A. INTRODUCTION

This chapter summarizes the available information relating to the construction plans for the Proposed Project and assesses the potential for significant adverse impacts during the construction period. Construction impacts, although temporary, can include noticeable and disruptive effects from an action that involves or could induce construction. Construction impacts are usually important when construction activity could affect traffic conditions, hazardous materials, archaeological resources, the integrity of historic resources, community noise patterns, and/or air quality conditions.

As described in **Chapter 1, "Project Description,"** the approximately 684,242 gross square feet (gsf) Proposed Project would contain 598,442 gsf of office space and 21,233 gsf of retail space, built at 5.0 floor area ratio (FAR) with 576,220 zoning square feet (zsf) of floor area. It would also contain approximately 49,453 sf (1.14 acres) of waterfront public open space, including a shore public walkway and supplemental public access area. Additionally, there would be 234 public parking spaces (64,567 gsf) and two loading berths. The Proposed Project is expected to be constructed over an approximately 22-month (670-day) period.

The detailed analysis of construction effects on transportation, air quality, and noise were prepared based on a 22-monnth schedule that assumed completion of project construction in 2025. However, subsequent to the preparation of that analysis, it is now conservatively projected that construction would be completed a year later, in 2026. Sensitivity analyses have been prepared which indicate that this change to the construction schedule would not result in additional significant adverse impact beyond those identified in the original analysis. Between the Draft and Final EIS, the detailed analyses presented in this chapter will be updated to reflect the revised construction schedule. As noted, it is expected that the construction effects of the Proposed Action will be the same as those disclosed in this DEIS chapter. For consistency with the other chapters of this DEIS, all text regarding the construction schedule reflects the 2026 completion year.

Determination of the significance of construction impacts and the need for mitigation are generally based on the duration and magnitude of the impacts. According to the 2021 *City Environmental Quality Review (CEQR) Technical Manual*, construction duration is often broken down into short-term (less than two years) and long-term (two or more years). Where the duration of construction is expected to be short-term, any impacts resulting from such short-term construction generally do not require detailed assessment. However, because the Proposed Project is located adjacent to a natural resource, a preliminary assessment has been prepared.

In addition to describing the construction plans for the Proposed Project, this chapter describes the city, state, and federal regulations and policies that govern construction, followed by the conceptual construction schedule and the types of activities likely to occur during construction. The types of construction equipment are also discussed, along with the expected number of

workers and truck deliveries. Finally, the potential impacts from construction activities are assessed.

B. PRINCIPAL CONCLUSIONS

The Proposed Project would facilitate the development of a mixed-use, office and retail building, with a publicly accessible waterfront open space and below-grade parking spaces. Construction activities associated with this development is expected to occur over an approximately 22-month (670-day) period with a completion year (build year) of 2026. Given that the Proposed Project is on a vacant site, is on a large property that provides opportunities for on-site construction staging, has a short-term (less than two years) construction period, and would not involve construction of multiple buildings where due to phased project completion there would be a potential for on-site receptors occupying buildings completed before the final build-out, its construction activity would be typical of New York City developments in which construction effects are of a routine character. Moreover, the construction process in New York City is highly regulated to ensure that construction period impacts are eliminated or minimized, and construction of the Proposed Project would be subject to compliance with the New York City Noise Code.

Although project construction would not be long-term, i.e., greater than two years in duration, which the *CEQR Technical Manual* indicates is an analysis screening threshold, given the size of the Proposed Project at over 600,000 gsf, a transportation assessment and detailed analyses of construction traffic, air quality and noise were conducted to identify if any significant adverse construction impacts in these technical areas would be expected. The analyses determined that the Proposed Project would not be expected to result in significant adverse impacts in construction air quality and noise. Additionally, screening assessments of other technical areas, including land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic resources, natural resources, and hazardous materials also would not experience any significant adverse construction impacts.

Transportation

Peak construction conditions during Quarters 4 to 7 (Q4 to Q7) were considered for the analysis of potential transportation (traffic, transit, pedestrian, and parking) impacts during construction. Although the construction demand generated during the 6:00 AM to 7:00 AM and 3:00 PM to 4:00 PM construction peak hours are slightly higher than the incremental demand generated during the operational peak hours, background traffic levels would be lower in the construction peak hours than in the operational peak hours with full build out of the Proposed Project.

Construction traffic conditions were evaluated during the Q4 to Q7 construction AM and PM peak hours at 17 intersections (ten signalized and seven unsignalized) in the traffic study area where construction vehicle trips would exceed the 50-trips/hour *CEQR Technical Manual* analysis threshold in one or both construction peak hours. As summarized in **Tables 18-1 and 18-2**, construction traffic impact analysis indicates the potential for significant adverse impacts at three lane groups at three intersections in the weekday PM construction peak hour. **Chapter 19, "Mitigation,"** discusses potential measures to mitigate these significant adverse traffic impacts.

Table 18-1: Number of Impacted Intersections and Lane Groups by Peak Hour

	Construction Peak Hour	
	AM	**PM**
Impacted Lane Groups	0	3
Impacted Intersections	0	3

Table 18-2: Summary of Significantly Impacted Intersections

Signalized Intersections	**Construction Peak Hour**	
	Weekday AM	**Weekday PM**
Kent Avenue and Division Avenue		X
Wythe Avenue and Division Avenue		X
Kent Avenue and Clymer Street		X
Total Impacted Intersections	**0**	**3**
Notes: X – denotes intersection significantly impacted in rush hour.		

During the Q4 to Q7 peak construction period, transit demand from construction workers on the Project Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed subway analysis, nor the 50 trips/hour/direction analysis threshold for a detailed bus analysis during the AM and PM construction peak hours, and few if any operational transit trips would occur during these periods. Therefore, significant adverse impacts to subway and bus services are not expected to occur during the Q4 to Q7 peak construction period.

Similarly, during the Q4 to Q7 peak construction period, pedestrian demand from construction workers on the Project Site (trips to/from area transit services) would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed pedestrian analysis in either the weekday AM or PM construction peak hours. Significant adverse pedestrian impacts are therefore not expected to occur during the peak construction period. During construction, where sidewalk closures are required, adequate protection or temporary sidewalks would be provided in accordance with New York City Department of Transportation Office of Construction Mitigation and Coordination (DOT-OCMC) requirements.

Incremental parking demand from both the construction workers would total approximately 293 spaces during the Q4 to Q7 peak construction period. As it is assumed that there would be 293 parking spaces provided on-site during the Q4 to Q7 peak construction period, the site-generated parking demand would be fully accommodated on-site. Therefore, the Proposed Action is not expected to result in significant adverse parking impacts during the Q4 to Q7 peak construction period.

C. REGULATORY FRAMEWORK

Governmental Coordination and Oversight

The governmental oversight of construction in New York City is extensive and involves a number of city, state, and federal agencies. **Table 18-3** shows the main agencies involved in construction oversight and each agency's areas of responsibility. The primary responsibilities lie with New York City agencies. The NYC Department of Buildings (DOB) has the primary responsibility for ensuring that construction meets the requirements of the NYC Building Code and that buildings are structurally, electrically, and mechanically safe. In addition, DOB enforces safety regulations to protect both construction workers and the public. The areas of responsibility include the enforcement of regulations pertaining to the installation and operation of construction equipment, such as cranes and lifts, sidewalk sheds, and safety netting and scaffolding. The NYC Department of Environmental Protection (DEP) enforces the NYC Noise Control Code (also known as Chapter 24 of the Administrative Code of the City of New York, or Local Law 113) and the DEP Notice of Adoption Rules for Citywide Construction Noise Mitigation (also known as Chapter 28), approves remedial action plans (RAPs) and construction health and safety plans (CHASPs), regulates water disposal into the sewer system, and oversees dust control for construction activities. The NYC Fire Department (FDNY) has primary oversight for compliance with the Fire Code and for the installation of tanks containing flammable materials. DOT reviews and approves any traffic lane and sidewalk closures. NYC Transit Authority (NYCTA) is in charge of bus stop relocations, and any subsurface construction within 200 feet of a subway. The NYC Landmarks Preservation Commission (LPC) approves studies and testing to prevent loss of archaeological materials and to prevent damage to fragile historic structures.

Table 18-3: Construction Oversight in New York City

Agency	Area(s) of Responsibility
New York City	
Department of Buildings	Primary oversight for Building Code and site safety
Department of Environmental Protection	Noise, hazardous materials, dewatering, dust
Fire Department	Compliance with Fire Code, tank operation
Department of Transportation	Traffic lane and sidewalk closures
New York City Transit[1]	Bus stop relocation; any subsurface construction within 200 feet of a subway
Landmarks Preservation Commission	Archaeological and historic architectural protection
New York State	
Department of Labor	Asbestos workers
Department of Environmental Conservation	Dewatering, hazardous materials, tanks, Stormwater Pollution Prevention Plan, Industrial SPDES, if any discharge into the Hudson River
United States	
Environmental Protection Agency	Air emissions, noise, hazardous materials, toxic substances
Occupational Safety and Health Administration	Worker safety

[1] NYCTA is a sub-unit of the Metropolitan Transportation (MTA), a state agency

The New York State Department of Environmental Conservation (NYSDEC) regulates discharge of water into rivers and streams, disposal of hazardous materials, and construction, operation, and removal of bulk petroleum and chemical storage tanks. The New York State Department of Labor (DOL) licenses asbestos workers. On the federal level, the Environmental Protection Agency (EPA) has wide ranging authority over environmental matters, including air emissions, noise

emission standards, hazardous materials, and the use of poisons. Much of the responsibility is delegated to the state level. The Occupational Safety and Health Administration (OSHA) sets standards for work site safety.

D. CONSTRUCTION SCHEDULE AND ACTIVITIES

The following section describes the expected schedule, methods, and means of construction. While the methods and means described below have been developed with an experience New York City construction manager, the discussion is only illustrative, as other means and methods may be chosen at the time of construction.

Project Site Context

The Proposed Project includes the construction of a 23-story, 352-foot tall, approximately 684,242-gsf commercial building on a 115,244-sf, irregular-shaped corner lot located at the southwest corner of Kent and Division Avenues (the "Project Site"). It would include office space, local retail space, and public parking. It would also contain publicly accessible waterfront open space, including a shore public walkway and supplemental public access area.

As described in **Chapter 1, Project Description**, the Proposed Project would be a single building with a northern and southern base. An open area at grade would provide pedestrian access through the central portion of the site, and the two bases would connect below- and above-grade with two double-high bridges at the third and fourth levels. The northern base fronts Division Avenue and the southern base fronts an on-site visual corridor and beyond it faces toward the Brooklyn Navy Yard and Clymer Street. The Proposed Project's retail space would be located on the first and fifth floors. Office uses would be located on floors one through 23. The public parking garage (non-attended) would be located in the cellar. The Proposed Project would also include two loading berths. The location of uses by floors described is per preliminary plans and is provided for illustrative purposes.

Preliminary Construction Schedule

Construction would occur over approximately 22 months, which is equivalent to approximately 96 weeks and approximately 670 calendar days of elapsed time and as such would be considered short-term, i.e., less than two years. As discussed in **Chapter 1, "Project Description,"** the buildings formerly on the site were demolished by the previous owner Con Edison in 2009 and the site is currently vacant. Therefore, no building demolition would be necessary. It is expected to commence with support of excavation (SOE) work in early 2025 with site preparation and support of excavation (SOE), piles, and bulkhead sheet work for a span of approximately 3 months. Excavation/foundation and structural tasks, which would overlap with the aforementioned tasks, would extend for approximately 3 months for the tower and 5 months for the base, respectively. Later tasks, including roofing, cladding, mechanical systems, interiors fit-outs, and site work would overlap with the structural tasks, with completion of constructed projected for occur approximately 22 months after initiation, which would occur in 2026. Refer to **Table 18-4**. As discussed above, the detailed analysis prepared for and summarized in this chapter was based on

the completion of the 22-month in 2025 as opposed to 2026, but the effects of the Proposed Action under either analysis year would be substantially the same as indicated by a sensitivity analysis. Detailed analysis based on the 2026 completion will be completed between the DEIS and FEIS and incorporated into the latter document. For consistency with the other chapters of this DEIS, all text regarding the construction schedule reflects the 2026 completion year.

Hours of Work

Construction activities for buildings in the City generally take place Monday through Friday, with exceptions that are discussed separately below. In accordance with City laws and regulations, construction work would generally begin at 7 AM on weekdays, with workers arriving to prepare work areas between 6 and 7 AM. Normally, work would end at 3:30 PM, but at times the workday could be extended to complete some specific tasks beyond normal work hours, such as completing the drilling of piles, finishing a concrete pour for a floor deck, or completing the bolting of a steel frame erected that day. The extended workday would generally last until about 6 PM and would not include all construction workers on-site, but just those involved in the specific tasks requiring additional work time.

Occasionally, Saturday or overtime hours may be required to complete some time-sensitive tasks. Weekend work requires a permit from the DOB and, in certain instances, approval of a noise mitigation plan from the DEP under the City's Noise Code. The NYC Noise Control Code, as amended December 2005 and effective July 1st, 2007, limits construction (absent special circumstances as described below) to weekdays between the hours of 7 AM and 6 PM and sets noise limits for certain specific pieces of construction equipment. Construction activities occurring after hours (weekdays between 6 PM and 7 AM and on weekends) may be permitted only to accommodate: (i) emergency conditions; (ii) public safety; (iii) construction projects by or on behalf of City agencies; (iv) construction activities with minimal noise impacts; and (v) undue hardship resulting from unique site characteristics, unforeseen conditions, scheduling conflicts, and/or financial considerations. In such cases, the number of workers and pieces of equipment in operation would be limited to those needed to complete the particular authorized task. Therefore, the level of activity for any weekend work would be less than a normal workday. The typical weekend workday would be on Saturday from roughly 7 AM with worker arrival and site preparation to 3:30 PM for site cleanup similar to the typical weekday.

Table 18-4: Anticipated Construction Schedule

Construction Task	Start Month	Finish Month	Approximate Duration (months)
Support of Excavation / Piles/ Bulkhead Sheeting	January 2025	March 2025	3
Tower Work:			
Excavation and Foundation	February 2025	May 2025	3
Structural	April 2025	June 2026	14
Structural/Roofing/Cladding/Mechanical Systems/Interior Fit-Out	May 2025	August 2025	16
Base Work:			
Excavation and Foundation	March 2025	August 2025	5
Structural	August 2025	January 2026	5
Structural/Roofing/Cladding/Mechanical Systems/Interior Fit-Out	May 2025	June 2026	14
Mechanical Systems/Interior Fit-Out	October 2025	August 2026	10
Sitework	June 2026	November 2026	5
Overall Duration	**January 2025**	**November 2026**	**22**

Deliveries and Access

During construction of the Proposed Project, access to the construction site would be controlled. The work areas would be fenced off, and limited access points for workers and trucks would be provided. Security guards and flaggers would be posted as necessary. After work hours, the gates would be closed and locked. Security guards may patrol the construction site after work hours and over the weekends to prevent unauthorized access.

