

TECHNICAL MEMORANDUM – May 6, 2016
241-251 W. 28th Street Parking Garage Special Permit Minor Modification
CEQR No. 10DCP004M

I. INTRODUCTION

On April 25, 2011, the New York City Planning Commission (CPC), as Lead Agency, issued a Negative Declaration for the proposed West 28th Street Rezoning Project (CEQR No. 10DCP004M and ULURP Nos. 100063 ZMM, 100064 ZSM, and 112854 ZRY), based on analyses identified in an Environmental Assessment Statement (EAS) completed on April 21, 2011 (the “2011 EAS”). The applications were approved by the City Planning Commission on August 24, 2011 and the ULURP process was completed on September 27, 2011. These actions included a special permit pursuant to Zoning Resolution (ZR) Sections 13-562 and 74-52 allowing a 325-space public parking garage in a proposed new development at 241-251 W. 28th Street, which was analyzed in the 2011 EAS. This is referred to in this memorandum as the “previously approved special permit.”

The development site affected by the previously approved special permit is located at 241-251 W. 28th Street, aka 240-250 W. 29th Street (Block 778, Lots 13, 16, 18, and 66), which is an approximately 29,373-square foot (sf) midblock through-lot located between Seventh and Eighth avenues in Manhattan Community District 5. The development site has for many years been occupied by public parking facilities with a total licensed capacity of 371 spaces, including a parking lot and parking garage (the latter demolished during 2012 in preparation for site redevelopment) with curb cuts on both W. 28th Street and W. 29th Street.

The previously approved special permit allows a 325-space public parking garage with 49,100 gsf of unobstructed parking area, accessed via curb cuts on both W. 28th Street and W. 29th Street, with ramps providing vehicular access to two below-grade parking areas. The approved plan’s reservoir spaces included 9 on the W. 28th Street ramp and 7 on the W. 29th Street ramp.

The CPC is now considering a Minor Modification to the previously approved special permit (100064 ZSM) that is proposed by the applicant, 249 W. 28th Street Properties LLC. The Minor Modification being sought would alter the plans associated with the garage, but otherwise would not affect the permitted development program on the development site or on any other site in the West 28th Street Rezoning Area. The proposed plan modifications to the previously approved special permit would include:

- * The ramp system would be replaced with a two-elevator system;
- * The W. 28th Street curb cut would be relocated from the eastern to the western portion of the site;
- * The reservoir spaces and customer drop off area would be on the ground floor;
- * There would be one below grade parking level (instead of two) with 80 two-high stackers (instead of 139 two-high stackers);
- * The total garage square footage would be reduced to approximately 28,100 square feet of unobstructed parking area;

- * The total number of public parking spaces would be reduced from 325 to 190 spaces, with no specific dedicated monthly parking.

The change from ramps to elevators necessitates the Minor Modification of the previously approved special permit.

The proposed action would allow the planned new building on the site to be developed with the modified garage summarized above. Apart from the proposed Minor Modification, the new building on the development site is being developed on an as-of-right basis and the proposed action would not result in any change in the building's projected residential and commercial program or building envelope. Therefore, the elements associated with the proposed Minor Modification as compared to conditions with the previously approved special permit represent the incremental change in development subject to environmental review. The incremental change in parking spaces would be a reduction of 135 spaces, i.e., a decrease from the 325 spaces permitted by the previously approved special permit and the 190 spaces proposed under the Minor Modification. For this memorandum, the terms "proposed action" and "proposed project" both refer to the modifications outlined above.

At this time the Applicant is also filing an application for the renewal of the previously approved parking garage special permit (N 160032 CMM) for a 3-year term. A CEQR Type II determination was issued on August 28, 2015 for this renewal application. Pursuant to ZR Section 11-42, a special permit automatically lapses unless "substantial construction" of the project is completed within four years of the effective date of the special permit, or unless the special permit is renewed pursuant to ZR Section 11-43. The special permit was approved and became effective on September 21, 2011 and therefore the special permit would have lapsed on September 21, 2015 unless substantial construction has been completed, or unless a renewal application was filed before it lapsed, as occurred on August 24, 2015.

This technical memorandum evaluates whether the proposed project would result in any significant adverse impacts not already identified in the 2011 EAS. As disclosed in this technical memorandum, the proposed Minor Modification would neither alter the conclusions of the 2011 EAS or Negative Declaration, nor result in any significant adverse impacts.

II. DESCRIPTION OF PROPOSED CPC MODIFICATION

A. Project as Analyzed in 2011 EAS

The 2011 EAS and Negative Declaration identified a RWCDs for the West 28th Street Rezoning Project. The 2011 EAS identified the development site now subject to the proposed Minor Modification as the "Proposed Development Site". The 2011 EAS identified that the RWCDs No-Action Condition for the development site would be a continuation of the existing conditions, consisting of a 240-space public parking garage at 241 W. 28th Street (Block 778, Lot 18) and a 131-space public parking lot at 245 W. 28th Street (Block 778, Lots 13, 16, and 66). The 2011 EAS identified that the RWCDs With-Action Condition for the development site would be a new 20-story, 210-foot tall building that complies with M1-6D zoning, with a south wing facing W. 28th Street and a north wing facing W. 29th Street, connected by a ground floor base. Based on the special permit application, it was projected that the new building would have two below-grade levels occupied by the parking garage, mechanical, and other ancillary space. The projected building program consisted of 407 dwelling units (DUs), including 81 affordable housing DUs, 11,390 gsf of office space, 4,685 gsf of retail space, and 325 public parking spaces. The building

would utilize the maximum permitted floor area with the use of the Inclusionary Housing bonus. The location and number of curb cuts would be as indicated by the parking garage special permit plans.

The With-Action condition identified in the 2011 EAS for the development site, including the 325-space garage, now represents the RWCDS No-Action condition identified in this memorandum, as the proposed action is a Minor Modification to the previously approved special permit.

As it specifically concerns the environmental effects of the parking garage that would be changed as a result of the proposed Minor Modification, the 2011 EAS forecasted (see Table H-7, "Public Parking Demand Forecast for RWCDS and Utilization of Proposed Garage," on page H-10 of the 2011 EAS which is attached to this memorandum for reference) that the garage would accommodate demand generated by residential and non-residential uses on the applicant's development site and from off-site users including from other projected development sites in the West 28th Street Rezoning Area, and by some "displaced" parking demand from public parking facilities that would be eliminated as a consequence of the rezoning.

The 2011 EAS determined that the West 28th Street Rezoning Project would not result in any significant adverse impacts. To avoid the potential for significant adverse impacts related to hazardous materials, air quality, and noise, a Restrictive Declaration and (E) designations were incorporated into the approved actions. These measures, as they relate to the applicant's development site, are described below.

Restrictive Declaration and (E) Designation

As part of these measures, the applicant agreed, via a Restrictive Declaration (R-198) recorded against the development site on March 14, 2011, to a hazardous materials testing and, as required, remediation program.¹ This Restrictive Declaration duplicates the requirements of an earlier (E) designation for hazardous materials placed on the development site on January 19, 2005 (E-137), and listed in NYC Zoning Resolution Appendix C, in connection with the Hudson Yards Rezoning. However, the development site was not rezoned as part of that action as approved under ULURP. To avoid the potential for significant adverse impacts related to air quality and noise, an (E) designation was recorded for the development site, as part of E-276, dated September 21, 2011, which is listed in the NYC Zoning Resolution Appendix C. The air quality (E) states that if fuel oil 4/2 is used for the heat and hot water systems, there are restrictions on the boiler stack location. Alternatively, if natural gas is used, there are no restrictions on stack location beyond Building

¹ (E) designations or restrictive declarations for hazardous materials provide notice of the presence of an environmental requirement pertaining to potential hazardous materials contamination on a particular tax lot. They are established in connection with a change in zoning or an action pursuant to a provision of the Zoning Resolution that would allow additional development to occur on property, or would permit uses not currently allowed. For new developments, enlargements of existing buildings, or changes in use, DOB will not issue a building permit for grading, excavation, foundation, alteration, building, or any other permit for the site which permits soil disruption, or issue a temporary or permanent Certificate of Occupancy that reflects a change in Use Group until the environmental requirements of the (E) designation are satisfied. For hazardous materials (E) designations, the environmental requirements are that a testing and sampling protocol be conducted, and a remediation plan be developed and implementation where appropriate, to the satisfaction of the NYC Mayor's Office of Environmental Remediation (OER). OER administers the (E) Designation Environmental Review Program, which was formerly administered by the NYC Department of Environmental Protection (DEP). DOB may issue permits allowing for certain activities consistent with a remedial action work plan (RAWP) upon receiving a Notice to Proceed from OER.

Code requirements. The noise (E) requires a closed window condition with a minimum of 28 dBA window/wall attenuation on the north, east, and west facades and 31 dBA window/wall attenuation on the south facade. An alternate means of ventilation must also be provided.

Satisfaction of Environmental Requirements

The new building on the development site is required to comply with the (E) designation and RD related to hazardous materials (the requirements are identical) and the (E) designation related to air quality and noise as a condition for filing or accepting any building permits involving change in use or certificates of occupancy and (in the case of the RD for hazardous materials) permits involving soil disturbance. These measures are enforced by the NYC Office of Environmental Remediation (OER), which has assumed this responsibility that was previously carried out by the NYC Department of Environmental Protection (DEP). The applicant has also enrolled the site into the NYC Voluntary Cleanup Program (VCP), which is also under the jurisdiction of OER. Completion of the NYC VCP would satisfy the environmental requirements of the hazardous materials (E) designation and RD. Whether or not the site is enrolled in the VCP, remediation would occur with or without the proposed action as any development on the project site requiring a new building permit or change of use group would trigger the (E) designation and RD's requirement for hazardous materials investigation and, as required, remediation. Furthermore, the proposed Minor Modification, which affects only the garage and includes fewer parking spaces than approved originally, would have no effect on the Restrictive Declaration and (E) designation requirements described above. Accordingly, under both RWCDs No-Action and RWCDs With-Action conditions, the project site would undergo remediation that would satisfy the requirements of the RD.

The applicant has been in consultation with OER and submitted a final Remedial Action Work Plan (RAWP) for hazardous material site investigation and remediation on March 27, 2015, which was issued following a public comment period. In response, OER issued a Notice of No Objection (NNO) on April 3, 2015, allowing the applicant to seek and accept permits for site excavation and foundation work and move forward with implementing the RAWP and its related construction health and safety plan (CHASP). The applicant filed an Air Quality and Noise Remedial Action Plan (RAP) with OER on February 5, 2015. On April 30, 2015, OER approved the Hazardous Materials RAWP and the Air Quality and Noise RAP and issued a Notice to Proceed.

