

TRAFFIC IMPACT STUDY

Suffolk Technology Park

Wyandanch, Town of Babylon,
Suffolk County, New York

July 2024
(Revised October 2024)

N+P Job No.21022



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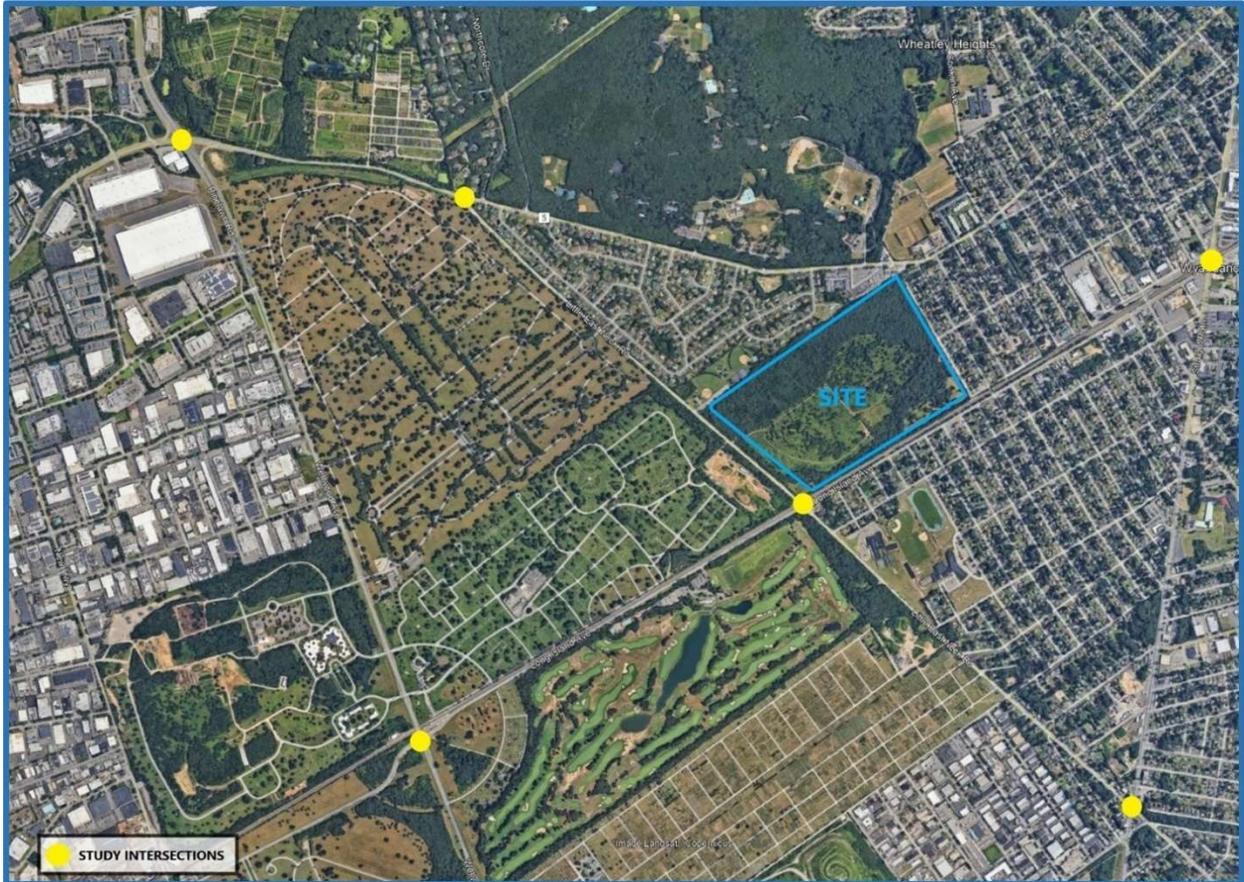
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PURPOSE OF REPORT

Nelson + Pope (N+P) has investigated the potential traffic impact associated with a 111.39-acre site located on the north side of Long Island Avenue, east of Little East Neck Road in the Hamlet of Wyandanch, Town of Babylon, Suffolk County, New York. The property, further identified as Suffolk County Tax Map District 100; Section 38; Block 1; Lot 1, is located in the Town of Babylon's A – Residence zoning district and is a currently vacant and partially wooded property owned by Pinelawn Cemetery. The Applicant seeks to subdivide the subject property into two lots (Lot 1 at 100.11 acres and Lot 2 at 11.28 acres) and change the zone of Lot 1 to the newly proposed Planned Industrial Park-2 (PIP-2) zoning district to allow for the development of Lot 1 with a business/technology park campus. Lot 2 would retain the existing residential zoning and existing cemetery use. Access to proposed Lot 1 will be provided via a proposed full-movement signalized driveway and a right turn in/out stop-controlled driveway along Little East Neck Road. Lot 2 will retain frontage on North 28th Street and therefore have future access from this street.

This report summarizes the results of a detailed investigation of the traffic impacts of the proposed development by reviewing the area's existing roadway characteristics and traffic conditions, estimating the vehicular volume and pattern that the proposed development will generate during peak hours, and analyzing the effect of the additional volume on the surrounding roadway network. Figure 1 depicts the site location and the study intersections.



SOURCE: GOOGLE EARTH

Figure 1: Location Map

STUDY METHODOLOGY

The study assesses traffic impacts associated with the proposed development and identifies mitigation measures if necessary. In executing the scope of work, the following steps were undertaken:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, location/geometry of existing driveways and intersections along with signage, signal timings, phasing, and cycle lengths.
- The most recent 3-years of accident data for the study intersections and roadways in the vicinity of the site was obtained from the NYSDOT. The data was tabulated and summarized.
- Turning movement volume counts were conducted during the weekday AM (7-9AM), Weekday midday (11AM-2PM), weekday PM (4-7PM) and Saturday Midday (10AM-2PM) peak periods at the following intersections.
 - Pinelawn Road (CR-3) at Colonial Springs Road/Ruland Road
 - Little East Neck Road at Colonial Springs Road
 - Little East Neck Road at Long Island Avenue
 - Little East Neck Road at Straight Path (CR-2)
 - Wellwood Avenue (CR-3) at Long Island Avenue/Conklin Street
 - Long Island Avenue at Straight Path (CR-2)
- The turning movement counts collected at the study intersections were tabulated for each time period. Peak hours were identified, and peak hour factors calculated for each approach. These traffic volumes are referred to as the 2024 Existing volumes.
- The existing volumes were adjusted to future 2027 volumes using annual growth factors obtained by performing a review of available resources: growth trends demonstrated through historic traffic data and information provided in the Long Island Transportation Plan (LITP) 2000 study model or annual growth factors developed for the New York Metropolitan Transportation Council's Best Practices Model (BPM). These volumes are referred to as the Base Volumes.
- The Town of Babylon and Town of Huntington Planning Departments were contacted to obtain information on other planned developments that may impact traffic flow in the study area.

- At the time of study, no other planned project information was provided to us by the Town of Babylon or the Town of Huntington. Hence, the Base traffic volumes are the 2027 No Build Volumes.
- Based on the project description, the proposed development will fall within the Institute of Transportation Engineers' (ITE) Trip Generation Land Use Code 130 – Industrial Park, and Land Use Code 150 -Warehousing. The ITE Trip Generation Manual also suggests that where local data is available, it is preferable to use that data. Therefore, collecting local data from similar developments to establish localized trip generation rates is recommended.
- Estimates of traffic that would be generated by the proposed project were prepared utilizing trip generation rates developed from data obtained at two facilities similar to the proposed project. One of the facilities is the Heartland Business Center, an Industrial Park located in Brentwood, Long Island. The second facility is the Hillsboro technology Center, an Industrial Park owned and operated by the applicant located in Hillsboro, Florida. The site-generated traffic volumes were assigned to the adjacent street system based on the anticipated directional trip distribution forecasted by Nelson + Pope and approved by the Town of Babylon.
- The 2027 Build Condition volumes for the proposed development were developed by adding the site generated traffic volumes to the 2027 No Build Condition volumes.
- The Long Island Rail Road (LIRR) tracks are located south of the proposed project site along Long Island Avenue intersecting with Little East Neck Road and Wellwood Avenue. The traffic analyses included the influence on traffic conditions of the LIRR at grade crossings, including queue development and discharge during and after crossing gate actuation. Traffic congestion associated with the railroad crossing was reviewed and evaluated.
- Performed intersection capacity analyses for the study intersections identified above and the site access driveway. Analyses were performed using Synchro Version 12 to provide level of service results at the intersections and site access locations. The analyses were completed for the Existing, No Build, and Build Conditions for weekday AM, midday PM, and Saturday midday peak hours.
- The results of the analyses for the 2027 No Build Condition and 2027 Build Condition were compared to identify any significant traffic impact associated with the proposed project.
- Prepared a Report containing text and graphics summarizing the results of the traffic and parking and operational analyses for submission to the Town of Babylon.

EXISTING CONDITION

Land Use

As previously discussed, the proposed development is a 111.39-acre site located on the north side of Long Island Avenue, east of Little East Neck Road in the Hamlet of Wyandanch, Town of Babylon, Suffolk County, New York. The property, further identified as Suffolk County Tax Map District 100; Section 38; Block 1; Lot 1, is located in the Town of Babylon's A – Residence zoning district and is a currently vacant and partially wooded property owned by Pinelawn Cemetery. The Applicant seeks to subdivide the subject property into two lots (Lot 1 at 100.11 acres and Lot 2 at 11.28 acres) and change the zone of Lot 1 to the newly proposed Planned Industrial Park-2 (PIP-2) zoning district to allow for the development of Lot 1 with a business/technology park campus. Lot 2 would retain the existing residential zoning and existing cemetery use. Access to the site will be provided via a proposed full-movement signalized driveway and a right turn in/out stop-controlled driveway along Little East Neck Road.

Roadway Conditions

The following is the description of the intersections included in the study network. The general descriptions listed here refer only to the segments of Pinelawn Road, Colonial Springs Road, Little East Neck Road, Long Island Avenue, Straight Path, and Wellwood Avenue in the vicinity of the study intersections.

Pinelawn Road is a north/south minor arterial roadway under the jurisdiction of Suffolk County Department of Public Works (SCDPW). Within the vicinity of study area, it provides three travel lanes in each direction. Along Pinelawn Road, the average annual daily traffic (AADT) volume is approximately 28,855 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and straight with a posted speed limit of 40 mph.

Colonial Springs Road is an east/west minor arterial roadway under the jurisdiction of the Town of Huntington. Within the vicinity of the study area, it provides one travel lane in each direction. Along Colonial Springs Road, the average annual daily traffic (AADT) volume is approximately 16,515 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and slightly curvy with a posted speed limit of 30 mph.

Little East Neck Road is a north/south minor arterial roadway under the jurisdiction of the Town of Babylon. Within the vicinity of study area, it provides one travel lane in each direction. Along Little East Neck Road, the average annual daily traffic (AADT) volume is approximately 10,475 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and straight with a posted speed limit of 30 mph.

Long Island Avenue is an east/west minor arterial roadway under the jurisdiction of the Town of Babylon. Within the vicinity of study area, it provides one travel lane in each direction. Along

Long Island Avenue, the average annual daily traffic (AADT) volume is approximately 7,567 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and straight with a posted speed limit of 30 mph.

Straight Path is a northeast/southwest minor arterial roadway under the jurisdiction of Suffolk County Department of Public Works (SCDPW). Within the vicinity of study area, it provides one travel lane in each direction. Along Straight Path the average annual daily traffic (AADT) volume is approximately 29,752 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and straight with a posted speed limit of 35 mph.

Wellwood Avenue is a north/south minor arterial roadway under the jurisdiction of Suffolk County Department of Public Works (SCDPW). Within the vicinity of the study area, it provides two travel lanes in each direction. Along Wellwood Avenue, the average annual daily traffic (AADT) volume is approximately 29,322 vehicles per day (source: NYSDOT Traffic Volume Report 2019). This section of roadway is relatively flat and straight with a posted speed limit of 50 mph.

Table 1 summarizes the lane configurations and traffic controls at the study intersections.

Table 1: Intersection Geometry

Intersection	Approach	Lane Designation*	Traffic Control
Pinelawn Road (CR-3) at Colonial Springs Road/ Ruland Road	NB	2L-3T-R	Signal Controlled
	SB	2L-3T-R	
	EB	2L-2T-R	
	WB	L-2T-R	
Little East Neck Road at Colonial Springs Road	NB	LR	Signal Controlled with Channelized Yield-Control Right Turn Bay
	EB	TR	
	WB	LT	
Little East Neck Road at Long Island Avenue	NB	LTR	Signal Controlled (LIRR Crossing North of the Intersection)
	SB	LTR	
	EB	LTR	
	WB	LTR	
Little East Neck Road at Straight Path (CR-2)	NB	L-T-TR	Signal Controlled (NB/SB – Straight Path & EB/WB – Little East Neck Road)
	SB	L-T-TR	
	EB	L-TR	
	WB	L-TR	
Wellwood Avenue (CR-3) at Long Island Avenue/Conklin Street	NB	L-2T-R	Signal Controlled (LIRR Crossing North of the Intersection)
	SB	L-T-TR	
	EB	L-T-R	
	WB	L-T-R	

Intersection	Approach	Lane Designation*	Traffic Control
Long Island Avenue at Straight Path (CR-2)	NB	T-TR	Signal Controlled (LIRR Crossing North of the Intersection)
	SB	L-T-R	
	EB	L-TR	
	WB	L-T-R	

* L = Left turn lane; T = through lane; R = Right turn lane

Train Crossing Operational Analysis

The LIRR crossing along Long Island Avenue intersecting Little East Neck Road , Wellwood Avenue and Straight Path is analyzed in Synchro as a preemption phase during all peak periods. Video recordings were conducted adjacent to the railroad tracks at the intersections of Long Island Avenue at Little East Neck Road and Wellwood Avenue. The railroad gates at both intersections were monitored to determine the number of trains crossing, the time of occurrence, the duration of the closure, and the direction of trains. In order to analyze the rail crossing preemption, a dummy intersection that can stop traffic for an extended period of time was modelled at the railroad crossing. The preemption phase in the Synchro model represents the current traffic conditions at the intersection when a train crosses through these intersections.

