

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foot-tall, 41-story Jacob K. Javits building at 26 Federal Plaza and the 462-foot-tall U.S. Courthouse at 500 Pearl Street, as well as other taller buildings in the secondary study area. With the modified project, the proposed facility would be more similar to buildings in the primary study area, such as the 203-foot-tall Manhattan Civil Court at 111 Centre Street and the 352-foot-tall tower at 100 Centre Street. The form of the building would be similar to that analyzed in the FEIS, providing a pedestrian passage on White Street and an enhanced pedestrian environment with additional street furniture and potential pedestrian entrances to the detention facility. As noted above, the modified project would require setbacks from the adjacent residential building to the north. Therefore, the modified project would not have a significant adverse impact on urban design.

The modified project would not obstruct views to visual resources in the study area. As with the proposed project, the modified project would include pedestrian bridges connecting the south façade of the proposed building to the Manhattan Criminal Courts Building, a historic building that is a visual resource in the study area. Like the proposed project, the modified project would not block the principal views of the Manhattan Criminal Courts Building, from the east and west from Columbus Park and Collect Pond Park. Therefore, the modified project would have no potential for impact on visual resources.

TRANSPORTATION—MANHATTAN

The FEIS concluded that the proposed project at the Manhattan site would have the potential to result in significant adverse impacts to vehicular traffic at one intersections in one peak hour and would not result in any significant adverse impacts to transit, pedestrians, vehicular/pedestrian safety, and parking. The FEIS identified mitigation for the Manhattan site's potential anticipated traffic impact.

Under the modified project that would be implemented pursuant to the potential City Council modifications, there would be increments of 75 (weekday) and 65 (Saturday) uniformed staff at the Manhattan site compared with 190 (weekday) and 163 (Saturday) uniformed staff with the proposed project, and fewer authorized visitors and other visitors because there would be fewer beds. Accordingly, there would be fewer action-generated vehicle, transit, and pedestrian trips and less parking demand for on- and off-street public parking compared with the proposed project. Based on the trip generation assumptions detailed in Section 4.9, "Transportation-Manhattan," of the FEIS, the modified project would generate approximately 79, 85, 26, and 68 fewer incremental person trips in the weekday AM, weekday midday, and Saturday peak hours, respectively (see **Tables 12 and 13**). This would represent decreases ranging from approximately 10 to 37 percent in net incremental peak hour trips compared with the proposed project.

Table 12
Travel Demand Summary: Manhattan
FEIS (Proposed Project)

Manhattan						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	99	22	3	124	211	77
MD	138	49	359	546	658	98
PM	32	17	188	237	251	14
SAT	118	36	223	377	472	86

City Council (Modified Project)

Manhattan						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	67	14	2	83	132	45
MD	101	42	357	500	573	64
PM	13	14	188	215	225	8
SAT	89	32	221	342	404	57

Table 13
Travel Demand Change: Modified Project Compared With Proposed Project
Reduction in Trips

Manhattan						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-32	-8	-1	-41	-79	-33
MD	-37	-7	-2	-46	-85	-34
PM	-19	-3	0	-22	-26	-6
SAT	-29	-4	-2	-35	-68	-29

Percent Change

Manhattan						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-32%	-36%	-33%	-33%	-37%	-42%
MD	-27%	-14%	-1%	-8%	-13%	-35%
PM	-59%	-18%	0%	-9%	-10%	-43%
SAT	-25%	-11%	-1%	-9%	-14%	-34%

Traffic

As presented in **Table 13**, compared with the proposed project the modified project would generate approximately 33, 34, 6, and 29 fewer incremental vehicle trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively. This would represent decreases ranging from approximately 34 to 43 percent in net incremental peak hour vehicle trips compared with the proposed project. With fewer peak hour vehicle trips, it is anticipated that modified project could possibly result in fewer significant adverse traffic impacts than the proposed project. Additionally, with fewer vehicle trips in each analyzed peak hour, the mitigation measures recommended in the FEIS for the proposed project’s significant adverse traffic impacts would remain effective at mitigating traffic impacts with the modified project. Furthermore, based on the reduction in peak hour vehicle trips, some of the unmitigated significant adverse traffic impacts identified in the FEIS could potentially be mitigated under the modified project.

Transit

As presented in **Table 13**, compared with the proposed project the modified project would generate 32, 37, 19, and 29 fewer incremental subway trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 25 to 39 percent in net incremental peak hour subway trips compared with the proposed project. As with the proposed project, incremental subway trips generated under the modified project would not result in significant adverse subway station or subway line haul impacts in any peak hour.