B. Project With Proposed Modification

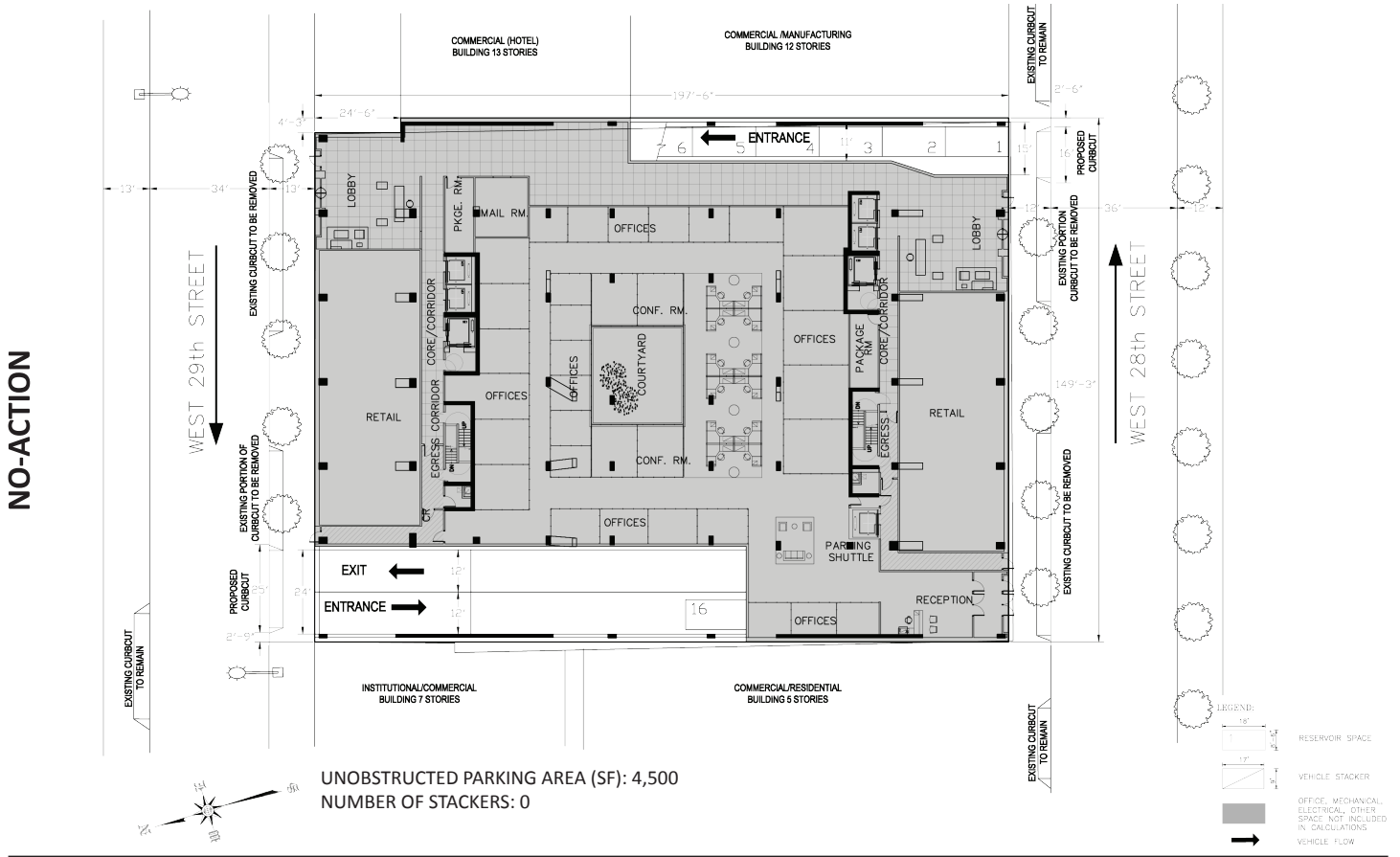
The proposed action would affect a portion of the applicant's development site; it would allow the parking garage on the development site to be constructed with vehicle elevators instead of ramps for internal vehicle circulation between the ground floor and below-grade space. The proposed Minor Modification, with the proposed maximum capacity reduced to 190 attended public parking spaces, due to a proposed change in the building design below grade, represents the RWCDs With-Action condition.

Apart from the proposed Minor Modification, the new building on the development site is being developed on an as-of-right basis and there would be no change in the building's residential and commercial program or building envelope between RWCDs No-Action and RWCDs With-Action conditions. Areas shaded in gray on Figure 1a, Figure 1b and Figure 1c are not subject to the Minor Modification of the previously approved special permit.

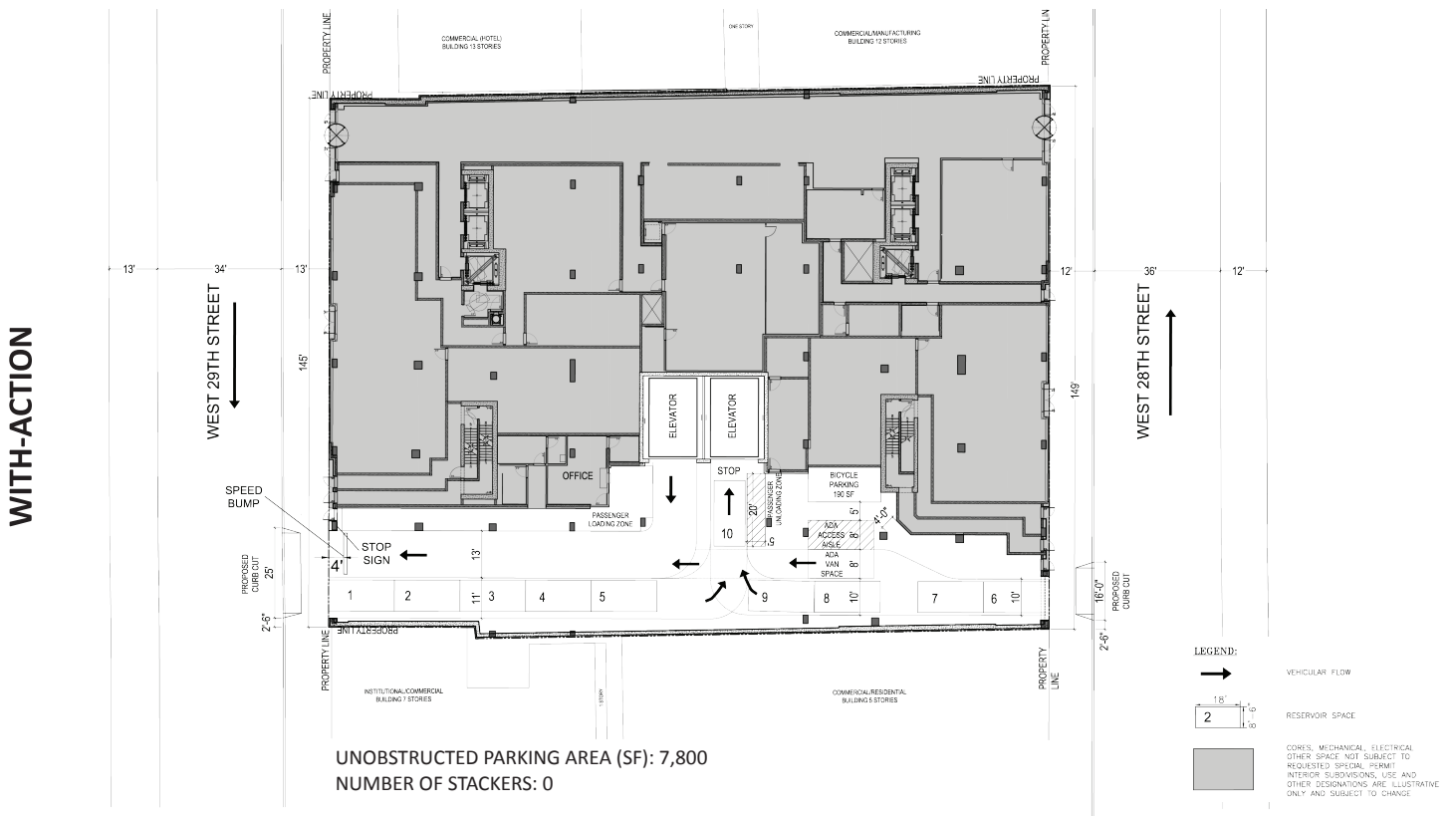
Although the ground-floor garage special permit area would be increased from 4,500 gsf in the No-Action condition to 7,800 gsf in the With-Action condition, the analysis for the proposed

Comparison of No-Action and With-Action Garage Plans - Ground Level

West 28th Street Rezoning EAS Figure A-8a
2011 Special Permit - Ground Level



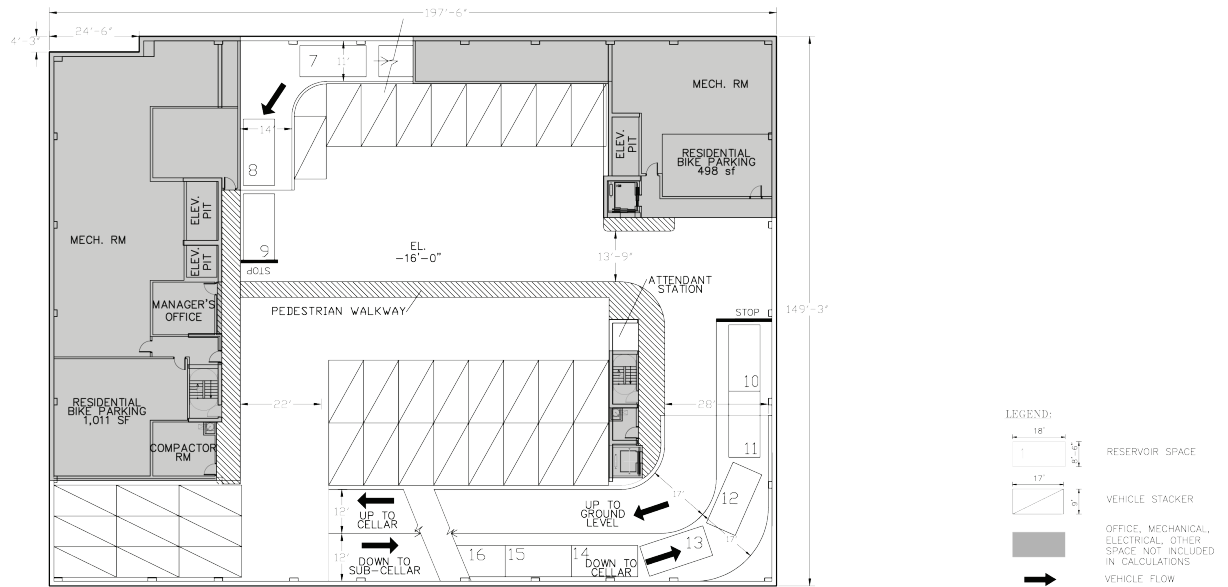
241-251 W. 28th Street Minor Modification RWCDs Memo Figure 6a
Proposed Minor Modification - Ground Level



Comparison of No-Action and With-Action Garage Plans - Cellar Level

West 28th Street Rezoning EAS Figure A-8b
 2011 Special Permit - Cellar Level

NO-ACTION



CELLAR LEVEL (Elev: -16')

UNOBSTRUCTED PARKING AREA (SF): 19,400
 NUMBER OF STACKERS: 34

241-251 W. 28th Street Minor Modification RWCDS Memo Figure A-8b

Proposed Minor Modification - Cellar Level

WITH-ACTION

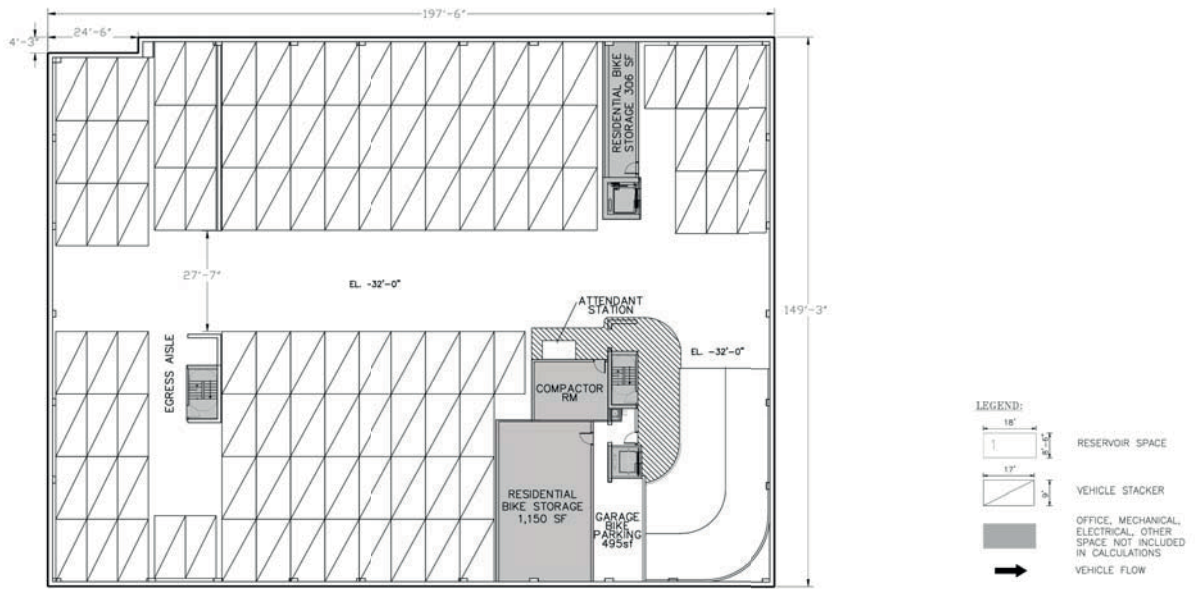


UNOBSTRUCTED PARKING AREA (SF): 20,300
 NUMBER OF STACKERS: 80

Comparison of No-Action and With-Action Garage Plans - Subcellar Level

West 28th Street Rezoning EAS Figure A-8c
 2011 Special Permit - Subcellar Level

NO-ACTION

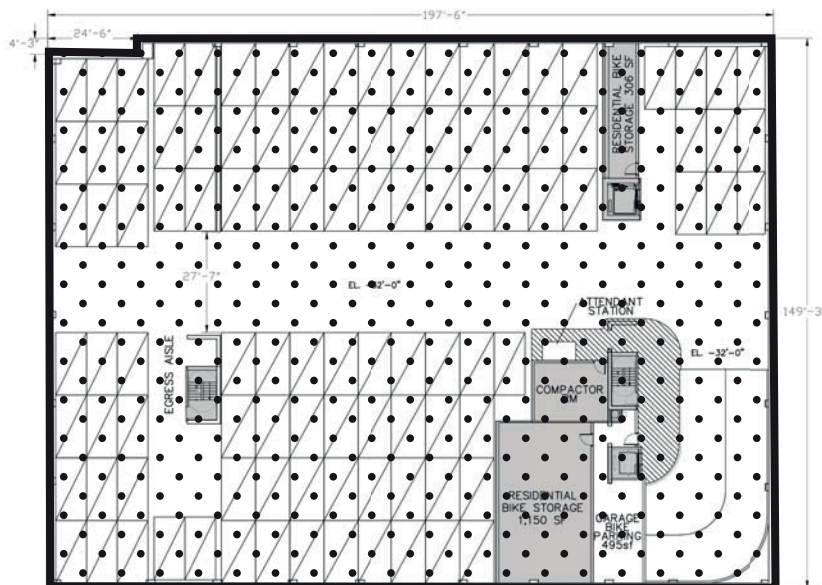


SUBCELLAR LEVEL (Elev: -32')

