TECHNICAL MEMORANDUM
Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development
CEQR No. 06DCP032M

A. INTRODUCTION

The Notice of Completion for the Final Environmental Impact Statement for the Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development project was issued on November 16, 2007 (CEQR No. 06DCP032M). On November 26, 2007, the City Planning Commission (CPC) approved Uniform Land Use Review Procedure (ULURP) Application Nos. C070495 ZMM and N070496 ZRM, which together refer to the establishment of the Special Manhattanville Mixed-Use Zoning District. The New York City Council approved the ULURP Applications on December 19, 2007. The Final Environmental Impact Statement and subsequent technical memoranda[1] are collectively referred to in this memorandum as the "FEIS."

Delays in acquiring title to some of the project sites, due principally to litigation by project opponents, as well as other changes resulting from refined logistical construction planning have resulted in changes in the illustrative timeline for construction used in the analyses presented in the FEIS. At this time, completion of construction of the project may be up to approximately 4 years later (in 2034 versus 2030) than the reasonable worst case timeline analyzed in the FEIS (FEIS Timeline). An illustrative updated timeline (Updated Timeline) which is driven by project milestones that are expected to be reflected in a proposed Restrictive Declaration to be executed by Columbia, represents a new reasonable worst-case timeline for the development of the Proposed Project within the Academic Mixed-Use Area (Subdistrict A).[2] As noted on page 2-5 of Chapter 2, "Procedural and Analytic Framework" of the FEIS, "The specific long-term development schedule beyond 2015 has not been defined by Columbia at this time, but the Academic Mixed-Use Development is conservatively assumed to be fully built by 2030. The year 2030, therefore, will assume full occupancy of the Proposed Project and, in this way, will capture the longer-term impacts of the Proposed Project without engaging in speculation over conditions in the distant future. Accordingly, two analysis years—2015 and 2030—have been selected for EIS purposes." Consistent with this framework, the reasonable worst-case illustrative construction timeline that was presented and analyzed in the FEIS and used to assess potential project impacts has been updated as reflected in the Updated Timeline.

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[1] There have been four Technical Memoranda: the first, dated November 26, 2007, regarding CPC modifications with respect to Sites 11, 12, and 17; the second, undated, regarding community facility uses on Tax Block 1987, Lot 9; the third, dated April 22, 2008, regarding construction effects of Lot 36 remaining on Block 1999 through 2029; and the fourth, undated, regarding removal of Tax Block 1996, Lot 1 (the "Cotton Club" site) from the Project Area.

[2] Columbia has the option to complete elements of the Proposed Project earlier than specified by the milestone dates.

In addition, the City has recently prepared a preliminary zoning proposal for an area in West Harlem that could modify background conditions within the study areas analyzed in the FEIS for the Proposed Project. This proposal was presented at a public meeting on December 2, 2010, and is expected to enter into a formal City Environmental Quality Review (CEQR)/ULURP process in late 2011 or early 2012. ULURP is a process specifically designed to allow public review at four levels: Community Board, Borough President, CPC and City Council. When the CEQR process is coordinated with ULURP, the hearings are typically held jointly. Modifications to the proposal may occur during the CEQR/ULURP process.

As set forth below, this memorandum reviews the Updated Timeline and the proposed development associated with the City's preliminary West Harlem Rezoning proposal since the issuance of the FEIS, and concludes that these updates, individually and cumulatively, would not result in any new or different significant adverse impacts not already identified in the FEIS.

B. UPDATED TIMELINE

Figure 1 shows a comparison of the FEIS Timeline (Figure 21-1 from Chapter 21, "Construction") and the Updated Timeline. The timelines for construction of the various project elements from the FEIS are shown in purple, and the timeline for these same elements based upon the Updated Timeline are shown in orange. Figures 2 and 2a present site plans for the full build-out of the Proposed Project, indicating the location and use of each proposed development site.

The FEIS Timeline provided a reasonable worst-case view of construction activities accounting for the intense construction activity that would be required in order to complete the various project elements by the operational analysis years of 2015 and 2030. The FEIS Timeline was illustrative, with the understanding that in the future the timing of some components may be modified slightly. Thus the analyses in the FEIS were based on conservative assumptions aimed at identifying a reasonable worst-case analysis, including potential overlaps of construction components and intensity of work. A comparable approach was undertaken in this memorandum.

For construction in Subdistrict A, the FEIS Timeline envisioned construction generally moving from the south to the north, starting at West 125th and ending at the block between West 132nd and West 133rd Streets. While there are some differences in the sequencing of particular project elements, in general, the Updated Timeline follows a similar south to north sequencing of construction.

For the purpose of reasonable worst-case analyses, the FEIS analyzed potential impacts of the project in two separate build years and, for analytical purposes, divided the project into two phases (Phase 1 and Phase 2), with specific project elements being completed in each phase. Phase 1 included sewer relocation activities and the completion of Sites 1, 2, 3, 4, and 7 (construction would also begin on Sites 6, 6b, 16, and the Square—a privately-owned, publicly accessible open space—but these sites would not be completed and operational until the beginning of Phase 2). Phase 1 was projected to be completed by 2015, approximately seven years after complete assemblage of the Project Area and the start of construction. Phase 2 construction included the completion of Sites 6, 6b, the Square, 8, 9, 10, 11, 12, 13 14, 15, and 17 (renovations to Site 16 that started during Phase 1 construction would also be completed in this phase). Completion of construction of all of the project buildings (Phases 1 and 2) was assumed to occur by 2030. Chapter 21, "Construction," of the FEIS looked at impacts during peak years of construction; *i.e.*, years when the greatest levels of construction activity were then assumed to occur according to the FEIS Timeline.

Figure 1 - Updated Timeline

Structure/Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Below Grade West 125 to 131 Streets																											
Below Grade for Sites 2 and 3																											
Below Grade for Sites 4 and 6																											
Below Grade for Sites 7 and 6b																											
Building 1 Building 1 (Revised)																											
Building 2 Building 2 (Revised)																											
Building 4 Building 4 (Revised)																											
Building 7 Building 7 (Revised)																											
Building 3 Building 3 (Revised)																											
Major Infrastructure Relocation *Major Infrastructure Relocation (Revised)																											
Building 16 Building 16 (Revised) (no date specified)																											
Buildings 6 and 6B Building 6 (Revised) Building 6b (Revised)																											
Open Space Open Space (Revised)																											
Building 5 Building 5 (Revised) (no longer a development parcel)																											
Building 17 Building 17 (Revised)																											
Below Grade West 131 to 132 Streets Below Grade West 131 to 132 Streets (Revised)																											
Building 8 Building 8 (Revised)																											
Building 9 Building 9 (Revised)																											
Building 10 Building 10 (Revised)																											
Building 11 Building 11 (Revised)																											
Building 12 Building 12 (Revised)																											
Building 15 Building 15 (Revised)																											
Building 13 Building 13 (Revised)																											
Building 14 Building 14 (Revised)																											
Below Grade West 132 to 133 Streets Below Grade West 132 to 133 Streets (Revised)																											

FEIS Timeline
Updated Timeline

*Work along West 125th Street, West 129th Street, and the west side of Broadway south of West 130th Street has been completed. Work along Twelfth Avenue to be completed in 2012.