Traffic Volume Data

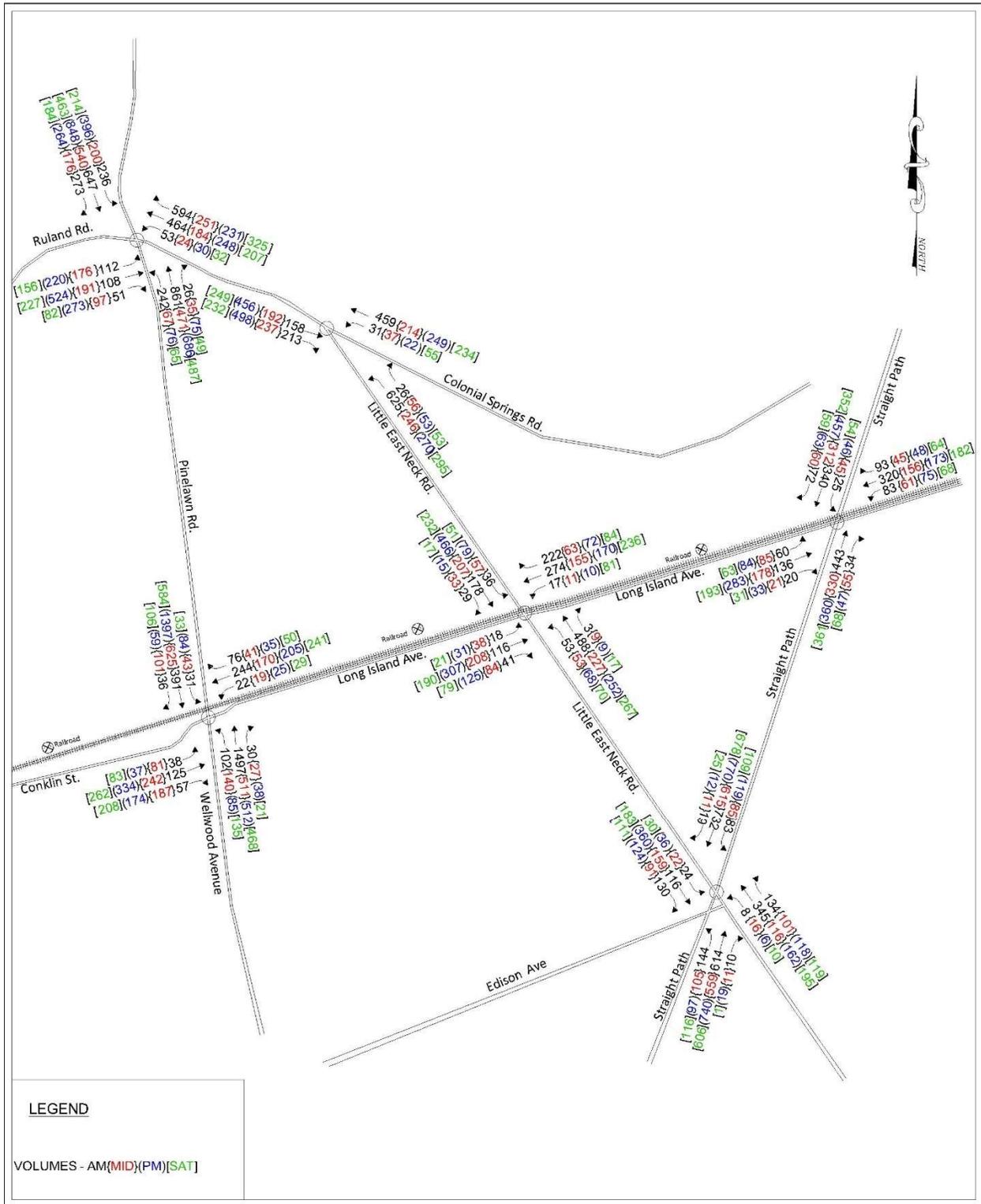
Turning movement traffic counts were collected at the following study intersections on Tuesday, June 11, 2024, during the weekday morning (7:00 AM to 9:00AM), weekday afternoon (11:00 AM to 2:00 PM) and weekday evening (4:00 PM to 7:00 PM) peak hours. The weekend turning movement counts were collected on June 08, 2024, during the Saturday midday peak period (10:00 AM to 2:00 PM).

Turning movement counts were collected using Miovision video recording cameras at all study locations, with recordings conducted from 6:00 AM to 9:00 PM. To determine the weekday AM peak hours, Nelson + Pope processed data from 6:00 AM to 9:00 AM for two key intersections at Little East Neck Road with Colonial Springs Road and Long Island Avenue. The analysis indicated that the AM peak hour for both intersections occurred after 7:00 AM. Based on these findings, the weekday AM peak hour for all remaining study intersections was processed using data from 7:00 AM to 9:00 AM. The volume data was tabulated to identify the peak hours at the study intersections.

1. Pinelawn Road (CR-3) at Colonial Springs Road/Ruland Road
2. Little East Neck Road at Colonial Springs Road
3. Little East Neck Road at Long Island Avenue
4. Little East Neck Road at Straight Path (CR-2)

5. Wellwood Avenue (CR-3) at Long Island Avenue/Conklin Street
6. Long Island Avenue at Straight Path (CR-2)

The turning movements counts were recorded during 15-minute intervals classified by vehicle type including cars, buses, and trucks. The data was tabulated and summarized to identify the peak hour volumes and to calculate the peak hour factors. A seasonal adjustment factor of 1.077, for the month of June (months of counts) was obtained from NYSDOT Highway Data Services Bureau-Seasonal Adjustment Factors 2022. Applying the seasonal adjustment factor to the traffic count data collected would effectively reduce the existing peak hour volumes. Therefore, to be conservative, the peak hour traffic volumes collected were not adjusted. The turning movement counts detailed data are included in Appendix A. The existing traffic volumes are shown on Figure 2.



Accident History

Accident data for the intersections in the vicinity of the site were obtained from the NYSDOT. The most recent data available was from January 1, 2020, to August 1, 2023 (3-year period). The data was reviewed and summarized in the following tables.

Table 2A: Pre (January 1, 2020, to March 19, 2020) and Post (January 1, 2022, to August 1, 2023) COVID Accident Summary by Severity

Location	Accident Severity				TOTAL
	Fatality	Injury	Property Damage	Non-Reportable	
Pinelawn Road at Colonial Springs Road/Ruland Road	-	9	23	1	33
Little East Neck Road at Colonial Springs Road	-	2	6	2	10
Little East Neck Road at Long Island Avenue	-	11	14	2	27
Little East Neck Road at Straight Path	-	12	14	-	26
Wellwood Avenue at Long Island Avenue/Conklin Street	-	2	3	2	7
Total	0 <i>0%</i>	36 <i>35%</i>	60 <i>58%</i>	7 <i>7%</i>	103 <i>100%</i>

Table 2B: During COVID (March 20, 2020, to December 31, 2021) Accident Summary by Severity

Location	Accident Severity				TOTAL
	Fatality	Injury	Property Damage	Non-Reportable	
Pinelawn Road at Colonial Springs Road/Ruland Road	-	4	9	5	18
Little East Neck Road at Colonial Springs Road	-	4	5	1	10
Little East Neck Road at Long Island Avenue	-	5	18	2	25
Little East Neck Road at Straight Path	-	10	20	-	30
Wellwood Avenue at Long Island Avenue/Conklin Street	-	4	8	4	16
Total	0 <i>0%</i>	27 <i>27%</i>	60 <i>61%</i>	12 <i>12%</i>	99 <i>100%</i>

A total of 202 accidents occurred at or in the vicinity of the study intersections during the analysis period from January 1, 2020, to August 1, 2023 (a 3-year period). Tables 2A and 2B shows that breakdown of these accidents across the pre-COVID, during COVID and post-COVID. During the pre-COVID period, prior to March 20, 2020, and the post-COVID period, after December 31, 2021, there were 103 total accidents reported. During the active COVID period between March 20, 2020, and December 31, 2021, a total of 99 accidents were accidents were reported at the study intersections. The majority of accidents, approximately 60%, resulted in property damage during both phases. The location with greatest number of accidents is the intersection of Little East Neck Road at Straight Path. There was no fatal accident reported during the study period.

Table 3A: Pre (January 1, 2020, to March 19, 2020) and Post (January 1, 2022, to August 1, 2023) COVID Accident Summary by Type of Collision

Location	Accident Type											Total
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/Bicycle	Overtk	Side swipe	Backing	Other/Unknown	
Pinelawn Road at Colonial Springs Road/Ruland Road	1	19	-	3	1	2	-	6	-	-	1	33
Little East Neck Road at Colonial Springs Road	1	4	-	-	2	-	-	-	1	-	2	10
Little East Neck Road at Long Island Avenue	3	13	-	5	-	-	-	2	-	-	4	27
Little East Neck Road at Straight Path	5	9	-	3	1	-	-	6	1	-	1	26
Wellwood Avenue at Long Island Avenue/Conklin Street	-	3	-	1	-	-	-	1	-	-	2	7
Total	10 <i>10%</i>	48 <i>47%</i>	0 <i>0%</i>	12 <i>11%</i>	4 <i>4%</i>	2 <i>2%</i>	0 <i>0%</i>	15 <i>14%</i>	2 <i>2%</i>	0 <i>0%</i>	10 <i>10%</i>	103 <i>100%</i>

**Table 3B: During COVID (March 20, 2020, to December 31, 2021) Accident Summary by Type
of Collision**

Location	Accident Type											Total
	Right Angle	Rear End	Head On	Left Turn	Right Turn	Fixed Object	Ped/Bicycle	Overtk	Side swipe	Backing	Other/Unknown	
Pinelawn Road at Colonial Springs Road/Ruland Road	2	10	-	-	-	-	-	5	-	-	1	18
Little East Neck Road at Colonial Springs Road	-	3	-	2	-	-	-	1	1	-	3	10
Little East Neck Road at Long Island Avenue	9	9	1	-	2	-	-	3	-	-	1	25
Little East Neck Road at Straight Path	9	7	-	1	2	-	-	5	1	-	5	30
Wellwood Avenue at Long Island Avenue/Conklin Street	2	11	-	-	1	-	-	-	1	-	1	16
Total	22 22%	40 41%	1 1%	3 3%	5 5%	0 0%	0 0%	14 14%	3 3%	0 0%	11 11%	99 100%

A review of Table 3A and 3B indicate that during both pre/post COVID and active COVID period, a high percentage above 40% of accidents involve rear end accidents, followed by right angle accidents and overtaking accidents.

LEVEL OF SERVICE DESCRIPTION

While traffic volumes provide an important measure of activity on the adjacent roadway network, evaluating how well that network accommodates those volumes is also important. Therefore, a comparison between peak hour traffic volumes and available roadway capacity was prepared. Capacity, by definition, represents the maximum number of vehicles that can be accommodated given the constraints of roadway geometry, traffic characteristics and controls. Intersections primarily control capacity within roadway networks, since conflicts exist at these points due to through, crossing and turning traffic. Because of these conflicts, congestion is most likely to occur at intersections. Therefore, intersections are studied most often when determining the quality of traffic flow.

To identify the operational characteristics of the study intersections, LOS and capacity analyses and arterial network analyses for the study intersections were performed using *SYNCHRO Version 12* Software. *SYNCHRO*, in conjunction with *SimTraffic*, is a software package that allows for an interactive analysis of a single intersection or a network of intersections and can also be used for modeling and optimizing traffic signal timings. The *SimTraffic* component provides simulations of operations with animation features. *SYNCHRO* implements the Intersection Capacity Utilization (ICU) 2003 method for determining intersection capacity. This method compares the current volume to the intersection's ultimate capacity. *SYNCHRO* also implements the methods of the Highway Capacity Manual (HCM 6) for urban streets, signalized intersections, and unsignalized intersections for determining intersection capacity analyses. The *HCM* contains procedures and methodologies for estimating capacity and determining LOS for many transportation facilities and modes including signalized and unsignalized intersections.

An intersection's Level of Service (LOS) describes its quality of traffic flow. It ranges in grade from LOS "A" (relatively congestion-free) to LOS "F" (very congested). The LOS definition, as well as the threshold values for each level, varies according to whether the intersection is controlled by a signal or a stop sign. A brief description is given here, and a more detailed definition is found in Appendix C.

The capacity of a signalized intersection is evaluated in terms of the ratio of demand flow rate to capacity (V/C ratio). The capacity for each approach represents the maximum rate of flow (for the subject approach) which may pass through the intersection under prevailing traffic, roadway, and signal conditions. The LOS of a signalized intersection is evaluated based on average control-delay measured in seconds per vehicle (sec/veh). The control-delay is calculated using an equation that combines the stopped-delay with the vehicle acceleration/deceleration delay that is caused by the signalized intersection. At the signalized intersections, factors that affect the various approach capacities include width of approach, number of lanes, signal "green time," turning percentages, truck volumes, etc. However, delay cannot be related to capacity in a simple one-to-one fashion. For example, it is possible to have delays in the LOS "F" range without

exceeding roadway capacity. Substantial delays can exist without exceeding capacity if one or more of the following conditions exist: long signal cycle length; a particular traffic movement experience a long red time; or progressive movements for a particular lane is poor.