UNOBSTRUCTED PARKING AREA (SF): 25,200
 NUMBER OF STACKERS: 105

Proposed Minor Modification - Subcellar Level - ELIMINATED

WITH-ACTION



UNOBSTRUCTED PARKING AREA (SF): 0
 NUMBER OF STACKERS: 0

modification conservatively assumes that there would be no correlating reduction in the non-garage uses, including 11,390 gsf of office space and 4,685 gsf of retail space (16,075 total commercial gsf). The 2011 EAS RWCDs (which is the RWCDs No-Action scenario for this analysis) assumed that approximately 85 percent of the ground-floor area would be utilized by non-garage uses, including commercial uses and residential lobby and other residential amenity space. Under the RWCDs With-Action condition, only approximately 70 percent of the ground-floor area would be available for non-garage commercial and residential uses as the ground-floor garage footprint must now accommodate vehicle elevators, reservoir spaces as well as vehicle access areas.

Therefore, the overall net incremental effect of the proposed action would be a reduction of 135 spaces, from 325 spaces under RWCDs No-Action conditions to 190 spaces under RWCDs With-Action conditions. The other changes outlined above in the introduction, including the use of elevators instead of ramps for internal vehicle circulation and the relocation of the W. 28th Street curb cut from the eastern to western side of the development site would not materially affect environmental conditions considered under CEQR. These elements generally are not assessed in CEQR analyses unless an applicant is seeking a discretionary action to waive or modify zoning or other requirements related thereto. As noted above, the Department of City Planning has determined that the change to elevators requires a Minor Modification approval, which would include an update to the plans associated with the previously approved special permit. The applicant is not seeking any other discretionary actions. In addition, the change from two below-grade levels to one below-grade levels would not alter the requirements of or process for satisfying the RD for hazardous materials.

Figures 1 and 2 provide a comparison of the preliminary garage plans and illustrative building section for the RWCDs No-Action and RWCDs With-Action conditions. Only the unshaded areas shown in Figures 1a, 1b and 1c are subject to previous special permit (RWCDs No-Action) and the proposed Minor Modification (RWCDs With-Action). Information shown in the plans in the areas shaded in gray is for illustrative purposes only.

III. ANALYSIS FRAMEWORK

Table 1 provides a comparison of the development site under RWCDs No-Action conditions (the conditions analyzed in the 2011 EAS) to the RWCDs With-Action conditions (proposed Minor Modification).

Table 1, Development Site RWCDs per 2015 Proposed Minor Modification

Program Element	Existing	No-Action (2011 EAS/Special Permit)	With-Action (2015 Proposed Minor Mod)	Increment
Affordable DUs	0	81	81	0
Total DUs	0	407	407	0
Office (gsf)	0	11,390	11,390	0
Retail (gsf)	0	4,685	4,685	0
Public Parking Spaces	371†	325††	190	-135

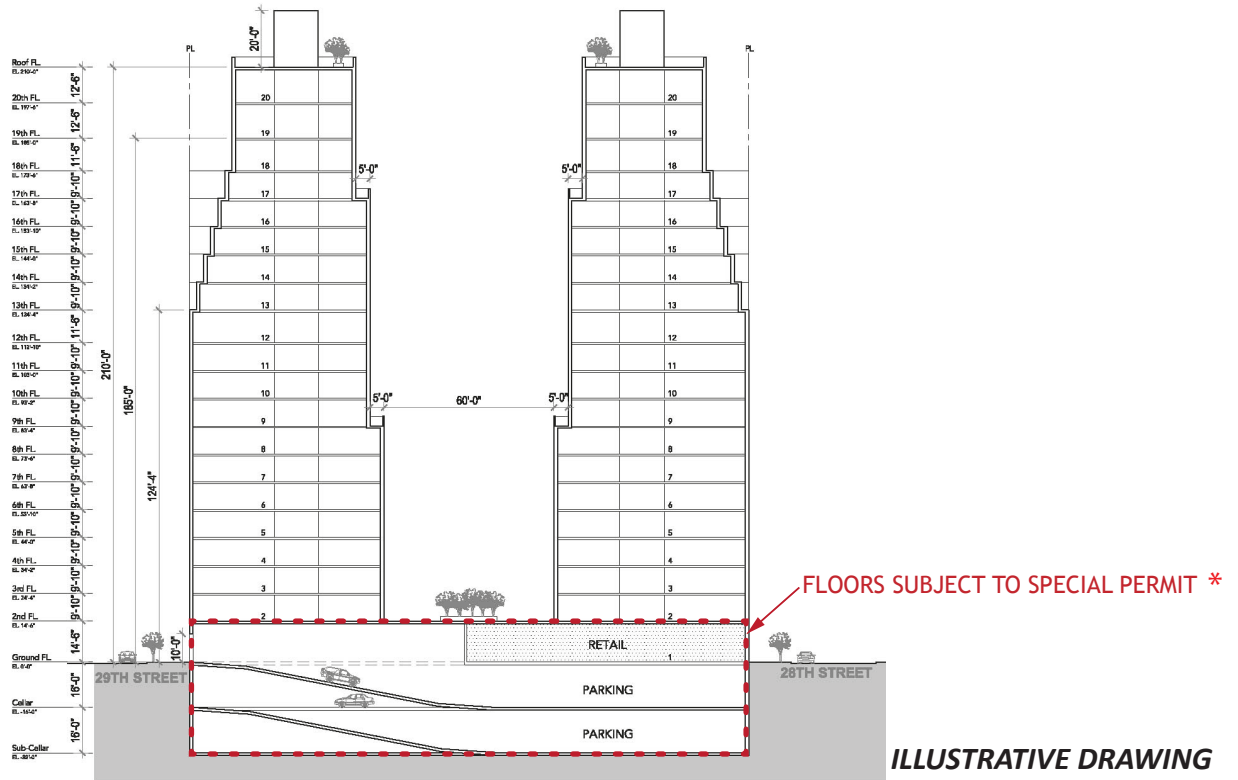
† Existing parking includes a 131-space public parking lot and a 240-space garage that was on the site until 2012, but which was demolished in preparation for the as-of-right redevelopment of the site.

†† Under No-Action conditions applicant could redevelop site pursuant to the previously approved special permit that allowed up to 325 public parking spaces.

Comparison of No-Action and With-Action Illustrative Section of Planned Building

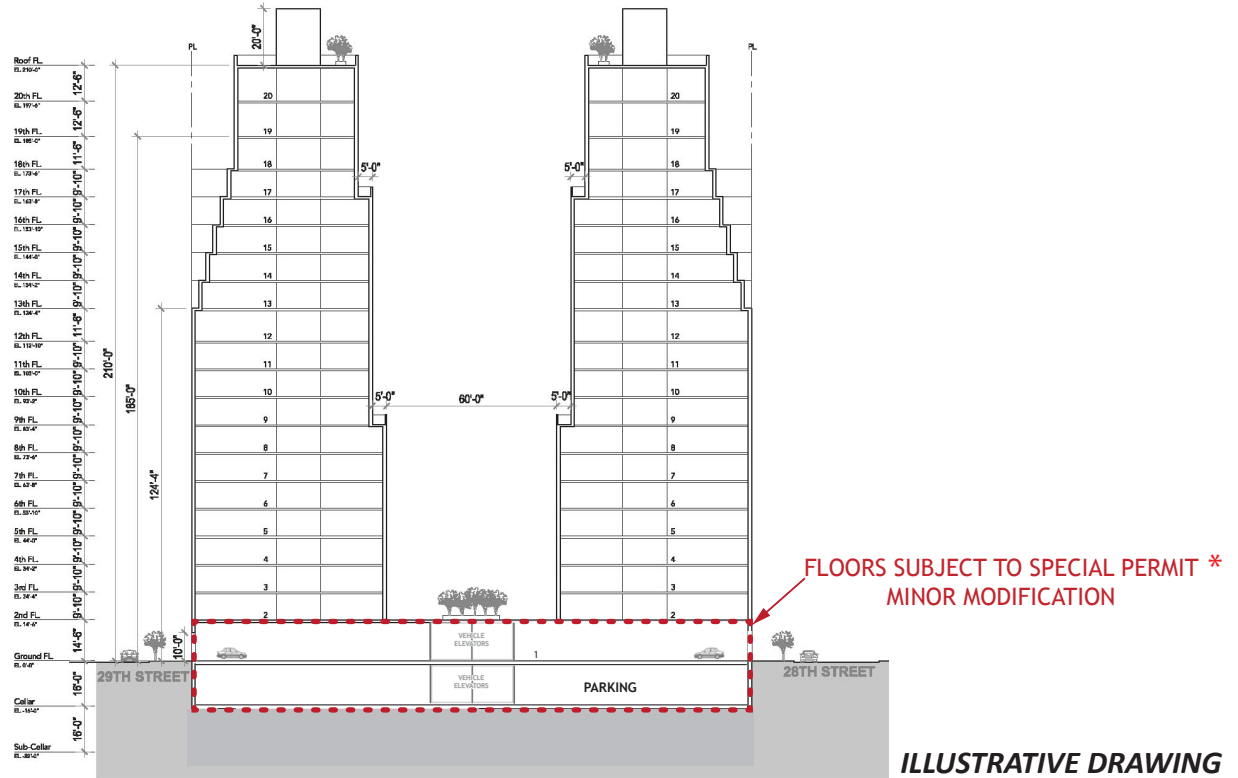
West 28th Street Rezoning EAS Figure A-7
2011 Special Permit

NO-ACTION



Proposed Minor Modification

WITH-ACTION



* REFER TO FIGURE 1; ONLY UNSHADED AREAS IN THE PLANS ARE SUBJECT TO SPECIAL PERMIT/MINOR MODIFICATION

The 2011 EAS was prepared in accordance with the guidelines set forth in the 2010 *CEQR Technical Manual*. This technical memorandum is prepared in accordance with the updated guidance and analysis methodologies provided in the 2014 *CEQR Technical Manual*, which includes revisions since the previous edition.

IV. POTENTIAL IMPACTS OF THE PROPOSED MODIFICATION

A. Preliminary Screening

As the proposed action would only result in a change in internal vehicular circulation, curb cut locations, a reduction in the number of parking spaces provided on the development site, and a reduction in the depth of excavation, several CEQR Technical Areas do not require further consideration as they would not have the potential to result in any significant adverse impacts as their effects would be of a similar or lesser magnitude to those identified in the 2011 EAS. Other technical areas require further assessment to determine whether the effects would be of a similar or lesser magnitude than identified in the 2011 EAS in order to make a determination that the Modified RWCDs would not result in any significant adverse impacts.

Preliminary Screening of CEQR Technical Areas Sensitive to Bulk, Site-based Effects, and Density

The location, building envelope, and residential and commercial development program on the development site would be the same under RWCDs No-Action and RWCDs With-Action conditions. In addition, changes to the location of curb cuts providing garage access would only change minimally and any effects of the curb cuts would be qualitatively the same; as such the change to curb cuts would not be significant for CEQR purposes. Therefore, for CEQR Technical Areas that are sensitive to bulk, site-based effects, and density, there would be no incremental change in conditions between RWCDs No-Action and RWCDs With-Action conditions. For example, shadows cast by the planned development on the development site would be the same under both RWCDs No-Action and RWCDs With-Action conditions. Similarly, the number of residents on the site and their effects on publicly-accessible open spaces in the surrounding community also would be the same under both RWCDs No-Action and RWCDs With-Action conditions.

