



## Traffic Impact Study

### Beacon Views

City of Beacon, Dutchess County, New York

August 16, 2019

*Prepared For*

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A handwritten signature in black ink, which appears to read 'Philip J. Greal', is written over a horizontal line. The signature is fluid and cursive.

Philip J. Greal, Ph.D., P.E./Principal  
License No. 59858

MC Project No. 19002075A



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## **I. INTRODUCTION**

### **A. PROJECT DESCRIPTION AND LOCATION**

*(Figure No. 1)*

This report has been prepared to evaluate the potential traffic impacts associated with the proposed Beacon Views project, a 42 unit townhome development (the “Project”), which is proposed to be developed on the vacant property located northeast of Delavan Avenue, northwest of Desoto Avenue, and north of Conklin Street in the City of Beacon, Dutchess County, New York. The Project will be constructed with access to the extension of Hastings Drive, which in turn connects to Delavan Avenue as shown in Appendix A, on Figure No. 1. An emergency access connection will also be provided to the 25 Townsend Street property located to the north of the Project.

A Design Year of 2022 has been utilized in completing the traffic analysis in order to evaluate future traffic conditions associated with this proposed development.

### **B. SCOPE OF STUDY**

This study has been prepared to identify current and future traffic operating conditions on the surrounding roadway network and to assess the potential traffic impacts of the proposed Project.

All available traffic count data for the study area intersections were obtained from previous reports prepared by our office. These data were supplemented with new traffic counts collected by representatives of Maser Consulting, P.A. These data were also compared to count data obtained from the New York State Department of Transportation (NYSDOT). Together these data were utilized to establish the Year 2019 Existing Traffic Volumes representing existing traffic conditions in the vicinity of the site.

The Year 2019 Existing Traffic Volumes were then projected to the 2022 Design Year to take into account background traffic growth. In addition, traffic for other specific potential or approved developments in the area were estimated and then added to the Projected Traffic Volumes to obtain the Year 2022 No-Build Traffic Volumes.

Estimates were then made of the potential traffic that the proposed development would generate during each of the peak hours (see Section III-C for further discussion). The

resulting site generated traffic volumes were then added to the roadway system and combined with the Year 2022 No-Build Traffic Volumes resulting in the Year 2022 Build Traffic Volumes.

The Existing, No-Build and Build Traffic Volumes were then compared to roadway capacities based on the procedures from the Highway Capacity Manual to determine existing and future Levels of Service and operating conditions. Recommendations for improvements were made where necessary to serve the existing and/or future traffic volumes.

## **II. EXISTING ROADWAY AND TRAFFIC DESCRIPTIONS**

### **A. DESCRIPTION OF EXISTING ROADWAYS**

As shown on Figure No. 1, the proposed Project will be accessed from Delavan Avenue via Hastings Drive, which is an access connection to be located approximately 700 feet northwest of Fishkill Avenue (NYS Route 52). The following is a brief description of the roadways located within the study area. In addition, Section III-F provides a further description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service and any recommended improvements for each of the study area intersections. Appendix “C” contains copies of the capacity analyses which indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. NYS Route 52 (Fishkill Avenue)

NYS Route 52 (Fishkill Avenue) is classified as an Urban Minor Arterial roadway in the study area under New York State Department of Transportation (NYSDOT) jurisdiction. The roadway generally traverses in a northeasterly direction throughout Southern Dutchess County. In the vicinity of the site the roadway provides regional access to I-84 and the downtown Beacon Main Street area. The roadway generally consists of a two-lane cross-section in the immediate area of the project site with additional auxiliary lanes provided at various intersections. The posted speed limit is 30 mph in the City of Beacon.