Truck movements would be spread throughout the day and would generally occur between the hours of 6 AM and 3 PM, depending on the stage of construction. Material deliveries to the site would be controlled and scheduled, and unscheduled deliveries would be minimized. To aid in adhering to the delivery schedules, as is normal for building construction in New York City, it is anticipated that flaggers would be employed at each of the gates. The flaggers could be supplied by the subcontractor on-site at the time or by the construction manager. The flaggers would control trucks entering and exiting the site so that they would not interfere with one another. In addition, they would provide an additional traffic aid as the trucks enter and exit the on-street traffic streams.

Sidewalk and Lane Closures

The DOT-OCMC reviews and approves all maintenance and protection of traffic (MPT) plans which specify any planned sidewalk or lane closures and staging for all construction sites. As a general practice, construction managers for major projects on adjacent sites would coordinate their activities to avoid delays and inefficiencies.

Due to the size of the Project Site (2.65 acres) and given that the proposed building would occupy only approximately 44 percent of the lot at-grade, the majority of construction staging is expected to occur on-site with minimal sidewalk and lane closures anticipated. If lane closures are required for project construction, to the maximum extent feasible it is expected these would occur on Division Avenue, which is a dead-end street adjacent to the site and only provides access to other property. While some sidewalks adjacent to the Project Site could be closed temporarily to allow for certain construction activities during the project's construction, no rerouting of traffic is anticipated, and pedestrian circulation and access would be maintained throughout the construction period. DOT would be consulted to determine the appropriate protective measures for ensuring pedestrian safety surrounding the building site, if warranted.

Number of Construction Workers and Materials Deliveries

Table 18-5 shows the estimated averaged daily numbers of workers and deliveries for the Proposed Project, by calendar quarter for all construction activities. The peak daily construction worker count would occur during quarters 4 to 7 at 493, while the average daily construction worker count overall would be 345. The peak daily trucks would occur during quarter 2 at 63, while the average daily trucks would be 40. Quarters 4 to 7 (Q4 to Q7) would experience the largest average travel demand when accounting for both construction worker travel, including personal vehicles, and construction truck trips.

Table 18-5: Average Daily Workers and Trucks by Quarter

	Quarter								Average	Peak
	2025				2026					
	1	2	3	4	5	6	7	8		
Workers	75	266	311	493	493	493	493	138	345	493
Trucks	26	63	37	49	49	49	49	0	40	63

E. PROBABLE IMPACTS OF THE PROPOSED ACTION

As with the development of any large site, construction of the Proposed Project may be disruptive to the surrounding area for limited periods of time. While the anticipated construction schedule has been developed by an experienced New York City construction manager, the discussion provided in this chapter is only illustrative. Specific means and methods will be chosen at the time of construction as there are no specific construction programs or finalized designs for the Proposed Project at this time. The conceptual schedule represents a conservative potential timeline for construction with overlapping construction activities.

Similar to many development projects in NYC, construction can cause temporary disruption to the surrounding area throughout the construction period. The following analyses describe potential construction impacts on transportation, air quality, noise and vibration, as well as other technical areas including land use and neighborhood character, socioeconomic conditions, community facilities, open space, historic and cultural resources, and hazardous materials.

Transportation

Traffic

Construction activities would generate construction worker auto trips and truck trips. Similar to other construction projects in New York City, most of the construction activity at the Project Site is expected to take place during the typical construction shift of 7:00 AM to 3:30 PM. The estimated daily vehicle trips were distributed throughout the workday based on projected work shift allocations and conventional arrival/departure patterns of construction workers and trucks. While construction truck trips would be made throughout the day (with more trips typically made during the early morning), construction workers would typically commute during the hours before and after the work shift. For analysis purposes, each truck delivery was assumed to result in two truck trips during the same hour (one "in" and one "out"), and each truck trip was assumed to have a passenger car equivalent (PCE) of 2.0, consistent with *CEQR Technical Manual* guidance. For construction workers, the majority (80 percent) of arrival and departure trips are expected to take place during the hour before and after each shift. For construction trucks, deliveries would typically peak during the early morning, with an estimated 25 percent overlapping with construction worker arrival traffic.

Based on 2000 Census reverse journey-to-work data for construction workers employed in the census tract in proximity to the Project Site, it is anticipated that construction workers' travel to

the construction site in the South Williamsburg neighborhood of Brooklyn would be primarily by the auto mode (approximately 79.1 percent by private autos), with smaller numbers using public transportation (6.1 percent subway and 12.3 percent bus) and walking (2.5 percent). It is also estimated that auto occupancy would average approximately 1.33 persons per vehicle. These trip generation assumptions were used as the basis for assessing the potential transportation-related impacts during construction.

Table 18-6 presents the hourly construction vehicle trip estimates in PCEs during the Q4 to Q7 peak construction period in 2026 (refer to **Table 18-5)**, based on the assumptions described above. As shown in **Table 18-6**, it is estimated that peak construction activities would result in 284 PCEs between 6:00 AM to 7:00 AM during this period. For the 3:00 PM to 4:00 PM period, there would be a maximum of 238 PCEs associated with construction activities during this same period. As such, this construction period would represent the reasonable worst-case scenario for the construction transportation assessment.

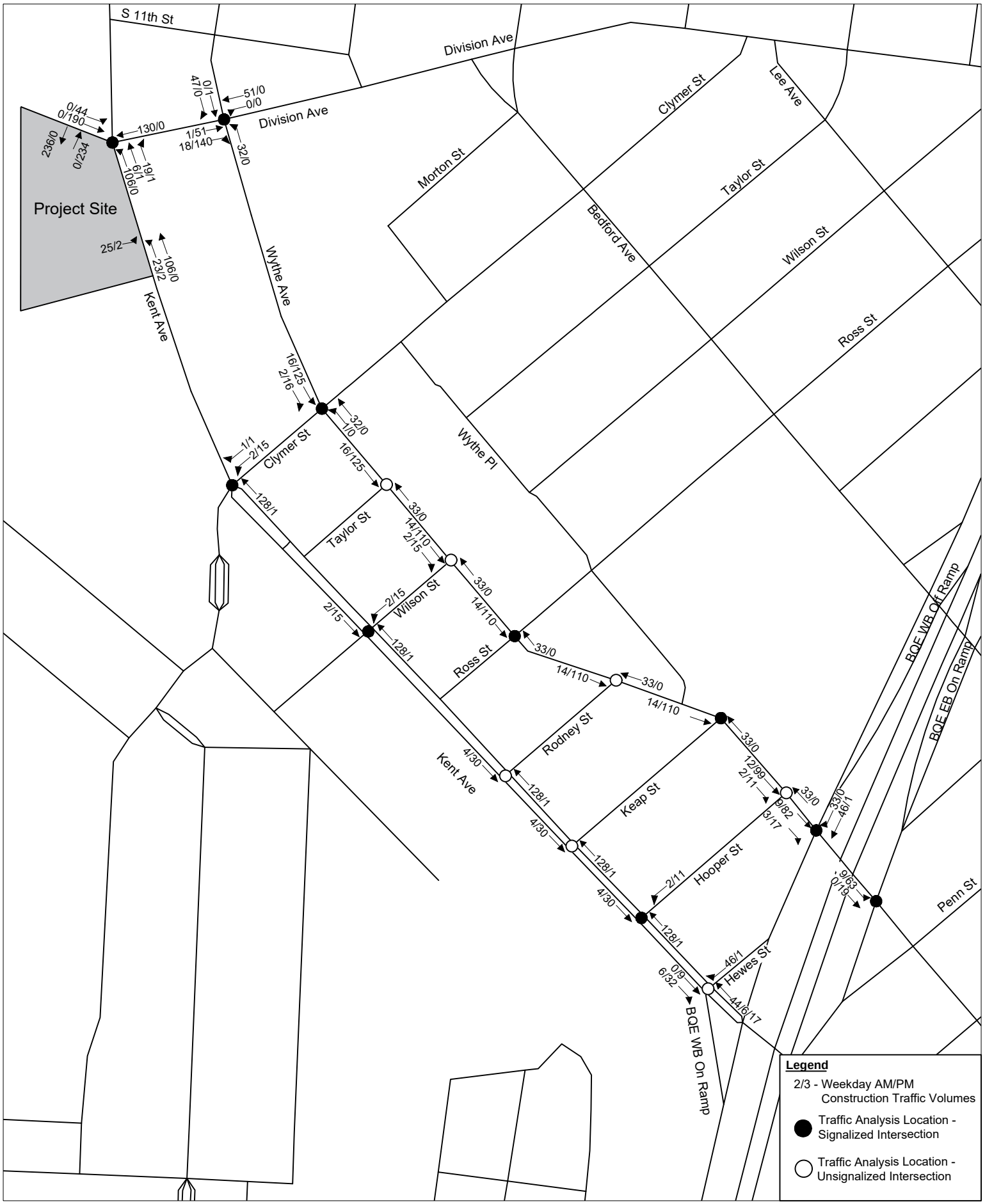
Table 18-6: 2026 (Q4-Q7) Construction Vehicle Trip Generation (Autos, Taxis and Trucks, in PCEs)

Time Period	Auto			Taxi			Truck			Total		
	In	Out	Total	In	Out	Total	In	Out	Total	In	Out	Total
6 AM - 7 AM	**234**	**0**	**234**	**0**	**0**	**0**	**25**	**25**	**50**	**259**	**25**	**284**
7 AM -8 AM	59	0	59	0	0	0	10	10	20	69	10	79
8 AM -9 AM	0	0	0	0	0	0	10	10	20	10	10	20
9 AM - 10 AM	0	0	0	0	0	0	10	10	20	10	10	20
10 AM - 11 AM	0	0	0	0	0	0	10	10	20	10	10	20
11 AM - 12 PM	0	0	0	0	0	0	10	10	20	10	10	20
12 PM - 1 PM	0	0	0	0	0	0	10	10	20	10	10	20
1 PM - 2 PM	0	0	0	0	0	0	5	5	10	5	5	10
2 PM - 3 PM	0	15	15	0	0	0	5	5	10	5	20	25
3 PM - 4 PM	**0**	**234**	**234**	**0**	**0**	**0**	**2**	**2**	**4**	**2**	**236**	**238**
4 PM - 5 PM	0	44	44	0	0	0	2	2	4	2	46	48
5 PM - 6 PM	0	0	0	0	0	0	0	0	0	0	0	0
Daily Total	293	293	586	0	0	0	99	99	198	392	392	784

An assignment of AM and PM peak hour construction vehicle trips (in PCEs) is shown in **Figure 18-1**. As shown in **Figure 18-1**, a total of 17 intersections (10 signalized and seven unsignalized) in the traffic study area would experience a net incremental increase of 50 or more PCEs during the 6:00 AM to 7:00 AM and/or 3:00 PM – 4:00 PM construction peak hours. These intersections and the periods during which they would experience 50 or more PCE trips are listed below:

1. Kent Avenue at Division Avenue (signalized)
2. Kent Avenue at Clymer Street (signalized)*
3. Kent Avenue at Wilson Street (signalized)
4. Kent Avenue at Rodney Street (unsignalized)
5. Kent Avenue at Keap Street (unsignalized)
6. Kent Avenue at Hooper Street (signalized)

Project Increment Weekday AM/PM Construction Traffic Volumes



7. Kent Avenue at Hewes Street (unsignalized)
8. Wythe Avenue at Division Avenue (signalized)*
9. Wythe Avenue at Clymer Street (signalized)
10. Wythe Avenue at Taylor Street (unsignalized)
11. Wythe Avenue at Wilson Street (unsignalized)
12. Wythe Avenue at Ross Street (signalized)
13. Wythe Avenue at Rodney Street (unsignalized)
14. Wythe Avenue at Keap Street (signalized)
15. Wythe Avenue at Hooper Street (unsignalized)
16. Wythe Avenue at Williamsburg Street West (signalized)
17. Wythe Avenue at Williamsburg Street East (signalized)

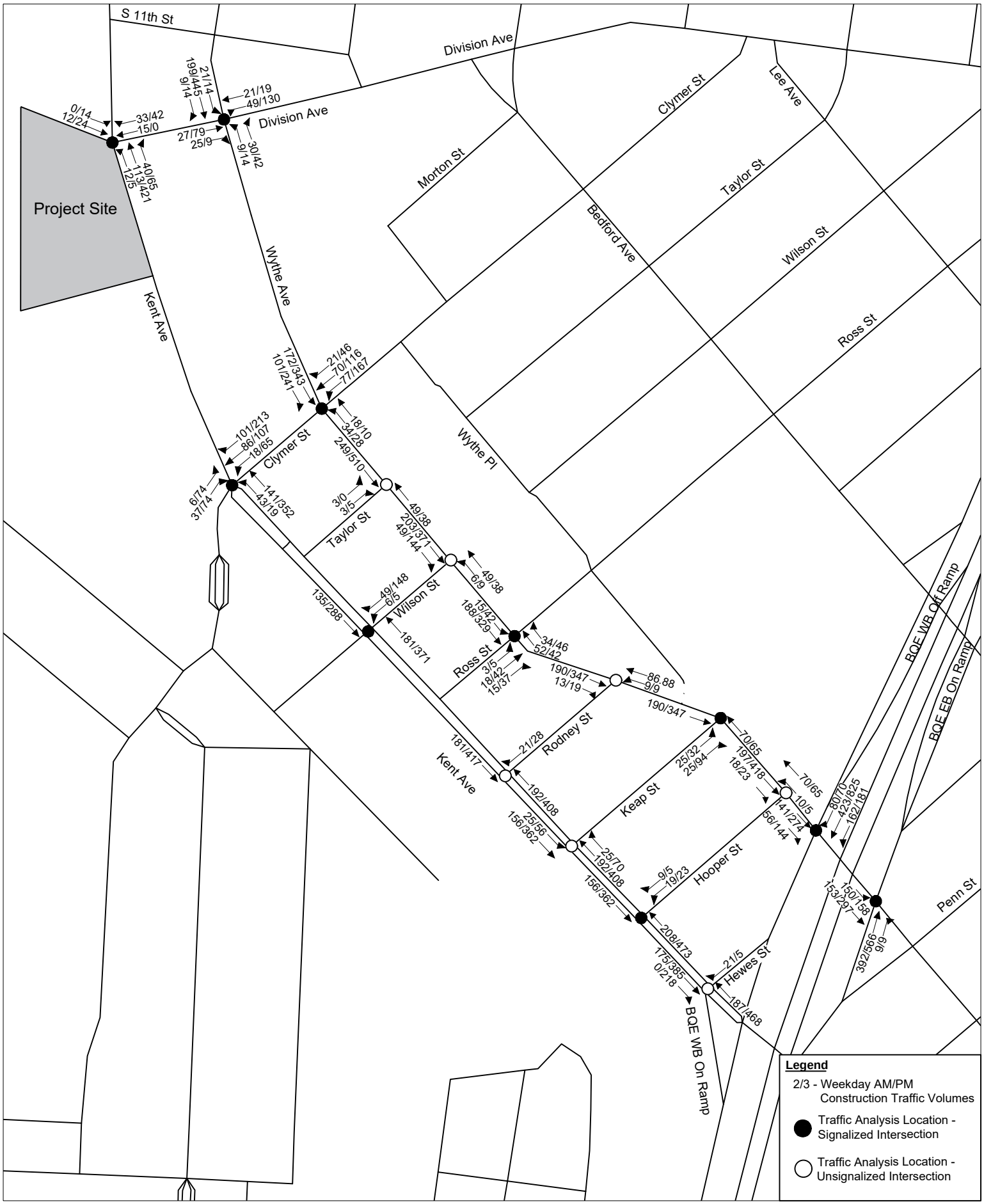
(* - denotes intersection significantly adversely impacted by operational traffic in the PM operational peak hour.)