12.5.11



NOT TO SCALE

- — — *2007 FEIS Rezoning Area Boundary*
- ····· *Subdistrict Boundary*
- 1 *Development Site*

*NOTE: *Since the issuance of the 2007 FEIS, Site 5 (the "Cotton Club" site) is no longer proposed as a development site as part of the Proposed Project.*

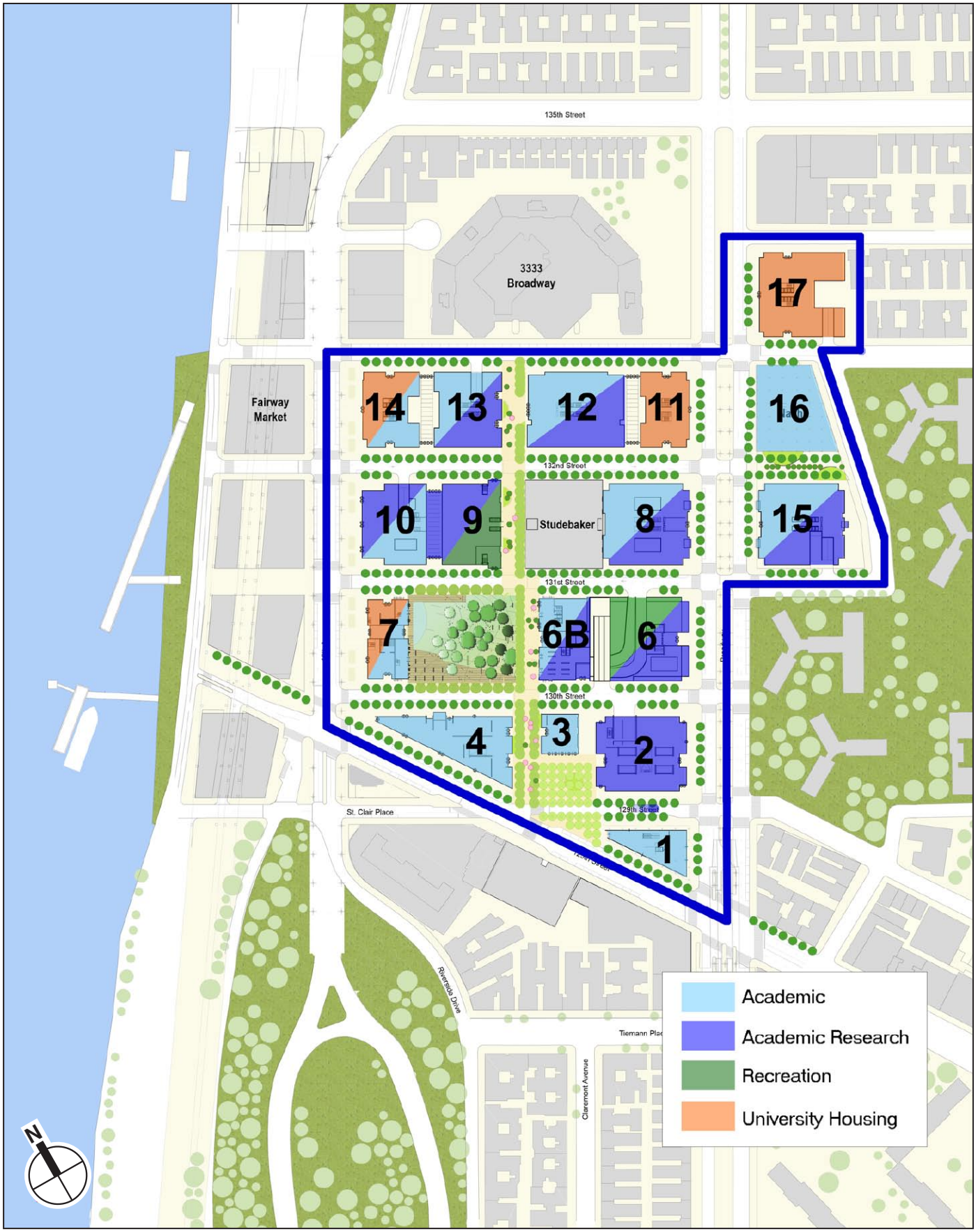
- *Existing Development*
- *Columbia University Development*
- *New Open Space*
- *Subdistricts B, C, and the Other Areas Projected Develoment Sites*

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

Figure 2

Subdistrict A: 2030 Illustrative Site Plan

12.7.11



MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

Figure 2a

Proposed Project Alternate Uses

The Updated Timeline reflects the milestone dates for the anticipated completion of the Proposed Project occurring as late as 2034, approximately 4 years later than analyzed in the FEIS. Construction of the below-grade spaces between West 129th Street and West 131st Streets (beneath Sites 2, 3, 4, 6, 6b, 7 and the Square) would be completed in segments, rather than at one time as was analyzed in the FEIS. This would result in a potential delay in completion of the last of those below-grade sites of approximately 8 years compared to the FEIS analysis. The below-grade spaces beneath Sites 8, 9, 10, 11, 12, 13 and 14 would be constructed approximately 4 years later than analyzed in the FEIS. With the Updated Timeline (see Figure 1), the completion of the construction of individual above-grade buildings would take place between approximately 4 and 10 years later when compared to the illustrative completion dates analyzed in the FEIS.[1] While the completion dates have shifted, the same environmentally sensitive construction methods and the same equipment and materials as described in the FEIS, would be employed.

The project as envisioned in the FEIS contained 2 primary open space elements—the Small Square adjacent to Sites 2 and 3, and the Square between Sites 6b and 7. Construction of the Small Square will be completed as part of the construction at Sites 2 and 3, and construction of the Square will be completed as part of the construction of Sites 6b and 7. In the FEIS, construction of the Small Square was expected to be completed by 2015, and construction of the Square was expected to be completed in 2016. However, with the Updated Timeline, the Small Square, along with a portion of the population to be served by this open space, would be delayed until approximately 2017, and completion of the Square would be delayed until shortly after completion of the buildings on Sites 6b and 7, with an anticipated opening date of 2025.

The FEIS also assumed sewer relocation activities would occur along the west side of Broadway (south of West 130th Street), on West 129th Street between Broadway and West 125th Street, along West 125th Street between West 129th Street and Twelfth Avenue, and along Twelfth Avenue south to St. Clair Place. The existing combined sewer lines (which are being upgraded and separated into individual storm and waste lines) under these streets would be removed and replaced, consistent with the approved amended drainage plan, with an upgraded sewer to accommodate the upstream flow that currently flows into the combined sewer under West 130th Street. Therefore, at certain times, depending on the location of the activity, some parking and travel lane closures along these streets would occur. During sewer construction activities on West 129th Street, the entire street was expected to be closed. The FEIS assumed this work would begin in 2008 and last approximately one year with simultaneous abatement and demolition of above-grade structures occurring on the blocks to the north. The sewer relocation work along West 125th Street, West 129th Street and the west side of Broadway south of West 130th Street has already been completed. Therefore, West 129th Street would not require any further closures, and the environmental effects of this work would no longer be combined with the effects of other construction activities as was assumed in the FEIS. Sewer work along Twelfth Avenue has begun, and is expected to be complete in 2012.

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[1] Site 16 is not analyzed in this memorandum because no construction timeline has been established. Activities associated with proposed renovations at Site 16 (for the reuse of the existing former Warren Nash Service Station building on the east side of Broadway between West 132nd and West 133rd Streets) are expected to be minimal. Renovation of Site 16 would not occur concurrently with the simultaneous construction of Sites 11, 12, 13, 14 and 15 without further analysis, to the extent necessary. If the renovation of Site 16 does not occur at the same time as the simultaneous construction of Sites 11, 12, 13, 14 and 15, the renovation of Site 16 would not be expected to result in conclusions different from those identified in the FEIS.

C. UPDATED BACKGROUND CONDITIONS

As mentioned above, the City has prepared a preliminary zoning proposal for an area in West Harlem comprising approximately 90 blocks north of West 125th Street generally bounded by West 126th and West 155th streets, Riverside Drive and Edgecombe, Bradhurst and Convent Avenues within Manhattan Community District 9. The approximately 35-acre Project Area for the Manhattanville in West Harlem Rezoning and Academic Mixed-Use Development lies outside of the boundaries of the proposed West Harlem Rezoning, immediately south of its West 135th Street boundary, and west of its Amsterdam Avenue boundary.

Four different reasonable worst-case development scenarios affecting 24 sites have been developed by the New York City Department of City Planning (DCP) for the proposed West Harlem Rezoning (see supporting documentation). For the purposes of a conservative analysis, this memorandum assumes the worst case elements of each of those scenarios. With the exception of several sites located north of West 145th Street, all of the West Harlem Rezoning proposal's projected development sites are within ½ mile of the Proposed Project site (see Figure 3).