As presented in **Table 13**, compared with the proposed project the modified project would generate 8, 7, 3, and 4 fewer incremental bus trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 11 to 36 percent in net incremental peak hour bus trips compared with the proposed project. As with the proposed project, incremental bus trips generated under the modified project would not result in significant adverse bus route impacts in any peak hour.

Pedestrians

As presented in **Table 13**, compared with the proposed project the modified project would generate 41, 36, 22, and 35 fewer incremental pedestrian trips (including walk-only trips, trips to/from area transit services and off-site parking facilities) during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 8 to 33 percent in net incremental peak hour pedestrian trips compared with the proposed project. As with the proposed project, incremental pedestrian trips generated under the modified project would not result in significant adverse pedestrian facility impacts in any peak hour.

Vehicular and Pedestrian Safety

As the proposed project would not result in significant adverse impacts to vehicular and pedestrian safety in any analysis period and, as summarized above, the modified project would result in fewer net incremental vehicular and pedestrian trips than the proposed project, the modified project would not result in significant adverse impacts to vehicular and pedestrian safety in any peak hour.

Parking

With less incremental travel demand and the same number of on-site accessory parking spaces provided as with the proposed project, the modified project would generate less net incremental parking demand than would the proposed project. As the proposed project would not result in any significant adverse impacts to on- or off-street parking conditions in any analysis period, and as the modified project would generate less incremental parking demand, the modified project would not result in any significant adverse parking impacts.

AIR QUALITY—MANHATTAN

FEIS Analysis

The FEIS concluded that the proposed project would not have significant adverse impacts from mobile source or stationary source emissions. For the Manhattan site, restrictions were placed on fuel type and stack height for the proposed detention facility.

Modified Project

As the modified project would have fewer beds and less overall floor area than the proposed project, traffic volumes would be slightly lower as compared with those analyzed in the FEIS; therefore, no significant adverse mobile source air quality impacts would occur with the modified project. For industrial sources of emissions, no other sources of emissions were identified in the land use and field surveys conducted for the FEIS; therefore, no potential for significant air quality impacts on the proposed project are anticipated from industrial source emissions with the modified project.

For the purpose of evaluating potential stationary source air quality impacts with the modified project, it was assumed that the Manhattan detention facility would be approximately 295 feet tall and the development size would be approximately 1,562,800 gsf (which is a larger floor area and therefore more conservative than the one described above in Section B). **Table 14** summarizes the emission rates and stack parameters used to analyze the modified project.

Table 14

**Manhattan Site - Exhaust Stack Parameters and Emission Rates
with the Modified Project**

Stack Parameter	Value
Stack Height (feet)	298
Stack Diameter (feet) ⁽¹⁾	5 ⁽¹⁾
Exhaust Velocity (meters/second) ⁽¹⁾	1.56
Exhaust Temperature (degrees Fahrenheit) ⁽¹⁾	307.8
<i>Emission Rate (grams/second)</i>	
NO ₂ (1-hour average)	0.11
NO ₂ (Annual average)	0.029
PM _{2.5} (24-hour average)	0.022
PM _{2.5} (Annual average)	0.0059
Note:	
1. Stack parameter assumptions are based on boiler specifications for similar sized systems from boiler permit data provided by DEP.	

Manhattan Criminal Court, a facility with a State Facility Permit, was analyzed as part of the proposed project. The analysis assumed that the Manhattan Detention Facility would be 450 feet tall. Since the modified project would result in a reduction in height, and would affect fewer receptors as compared with the proposed project, no significant adverse air quality impacts would occur.

The stationary source analysis presented in the FEIS was revised to assess air quality impacts associated with emissions from the heating and hot water systems of the proposed Manhattan detention facility with the modified project. The analysis was performed using the same methodology as presented in Section 4.10 of the FEIS.

Table 15 presents the maximum predicted concentrations from the heating and hot water system from the proposed detention facility at off-site receptors with the modified project. The maximum predicted total 1-hour NO₂ and annual concentrations were compared with the applicable NAAQS. The 24-hour and annual average PM_{2.5} concentration was compared with the PM_{2.5} *de minimis* criteria. As shown in the table, no exceedance of thresholds was identified in the AERMOD analysis.