2. Delavan Avenue

Delavan Avenue is a two-lane local roadway that generally traverses in an east/west direction. The roadway begins at a stop sign controlled “T” intersection with NYS Route 52 (Fishkill Avenue) and terminates as a cul-de-sac and/or dead end. It provides access to approximately 29 homes and Salem Tabernacle Church. There are sidewalks along each side of the roadway. Delavan Avenue also provides access to two local roadways: 1) Arquilla Drive (Beacon Volunteer Ambulance Corps), and 2) Hastings Drive (Wingate at Beacon and Highland Meadows Senior Residence). The Beacon Views Development is proposed to be accessed via a new roadway connection from the Hastings Drive extension, which in turn connects to Delavan Avenue. The roadway does not have a posted speed limit.

## **B. YEAR 2019 EXISTING TRAFFIC VOLUMES**

*(Figures No. 2. and 3)*

Manual traffic counts were collected by representatives of Maser Consulting, P.A. on Tuesday, August 6, 2019 for the AM and PM Peak Hours to determine the existing traffic volume conditions at the study area intersections. These traffic counts were then compared to traffic volume data from previous traffic studies and counts along Fishkill Avenue. These included those conducted by our office during January 2019. The counts were also compared to traffic volume data available from the New York State Department of Transportation (NYSDOT) for the NYS Route 52 Corridor. Based on this information, the Year 2019 Existing Traffic Volumes were established for the Weekday Peak AM and Weekday Peak PM Hours at the following study area intersections.

- NYS Route 52 (Fishkill Avenue) and Delavan Avenue
- Delavan Avenue and Hastings Drive

Based upon a review of the traffic counts, the peak hours were generally identified as follows:

- |                        |                   |
|------------------------|-------------------|
| ▪ Weekday Peak AM Hour | 7:45 AM – 8:45 AM |
| ▪ Weekday Peak PM Hour | 5:00 PM – 6:00 PM |

The resulting Year 2019 Existing Traffic Volumes are shown on Figures No. 2 and 3 for the Weekday Peak AM Hour and Weekday Peak PM Hour, respectively.

## **C. ACCIDENT DATA**

Accident data has been requested from the New York State Department of Transportation (NYSDOT) for the intersection of Route 52 and Delavan Avenue. Once received, it will be summarized.

### **III. EVALUATION OF FUTURE TRAFFIC CONDITIONS**

#### **A. YEAR 2022 NO-BUILD TRAFFIC VOLUMES**

*(Figure No. 4 through 9)*

The Year 2019 Existing Traffic Volumes were increased by a growth factor of 2% per year to account for general background growth resulting in the Year 2022 Projected Traffic Volumes which are shown on Figures No. 4 and 5 for each of the Peak Hours. In addition, traffic from other specific potential developments in the area, including the 511 Fishkill multi-use commercial development, were identified. The resulting traffic volumes associated with these other developments are shown on Figures No. 6 and 7 for each of the peak hours. These volumes were added to the 2022 Projected Traffic Volumes resulting in the Year 2022 No-Build Traffic Volumes which are shown on Figures No. 8 and 9 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

#### **B. SITE GENERATED TRAFFIC VOLUMES**

*(Table No. 1)*

Estimates of the amount of traffic to be generated by the proposed residential development project during each of the peak hours were developed based on information published by the Institute of Transportation Engineers (ITE) as contained in the report entitled “Trip Generation”, 10<sup>th</sup> Edition, 2017, based on Land Use Category – 220 Multi-family Housing (Low Rise). Table No. 1 summarizes the trip generation rates and corresponding site generated traffic volumes for the Weekday Peak AM and Weekday Peak PM Hours.

#### **C. ARRIVAL/DEPARTURE DISTRIBUTION**

*(Figures No. 10 and 11)*

It was necessary to establish arrival and departure distributions to assign the site generated traffic volumes to the surrounding roadway network. Based on a review of the Existing Traffic Volumes and the expected travel patterns on the surrounding roadway network, the distributions were identified. The anticipated arrival and departure distributions are shown on Figures No. 10 and 11, respectively.