In order to assess construction traffic conditions, a 2019 existing traffic network was established based on ATR data collected for the 6:00 to 7:00 AM and 3:00 to 4:00 PM peak hours (refer to **Figure 18-2**). The volume-to-capacity (v/c) ratios, delays and levels of service for all lane groups at all analyzed intersections in both construction peak periods under existing conditions are provided in **Table 18-7** on the following page. A lane group is considered congested if it operates at LOS E or F and/or with a v/c ratio of 0.90 or above. A v/c ratio of 1.00 or above reflects capacity conditions. As shown in **Table 18-7**, all analyzed lane groups are currently operating at an uncongested LOS D or better during the construction AM peak hour. During the construction PM peak hour, a total of one lane group at one signalized intersection operate as congested under existing conditions.

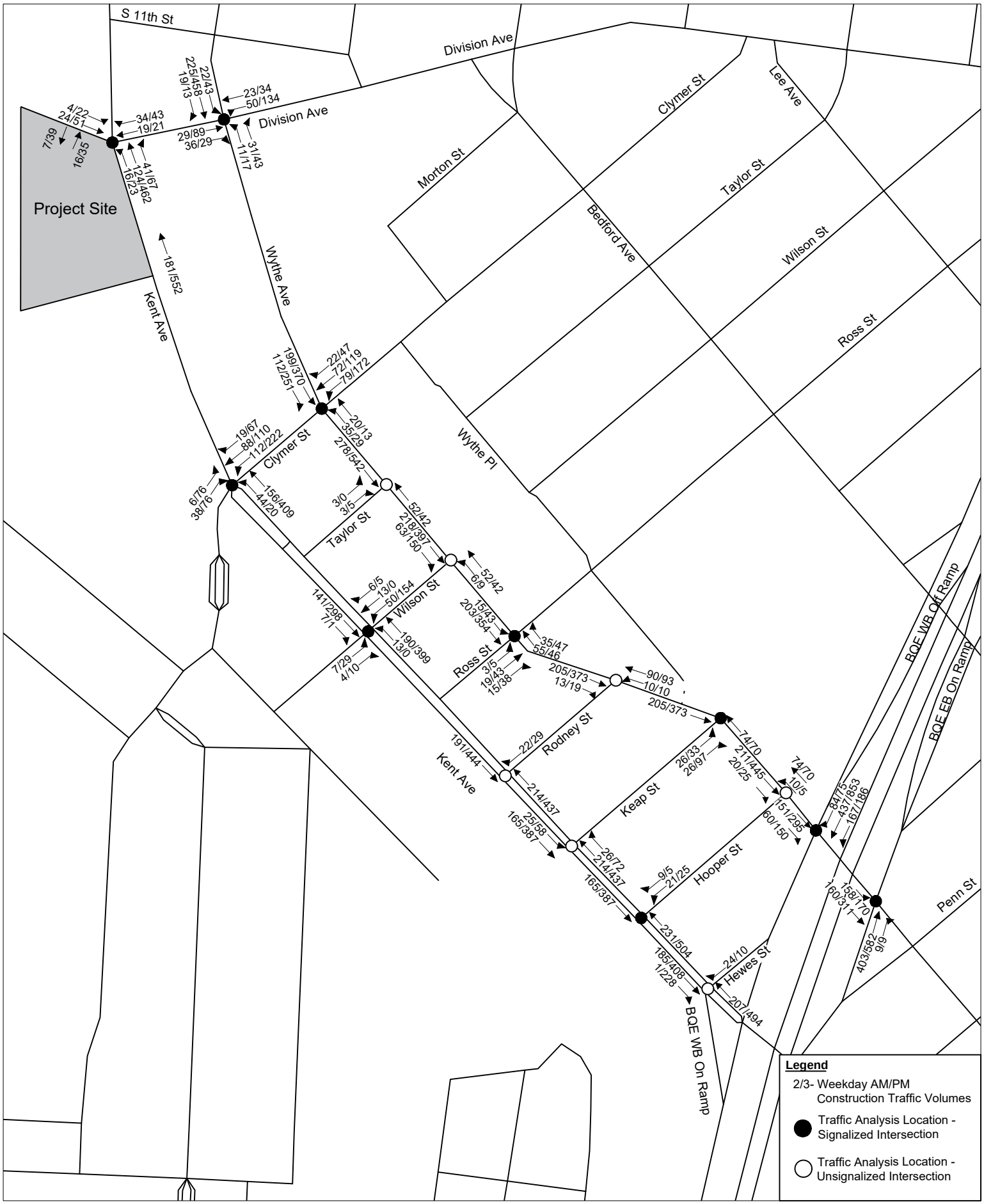
A 2026 No-Action construction traffic network was established by applying an annual background growth rate of 0.50 percent per year for the 2019 through 2024 period and 0.25 percent per year for 2024 to 2026, as recommended in the *CEQR Technical Manual* for projects in Brooklyn outside of Downtown Brooklyn (refer to **Figure 18-3**). The volume-to-capacity (v/c) ratios, delays and levels of service for all lane groups at all analyzed intersections in both construction peak periods under No-Action conditions are provided in **Table 18-7**. As shown in **Table 18-7**, a total of one lane group at one intersection would be congested under the No-Action conditions during the construction PM peak hour under 2026 conditions. During the construction AM peak hour, all analyzed lane groups would continue to operate at an uncongested LOS D or better under No-Action conditions.

The incremental vehicle trips by construction workers and trucks (shown in **Figure 18-1**) were added to the No-Action traffic network (shown in **Figure 18-3**) to establish the With-Action traffic network shown in **Figure 18-4**. The volume-to-capacity (v/c) ratios, delays and levels of service for all lane groups at the analyzed intersections in both peak periods under With-Action conditions (construction) are provided in **Table 18-8**. As shown in **Table 18-8**, three lane groups at three intersections in the construction PM peak hour (3:00 PM – 4:00 PM) are expected to have the potential for significant adverse traffic impacts as a result of construction activities. Potential measures to mitigate the significant adverse traffic impacts identified in **Table 18-8** are discussed in **Chapter 19, "Mitigation."**

Existing Weekday AM/PM Construction Traffic Volumes



No-Action Weekday AM/PM Construction Traffic Volumes



With-Action Weekday AM/PM Construction Traffic Volumes

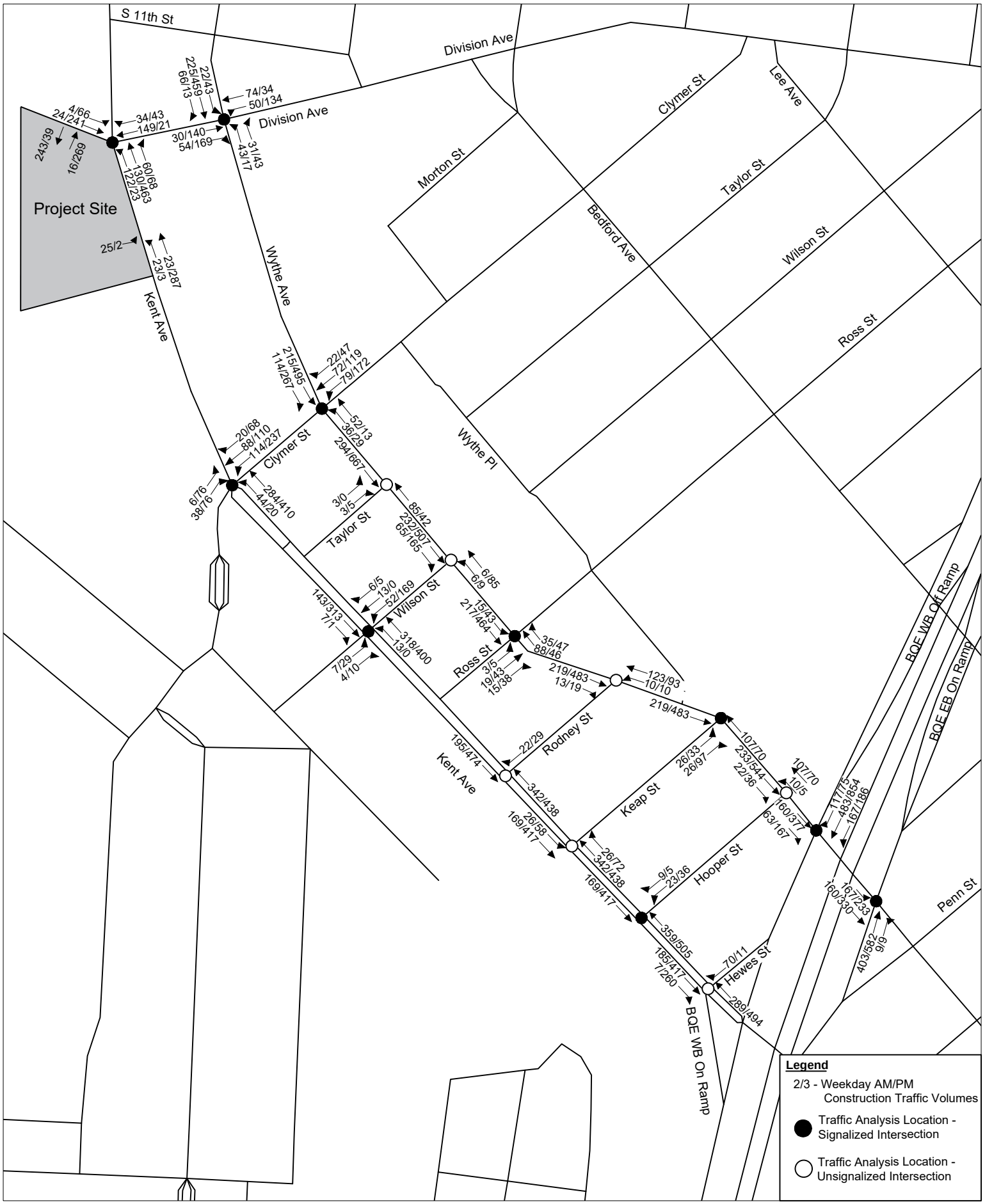


Table 18-7: Level of Service Analysis Under Existing and 2026 (Q4-Q7) No-Action Conditions

Intersections	Existing AM Peak Hour					No-Action AM Peak Hour					Existing PM Peak Hour					No-Action PM Peak Hour				
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS
Signalized Intersections																				
Kent Avenue @	EB	LT	0.03	26.0	C	EB	LT	0.08	26.6	C	EB	LT	0.11	26.9	C	EB	LT	0.23	28.6	C
Division Avenue	WB	TR	0.18	28.0	C	WB	TR	0.22	28.8	C	WB	TR	0.15	27.6	C	WB	TR	0.25	29.1	C
	NB	L	0.02	5.8	A	NB	L	0.03	5.9	A	NB	L	0.01	5.7	A	NB	L	0.06	6.1	A
	NB	TR	0.18	6.9	A	NB	TR	0.20	7.1	A	NB	TR	0.55	11.0	B	NB	TR	0.63	12.6	B
Wythe Avenue @	EB	TR	0.12	20.7	C	EB	TR	0.15	18.5	B	EB	TR	0.19	21.4	C	EB	TR	0.25	19.6	B
Division Avenue	WB	LT	0.20	21.8	C	WB	LT	0.20	19.3	B	WB	LT	0.50	28.4	C	WB	LT	0.62	30.9	C
	NB	LR	0.10	10.3	B	NB	LR	0.11	12.3	B	NB	LR	0.16	11.0	B	NB	LR	0.17	13.3	B
	SB	LTR	0.32	12.3	B	SB	LTR	0.40	15.6	B	SB	LTR	0.61	17.1	B	SB	LTR	0.70	21.9	C
Kent Avenue @	EB	LR	0.19	27.6	C	EB	LR	0.20	27.9	C	EB	LR	0.85	64.2	E *	EB	LR	0.96	88.0	F *
Clymer Street	WB	L	0.34	30.2	C	WB	L	0.32	29.5	C	WB	L	0.69	41.3	D	WB	L	0.64	37.6	D
	WB	TR	0.34	29.9	C	WB	TR	0.33	29.5	C	WB	TR	0.69	42.3	D	WB	TR	0.69	41.9	D
	NB	LR	0.06	6.4	A	NB	LR	0.06	6.4	A	NB	LR	0.02	6.2	A	NB	LR	0.02	6.2	A
	NB	T	0.18	7.2	A	NB	T	0.20	7.4	A	NB	T	0.39	9.2	A	NB	T	0.45	9.9	A
Wythe Avenue @	WB	LT	0.40	27.8	C	WB	LT	0.43	28.3	C	WB	LT	0.75	38.8	D	WB	LT	0.80	42.5	D
Clymer Street	WB	R	0.08	23.1	C	WB	R	0.09	23.2	C	WB	R	0.14	23.7	C	WB	R	0.15	23.9	C
	NB	LT	0.13	13.6	B	NB	LT	0.14	13.7	B	NB	LT	0.10	13.2	B	NB	LT	0.11	13.4	B
	SB	T	0.21	14.2	B	SB	T	0.25	14.6	B	SB	T	0.45	17.3	B	SB	T	0.49	17.9	B
	SB	R	0.21	14.5	B	SB	R	0.24	14.8	B	SB	R	0.49	18.9	B	SB	R	0.53	19.9	B
Kent Avenue @						EB	LR	0.03	23.8	C						EB	LR	0.14	25.4	C
Wilson Street	WB	LR	0.18	25.7	C	WB	LTR	0.22	26.3	C	WB	LR	0.50	31.9	C	WB	LTR	0.52	32.5	C
	NB	T	0.22	8.4	A	NB	LT	0.25	8.6	A	NB	T	0.37	9.7	A	NB	LT	0.39	10.1	B
	SB	T	0.15	7.8	A	SB	TR	0.17	7.9	A	SB	T	0.26	8.6	A	SB	TR	0.27	8.7	A
Wythe Avenue @	EB	LTR	0.15	27.8	C	EB	LTR	0.16	27.8	C	EB	LTR	0.25	28.8	C	EB	LTR	0.26	28.9	C
Ross Street	NB	TR	0.12	6.5	A	NB	TR	0.13	6.5	A	NB	TR	0.12	6.5	A	NB	TR	0.13	6.5	A
	SB	LT	0.23	7.2	A	SB	LT	0.24	7.3	A	SB	LT	0.37	8.5	A	SB	LT	0.40	8.8	A
Wythe Avenue @	EB	LR	0.12	19.1	B	EB	LR	0.12	19.1	B	EB	LR	0.23	20.5	C	EB	LR	0.24	20.6	C
Keap Street	NB	T	0.13	19.1	B	NB	T	0.13	19.2	B	NB	T	0.10	18.7	B	NB	T	0.11	18.8	B
	SB	T	0.31	21.6	C	SB	T	0.33	22.0	C	SB	T	0.55	26.7	C	SB	T	0.59	27.9	C
Kent Avenue @	WB	LR	0.06	12.5	B	WB	LR	0.06	12.5	B	WB	LR	0.07	12.6	B	WB	LR	0.07	12.6	B
Hooper Street	NB	T	0.38	12.1	B	NB	T	0.42	12.6	B	NB	T	0.73	19.7	B	NB	T	0.78	21.9	C
	SB	T	0.24	10.5	B	SB	T	0.26	10.6	B	SB	T	0.51	13.7	B	SB	T	0.55	14.3	B
Wythe Avenue @	WB	LTR	0.41	10.8	B	WB	LTR	0.43	10.9	B	WB	LTR	0.59	13.3	B	WB	LTR	0.61	13.6	B
Williamsburg St W.	SB	T	0.33	37.2	D	SB	T	0.36	37.7	D	SB	T	0.55	42.0	D	SB	T	0.60	43.3	D
	SB	R	0.16	34.6	C	SB	R	0.18	35.0	C	SB	R	0.49	41.8	D	SB	R	0.56	44.6	D
Wythe Avenue @	EB	TR	0.37	31.3	C	EB	TR	0.38	31.5	C	EB	TR	0.55	34.5	C	EB	TR	0.57	34.8	C
Williamsburg St E.	SB	L	0.23	12.7	B	SB	L	0.24	12.9	B	SB	L	0.22	12.5	B	SB	L	0.23	12.7	B
	SB	LT	0.20	12.3	B	SB	LT	0.21	12.4	B	SB	LT	0.32	13.7	B	SB	LT	0.34	13.9	B
Unsignalized Intersections																				
Wythe Avenue @ Wilson Street	NB	LT	0.01	8.2	A	NB	LT	0.01	8.4	A	NB	LT	0.01	9.1	A	NB	LT	0.01	9.7	A
Kent Avenue @ Rodney Street	WB	R	0.04	10.0	B	WB	R	0.04	10.2	B	WB	R	0.07	13.1	B	WB	R	0.08	13.6	B
Wythe Avenue @ Rodney Street	NB	LT	0.01	8.1	A	NB	LT	0.01	8.4	A	NB	LT	0.03	15.3	C	NB	LT	0.04	18.1	C
Wythe Avenue @ Taylor Street	EB	LR	0.01	10.5	B	EB	LR	0.01	10.7	B	EB	LR	0.01	12.0	B	EB	LR	0.01	12.3	B
Kent Avenue @ Keap Street	SB	LT	0.03	8.3	A	SB	LT	0.03	8.4	A	SB	LT	0.08	9.6	A	SB	LT	0.09	9.9	A
Wythe Avenue @ Hooper Street	NB	LT	0.02	11.8	B	NB	LT	0.03	12.8	B	NB	LT	0.02	17.8	C	NB	LT	0.03	21.8	C
Kent Avenue @ Hewes Street	WB	R	0.03	9.4	A	WB	R	0.06	9.8	A	WB	R	0.01	11.3	B	WB	R	0.02	11.6	B