Therefore, the following CEQR technical areas that are sensitive to bulk, site-based effects, and/or density can be screened out from requiring further analysis: **Land Use, Zoning, and Public Policy (although a description of land use, zoning, and public policy is provided below for informational purposes); Socioeconomic Conditions; Community Facilities and Services; Open Space; Shadows; Historic and Cultural Resources; Urban Design and Visual Resources; Natural Resources; Hazardous Materials (see discussion above regarding the site's Restrictive Declaration); Water and Sewer Infrastructure; Solid Waste and Sanitation Services; Energy; Greenhouse Gas Emissions and Climate Change; Noise (stationary sources); Public Health; Neighborhood Character; and Construction.** No further analysis of these areas is provided, although a discussion of land use, zoning, and public policy is provided for informational purposes.

Preliminary Screening of Technical Areas Sensitive to Change in Parking

Transportation

The 2014 *CEQR Technical Manual* identifies minimum development densities that potentially require a transportation analysis. Development at less than the development densities shown in Table 16-1 of the 2014 *CEQR Technical Manual* generally result in fewer than 50 peak-hour vehicle trips, 200 peak-hour subway/rail or bus transit riders, and 200 peak-hour pedestrian trips, where significant adverse impacts are considered unlikely.

The only incremental effect of the proposed action would be a reduction in garage capacity by 135 spaces. The development density threshold for parking facilities is an incremental increase of 85 spaces. As the proposed action would not exceed this development density threshold, the lead agency has determined that detailed analysis of traffic, transit, and pedestrians is not warranted.

The reduction in parking supply that would occur as a result of the proposed action would result in a parking shortfall on the development site. This would also have the potential to result in a parking shortfall at public parking facilities within a quarter-mile radius of the development site due to the shift in demand from the proposed garage to other off-street parking facilities. While the 2014 *CEQR Technical Manual* states that parking shortfalls in Manhattan do not generally constitute a significant adverse parking impact, the potential for a parking shortfall should be disclosed. Therefore, a parking analysis has been conducted to determine if there will be excess parking available that could eliminate or reduce the reduction in supply at the development site. This analysis is provided in Section C of this memo.

Air Quality: Mobile Sources

As the proposed action would result in the diversion of vehicle trips due to a 135-space reduction in parking spaces, from 325 spaces under RWCDs No-Action conditions to 190 spaces under RWCDs With-Action conditions, its potential to exceed screening thresholds for air quality mobile source analyses must be considered.

The air quality mobile source screening analysis is provided in Section D of this memo.

Air Quality: Parking Facility

The 2014 *CEQR Technical Manual*, Chapter 17, Section 210 states that projects that would result in parking facilities or applications to the CPC requesting the grant to a special permit or authorization for parking facilities may require an air quality parking facility analysis. The 2011 EAS provided an air quality parking facility analysis for the 325-space garage and found that no significant adverse air quality impacts would occur. DCP, as lead agency, has determined that an air quality parking facility analysis is warranted for the proposed action due to changes in CEQR guidance since the issuance of the 2011 EAS and the change in operational conditions, i.e., the shift from ramps to vehicle elevators. The air quality parking facility analysis is provided in Section E of this Memo.

Noise

As the proposed action would result in the diversion of vehicle trips due to a 135-space reduction in parking spaces, from 325 spaces under RWCDs No-Action conditions to 190 spaces under

RWCDS With-Action conditions, its potential to exceed screening thresholds for noise mobile source analyses must be considered.

The noise mobile source screening analysis is provided in Section F of this Memo.

B. Land Use, Zoning, and Public Policy Description

Although the proposed Minor Modification does not have the potential to result in significant adverse impacts to land use, zoning, and public policy, a description of these areas is presented here to provide background information that may be needed to sufficiently inform other technical analyses and determine whether existing and future land use conditions could affect other technical areas. This discussion of land use focuses on conditions on the development site and within a 400-foot radius study area.

Land Use

Development Site

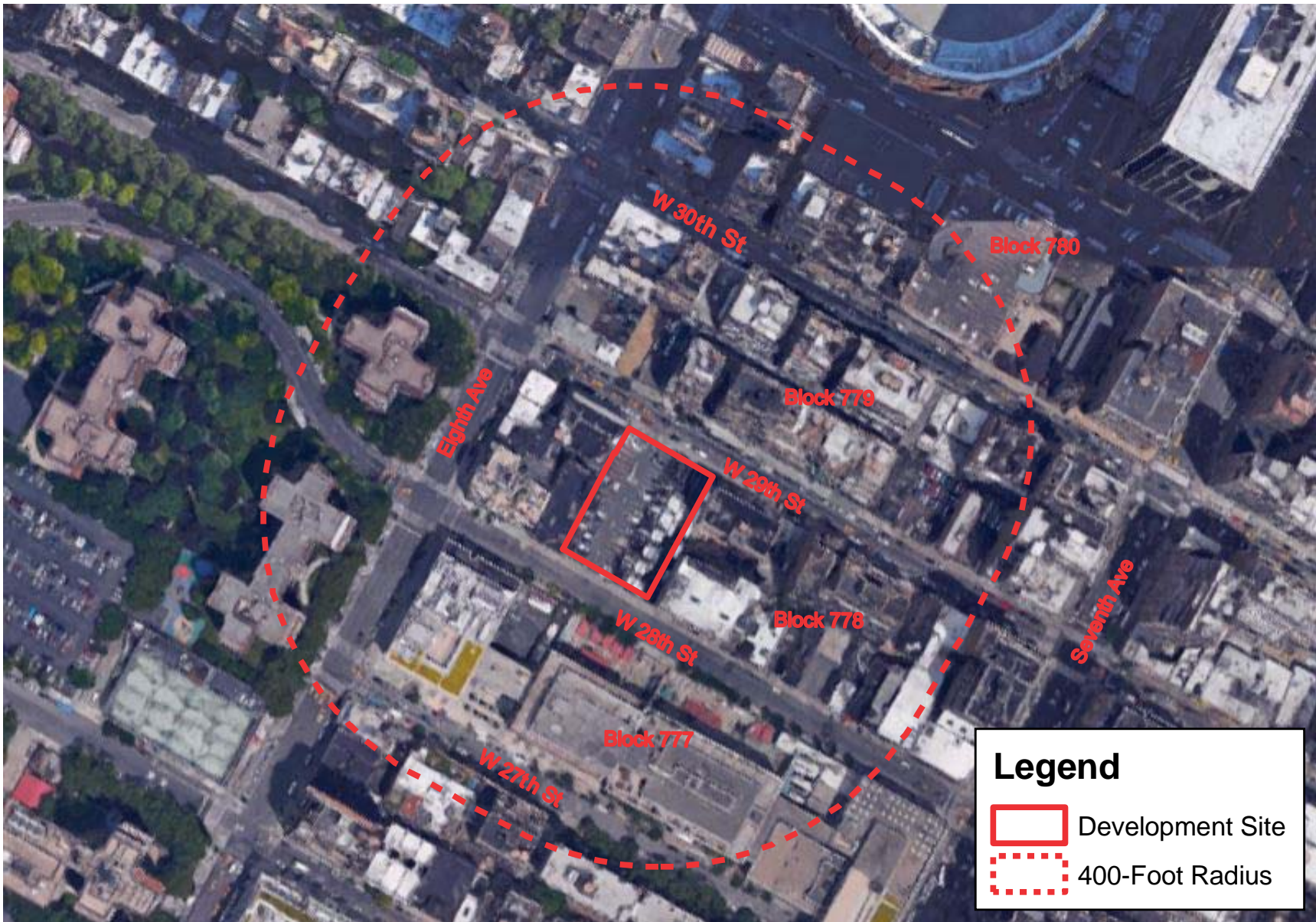
The development site at 241-251 W. 28th Street, which consists of Block 778, Lots 13, 16, 18, and 66, is an approximately 29,373-sf, irregularly-shaped midblock through lot. It has approximately 149.25 feet of frontage on W. 28th Street and 145 feet of frontage on W. 29th Street. Located between Seventh Avenue and Eighth Avenue in northern Chelsea, the range of addresses associated with the site includes 241-251 W. 28th Street (odd numbers) and 240-250 W. 29th Street (even numbers). On W. 28th Street the development site is located approximately 496 feet west of Seventh Avenue and approximately 154 feet east of Eighth Avenue. On W. 29th Street the development site is located approximately 500 feet west of Seventh Avenue and approximately 155 feet east of Eighth Avenue. Per the 2011 rezoning, the site is zoned M1-6D.

Public parking facilities have operated on the development site for many years. On the western portion of the site, there was until very recently a public parking lot at 245 W. 28th Street, aka 245-251 W. 28th Street and 244-250 W. 29th Street (Lots 13, 16, and 66). This parking lot was accessed via two-way curb cuts on both W. 28th Street and W. 29th Street. On the eastern portion of the site, until recently a public parking garage in a 4-story building was in operation at 241 W. 28th Street, aka 241-243 W. 28th Street and 240-242 W. 29th Street (Lot 18). The garage had a licensed capacity of 241 spaces and was accessible via a two-way curb cut on W. 28th Street. Since the adoption of the West 28th Street Rezoning actions in September 2011, the applicant has demolished the parking garage in preparation for as-of-right redevelopment of the site pursuant to the previously approved special permit and the applicable M1-6D zoning and consistent with the projections for the site under RWCDS With-Action conditions in the 2011 EAS. The applicant has closed the site in connection with the start of site construction. Table 2 provides summary information for the development site. Refer to Figures 3 through 7; Aerial Photo, Tax Map, Project Area Existing Conditions, Photo Key, and Zoning Map, respectively.

Table 2, Development Site Conditions

Lot	Address	Use/Notes
13	249-251 W 28 St	131-space public parking lot (closed 2015)
16	245-247 W 28 St, 244-248 W 29 St	
18	241-243 W 28 St, 240-242 W 29 St	240-space public parking garage (demolished 2012)*
66	250 W 29 St	Part of 131-space public parking lot
TOTAL		371 public parking spaces

* Lot 18 garage demolished in preparation for site redevelopment; used on a temporary basis for vehicle storage.





NYC Digital Tax Map

Effective Date : 12-09-2008 15:15:28
 End Date : Current
 Manhattan Block: 778

Legend

- Streets
- Miscellaneous Text
- ⚡ Possession Hooks
- - - Boundary Lines
- ⚡ Lot Face Possession Hooks
- Regular
- Underwater
- Tax Lot Polygon
- Condo Number
- Tax Block Polygon
- Development Site