The flow at a two-way stop-controlled (TWSC) intersection is gauged in terms of LOS and capacity. The capacity of a stop-controlled leg is based on the distribution of gaps in the major street traffic, driver judgment in selecting a gap, and the follow-up time required by each driver in a queue. The LOS for a TWSC intersection is determined by the control-delay and is defined for each movement rather than for the overall intersection. As with signalized intersections, HCS quantifies only the average control-delay, which is a function of the approach and the degree of saturation for any particular minor movement.

EXISTING CONDITION ANALYSIS

The 2024 existing peak hour traffic volumes depicted in Figure 2 were used to determine the existing capacity and LOS of the study intersections. Table 4 contains the LOS summary for the study intersections under the existing conditions calculated through the Synchro software described previously. The detailed analysis worksheets are in Appendix D.

Table 4: Existing Condition LOS Summary (Signalized Intersection)

Location	Approach	Movement	AM Peak		Midday Peak		PM Peak		Saturday Peak	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Pinelawn Road at Colonial Springs Road/Ruland Road	EB	L	49.1	D	45.7	D	59.6	E	45.4	D
		T	31.8	C	35.9	D	46.5	D	36.8	D
		R	0.4	A	3.8	A	19.5	B	2.6	A
	WB	L	52.4	D	47.1	D	60.4	E	47.0	D
		T	39.7	D	47.0	D	49.2	D	45.9	D
		R	56.9	E	19.6	B	20.4	C	22.6	C
	NB	L	60.0	E	45.4	D	55.8	E	45.2	D
		T	38.0	D	24.3	C	31.3	C	24.3	C
		R	0.2	A	0.1	A	0.4	A	0.2	A
	SB	L	64.2	E	47.0	D	97.1	F	47.8	D
T		33.9	C	21.4	C	27.6	C	20.3	C	
R		6.2	A	3.5	A	4.4	A	3.8	A	
Intersection Delay			40.9	D	27.4	C	38.8	D	27.7	C
Little East Neck Road at Colonial Springs Road	EB	TR	8.2	A	8.0	A	37.5	D	9.6	A
	WB	LT	15.0	B	9.7	A	14.4	B	10.4	B
	NB	LR	262.7	F	52.1	D	51.1	D	50.1	D
Intersection Delay			118.0	F	22.8	C	36.8	D	23.4	C
Little East Neck Road at Long Island Avenue	EB	LTR	16.3	B	31.8	C	31.9	C	21.1	C
	WB	LTR	32.5	C	22.8	C	21.2	C	43.1	D
	NB	LTR	23.7	C	10.6	B	13.4	B	16.7	B
	SB	LTR	17.7	B	11.2	B	20.1	C	17.3	B
Intersection Delay			25.1	C	18.9	B	22.2	C	26.4	C
Little East Neck Road at Straight Path	EB	L	40.1	D	26.2	C	28.0	C	28.9	C
		TR	28.5	C	35.8	D	59.2	E	37.7	D
	WB	L	27.5	C	26.0	C	28.2	C	25.9	C
		TR	72.6	E	29.3	C	30.5	C	41.7	D
	NB	L	19.7	B	13.0	B	22.0	C	14.7	B
		TR	17.5	B	13.0	B	21.2	C	13.4	B
SB	L	37.2	D	30.3	C	52.9	D	38.4	D	
	TR	41.3	D	27.7	C	43.3	D	30.8	C	
Intersection Delay			38.6	D	23.8	C	38.0	D	27.6	C
Wellwood Avenue at Long Island Avenue/Conklin Street	EB	L	50.5	D	36.7	D	50.2	D	39.3	D
		T	61.6	E	62.1	E	245.8	F	65.5	E
		R	1.2	A	9.9	A	12.3	B	9.5	A
	WB	L	43.0	D	32.3	C	49.1	D	33.6	C
		T	92.3	F	62.7	E	87.9	F	158.6	F
		R	43.0	D	32.9	C	42.2	D	32.4	C
	NB	L	81.8	F	70.1	E	85.1	F	70.1	E
		T	40.2	D	22.2	C	19.7	B	22.6	C
		R	0.1	A	0.1	A	0.1	A	0.0	A
	SB	L	76.7	E	60.7	E	87.6	F	60.8	E
TR		24.3	C	32.1	C	33.0	C	36.0	D	
Intersection Delay			44.0	D	36.3	D	61.5	E	50.4	D

Location	Approach	Movement	AM Peak		Midday Peak		PM Peak		Saturday Peak	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Long Island Avenue at Straight Path	EB	L	26.5	C	25.4	C	23.3	C	24.2	C
		TR	22.4	C	27.1	C	31.5	C	29.0	C
	WB	L	23.3	C	23.4	C	27.8	C	26.6	C
		T	35.0	D	24.5	C	23.0	C	28.6	C
		R	20.9	C	19.2	B	19.1	B	22.0	C
	NB	TR	28.7	C	19.2	B	26.0	C	22.0	C
		SB	L	14.0	B	8.8	A	13.2	B	10.3
	T		19.6	B	14.6	B	20.2	C	13.5	B
	R		4.6	A	3.8	A	4.5	A	3.4	A
Intersection Delay			25.4	C	19.3	B	24.0	C	21.3	C

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Pinelawn Road at Colonial Springs Road/Ruland Road

The signalized intersection of Pinelawn Road at Colonial Springs Road/Ruland Road currently operates at overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS E or better except for the southbound left turn movement that operate at LOS F during the weekday PM peak hour.

Little East Neck Road at Colonial Springs Road

The signalized intersection of Little East Neck Road at Colonial Springs Road currently operates at overall LOS F, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS D or better except for the northbound approach that operate at LOS F during the AM peak hour.

Little East Neck Road at Long Island Avenue

The signalized intersection of Little East Neck Road at Long Island Avenue currently operates at overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS D or better.

Little East Neck Road at Straight Path

The signalized intersection of Little East Neck Road at Straight Path currently operates at overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS E or better.

Wellwood Avenue at Long Island Avenue/Conklin Street

The signalized intersection of Wellwood Avenue at Long Island Avenue/Conklin Street currently operates at overall LOS D, D, E, and D during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS F or better.

Long Island Avenue at Straight Path

The signalized intersection of Long Island Avenue at Straight Path currently operates at overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively, with all approach movements operating at LOS E or better.

NO BUILD CONDITION

The No Build Condition represents traffic conditions expected at the study intersections in the future year 2027 without the construction of the proposed project. The No Build Condition traffic volumes are estimated based on two factors as follows:

- Increases in traffic due to general population growth and developments outside of the immediate project area. This traffic increase is referred to as ambient growth.
- Other planned projects located near the project site may affect traffic levels and patterns at the study intersections in this report.

Traffic Growth

Growth factors were developed for forecasting the future 2027 traffic volumes. Based on the Average Annual Growth Rate for Vehicle-Miles Traveled (VMT) developed by the New York Metropolitan Transportation Council (NYMTC), the average annual growth rate for Suffolk County ranges from 0.30% to 0.47% depending on the functional classification of the roadway. Based on the functional classifications of roadways within the study area, the growth rate is at most 0.47%.

The growth trends demonstrated through historic traffic data and information provided in the Long Island Transportation Plan (LITP) 2000 study model, an annual growth factor of 1.1% was determined for the Town of Babylon. In order to perform a conservative analysis, the higher of the two growth factors was utilized to develop the future volumes. The existing 2024 traffic volumes were then adjusted using an annual growth factor of 1.1% for a period of 3 years to project volumes to the 2027 future volumes.

Other Planned Projects

“Other Planned Projects” is a term that refers to developments located near the project site that are currently under construction or in the planning stages. Traffic generated by these projects may significantly influence the operations of the study intersections and would not be represented in the field data collected. The Towns of Babylon and Huntington were contacted to obtain information on any planned projects in the area. At the time this study was conducted, no significant planned projects were provided to Nelson & Pope by either Town. However, any minor projects in the area will be accounted for in the background growth rate. The No Build traffic volumes are shown in Figure 3.

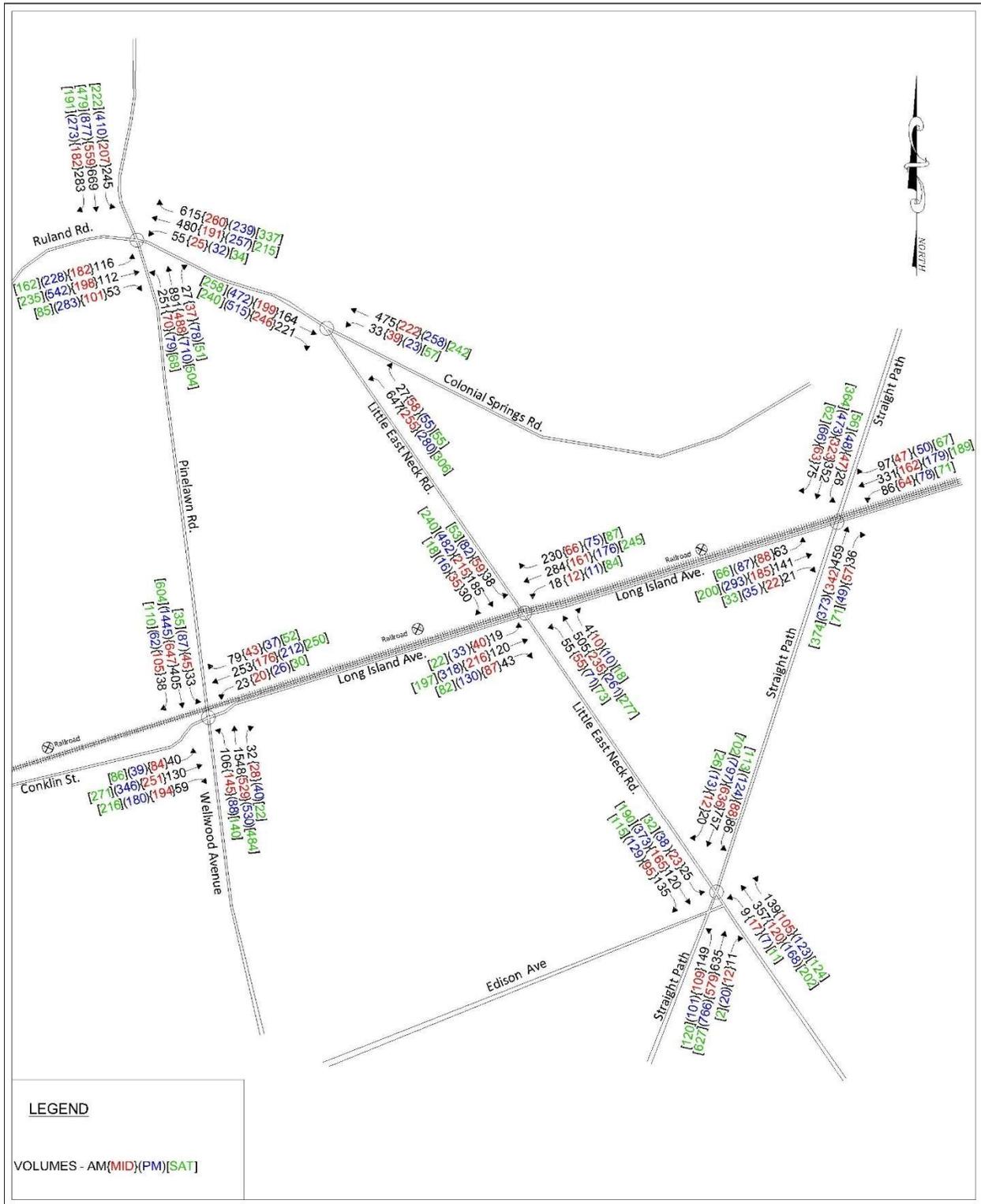


Figure 3: 2027 No-Build Weekday AM and PM Peak Hours and Saturday Midday Peak Hour Traffic Volumes

PROPOSED DEVELOPMENT

Site Access

As depicted on the site plan, the proposed development is a 111.39-acre site located on the north side of Long Island Avenue, east of Little East Neck Road in the Hamlet of Wyandanch, Town of Babylon, Suffolk County, New York. The property, further identified as Suffolk County Tax Map District 100; Section 38; Block 1; Lot 1, is located in the Town of Babylon's A – Residence zoning district and is a currently vacant and partially wooded property owned by Pinelawn Cemetery. The Applicant seeks to subdivide the subject property into two lots (Lot 1 at 100.11 acres and Lot 2 at 11.28 acres) and change the zone of Lot 1 to the newly proposed Planned Industrial Park-2 (PIP-2) zoning district to allow for the development of Lot 1 with a business/technology park campus. Lot 2 would retain the existing residential zoning and existing cemetery use. Access to the site will be provided via a proposed full-movement signalized driveway and a right turn in/out stop-controlled driveway along Little East Neck Road. As part of the driveway construction, the Kevin Ver Pault Memorial Park entrance on Little East Neck Road will be relocated approximately 150 feet to the north to reduce traffic conflicts with the proposed signalized driveway. In addition to the relocation of the driveway, the southbound approach will be restriped to provide a left turn lane and a through lane. The relocation of the driveway will improve sight lines for vehicles exiting the park driveway and addition of the southbound left turn lane will reduce southbound queues.

Trip Generation Development

In order to identify the impacts, the proposed project may have on the adjacent street system, it is necessary to estimate the magnitude of traffic volume generated during the peak hours and to estimate the directional distribution of the site traffic when entering and exiting the subject property.

The Institute of Transportation Engineers' publication, Trip Generation, 11th Edition was reviewed to determine which Land Use Code (LUC) best fits the proposed project based on the description of the anticipated use of the development provided to us by the applicant. This publication sets forth trip generation data obtained by traffic counts conducted at sites throughout the country.