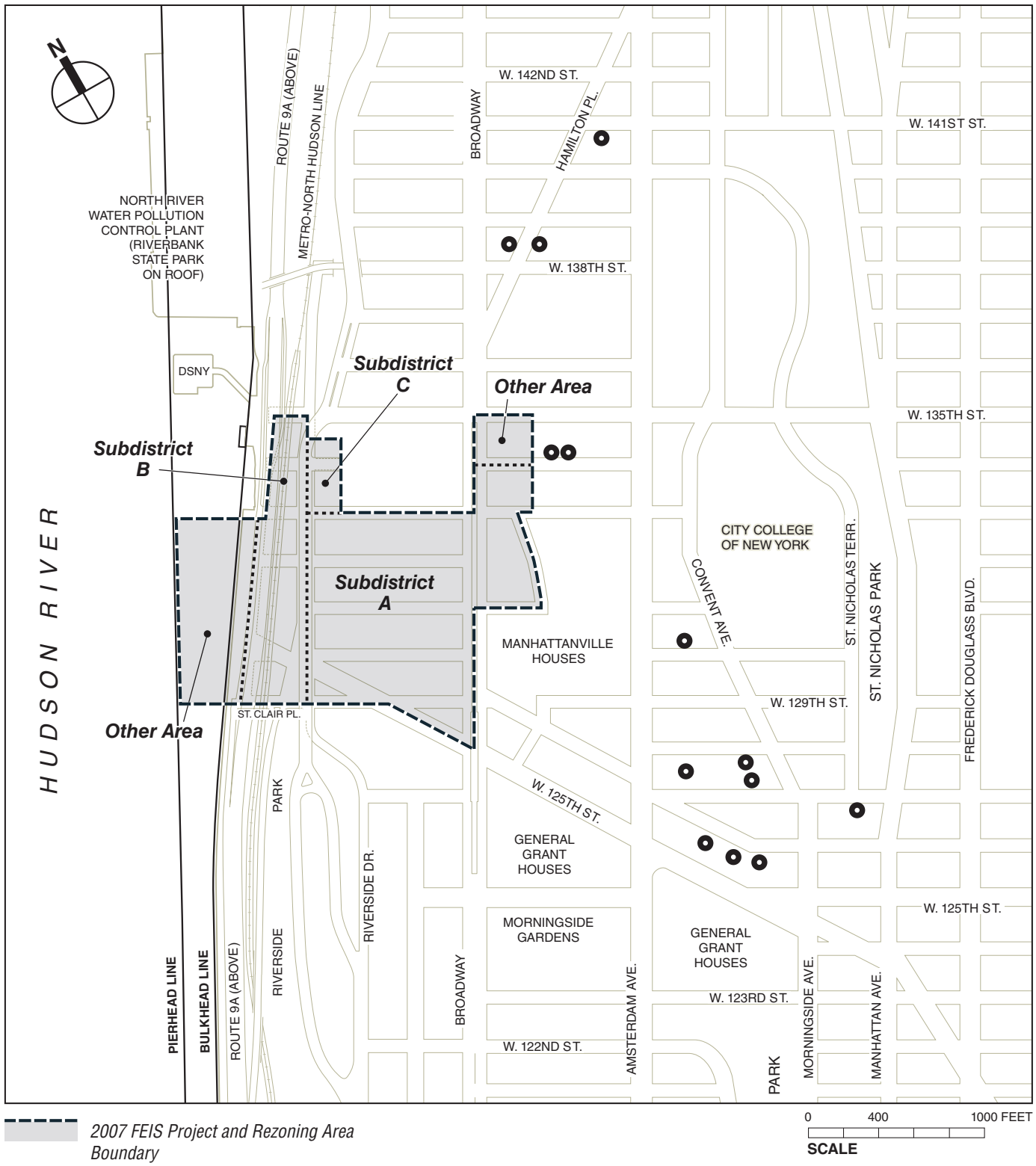
It is estimated that development associated with the proposed West Harlem Rezoning proposal would be completed within approximately a 10-year time period. Although this proposal has not yet been publicly scoped or approved, for the purpose of being conservative in this memorandum, the reasonable worst case development scenario proposed as part of the West Harlem Rezoning proposal has been assumed to occur by 2021, and therefore some future background conditions would be expected to be different from those assumed in the FEIS. While this memorandum analyzes the effects of including the proposed West Harlem Rezoning proposal in future background conditions, the benefit of any mitigation measures that may be required as part of its approvals are not considered, again providing for a conservative analysis.

D. ANALYSES

This memorandum examines the effects of the Updated Timeline and updated background conditions with respect to the City's West Harlem Rezoning proposal on both the operational and construction-related impact analyses of the FEIS. It concludes that the Updated Timeline and the inclusion of the anticipated development associated with the West Harlem Rezoning proposal in background conditions would not individually or cumulatively result in any new or different significant adverse impacts not already identified in the FEIS, in any analysis area. The mitigation measures proposed in the FEIS to address identified significant adverse impacts as well as project components related to the environment identified in the FEIS will be implemented. The timing of those measures and components will be adjusted so that they will be implemented consistent with the Updated Timeline and achieve the same results as reflected in the FEIS.

OPERATIONAL IMPACTS

The FEIS examined in detail the potential for operational impacts from the Proposed Project. Consistent with CEQR requirements, detailed analyses examined potential impacts with regard to the following 19 areas of concern: land use, zoning, and public policy; socioeconomic conditions; community facilities and services; open space; shadows; historic resources; urban design and visual resources; neighborhood character; natural resources; hazardous materials; waterfront revitalization program; infrastructure; solid waste and sanitation services; energy; traffic and parking; transit and pedestrians; air quality; noise; and public health. Significant impacts were predicted to occur in 7 of the 19 areas of concern: socioeconomic conditions, open



NOTE: Additional West Harlem Rezoning Projected Development Sites are located north of 143rd Street

Figure 3

West Harlem Rezoning
Projected Development Sites in the Surrounding Area

MANHATTANVILLE IN WEST HARLEM REZONING AND ACADEMIC MIXED-USE DEVELOPMENT

space, shadows, historic resources, traffic and parking, transit and pedestrians, and noise. Mitigation measures were adopted to either fully or partially mitigate the significant impacts identified in the FEIS for each of these 7 areas of concern.

The operational analyses presented in the FEIS were conducted assuming an assessment of conditions in the future *without* the Proposed Project ("No Build") for the year that the Proposed Project would be completed, compared with conditions in the future *with* the Proposed Project ("Build") for that same future year. The No Build condition used existing conditions as a baseline and added to it changes known or expected to be in place at various times in the future. For many technical areas, the future without the Proposed Project condition incorporated known development projects that are likely to be built by the analysis years. This included development currently under construction, proposed, or development that could be reasonably expected due to the current level of planning and public approvals. The future without the Proposed Project analyses for some technical areas, such as traffic, used a background growth factor to account for a general increase expected in the future. Chapter 2 of the FEIS, "Procedural and Analytical Framework," provided a list of the future development projects that had been announced, were in an approval process, or were under construction, and proposals for rezoning and public policy initiatives that would likely have been built by the Proposed Project's build year. The Build condition assumed certain program elements that comprised the Illustrative Plan (see Figure 1-12 of the FEIS), and variations on the Illustrative Plan that defined the reasonable worst case development scenario for a particular technical area (see Chapter 2, "Procedural and Analytical Framework").

With the exception of the proposed development of Site 5,[1] there has been no change in the Illustrative Plan (and therefore no change in the assumptions used to define the "Build" condition) since the issuance of the FEIS. With the Updated Timeline described above, while the completion and operation of individual program elements would take place between approximately 4 and 10 years later than the illustrative completion dates assumed in the FEIS, the Proposed Project as a whole would be completed approximately 4 years later (in 2034 versus 2030 as analyzed in the FEIS) (see Figures 1 and 2).[2]

The preliminary proposal for the West Harlem Rezoning would change some of the No Build conditions analyzed in the FEIS and could therefore have the potential to affect the FEIS conclusions. Since at this time it is unknown if the West Harlem Rezoning proposal will move forward, its inclusion in future background conditions (No Build) (without credit for possible mitigation) provides for a conservative estimate of future conditions. In addition, since the proposed rezoning has not been approved, the amount of development may be less than currently anticipated.

As set forth in the analysis, the inclusion of the development anticipated under the West Harlem Rezoning proposal in future background conditions and the Updated Timeline would not result in any new or different significant adverse impacts not already identified in the FEIS.