1- View from West 29th Street looking southwest towards Development Site



2- View from West 28th Street looking northwest towards Development Site



3- View from West 29th Street looking south towards Development Site



4- View from West 29th Street looking south towards Development Site



5- View from West 29th Street looking north



6- View from West 29th Street looking north



7- View from West 29th Street looking south



8- View from West 29th Street looking north



9- View from West 28th Street looking northeast towards Development Site



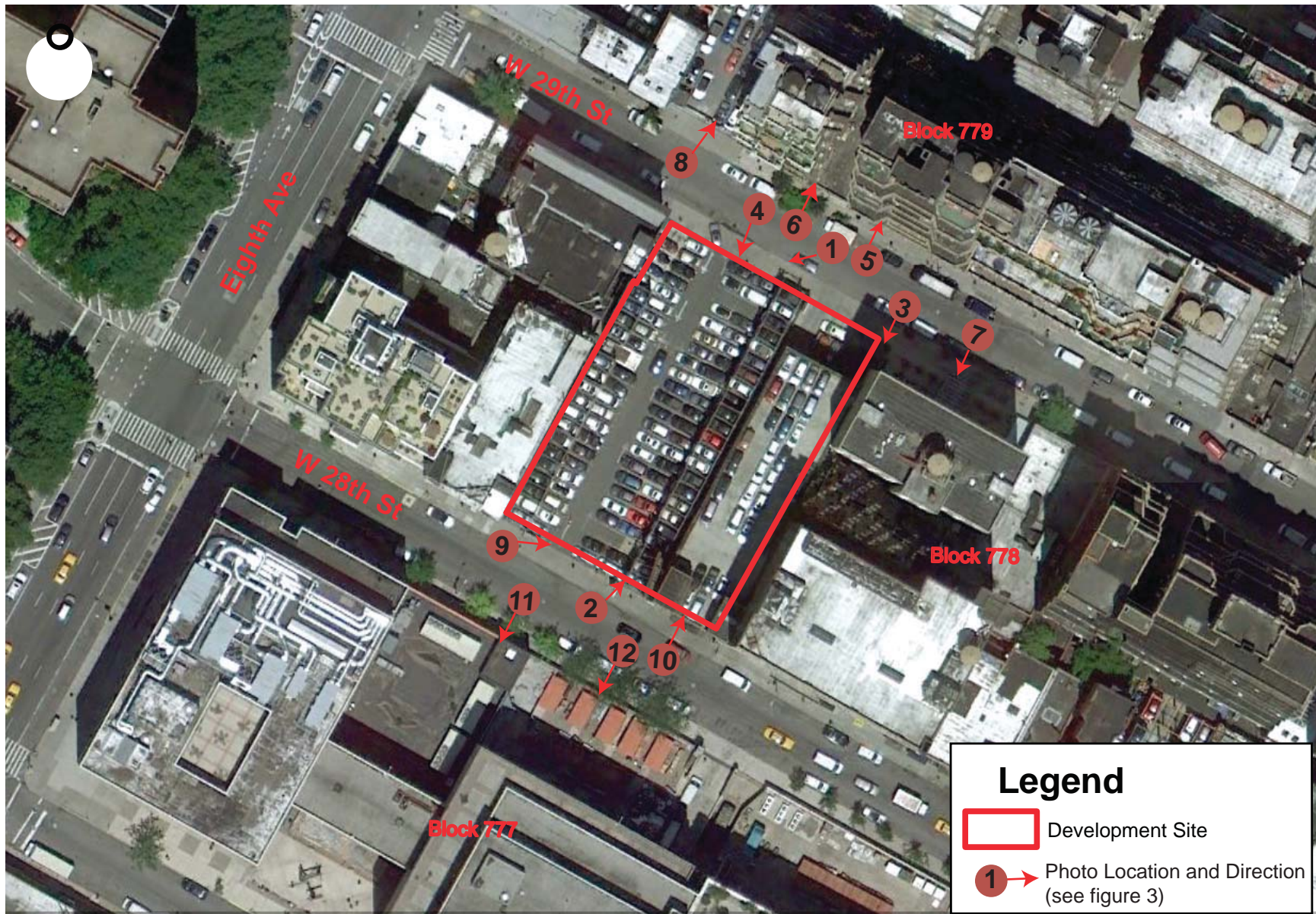
10- View from West 28th Street looking north towards Development Site



11- View from West 28th Street looking south



12- View from West 28th Street looking south



400-foot Radius Study Area

The 400-foot radius land use study area encompasses 98 tax lots, located within Blocks 751, 752, 753, 776, 777, 778, 779, and 780. Land uses and market trends have generally shifted away from an industrial and commercial center that formed part of Manhattan's Fur District to a mixed-use neighborhood, with a few remaining fur-related businesses. The study area's land uses include a mix of light industrial/manufacturing/warehouse, commercial, parking garages/lots and residential uses. Most of the study area consists of high lot coverage multi-story buildings with several surface parking lots, on standard Manhattan blocks. In addition, the portion of the study area west of Eighth Avenue and south of W. 29th Street encompasses part of a large limited-equity cooperative apartment complex called the Penn South Houses (Mutual Redevelopment Houses, Inc.) with several 22-story buildings in a towers-in-a-park plan, with superblocks and curved streets.

The predominant land use of the study area is commercial and office buildings, with a total of 37 lots. There are several notable commercial buildings in the study area. Immediately east of the development site, there is a 13-story Holiday Inn Express hotel at 232 W. 29th Street and the Caxton Building at 229 W. 28th Street, a 12-story office building. Other office buildings include a 17-story building at 214 W. 29th Street.

The study area has a diverse housing stock. It includes approximately 13 residential buildings, totaling approximately 2,305 dwelling units. Most of these housing units are in the Penn South Houses, while other notable residential buildings in study area include the Onyx Chelsea, an 11-story condominium building built in 2006 with 52 DUs and ground floor retail at the northeast corner of W. 28th Street and Eighth Avenue, and several 4-story walk-up apartment buildings with ground floor retail along Eighth Avenue.

Located to the southern end of the study area is the Fashion Institute of Technology (FIT), a unit of the State University of New York (SUNY) system. It includes academic buildings, dormitories, and a museum. It occupies a full block (Block 777) from Seventh Avenue to Eighth Avenue between W. 27th and W. 28th Streets. It also occupies part of the block (Block 776), from Seventh and Eighth Avenue between W. 26th and W. 27th Streets. Including FIT there are seven public facilities and institutions located within the study area. Other notable community facilities in the study area include the New York Arts Program's office and dormitory (managed by Ohio Wesleyan University) to the west of the development site at 305 W. 29th Street and Subud New York, a public facility and international organization, to the east of the development site at 230 W. 29th Street.

A summary of the study area's land uses can be found in Table 3.

Table 3: Land Use for 400-Foot Radius

Land Use Type	Total Number of Lots	Percentage
Multi-Family Walkup Buildings	8	8.2%
Multi-Family Elevator Buildings	5	5.1%
Mixed Commercial/Residential Buildings	21	21.4%
Commercial/Office Buildings	37	37.8%
Industrial/Manufacturing	4	4.1%
Public Facilities & Institutions	11	11.2%
Parking Facilities	12	12.2%
TOTAL	98	100.0%

Zoning

Development Site

The development site is located within the “West 28th Street Rezoning” project area, established in 2011. The rezoning resulted in the replacement of the previous M1-5 zoning district with an M1-6D district. Unlike typical M1 districts, which prohibit new residential uses, M1-6D allows for new residential development (Use Groups 1 and 2) as-of-right on zoning lots that contain less than 40,000 zoning square feet (zsf) of existing building area. New residential developments require a zoning certification for properties with 40,000 zsf or more of existing building area if part of the space is non-residential. Most commercial (Use Groups 5-14 and 16) and light industrial (Use Group 17) uses are permitted as-of-right, but hotels with 100 or more guest rooms are allowed subject to a zoning certification. Most community facilities (Use Groups 3 and 4) uses are permitted as-of-right while community facilities with sleeping accommodations are permitted subject to a zoning certification. Residential density is permitted to a base floor area ratio (FAR) of 9.0 and up to a bonus FAR of 12.0 under the Inclusionary Housing Program, if the development allows for 20 percent of the building to be affordable housing. Non-residential density is permitted to an FAR of 10.0. Bulk requirements include mandatory street walls and setbacks governed by sky exposure plane regulations, with a base height of 85 feet to 125 feet and a maximum building height of 210 feet on narrow streets.

The Manhattan Core parking regulations apply; as such accessory parking is not required but is permitted at rates of 0.2 parking spaces per DU and 1 space per 4,000 zsf of commercial or community facility space. Public parking may be allowed by special permit.

400-foot Radius

Zoning classifications within the 400-foot study area contain a mix of commercial and light manufacturing districts. Zoning classifications include C6-3X, C6-2, C6-2A, and M1-5.

The M1-6D zoning district established as part of the “West 28th Street rezoning”, covers the midblock portions of Blocks 778 and 779, i.e., the portions of the two blocks between W. 28th and W. 30th Streets that are more than 100 feet from Seventh and Eighth Avenues.² Directly to the north of the M1-6D district, is an M1-5 zoning district. This zoning district extends from W. 30th Street to W. 31st Street, encompassing the middle portion of the block, between Seventh and Eighth Avenues. Located to the south of the development site is a C6-2 zoning district. This district extends from W. 28th Street to W. 26th Street. To the west of the development site, along Eighth Avenue, zoning district C6-2A extends from W. 24th Street to W. 29th Street. To the east, an M1-6 district is generally mapped between W. 23rd and W. 31st streets between Seventh Avenue and Avenue of the Americas.

Public Policy

There are no adopted City policies, as defined in the 2014 *CEQR Technical Manual*, applicable to the development site or the 400-foot radius study area.

² The M1-6D zoning district was established per approved application N 110285 ZRY and mapped in the “West 28th Street Rezoning” area per approved application C 100063 ZMM.

C. Parking Assessment

As the proposed action would result in a parking shortfall on the development site, a parking assessment is provided to estimate future parking utilization in the study area and to determine if the study area as a whole would experience a shortfall due to the proposed action. As detailed in this section, under 2019 With-Action conditions with the reduction in off-street parking supply of 135 spaces, the quarter-mile radius study area is not expected to experience a parking shortfall.

Scope of Analysis

The study area is comprised of high density CBD and mixed-use streets that are governed by on-street parking regulations that have time or usage limitations. Furthermore, available curbside space is highly utilized. It was therefore conservatively assumed that no on-street parking would be available to accommodate any demand created by the development site's parking shortfall. Therefore, this analysis focuses only on off-street public parking conditions during the weekday midday, weekday overnight, Saturday weekday, and Saturday overnight periods within a quarter-mile radius of the development site.

Methodology

The parking analysis identifies the extent to which off-street public parking is available and utilized under existing and future conditions and estimates the parking demand resulting from the proposed action during peak periods. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to the proposed project. Per the 2014 *CEQR Technical Manual*, the inability of a project or the surrounding area to accommodate a project's future parking demand is considered a parking shortfall but is generally not considered a significant adverse impact in Manhattan and certain areas of the Bronx, Brooklyn, and Queens³ due to the magnitude of available alternative modes of transportation in these areas.

Existing Conditions (2016)

The proposed action would result in a reduction of 135 spaces on the development site and as a result the site is expected to experience a shortfall in supply during the weekday midday, weekday overnight, Saturday weekday, and Saturday overnight periods. Therefore, existing off-street public parking conditions were evaluated for a study area within a quarter-mile of the development site, in accordance with 2014 *CEQR Technical Manual* guidance. This included surveys of supply and utilization at the study area's off-street public parking facilities.

An inventory of licensed capacities at public parking lots and garages within the quarter-mile radius study area and of their approximate utilization during different time periods was conducted during the week of February 22, 2016⁴. Within this parking study area, 19 facilities (one facility has two licenses) with a combined capacity of 4,248 spaces were identified, as shown in Figure 8. As shown in Table 4, during the weekday midday period the study area's parking demand is 3,671 spaces, representing a utilization rate of 86 percent. During the weekday overnight period the study area's parking demand is 2,372, representing a utilization rate of 56 percent. During the Saturday midday

³ See CEQR Parking Zones 1 and 2

<http://www.nyc.gov/html/oec/downloads/pdf/2014_ceqr_tm/2014_ceqr_tm_ch16_transportation_parking_citywide.pdf>

⁴ Parking utilization rates were conservatively surveyed while events were held at Madison Square Garden.

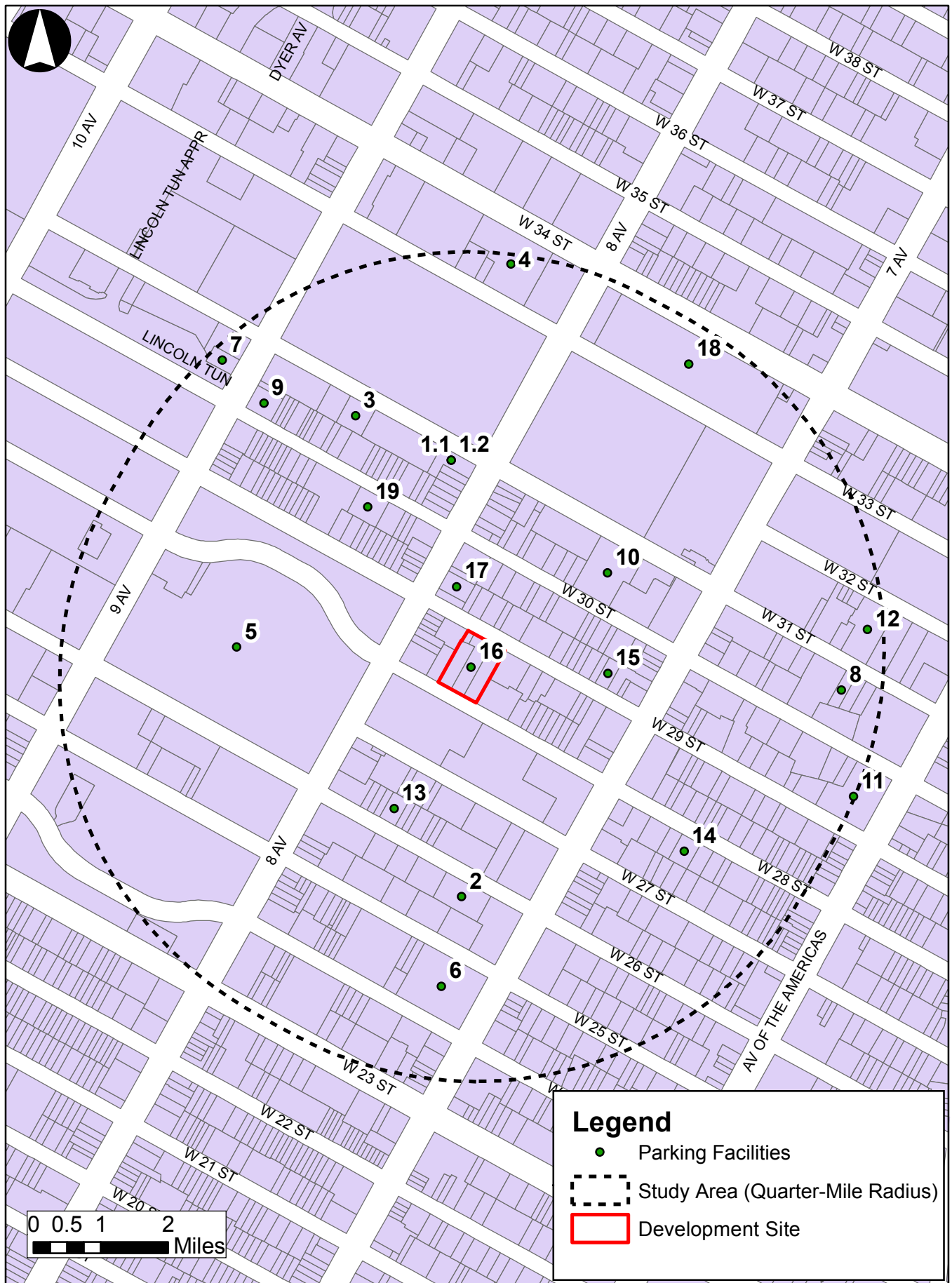


Table 4, Parking Study Area Existing Conditions (2016)