Based on the project description, the proposed development will fall within the Institute of Transportation Engineers' (ITE) Trip Generation Land Use Code 130 – Industrial Park, and Land Use Code 150 -Warehousing. According to ITE, "an industrial park contains several individual or related facilities. It is characterized by a mix of manufacturing, service, and warehouse facilities with a wide variation in the proportion of each type of use from one location to another. Many

industrial parks contain highly diversified facilities. Some parks in the database have a larger number of small business and others have one or two dominant industries.”

The ITE Trip Generation Manual also suggests that where local data is available, it is preferable to use that data. Therefore, collecting local data from similar developments to establish localized trip generation rates is recommended.

Based on this guidance, estimates of traffic generation for the proposed project were prepared using trip generation rates derived from data collected at two facilities similar to the proposed development. One of the facilities is the Heartland Business Center, a mixed-use Industrial Park located in Brentwood, Long Island. The second facility is the Hillsboro Technology Center, an Industrial Park owned and operated by the applicant located in Hillsboro, Florida. For comparison purposes, trip generation estimates for the proposed use were also calculated using ITE trip generation rates found under Land Use Code 130 Industrial Park within the Institute of Transportation Engineers’ publication, *Trip Generation, 11th Edition*, alongside the data collected from these two comparable facilities.

Hillsboro Technology Center:

Atlantic Traffic Engineering conducted trip generation counts at the Hillsboro Technology Center in Florida. This mixed-use industrial park, with a total building area of 831,538 square feet, has eight access points along Hillsboro Technology Drive. The table below provides a breakdown of the types of tenants at the Hillsboro Technology Center.

Table 5: Hillsboro Technology Center Type of Tenants

Types of Tenants	Area (SF)	Percentage
Warehouse	691,157	83.1%
Office	72,262	8.7%
Showroom	68,119	8.2%

To capture the existing trips generated by this center, Atlantic Traffic Engineering installed Automatic Traffic Recorders (ATRs) at all eight driveways to record entering and exiting traffic over a 24-hour period on a typical weekday (Thursday, June 20, 2024) and Saturday (June 22, 2024). The collected data was classified into passenger cars and trucks.

A trip generation rate was developed based on the square footage of occupied buildings at the Hillsboro Technology Center and the trips recorded during weekday AM, PM, and Saturday midday peak hours. Using this rate, Atlantic Traffic Engineering estimated the proposed trips for the Suffolk Technology Park. The table below summarizes the weekday AM, PM, and Saturday midday peak hour trips for the existing Hillsboro Technology Center and the projected trips for Suffolk Technology Park and trip generation data from ITE for Industrial Parks.

Table 6: Trip Generation Comparison Table – Hillsboro Technology Center

Peak Period	ITE Trip Generation Industrial Park (LUC 130)	Hillsboro Technology Center				Rate per 1,000 SF	Trip Generation Suffolk Technology Park
		Time	Total Cars	Total Trucks	Total		
AM Peak Hour	655 (48 Trucks)	6:30 AM - 7:30 AM	197	18	215	0.259	413
Truck Peak Hour (AM)		9:45 AM - 10:45 AM	94	79	173	0.208	332
PM Peak Hour/ Truck Peak Hour (PM)	639 (80 Trucks)	3:45 PM - 4:45 PM	180	71	251	0.302	483
SAT Peak Hour/ Truck Peak Hour (SAT)	703	1:15 PM - 2:15 PM	54	33	87	0.105	167

As shown in the table, the trip generation estimates for the proposed Suffolk Technology Park, based on the rates derived from the Hillsboro Technology Center is **413** trips during the AM peak hour, **483** trips during the PM peak hour and **167** trips during the Saturday midday peak hour. Based on the rates developed at the Hillsboro Technology Center, the proposed Suffolk Technology Park trips are anticipated to be lower than the ITE generated trips.

Heartland Business Center:

The existing Heartland Business Center is a large mixed-use industrial park with a total building area of 4,374,599 square feet, of which 3,918,655 square feet are currently occupied. This industrial park has three access points: two on the south side intersecting Long Island Avenue at Executive Drive and Rodeo Drive, and one on the north side at East Road Driveway.

The breakdown of the types of mixed-use tenants at the Heartland Center is shown in the table below.

Table 7: Heartland Business Center Type of Tenants

Types of Mixed-use Tenants	Area (SF)	Percentage
Office	786,517	20%
Warehouse	2,505,023	64%
Manufacturing	368,799	9%
Fitness	190,532	5%
Retail	22,800	1%
Contractor	45,272	1%
Total Occupied Buildings (SF)	3,918,943	89.6%
Total Vacant Space (SF)	467,492	10.7%

The Heartland trip generation rate calculation was done in two parts:

Part 1- A portion of the business park consisting of six buildings in the northwest corner of the facility were selected as this portion of the park had similar size buildings and comparable uses anticipated for the Suffolk Technology Park. The six (6) buildings studied vary in size ranging from 117,648 SF to 262,166 SF. A summary of the tenants and building square footage is shown in the table below:

Table 8: Heartland Business Center Tenant Summary for the Six (6) Buildings

Address	Tenant	Building Square Footage
100 Wilshire Blvd.	Amcor	262,166
101 Wilshire Blvd.	NYS Office of General Services	207,344
110 Wilshire Blvd.	US Alliance Paper	150,000
111 Wilshire Blvd.	Strike Force Elite	40,112
	New Image Gymnastics	39,888
	Big Geyser (distributor)	37,648
	Total	117,648
120 Wilshire Blvd.	Castella Imports	150,000
121 Wilshire Blvd.	American Tire Distributors	130,434
Total		1,017,592

To develop trip generation data for the proposed project, turning movement counts were conducted at the driveways to these six (6) buildings of the Heartland Business Center located at 1 Executive Drive, Brentwood, NY. The Heartland Business Center is a similar development to the proposed project. The turning movement counts were conducted for 3 days to develop trip generation rates. The traffic count data, along with a summary table showing the peak hour entry and exit volumes of the six (6) buildings, are provided in Appendix B. These observed traffic volumes were used to develop trip generation rates, which were then applied to forecast the trip

generation for the proposed project. The following table shows the calculated trips for the proposed project.

Table 9: Trip Generation Comparison w/ Heartland Center Six (6) Buildings Rate

Time Period	Rate per 1,000 SF Developed from the Traffic of six (6) Heartland Business Center Buildings	Distribution	1,596,921 SF Suffolk Technology Park (Based on rates from Heartland Business Center)	1,596,921 SF Industrial Park (ITE LUC 130)
Weekday AM Peak Hour	0.1356	Enter	137	570
		Exit	80	85
		Total	217	655
Weekday PM Peak Hour	0.1641	Enter	126	134
		Exit	136	505
		Total	262	639
Saturday Midday Peak Hour	0.1926	Enter	151	225
		Exit	157	478
		Total	308	703

As can be seen from the table above, based on the trip generation rate derived from the six (6) existing building at Heartland Business Center, the proposed project Suffolk Technology Park is projected to generate 217 trips (137 entering and 80 exiting) during the weekday AM peak hour, 262 trips (126 entering and 136 exiting) during the weekday PM peak hour, 308 trips (151 entering and 157 exiting) during the Saturday midday peak hour. Based on the rates developed at a smaller portion of the Heartland Center, the proposed Suffolk Technology Park trips are anticipated to be lower than the ITE generated trips.

Part 2 -Trip generation rates were obtained for the entire Heartland Business Center (“HBC”) comprising of more than 40 buildings, with a total building area of 4,374,599 square feet, of which 3,918,655 square feet are currently occupied. The HBC is an approximately 400-acre business park that comprises more than 40 buildings ranging in size from 10,000 square feet to 350,000 square feet. From the review of the tenancy of the Heartland Business Center, it can be seen that the size of the ancillary uses (office, fitness, retail etc.) is bigger than those that will be permitted in the PIP-2 zone. Hence the trip rate at the Heartland Business Center will be higher than what is expected at the proposed Suffolk Technology Park.

To capture the existing trips generated by the Heartland Center, Miovision cameras were installed at all three driveways to record entering and exiting traffic over a 14-hour period from 6 AM to 8 PM on a typical weekday (Tuesday, June 4, 2024) and Saturday (June 1, 2024). The collected data was classified into passenger cars and trucks. A trip generation rate was developed based on the square footage of occupied buildings at the Heartland Business Center and the trips recorded during weekday AM, PM, and Saturday midday peak hours. Using this rate, we

estimated the proposed trips for the Suffolk Technology Park. The following table summarizes the weekday AM, PM, and Saturday midday peak hour trips for the existing Heartland Business Center and the projected trips for Suffolk Technology Park based on this rate.

Table 10: Trip Generation Comparison Table – Heartland Business Center

Peak Period	ITE Trip Generation Industrial Park (LUC 130)	Heartland Business Center				Rate per 1,000 SF	Trip Generation Suffolk Technology Park
		Time	Total Cars	Total Trucks	Total		
AM Peak Hour	655 (48 Trucks)	6:30 AM - 7:30 AM	996	82	1,078	0.275	439
Truck Peak Hour (AM)		9:45 AM - 10:45 AM	511	110	621	0.158	253
Midday Peak Hour/ Truck Peak Hour (Midday)		12:00 PM - 1:00 PM	855	103	958	0.244	390
PM Peak Hour	639 (80 Trucks)	4:30 PM - 5:30 PM	1,760	52	1,812	0.462	738
Truck Peak Hour (PM)		1:45 PM - 2:45 PM	730	112	842	0.215	343
SAT Peak Hour	703	2:30 PM - 3:30 PM	564	20	584	0.149	238
Truck Peak Hour (SAT)		6:45 AM - 7:45 AM	272	27	299	0.076	122

As shown in the table, the trip generation estimates for the proposed Suffolk Technology Park, based on the rates derived from the Heartland Business Center, are significantly lower than the ITE Rates for all peak periods except the weekday PM peak hour. However, the trip generation rates from the Heartland Center are higher than the trip rates from Hillsboro and the trip generation rates for the six (6) buildings in the northwest section of the Heartland Center expect for the Saturday trips for these six (6) buildings

The Heartland Center data, being local to Long Island, is particularly relevant. Therefore, we will use the proposed trips for the Suffolk Technology Park, based on the Heartland Center developed rate, in our traffic study to evaluate potential impacts on the study intersections and the

surrounding area. The following table is a summary of the trip generation for the proposed Suffolk Technology Park based on the Heartland Business Center rates.

Table 11: Trip Generation for Proposed Suffolk Technology Park

Time Period	Distribution	1,596,921 SF Industrial Park	Car Trips	Truck Trips
Weekday AM Peak Hour	Enter	320	311	9
	Exit	119	93	26
	Total	439	404	35
Weekday Midday Peak Hour	Enter	177	156	21
	Exit	213	191	22
	Total	390	347	43
Weekday PM Peak Hour	Enter	236	222	14
	Exit	502	494	8
	Total	738	716	22
Saturday Midday Peak Hour	Enter	107	102	5
	Exit	131	129	2
	Total	238	231	7

Source: Trip Generation Rate Developed from Heartland Center

As can be seen from the table above, the proposed project Suffolk Technology Park is projected to generate 439 trips (320 entering and 119 exiting) during the weekday AM peak hour, 390 trips (177 entering and 213 exiting) during the weekday midday peak hour, 738 trips (236 entering and 502 exiting) during the weekday PM peak hour and 238 trips (107 entering and 131 exiting) during the Saturday midday peak hour. The proposed project will generate 35 truck trips (9 entering and 26 exiting) during the weekday AM peak hour, 43 truck trips (21 entering and 22 exiting) during the weekday midday peak hour, 22 truck trips (14 entering and 8 exiting) during the PM peak hour and 7 truck trips (5 entering and 2 exiting) during the Saturday midday peak hour.

Trip Distribution and Assignment

The volume of site traffic that would travel through the study intersections during peak hours was distributed and assigned to each movement based on the existing roadway and travel patterns. The nature of the proposed land use and its associated travel patterns were considered as well. Separate distributions were developed for cars and trucks. Figures 4 and 5 depict the site-generated trip distribution for cars and trucks, respectively. Figures 6 and 7 depict the site-generated traffic volumes for the weekday AM, midday, PM, and Saturday midday peak hours for cars and trucks. The site-generated traffic volumes were then added to the corresponding No Build Condition volumes resulting in the Build Condition volumes shown in Figure 8.

As part of the project, no truck traffic will exit the site to travel north on Little East Neck Road. As requested by the Town, there will be truck restriction for Colonial Spring Road. This restriction will eliminate truck traffic on the Colonial Spring Road residential neighborhood and hence improve traffic safety.