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right
* - Denotes a congested movement

Table 18-8: Level of Service Analysis Under 2026 (Q4-Q7) No-Action and With-Action Conditions

Signalized Intersections	No-Action AM Peak Hour					With-Action AM Peak Hour					No-Action PM Peak Hour					With-Action PM Peak Hour					
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	
Signalized Intersections																					
Kent Avenue @ Division Avenue	EB	LT	0.08	26.6	C	EB	LT	0.08	26.6	C	EB	LT	0.23	28.6	C	EB	LT	1.03	89.3	F	*
	WB	TR	0.22	28.8	C	WB	TR	0.60	36.9	D	WB	TR	0.25	29.1	C	WB	TR	0.33	31.8	C	
	NB	L	0.03	5.9	A	NB	L	0.37	10.0	A	NB	L	0.06	6.1	A	NB	L	0.07	6.3	A	
	NB	TR	0.20	7.1	A	NB	TR	0.24	7.4	A	NB	TR	0.63	12.6	B	NB	TR	0.63	12.7	B	
Wythe Avenue @ Division Avenue	EB	TR	0.15	18.5	B	EB	TR	0.26	20.3	C	EB	TR	0.25	19.6	B	EB	TR	0.91	53.0	D	
	WB	LT	0.20	19.3	B	WB	LT	0.33	21.2	C	WB	LT	0.62	30.9	C	WB	LT	1.03	100.4	F	*
	NB	LR	0.11	12.3	B	NB	LR	0.26	14.7	B	NB	LR	0.17	13.3	B	NB	LR	0.17	13.3	B	
	SB	LTR	0.40	15.6	B	SB	LTR	0.48	16.9	B	SB	LTR	0.70	21.9	C	SB	LTR	0.70	22.0	C	
Kent Avenue @ Clymer Street	EB	LR	0.2	27.9	C	EB	LR	0.22	28.4	C	EB	LR	0.96	88.0	F	EB	LR	1.07	122.2	F	*
	WB	L	0.32	29.5	C	WB	L	0.36	30.3	C	WB	L	0.64	37.6	D	WB	L	0.76	44.9	D	
	WB	TR	0.33	29.5	C	WB	TR	0.36	30.3	C	WB	TR	0.69	41.9	D	WB	TR	0.75	47.5	D	
	NB	LR	0.06	6.4	A	NB	LR	0.06	6.4	A	NB	LR	0.02	6.2	A	NB	LR	0.02	6.2	A	
	NB	T	0.2	7.4	A	NB	T	0.36	8.9	A	NB	T	0.45	9.9	A	NB	T	0.45	10.0	A	
Wythe Avenue @ Clymer Street	WB	LT	0.43	28.3	C	WB	LT	0.44	28.7	C	WB	LT	0.80	42.5	D	WB	LT	0.83	46.6	D	
	WB	R	0.09	23.2	C	WB	R	0.13	24.1	C	WB	R	0.15	23.9	C	WB	R	0.17	24.3	C	
	NB	LT	0.14	13.7	B	NB	LT	0.21	14.5	B	NB	LT	0.11	13.4	B	NB	LT	0.12	13.5	B	
	SB	T	0.25	14.6	B	SB	T	0.27	14.8	B	SB	T	0.49	17.9	B	SB	T	0.66	21.6	C	
	SB	R	0.24	14.8	B	SB	R	0.25	15.0	B	SB	R	0.53	19.9	B	SB	R	0.60	21.8	C	
Kent Avenue @ Wilson Street	EB	LR	0.03	23.8	C	EB	LR	0.03	23.8	C	EB	LR	0.14	25.4	C	EB	LR	0.14	25.3	C	
	WB	LTR	0.22	26.3	C	WB	LTR	0.22	26.3	C	WB	LTR	0.52	32.5	C	WB	LTR	0.57	34.0	C	
	NB	LT	0.25	8.6	A	NB	LT	0.41	10.3	B	NB	LT	0.39	10.1	B	NB	LT	0.39	10.1	B	
	SB	TR	0.17	7.9	A	SB	TR	0.17	7.9	A	SB	TR	0.27	8.7	A	SB	TR	0.29	8.9	A	
Wythe Avenue @ Ross Street	EB	LTR	0.16	27.8	C	EB	LTR	0.16	27.8	C	EB	LTR	0.26	28.9	C	EB	LTR	0.26	28.9	C	
	NB	TR	0.13	6.5	A	NB	TR	0.17	6.8	A	NB	TR	0.13	6.5	A	NB	TR	0.13	6.5	A	
	SB	LT	0.24	7.3	A	SB	LT	0.26	7.4	A	SB	LT	0.40	8.8	A	SB	LT	0.50	10.1	B	
Wythe Avenue @ Keap Street	EB	LR	0.12	19.1	B	EB	LR	0.12	19.1	B	EB	LR	0.24	20.6	C	EB	LR	0.24	20.6	C	
	NB	T	0.13	19.2	B	NB	T	0.19	20.0	B	NB	T	0.11	18.8	B	NB	T	0.11	18.8	B	
	SB	T	0.33	22.0	C	SB	T	0.35	22.4	C	SB	T	0.59	27.9	C	SB	T	0.76	35.0	D	
Kent Avenue @ Hooper Street	WB	LR	0.06	12.5	B	WB	LR	0.07	12.5	B	WB	LR	0.07	12.6	B	WB	LR	0.10	12.8	B	
	NB	T	0.42	12.6	B	NB	T	0.72	19.6	B	NB	T	0.78	21.9	C	NB	T	0.78	21.9	C	
	SB	T	0.26	10.6	B	SB	T	0.28	10.8	B	SB	T	0.55	14.3	B	SB	T	0.59	15.1	B	
Wythe Avenue @ Williamsburg St W.	WB	LTR	0.43	10.9	B	WB	LTR	0.48	11.6	B	WB	LTR	0.61	13.6	B	WB	LTR	0.61	13.6	B	
	SB	T	0.36	37.7	D	SB	T	0.38	38.1	D	SB	T	0.60	43.3	D	SB	T	0.76	50.5	D	
	SB	R	0.18	35.0	C	SB	R	0.20	35.4	D	SB	R	0.56	44.6	D	SB	R	0.70	52.0	D	
Wythe Avenue @ Williamsburg St E.	EB	TR	0.38	31.5	C	EB	TR	0.38	31.5	C	EB	TR	0.57	34.8	C	EB	TR	0.57	34.8	C	
	SB	L	0.24	12.9	B	SB	L	0.26	13.0	B	SB	L	0.23	12.7	B	SB	L	0.32	13.8	B	
	SB	LT	0.21	12.4	B	SB	LT	0.21	12.4	B	SB	LT	0.34	13.9	B	SB	LT	0.36	14.2	B	
Unsignalized Intersections																					
Unsignalized Intersections	**No-Action AM Peak Hour**					**With-Action AM Peak Hour**					**No-Action PM Peak Hour**					**With-Action PM Peak Hour**					
	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	Approach	Lane Group	V/C Ratio	Delay (sec/veh)	LOS	
Wythe Avenue @ Wilson Street	NB	LT	0.01	8.4	A	NB	LT	0.01	8.7	A	NB	LT	0.01	9.7	A	NB	LT	0.02	11.2	B	
Kent Avenue @ Rodney Street	WB	R	0.04	10.2	B	WB	R	0.04	11.0	B	WB	R	0.08	13.6	B	WB	R	0.08	13.6	B	
Wythe Avenue @ Rodney Street	NB	LT	0.01	8.4	A	NB	LT	0.01	8.7	A	NB	LT	0.04	18.1	C	NB	LT	0.06	24.8	C	
Wythe Avenue @ Taylor Street	EB	LR	0.01	10.7	B	EB	LR	0.01	11.0	B	EB	LR	0.01	12.3	B	EB	LR	0.02	14.2	B	
Kent Avenue @ Keap Street	SB	LT	0.03	8.4	A	SB	LT	0.03	8.9	A	SB	LT	0.09	9.9	A	SB	LT	0.09	9.9	A	
Wythe Avenue @ Hooper Street	NB	LT	0.03	12.8	B	NB	LT	0.03	14.1	B	NB	LT	0.03	21.8	C	NB	LT	0.03	26.7	D	
Kent Avenue @ Hewes Street	WB	R	0.06	9.8	A	WB	R	0.12	10.5	B	WB	R	0.02	11.6	B	WB	R	0.02	11.6	B	

Notes:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right
* - Denotes a significant adverse impact based on *CEQR Technical Manual* criteria

Curb Lane Closures and Staging

Construction staging would most likely occur on the Project Site and may extend within portions of sidewalks, curbs and travel lanes of public streets adjacent to the Project Site. Similar to many other construction projects in New York City, temporary curb lane and sidewalk closures are expected to be required adjacent to the Project Site, which would have dedicated gates, driveways, or ramps for delivery vehicle access. As the Proposed Project is still in the preliminary design/approval phase, detailed construction staging plans have not yet been finalized. It is anticipated, however, that construction activity would mostly take place within the Project Site itself, and perhaps within portions of the adjacent Division Avenue. Flag persons are expected to be present at active project site driveways, where needed, to manage the access and movement of trucks to ensure no on-street queuing. Some of the site deliveries may also occur along the

perimeter of the construction site within delineated closed-off areas for concrete pour or steel delivery.

Maintenance and protection of traffic (MPT) plans would be developed for any required temporary sidewalk, lane, and/or street closures to ensure the safety of the construction workers and the public passing through the area, and to ensure that traffic and pedestrian flow along critical travel arteries is not interrupted, especially in peak travel periods. Approval of these plans and implementation of any closures would be coordinated with DOT-OCMC. Although the specific measures that would be needed for construction of the Proposed Project are not yet known, it is anticipated that measures specified in the MPT plans would likely include parking lane closures, safety signs, safety barriers, and construction fencing.

Transit

As discussed above and shown in **Table 18-5**, in the Q4 to Q7 peak construction period, approximately 493 construction workers would travel to and from the Project Site each day. As also discussed above, a total of approximately 18.4 percent of construction workers are expected to travel to and from the project site by public transit (subway or bus). In addition, it is estimated that approximately 80 percent of all construction workers would arrive and depart in the peak hour before and after each shift. Therefore, it is estimated that approximately 91 construction workers would travel to and from the Project Site via public transit each day, and that approximately 73 of these trips would occur in each of the 6:00 AM – 7:00 AM and 3:00 PM – 4:00 PM construction peak hours. These construction worker trips, which would occur outside of the peak periods for overall transit ridership, would be distributed among nearby subway stations (24 trips) and bus routes (49 trips).

As peak transit demand from construction workers on the Project Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed subway analysis, nor the 50 trips/hour/direction analysis threshold for a detailed bus analysis, significant adverse impacts to subway and bus services are not expected to occur in the construction peak hour during the Q4 to Q7 peak construction period.

Pedestrians

As discussed previously, a total of approximately 18.4 and 2.5 percent of construction workers are expected to travel to and from the project site by public transit (subway or bus) and walk-only modes, respectively. In addition, it is estimated that approximately 80 percent of all construction workers would arrive and depart in the peak hour before and after each shift. Therefore, it is estimated that approximately 83 construction worker pedestrian trips (transit and walk-only modes combined) would occur in each of the 6:00 AM – 7:00 AM and 3:00 PM – 4:00 PM construction peak hours.