#### **D. 2022 BUILD CONDITIONS TRAFFIC VOLUMES**

*(Figures No. 12 through 15)*

The site generated traffic volumes were assigned to the roadway network based on the arrival and departure distributions referenced above. The resulting site generated traffic volumes for each of the study area intersections are shown on Figures No. 12 and 13 for each of the peak hours, respectively. The site generated traffic volumes were then added to the Year 2022 No-Build Traffic Volumes to obtain the Year 2022 Build Traffic Volumes. The resulting Year 2022 Build Traffic Volumes are shown on Figures No. 14 and 15 for the Weekday Peak AM and Weekday Peak PM Hours, respectively.

#### **E. DESCRIPTION OF ANALYSIS PROCEDURES**

It was necessary to perform capacity analyses in order to determine existing and future traffic operating conditions at the study area intersections. The unsignalized intersection capacity analysis method utilized in this report was also performed in accordance with the procedures described in the *Highway Capacity Manual, 6<sup>th</sup> Edition*. The procedure is based on total elapsed time from when a vehicle stops at the end of the queue until the vehicle departs from the stop line. The average total delay for any particular critical movement is a function of the service rate or capacity of the approach and the degree of saturation. In order to identify the Level of Service, the average amount of vehicle delay is computed for each critical movement to the intersection.

Additional information concerning signalized and unsignalized Levels of Service can be found in Appendix “C” of this report.

#### **F. RESULTS OF ANALYSIS**

*(Table No. 2)*

Capacity analyses which take into consideration appropriate truck percentages, pedestrian activity, roadway grades and other factors were performed at the study area intersections utilizing the procedures described above to determine the Levels of Service and average vehicle delays. Summarized below are a description of the existing geometrics, traffic control and a summary of the existing and future Levels of Service as well as any recommended improvements.



Table No. 2 summarizes the results of the capacity analysis for the 2019 Existing, 2022 No-Build and 2022 Build Conditions. Appendix “C” contains copies of the capacity analysis which also indicate the existing geometrics (including lane widths) and other characteristics for each of the individual intersections studied.

1. NYS Route 52 (Fishkill Avenue) and Delavan Avenue

NYS Route 52 (Fishkill Avenue) and Delavan Avenue intersect at a stop sign controlled “T” intersection. The Delavan Avenue approach consists of two-lanes with a painted stop bar and crosswalk. The NYS Route 52 (Fishkill Avenue) approaches each consist of one lane with a double yellow center line and white shoulder edge line.

Capacity analysis was conducted for this intersection utilizing the 2019 Existing Traffic Volumes. The analysis results indicate that the (Delavan Avenue) side road approach intersection is currently operating at a Level of Service “D” during the AM and PM Peak Hours. It should be noted that Fishkill Avenue operates at a Level of Service “A” during these time periods.

The capacity analysis was recomputed using the 2022 No-Build and Build Traffic volumes. Striping improvements on the Delavan Avenue approach, including centerline and stop bar, are recommended. The intersection is expected to experience Levels of Service “C” or better during the AM Peak Hour and a Level of Service “E” or better during the PM Peak Hours under future conditions.

It should be noted that it is not unusual for an unsignalized intersection to experience a Level of Service “E” during peak hours for traffic exiting the side road. It should also be noted that there are some gaps in traffic along Fishkill Avenue that are created by traffic signals located to the north and south of this location that allow side road traffic to be processed at intervening street locations. Thus, while there will be some additional vehicle trips generated by this project on Delavan Avenue, no significant impacts on traffic flow is expected based on the analysis contained herein.

2. Delavan Avenue and Hastings Drive

Hastings Drive intersects Delavan Avenue at a “T” shaped intersection by a “Stop” sign. The levels of service were analyzed using the Existing, No-Build and Build scenarios and will have a Level of Service “A” for all conditions.