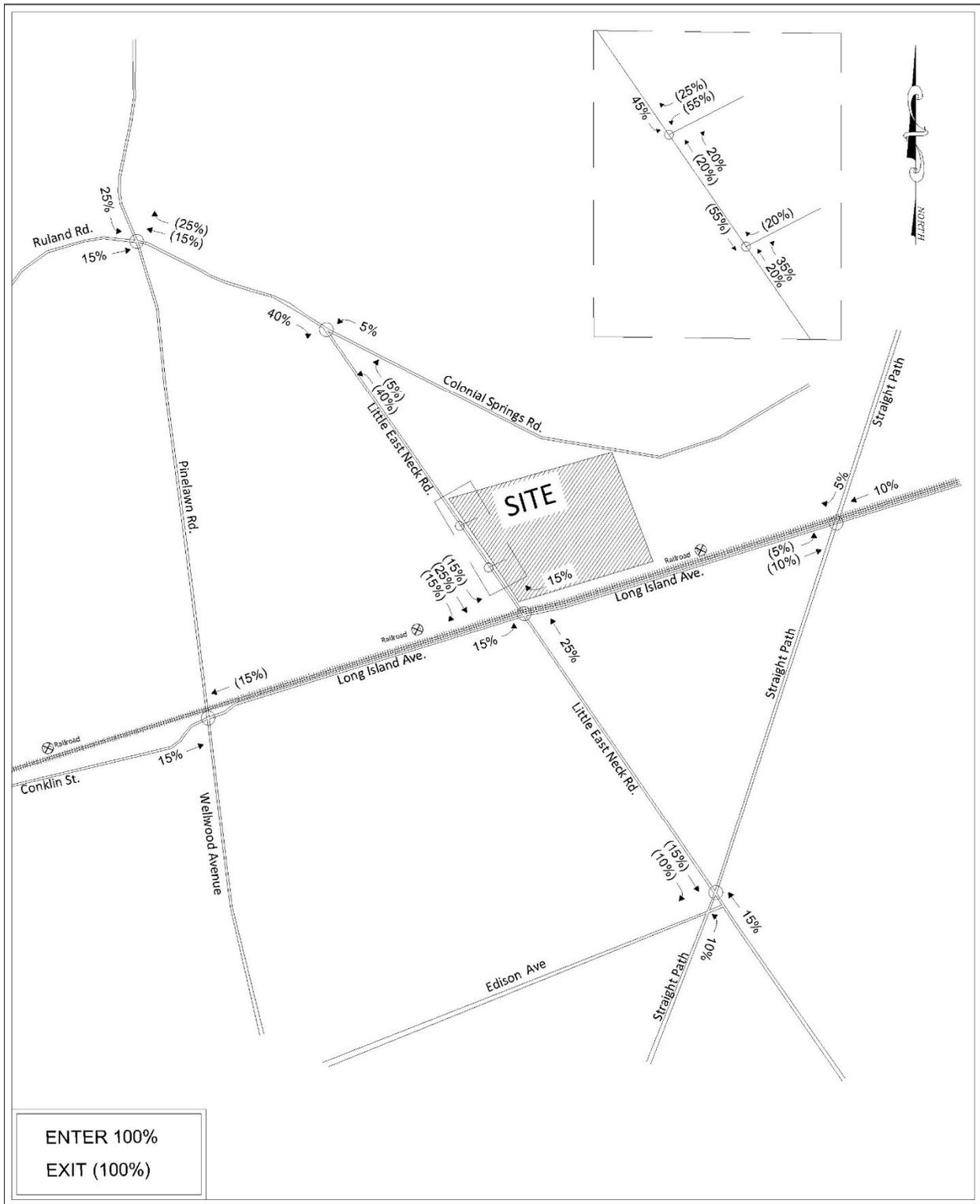


Figure 4: Site Generated Trip (Vehicles) Distribution



Figure 6: Site Generated Weekday AM, Midday, and PM and Saturday Midday Peak Hour Vehicle Traffic Volumes

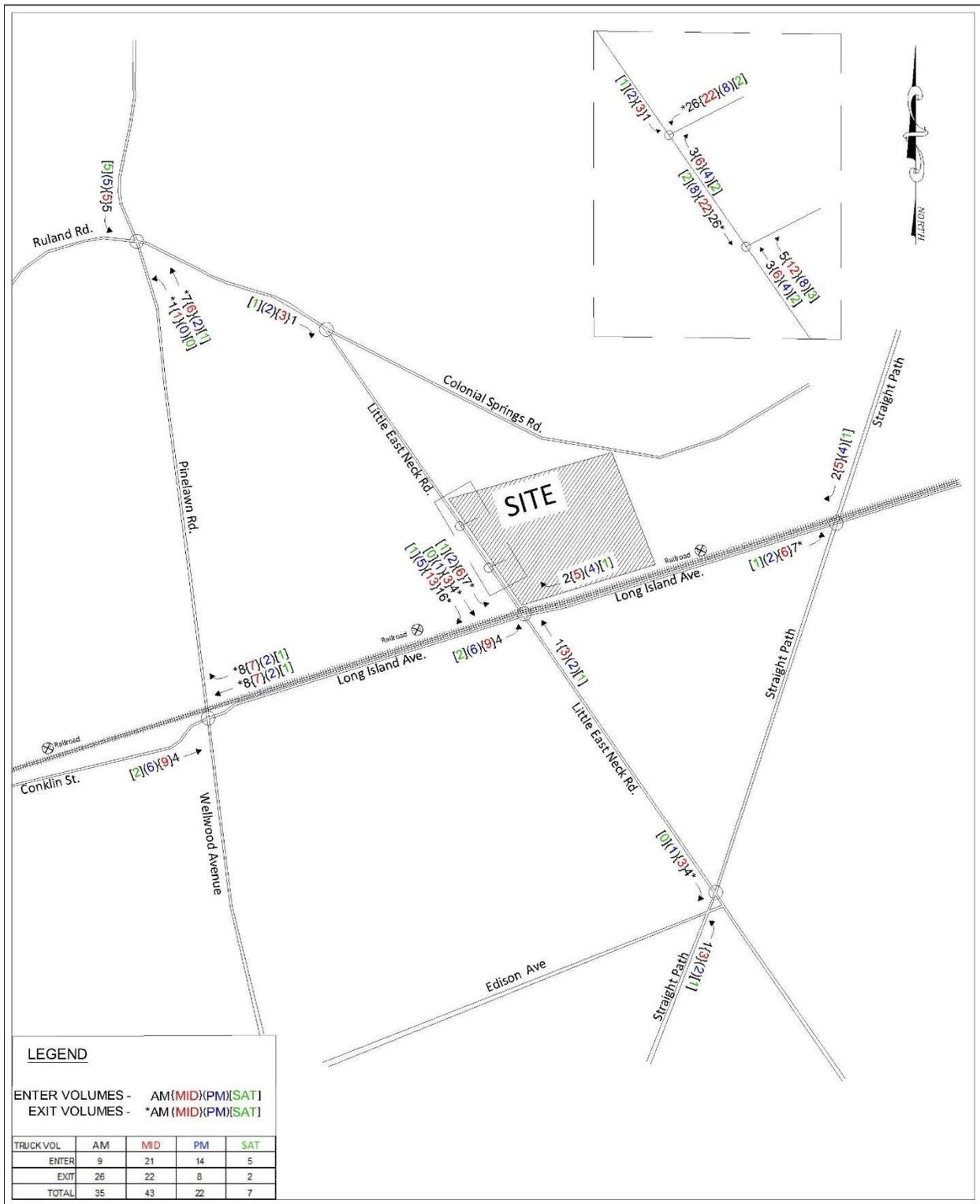


Figure 7: Site Generated Weekday AM, Midday, and PM and Saturday Midday Truck Traffic Volumes

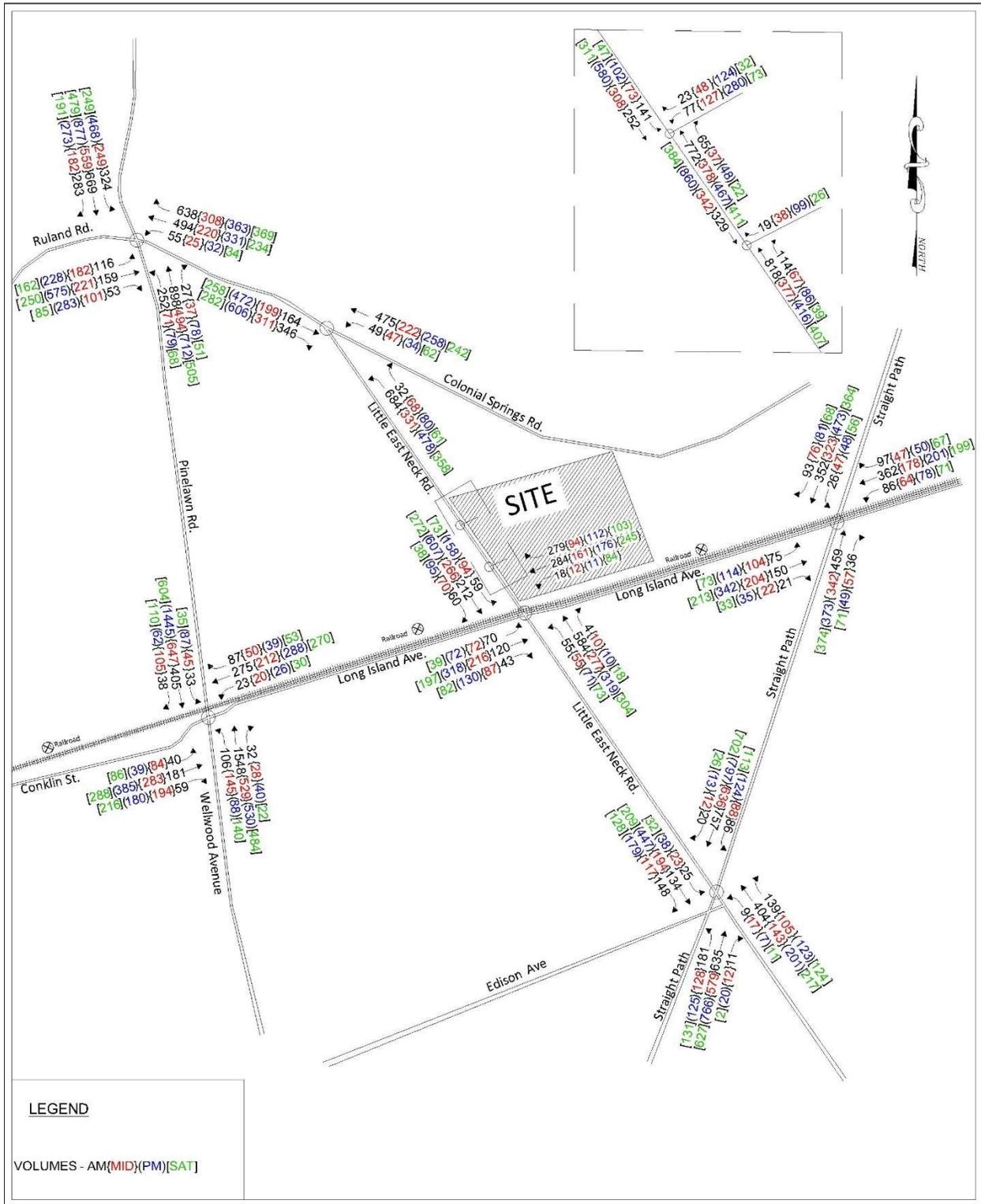


Figure 8: 2027 Build Weekday AM, Midday, and PM Peak Hours and Saturday Midday Peak Hour Traffic Volumes

TRAFFIC IMPACT ANALYSIS

In order to identify the impacts created by the proposed project, capacity analyses were conducted at the study intersections for the No Build and Build Conditions during the weekday AM, midday, PM, and Saturday midday peak hours. The results of the capacity analyses for the No Build and Build Conditions were compared to determine the impact that will be created on the study intersections by the proposed project.

Tables 12 through 15 summarize the results of the capacity analyses for the No Build and Build Conditions for the weekday AM, midday, PM, and Saturday midday peak hours. These tables are followed by a detailed description of the intersection and the LOS comparison.

**Table 12: Level of Service Summary – Weekday AM Peak Hour
(No-Build and Build Conditions)**

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Pinelawn Road at Colonial Springs Road/Ruland Road	EB	L	49.5	D	49.6	D	50.6	D
		T	32.2	C	32.5	C	33.3	C
		R	0.6	A	0.6	A	0.6	A
	WB	L	53.2	D	53.3	D	54.2	D
		T	40.7	D	41.5	D	43.0	D
		R	67.5	E	79.9	E	69.7	E
	NB	L	62.0	E	62.5	E	64.9	E
		T	38.5	D	38.4	D	41.0	D
		R	0.2	A	0.2	A	0.2	A
	SB	L	68.3	E	126.5	F	75.9	E
T		34.2	C	34.4	C	33.3	C	
R		6.2	A	6.1	A	5.9	A	
Intersection Delay			43.4	D	50.9	D	45.8	D
Little East Neck Road at Colonial Springs Road	EB	TR	8.5	A	9.8	A	-	-
		T	-	-	-	-	10.6	B
		R	-	-	-	-	2.6	A
	WB	LT	15.7	B	18.2	B	11.6	B
		LR	285.4	F	327.8	F	-	-
	NB	L	-	-	-	-	27.8	C
		R	-	-	-	-	7.7	A
Intersection Delay			127.8	F	140.3	F	15.9	B
Little East Neck Road at Long Island Avenue	EB	LTR	16.2	B	23.5	C	-	-
		L	-	-	-	-	20.2	C
		T	-	-	-	-	19.8	B
	WB	R	-	-	-	-	5.4	A
		LTR	33.0	C	34.7	D	-	-
		LT	-	-	-	-	41.2	D
	NB	R	-	-	-	-	15.9	B
		LTR	26.1	C	35.1	D	16.4	B
	SB	LTR	19.1	B	27.3	C	14.5	B
Intersection Delay			26.3	C	32.1	C	20.4	C
Little East Neck Road at Straight Path	EB	L	46.8	D	61.0	E	33.0	C
		TR	29.7	C	32.4	C	24.5	C
	WB	L	27.7	C	27.9	C	21.8	C
		TR	83.6	F	116.8	F	60.0	E
	NB	L	20.4	C	24.7	C	49.8	D
		TR	17.6	B	17.5	B	23.0	C
	SB	L	38.3	D	38.4	D	43.8	D
	TR	42.3	D	42.5	D	50.9	D	
Intersection Delay			41.5	D	50.0	D	42.2	D