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[1] Site 5 (the "Cotton Club" site) is no longer proposed as a development site as part of the Proposed Project. A technical memorandum was prepared assuming that the site would remain in its current ownership and use, and found that this change would not result in any significant adverse environmental impacts not already identified in the FEIS.

[2] Maximum environmental impacts from operation of the Proposed Project would occur with completion of the full project development. Therefore, the worst case analysis was conducted for the 2034 build year unless otherwise noted.

Impacts in the areas of shadows, historic resources, urban design and hazardous materials are not a function of a change in background population in the surrounding study area, and therefore would not be affected by the change in new residents, workers and visitors associated with the West Harlem Rezoning proposal. However, these impact areas, consider a proposed project's context with and/or geographical proximity to uses in the surrounding area. With respect to hazardous materials, the FEIS considered conditions within the Project Area and at nearby sites with the potential to affect the Project Area, in order to develop the proposed preventative and remedial measures that would be employed to protect public health, workers' safety, and the environment, during and following project construction. The FEIS concluded that with the implementation of these measures, no significant adverse impacts related to hazardous materials would be expected to occur as a result of the proposed development and subsequent site use. These conclusions would not change as a result of any redevelopment associated with the West Harlem Rezoning proposal.

In terms of shadows, the closest development sites associated with the West Harlem Rezoning proposal are located east of Site 17, west of Amsterdam Avenue. These development sites are not anticipated to include any sun-sensitive resources that could be affected by shadows from the Proposed Project. In addition, these West Harlem Rezoning sites would allow for taller buildings than the structures analyzed at those locations in the FEIS, which would serve to decrease the incremental shadows cast by the Proposed Project that fall in that direction. All other development sites associated with the West Harlem Rezoning proposal are located sufficiently far away from the Project Area so as not to affect shadows from the Proposed Project on sun-sensitive resources. Therefore the conclusions in the FEIS with respect to shadows would not change.

As mentioned above, the closest projected development sites associated with the West Harlem Rezoning proposal would be located east of Site 17, west of Amsterdam Avenue. These sites are anticipated to be developed consistent with the existing context of the surrounding area, and therefore the No Build conditions against which the Proposed Project were analyzed in the FEIS would not be affected, and the conclusions of the FEIS with respect to historic resources and urban design would not change. All other projected development sites associated with the West Harlem Rezoning proposal would be too far away from the Project Area to affect its context.

As described in the FEIS, the Proposed Project would improve conditions in the Project Area, would not result in significant adverse impacts on land use and zoning, and would be consistent with public policies. The changes in land use and zoning introduced by the West Harlem Rezoning proposal would serve to support these conclusions as it would expand opportunities for new mixed-use development in the study area, compatible with the uses associated with the Proposed Project.

With respect to socioeconomic conditions, the FEIS examined direct residential displacement, direct business and institutional displacement, indirect residential displacement, indirect business and institutional displacement, and adverse effects on specific industries, and concluded that the Proposed Project could result in significant adverse impacts only with regard to indirect residential displacement in Phase 2. With respect to the indirect residential displacement significant adverse impact identified in the FEIS, the West Harlem Rezoning proposal is not expected to introduce a new vulnerable population that would be at risk of residential indirect displacement. With the West Harlem Rezoning proposal, there are projected to be up to 236 additional market-rate residential dwelling units within the Proposed Project's primary study area, of which 228 would be located on a projected development site at the northeast corner of 127th Street and Amsterdam Avenue. The population introduced by the 236 market-rate units,

even in combination with the population generated by the 99 market-rate units associated with the Proposed Project in the Sub-district Other Area, would represent less than five percent of the primary study area population, and would not be large enough relative to the size of the existing population to affect real estate market conditions in the Proposed Project's primary study area. The additional 236 market-rate units would not introduce residents that would be considered vulnerable to indirect residential displacement, they would not substantively affect real estate market conditions, and these additional No Build projects would not alter the estimated scale of potential significant adverse impacts. The mitigation proposed for the indirect displacement impacts in the FEIS would still be appropriate. Therefore, the conclusions of the FEIS with respect to socioeconomic conditions would not change.

The increased population associated with the West Harlem Rezoning proposal would not be expected to change background conditions to the extent that it would materially affect the Proposed Project's effects on infrastructure, solid waste and sanitation services and energy. The areas in which the added worker and residential populations in the study areas analyzed in the FEIS from the West Harlem Rezoning proposal could potentially have a quantifiable effect are discussed below.

The FEIS concluded that the Proposed Project would not result in any significant adverse impacts with respect to community facilities and services (including schools, day care, libraries, healthcare facilities and police and fire services). With respect to schools, the West Harlem Rezoning proposal would introduce approximately 80 elementary school and 17 intermediate school students in the Proposed Project's ½ mile study area and Community School District 5, respectively. This estimated increase in students in the background condition is well within the excess school seat capacity identified in the FEIS. As presented in the supporting documentation, while the West Harlem Rezoning proposal would result in additional residents and students in the study area, the new population would not change background conditions such that the Proposed Project would result in any new significant adverse impacts to other community facilities.

With respect to open space, the FEIS concluded that the Proposed Project would result in indirect significant adverse impacts on the passive open space ratios in the non-residential study area in both Phase 1 and Phase 2, and an indirect significant adverse impact on the active open space ratio in the residential study area in Phase 2. The added worker and residential population that would potentially be generated by the West Harlem Rezoning proposal would not change the conclusions of the FEIS. It is conservatively assumed that no additional open space would be created as a result of the West Harlem Rezoning proposal. As shown in the supporting documentation, in the Proposed Project's residential study area, the changes to the background population would result in an additional 2,022 residents and 1,176 workers in the Phase 1 No Build condition and 557 workers and 1,333 residents in the Phase 2 No Build condition. In the non-residential study area, the changes to the background population would result in an additional 689 residents and 619 workers in the Phase 1 No Build condition. The impact with regard to passive open space ratio in the non-residential study area in Phase 1 would be slightly less than what was identified in the FEIS, but would still result in a significant adverse impact. In Phase 2, the percent decrease in the passive open space ratio in the non-residential study area would not change, and therefore the significant adverse impact disclosed in the FEIS would remain. The percent decrease in the active open space ratio in the residential study area in Phase 2 would be comparable to that identified in the FEIS (i.e., a 1.43 percent decrease presented in the FEIS compared to a 1.45 percent decrease with the inclusion of the West Harlem Rezoning proposal in the background condition). This change is minimal and would not affect the

conclusions of the FEIS. Therefore, the conclusions of the FEIS with respect to open space would not change.

In terms of traffic, the new trips generated in the Proposed Project's study area by the proposed West Harlem Rezoning would need to be accounted for in the future background condition. Since the issuance of the FEIS, the City has determined that background traffic and pedestrian growth across the City is likely to be less (in aggregate by over 50 percent annually) than previously envisioned (and used in the FEIS analyses).[1] The FEIS assumed a uniform background growth rate of 0.5 percent per year. This background growth rate, for future projection purposes, has since been reduced to 0.25 percent per year for the first 5 years of projection and 0.125 percent per year for ensuing years. This lower growth rate assumption would result in lower background traffic levels during and upon the completion of construction. At the completion of construction, due to the lower growth rate, background traffic would increase by 4.2 percent, as opposed to the 15.0 percent increase assumed in the FEIS. The FEIS also accounted for trips projected for numerous projects in the Proposed Project's study area in the No Build condition. The West Harlem Rezoning proposal was not one of those No Build projects accounted for in the FEIS and is expected to generate new trips in the Proposed Project's study area. Based on available preliminary information developed for the on-going planning studies for the West Harlem Rezoning proposal and this proposal's reasonable worst-case development scenario, it was determined that trips generated by the West Harlem Rezoning proposal would fall within the conservative growth assumed in the FEIS, except for certain traffic movements at a few intersections in the Proposed Project's study area, as listed in the table below for the three analysis peak periods assessed in the FEIS.