#### **IV. SUMMARY AND CONCLUSION**

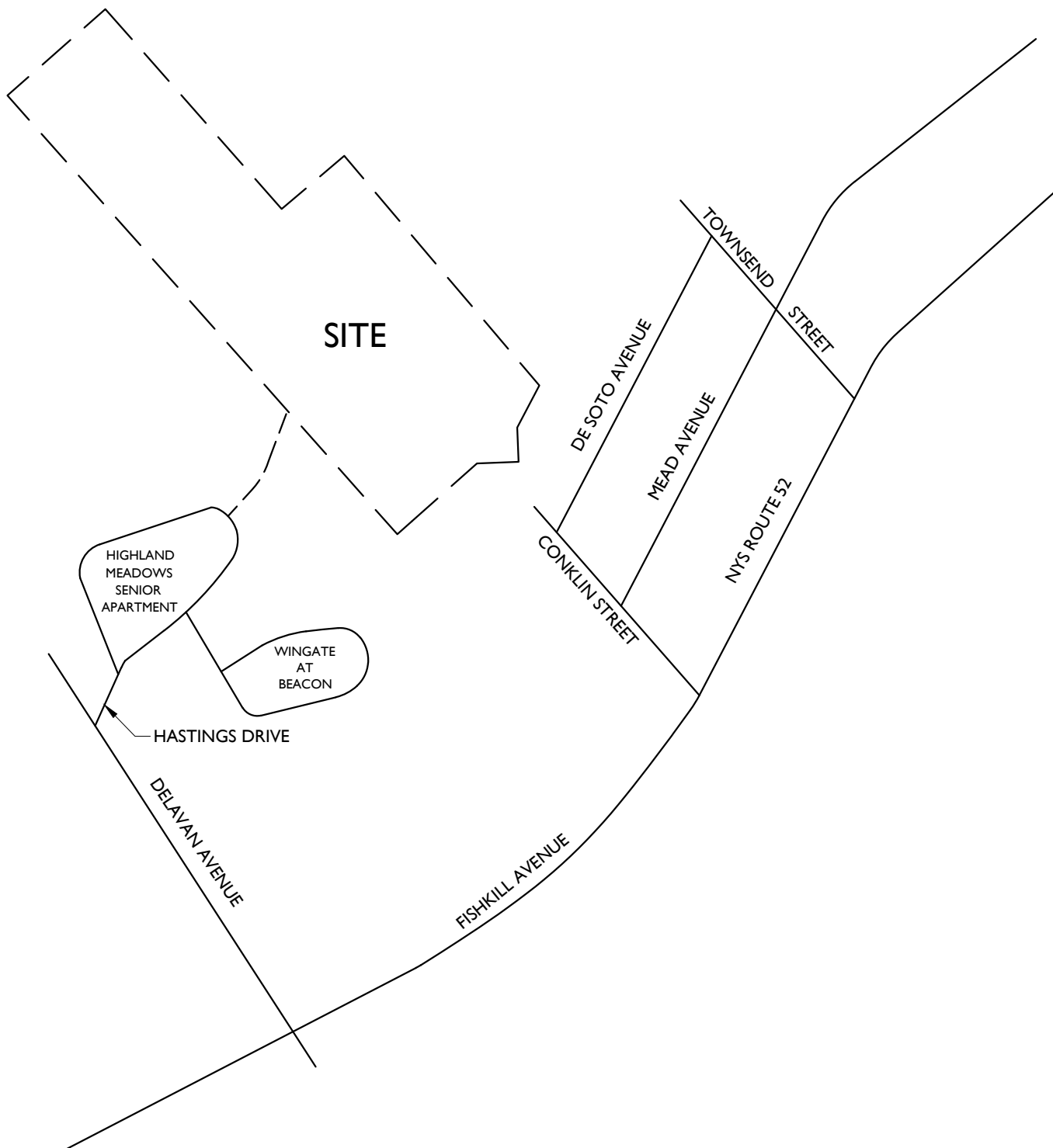
Based on the above analysis, similar Levels of Service and delays will be experienced at the area intersections under the future No-Build and future Build Conditions. Thus, the Beacon Views development traffic is not expected to cause any significant impact in overall operation.