Table 15
Maximum Modeled Pollutant Concentrations from Heating and Hot Water Systems ($\mu\text{g}/\text{m}^3$)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	177 ⁽¹⁾	N/A	177	188 ⁽²⁾
	Annual	0.51	37.9	38.4	100 ⁽²⁾
PM _{2.5}	24-hour	7.5	N/A	7.5	7.9 ⁽³⁾
	Annual	0.14	N/A	0.14	0.3 ⁽⁴⁾

Notes:
 N/A = Not Applicable
 1. The 1-hour average NO₂ concentration presented represents the maximum of the total 98th percentile 1-hour NO₂ concentration predicted at any receptor using seasonal-hourly background concentrations.
 2. NAAQS.
 3. PM_{2.5} *de minimis* criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 $\mu\text{g}/\text{m}^3$.
 4. PM_{2.5} *de minimis* criteria—annual (discrete receptor).

The results of the analyses determined that as with the proposed project there would be no significant adverse air quality impacts from the heating and hot water systems with the modified project. The revised restrictions with the modified project would be as follows:

Manhattan Detention Facility

Any new development on the Manhattan site (Block 198, Lot 1 and Block 167, part of Lot 1) must be fitted with low NO_x (30 parts per million [ppm]) burners firing only natural gas for heating and hot water systems, ensure that heating and hot water exhaust stacks are located no more than 262 feet away from the lot line facing Walker Street, and locate heating and hot water exhaust stacks at least 298 feet above grade to avoid potential significant air quality impacts.

CONSTRUCTION—MANHATTAN

The modified project would result in substantially similar duration and intensity of construction activities as the proposed project. Therefore, the modified project would result in the same construction-period impacts as described for the proposed project in the FEIS. The modified project would not result in any new or different significant adverse construction impacts not already identified in the FEIS. The measures to mitigate the significant adverse construction-period pedestrian impacts of the modified project would be the same as those described for the proposed project in the FEIS. As in the FEIS, absent the application of mitigation measures, these impacts would remain unmitigated and therefore constitute unavoidable significant adverse impacts.

QUEENS SITE

An assessment of the potential environmental impacts of the modified project at the Queens site is provided below for the following technical analysis areas: shadows, urban design and visual resources, transportation, air quality, and construction.

SHADOWS—QUEENS

The FEIS concluded that the proposed project at the Queens site would not result in any significant adverse impacts related to new shadows. The modified project would result in a shorter facility with the same footprint, and would consequently cast less shadow compared with the proposed project. Therefore, similar to the proposed project, the modified project would not result in any significant adverse shadow impacts and would not alter the conclusions of the FEIS.

URBAN DESIGN AND VISUAL RESOURCES—QUEENS

Neither the proposed project nor the modified project would result in significant adverse impacts on urban design and visual resources. Similar to the proposed project, the modified project would be consistent with the urban design of the study area and would not block visual resources. The modified project would result in a shorter detention facility with less overall floor area. The modified project would be 195 feet in height, with additional height for rooftop mechanical bulkheads, which would be shorter than the 270-foot-tall detention facility analyzed in the FEIS. Therefore, the modified project would not have a significant adverse impact on urban design.

The modified project would not result in a significant adverse impact to visual resources. As with the proposed project, the modified project would not affect the characteristics of a visual resource or have the potential to obstruct significant public views of a visual resource. Principal views to the Queens Borough Hall and views to other visual resources in the primary and secondary study areas, including Maple Grove Park and Maple Grove Cemetery would not be eliminated. Therefore, the modified project would not alter the visual resource's context or the pedestrian's experience of this resource.

TRANSPORTATION—QUEENS

The FEIS concluded that the proposed project at the Queens site would have the potential to result in significant adverse impacts to vehicular traffic at four intersections in one or more peak hours and would not result in any significant adverse impacts to transit, pedestrians, vehicular/pedestrian safety, and parking. The FEIS identified mitigation for some, but not all, of the Queens site's potential anticipated traffic impacts; some impacts would remain unmitigated and therefore constitute unavoidable significant adverse traffic impacts.

Under the modified project that would be implemented pursuant to the potential City Council modifications, there would be increments of 398 (weekday) and 337 (Saturday) uniformed staff at the Queens site compared with 513 (weekday) and 435 (Saturday) uniformed staff with the proposed project, and fewer authorized visitors and other visitors because there would be fewer beds. Accordingly, there would be fewer action-generated vehicle, transit, and pedestrian trips and less parking demand for on- and off-street public parking compared with the proposed project. Based on the trip generation assumptions detailed in Section 5.9, "Transportation-Queens," of the FEIS, the modified project would generate approximately 80, 86, 26, and 69 fewer incremental person trips in the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively (see **Tables 16 and 17**). This would represent decreases ranging from approximately 14 to 16 percent in net incremental peak hour trips compared with the proposed project.