SUFFOLK TECHNOLOGY PARK

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Wellwood Avenue at Long Island Avenue/Conklin Street	EB	L	52.8	D	55.6	E	45.2	D
		WB	62.5	E	71.9	E	51.0	D
	NB	R	1.3	A	1.3	A	0.7	A
		L	43.2	D	43.7	D	32.0	C
		T	99.1	F	117.4	F	72.0	E
		R	43.1	D	43.6	D	32.3	C
	SB	L	82.6	F	82.6	F	64.3	E
		T	44.3	D	44.3	D	64.2	E
		R	0.1	A	0.1	A	0.1	A
		L	77.5	E	77.5	E	73.7	E
		TR	24.7	C	24.7	C	25.7	C
Intersection Delay			47.0	D	50.0	D	53.5	D
Long Island Avenue at Straight Path	EB	L	27.5	C	30.8	C	-	-
		TR	22.6	C	22.1	C	-	-
	WB	L	23.4	C	22.6	C	-	-
		T	35.3	D	35.8	D	-	-
		R	21.1	C	20.4	C	-	-
	NB	TR	29.8	C	31.4	C	-	-
		SB	L	14.4	B	15.3	B	-
	T		20.4	C	21.9	C	-	-
R	4.5		A	4.4	A	-	-	
			26.0	C	26.8	C		
Little East Neck Road at North Site Driveway	WB	L	-	-	33.4	C	-	-
		R	-	-	11.7	B	-	-
	NB	TR	-	-	11.7	B	-	-
		SB	L	-	-	17.0	B	-
				T	-	-	4.1	A
Intersection Delay					12.0	B		

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Unsignalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Little East Neck Road at South Site Driveway	WB	R	-	-	32.0	D	-	-
	NB	T	-	-	0.0	A	-	-
		R	-	-	0.0	A	-	-
	SB	T	-	-	0.0	A	-	-

Notes: LOS = Level of Service, Delay = seconds/vehicle,

**Table 13: Level of Service Summary – Weekday Midday Peak Hour
(No-Build and Build Conditions)**

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Pinelawn Road at Colonial Springs Road/Ruland Road	EB	L	46.0	D	46.4	D	-	-
		T	36.1	D	36.5	D	-	-
		R	4.2	A	4.2	A	-	-
	WB	L	47.3	D	47.6	D	-	-
		T	47.8	D	50.1	D	-	-
		R	22.1	C	28.7	C	-	-
	NB	L	45.6	D	45.8	D	-	-
		T	24.6	C	25.1	C	-	-
		R	0.2	A	0.2	A	-	-
	SB	L	47.5	D	50.8	D	-	-
T		22.7	C	22.9	C	-	-	
R		3.9	A	3.9	A	-	-	
Intersection Delay			28.3	C	30.3	C	-	-
Little East Neck Road at Colonial Springs Road	EB	TR	8.4	A	9.2	A	-	-
		T	-	-	-	-	6.4	A
		R	-	-	-	-	1.7	A
	WB	LT	10.0	A	10.7	B	6.0	A
		LR	54.2	D	98.3	F	-	-
	NB	L	-	-	-	-	29.0	C
R		-	-	-	-	7.6	A	
Intersection Delay			23.7	C	41.4	D	11.9	B
Little East Neck Road at Long Island Avenue	EB	LTR	32.5	C	37.6	D	-	-
		L	-	-	-	-	22.1	C
		T	-	-	-	-	27.1	C
	WB	R	-	-	-	-	5.7	A
		LTR	22.9	C	21.2	C	-	-
		LT	-	-	-	-	42.9	D
	NB	R	-	-	-	-	9.0	A
		LTR	11.2	B	14.3	B	10.5	B
	SB	LTR	12.0	B	20.1	C	11.1	B
Intersection Delay			19.5	B	23.3	C	17.0	B
Little East Neck Road at Straight Path	EB	L	26.4	C	26.3	C	-	-
		TR	36.6	D	43.8	D	-	-
	WB	L	26.2	C	26.7	C	-	-
		TR	29.7	C	32.2	C	-	-
	NB	L	13.4	B	15.4	B	-	-
		TR	13.4	B	14.1	B	-	-
SB	L	31.5	C	34.0	C	-	-	
		TR	28.5	C	32.1	C	-	-
Intersection Delay			24.4	C	27.7	C	-	-

SUFFOLK TECHNOLOGY PARK

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Wellwood Avenue at Long Island Avenue/Conklin Street	EB	L	37.4	D	38.5	D	-	-
		WB	72.5	E	82.1	F	-	-
		R	10.2	B	9.9	A	-	-
	NB	L	32.6	C	32.8	C	-	-
		T	73.0	E	85.3	F	-	-
		R	33.1	C	33.4	C	-	-
	SB	L	72.3	E	73.1	E	-	-
		T	23.0	C	23.4	C	-	-
		R	0.1	A	0.1	A	-	-
		L	61.2	E	61.5	E	-	-
		TR	33.9	C	34.7	C	-	-
Intersection Delay			39.3	D	42.9	D		
Long Island Avenue at Straight Path	EB	L	25.5	C	27.3	C	-	-
		WB	27.4	C	28.1	C	-	-
		R	23.6	C	23.3	C	-	-
	NB	T	24.7	C	25.1	C	-	-
		R	19.3	B	19.1	B	-	-
		TR	19.6	B	20.2	C	-	-
	SB	L	9.1	A	9.5	A	-	-
		T	15.1	B	15.7	B	-	-
		R	3.8	A	3.8	A	-	-
			19.6	B	20.2	B		
Little East Neck Road at North Site Driveway	WB	L	-	-	26.3	C	-	-
		R	-	-	7.4	A	-	-
	NB	TR	-	-	6.9	A	-	-
		SB	L	-	-	6.3	A	-
			T	-	-	6.2	A	-
Intersection Delay					9.2	A		

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Unsignalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Little East Neck Road at South Site Driveway	WB	R	-	-	11.1	B	-	-
	NB	T	-	-	0.0	A	-	-
	SB	R	-	-	0.0	A	-	-
		T	-	-	0.0	A	-	-

Notes: LOS = Level of Service, Delay = seconds/vehicle,

**Table 14: Level of Service Summary – Weekday PM Peak Hour
(No-Build and Build Conditions)**

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Pinelawn Road at Colonial Springs Road/Ruland Road	EB	L	60.7	E	62.3	E	70.6	E
		T	47.3	D	46.6	D	38.1	D
		R	21.0	C	20.5	C	13.4	B
	WB	L	61.2	E	62.1	E	70.6	E
		T	49.6	D	51.2	D	42.4	D
		R	21.0	C	30.9	C	17.7	B
	NB	L	55.8	E	56.8	E	56.9	E
		T	31.6	C	33.0	C	38.4	D
		R	0.4	A	0.4	A	0.5	A
	SB	L	106.9	F	168.3	F	99.6	F
T		28.1	C	29.5	C	31.8	C	
R		4.4	A	4.5	A	6.2	A	
Intersection Delay			40.3	D	48.5	D	39.9	D
Little East Neck Road at Colonial Springs Road	EB	TR	46.9	D	81.6	F	-	-
		T	-	-	-	-	11.0	B
		R	-	-	-	-	2.7	A
	WB	LT	19.2	B	74.0	E	8.0	A
		LR	53.6	D	249.9	F	-	-
		L	-	-	-	-	32.2	C
R	-	-	-	-	7.1	A		
Intersection Delay			43.7	D	136.5	F	14.0	B
Little East Neck Road at Long Island Avenue	EB	LTR	32.2	C	36.3	D	-	-
		L	-	-	-	-	18.0	B
		T	-	-	-	-	24.0	C
	WB	R	-	-	-	-	4.8	A
		LTR	21.1	C	19.6	B	-	-
		LT	-	-	-	-	36.0	D
	NB	R	-	-	-	-	7.2	A
		LTR	14.3	B	20.0	C	11.8	B
SB	LTR	22.2	C	156.8	F	17.0	B	
Intersection Delay			23.2	C	79.1	E	17.6	B
Little East Neck Road at Straight Path	EB	L	28.5	C	28.9	C	21.8	C
		TR	63.5	E	125.8	F	74.6	E
	WB	L	29.0	C	35.6	D	24.9	C
		TR	31.3	C	33.5	C	25.4	C
	NB	L	23.5	C	28.4	C	77.8	E
		TR	21.9	C	22.5	C	26.9	C
SB	L	57.5	E	58.5	E	71.1	E	
	TR	45.2	D	46.5	D	59.2	E	
Intersection Delay			40.0	D	55.6	E	50.8	D

SUFFOLK TECHNOLOGY PARK

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Wellwood Avenue at Long Island Avenue/Conklin Street	EB	L	51.1	D	53.3	D	39.8	D
		T	265.1	F	332.6	F	117.7	F
	WB	R	12.3	B	12.3	B	8.6	A
		L	49.3	D	49.3	D	40.0	D
		T	92.3	F	168.5	F	64.6	E
	NB	R	42.3	D	42.1	D	29.4	C
		L	86.1	F	86.1	F	94.9	F
	SB	T	19.9	B	19.9	B	25.7	C
		R	0.1	A	0.1	A	0.8	A
		L	88.7	F	88.7	F	75.9	E
		TR	34.9	C	34.9	C	51.0	D
Intersection Delay			65.1	E	83.9	F	54.7	D
Long Island Avenue at Straight Path	EB	L	23.5	C	24.4	C	-	-
		TR	32.0	C	32.4	C	-	-
	WB	L	29.4	C	31.3	C	-	-
		T	23.1	C	22.4	C	-	-
		R	19.2	B	18.4	B	-	-
	NB	TR	26.9	C	29.1	C	-	-
		L	13.8	B	15.1	B	-	-
	SB	T	21.3	C	23.9	C	-	-
R		4.5	A	4.6	A	-	-	
			24.7	C	26.0	C		
Little East Neck Road at North Site Driveway	WB	L	-	-	31.8	C	-	-
		R	-	-	5.6	A	-	-
	NB	TR	-	-	11.0	B	-	-
		L	-	-	10.1	B	-	-
	SB	T	-	-	12.4	B	-	-
Intersection Delay					14.6	B		

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Unsignalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Little East Neck Road at South Site Driveway	WB	R	-	-	12.2	B	-	-
	NB	T	-	-	0.0	A	-	-
		R	-	-	0.0	A	-	-
	SB	T	-	-	0.0	A	-	-

Notes: LOS = Level of Service, Delay = seconds/vehicle,

**Table 15: Level of Service Summary – Saturday Midday Peak Hour
(No-Build and Build Conditions)**

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Pinelawn Road at Colonial Springs Road/Ruland Road	EB	L	45.7	D	45.9	D	-	-
		T	37.0	D	37.3	D	-	-
		R	2.9	A	2.9	A	-	-
	WB	L	47.3	D	47.4	D	-	-
		T	46.3	D	47.4	D	-	-
		R	24.8	C	27.8	C	-	-
	NB	L	45.4	D	45.5	D	-	-
		T	24.6	C	24.8	C	-	-
		R	0.2	A	0.2	A	-	-
SB	L	48.5	D	50.9	D	-	-	
	T	20.5	C	21.6	C	-	-	
	R	4.1	A	4.2	A	-	-	
Intersection Delay			28.3	C	29.7	C	-	-
Little East Neck Road at Colonial Springs Road	EB	TR	10.0	B	10.8	B	-	-
		T	-	-	-	-	6.6	A
		R	-	-	-	-	1.6	A
	WB	LT	10.8	B	11.6	B	6.0	A
		LR	51.9	D	72.3	E	-	-
	NB	L	-	-	-	-	27.9	C
R		-	-	-	-	7.3	A	
Intersection Delay			24.3	C	33.0	C	11.9	B
Little East Neck Road at Long Island Avenue	EB	LTR	20.8	C	22.1	C	-	-
		L	-	-	-	-	9.3	A
		T	-	-	-	-	12.0	B
	WB	R	-	-	-	-	2.5	A
		LTR	42.8	D	41.0	D	-	-
		LT	-	-	-	-	28.1	C
	NB	R	-	-	-	-	3.9	A
		LTR	18.3	B	20.2	C	17.4	B
	SB	LTR	18.9	B	23.1	C	18.0	B
Intersection Delay			26.9	C	27.7	C	17.2	B
Little East Neck Road at Straight Path	EB	L	29.7	C	29.8	C	-	-
		TR	38.8	D	42.5	D	-	-
	WB	L	26.2	C	26.3	C	-	-
		TR	43.1	D	44.6	D	-	-
	NB	L	15.5	B	16.7	B	-	-
		TR	13.8	B	14.2	B	-	-
SB	L	40.8	D	41.7	D	-	-	
	TR	31.7	C	32.5	C	-	-	
Intersection Delay			28.6	C	29.9	C	-	-

SUFFOLK TECHNOLOGY PARK

Signalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Wellwood Avenue at Long Island Avenue/Conklin Street	EB	L	39.8	D	39.8	D	51.3	D
		WB	68.3	E	75.0	E	45.8	D
		R	9.5	A	9.5	A	7.2	A
	NB	L	34.0	C	34.5	C	28.0	C
		T	176.1	F	214.3	F	72.7	E
		R	32.4	C	32.5	C	22.6	C
	SB	L	71.3	E	71.3	E	73.6	E
		T	22.9	C	22.9	C	23.3	C
		R	0.0	A	0.0	A	0.0	A
		L	61.3	E	62.9	E	56.5	E
		TR	37.6	D	89.8	F	44.9	D
Intersection Delay			53.5	D	78.5	E	42.2	D
Long Island Avenue at Straight Path	EB	L	24.6	C	24.9	C	-	-
		TR	29.4	C	29.8	C	-	-
	WB	L	27.0	C	26.6	C	-	-
		T	28.8	C	29.0	C	-	-
	NB	R	22.2	C	21.9	C	-	-
		TR	22.6	C	23.0	C	-	-
	SB	L	10.6	B	11.0	B	-	-
		T	14.0	B	14.4	B	-	-
		R	3.5	A	3.6	A	-	-
			21.7	C	22.0	C		
Little East Neck Road at North Site Driveway	WB	L	-	-	25.8	C	-	-
		R	-	-	9.9	A	-	-
	NB	TR	-	-	5.2	A	-	-
		SB	L	-	-	4.3	A	-
		T	-	-	4.7	A	-	-
Intersection Delay					6.8	A	-	-

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Unsignalized Location	Approach	Movement	No-Build		Build		Mitigation Build	
			Delay	LOS	Delay	LOS	Delay	LOS
Little East Neck Road at South Site Driveway	WB	R	-	-	11.0	B	-	-
	NB	T	-	-	0.0	A	-	-
	SB	R	-	-	0.0	A	-	-
		T	-	-	0.0	A	-	-

Notes: LOS = Level of Service, Delay = seconds/vehicle,

Pinelawn Road at Colonial Springs Road/Ruland Road

In the No Build Condition, the signalized intersection of Pinelawn Road at Colonial Springs Road/Ruland Road is projected to operate at an overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed periods. The individual southbound left turning movement will degrade from LOS E to LOS F with an increase in delay of 58.2 seconds during the weekday AM peak hour. During the weekday PM peak hour, the southbound left turning movement will operate at LOS F with an increase in delay of 61.4 seconds.