Map No.	Facility Name	Address	License No.	Licensed Capacity	Utilization Percentage				Utilization Spaces				Available Spaces			
					Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight
1a	SP Plus Corp.	308-310 W. 31 St	2021756	27	85%	30%	59%	19%	23	8	16	5	4	19	11	22
1b	SP Plus Corp.	300-306 W. 31 St	2021751	36	86%	31%	61%	19%	31	11	22	7	5	25	14	29
2	200 W. Garage Corp.	220 W. 26 St	1220798	120	99%	90%	90%	85%	119	108	108	102	1	12	12	18
3	Post Office Garage, LLC	340 W. 31 St	1181008	249	90%	20%	50%	25%	224	50	125	62	25	199	124	187
4	Quik Park Truffles LLC	312 W. 34 St (entry on 33rd)	2013693	250	80%	35%	90%	30%	200	88	225	75	50	162	25	175
5	Impact Car Park, LLC	333 W. 26 St	1079092	839	99%	95%	75%	90%	831	797	629	755	8	42	210	84
6	Chelsea Seventh Garage Corp.	252 7 Av (entry on 25th)	1072122	175	90%	75%	80%	85%	158	131	140	149	17	44	35	26
7	Madison Square Parking Corp.	359 9 Av	0993927	40	90%	82%	95%	55%	36	33	38	22	4	7	2	18
8	Parking 31 Management LLC	124-126 W. 31 St	1386602	34	85%	53%	17%	15%	29	18	6	5	5	16	28	29
9	Secure Parking, LLC	363 W. 30 St	1099298	18	83%	72%	61%	28%	15	13	11	5	3	5	7	13
10	New Garden Garage, LLC ¹	227 W. 30 St	1180977	600	85%	30%	65%	50%	510	180	390	300	90	420	210	300
11	LAZ Parking NY/NJ LLC	839 6 Av (entries on 29th/30th)	1422491	529	80%	90%	70%	85%	423	476	370	450	106	53	159	79
12	Garden Lots LLC	125 W. 31 St (entry on 32nd)	1266254	120	90%	50%	60%	70%	108	60	72	84	12	60	48	36
13	Tori Operating Corp.	241 W. 26 St	1168355	225	90%	50%	85%	50%	203	113	191	113	22	112	34	112
14	Central Parking Systems of NY, Inc.	140 W. 28 St	1251241	60	90%	10%	50%	10%	54	6	30	6	6	54	30	54
15	Desoto Parking LLC	211 W. 29 St	1201084	50	95%	50%	20%	20%	48	25	10	10	2	25	40	40
16	SP Plus Corp.	371 7 Av (entry on 31st)	2019934	94	85%	65%	70%	75%	80	61	66	71	14	33	28	23
17	Garden Garage, LLC. ³	384 8 Av	1140965	35	100%	80%	100%	23%	35	28	35	8	0	7	0	27
18	Penn Parking LLC	1 Penn Plaza	1460988	665	70%	20%	60%	20%	466	133	399	133	199	532	266	532
19	30 Operating, LLC	320 W. 30 St	1415239	82	95%	40%	55%	45%	78	33	45	37	4	49	37	45
Total				4,248	86%	56%	69%	56%	3,671	2,372	2,928	2,399	577	1,876	1,320	1,849

Surveys conducted the week of Feb. 22, 2016

¹ New Garden Garage LLC official capacity is 1,500 spaces, adjusted to 600 as some spaces only for MSG events. Per 15 Penn Plaza FEIS

² 140 W. 28th St. parking lot operates M-F 6a-10p; Sa-Su 8a-8p, but there is overnight utilization.

³ 384 8 Av. parking lot operates M-Su 7a-12m, but there is overnight utilization

period the study area's parking demand is 2,928 spaces, representing a utilization rate of 69 percent. During the Saturday overnight period the study area's parking demand is 2,399 spaces, representing a utilization rate of 56 percent.

No-Action Conditions (2019)

Development Site

Per the RWCDs Memo, under No-Action conditions the development site will be redeveloped with a new mixed-use building with 325 public parking spaces. Table H-7 of the 2011 EAS identified expected hourly weekday utilization for the 325-space on-site garage. For the weekday midday period, the utilization is projected to be 303 spaces and for the weekday overnight period the utilization is projected to be 325 spaces.

The 2011 EAS did not, however, include a Saturday analysis. Thus, a Saturday parking demand forecast has been prepared to identify the Saturday midday and overnight utilization. For the Saturday midday period, the utilization is projected to be 287 spaces for the Saturday midday period and 325 spaces for the Saturday overnight period.

Study Area

Between 2016 and 2019 (the analysis year for the proposed action) the demand for off-street parking is expected to increase due to new developments. Although the 2014 *CEQR Technical Manual* recommends a 0.5 percent per year compounded background growth rate to account for increased demand from small developments in the area and discrete forecasts be made for demand for larger developments, for this study a 1.0 percent background growth rate is conservatively applied to existing demand to account for increased demand from developments in the area in order to estimate the No-Action demand.

In addition, there is one large commercial development, 15 Penn Plaza, which may occur by 2019, although it should be noted that there are no applications presently filed with Buildings Department for a new building or for the demolition of the existing 22-story building on the site. According to the *15 Penn Plaza FEIS (2010; CEQR No. 09DCP019M)*, this development will generate a peak midday demand of 570 spaces and will not generate any overnight parking demand. The *FEIS* did not provide a Saturday parking forecast, but as a very conservative assumption the weekday midday demand is assumed to be the same for the Saturday midday peak period. 15 Penn Plaza is expected to provide 100 parking spaces. If constructed, the 15 Penn Plaza development will replace the Hotel Pennsylvania, which has approximately 1,700 hotel rooms and 45,400 gsf of retail space. The hotel, which does not have any on-site parking, is estimated to have a daily parking demand of 61 vehicles, a very low parking demand rate based on the *Hotel Pennsylvania Parking Garage EAS (1996; CEQR No. 96DCP060M)*.⁵ Accordingly, based on the data cited above, 15 Penn Plaza will result in a 509-space net increase in demand for study area off-street parking spaces in the weekday and Saturday midday peak periods and a 61-space net decrease in demand for study area off-street parking spaces in the weekday overnight and Saturday overnight peak periods.

In addition, two new developments in the W. 28th Street Rezoning Area are expected to add 74 licensed off-street parking spaces to the study area between 2016 and 2019.

⁵ Although a parking garage special permit was approved for the Hotel Pennsylvania, a garage was not added to the site.

This will include 45 spaces to be provided in a new residential building at 221 W. 29th Street. An application for a parking garage special permit is currently undergoing ULURP public review for that site which would increase the number of spaces from 19 allowed as-of-right to 45.

In addition, per a filing with the Department of Buildings, 29 as-of-right accessory spaces will be provided in a new development at 215 W. 28th Street (the developer recently initiated the application process for garage special permits for this site but to be conservative the potential increase in capacity is not considered in this analysis).

Apart from these changes, based on available Buildings Department filings, no other changes to study area parking supply are anticipated.

Table 5 presents forecasted off-street parking utilization for No-Action conditions. As shown in the table, during the weekday midday period the area’s parking demand would be 4,594 spaces, representing a utilization rate of 97 percent with 153 available spaces. During the weekday overnight period the area’s parking demand would be 2,708 spaces, representing a utilization rate of 57 percent with 2,039 available spaces. During the Saturday midday period the area’s parking demand would be 3,813 spaces, representing a utilization rate of 80 percent with 934 available spaces. During the Saturday overnight period the area’s parking demand would be 2,736 spaces, representing a utilization rate of 58 percent with 2,011 available spaces.

Table 5, Study Area No-Action Conditions (2019)

Condition	Licensed Capacity	Utilization Percentage				Utilization Spaces				Available Spaces			
		Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight
Existing	4,248	86%	56%	69%	56%	3,671	2,372	2,928	2,399	577	1,876	1,320	1,849
Development Site Change	+325					+303	+325	+287	+325				
15 Penn Plaza	+100					+509	-61	+509	-61				
Other Study Area Changes	+74					+111	+72	+89	+73				
No-Action	4,747	97%	57%	80%	58%	4,594	2,708	3,813	2,736	153	2,039	934	2,011

Other Study Area change in demand estimated by 1% compounded annual background growth rate

With-Action Conditions (2019)

With the proposed action there would be 190 spaces on the development site. As a result, the development site and the study area would have 135 fewer parking spaces than under No-Action conditions.

Table 6 shows the effect on study area utilization that would occur as a result of this reduction. As shown in the table, during the weekday midday period the area’s parking demand would be 4,594 spaces, representing a utilization rate of 99.6 percent, which is rounded to 100 percent in the table. There would be 18 available spaces. During the weekday overnight period the area’s parking demand would be 2,708 spaces, representing a utilization rate of 59 percent with 1,904 available spaces. During the Saturday midday period the area’s parking demand would be 3,813 spaces, representing a utilization rate of 83 percent with 799 available spaces. During the Saturday overnight period the area’s parking demand would be 2,736 spaces, representing a utilization rate of 59 percent with 1,876 available spaces.

Table 6, Study Area With-Action Conditions (2019)

Condition	Licensed Capacity	Utilization Percentage				Utilization Spaces				Available Spaces			
		Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight	Weekday Midday	Weekday Overnight	Saturday Midday	Saturday Overnight
No-Action	4,747	97%	57%	80%	58%	4,594	2,708	3,813	2,736	153	2,039	934	2,011
Development Site Change	-135												
With-Action	4,612	100%	59%	83%	59%	4,594	2,708	3,813	2,736	18	1,904	799	1,876

Development Site demand is accounted for No-Action utilization; there would be no incremental change in *demand* due to the proposed action, only change in *supply*.

As indicated, the quarter-mile radius study area is expected to have sufficient available capacity to accommodate demand that would occur due to the shortfall on the development site, and, accordingly, the impact determination of the 2011 EAS is not changed. While the weekday midday peak period is projected to be close to full utilization, it is important to note that this analysis includes the 15 Penn Plaza project, a development which although approved is not under construction at this time and may not be built and operational by the 2019 Build year. Moreover, as noted in the 2014 *CEQR Technical Manual* (Section 450 – Determination of Significant Parking Shortfalls), even if a parking shortfall were to occur in this area, the inability of a proposed project or the surrounding area to accommodate a project’s future parking demands is generally not considered significant due to the magnitude of available alternative modes of transportation that are available.

D. Air Quality Mobile Source Screening

The 2014 *CEQR Technical Manual* states that if a proposed project would generate or divert 140 or more auto trips in Manhattan between 30th Street and 61st Street or 170 or more auto trips in other areas of the City including Manhattan south of 30th Street it may result in significant adverse air quality impacts from mobile sources and therefore require further analyses, which may include microscale analyses of mobile sources.

The proposed action would result in a reduction of 135 spaces, from 325 under RWCDs No-Action Conditions to 190 under RWCDs With-Action conditions. A forecast of hourly vehicle trips for the proposed 190-space garage was prepared, based on the forecast for the 325 spaces provided in Table H-7 of the 2011 EAS. Refer to Tables 7, 8, and 9. Based on these forecasts, the maximum number of diverted vehicle trips in any peak hour would be 52, which is well below the 140-auto trip threshold for detailed air quality mobile source analysis, and, thus, no further analysis is required.