Therefore, peak pedestrian demand from construction workers on the Project Site would not meet the 200 trips/hour *CEQR Technical Manual* analysis threshold for a detailed pedestrian analysis, and significant adverse pedestrian impacts are not expected to occur during the Q4 to Q7 peak

construction period. During construction, if sidewalk closures are required, adequate protection or temporary sidewalks would be provided in accordance with DOT-OCMC requirements.

Parking

Of the estimated 493 construction workers who would travel to the Project Site during the Q4 to Q7 peak construction period, approximately 79.1 percent are expected to travel to the Project Site by private auto. Based on an average auto occupancy of 1.33 persons per auto, the maximum daily parking demand from project site construction workers would total approximately 293 spaces during the 7:00 AM – 8:00 AM period. As it is assumed that parking spaces would be provided on-site during the Q4 to Q7 peak construction period, the site-generated parking demand would be accommodated on-site. Therefore, the Proposed Action is not expected to result in significant adverse parking impacts during the Q4 to Q7 peak construction period.

Air Quality

The construction activities under the Proposed Actions would require the use of both non-road construction equipment and on-road vehicles. Non-road construction equipment includes equipment operating on-site, such as cranes, loaders, and excavators. On-road vehicles include worker vehicles and construction trucks arriving to and departing from the construction site as well as operating on-site.

Emissions from non-road construction equipment and on-road vehicles have the potential to affect air quality. In addition, emissions from dust-generating construction activities (i.e., truck loading and unloading operations) also have the potential to affect air quality. A quantitative analysis of the overall combined impact of both non-road and on-road sources of construction-related air emissions, including dust emissions, was performed to determine the potential for significant adverse impacts from these sources of air emissions generated during construction of the Proposed Action.

In general, much of the heavy equipment used in construction is powered by diesel engines that have the potential to produce relatively high levels of nitrogen oxides (NO_x) and particulate matter (PM) emissions. Dust generated by construction activities is also a source of PM. Gasoline engines produce relatively high levels of carbon monoxide (CO). Since the United States Environmental Protection Agency (EPA) mandates the use of ultra-low sulfur diesel (ULSD) fuel for all highway and non-road diesel engines, sulfur oxides (SO_x) emitted from the Proposed Actions' construction activities would be negligible. Therefore, the pollutants to be analyzed for the construction period are nitrogen dioxide (NO_2)—which is a component of NO_x (a regulated pollutant), particles with an aerodynamic diameter of less than or equal to 10 micrometers (PM_{10}), particles with an aerodynamic diameter of less than or equal to 2.5 micrometers ($PM_{2.5}$), and carbon monoxide (CO). **Table 18-9** shows the pollutants to be analyzed in the detailed construction air quality analysis and the corresponding averaging periods.

Table 18-9:
Pollutants for Analysis and Averaging Periods

Pollutant	Averaging Period
$PM_{2.5}$	24-hour
	Annual Local and Neighborhood
PM_{10}	24-hour
NO_2	Annual
CO	1-hour
	8-hour

DETERMINING THE SIGNIFICANCE OF AIR QUALITY IMPACTS

As required by the Clean Air Act (CAA), primary and secondary National Ambient Air Quality Standards (NAAQS) have been established for six major air pollutants: CO, NO_2, ozone, PM_{10}, $PM_{2.5}$, sulfur dioxide (SO_2), and lead. The primary standards represent levels deemed appropriate to protect public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment.

The State Environmental Quality Review Act (SEQRA) regulations and *CEQR Technical Manual* state that the significance of a predicted consequence of a project (i.e., whether it is material, substantial, large, or important) should be assessed in connection with its setting (e.g., urban or rural), its probability of occurrence, its duration, its irreversibility, its geographic scope, its magnitude, and the number of people affected. In terms of the magnitude of air quality impacts, any action predicted to increase the concentration of a criteria air pollutant to a level that would exceed the concentrations defined by the NAAQS (see **Table 18-10**) for the pollutants identified for analysis would be deemed to have a potential significant adverse impact.

Table 18-10: National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m3	ppm	µg/m3
Carbon Monoxide (CO)				
8-Hour Average	9(1)	10,000		
1-Hour Average	35(1)	40,000	None	
Nitrogen Dioxide (NO2)				
1-Hour Average(1)	0.100	188	None	
Annual Average	0.053	100	0.053	100
Respirable Particulate Matter (PM10)				
24-Hour Average(2)	NA	150	NA	150
Fine Respirable Particulate Matter (PM2.5)				
Annual Mean(3)	NA	12	NA	15
24-Hour Average(4)	NA	35	NA	35

Notes: ppm – parts per million (unit of measure for gases only)
µg/m3 – micrograms per cubic meter (unit of measure for gases and particles, including lead)
NA – not applicable
All annual periods refer to calendar year.
Standards are defined in ppm. Approximately equivalent concentrations in µg/m3 are presented.
(1) 3-year average of the annual 98th percentile daily maximum 1-hr average concentration.
(2) Not to be exceeded more than once a year.
(3) 3-year average of annual mean.
(4) Not to be exceeded by the annual 98th percentile when averaged over 3 years.
Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.

EMISSIONS REDUCTION MEASURES

Construction activity in general, and large-scale construction in particular, has the potential to adversely affect air quality as a result of diesel emissions. Measures would be taken to reduce pollutant emissions during construction in accordance with all applicable laws, regulations, and building codes. In addition, contractors would be required under contract specifications to implement an emissions reduction program to minimize the air quality effects from construction of the Proposed Actions, consisting of the following components:

- *Dust Control.* To minimize dust emissions from construction activities, a dust control plan including a robust watering program would be required. For example, all trucks hauling loose material would be equipped with tight-fitting tailgates and their loads securely covered prior to leaving the Project Site; and water sprays would be used for all demolition, excavation, and transfer of soils so that materials would be dampened as necessary to avoid the suspension of dust into the air. Stockpiled soils or debris would be watered, stabilized with a chemical suppressing agent, or covered. All measures required by DEP's *Construction Dust Rules* regulating construction-related dust emissions would be implemented.
- *Idling Restriction.* In addition to adhering to the local law restricting unnecessary idling on roadways, on-site vehicle idle time would be restricted to three minutes for all equipment and vehicles that are not using their engines to operate a loading, unloading, or processing device (e.g., concrete mixing trucks) or are otherwise required for the proper operation of the engine.
- *Clean Fuel*. ULSD fuel would be used exclusively for all diesel engines throughout the Project Site.

- *Diesel Equipment Reduction*. In accordance with the New York City Noise Control Code as discussed below, under "Noise," electrically powered equipment would be preferred over diesel-powered and gasoline-powered versions of that equipment to the extent practicable. Equipment that would use grid power in lieu of diesel engines includes, but may not be limited to, hoists and small equipment (such as welders).
- *Utilization of Newer Equipment.* EPA's Tier 1 through 4 standards for non-road diesel engines regulate the emission of criteria pollutants from new engines, including PM, CO, NO_x, and hydrocarbons. To the extent practicable, all diesel-powered non-road construction equipment 50 horsepower (hp) or greater would meet at least the Tier 3[1] emissions standard.
- *Best Available Tailpipe Reduction Technologies*. Non-road diesel engines with a power rating of 50 hp or greater and controlled truck fleets (i.e., truck fleets under long-term contract with the project) including but not limited to concrete mixing and pumping trucks would utilize the best available tailpipe (BAT) technology for reducing diesel particulate matter (DPM) emissions. Diesel particulate filters (DPFs) have been identified as being the tailpipe technology currently proven to have the highest reduction capability. Construction contracts would specify that all diesel non-road engines rated at 50 hp or greater would utilize DPFs, either installed by the original equipment manufacturer or retrofitted. Retrofitted DPFs must be verified by EPA or the California Air Resources Board. Active DPFs or other technologies proven to achieve an equivalent reduction may also be used. The use of DPFs for diesel engines meeting the Tier 3 emissions standard achieves similar emission reductions as the newer Tier 4 particulate matter emission standard.

Overall, this emissions reduction program is expected to substantially reduce diesel emissions.

ON-SITE CONSTRUCTION ACTIVITY ASSESSMENT`

Analysis Periods

To determine which construction periods constitute the worst-case periods for the pollutants of concern (PM, CO, NO_2), construction-related emissions were calculated for each calendar year throughout the duration of construction on a rolling annual and peak day basis for $PM_{2.5}$. $PM_{2.5}$ was selected for determining the worst-case periods for all pollutants analyzed, because the ratio of predicted $PM_{2.5}$ incremental concentrations to impact criteria is anticipated to be higher than for other pollutants. Therefore, initial estimates of $PM_{2.5}$ emissions throughout the construction years were used for determining the worst-case periods for analysis of all pollutants. Generally, emission patterns of PM_{10} and NO_2 would follow $PM_{2.5}$ emissions, since they are related to diesel engines by horsepower. CO emissions may have a somewhat different pattern but would also be anticipated to be highest during periods when the most activity would occur.

[1] The first federal regulations for new non-road diesel engines were adopted in 1994, and adopted by EPA into regulation in a 1998 Final Rulemaking. The 1998 regulation introduces Tier 1 emissions standards for all equipment 50 hp and greater and phases in the increasingly stringent Tier 2 and Tier 3 standards for equipment manufactured in 2000 through 2008. In 2004, the EPA introduced Tier 4 emissions standards with a phased-in period of 2008 to 2015. The Tier 1 through 4 standards regulate the EPA criteria pollutants, including PM, hydrocarbons (HC), NO_x and carbon monoxide (CO). Prior to 1998, emissions from non-road diesel engines were unregulated. These engines are typically referred to as Tier 0.

Based on the resulting multi-year profiles of annual average and peak day average emissions of $PM_{2.5}$ and the proximity of the construction activities to sensitive uses (i.e., residences, ball fields) in the area, May 2025 and the 12-month period from February 2025 to January 2026 were identified as worst-case short-term and annual periods of construction, respectively, since the highest project-wide emissions were predicted in these periods. During the worst-case short-term period, excavation and foundation activities associated with the Proposed Actions are anticipated to occur. During the worst-case annual period, bulkhead sheeting, excavation and foundation activities associated with the Proposed Actions are anticipated to occur.

Dispersion of the relevant air pollutants from the construction sites during these periods were analyzed. Broader conclusions regarding potential concentrations during non-peak periods are discussed qualitatively, based on the reasonable worst-case analysis period results.

Engine Emissions

The sizes, types, and number of units of construction equipment was estimated based on the construction activity schedule developed for the Proposed Actions. Emission rates for NO_x, CO, PM_{10}, and $PM_{2.5}$ from truck engines was developed using the EPA Motor Vehicle Emission Simulator (MOVES3) emission model. Emission factors for NO_x, CO, PM_{10}, and $PM_{2.5}$ from on-site construction engines were developed using the NONROAD emission module included in the MOVES emission model. The emission factor calculations took into account any emissions reduction measures as described above, under "Emissions Reduction Measures," that would be required for the Proposed Actions.

On-Site Dust Emissions

In addition to engine emissions, dust emissions from operations (e.g., excavation and transferring of excavated materials into dump trucks) was calculated based on EPA procedures delineated in AP-42 Table 13.2.3-1. Since construction is required to follow DEP's *Construction Dust Rules* regarding construction-related dust emissions, a 50 percent reduction in particulate emissions from fugitive dust was conservatively assumed in the calculation (dust control methods, such as wet suppression, would often provide at least a 50 percent reduction in particulate emissions).

Dispersion Modeling

Potential impacts from the construction sources associated with the Proposed Actions were evaluated using a refined dispersion model, the EPA/AMS AERMOD dispersion model. AERMOD is a state-of-the-art dispersion model, applicable to rural and urban areas, flat and complex terrain, surface and elevated releases, and multiple sources (including point, area, and volume sources). AERMOD is a steady-state plume model that incorporates current concepts about flow and dispersion in complex terrain and includes updated treatments of the boundary layer theory, understanding of turbulence and dispersion, and handling of terrain interactions.

Source Simulation

For short-term model scenarios (predicting concentration averages for periods of 24 hours or less), all stationary sources—such as compressors and generators, which are expected to operate in a single location—were simulated as point sources. Other engines, such as excavators and loaders, which would move around the site on any given day, were simulated as area sources. All sources would move around the site throughout the year and were therefore simulated as area sources in the annual analyses.

Meteorological Data

The meteorological data set consists of five consecutive years of meteorological data: surface data collected at the LaGuardia Airport National Weather Service Station (2017 to 2021), and concurrent upper air data collected at Brookhaven, New York. The meteorological data provide hour-by-hour wind speeds and directions, stability states, and temperature inversion elevation over the five-year period. These data were processed using the EPA AERMET program to develop data in a format which can be readily processed by the AERMOD model. The land uses around the site where meteorological surface data were available was classified using categories defined in digital United States Geological Survey (USGS) maps.

Background Concentrations

To estimate the maximum expected total pollutant concentrations, the calculated impacts from the emission sources must be added to a background value that accounts for existing pollutant concentrations from other sources. The background levels were based on concentrations monitored at the nearest New York State Department of Environmental Conservation (NYSDEC) ambient air monitoring stations. **Table 18-11** shows the existing background levels that are based on concentrations monitored at the nearest NYSDEC ambient air monitoring stations. Data from 2017 to 2019 is proposed for use due to uncertainties in the representativeness of background concentrations in 2020 and 2021 due to the effects of COVID-19.

Table 18-11: Representative Monitored Ambient Air Quality Data

Pollutant	Location	Units	Averaging Period	Concentration	NAAQS
CO	Queens College	ppm	1-hour	1.72	35
			8-hour	1.2	9
PM_{10}	Division Street	$\mu g/m^3$	24-hour	39.3	150
$PM_{2.5}$	JHS 126	$\mu g/m^3$	Annual (1)	9.0	12
			24-hour (2)	17.8	35
NO_2	Queens College Near Road	$\mu g/m^3$	Annual (3)	16.7	100

Notes:
(1) The annual value is based on a three-year average (2017–2019) of annual concentrations.
(2) The 24-hour value is based on the three-year average of the 98th percentile of 24-hour average concentrations.
(3) The annual value is based on the highest annual concentration over the most recent three years (2017–2019).
Source: NYSDEC, New York State Ambient Air Quality Data.

Receptor Locations

Receptors were placed at locations that would be publicly accessible, at adjacent sidewalk locations as well as residential, ball fields, publicly accessible open spaces, and other sensitive uses at both ground level and elevated locations.

ON-ROAD SOURCES

Since emissions from on-site construction equipment and on-road construction-related vehicles may contribute to concentration increments concurrently, on-road emissions adjacent to the construction sites was included with on-site emissions in the dispersion analysis (in addition to on-site truck and non-road engine activity) to address all local project-related emissions cumulatively.