Table 16

Travel Demand Summary: Queens

City Council (Modified Project)

Queens						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	59	28	56	143	430	259
MD	82	34	105	221	530	276
PM	32	14	55	101	145	40
SAT	73	29	66	168	423	229

FEIS (Proposed Project)

Queens						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	71	30	57	158	510	316
MD	96	39	106	241	616	337
PM	41	19	58	118	171	50
SAT	87	30	66	183	492	278

Table 17

Travel Demand Change: Modified Project Compared With Proposed Project

Reduction in Trips

Queens						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-12	-2	-1	-15	-80	-57
MD	-14	-5	-1	-20	-86	-61
PM	-9	-5	-3	-17	-26	-10
SAT	-14	-1	0	-15	-69	-49

Percent Change

Queens						
Period	Subway	Bus	Walk	Ped	Total Persons	Vehicle
AM	-17%	-7%	-2%	-9%	-16%	-18%
MD	-15%	-13%	-1%	-8%	-14%	-18%
PM	-22%	-26%	-5%	-14%	-15%	-20%
SAT	-16%	-3%	0%	-8%	-14%	-18%

Traffic

As presented in **Table 17**, compared with the proposed project the modified project would generate approximately 57, 61, 10, and 49 fewer incremental vehicle trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively. This would represent decreases ranging from approximately 18 to 20 percent in net incremental peak hour vehicle trips compared with the proposed project. With fewer peak hour vehicle trips, it is anticipated that modified project could possibly result in fewer significant adverse traffic impacts than the proposed project. Additionally, with fewer vehicle trips in each analyzed peak hour, the mitigation measures recommended in the FEIS for the proposed project’s significant adverse traffic impacts would remain effective at mitigating traffic impacts with the modified project. Furthermore, based on the reduction in peak hour vehicle trips, some of the unmitigated significant adverse traffic impacts identified in the FEIS could potentially be mitigated under the modified project.

Transit

As presented in **Table 17**, compared with the proposed project the modified project would generate 12, 14, 9, and 14 fewer incremental subway trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 15 to 22 percent in net incremental peak hour subway trips compared with the proposed project. As with the proposed project, incremental subway trips generated under the modified project would not result in significant adverse subway station or subway line haul impacts in any peak hour.

As presented in **Table 17**, compared with the proposed project the modified project would generate 2, 5, 5, and 1 fewer incremental bus trips during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 3 to 26 percent in net incremental peak hour bus trips compared with the proposed project. As with the proposed project, incremental bus trips generated under the modified project would not result in significant adverse bus route impacts in any peak hour.

Pedestrians

As presented in **Table 17**, compared with the proposed project the modified project would generate 15, 20, 17, and 15 fewer incremental pedestrian trips (including walk-only trips, trips to/from area transit services and off-site parking facilities) during the weekday AM, weekday midday, weekday PM, and Saturday peak hours, respectively, than would the proposed project. This would represent decreases ranging from approximately 8 to 14 percent in net incremental peak hour pedestrian trips compared with the proposed project. As with the proposed project, incremental pedestrian trips generated under the modified project would not result in significant adverse pedestrian facility impacts in any peak hour.

Vehicular and Pedestrian Safety

As the proposed project would not result in significant adverse impacts to vehicular and pedestrian safety in any analysis period and, as summarized above, the modified project would result in fewer net incremental vehicular and pedestrian trips than the proposed project, the modified project would not result in significant adverse impacts to vehicular and pedestrian safety in any peak hour.

Parking

With less incremental travel demand and the same number of on-site accessory parking spaces provided as with the proposed project, the modified project would generate less net incremental parking demand than would the proposed project. As the proposed project would not result in any significant adverse impacts to on- or off-street parking conditions in any analysis period, and as the modified project would generate less incremental parking demand, the modified project would not result in any significant adverse parking impacts.

AIR QUALITY—QUEENS

FEIS Analysis

The FEIS concluded that the proposed project would not have significant adverse impacts from mobile source or stationary source emissions. For the Queens site, restrictions were placed on fuel type and stack height for the proposed detention facility.