Table 7a, RWCDs No-Action (325 spaces) Public Parking Demand Trip Forecast and Utilization (Weekday)

Time	Residential Demand			Retail Demand			Office Demand			Hotel Demand			Transient Demand			Total Garage Accumulation			
	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	% of cap
12-1 AM	0	0	290	0	0	0	0	0	0	0	0	35	0	0	0	0	0	325	100%
1-2	0	0	290	0	0	0	0	0	0	0	0	35	0	0	0	0	0	325	100%
2-3	0	0	290	0	0	0	0	0	0	0	0	35	0	0	0	0	0	325	100%
3-4	0	0	290	0	0	0	0	0	0	0	0	35	0	0	0	0	0	325	100%
4-5	0	0	290	0	0	0	0	0	0	0	0	35	0	0	0	0	0	325	100%
5-6	2	5	287	0	0	0	0	0	0	0	0	35	0	0	0	2	5	322	99%
6-7	2	17	272	0	0	0	0	0	0	0	2	33	5	0	5	7	19	310	95%
7-8	3	26	249	0	0	0	0	0	0	1	4	30	12	2	15	16	32	294	90%
8-9	9	43	215	0	0	0	3	0	3	3	5	28	20	3	32	35	51	278	86%
9-10	8	19	204	1	1	0	3	0	6	3	4	27	16	1	47	31	25	284	87%
10-11	14	15	203	2	1	1	0	0	6	2	3	26	13	3	57	31	22	293	90%
11-12	14	14	203	2	2	1	0	1	5	2	3	25	12	5	64	30	25	298	92%
12-1 PM	21	21	203	5	5	1	0	0	5	7	6	26	10	6	68	43	38	303	93%
1-2	15	15	203	2	2	1	0	0	5	2	3	25	8	8	68	27	28	302	93%
2-3	17	11	209	2	2	1	1	0	6	3	3	25	7	12	63	30	28	304	94%
3-4	20	9	220	2	2	1	0	0	6	3	2	26	8	16	55	33	29	308	95%
4-5	31	16	235	3	2	2	0	2	4	5	4	27	5	14	46	44	38	314	97%
5-6	41	23	253	2	2	2	0	3	1	9	5	31	6	19	33	58	52	320	98%
6-7	29	13	269	3	2	3	0	1	0	5	3	33	6	20	19	43	39	324	100%
7-8	21	13	277	1	2	2	0	0	0	6	4	35	4	14	9	32	33	323	99%
8-9	20	11	286	1	1	2	0	0	0	2	2	35	2	9	2	25	23	325	100%
9-10	11	8	289	0	1	1	0	0	0	1	1	35	3	5	0	15	15	325	100%
10-11	9	10	288	0	1	0	0	0	0	0	0	35	3	3	0	12	14	323	99%
11-12	9	7	290	0	0	0	0	0	0	0	0	35	1	1	0	10	8	325	100%
Total	296	296		26	26		7	7		54	54		141	141		524	524		

Note:

* This table is based on 2011 EAS Table H-7

Table 7b, RWCDS No-Action (325 spaces) Public Parking Demand Trip Forecast and Utilization (Saturday)

Time	Residential Demand			Retail Demand			Office Demand			Hotel Demand			Transient Demand			Total Garage Accumulation			
	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	% of cap
12-1 AM	3	3	290	0	0	0	0	0	0	0	0	35	0	0	0	3	3	325	100%
1-2	3	3	290	0	0	0	0	0	0	0	0	35	0	0	0	3	3	325	100%
2-3	1	1	290	0	0	0	0	0	0	0	0	35	0	0	0	1	1	325	100%
3-4	1	1	290	0	0	0	0	0	0	0	0	35	0	0	0	1	1	325	100%
4-5	1	1	290	0	0	0	0	0	0	0	0	35	0	0	0	1	1	325	100%
5-6	1	1	290	0	0	0	0	0	0	0	0	35	0	0	0	1	1	325	100%
6-7	1	3	288	0	0	0	0	0	0	0	2	33	0	0	0	1	5	321	99%
7-8	4	10	282	0	0	0	0	0	0	1	4	30	0	0	0	5	14	312	96%
8-9	10	24	268	1	1	0	1	0	1	3	5	28	0	0	0	15	30	297	91%
9-10	19	27	260	1	0	1	1	0	2	3	4	27	0	0	0	24	31	290	89%
10-11	20	26	254	2	1	2	0	0	2	2	3	26	1	0	1	25	30	285	88%
11-12	24	24	254	2	2	2	0	0	2	2	3	25	2	1	2	30	30	285	88%
12-1 PM	34	34	254	6	6	2	0	0	2	7	6	26	2	1	3	49	47	287	88%
1-2	24	25	253	3	3	2	0	0	2	2	3	25	1	1	3	30	32	285	88%
2-3	26	25	254	3	2	3	0	0	2	3	3	25	1	1	3	33	31	287	88%
3-4	30	21	263	2	2	3	0	0	2	3	2	26	1	2	2	36	27	296	91%
4-5	34	18	279	3	3	3	0	1	1	5	4	27	1	3	0	43	29	310	95%
5-6	27	22	284	3	3	3	0	1	0	9	5	31	1	1	0	40	32	318	98%
6-7	25	24	285	2	3	2	0	0	0	5	3	33	0	0	0	32	30	320	98%
7-8	22	17	290	1	3	0	0	0	0	6	4	35	0	0	0	29	24	325	100%
8-9	14	14	290	1	1	0	0	0	0	2	2	35	0	0	0	17	17	325	100%
9-10	9	9	290	1	1	0	0	0	0	1	1	35	0	0	0	11	11	325	100%
10-11	8	8	290	0	0	0	0	0	0	0	0	35	0	0	0	8	8	325	100%
11-12	7	7	290	0	0	0	0	0	0	0	0	35	0	0	0	7	7	325	100%
Total	348	348		31	31		2	2		54	54		10	10		445	445		

Note:

* This table is based on 2011 EAS Table H-7, adjusted to Saturday travel demand characteristics

Table 8a, RWCDs With-Action (190 spaces) Public Parking Demand Trip Forecast and Utilization (Weekday)

Time	Residential Demand			Retail Demand			Office Demand			Hotel Demand			Transient Demand			Total Garage Accumulation			
	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	% of cap
12-1 AM	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
1-2	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
2-3	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
3-4	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
4-5	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
5-6	2	4	188	0	0	0	0	0	0	0	0	0	0	0	0	2	4	188	99%
6-7	2	10	180	0	0	0	0	0	0	0	0	0	1	1	0	3	11	180	95%
7-8	2	16	166	0	0	0	0	0	0	0	0	0	7	2	5	9	18	171	90%
8-9	5	27	144	0	0	0	3	0	3	0	0	0	13	2	16	21	29	163	86%
9-10	4	10	138	1	1	0	3	0	6	0	0	0	10	1	25	18	12	169	89%
10-11	7	8	137	2	1	1	0	0	6	0	0	0	8	3	30	17	12	174	92%
11-12	7	7	137	2	2	1	0	1	5	0	0	0	7	3	34	16	13	177	93%
12-1 PM	8	8	137	5	5	1	0	0	5	0	0	0	7	4	37	20	17	180	95%
1-2	7	7	137	2	2	1	0	0	5	0	0	0	5	6	36	14	15	179	94%
2-3	9	5	141	2	2	1	1	0	6	0	0	0	3	8	31	15	15	179	94%
3-4	10	4	147	2	2	1	0	0	6	0	0	0	4	10	25	16	16	179	94%
4-5	18	7	158	3	2	2	0	2	4	0	0	0	3	10	18	24	21	182	96%
5-6	24	12	170	2	2	2	0	3	1	0	0	0	5	10	13	31	27	186	98%
6-7	16	7	179	3	2	3	0	1	0	0	0	0	7	12	8	26	22	190	100%
7-8	12	7	184	1	2	2	0	0	0	0	0	0	3	9	2	16	18	188	99%
8-9	12	7	189	1	1	2	0	0	0	0	0	0	3	6	-1	16	14	190	100%
9-10	5	5	189	0	1	1	0	0	0	0	0	0	2	1	0	7	7	190	100%
10-11	5	7	187	0	1	0	0	0	0	0	0	0	0	0	0	5	8	187	98%
11-12	7	4	190	0	0	0	0	0	0	0	0	0	0	0	0	7	4	190	100%
Total	162	162		26	26		7	7		0	0		88	88		283	283		

Note:

* This table is based on 2011 EAS Table H-7, scaled to a lower, 190-space capacity.

Table 8b, RWCDS With-Action (190 spaces) Public Parking Demand Trip Forecast and Utilization (Saturday)

Time	Residential Demand			Retail Demand			Office Demand			Hotel Demand			Transient Demand			Total Garage Accumulation			
	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	#IN	#OUT	ACC.	% of cap
12-1 AM	2	2	190	0	0	0	0	0	0	0	0	0	0	0	0	2	2	190	100%
1-2	2	2	190	0	0	0	0	0	0	0	0	0	0	0	0	2	2	190	100%
2-3	1	1	190	0	0	0	0	0	0	0	0	0	0	0	0	1	1	190	100%
3-4	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
4-5	0	0	190	0	0	0	0	0	0	0	0	0	0	0	0	0	0	190	100%
5-6	0	1	189	0	0	0	0	0	0	0	0	0	0	0	0	0	1	189	99%
6-7	1	1	189	0	0	0	0	0	0	0	0	0	0	0	0	1	1	189	99%
7-8	2	6	185	0	0	0	0	0	0	0	0	0	0	0	2	6	185	97%	
8-9	6	13	178	1	1	0	1	0	1	0	0	0	0	0	8	14	179	94%	
9-10	11	16	173	1	0	1	1	0	2	0	0	0	0	0	13	16	176	93%	
10-11	11	16	168	2	1	2	0	0	2	0	0	0	1	0	14	17	173	91%	
11-12	13	13	168	2	2	2	0	0	2	0	0	0	2	1	17	16	174	92%	
12-1 PM	15	15	168	6	6	2	0	0	2	0	0	0	2	1	23	22	175	92%	
1-2	13	13	168	3	3	2	0	0	2	0	0	0	1	1	17	17	175	92%	
2-3	14	14	168	3	2	3	0	0	2	0	0	0	1	1	18	17	176	93%	
3-4	17	11	174	2	2	3	0	0	2	0	0	0	1	2	20	15	181	95%	
4-5	19	8	185	3	3	3	0	1	1	0	0	0	1	3	23	15	189	99%	
5-6	13	11	187	3	3	3	0	1	0	0	0	0	1	1	17	16	190	100%	
6-7	13	13	187	2	3	2	0	0	0	0	0	0	0	0	15	16	189	99%	
7-8	13	10	190	1	3	0	0	0	0	0	0	0	0	0	14	13	190	100%	
8-9	8	8	190	1	1	0	0	0	0	0	0	0	0	0	9	9	190	100%	
9-10	6	6	190	1	1	0	0	0	0	0	0	0	0	0	7	7	190	100%	
10-11	6	6	190	0	0	0	0	0	0	0	0	0	0	0	6	6	190	100%	
11-12	6	6	190	0	0	0	0	0	0	0	0	0	0	0	6	6	190	100%	
Total	192	192		31	31		2	2		0	0		10	10		235	235		

Note:

* This table is based on 2011 EAS Table H-7, adjusted to Saturday travel demand characteristics and scaled to a lower, 190-space capacity.

Table 9, Summary of Garage Trips: No-Action, With-Action, and Increment

Peak Hour ¹	No-Action			With-Action			Increment ²		
	In	Out	Total	In	Out	Total	In	Out	Total
AM	35	51	86	21	29	50	-14	-22	-36
MD	43	38	81	20	17	37	-23	-21	-44
PM	58	52	110	31	27	58	-27	-25	-52
Sat. MD	49	47	96	23	22	45	-26	-25	-51

¹ Peak hours: AM (8-9); MD (12-1); PM 5-6); Sat MD (12-1)

² Note: the increment represents trips that would be diverted to other garages under With-Action instead of being accommodated by the on-site parking garage.

E. Air Quality Parking Facility Analysis

Introduction

The RWCDs analyzed in the 2011 EAS included a 325-space parking garage that was located between W. 28th and W. 29th streets. The garage (approved in 2011) was accessible via entrances from both streets, with ramps providing vehicular access to two below-grade levels of parking.