Intersections with Higher Traffic Volumes than the FEIS Resulting from Trips Generated by the West Harlem Rezoning Proposal

AM Peak Hour	Midday Peak Hour	PM Peak Hour
St. Clair Pl. & W.125th/129th St.		St. Clair Pl. & W.125th/129th St.
Broadway & W.133rd St.		Broadway & W.133rd St.
Broadway & W. 131st St.	Broadway & W. 131st St.	Broadway & W. 131st St.
		Broadway & W.129th St.
Broadway & W.125th St.		
Amsterdam Ave. & W.125th St.	Amsterdam Ave. & W.125th St.	Amsterdam Ave. & W.125th St.

A more detailed examination of operating conditions at these intersections confirmed that the higher background traffic volumes at certain movements/lane groups would not result in different service levels from those disclosed in the FEIS. As demonstrated in the levels-of-service (LOS) comparison table contained in the supporting documentation, no new significant adverse impacts would result and no new mitigation measures would be required.

As presented in Chapter 1 of the FEIS, "Project Description," specific traffic and pedestrian improvements have been included by Columbia as part of the Proposed Project to maintain the safe and efficient vehicular and pedestrian flows and to avoid impacts. At the St. Clair Place and West 125th/West 129th Street intersection, the Proposed Project will incorporate new crosswalks and a new signal to control traffic flows and to accommodate pedestrian volumes, anticipated to be generated by the Proposed Project, crossing at this intersection. In the FEIS

[1] 2010 City Environmental Quality Review (CEQR) Technical Manual.

analysis, signal timings were assumed to provide improved operations over the future No Build condition. In order to have comparable levels of service and account for changes in background growth and trips generated by the West Harlem Rezoning proposal, a one second change in the PM peak hour timings used for the new traffic signal for this intersection may be provided as part of the Proposed Project's transportation improvements. This would be determined by the New York City Department of Transportation (NYCDOT) in connection with its review of the Proposed Project's transportation improvements. Thus, there would be no new significant adverse traffic impacts not addressed in the FEIS from the Updated Timeline and the inclusion of the West Harlem Rezoning proposal in future background conditions.

With regard to parking, the FEIS identified that the Proposed Project would result in a shortfall of parking in the project area and proposed several steps that Columbia would take to mitigate these impacts. These included working with the New York City Department of Environmental Protection (DEP) to develop a plan to license portions of the DEP property between West 135th and West 145th Streets beneath the Henry Hudson Parkway for use as a public parking facility or adding up to 72 parking spaces through an improvement of operational and efficiency and parking configuration at the Columbia-controlled 560 Riverside Drive parking garage. The West Harlem Rezoning proposal would increase the demand for parking in the area but may accommodate this demand partially or in full with additional parking supply. Even if there would be a decrease in the availability of on-street and off-street parking due to the West Harlem Rezoning proposal, the mitigation measures committed to as part of the FEIS would provide mitigation for the parking impacts identified for the Proposed Project. There would be no new significant adverse parking impacts not addressed in the FEIS from the inclusion of the West Harlem Rezoning proposal in future background conditions.

For transit, the FEIS identified both subway and bus impacts. For subways, the FEIS analyzed the 125th Street stations at Broadway and at St. Nicholas Avenue and the 137th Street station at Broadway, and found that the Proposed Project would result in significant project impacts at the escalators on the west side of Broadway at the 125th Street station. To mitigate these impacts, an escalator replacement/improvement plan was proposed. Other subway analysis elements were projected to operate at favorable levels. The increase in subway trips due to the proposed West Harlem Rezoning proposal would not be expected to change the conclusions of the FEIS or alter the mitigation proposed at the 125th Street station. For buses, the FEIS identified a significant line-haul impact for the Bx15 route. An increase in bus service, subject to NYCT fiscal and operational constraints, was proposed as mitigation. The West Harlem Rezoning proposal would increase the ridership along this route. However, the mitigation proposed would not change (i.e., providing an increase in bus service) with the Proposed Project. There would be no new significant adverse transit impacts not addressed in the FEIS from the inclusion of the West Harlem Rezoning proposal in future background conditions.

With regard to pedestrians, the FEIS analyzed the Broadway intersections of West 125th to West 131st Streets, Twelfth Avenue & West 125th Street, Amsterdam & West 125th Street, and St. Nicholas Avenue & West 125th Street, and found that the Proposed Project would not result in any significant adverse impacts. In general, pedestrian flows associated with particular land uses are localized. Those for the Proposed Project would concentrate at pedestrian elements west of Broadway and along key routes to area transit services. Pedestrian trips generated by the proposed West Harlem Rezoning proposal would be expected to be primarily east of Broadway, such that there would be minimal overlap in trip-making at pedestrian elements expected to be affected by the Proposed Project. A review of the preliminary pedestrian trip increments developed for the West Harlem Rezoning proposal showed that they would mostly fall within the cushion resulting from the difference in background conditions from those assumed in the

FEIS.[1] However, at a number of pedestrian elements at area intersections the pedestrian trips due to the West Harlem Rezoning proposal would slightly increase pedestrian volumes. The locations where this would occur are listed in the table below. At these locations, the FEIS has predicted that favorable levels of service for the full build-out of the Proposed Project would occur (i.e., LOS C or better), and, as shown in the volume comparison and service level summary table submitted as supporting documentation, the minimally higher pedestrian volumes resulting from the West Harlem Rezoning proposal would not be sufficiently high (compared to those used in the FEIS) to yield service levels different from those presented in the FEIS or to result in significant pedestrian impacts.

Pedestrian Elements Affected by Trips Generated by the West Harlem Rezoning Proposal

AM Peak Hour	Midday Peak Hour	PM Peak Hour
Broadway & W.129th St. N Sidewalk (west of Broadway)	Broadway & W.129th St. N Sidewalk (west of Broadway)	Broadway & W.129th St. N Sidewalk (west of Broadway)
	Broadway & W.129th St. E Sidewalk (north of W.129th St.)	Broadway & W.129th St. E Sidewalk (north of W.129th St.)
Broadway & W.129th St. N Crosswalk	Broadway & W.129th St. N Crosswalk	Broadway & W.129th St. N Crosswalk
Broadway & W. 129th St. NE Corner	Broadway & W. 129th St. NE Corner	Broadway & W. 129th St. NE Corner
Broadway & W.125th St. E Sidewalk (south of W.125th St.)	Broadway & W.125th St. E Sidewalk (south of W.125th St.)	Broadway & W.125th St. E Sidewalk (south of W.125th St.)
Broadway & W. 125th St. SE Corner	Broadway & W. 125th St. SE Corner	Broadway & W. 125th St. SE Corner
	Amsterdam Ave. & W. 125th St. E Crosswalk	Amsterdam Ave. & W. 125th St. E Crosswalk
Amsterdam Ave. & W. 125th St. W Crosswalk	Amsterdam Ave. & W. 125th St. W Crosswalk	Amsterdam Ave. & W. 125th St. W Crosswalk
St. Nicholas Ave. & W.125th St. S Crosswalk)	St. Nicholas Ave. & W.125th St. S Crosswalk)	St. Nicholas Ave. & W.125th St. S Crosswalk
St. Nicholas Ave. & W.125th St. W Crosswalk	St. Nicholas Ave. & W.125th St. W Crosswalk	St. Nicholas Ave. & W.125th St. W Crosswalk

Consequently, the FEIS conclusion of no significant adverse pedestrian impacts due to the Proposed Project would still be valid with the addition of pedestrian trips due to the proposed West Harlem Rezoning proposal. There would be no new significant adverse pedestrian impacts not addressed in the FEIS from the inclusion of the West Harlem Rezoning proposal in future background conditions.

Therefore based on the above, the conclusions in the FEIS with respect to transportation would not change.

Neighborhood character is an amalgam of various elements that includes land use, urban design, visual resources, historic resources, socioeconomics, traffic, and/or noise. Because the conclusions in the FEIS with respect to each of these elements remain unchanged, there would be no change in the conclusions of the FEIS with respect to neighborhood character.

[1] The changed conditions are lower background growth rates and the elimination of pedestrian trips associated with the academic building at the McDonald's site (located at the southwest corner of Broadway and West 125th Street), which is not currently anticipated to be developed.