In order to mitigate these impacts, a minor modification of the signal timings (specifically reallocating green time between phases while maintaining the same cycle length) during the weekday AM and PM peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Pinelawn Road at Colonial Springs Road/Ruland Road will continue to operate at No-Build overall LOS or better during the weekday AM and PM peak hours.

Little East Neck Road at Colonial Springs Road

In the No Build Condition, the signalized intersection of Little East Neck Road at Colonial Springs Road is projected to operate at an overall LOS F, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. During the Build Conditions (after the construction of the project), the intersection will continue to operate at overall LOS F with an increase in delay of 12.5 seconds during the weekday AM peak hour. During the weekday midday peak hour, the intersection will degrade from an overall LOS C to LOS D with an increase in delay of 17.7 seconds and the northbound approach degrade from LOS D to LOS F with an increase in delay from 52.1 seconds to 98.3 seconds. During the weekday PM peak hour, the intersection will degrade from LOS D to LOS F with an increase in delay of 92.8 seconds and the westbound approach will degrade from LOS B to LOS E with an increase in delay from 19.2 seconds to 74.0 seconds and northbound approach will degrades from LOS D to LOS F with an increase in delay from 53.6 seconds to 249.9 seconds. During the Saturday midday peak hour, the intersection will continue to operate at no-build LOS and the northbound approach will degrade from LOS D to LOS E with an increase in delay from 51.9 seconds to 72.3 seconds.

Based on these analyses, the intersection is currently operating at poor levels of service with some traffic movements experiencing average delays in excess of 4 minutes per vehicle. These poor levels of service conditions will be exacerbated after the construction of the project, hence measures to mitigate these poor operating conditions need to be implemented. In order to mitigate these impacts, the following improvement measures will be implemented:

- Widen the eastbound approach to provide one through lane and one exclusive right turn lane with a 150 foot storage length.

- Widen the westbound approach to provide one through lane and one shared left/through lane with a 150 foot storage length.
- Widen the northbound approach to provide two exclusive left turn lanes and one channelized right turn with a storage length of 100 feet.

These improvements will increase the capacity of the intersection and will help the eastbound, westbound, and northbound heavy traffic volumes clear the intersection quickly, thereby improve the operation, reduce the queue length, and improve safety at the intersection.

With the proposed mitigations, the intersection of Little East Neck Road at Colonial Springs Road will improve from overall LOS F to LOS B with an improved intersection delay from 140.3 seconds to 15.9 seconds during the weekday AM peak hour with all approach movements operating at LOS C or better. During the weekday midday peak hour, the intersection will improve from overall LOS D to LOS B with an improved intersection delay from 41.4 seconds to 11.9 seconds with all approach movements operating at LOS C or better. During the weekday PM peak hour, the intersection will improve from overall LOS F to LOS B with an improved intersection delay from 136.5 seconds to 14.0 seconds with all approach movements operating at LOS C or better. During the Saturday midday peak hour, the intersection will improve from overall LOS C to LOS B with an improved intersection delay from 33.0 seconds to 11.9 seconds with all approach movements operating at LOS C or better. With the proposed mitigation, the intersection will operate at better than existing condition levels of service. The overall high intersection delays during the weekday AM and PM peak hours that are currently in excess of 2 minutes per vehicle will improve to less than 16 seconds per vehicle. The conceptual plan of the proposed improvement is contained in Appendix E.

Little East Neck Road at Long Island Avenue

In the No Build Condition, the signalized intersection of Little East Neck Road at Long Island Avenue is projected to operate at an overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at overall LOS C during the weekday AM, and Saturday midday peak hours. During the weekday midday peak hour, the intersection will degrade from an overall LOS B to LOS C with an increase in delay of 3.8 seconds and the eastbound approach with LOS C will degrade to LOS D with an increase in delay from 32.5 seconds to 37.6 seconds. During the weekday PM peak hour, the intersection will degrade from an overall LOS C to LOS E with an increase in delay of 55.9 seconds and the southbound approach with LOS C will degrade to LOS F with an increase in delay from 22.2 seconds to 156.8 seconds.

Based on these analyses, the levels of service at the intersection will be degraded after the construction of the project, hence measures to mitigate these poor operating conditions need to be implemented. In order to mitigate these impacts, the following improvement measures will be implemented:

- Widen the eastbound approach to provide one dedicated left turn lane with a 200 foot storage length, one through lane and one exclusive right turn lane with a 100 foot storage length.
- Widen the westbound approach to provide one shared left/through lane and one dedicated right turn lane with a 150 foot storage length.
- Widen the northbound/southbound approaches to provide a shared left/through lane and a shared through/right turn lane with a storage length of 200 feet.
- The proposed improvement includes widening of Little East Neck Road over the railroad crossing in order to accommodate the proposed two southbound travel lanes.
- Reconstruction of traffic signal to include a protected-permitted eastbound left-turn phase, along with optimized cycle length to improve the overall operation of the intersection.

These improvements will increase the capacity of the intersection and will help the northbound and southbound heavy traffic volumes to clear the intersection quickly, thereby improve the operation, reduce the queue length, and improve safety at the intersection.

With the proposed mitigations, the intersection of Little East Neck Road at Long Island Avenue will operate at LOS C with an improved intersection delay from 32.1 seconds to 20.4 seconds during the weekday AM peak hour. During the weekday midday peak hour, the intersection will improve from LOS C to LOS B with an improved intersection delay from 23.3 seconds to 17.0 seconds with all approach movements operating at LOS D or better. During the weekday PM peak hour, the intersection will improve from LOS E to LOS B with an improved intersection delay from 79.1 seconds to 17.6 seconds and the southbound approach will improve from LOS E to LOS B with an improved delay from 156.8 seconds to 17.0 seconds. During the Saturday midday peak hour, the intersection will improve from LOS C to LOS B with an improved intersection delay from 27.7 seconds to 17.2 seconds with all approach movements operating at LOS C or better. With the proposed mitigation, the intersection will operate at better than existing condition levels of service. The high intersection delays on the southbound approach during the weekday PM peak hour that is in excess of 2 minutes per vehicle will improve to less than 17 seconds per vehicle. The conceptual plan for the proposed improvement is contained in Appendix E.

Little East Neck Road at Straight Path

In the No Build Condition, the signalized intersection of Little East Neck Road at Straight Path is projected to operate at an overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed period except for the weekday AM and PM peak hours. The individual westbound through-right turning movement will operate at LOS F with an increased delay of 33.2 seconds during the weekday AM peak hour. The eastbound through-right turning movement

with LOS E will degrade to LOS F with an increased delay of 62.3 seconds during the weekday PM peak hour.

In order to mitigate these impacts, a minor modification of the signal timings (specifically reallocating green time between phases while maintaining the same cycle length) during the weekday AM and PM peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Little East Neck Road at Straight Path will improve from overall LOS E to LOS D with an improved delay from 55.6 seconds to 50.8 seconds during the weekday PM peak hour and the eastbound approach will improve from LOS F to LOS E with an improved delay from 125.8 seconds to 74.6 seconds. During the weekday AM peak hour, the individual westbound through-right movement will improve from LOS F to LOS E with an improved delay from 116.8 seconds to 60.0 seconds.

Wellwood Avenue at Long Island Avenue/Conklin Street

In the No Build Condition, the signalized intersection of Wellwood Avenue at Long Island Avenue/Conklin Street is projected to operate at an overall LOS D, D, E, and D during the weekday AM, midday, PM, and Saturday midday peak hours with an individual movement operating at LOS F or better. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed period except for the weekday PM peak hour, which will operate at an overall LOS F with 18.8 seconds increase in delay and Saturday midday peak hour, which will operate at an overall LOS E with 25.0 seconds increase in delay. The individual southbound through movement with LOS D will degrade to LOS F with an increased delay of 52.2 seconds during the weekday Saturday midday peak hour.

In order to mitigate these impacts, a minor modification of the signal timings (optimize the cycle length) during the weekday AM, midday, PM, and Saturday midday peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Wellwood Avenue at Long Island Avenue/Conklin Street will operate from LOS F to LOS D with an improved delay from 83.9 seconds to 54.7 seconds during the weekday PM peak hour and from LOS E to LOS D with an improved delay from 78.5 seconds to 42.2 seconds during the Saturday midday peak hour. During the weekday AM peak hour, the eastbound through movement will improve from LOS E to LOS D with an improved delay from 71.9 seconds to 51.0 seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 117.4 seconds to 72.0 seconds, and the northbound left turn will improve from LOS F to E with an improved delay from 82.6 seconds to 64.3 seconds. During the weekday PM peak hour, the eastbound through movement will operate at LOS F with an improved delay from 332.6 seconds to 117.7 seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 168.5 seconds to 64.6 seconds, and the southbound left turn will improve from LOS F to E with an improved delay from 88.7 seconds to 75.9 seconds. During the

Saturday midday peak hour, the eastbound through movement will improve from LOS E to LOS D with an improved delay from 75.0 seconds to 45.8 seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 214.3 seconds to 72.7 seconds, and the southbound through-right turn will improve from LOS F to E with an improved delay from 89.8 seconds to 44.9 seconds.

Long Island Avenue at Straight Path

In the No Build Condition, the signalized intersection of Long Island Avenue at Straight Path is projected to operate at an overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours with an individual movement operating at LOS C or better. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed peak periods expect for the weekday midday peak hour, which will operate at an overall LOS C with 0.6 seconds increase in delay. Therefore, no significant impacts are created, and no mitigation measures are proposed at this intersection.

Little East Neck Road at North Site Access

As part of this project, it is proposed to install a traffic signal at the north site access. As part of the standard review and permitting associated with such a signal, a signal warrant analysis to evaluate and demonstrate the need for the traffic signal will be conducted and submitted to the Town for review and approval. The signal warrant analysis will be incorporated into the overall Traffic Analysis and SEQRA record as part of the future Final EIS. After the construction of the project, the signalized intersection of Little East Neck Road at North Site Access will operate at overall LOS A during the weekday midday and Saturday midday peak hours and at LOS B during the weekday AM and PM peak hours with all approach movements operating at LOS C or better.

Little East Neck Road at South Site Access

After the construction of the project, the westbound approach of unsignalized intersection of Little East Neck Road at South Site Access will operate at overall LOS D during the weekday AM peak hour and at LOS B during the weekday midday, PM, and Saturday midday peak hours.

PARKING STUDY

A parking study was conducted and submitted as a sperate document.

CONCLUSION

Nelson + Pope (N+P) has investigated the potential traffic impact associated with a 111.39-acre site located on the north side of Long Island Avenue, east of Little East Neck Road in the Hamlet of Wyandanch, Town of Babylon, Suffolk County, New York. The property, further identified as

Suffolk County Tax Map District 100; Section 38; Block 1; Lot 1, is located in the Town of Babylon's A – Residence zoning district and is a currently vacant and partially wooded property owned by Pinelawn Cemetery. The Applicant seeks to subdivide the subject property into two lots (Lot 1 at 100.11 acres and Lot 2 at 11.28 acres) and change the zone of Lot 1 to the newly proposed Planned Industrial Park-2 (PIP-2) zoning district to allow for the development of Lot 1 with a business/technology park campus. Lot 2 would retain the existing residential zoning and existing cemetery use. Access to proposed Lot 1 will be provided via a proposed full-movement signalized driveway and a right turn in/out stop-controlled driveway along Little East Neck Road. Lot 2 will retain frontage on North 28th Street and therefore have future access from this street. As part of the driveway construction, the Kevin Ver Pault Memorial Park entrance on Little East Neck Road will be relocated approximately 150 feet to the north to reduce traffic conflicts with the proposed signalized driveway. In addition to the relocation of the driveway, the southbound approach will be restriped to provide a left turn lane and a through lane. The relocation of the driveway and addition of the southbound left turn lane will improve sight lines for vehicles exiting the park driveway and reduce southbound queue.