Modified Project

As the modified project would have fewer beds and less overall floor area than the proposed project, traffic volumes would be slightly lower as compared with those analyzed in the FEIS; therefore, no significant adverse mobile source air quality impacts would occur with the modified project.

For the purpose of evaluating potential stationary source air quality impacts with the modified project, it was assumed that the Queens Detention Facility would be approximately 195 feet tall and the development size would be approximately 1,562,800 gsf (which is a larger floor area and therefore more conservative than the one described above in Section B). **Table 18** summarizes the emission rates and stack parameters used to analyze the modified project.

Table 18
Queens Site - Exhaust Stack Parameters and Emission Rates
With the Modified Project

Stack Parameter	Value
Stack Height (feet)	225
Stack Diameter (feet) ⁽¹⁾	5 ⁽¹⁾
Exhaust Velocity (meters/second) ⁽¹⁾	2.67
Exhaust Temperature (degrees Fahrenheit) ⁽¹⁾	307.8
<i>Emission Rate (grams/second)</i>	
NO ₂ (1-hour average)	0.18
NO ₂ (Annual average)	0.05
PM _{2.5} (24-hour average)	0.037
PM _{2.5} (Annual average)	0.010
Note:	
1. Stack parameter assumptions are based on boiler specifications for similar sized systems from boiler permit data provided by DEP.	

The stationary source analysis presented in the FEIS was revised to assess air quality impacts associated with emissions from the heating and hot water systems of the proposed Queens detention facility with the modified project. The analysis was performed using the same methodology as presented in Section 5.10 of the FEIS.

Table 19 presents the maximum predicted concentrations from the heating and hot water system from the proposed detention facility at off-site receptors with the modified project. The maximum predicted total 1-hour NO₂ and annual concentrations were compared with the applicable NAAQS. The 24-hour and annual average PM_{2.5} concentration was compared with the PM_{2.5} *de minimis* criteria. As shown in the tables, no exceedance of thresholds was identified in the AERSCREEN analysis.

Table 19
Maximum Modeled Pollutant Concentrations from Heating and Hot Water
Systems (µg/m³)

Pollutant	Averaging Period	Maximum Modeled Impact	Background	Total Concentration	Criterion
NO ₂	1-hour	146 ⁽¹⁾	N/A	146	188 ⁽²⁾
	Annual	1.4	32.3	33.6	100 ⁽²⁾
PM _{2.5}	24-hour	6.1	N/A	6.1	8.6 ⁽³⁾
	Annual	0.28	N/A	0.28	0.3 ⁽⁴⁾
Notes:					
N/A = Not Applicable					
1. The 1-hour average NO ₂ concentration presented represents the maximum of the total 98th percentile 1-hour NO ₂ concentration predicted at any receptor using seasonal-hourly background concentrations.					
2. NAAQS.					
3. PM _{2.5} <i>de minimis</i> criteria—24-hour average, not to exceed more than half the difference between the background concentration and the 24-hour standard of 35 µg/m ³ .					
4. PM _{2.5} <i>de minimis</i> criteria—annual (discrete receptor).					

The results of the analyses determined that there would be no significant adverse air quality impacts from the heating and hot water systems with the modified project. The revised restrictions with the modified project would be as follows:

Queens Detention Facility

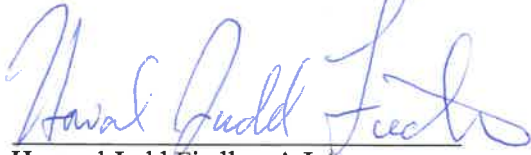
Any new development on the Queens site (Block 9653, Lot 1; Block 9657, Lot 1) must be fitted with low NO_x (30 ppm) burners firing only natural gas for heating and hot water systems, and ensure that heating and hot water system stacks are located at least 225 feet above grade to avoid to avoid potential significant air quality impacts.

CONSTRUCTION—QUEENS

The modified project would result in substantially similar duration and intensity of construction activities as the proposed project. Therefore, the modified project would result in the same construction-period impacts as described for the proposed project in the FEIS. The modified project would not result in any new or different significant adverse construction impacts not already identified in the FEIS. The measures to mitigate the significant adverse construction-period transportation impacts of the modified project would be the same as those described for the proposed project in the FEIS. As in the FEIS, some impacts would remain unmitigated and therefore constitute unavoidable significant adverse impacts.

D. CONCLUSION

This Technical Memorandum concludes that the modified project would not result in any new or different significant adverse impacts not already identified in the FEIS.



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October 11, 2019
Date

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