On-Road Vehicle Emissions

Vehicular engine emission factors were computed using the EPA mobile source emissions model, MOVES3.[2] This emissions model is capable of calculating engine emission factors for various vehicle types, based on the fuel type (gasoline, diesel, or natural gas), meteorological conditions, vehicle speeds, vehicle age, roadway type and grade, number of starts per day, engine soak time, inspection and maintenance programs and various other factors that influence emissions. The inputs and use of MOVES incorporate the most current resource available from DEC.

On-Road Dust Emissions

$PM_{2.5}$ emission rates were determined with road dust to account for their impacts. However, road dust was not included in the annual average $PM_{2.5}$ microscale analyses, as per current *CEQR Technical Manual* guidance used for mobile source analysis. Road dust emission factors were calculated according to the latest procedure delineated by EPA.[3] An average weight of 20 tons and 2.8 tons was assumed for construction trucks and worker vehicles in the analyses, respectively.

CONSTRUCTION AIR QUALITY ANALYSIS RESULTS

Maximum predicted concentrations during the representative worst-case construction periods for the Proposed Actions are presented in **Table 18-12**. To estimate the maximum total pollutant NO_2, CO, and PM_{10} concentrations, the modeled concentrations from the Proposed Actions were added to a background value that accounts for existing pollutant concentrations from other nearby sources. As shown in **Table 18-12**, the maximum predicted total concentrations of NO_2, CO, and PM_{10} are below the applicable NAAQS. In addition, the maximum predicted $PM_{2.5}$ concentrations would not exceed the applicable *CEQR Technical Manual de minimis* thresholds in the 24-hour

[2] EPA, Motor Vehicle Emission Simulator (MOVES), User Guide for MOVES2014a, November 2015. Overview of EPA's Motor Vehicle Emission Simulator (MOVES3). EPA-420-R-21-004. March 2021. There is no stand-alone user's guide for MOVES3 as information is incorporated into the interface.

[3] EPA, Compilations of Air Pollutant Emission Factors AP-42, Fifth Edition, Volume I: Stationary Point and Area Sources, Ch. 13.2.1, NC, http://www.epa.gov/ttn/chief/ap42, January 2011.

and annual averaging periods.[4] Emissions from the other less intensive construction periods would be less than the emissions during the modeled worst-case periods; therefore, the resulting concentrations from these non-peak periods are expected to be less than the concentrations presented in **Table 18-12**. Therefore, construction under the Proposed Action would not result in significant adverse air quality impacts due to construction sources.

Table 18-12: Maximum Pollutant Concentrations

Pollutant	Averaging Period	Units	Maximum Modeled Impact	Background Concentration(1)	Total Concentration	*De miminis*	NAAQS
NO_2	Annual	µg/m^3	12.7	16.8	29.5	-	100
CO	1-hour	ppm	9.6	1.7	11.3	-	35
	8-hour	ppm	1.5	1.2	2.7	-	9
PM_{10}	24-hour	µg/m^3	3.6	39.3	42.9	-	150
$PM_{2.5}$	24-hour	µg/m^3	1.3	17.8	19.1	8.6	-
	Annual—Local	µg/m^3	0.18	9.0	9.2	0.3	-
	Annual—Neighborhood	µg/m^3	0.004	9.0	9.0	0.1	-

Notes:
N/A—Not Applicable
[1] The background levels are based on the most representative concentrations monitored at DEC ambient air monitoring stations (see **Table 18-11**).

Noise

Construction under the Proposed Action has the potential to result in noise impacts generated by the operation of construction equipment on construction sites and construction-related vehicles traveling to and from the construction work area on adjacent roadways. The potential for noise impacts due to the construction under the Proposed Action is discussed below.

Sound Level Descriptors

Chapter 15, "Noise," defines the sound level descriptors. The $L_{eq(1)}$ is the noise descriptor recommended for use in the *CEQR Technical Manual* for vehicular traffic and construction noise impact evaluation, and is used to provide an indication of highest expected sound levels. The 1-hour L_{10} is used in the *CEQR Technical Manual* noise exposure guidelines. The maximum 1-hour equivalent sound level ($L_{eq(1)}$) and maximum 1-hour L_{10} were selected as the noise descriptors used in the construction noise impact evaluation.

Construction Noise Analysis Fundamentals

Construction activities increase noise levels as a result of (1) the operation of construction equipment on site; and (2) the movement of construction-related vehicles (i.e., worker trips, and material and equipment trips) on the roadways to and from the construction site. The combined effect of each of these noise sources was evaluated.

[4] The *CEQR Technical Manual* 24-hour $PM_{2.5}$ *de minimis* criterion is equal to half the difference between the 24-hour background concentration (17.8 µg/m^3) and the 24-hour standard (35 µg/m^3).

Noise from the on-site operation of construction equipment at a specific receptor location near a construction site is generally calculated by computing the sum of the noise produced by all pieces of equipment operating at the construction site. For each piece of equipment, the noise level at a receptor location is a function of the following:

- The noise emission level of the equipment;
- A usage factor, which accounts for the percentage of time the equipment is operating at full power;
- The distance between the piece of equipment and the receptor;
- Topography and ground effects; and
- Shielding.

Similarly, noise levels due to construction-related traffic are a function of the following:

- The noise emission levels of the type of vehicle (e.g., auto, light-duty truck, heavy-duty truck, bus, etc.);
- Volume of vehicular traffic on each roadway segment;
- Vehicular speed;
- The distance between the roadway and the receptor;
- Topography and ground effects; and
- Shielding.

Construction Noise Analysis Methodology

A detailed modeling analysis was conducted to quantify potential construction noise effects at existing noise receptors (e.g., residences, schools, etc.) near the Project Area. The construction noise methodology involves the following process:

1. *Select analysis hours for construction mobile source noise analysis.* The 6:00 AM to 7:00 AM hour was selected as the analysis hour because this would be the hour when the highest number of construction worker auto and construction truck trips to and from the construction site would simultaneously occur.
2. *Conduct construction mobile source noise analysis.* At each of the roadway segments analyzed for construction traffic, the construction worker vehicle and construction truck trips during the analysis hour were converted to Noise Passenger Car Equivalents (PCEs) and compared to the existing level of Noise PCEs to determine whether there would be a potential doubling at any noise receptor, which would result in an exceedance of CEQR construction noise screening thresholds (i.e., a 3 dBA increase in noise levels).
3. *Select analysis hours for cumulative on-site equipment and construction truck noise analysis*. The 7:00 AM to 8:00 AM hour was selected as the analysis hour because this would be the hour when the highest number of truck trips to and from the construction site would overlap with on-site equipment operation.

4. *Select receptor locations for cumulative on-site equipment and construction truck noise analysis.* Selected receptors represent open space, residential, commercial office, or other noise-sensitive uses potentially affected by the construction associated with the Proposed Action during operation of on-site construction equipment and/or along routes taken to and from the Project Site by construction trucks.
5. *Establish existing noise levels at selected receptors.* Existing noise levels from the operational noise analysis were used as a baseline for comparison to projected construction noise levels. The existing noise levels at noise receptors other than the selected noise measurement locations were established using the CadnaA model along with existing condition traffic information.
6. *Establish worst-case noise analysis periods under the anticipated construction schedule.* The worst-case noise analysis periods were selected to be the periods during the construction schedule that would be expected to have the greatest potential to result in construction noise effects. The selected time periods are described below in the "Analysis Periods" section.
7. *Calculate construction noise levels for each analysis period at each receptor location*. Given the on-site equipment and construction truck trips expected during each of the analysis periods, and the location of the equipment, which is based on construction logistics diagrams and construction truck and worker vehicle trip assignments, a CadnaA model for each analysis period was created. All models include each of the construction noise sources during the analysis period and hour, calculation points representing multiple locations on various façades and floors of the associated receptors previously identified, as well as the noise control measures that would be used on the construction site.
8. *Determine total noise levels and noise level increments during construction.* For each analysis period and each noise receptor, the calculated level of construction noise was logarithmically added to the existing noise level to determine the cumulative total noise level. The existing noise level at each receptor was arithmetically subtracted from the cumulative noise level in each analysis period to determine the noise level increments.
9. *Compare construction noise increments to impact criteria*. For each analysis period and each noise receptor, the predicted noise increments due to construction was compared to CEQR noise impact thresholds and additional incremental noise impact criteria as described below.
10. *Establish construction noise duration*. For each receptor, the noise level increments in each analysis period were evaluated to determine the duration during construction that the receptor would experience exceedances of impact criteria.
11. *Identify potential construction noise impacts.* At each existing receptor where exceedances of construction noise impact criteria were predicted, a determination was made as to whether the Proposed Action would have the potential to result in significant adverse construction noise impacts.

Construction Mobile Source Analysis

A Noise PCE screening analysis was conducted for noise levels from construction mobile sources. At noise receptor sites along roadways leading to and from the proposed construction work areas, the construction worker vehicle and construction truck trips during the analysis hour were converted to Noise PCEs and compared to the existing level of Noise PCEs to determine whether there would be the potential for an increase that would result in an exceedance of the construction

noise impact criteria (i.e., a 15 dBA increase in noise levels). The 6:00 AM to 7:00 AM hour was selected as the analysis hour because this would be the hour when the highest number of worker vehicle and construction truck trips to and from the construction site would occur.

Construction truck trips that would occur during the construction workday (i.e., after 7:00 AM) were included in the modeling of construction noise as discussed below.

Noise Receptor Sites

A noise-sensitive receptor is defined in Chapter 19, "Noise," Section 124 of the *CEQR Technical Manual* and includes indoor receptors such as residences, hotels, health care facilities, nursing homes, schools, houses of worship, court houses, public meeting facilities, museums, libraries, theaters, and commercial offices. Outdoor sensitive receptors include parks, outdoor theaters, golf courses, zoos, campgrounds, and beaches.

Within the study area, multiple receptor locations close to the construction areas were selected for the construction noise analysis to represent buildings or noise-sensitive open space locations that have the potential to experience elevated noise as a result of construction. These receptors were located adjacent to planned areas of activity or streets where construction trucks would pass. At some buildings, multiple façades were analyzed as receptors. At high-rise buildings, noise receptors at multiple elevations were analyzed. Receptors at street level were used to represent open space locations. The receptor sites selected for detailed analysis represented locations where maximum project effects due to construction noise would be expected.

Within the study area, 110 receptor locations were selected for the construction noise analysis. **Table 18-13** lists the noise measurement sites (i.e., site M2) as well as the noise receptor sites (i.e., sites 1 to 110) and the associated land use at these sites.

Construction Noise Modeling

Noise effects from construction activities were evaluated using the CadnaA model, a computerized model developed by DataKustik for noise prediction and assessment. The model can be used for the analysis of a wide variety of noise sources, including stationary sources (e.g., construction equipment, industrial equipment, power generation equipment), transportation sources (e.g., roads, highways, railroad lines, busways, airports), and other specialized sources (e.g., sporting facilities). The model takes into account the reference sound pressure levels of the noise sources at 50 feet, attenuation with distance, ground contours, reflections from barriers and structures, attenuation due to shielding, etc. The CadnaA model is based on the acoustic propagation standards promulgated in International Standard ISO 9613-2. This standard is currently under review for adoption by the American National Standards Institute (ANSI) as an American Standard. The CadnaA model is a state-of-the-art tool for noise analysis and is approved for construction noise level prediction by the *CEQR Technical Manual*.

Geographic input data used with the CadnaA model included site work areas, adjacent building footprints and heights, locations of streets, and locations of sensitive receptors. For each analysis period, the approximate geographic location and operational characteristics—including equipment

usage rates (percentage of time operating at full power) for each piece of construction equipment operating at the Project Site, as well as noise control measures—were input to the model.

Table 18-13: Noise Receptors by Location and Land Use

Receptor	Location	Block / Lot	Associated Land Use
M2	Kent Avenue	N/A	N/A
1	416 Kent Avenue	Block 2128 / Lot 5	Residential with Commercial Below
2-5	420 Kent Avenue	Block 2134 / Lot 56	Residential with Commercial Below
6, 7	446 Kent Avenue	Block 2134 / Lot 7501	Residential with Commercial Below
8, 9	450 Kent Avenue	Block 2134 / Lot 7502	Residential with Commercial Below
10-12	440 Kent Avenue	Block 2134 / Lot 7503	Residential
13	520 Wythe Avenue	Block 2135 / Lot 1	Residential
14, 15	19 South 11 Street	Block 2135 / Lot 103	Residential
16, 17	26 South 10 Street	Block 2135 / Lot 104	Residential
18, 19	22 South 9 Street	Block 2135 / Lot 7501	Residential
20-23	429 Kent Avenue	Block 2135 / Lot 7508	Residential with Commercial Below
24, 25	23 South 10 Street	Block 2135 / Lot 7509	Residential
26, 27	54 South 9 Street	Block 2145 / Lot 8	Residential
28, 29	440 Berry Street	Block 2145 / Lot 18	Residential
30, 31	481 Wythe Avenue	Block 2156 / Lot 5	Commercial and Office Buildings
32, 33	46 South 10 Street	Block 2156 / Lot 7	Residential
34, 35	49 South 11 Street	Block 2156 / Lot 124	Residential
36	77 Division Avenue	Block 2157 / Lot 37	Residential
37	73 Division Avenue	Block 2157 / Lot 40	Residential with Commercial Below
38-40	475 Kent Avenue	Block 2159 / Lot 1	Residential and Industrial
41-43	31 Division Avenue	Block 2159 / Lot 2	Public Facilities and Institutions
44, 45	45 Division Avenue	Block 2160 / Lot 17	Residential
46, 47	52 South 11 Street	Block 2160 / Lot 18	Residential
48	47 Division Avenue	Block 2160 / Lot 7502	Residential
49	513 Kent Avenue	Block 2163 / Lot 1	Open Space and Recreation
50-53	525 Kent Avenue	Block 2165 / Lot 7501	Residential
54-56	580 Wythe Avenue	Block 2165 / Lot 7502	Residential
57-59	570 Wythe Avenue	Block 2165 / Lot 7503	Residential
60-74	111 Clymer Street	Block 2166 / Lot 1	Residential with Commercial Below
75-77	63 Morton Street	Block 2166 / Lot 7501	Residential
78	557 Kent Avenue	Block 2167 / Lot 1	Open Space and Recreation
79, 80	91 Clymer Street	Block 2168 / Lot 7501	Residential
81	26 Juliana Place	Block 2168 / Lot 7501	Residential
82	16 Juliana Place	Block 2168 / Lot 7501	Residential
83	4 Juliana Place	Block 2168 / Lot 7501	Residential
84	56 Morton Street	Block 2168 / Lot 7501	Residential
85	23 Juliana Place	Block 2168 / Lot 7501	Residential
86	5 Juliana Place	Block 2168 / Lot 7501	Residential
87	64 Morton Street	Block 2168 / Lot 7501	Residential
88	60 Morton Street	Block 2168 / Lot 7501	Residential
89	105 Clymer Street	Block 2168 / Lot 7501	Residential
90	103 Clymer Street	Block 2168 / Lot 7501	Residential
91, 92	36 Clymer Street	Block 2171 / Lot 7501	Residential
93, 94	575 Kent Avenue	Block 2171 / Lot 7501	Residential
95	46 Clymer Street	Block 2171 / Lot 7501	Residential
96-100	83 Taylor Street	Block 2172 / Lot 1	Residential
101, 102	70 Clymer Street	Block 2175 / Lot 30	Residential
103	30 Taylor Street	Block 2175 / Lot 60	Residential
104	626 Wythe Avenue	Block 2175 / Lot 70	Residential
105	24 Taylor Street	Block 2175 / Lot 7501	Residential
106	585 Kent Avenue	Block 2175 / Lot 7501	Residential
107-110	73 Wilson Street	Block 2176 / Lot 1	Residential with Commercial Below

Construction equipment source strength was determined by the L_{max} levels presented in Table 22-1 of the *CEQR Technical Manual*. For construction equipment not included in this table, other reference sources, manufacturer specifications, or field measured noise levels were used.