The following is a summary of this investigation and the findings thereof:

1. The following intersections were included in this study:
 - Pinelawn Road (CR-3) at Colonial Springs Road/Ruland Road
 - Little East Neck Road at Colonial Springs Road
 - Little East Neck Road at Long Island Avenue
 - Little East Neck Road at Straight Path (CR-2)
 - Wellwood Avenue (CR-3) at Long Island Avenue/Conklin Street
 - Long Island Avenue at Straight Path (CR-2)
2. Turning movement traffic counts were collected at the following study intersections on Tuesday, June 11, 2024, during the weekday morning (7:00 AM to 9:00AM), weekday afternoon (11:00 AM to 2:00 PM) and weekday evening (4:00 PM to 7:00 PM) peak hours. The weekend turning movement counts were collected on June 08, 2024, during the Saturday midday peak period (10:00 AM to 2:00 PM).
3. Growth factors were developed for forecasting the future 2027 traffic volumes. Based on the Average Annual Growth Rate for Vehicle-Miles Traveled (VMT) developed by the New York Metropolitan Transportation Council (NYMTC), the average annual growth rate for Suffolk County ranges from 0.30% to 0.47% depending on the functional classification of the roadway. Based on the functional classifications of roadways within the study area, the growth rate is at most 0.47%. The growth trends demonstrated through historic traffic data

and information provided in the Long Island Transportation Plan (LITP) 2000 study model, an annual growth factor of 1.1% was determined for the Town of Babylon. In order to perform a conservative analysis, the higher of the two growth factors was utilized to develop the future volumes. The existing 2024 traffic volumes were then adjusted using an annual growth factor of 1.1% for a period of 3 years to project volumes to the 2027 future volumes.

4. Estimates of traffic that would be generated by the proposed project were prepared utilizing trip generation rates developed from data obtained at two facilities similar to the proposed project. One of the facilities is the Heartland Business Center, an Industrial Park located in Brentwood, Long Island. The second facility is the Hillsboro technology Center, an Industrial Park owned and operated by the applicant located in Hillsboro, Florida. The site-generated traffic volumes were assigned to the adjacent street system based on the anticipated directional trip distribution forecasted by Nelson + Pope and approved by the Town of Babylon.
5. The proposed project Suffolk Technology Park is projected to generate 439 trips (320 entering and 119 exiting) during the weekday AM peak hour, 390 trips (177 entering and 213 exiting) during the weekday midday peak hour, 738 trips (236 entering and 502 exiting) during the weekday PM peak hour and 238 trips (107 entering and 131 exiting) during the Saturday midday peak hour. The proposed project will generate 35 truck trips (9 entering and 26 exiting) during the weekday AM peak hour, 43 truck trips (21 entering and 22 exiting) during the weekday midday peak hour, 22 truck trips (14 entering and 8 exiting) during the PM peak hour and 7 truck trips (5 entering and 2 exiting) during the Saturday midday peak hour.
6. Capacity analyses were conducted at all study intersections during the weekday AM, weekday midday, weekday PM and Saturday midday peak hours for the 2024 Existing Condition, 2027 No Build Condition and 2027 Build Condition.
7. In the No Build Condition, the signalized intersection of Pinelawn Road at Colonial Springs Road/Ruland Road is projected to operate at an overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed periods. The individual southbound left turning movement will degrade from LOS E to LOS F with an increase in delay of 58.2 seconds during the weekday AM peak hour. During the weekday PM peak hour, the southbound left turning movement will operate at LOS F with an increase in delay of 61.4 seconds. In order to mitigate these impacts, a minor modification of the signal timings (specifically reallocating green time between phases while maintaining the same

cycle length) during the weekday AM and PM peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Pinelawn Road at Colonial Springs Road/Ruland Road will continue to operate at No-Build overall LOS or better during the weekday AM and PM peak hours.

8. In the No Build Condition, the signalized intersection of Little East Neck Road at Colonial Springs Road is projected to operate at an overall LOS F, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours, respectively. During the Build Conditions (after the construction of the project), the intersection will continue to operate at overall LOS F with an increase in delay of 12.5 seconds during the weekday AM peak hour. During the weekday midday peak hour, the intersection will degrade from an overall LOS C to LOS D with an increase in delay of 17.7 seconds and the northbound approach degrade from LOS D to LOS F with an increase in delay from 52.1 seconds to 98.3 seconds. During the weekday PM peak hour, the intersection will degrade from LOS D to LOS F with an increase in delay of 92.8 seconds and the westbound approach will degrade from LOS B to LOS E with an increase in delay from 19.2 seconds to 74.0 seconds and northbound approach will degrade from LOS D to LOS F with an increase in delay from 53.6 seconds to 249.9 seconds. During the Saturday midday peak hour, the intersection will continue to operate at no-build LOS and the northbound approach will degrade from LOS D to LOS E with an increase in delay from 51.9 seconds to 72.3 seconds.

Based on these analyses, the intersection is currently operating at poor levels of service with some traffic movements experiencing average delays in excess of 4 minutes per vehicle. These poor levels of service conditions will be exacerbated after the construction of the project, hence measures to mitigate these poor operating conditions need to be implemented. In order to mitigate these impacts, the following improvement measures will be implemented:

- Widen the eastbound approach to provide one through lane and one exclusive right turn lane with a 150 foot storage length.
- Widen the westbound approach to provide one through lane and one shared left/through lane with a 150 foot storage length.
- Widen the northbound approach to provide two exclusive left turn lanes and one channelized right turn with a storage length of 100 feet.

These improvements will increase the capacity of the intersection and will help the eastbound, westbound, and northbound heavy traffic volumes clear the intersection quickly, thereby improve the operation, reduce the queue length, and improve safety at the intersection.

With the proposed mitigations, the intersection of Little East Neck Road at Colonial Springs Road will improve from overall LOS F to LOS B with an improved intersection delay from 140.3 seconds to 15.9 seconds during the weekday AM peak hour with all approach movements operating at LOS C or better. During the weekday midday peak hour, the intersection will improve from overall LOS D to LOS B with an improved intersection delay from 41.4 seconds to 11.9 seconds with all approach movements operating at LOS C or better. During the weekday PM peak hour, the intersection will improve from overall LOS F to LOS B with an improved intersection delay from 136.5 seconds to 14.0 seconds with all approach movements operating at LOS C or better. During the Saturday midday peak hour, the intersection will improve from overall LOS C to LOS B with an improved intersection delay from 33.0 seconds to 11.9 seconds with all approach movements operating at LOS C or better. With the proposed mitigation, the intersection will operate at better than existing condition levels of service. The overall high intersection delays during the weekday AM and PM peak hours that are currently in excess of 2 minutes per vehicle will improve to less than 16 seconds per vehicle. The conceptual plan of the proposed improvement is contained in Appendix E.

9. In the No Build Condition, the signalized intersection of Little East Neck Road at Long Island Avenue is projected to operate at an overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at overall LOS C during the weekday AM, and Saturday midday peak hours. During the weekday midday peak hour, the intersection will degrade from an overall LOS B to LOS C with an increase in delay of 3.8 seconds and the eastbound approach with LOS C will degrade to LOS D with an increase in delay from 32.5 seconds to 37.6 seconds. During the weekday PM peak hour, the intersection will degrade from an overall LOS C to LOS E with an increase in delay of 55.9 seconds and the southbound approach with LOS C will degrade to LOS F with an increase in delay from 22.2 seconds to 156.8 seconds.

Based on these analyses, the levels of service at the intersection will be degraded after the construction of the project, hence measures to mitigate these poor operating conditions need to be implemented. In order to mitigate these impacts, the following improvement measures will be implemented:

- Widen the eastbound approach to provide one dedicated left turn lane with a 200 foot storage length, one through lane and one exclusive right turn lane with a 100 foot storage length.
- Widen the westbound approach to provide one shared left/through lane and one dedicated right turn lane with a 150 foot storage length.

- Widen the northbound/southbound approaches to provide a shared left/through lane and a shared through/right turn lane with a storage length of 200 feet.
- The proposed improvement includes widening of Little East Neck Road over the railroad crossing in order to accommodate the proposed two southbound travel lanes.
- Reconstruction of traffic signal to include a protected-permitted eastbound left-turn phase, along with optimized cycle length to improve the overall operation of the intersection.

These improvements will increase the capacity of the intersection and will help the northbound and southbound heavy traffic volumes to clear the intersection quickly, thereby improve the operation, reduce the queue length, and improve safety at the intersection.

With the proposed mitigations, the intersection of Little East Neck Road at Long Island Avenue will operate at LOS C with an improved intersection delay from 32.1 seconds to 20.4 seconds during the weekday AM peak hour. During the weekday midday peak hour, the intersection will improve from LOS C to LOS B with an improved intersection delay from 23.3 seconds to 17.0 seconds with all approach movements operating at LOS D or better. During the weekday PM peak hour, the intersection will improve from LOS E to LOS B with an improved intersection delay from 79.1 seconds to 17.6 seconds and the southbound approach will improve from LOS E to LOS B with an improved delay from 156.8 seconds to 17.0 seconds. During the Saturday midday peak hour, the intersection will improve from LOS C to LOS B with an improved intersection delay from 27.7 seconds to 17.2 seconds with all approach movements operating at LOS C or better. With the proposed mitigation, the intersection will operate at better than existing condition levels of service. The high intersection delays on the southbound approach during the weekday PM peak hour that is in excess of 2 minutes per vehicle will improve to less than 17 seconds per vehicle. The conceptual plan for the proposed improvement is contained in Appendix E.

10. In the No Build Condition, the signalized intersection of Little East Neck Road at Straight Path is projected to operate at an overall LOS D, C, D, and C during the weekday AM, midday, PM, and Saturday midday peak hours. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed period except for the weekday AM and PM peak hours. The individual westbound through-right turning movement will operate at LOS F with an increased delay of 33.2 seconds during the weekday AM peak hour. The eastbound through-right turning movement with LOS E will degrade to LOS F with an increased delay of 62.3 seconds during the weekday PM peak hour.

In order to mitigate these impacts, a minor modification of the signal timings (specifically reallocating green time between phases while maintaining the same cycle length) during

the weekday AM and PM peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Little East Neck Road at Straight Path will improve from overall LOS E to LOS D with an improved delay from 55.6 seconds to 50.8 seconds during the weekday PM peak hour and the eastbound approach will improve from LOS F to LOS E with an improved delay from 125.8 seconds to 74.6 seconds. During the weekday AM peak hour, the individual westbound through-right movement will improve from LOS F to LOS E with an improved delay from 116.8 seconds to 60.0 seconds.

11. In the No Build Condition, the signalized intersection of Wellwood Avenue at Long Island Avenue/Conklin Street is projected to operate at an overall LOS D, D, E, and D during the weekday AM, midday, PM, and Saturday midday peak hours with an individual movement operating at LOS F or better. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed period except for the weekday PM peak hour, which will operate at an overall LOS F with 18.8 seconds increase in delay and Saturday midday peak hour, which will operate at an overall LOS E with 25.0 seconds increase in delay. The individual southbound through movement with LOS D will degrade to LOS F with an increased delay of 52.2 seconds during the weekday Saturday midday peak hour.

In order to mitigate these impacts, a minor modification of the signal timings (optimize the cycle length) during the weekday AM, midday, PM, and Saturday midday peak hours will improve the operation and the overall LOS of the intersection. With the proposed mitigation, the intersection of Wellwood Avenue at Long Island Avenue/Conklin Street will operate from LOS F to LOS D with an improved delay from 83.9 seconds to 54.7 seconds during the weekday PM peak hour and from LOS E to LOS D with an improved delay from 78.5 seconds to 42.2 seconds during the Saturday midday peak hour. During the weekday AM peak hour, the eastbound through movement will improve from LOS E to LOS D with an improved delay from 71.9 seconds to 51.0 seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 117.4 seconds to 72.0 seconds, and the northbound left turn will improve from LOS F to E with an improved delay from 82.6 seconds to 64.3 seconds. During the weekday PM peak hour, the eastbound through movement will operate at LOS F with an improved delay from 332.6 seconds to 117. seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 168.5 seconds to 64.6 seconds, and the southbound left turn will improve from LOS F to E with an improved delay from 88.7 seconds to 75.9 seconds. During the Saturday midday peak hour, the eastbound through movement will improve from LOS E to LOS D with an improved delay from 75.0 seconds to 45.8 seconds, the westbound through movement will improve from LOS F to LOS E with an improved delay from 214.3

seconds to 72.7 seconds, and the southbound through-right turn will improve from LOS F to E with an improved delay from 89.8 seconds to 44.9 seconds.

12. In the No Build Condition, the signalized intersection of Long Island Avenue at Straight Path is projected to operate at an overall LOS C, B, C, and C during the weekday AM, midday, PM, and Saturday midday peak hours with an individual movement operating at LOS C or better. During the Build Conditions (after the construction of the project), the intersection will continue to operate at No Build Condition LOS with a minimal increase in delay during the analyzed peak periods expect for the weekday midday peak hour, which will operate at an overall LOS C with 0.6 seconds increase in delay. Therefore, no significant impacts are created, and no mitigation measures are proposed at this intersection.
13. As part of this project, it is proposed to install a traffic signal at the north site access. A signal warrant analysis will be conducted to justify the need for the traffic signal. The signal warrant report will be submitted as a separate document. After the construction of the project, the signalized intersection of Little East Neck Road at North Site Access will operate at overall LOS A during the weekday midday and Saturday midday peak hours and at LOS B during the weekday AM and PM peak hours with all approach movements operating at LOS C or better.
14. After the construction of the project, the westbound approach of unsignalized intersection of Little East Neck Road at South Site Access will operate at overall LOS D during the weekday AM peak hour and at LOS B during the weekday midday, PM, and Saturday midday peak hours.

Based on the results of the Traffic Impact Study as detailed in the body of this report, it is the professional opinion of Nelson + Pope that, constructing the proposed development and the associated roadway improvements will not result in any adverse traffic impacts in the study area.