CONSTRUCTION IMPACTS

The FEIS presented an analysis of potential construction impacts on land use and neighborhood character, historic resources, socioeconomic conditions, hazardous materials, infrastructure, traffic and transportation, air quality, noise and vibration, and rodent control. With the exception of construction traffic and noise, the FEIS concluded that the Proposed Project would not result in any significant adverse construction impacts. Since the conclusions for historic resources, socioeconomic conditions, hazardous materials, infrastructure, vibration and rodent control were, in general, independent of the timing of specific construction activities, the Updated Timeline would not affect the conclusions with respect to these areas. The sections below address the effects of the Updated Timeline on land use and neighborhood character, transportation, air quality, and noise.

TRANSPORTATION

Overview

The FEIS assumed project construction would take place between January 2008 and December 2029 and detailed estimates of construction worker and truck trips for this 22-year construction period were developed. Four snapshots in time were then chosen as representative worst-case time periods for analysis of construction related transportation impacts. The FEIS analyses considered the predicted peak construction activities and the varying background conditions that were expected to exist during these time periods, so that the full range of potential transportation impacts during construction and the corresponding measures that would be feasible to mitigate these impacts, which are primarily tied to the construction and completion of the various development sites, could be identified. These four snapshots in time and brief summaries of the FEIS analysis findings are as follows.

2008 Analysis – During the early stages of project construction, expected sewer improvement work would lead to some reductions in roadway capacities and temporary roadway closures. The FEIS analyses of the October 2008 condition identified several temporary, short term traffic impacts at three surrounding intersections. Because the impacts associated with the sewer improvement work would be of short durations, no specific traffic mitigation measures were recommended. Rather, it was expected that the appropriate maintenance and protection of traffic (MPT) strategies, as stipulated by the NYCDOT, would be employed to maintain appropriate traffic flow during the one-year period when the sewer improvement work would be undertaken.

2011 Analysis – During Phase 1 construction of the Proposed Project (completion anticipated in 2015), peak construction activities were identified for October 2011, during which West 130th Street between Broadway and Twelfth Avenue was also expected to be closed. Analyses of this condition identified significant adverse traffic impacts at five intersections. Early implementation of transportation improvements that are part of the Proposed Project and other operational measures were recommended to fully mitigate the identified traffic impacts.

2022 Analysis – During Phase 2 construction of the Proposed Project (full build-out anticipated by 2030), a secondary peak was analyzed for February 2022 to assess the potential impacts from substantial construction activities and the closure of West 131st Street between Broadway and Twelfth Avenue. Analyses of this condition identified significant adverse traffic impacts at two intersections. Early implementation of transportation improvements that are part of the Proposed Project and other operational measures were recommended to fully mitigate the identified traffic impacts.

2027 Analysis – During Phase 2 construction of the Proposed Project, peak construction activities were identified for June 2027. Contemporaneously, West 132nd Street between Broadway and Twelfth Avenue was also anticipated to be closed to traffic. Analyses of this condition found that significant adverse traffic impacts would be expected to occur at four intersections. Early implementation of transportation improvements that are part of the Proposed Project and other operational measures were recommended to fully mitigate the identified traffic impacts. Because more components of the Proposed Project would be completed by this time, there could be small parking shortfalls occurring in the latter portion of 2027. However, these shortfalls would be temporary and would not constitute a significant adverse parking impact.

As described above, the Updated Timeline shows that the anticipated date for the overall build-out of the Proposed Project is expected to be completed by 2034 (up to a 4-year delay). A review of the changes in construction sequence and duration was conducted to examine whether those analyses would result in any new or different significant adverse construction-related transportation impacts that were not identified in the FEIS. Graphs showing the anticipated worker and truck activities associated with the updated construction schedule are included in the supporting documentation.

Assessment of Potential Transportation Impacts from Updated Timeline

The planned sewer relocation work along West 125th Street, West 129th Street, and the west side of Broadway south of West 130th Street has been completed. The sewer work along Twelfth Avenue has commenced and will be completed in 2012. Slurry wall construction for Sites 2 and 3 has begun. The Updated Timeline shows construction of the first building (on Site 2) beginning in 2014, with other buildings to follow in a more staggered fashion with the same above-grade duration of construction for each building. Also, as mentioned above, the development planned for Site 5 would no longer be constructed. Because the construction of these buildings would be more spread-out over time, like the below-grade work for the blocks between West 125th and West 131st Streets, there would be fewer workers and truck deliveries on-site simultaneously.

The spread out nature of building construction is expected to continue through the completion of buildings on Sites 1, 2, 3, 4, 6, 6b, and 7. As a result (and indicated in the graphs referenced above), peak construction activities analyzed for the 2011 and 2022 conditions in the FEIS would no longer occur and would be replaced with more prolonged but lower construction intensities. By the beginning of 2024, the below-grade work for the block between West 131st and West 132nd Streets would have commenced. This work was originally anticipated in the FEIS to occur in the beginning of 2020. At this stage of the construction project, all remaining buildings (and the associated below-grade work) would essentially follow the same sequence and duration of construction as those presented in the FEIS. The only exception is the building on Site 17, which is expected to be completed up to 9 years later than was assumed in the FEIS, with the anticipated date for completion extending to 2030. Nonetheless, during peak construction in the later years, which was predicted to occur in 2027 and now expected in 2031, when the below-grade work between West 132nd and West 133rd Streets as well as the construction of buildings on Sites 11, 12, 13, 14, and 15 would be underway, the sequence and duration of the construction efforts would remain essentially the same and yield comparable numbers of construction workers and truck deliveries.

The change in the peak years for construction and the change in background conditions due to the West Harlem Rezoning proposal would not result in any new construction-related traffic impacts. As described above, since the issuance of the FEIS, the City has determined that background traffic growth across the City is likely to be less (in aggregate by over 50 percent

annually) than envisioned previously. The higher background growth rate, however, was used in the FEIS analyses to determine the potential for significant adverse traffic impacts. A discussion of predicted future background conditions is provided above under "Operational Impacts." This discussion, which also addresses the incremental traffic attributed to the West Harlem Rezoning proposal, concluded that the cumulative changes in background conditions would not materially alter the impact findings and mitigation requirements identified in the FEIS for the build-out of the Proposed Project. For the peak hours analyzed for construction, the same higher background growth was conservatively assumed in the FEIS. The incremental traffic attributed to the West Harlem Rezoning proposal during these hours (based on the proposal's primary land uses) would be substantially less than the operational analysis peak hours (6-7 AM less than 10 percent of 8-9 AM and 3-4 PM approximately 50 percent of 5-6 PM) and is expected to be fully absorbed by the cushion created by the lower background growth rate. With the overall project construction yielding comparable or fewer construction activities, conditions during various stages of the Updated Timeline are expected to be comparable or no worse than those described in the FEIS. Therefore, there would not be any significant adverse traffic impacts at any new intersections during construction that were not previously disclosed, and the same types of mitigation measures (i.e., signal timing adjustments, daylighting, etc.) recommended in the FEIS would similarly mitigate the impacts expected from this Updated Timeline.

AIR QUALITY

The FEIS analysis assumed and Columbia has formally committed to a state-of-the-art emissions reduction program. This commitment is unchanged with the Updated Timeline. Based on the emissions reduction program and detailed assumptions of equipment usage and the duration of activities, the FEIS analysis predicted emission profiles throughout the duration of construction, and analyzed potential concentrations for various pollutants during various stages of peak construction, considering the relative location of sources and receptors. The analyses performed as part of the FEIS found that: emissions related to construction within Subdistrict A were not predicted to result in any exceedances of the 24-hour PM_{10} (particulate matter with an aerodynamic diameter of less than or equal to 10 micrometers) or annual NO_2 (nitrogen dioxide) NAAQS (National Ambient Air Quality Standards); 24-hour, annual average $PM_{2.5}$ (particulate matter with an aerodynamic diameter of less than or equal to 2.5 micrometers) concentration increments were not predicted to exceed the applicable thresholds at residences or other locations where exposure for periods of 24 hours or more can be reasonably expected; and annual average neighborhood-scale $PM_{2.5}$ increments were predicted to be well below the threshold level. The analyses found that $PM_{2.5}$ concentrations would increase the greatest in areas immediately adjacent to the construction sites; for the most part, the elevated concentrations would occur on sidewalks and covered walkways along the construction fences and in some cases across the street. However, these increases would not be significant. In addition, localized elevated CO (carbon monoxide) concentrations, which would exceed the CO NAAQS levels, were predicted to occur on a very small area of sidewalk immediately adjacent to certain gasoline engines under very limited and infrequent conditions. Based on the limited duration and extent of these predicted exceedances, the low likelihood of occurrence, and the limited potential for exposure, it was also determined that these increases would not result in significant adverse impacts. Therefore, the FEIS concluded that no significant adverse impacts on air quality were predicted during the construction of Subdistrict A.