With the proposed Minor Modification to the previously approved special permit, the building would instead include parking garage areas on only the ground and cellar floors, and incorporate an elevator system rather than a ramp system for internal vehicle circulation between the ground floor and the below grade space. Under the Minor Modification plan, the number of parking spaces would be reduced from the 325 spaces previously approved to 190 spaces. The new garage would have an irregular ground-floor shape and a width that varies from 25 to 75 feet, as well as a cellar area with obstructed sections and stairs. The total area of the proposed garage, including the obstructed and stairs areas, was roughly estimated to be 40,000 gross square feet for analysis purposes⁶.

Vehicles would enter the proposed modified garage from either W. 28th or W. 29th Street but would exit only onto W. 29th Street. As the garage's exhaust vent location has not yet been determined and is subject to change, it was assumed that a worst-case location would be near the exit/entrance to the garage on W. 29th Street on the north facade of the proposed development. One garage exhaust vent was also assumed for conservative analysis.

Emissions from the vehicles using the proposed modified garage could potentially affect pollutant levels at nearby sensitive land uses. An analysis was therefore conducted to estimate whether the potential air quality impacts of these emissions would be significant.

Traffic Data

The smaller 190-space garage proposed under the Minor Modification RWCDs would have fewer associated trips than would the previously approved 325-space garage. Therefore, the incremental number of peak-hour vehicular trips between No-Action (325-space garage) and With-Action conditions (190-space garage) is negative (see Table 9). As such, the potential air quality effects of the garage under the Minor Modification RWCDs plan would be only associated with the vehicles idling, entering and leaving the garage itself (and not increases in on-street traffic).

⁶ 40,000-gsf estimate used for the air quality analysis is based on the garage outer dimensions to be consistent with maximum driving distances within the garage rather than the unobstructed garage area specified in the application for a Minor Modification to the previously approved special permit.

Traffic data provided in Table 9 for peak hourly demand under RWCDs conditions were evaluated. As shown, during the PM peak period the number of vehicles entering the garage under With-Action conditions would be the greatest (31 vehicles⁷) and the total number of vehicles entering and leaving the garage would be the highest (58 vehicles). These maximum values were used in this analysis.

Emissions from background traffic in the vicinity of site (i.e., on W. 28th/W. 29th Streets and the roadway segments of 7th/8th Avenues between W. 28th/ W. 29th Streets) must also be accounted for in the analysis. Because a detailed transportation analysis was not warranted and not conducted for this project, the necessary traffic data (peak hour volumes) were obtained from the Hudson Yards EIS, as follows:

- 594 vehicles/hour (W. 28th St EB)
- 860 vehicles /hour (W. 29th St WB)
- 862 vehicles /hour (W. 30th St EB)
- 2,172 and 1,970 vehicles /hour (7th to W. 29th and W. 28th Streets)
- 2,634 and 2,484 vehicles /hour (8th to W. 28th and W. 29th Streets)

These background traffic volumes were added to the garage-generated vehicular trips, and total volumes were modeled using the EPA CAL3QHCR model to estimate contributions from on-street traffic.

Methodology

The parking garage air quality analysis was conducted following guidelines provided in the *City Environmental Quality Review Technical Manual (CEQR TM) Appendices* for parking facilities. The proposed garage would be a totally enclosed facility with mechanical ventilation. The pollutants of concern are CO and PM_{2.5}. To estimate pollutant concentrations, the garage's exhaust vent was analyzed as a "virtual point source" using the computational procedure provided in EPA's Workbook of Atmospheric Dispersion Estimates (AP-26), as referenced in the *CEQR TM* on Page 17-30. This methodology estimates concentrations at various distances from the vent (using appropriate initial horizontal and vertical dispersion coefficients) assuming that the concentrations within the garage are equal to the concentrations in the vent exhaust.

Pollutant concentrations were estimated at locations on the near and far pedestrian sidewalks to ensure that the maximum cumulative effects from on-street traffic and garage emissions are estimated. Concentrations were also estimated at a window (receptor) assumed to be located 5 feet above the vent.

Contributions from on-street CO and PM_{2.5} vehicular emissions at these receptor locations were calculated through microscale modeling with EPA's CAL3QHCR dispersion model (as per CEQR guidance) and added to garage-generated impacts and appropriate background levels to estimate the total cumulative pollutant concentrations.

Concentrations of CO and PM_{2.5} within the garage were calculated assuming a minimum ventilation rate, as per New York City Building Code requirements, of 1 cubic foot per minute of fresh air per

⁷ Inbound vehicles would be split between the garage entries on W. 28th Street and W. 29th Street. However, for worst-case purposes, the air quality analysis assumed all inbound vehicle trips would be via W. 29th Street.

gross square foot of garage area. To determine compliance with the 8-hour CO National Ambient Air Quality Standard (NAAQS) and the 24-hour PM_{2.5} CEQR significant incremental impact criteria, CO concentrations were predicted for an 8-hour averaging period and PM_{2.5} concentration was predicted for a 24-hour time period.

A significant incremental impact threshold for 24-hour PM_{2.5} was estimated as half the difference between NAAQS of 35 ug/m³ and the applicable PM_{2.5} background concentration recorded in Manhattan. As the 3-year 98% percentile of 24-hour PM_{2.5} background concentrations recorded at the Junior High School 45 monitoring station in Manhattan is 22.3 ug/m³ (for 2012-2024), half the difference between NAAQS of 35 ug/m³ and 22.3 ug/m³ is 6.4 ug/m³. This incremental value was used as the threshold level to determine whether the PM_{2.5} garage emissions together with on-site mobile source emissions could cause exceedances of CEQR significant impact criteria.

Emission Factors

The EPA MOVES2014 emission factor algorithm was used to estimate CO and PM_{2.5} emission factors for entering, exiting, and idling vehicles within the garage, and vehicles travelling on nearby streets. Vehicles exiting the garage were assumed to idle for one minute before departing, and the speed within the garage was assumed to be 5 miles per hour (mph). Speeds on the nearby streets were assumed to be 25 mph.

Emission factors produced by the MOVES model in both grams/vehicle-mile for moving vehicles and grams per hour for idling vehicles were used to estimate garage exhaust impacts and model CO and PM_{2.5} emissions with CAL3QHCR model.

Modeling inputs for inspection/maintenance, fuel supply and formulation, age distribution, meteorology, etc., were all provided by the NYCDP for the Borough of Manhattan. Running exhaust and crankcase running exhaust for PM_{2.5}, including brake and tire wear emissions, were all included in the emission factors estimates. Fugitive dust (i.e., from the re-entrainment of particles off the ground) emission factors for PM_{2.5} were then added to the emission factors calculated by MOVES.

Fugitive dust was estimated using equations from Section 13.2.1-3 of EPA's AP-42 for roadways with more than 5,000 vehicles a day which is applicable for roadways in the vicinity of the garage location at W. 29th Street which can be classified as principal or minor arterials. The formulas are based on an average fleet weight, which varied according to the vehicular mix for a given roadway, and a silt loading factor. A conservative silt loading factor of 0.1 g/m², applicable for principal and minor urban arterials roads, was used, as recommended by the *CEQR TM*.

Even though the full Build year for the project is 2019, the garage may begin operations in 2017. As such, for the conservative purposes of this analysis, the 2019 number of garage-generating trips (as shown in Table 9) were used together with the generally higher 2017 emission factors. The MOVES model was run for the peak PM period of the 2017 year to generate conservative emission factors for the garage and the on-street roadway links in vicinity of garage.

Post-processing was conducted using the MOVES MySQL Workbench data management software application to extract CO and PM_{2.5} emission factors from MOVES output for each link included in the analysis. These emission factors, together with traffic hourly volumes on each link, were used in the CAL3QHCR dispersion analysis.

Dispersion Analysis

The CAL3QHCR dispersion model, which is a Gaussian dispersion model, was used to estimate CO and PM_{2.5} contribution from the vehicular traffic on the nearby roadway links as components of the total predicted pollutant concentrations. Inputs to the model included coordinates for receptors and free-flow links, as well as peak hour traffic volumes, speeds, and vehicular emission factors.

In accordance with the *CEQR TM*, receptor (sensitive) sites that were considered include locations at the adjacent sidewalk, across the W. 29th Street exit/entrance, and window (receptor) above the exhaust vent. The vent was assumed to be 12 feet high and the window above the vent was assumed to be 5 feet higher than the vent (17 feet). A pedestrian on the adjacent sidewalk was assumed to be 5 feet from the garage vent while a pedestrian standing on the far sidewalk across W. 29th Street would be approximately 50 feet from the vent.

The analysis for estimating pollutant concentrations was conducted based on the computational procedures provided in the *CEQR TM* using spreadsheets that include garage dimensions and total parking area, vent height(s), receptor distances from the vent, emission factors for moving and idling vehicles, and pre-tabulated dispersion parameters. CO and PM_{2.5} concentrations from the on-street sources were added to garage impacts and the total CO and PM_{2.5} concentrations were estimated by adding together the contributions from the garage exhaust vent, on-street sources, and background levels. The maximum estimated total 8-hour CO concentration was compared to the 8-hour CO NAAQS of 9 ppm and the *CEQR CO de minimis* criteria; the maximum estimated 24-hour PM_{2.5} impact was compared to the PM_{2.5} significant incremental impact threshold of 6.4 ug/m³.

All modeling inputs and emission factors determined by the MOVES model, as well as spreadsheets with estimated CO and PM_{2.5} concentrations within the garage; at windows above the vent; near and far sidewalks, and on-street traffic as well as the cumulative pollutant concentrations at these locations are provided in the back-up documentation for this project.

Results

The results of the garage analyses are summarized in Table 10. As shown, the maximum estimated total 8-hour CO concentrations are 1.7, 1.9, and 1.7 ppm for the near sidewalk, the far sidewalk, and the window above the vent, respectively. These values are all less than the 8-hour CO NAAQS of 9 ppm. The maximum PM_{2.5} impacts at these locations are also less than the *CEQR* significant incremental impact threshold of 6.4 ug/m³. It should be noted that the impacts from garage-generated vehicular traffic are minimal; the biggest contributor to the PM_{2.5} total impact (3.62 ug/m³) are the emissions from the on-street traffic included in the far sidewalk analysis.

Table 10: Estimated Cumulative Pollutant Concentrations from Garage and On-Street Mobile Sources Emissions

Vent Facing W.29th Street Entrance/Exit

CO Analysis	CO Concentrations		
	Near Sidewalk	Far Sidewalk	Window Above
Distance to Vent (feet)	5	50	5
Vent height (feet)	12	12	12
Receptor Height (feet)	6	6	6
Averaging Period	8-hour	8-hour	8-hour
Garage CO (ppm)	0.06	0.18	0.1
Line Source (ppm)	NA	0.14	NA
Background Value (ppm)	1.6	1.6	1.6
Total Concentration (ppm)	1.7	1.9	1.7
NAAQS, CO (ppm)	9	9	9
Significant Impact?	No	No	No

Vent Facing W.29th Street Entrance/Exit

PM _{2.5} Analysis	PM _{2.5} Concentrations		
	Near Sidewalk	Far Sidewalk	Window Above
Distance to Vent (feet)	5	50	5
Vent height (feet)	12	12	12
Receptor Height (feet)	6	6	6
Averaging Period	24-hour	24-hour	24-hour
Garage PM _{2.5} (ug/m ³)	0.000001	0.0000004	0.0000008
Line Source (ug/m ³)	NA	3.62	NA
Background Value (ug/m ³)	NA	NA	NA
Total Impacts (ug/m ³)	0.000002	3.62	0.0000001
CEQR Significant Impact Criteria (ug/m ³)	6.4	6.4	6.4
Significant Impact?	No	No	No

Conclusion

The result of this analysis is that garage emissions, together with on-street mobile source emissions, would not cause a significant adverse air quality impact.

F. Noise Mobile Source Screening

The 2014 *CEQR Technical Manual* states that if a proposed project would increase existing noise PCE values by 100 percent or more, a detailed analysis is generally performed. Conversely, if existing noise PCE values are not increased by 100 percent or more, it is likely that the proposed project would not cause a significant adverse vehicular noise impact and therefore no further vehicular noise analysis is needed.

As discussed in the transportation screening, the proposed action would divert approximately 36, 44, 52, and 51 vehicle trips in the weekday AM, midday, PM, and Saturday midday peak hours. These trips would be dispersed across the local traffic network to other nearby public parking

facilities and the greatest concentration of diverted vehicle trips at any single intersection would be a net increase of 8, at Eighth Avenue and W. 31st Street. This relatively modest number of diverted trips would not be expected to double the number of vehicle trips on any area roadways. Accordingly, the proposed action would not result in any significant adverse noise impacts and no further analysis is warranted.

G. Conclusion

Based on the assessments presented in this technical memorandum, the proposed action would not result in any significant adverse environmental impacts and no further assessment is warranted.