In addition, construction-related vehicles were assigned to the adjacent roadways. The model calculated A-weighted $L_{eq(1)}$ noise levels at each receptor location for each analysis period, as well as the contribution from each noise source. The $L_{10(1)}$ noise levels were conservatively estimated by adding 3 dBA to the $L_{eq(1)}$ noise levels, as is standard practice.

Analysis Time Period Selection

The construction noise analysis estimated construction noise levels based on projected activity and equipment usage as well as the level of construction traffic for various stages of construction of the Proposed Action.

Based on the anticipated construction schedule and preliminary construction estimates developed for the Proposed Action, specific time periods during construction were selected for detailed analysis. The periods were selected to capture each major construction stage (e.g., excavation/foundation work, superstructure work, interior fit-out work) at the buildings to be constructed under the Proposed Action. These would be the time periods with the potential to result in the maximum incremental construction noise at nearby receptors (i.e., time periods when multiple buildings would be under construction using noisy equipment). The eight worst-case time periods selected for the detailed construction noise analysis are shown in **Table 18-14.**

Table 18-14: Construction Noise Analysis Time Periods

Months	Construction Activities during Analysis Period
January 2025	SOE/Pile Driving/Bulkhead Sheeting
February 2025	SOE/Pile Driving/Bulkhead Sheeting/Tower Excavation/Tower Foundation
March 2025	SOE/Pile Driving/Bulkhead Sheeting /Base Excavation/Base Foundation/Tower Excavation/Tower Foundation
April 2025	Base Excavation/Base Foundation//Tower Excavation/Tower Foundation
May 2025 – July 2025	Base Excavation/Base Foundation/ Base General Requirements/Tower Structural/Tower General Requirements
August 2025 – December 2025	MEP/Interior Fit-Out/Base Structural/Base General Requirements/Tower Structural/Tower General Requirements
January 2026 – June 2026	MEP/Interior Fit-Out/Base General Requirements/Tower Structural/Tower General Requirements
July 2026 – October 2026	MEP/Interior Fit-Out/Sitework/ Tower General Requirements

Construction Noise Impact Criteria

Chapter 22 of the *CEQR Technical Manual* breaks construction duration into "short-term" and "long-term" and states that construction noise is not likely to require analysis unless it "affects a sensitive receptor over a long period of time." Consequently, the construction noise analysis considers the potential for construction of a project to create high noise levels (the "intensity"), whether construction noise would occur for an extended period of time (the "duration"), and the

locations where construction has the potential to produce noise ("receptors") in evaluating potential construction noise effects.

The noise impact criteria described in Chapter 19, Section 410 of the *CEQR Technical Manual* serve as a screening-level threshold for potential construction noise impacts. If construction of the proposed project would not result in any exceedances of these criteria at a given receptor, then that receptor would not have the potential to experience a construction noise impact. If noise levels at a given receptor are predicted to exceed the screening criteria, further consideration of the intensity and duration of construction noise at that receptor would be warranted. Noise level increases that would be considered objectionable (i.e., equal to or greater than 15 dBA) lasting 12 consecutive months or more and noise level increases considered very objectionable (i.e., equal to or greater than 20 dBA)[5] lasting three months or more would be considered significant impacts. For receptors representing interior spaces (i.e., not open space) that are predicted to experience construction noise exceeding the incremental increase and duration criteria described above, and where the façade attenuation can be determined based on readily available information, interior noise levels may also be considered in the determination of impact significance. Portions of the construction period during which predicted interior noise levels would be in the acceptable range (i.e., not greater than 45 dBA for residential and community facility uses or not greater than 50 dBA for commercial office uses), would not be counted toward the consecutive duration of construction noise impact as described above. The consideration of interior noise levels is discussed only for receptors at which it would change the determination of impact significance.

Evaluation of Construction Noise Levels

The predicted exterior noise level increments during construction under the Proposed Action at the analyzed receptor sites were compared to the construction noise impact thresholds described above. At the noise-sensitive receptors that experience exceedances of these thresholds during the analysis periods as determined above, the duration of exceedance of each impact threshold was determined. The significance of exceedances was determined based on the predicted magnitude and duration of the construction noise at these locations according to the criteria described above. Based on the incremental noise level increase, overall exterior noise levels for each analysis period were also determined.

Noise Reduction Measures

Construction under the Proposed Action would be required to follow the requirements of the *New York City Noise Control Code* (also known as Chapter 24 of the *Administrative Code of the City of New York,* or Local Law 113) for construction noise control measures. Additionally, construction under the Proposed Action would incorporate some noise control measures that go beyond those required by Code. Specific noise control measures would be incorporated in noise mitigation plan(s) required under the *New York City Noise Control Code.* These measures could include a variety of source and path controls.

[5] Definition of "objectionable" and "very objectionable" noise level increases based on Table B from New York State Department of Environmental Conservation Assessing and Mitigating Noise Impacts policy manual, revised February 2001.

In terms of source controls (i.e., reducing noise levels at the source or during the most sensitive time periods), the following source controls included under New York regulations would be implemented:

- Equipment that meets the sound level standards specified in Subchapter 5 of the *New York City Noise Control Code* would be utilized from the start of construction. **Table 18-15** shows the noise levels for typical construction equipment that would be used for construction under the Proposed Action.
- As early in the construction period as logistics would allow, diesel- or gas-powered equipment would be replaced with electrical-powered equipment such as welders, water pumps, bench saws, and table saws (i.e., early electrification) to the extent feasible and practicable. Where electrical equipment cannot be used, diesel or gas-powered generators and pumps would be located within buildings to the extent feasible and practicable.
- Where feasible and practicable, construction sites would be configured to minimize back-up alarm noise. In addition, all trucks would not be allowed to idle more than 3 minutes at the construction site based upon Title 24, Chapter 1, Subchapter 7, Section 24-163 of the New York City Administrative Code.
- Contractors and subcontractors would be required to properly maintain their equipment and mufflers.

In terms of path controls (e.g., placement of equipment, implementation of barriers or enclosures between equipment and sensitive receptors), the following path controls included under New York regulations would be implemented:

- Where logistics allow, noisy equipment, such as cranes, concrete pumps, concrete trucks, and delivery trucks, would be located away from and shielded from sensitive receptor locations.
- Noise barriers constructed from plywood or other materials would be utilized to provide shielding (e.g., the construction sites would have a minimum 8-foot-tall barrier around the perimeter).
- Path noise control measures (i.e., portable noise barriers, panels, enclosures, and acoustical tents) for certain equipment as necessary to remain consistent with **Table 18-15**. The details to construct portable noise barriers, enclosures, tents, etc. are shown in DEP's *Rules for Citywide Construction Noise Mitigation*.[6]

Existing Noise Levels

As described in **Chapter 15, "Noise,"** a noise survey was conducted at two locations adjacent to the Project Site and adjusted to represent existing noise levels. The noise analysis results from the AM time period at Site 2, Kent Avenue, represent the analysis hour for cumulative on-site equipment and construction trucks. The results of the existing noise levels are summarized in **Table 18-15**. Roadway traffic was the dominant noise source at Site 2.

[6] As found at http://www.nyc.gov/html/dep/pdf/noise_constr_rule.pdf

Table 18-15: Typical Construction Equipment Noise Emission Levels (dBA)

Equipment List	Typical L_{max} Noise Level at 50 feet[1]
Bar Bender	80
Concrete Pump	82
Concrete Trowel	70[2]
Concrete Vibrator	76[3]
Crane (Mobile)	85
Dozer	85
Excavator	85
Forklift	64[4]
Front End Loader	80
Generator	82
Hoist	75
Impact Pile Driver	95
Jackhammer	85
Paver	85
Pumps	77
Scissor Lift	74
Vibratory Concrete Mixer	80
Welder / Torch	73

[1] Rules for Citywide Construction Noise Mitigation, Chapter 28, DEP, 2007, except where noted.
[2] Previous project equipment noise certification
[3] Federal Transit Administration, Report No. 0123 September 2018, Table 7-1 Construction Equipment Noise Emission Levels
[4] Forklift Noise Emission (Model 9000 Dan Truck)

Table 18-16: Existing Noise Levels (in dBA)

Site	Location	L_{eq}	L_{10}
M2	Kent Avenue	63.1	65.9

In terms of the *CEQR Technical Manual* criteria, noise levels at M2 are categorized as "marginally acceptable".

Construction Noise Analysis Results

CUMULATIVE ON-SITE AND MOBILE CONSTRUCTION NOISE SOURCES

Using the methodology described and considering the noise abatement measures specified above, cumulative noise analysis were performed to determine maximum noise levels that would be expected at each of the 110 noise receptor locations during each of the eight selected construction periods.

The full results of the detailed construction noise analysis are shown in the Construction Noise Appendix (**Appendix E**). The results of the detailed construction noise analysis are summarized in **Table 18-17**. Construction under the Proposed Action was not predicted to result in "very objectionable" noise level increments at any analysis receptors.

Table 18-17: Construction Noise Analysis Results in dBA

Receptor	Address	Existing L_{10}	Max Total L_{10}	Max Change in L_{10}	Maximum Continuous "Objectionable Increase" Duration (months)
1	416 Kent Avenue	57.2	60.7	3.5	0
2-5	420 Kent Avenue	68.6	69.5	3.9	0
6, 7	446 Kent Avenue	57.2	70.5	13.3	0
8, 9	450 Kent Avenue	68.9	70.3	11.4	0
10-12	440 Kent Avenue	58.6	69.7	12.5	0
13	520 Wythe Avenue	63.2	66.6	4.3	0
14, 15	19 South 11 Street	68.1	75.0	11.1	0
16, 17	26 South 10 Street	67.5	73.1	9.2	0
18, 19	22 South 9 Street	67.5	70.2	4.2	0
20-23	429 Kent Avenue	68.6	70.0	3.7	0
24, 25	23 South 10 Street	67.9	70.9	7.6	0
26, 27	54 South 9 Street	62.7	63.3	2.6	0
28, 29	440 Berry Street	63.4	63.7	1.7	0
30, 31	481 Wythe Avenue	68.7	69.3	5.0	0
32, 33	46 South 10 Street	68.2	68.6	1.2	0
34, 35	49 South 11 Street	63.1	68.4	6.0	0
36	77 Division Avenue	60.3	66.6	7.1	0
37	73 Division Avenue	68.9	69.4	3.5	0
38-40	475 Kent Avenue	68.5	78.5	18.5	3
41-43	31 Division Avenue	68.5	81.2	18.3	4
44, 45	45 Division Avenue	68.6	73.7	9.5	0
46, 47	52 South 11 Street	68.5	71.9	13.8	0
48	47 Division Avenue	63.2	73.4	11.4	0
49	513 Kent Avenue	64.1	77.7	13.6	0
50-53	525 Kent Avenue	68.7	78.5	17.1	2
54-56	580 Wythe Avenue	60.7	77.6	17.1	2
57-59	570 Wythe Avenue	60.6	76.5	16.0	2
60-74	111 Clymer Street	63.6	73.8	14.1	0
75-77	63 Morton Street	57.2	63.5	6.3	0
78	557 Kent Avenue	61.4	62.3	0.9	0
79, 80	91 Clymer Street	57.2	60.9	3.7	0
81	26 Juliana Place	57.2	65.6	8.4	0
82	16 Juliana Place	57.2	63.2	6.0	0
83	4 Juliana Place	57.2	63.0	5.8	0
84	56 Morton Street	57.2	63.5	6.3	0
85	23 Juliana Place	57.2	58.5	1.3	0
86	5 Juliana Place	57.2	60.6	3.4	0
87	64 Morton Street	57.2	65.6	8.4	0
88	60 Morton Street	57.2	62.9	5.7	0
89	105 Clymer Street	57.2	57.9	0.6	0
90	103 Clymer Street	57.2	58.6	1.4	0
91, 92	36 Clymer Street	69.0	70.2	3.3	0
93, 94	575 Kent Avenue	69.4	70.2	1.2	0
95	46 Clymer Street	62.4	67.0	4.6	0
96-100	83 Taylor Street	57.2	64.0	6.8	0
101, 102	70 Clymer Street	68.6	68.8	1.6	0
103	30 Taylor Street	68.8	68.9	0.3	0
104	626 Wythe Avenue	57.2	58.5	1.3	0
105	24 Taylor Street	64.5	66.9	2.4	0
106	585 Kent Avenue	69.8	70.6	0.8	0
107-110	73 Wilson Street	57.2	63.1	5.9	0

The noise levels shown in **Table 18-17** are maximum 1-hour L_{10} noise levels; however, noise levels resulting from construction typically fluctuate throughout the day and from day to day during each construction phase and would not be sustained at these maximum values. Additionally, noise levels expected to result from the construction under the Proposed Action would be comparable to those from typical construction sites in New York City involving a new building with concrete slab floors and foundation. Similarly, potential disruptions to adjacent residences and other receptors from elevated noise levels generated by construction would be expected to be comparable to those that would occur immediately adjacent to a typical New York City construction site during the portions of the construction period when the loudest activities would occur.

At some receptors, construction under the Proposed Action would result in increments that would exceed the CEQR construction noise screening thresholds and/or that would be considered objectionable (i.e., 15 dBA or greater). The potential for significant adverse impacts at these receptors was determined by evaluating the duration of these increments, as described below.

RECEPTORS EXPERIENCING "OBJECTIONABLE" INCREASES

At receptors 38 through 43 and 50 through 59, construction under the Proposed Action would result in noise level increases that would be perceptible to noticeable and at times, "objectionable," i.e., equal to or greater than 15 dBA. However, "objectionable" noise level increases at receptors 50 through 59 would only occur during two months of SOE/Pile Driving/Bulkhead Sheeting overlapping with excavation, "objectionable" noise level increases at receptors 38 through 40 would only occur during the three months of SOE/Pile Driving/Bulkhead Sheeting overlapping with excavation and foundation construction, and "objectionable" noise level increases at receptors 41 through 43 would only occur during the four months of SOE/Pile Driving/Bulkhead Sheeting and Excavation/Foundation construction. No receptor would experience "objectionable" noise level increases for 12 continuous months or longer. Consequently, while construction noise at these receptors would be perceptible, it would not rise to the level of a significant impact according to the impact criteria described above.