The Updated Timeline (see Figure 1) was reviewed to assess whether the updates would result in any changes in the conclusions presented in the FEIS, namely whether the Updated Timeline would result in any significant adverse air quality impacts not identified in the FEIS.

The Updated Timeline was reviewed in detail, focused on answering the following 3 questions:

1. Would peak period emissions (daily and annual) be higher than expected in the FEIS?
2. Would the intensity and/or duration of activity in close proximity to sensitive receptors increase?
3. Based on the above, could the timeline changes result in potential significant adverse air quality impacts?

Other than the shifts in the timeline discussed above, the only significant change to the actual means and methods of construction would be related to the construction of below-grade space on the blocks between West 125th Street and West 131st Street (which was expected to take place during the initial portion of Phase 1 in the FEIS). The FEIS analyzed a worst-case scenario whereby this entire site (two blocks) would undergo construction simultaneously. The Updated Timeline has construction in this area proceeding in two segments, with a slurry wall initially constructed around Sites 2 and 3 (allowing excavation of those sites to proceed earlier than the rest of the 2-block site), and then with the remainder of the 2-block slurry wall being constructed. Although this will result in some additional work associated with constructing a segment of slurry wall between Sites 2 and 3 and the rest of the 2-block site, this additional slurry wall construction would not coincide with other peak construction activity and would not substantially affect emissions.

Overall, the work on this 2-block site would be spread out over a longer period due to the separate schedules for below-grade work in the two portions of the site (below buildings on Sites 2 and 3, and below the rest of the 2-block site) and the staggered timeline for construction of buildings on Sites 1 through 7. Therefore, as shown in the supporting documentation, peak-day emissions would be similar to those presented in the FEIS, and annual-average emissions would be lower.

Two peak periods were analyzed for Phase 1 in the FEIS. The first and highest peak period in terms of emissions represented the sewer relocation work (immediately adjacent to residential locations to the south on West 125th Street) occurring simultaneously with demolition and the beginning of slurry wall construction on the adjacent sites. As mentioned above, the sewer relocation work along West 125th and West 129th Streets has already been completed. Therefore, with the Updated Timeline, the highest peak within Phase 1 (including the sewer relocation work already completed) would be lower as it would no longer include these two activities occurring simultaneously, nor would it include this concentration of activity occurring near sensitive receptors. Subsequent peaks within the Phase 1 construction area would be farther from sensitive receptor locations. The second peak period in Phase 1 represented the excavation and below-grade construction occurring simultaneously with the beginning of above-grade construction of Buildings 1, 2, 3, and 4. With the Updated Timeline, both the below-grade and above-grade work would be staggered, resulting in lower peaks.

With respect to Phase 2 construction as described in the FEIS, the Updated Timeline would only result in a shift in time of the emission peaks, but very little change otherwise. One factor that is not accounted for here is that the emissions reduction program described in the FEIS includes best available technology that may improve over the years, so this shift of construction to later years has the potential to result in lower emissions for the same work if newer cleaner engines or tailpipe control technologies are available.

The Updated Timeline uses the same duration for above-grade construction of each project site. The same environmentally sensitive construction methods, and the same equipment and

materials usage as described in the FEIS, would be employed. Thus, the levels of emissions generated by construction activities as well as concentrations at nearby receptor locations would not be greater than those predicted in the FEIS. The same conclusion can be made regarding below-grade construction. Although it has a longer duration, it is less intensive (see supporting documentation).

Overall, the Updated Timeline would not be expected to increase short-term or annual peak emissions, and similar to the FEIS, construction of the Proposed Project under this Updated Timeline would not result in any significant adverse air quality impacts.

NOISE

Impacts on community noise levels during construction of the Proposed Project can result from noise due to the on-site operation of construction equipment and from noise due to construction, delivery, and worker vehicles traveling to and from the site. In general, the noise generated by on-site construction equipment and on-site vehicle equipment operation (rather than noise generated by construction, delivery, and/or worker vehicles traveling to and from the project site) are the dominant noise sources. At any given location or receptor site, noise levels due to construction are dependent on the type and number of pieces of construction equipment being operated, the acoustical utilization factor of the equipment (i.e., the percentage of time a piece of equipment is operating), the distance between the construction equipment and the receptor site, and any shielding effects (from structures such as buildings, walls, or barriers). As described in the FEIS, Columbia has committed to incorporate into its construction program, a number of noise reduction measures (including source controls, path controls, and receptor controls) to minimize or avoid noise impacts due to construction activities. However, even with implementation of these measures, the analyses in the FEIS identified locations where construction activities would result in significant adverse noise impacts on the adjacent properties. The FEIS analysis results indicated that significant adverse noise impacts would occur at portions of Riverside Park Community (3333 Broadway), 560 Riverside Drive, and Manhattanville Houses (95 Old Broadway and 1430 Amsterdam Avenue) which have a direct line-of-sight to the construction site. At exterior locations on these buildings, where the residences do not contain both double-glazed or storm-windows and alternative ventilation (i.e., air conditioning), Columbia has made mitigation measures available at no cost to owners of residences and based on the Updated Timeline, would continue to fulfill this obligation through the completion of the construction. In general, significant adverse noise impacts occur at elevated locations on these buildings because they have a direct line-of-sight to a significant number of pieces construction equipment, which have relatively high noise levels. Consequently, in the FEIS, the highest construction-related noise levels and impacts were predicted to occur during time periods when the most equipment was predicted to be operating. Working with the owners of the Riverside Park Community, Columbia has already implemented mitigation (installation of window air conditioning units) as required.

With the Updated Timeline, while construction activities for individual project elements may be delayed or displaced in terms of time, in general, the intensity of construction activities is projected to be either less than, or comparable to that analyzed in the FEIS.

The construction analysis presented in the FEIS showed that the most intense activity during the development of Phase 1 (in years 2011, 2012, and 2013) assumed simultaneous above-grade work occurring on 4 or 5 sites (buildings on Sites 1, 2, 3, 4, and 7), with below -grade work also being performed. With the Updated Timeline, during Phase 1, above-grade construction would take place simultaneously at 2 sites at most, with some below-grade construction work also

being performed. Therefore, with the Updated Timeline during Phase 1, there would be less construction equipment operating simultaneously, and less construction noise expected.

Similarly, during the Phase 2 construction, the illustrative construction timeline assumed for the FEIS showed that the most intense construction (in years 2027, 2028, and 2029) assumed above-grade construction to be simultaneously taking place on 5 sites (buildings on Sites 11, 12, 13, 14, and 15), with below-grade work was also being performed. With the Updated Timeline, construction at these sites (as well as the below-grade construction) would occur simultaneously, but is projected to be delayed by up to approximately 4 years. Therefore, there would be a comparable number of pieces of construction equipment operating simultaneously, and construction noise levels and impacts levels would be expected to be comparable to the levels predicted in the FEIS. There would be no change to the mitigation measures identified in the FEIS to address these impacts. No new significant adverse noise impacts would be expected with the Updated Timeline.

LAND USE AND NEIGHBORHOOD CHARACTER

The character of a neighborhood is created by the interplay of certain of its uses and activities. As described in the FEIS (Chapter 10), for Manhattanville, these elements comprise land use patterns (including public open space), socioeconomic conditions, historic resources, urban design/visual character, traffic, air quality and noise. The Project Area lies in a valley with bluffs to the north and south and a hill to the east. Four viaducts running north–south (the IRT No. 1 subway line to the east, and Riverside Drive, the Henry Hudson Parkway, and the Amtrak rail line to the west), in addition to the predominantly low-density industrial uses—which contrast sharply with the surrounding residential uses and community facilities—define the Project Area's character. The viaducts and natural topography form distinct physical and visual boundaries that separate the Project Area from the rest of the Manhattanville neighborhood including the residential portions of Manhattanville to the east of the Project Area, as well as its surrounding neighbors, including Hamilton Heights to the north, Morningside Heights to the south, and the rest of Harlem farther to the east. The elevated subway and Riverside Drive viaducts overshadow the streets below—Broadway and Twelfth Avenue, respectively.