OTHER NEARBY RECEPTORS

At the remaining receptors, construction of the Proposed Action would, for some portion of the construction period, result in noise level increases that would be perceptible to noticeable. However, at these receptors, maximum noise level increases would not result in objectionable or very objectionable noise level increases. Consequently, while construction noise at these receptors may be perceptible at times, it would not rise to the level of a significant impact according to the impact criteria described above.

CONSTRUCTION MOBILE SOURCES (6:00 AM TO 7:00 AM)

Construction worker vehicles and trucks traveling on roadways prior to the start of the construction workday would have the potential to generate noise at receptors along the routes used to access

the construction sites. A screening analysis using the methodology described above found that construction worker vehicles and trucks traveling to and from the construction sites between 6:00 AM and 7:00 AM would not result in a significant increase in noise levels (i.e., would not result in a 15 dBA noise level increase) on any roadways. Therefore, considering the limited magnitude and duration of predicted noise increases, construction work vehicles and trucks traveling to and from the construction sites between 6:00 AM and 7:00 AM would not likely result in significant adverse construction impacts, and no further analysis of construction mobile source noise for the 6:00 AM to 7:00 AM hour would be warranted.

Construction vehicles traveling to and from construction sites during the construction workday are included in the detailed construction noise analysis described above.

Conclusions

Construction of the Proposed Action is predicted to result in elevated noise levels, which represent existing residential buildings, commercial offices, and outdoor recreational spaces. At these receptors, construction under the Proposed Action would, for some portion of the construction period, result in noise level increases that would be perceptible to noticeable and at times, "objectionable." However, at these receptors, any objectionable noise level increases would occur for less than 12 months. Consequently, while construction noise at these receptors would be perceptible, it would not rise to the level of a significant impact according to the impact criteria described above. Construction under the Proposed Action would typically occur during weekday daytime hours and would therefore not produce noise during nighttime hours when residents would be most sensitive to noise. Further, construction would comply with *New York City Noise Control Code* regulations to reduce noise levels at surrounding receptors. Per *New York City Noise Control Code* regulations, construction under the Proposed Action would be required to prepare a Construction Noise Mitigation Plan, which may identify more control measures that would further reduce construction noise levels. Therefore, the predicted levels of construction noise were determined not to rise to the level of a significant adverse impact at any noise receptors.

Vibration

Construction activities have the potential to result in vibration levels that may cause structural or architectural damage, and/or annoyance or interference with vibration-sensitive activities. Vibratory levels at a receiver are a function of the source strength (which is dependent upon the construction equipment and methods utilized), the distance between the equipment and the receiver, the characteristics of the transmitting medium, and the receiver building construction. Construction equipment operation causes ground vibrations which spread through the ground and decrease in strength with distance. Vehicular traffic, even in locations close to major roadways, typically does not result in perceptible vibration levels unless there are discontinuities in the roadway surface. With the exception of the case of fragile and possibly historically significant structures or buildings, construction activities generally do not reach the levels that can cause architectural or structural damage but can achieve levels that may be perceptible and annoying in buildings very close to a construction site. An assessment has been prepared to quantify potential vibration impacts of construction activities on structures and residences near the Project Site.

CONSTRUCTION VIBRATION CRITERIA

For purposes of assessing potential structural or architectural damage, the determination of a significant impact was based on the vibration impact criterion used by LPC of a PPV of 0.50 inches/second as specified in the DOB TPPN #10/88. For non-fragile buildings, vibration levels between 0.5 inches/second and 2.0 inches/second would typically not be expected to result in any structural or architectural damage.

For purposes of evaluating potential annoyance or interference with vibration-sensitive activities, vibration levels greater than 65 VdB would have the potential to result in significant adverse impacts if they were to occur for a prolonged period of time.

Analysis Methodology

For purposes of assessing potential structural or architectural damage, the following formula was used:

$$PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$$

where: PPV_{equip} is the peak particle velocity in in/sec of the equipment at the receiver location;
PPV_{ref} is the reference vibration level in in/sec at 25 feet; and
D is the distance from the equipment to the received location in feet.

For purposes of assessing potential annoyance or interference with vibration sensitive activities, the following formula was used:

$$L_v(D) = L_v(ref) - 30\log(D/25)$$

where: $L_v(D)$ is the vibration level in VdB of the equipment at the receiver location;
Lv(ref) is the reference vibration level in VdB at 25 feet; and
D is the distance from the equipment to the receiver location in feet.

Table 18-18 shows vibration source levels for typical construction equipment.

Table 18-18: Vibration Source Levels for Construction Equipment (dBA)

Equipment	PPV_{ref} (in/sec)	Approximate L_{vf} (ref) (VdB)
Jackhammer	0.035	79

Source: FTA Transit Noise and Vibration Impact Assessment (2018)

The source vibration levels shown in **Table 18-18** were projected to nearby receptors to estimate the levels of construction vibration that would occur near the Project Area.

Construction Vibration Analysis Results

Construction under the Proposed Action would result in PPV levels less than 0.50 in/sec at structures at least 55 feet from the work area, including during impact pile driving, which would be the most vibration-intensive activities associated with the Proposed Action. These levels would generally be considered acceptable for a non-historic building or structure. Additional receptors farther away from the project area would experience less vibration than those listed above, which would not be expected to cause structural or architectural damage.

In terms of potential vibration levels that would be perceptible and annoying, the equipment that would have the most potential for producing levels that exceed the 65 VdB limit is also the impact pile driver. It would have the potential to produce perceptible vibration levels (i.e., vibration levels exceeding 65 VdB) at receptor locations within approximately 550 feet depending on soil conditions. However, the operation would only occur for limited periods of time at a particular location and therefore would not result in any significant adverse impacts.

Consequently, significant adverse vibration impacts would not result from construction under the Proposed Action.

Other Technical Areas

Land Use and Neighborhood Character

According to the *CEQR Technical Manual*, a construction impact analysis of land use and neighborhood character is typically needed if construction would require continuous use of property for an extended duration, thereby having the potential to affect the nature of the land use and character of the neighborhood. A land use and neighborhood character assessment for construction impacts looks at the construction activities that would occur on the site (or portions of the site) and their duration. The analysis determines whether the type and duration of the activities would affect neighborhood land use patterns or neighborhood character. For example, a single property might be used for staging for several years, resulting in a "land use" that would be industrial in nature. Depending on the nature of existing land uses in the surrounding area, this use of a single piece of property for an extended duration and its compatibility with neighboring properties may be assessed to determine whether it would have a significant adverse impact on the surrounding area.

Construction activities would affect land use on the Project Site but would not alter surrounding land uses. As is typical with construction projects, during periods of peak construction activity there would be some disruption, predominantly noise, to the nearby area. There would be construction trucks and construction workers coming to the construction sites. There would also be noise, sometimes intrusive, from on-site activities as well as trucks and other vehicles backing up, loading, and unloading. These disruptions would be temporary in nature, lasting less than two years, and would have limited effects on land uses within the surrounding area, particularly as most construction activities would take place within the Project Site or along the perimeter of the Project Site within delineated closed-off areas. Construction would be localized and would not

alter the character of the larger neighborhoods surrounding the Project Site. Therefore, no significant construction impacts to land use and neighborhood character are expected.

Socioeconomic Conditions

According to the *CEQR Technical Manual*, construction impacts to socioeconomic conditions are possible if the Proposed Project would entail construction of a long duration that could affect the access to and therefore viability of a number of businesses, and if the failure of those businesses has the potential to affect neighborhood character.

Construction of the Proposed Project would not block or restrict access to any facilities in the area, affect the operations of any nearby businesses, or obstruct major thoroughfares used by customers or businesses. In addition, it would not be of a long duration. Therefore, construction activities associated with the Proposed Project would not result in any significant adverse impacts on socioeconomic conditions.

Community Facilities

According to the *CEQR Technical Manual*, construction impacts to community facilities are possible if a community facility would be directly affected by construction (e.g., if construction would disrupt services provided at the facility or close the facility temporarily, etc.).

There are no community facilities on the proposed Project Site, and while construction of the Proposed Project would result in temporary increases in traffic during the construction period, access to and from any community facilities in the area would not be blocked or restricted during the short-term, i.e., less than two-year, construction period. It would not be necessary to alter the entrances to any of these facilities, nor would it be necessary to close them at any time during the construction period. As such, there would be no direct or indirect construction impacts to any community facilities.

Open Space

According to the *CEQR Technical Manual*, construction impacts to open space are possible if an open space resource would be used for an extended period of time for construction-related activities, such as construction staging, or if access to the open space would be impeded for an extended period during construction activities.

No existing open space resources would be disrupted during the construction of the Proposed Project, nor would access to any publicly accessible open space be impeded during construction within the development Project Site. There are no publicly accessible open spaces within the Project Site, and no open space resources would be used for staging or other construction activities. Though Roberto Clemente Ballfield is located across the street from the site, on the east side of Kent Avenue, existing access to the open space resource would be maintained. At very limited times, activities such as excavation and foundation work on the site may generate noise that could impair the enjoyment of the nearby open space users, but such noise effects would be temporary.

Therefore, construction of the Proposed Project would not result in significant adverse impacts on open space.

Historic and Cultural Resources

Architectural

The assessment of construction impacts on historic and cultural resources considers the possibility of physical damage to any architectural or archaeological resources identified in the project's historic and cultural resources assessment. According to the *CEQR Technical Manual*, if a project's construction activities are located within 400 feet of a historic or cultural resource, potential hazards should be assessed, such as whether certain character-defining elements of a structure, including but not limited to rooftops or stained glass windows, could be impacted by falling objects from an adjacent construction site.

There are also regulatory mechanisms that address many of the concerns regarding vibrations associated with construction. If the project is located within 90 feet of a New York City Landmark, a National Register-listed property, or within a New York City Historic District, the potential for physical disturbance should be disclosed and the project is required to comply with DOB Technical Policy and Procedure Notice (TPPN) #10/88. TPPN #10/88 supplements the standard building protections afforded by Building Code C26-112.4 by requiring a monitoring program to reduce the likelihood of construction damage to adjacent New York City Landmarks and National Register-listed properties (within 90 feet) and to detect at an early stage the beginnings of damage so that construction procedures may be changed.

As discussed in more detail in **Chapter 6, "Historic and Cultural Resources,"** there are no historic architectural resources located within 90 feet of the Project Site, and therefore no construction-related impacts on historic resources would be anticipated as a result of the Proposed Project.

Archaeological

As discussed in **Chapter 6, "Historic and Cultural Resources,"** subject to the outcome of future soil borings and, if warranted, archaeological field investigations, construction on the Project Site could disturb or destroy potential archaeological resources due to excavations for foundations and footings of the proposed buildings. Therefore, in accordance with an LPC-approved restrictive declaration, the applicant would develop and implement an archaeological monitoring program in consultation with LPC. With the restrictive declaration in place, the Proposed Action would not result in any significant adverse archaeology impacts. Refer to **Chapter 6** for further details.

Hazardous Materials

As described in **Chapter 9, "Hazardous Materials,"** the Proposed Action would not result in significant adverse impacts related to hazardous materials. The following assessment is based on review of several documents, published between 2009 and 2015, related to remediation of hazardous materials at the Project Site, including a Final Engineering Report (FER) and Site

Management Plan (SMP). Based on review and approval of these documents, NYSDEC issued a "Release and Covenant Not to Sue" on April 7, 2015, which states that the Project Site has been remediated and can now be used for purposes up to and including restricted residential (subject to local zoning). However, since contaminated soil remains beneath the Site, Institutional and Engineering Controls must be implemented to protect human health and the environment. These Controls include maintaining the two-foot soil cover and imposing a "Declaration of Covenants and Restrictions," which requires compliance with the SMP. The SMP (**Appendix C**) also requires that NYSDEC be notified if any intrusive work is conducted and a Monitoring Plan must be drafted to assess the performance and effectiveness of the remedy.

As such, to reduce the potential for any significant adverse impacts associated with new construction resulting from the Proposed Action the Applicant must remain in compliance with the SMP. In following these guidelines, the Proposed Project would not result in any significant adverse impacts related to hazardous materials.

Natural Resources

According to the *CEQR Technical Manual*, natural resources may be affected during construction, particularly during such activities as excavation; grading; site clearance or other vegetation removal; cutting; filling; installation of piles, bulkheads, or other waterfront structures; dredging; dewatering; or soil compaction from construction vehicles and equipment. As concluded in **Chapter 8, "Natural Resources,"** the Proposed Action would not result in significant adverse impacts to groundwater, surface water, water quality, floodplains, wetlands, coastal resources, aquatic biota, wildlife or threatened or endangered species within or near the Project Site. Information pertaining to construction effects on natural resources is summarized below.

Water Quality

The proposed project would be covered under the NYSDEC State Pollution Discharge Elimination System (SPDES) General Permit for Stormwater Discharges from Construction Activity Permit No. GP-0-08-001. Consequently, significant adverse impacts to groundwater would not occur as a result of construction of the Proposed Project. Because groundwater is not used as a potable water supply in the area, there would be no potential impacts to drinking water supplies. In the event that construction dewatering is necessary, the recovered groundwater would be treated in accordance with NYSDEC and/or DEP requirements prior to being discharged to the DEP storm sewer. Any hazardous materials encountered during grading or other land-disturbing activities would be handled and removed in accordance with DEP, NYSDEC, OER, OSHA, and EPA requirements.

Replacement of the sheetpile bulkhead and high-level platform, have the potential to result in short-term construction related effects to water quality due to increases in suspended sediment and re-suspension of contaminated sediments, as discussed in **Chapter 8**.

Groundwater

Construction of the Proposed Project would adhere to all applicable rules and regulations governing groundwater. Because groundwater is not used as a potable water supply in the area,

there would be no potential impacts to drinking water supplies. Consequently, significant adverse impacts to groundwater would not occur as a result of construction or operation of the Proposed Project.

Floodplains

The construction of the Proposed Project would comply with the current and any future changes in the New York City Building Code requirements, the flood resilience zoning text amendment for construction within the 100-year floodplain for the applicable building category, and any future changes in the floodplain zones designated by FEMA, as discussed in detail in **Chapter 2, "Land Use, Zoning, and Public Policy."** Therefore, the Proposed Project would not result in any significant adverse construction impacts related to floodplains.

Aquatic Biotica

The portions of the proposed waterfront open space that would be located adjacent to designated wetland area, i.e., Wallabout Channel, are limited to a defined bulkhead that would be an in-kind replacement of the existing bulkhead. As described in **Chapter 8**, the Proposed Project would not involve in-water disturbance, excavation, filling, or any other activities beyond the existing bulkhead or shoreline.

Compliance with the terms and conditions of NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity would preclude the potential for significant adverse impacts on water quality and aquatic biota from the discharge of stormwater during and after construction of the proposed project.

Accordingly, no significant adverse construction impacts would occur to aquatic biota.