The FEIS concluded that the Proposed Project would change neighborhood character for the better in the Project Area, and that it would not create significant adverse impacts on neighborhood character during construction. The analysis underlying this conclusion highlighted that, although the overall construction period was long, no one location would be under construction over the entire timeline. Although some portion of the Project Area and ¼ mile primary study area would be subject to the inconveniences and disruption of construction, access to surrounding residences, businesses, and waterfront uses would be maintained. In addition, throughout the construction period, measures would be implemented to control and/or mitigate (to the extent feasible and practicable), impacts from noise, vibration and dust related to construction activities. In addition, the interim land uses on cleared properties not yet in construction—i.e., lay-down, construction staging, worker parking,—are considered "industrial" and would not conflict with the primarily light industrial, warehouse and storage, transportation and utilities, and auto-related uses that would remain in Subdistrict A on an interim basis or with uses in Subdistrict B. The one set of residential buildings in Subdistrict A (Site 11) would remain until site clearance in anticipation of construction begins on the last, most northerly block. Chapter 10 of the FEIS also noted that, in any event, the influence of the Project Area on the character of the primary study area was effectively limited by the Manhattan Valley IRT viaduct above Broadway, the residential superblock development bordering the Project Area to the north (Riverside Park Community) and east (Manhattanville Houses), and the change in

topography and the high-density of educational/institutional uses immediately south along West 125th Street.

The Updated Timeline would increase the length of construction in Subdistrict A from 22 to up to 26 years. As before, successive phases of construction would generally move from south to north. While the overall construction period is long, no one location would be under construction over the entire timeline. In fact, construction of the eastern most buildings on Blocks 1996 and 1997 (Sites 1, 2 and 6) would create an additional physical buffer between subsequent construction and the residential properties on the east side of Broadway. As in the FEIS, some portion of the Proposed Project's ¼ mile primary study area would be subject to the inconveniences and disruption of construction, access to surrounding residences, businesses, and waterfront uses would be maintained. Throughout the construction period, the measures identified in the FEIS would be implemented to control and/or mitigate (to the extent feasible and practicable), impacts from noise, vibration and dust related to construction activities. The Updated Timeline would not change the fact (as noted above) that, in any event, the influence of construction within the Project Area on the character of the primary study area would continue to be limited by the Manhattan Valley IRT viaduct above Broadway, the residential superblock development bordering the Project Area to the north (Riverside Park Community) and east (Manhattanville Houses), and the change in topography and the high-density of educational/institutional uses immediately south along West 125th Street.

With slurry wall construction required for most below-grade space and then the buildings above, the FEIS anticipated that the two blocks of Phase 1 would be under construction for up to eight years and that each block of Phase 2 would undergo approximately six years of construction, consecutively. Project demolition has begun on certain Project sites, but multi-year litigation delayed construction commencement, thereby elongating the timeframe for the completion of the Proposed Project as was analyzed in the FEIS. Given the current projected timeframe to complete site acquisition, the construction duration (from demolition through to building completion) on the original Phase 1 blocks would be as follows: the blocks containing Sites 1 (academic building), 2 which will be substantially complete by 2016 (academic research building), 3 and 4 (academic buildings) and the small open spaces (the Grove and Small Square) would see a total of 12 years of below and above-grade construction, which began in 2009; the block containing Sites 6 (academic research building), 6b (academic building) and 7 (academic building and/or Columbia housing) and the Square would undergo 15 years of below and above-grade construction. However, this construction may not be continuous. Construction on the Phase 2 blocks would begin approximately three to four years later than anticipated in the FEIS, but sequencing of construction and duration would be the same, i.e., six years. Upon the completion of Sites 1, 2 and 3 by 2019 Columbia would have a substantial presence with an operating campus and services that would enliven the neighborhood, including the Mind, Brain, Behavior Education Center and Public Outreach Center (Site 2) which would be accessible to the public. There would also be active ground floor uses.

The Phase 1 blocks (Blocks 1996 and 1997) would be under construction for a longer period of time, thus extending the inconvenience from construction in that area. However, the construction activities associated with the more compressed build-out scenario presented in the FEIS Timeline would have resulted in periods of more intense activity, with greater peak traffic, noise, and air emissions. Thus, as illustrated in the supporting documentation, while under the FEIS there would be periods of shorter, more concentrated effects of construction, under the Updated Timeline there would be a less intrusive, but longer construction period. The more sensitive land uses adjacent to or across Broadway from the Project Area (i.e., Riverside Park Community, the apartment buildings on Site 11, and Manhattanville Houses) would all experience approximately

the same level of inconvenience with either timeline. Because there would be no difference in duration of construction at the northerly end of the Project Area—only the start and thus the finish date would change—the conclusions of the FEIS remain unchanged.

Within this timeline, however, several sites may see construction delays from six to up to 10 years. In particular, the Square—an approximately one-acre privately-owned public open space between Sites 6b and 7—and the through-block, north-south passage could be delayed by up to 10 years. The Square would become operational following the development of the same sites analyzed in the FEIS (Sites 1, 2, 3, 4, 6, 6b, and 7), serving the same populations generated by these sites. The FEIS concluded that even without the Square, the Proposed Project would have a beneficial effect on neighborhood character in Phase 1. Although the Square is an important element of the Proposed Project, its completion and operation was not considered an element contributing to this benefit in the Phase 1 analysis; nor was the through-block north-south passage. Similarly, the Square was not considered in the assessment of open space in the FEIS Phase 1 analysis. Under the Updated Timeline the Square will still be operational prior to completion of the Proposed Project and the change in the timeline would not affect the conclusions in the FEIS with respect to the Square. While the delay means that certain of the operational benefits of the project to neighborhood character identified in the FEIS will be slower to accumulate, it does not result in any new adverse impact.

Development of the below-grade space would require that West 130th and West 131st Streets be closed, and the duration of closure would be comparable to that anticipated in the FEIS. As discussed above, the major infrastructure relocation work along West 125th Street and West 129th Street has been completed, so that going forward there would be no closure of West 129th Street. However, it would still be necessary to close West 132nd Street for a period of up to five years,[1] because it must be used for staging of any construction on the block to the north, so as to avoid to the extent possible construction activities on West 133rd Street, the north side of which contains a large apartment building and a school. In addition, the sewer relocation work along 125th Street and West 129th Street has already been completed, and therefore the inconvenience from this construction would no longer be combined with the effects of other construction activities as was analyzed in the FEIS. With the Updated Timeline, there would be no change in the conclusions of the FEIS that although the construction period will be extended, no one area will suffer the inconveniences and disruption of construction during the entire period.

The FEIS analysis showed that during construction there would be no vacant buildings or lots to detract from neighborhood character, and the same will be true under the Updated Timeline. Columbia has renovated and now permanently occupies the Studebaker Building on West 131st Street; the Nash Building (Site 16) is also Columbia-occupied and will continue to be so, except when the building is renovated. The residential buildings on Broadway between West 132nd and West 133rd Streets (Site 11) will also remain occupied, as envisioned in the FEIS, until such time as their site is needed for development, now in early in 2031. Columbia's policy to use its sites and properties for ancillary construction activities and to temporarily replace existing employee and faculty parking on the sites east of Broadway will remain in force, and the timeline extension will not introduce any new temporary land uses to the Project Area.

[1] While West 132nd Street could be closed for up to five years to permit construction and staging associated with the development of Tax Block 1999, one traffic lane in either West 131st Street or West 132nd Street will remain open at all times, except when closure of both streets is required on a temporary basis.

Thus, there would be no new significant adverse impacts on land use patterns and neighborhood character from construction as a result of the Updated Timeline that were not addressed in the FEIS.