## ***BEACON VIEWS***

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### **APPENDIX A**

### **FIGURES**



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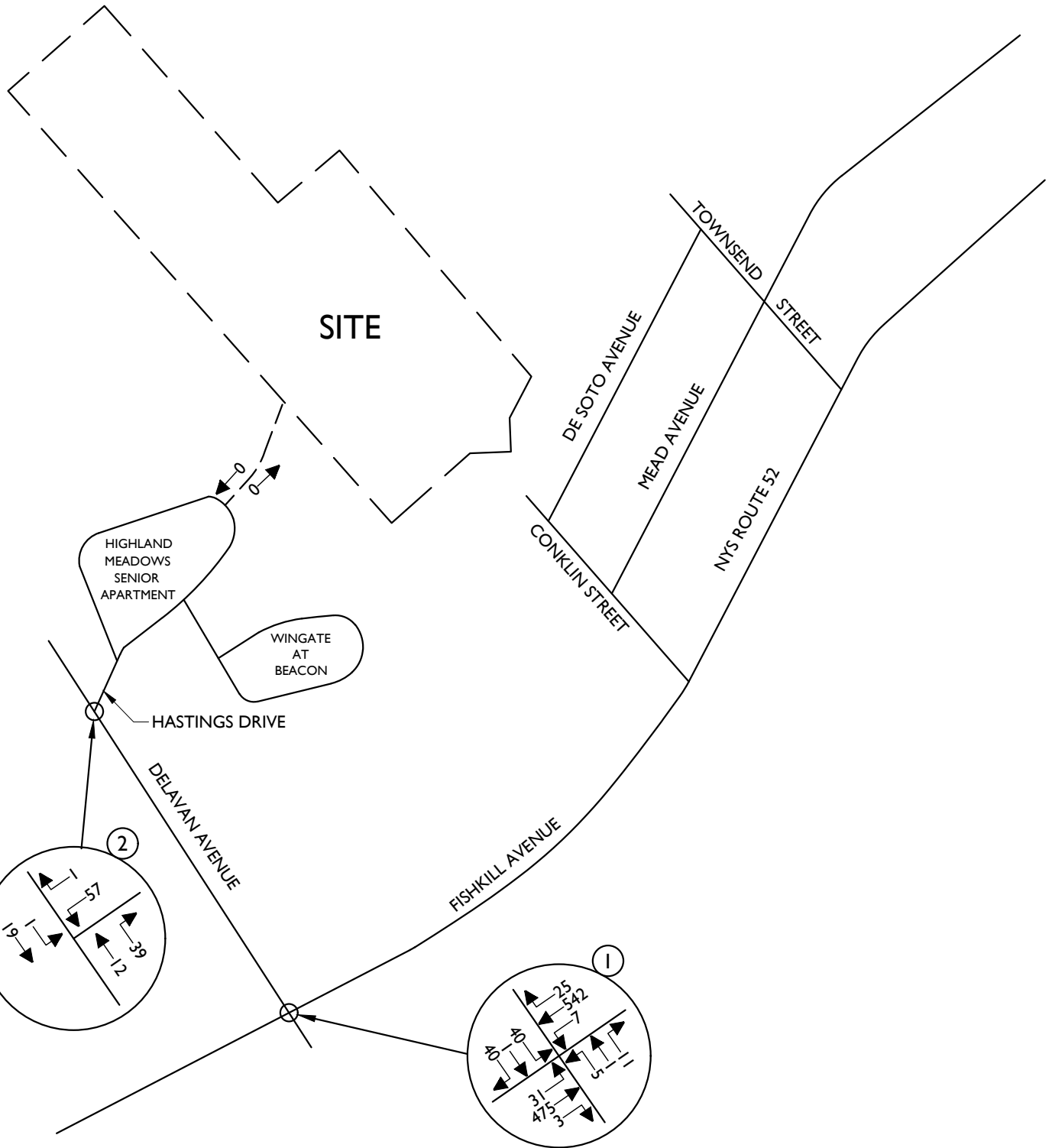
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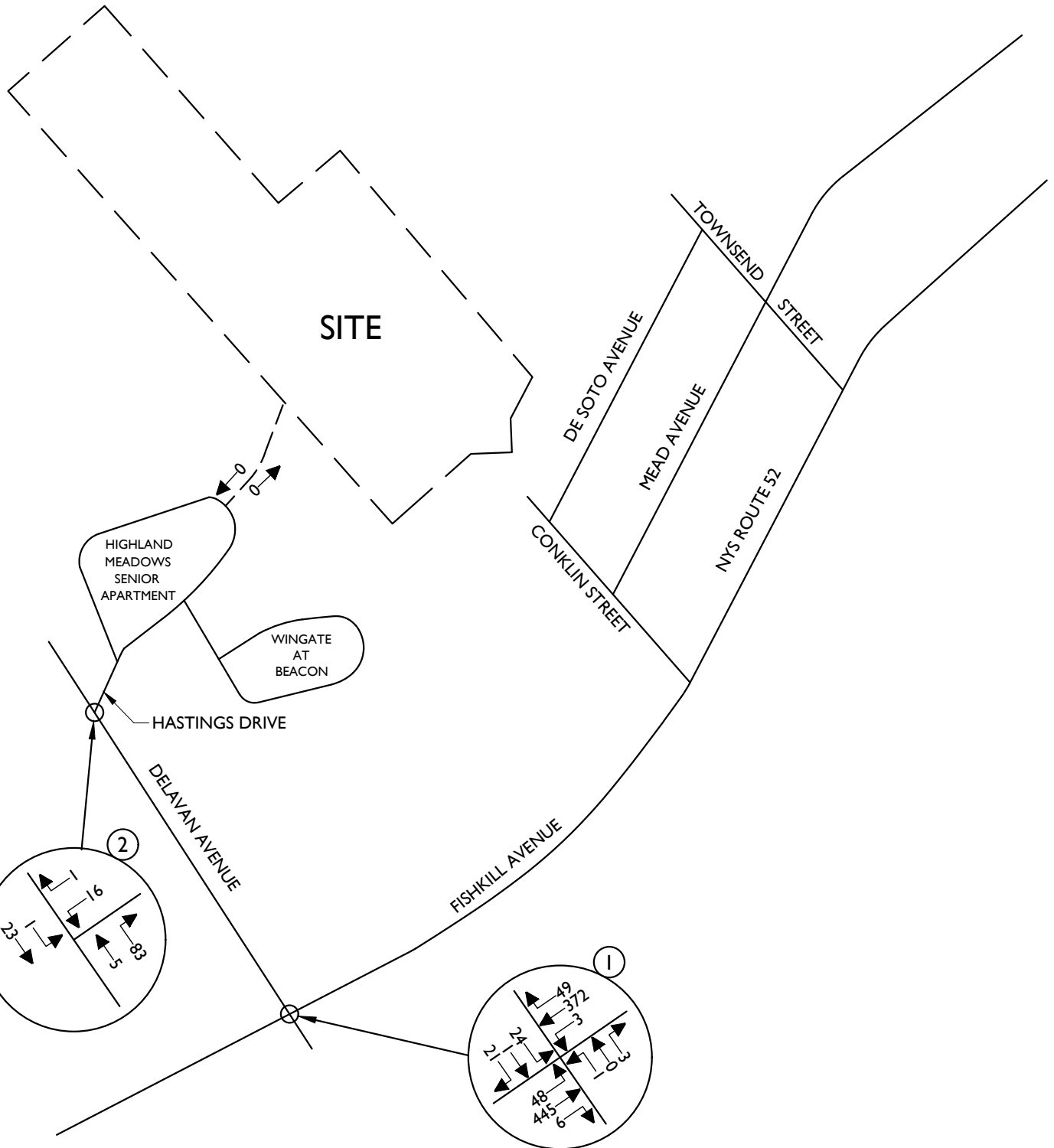
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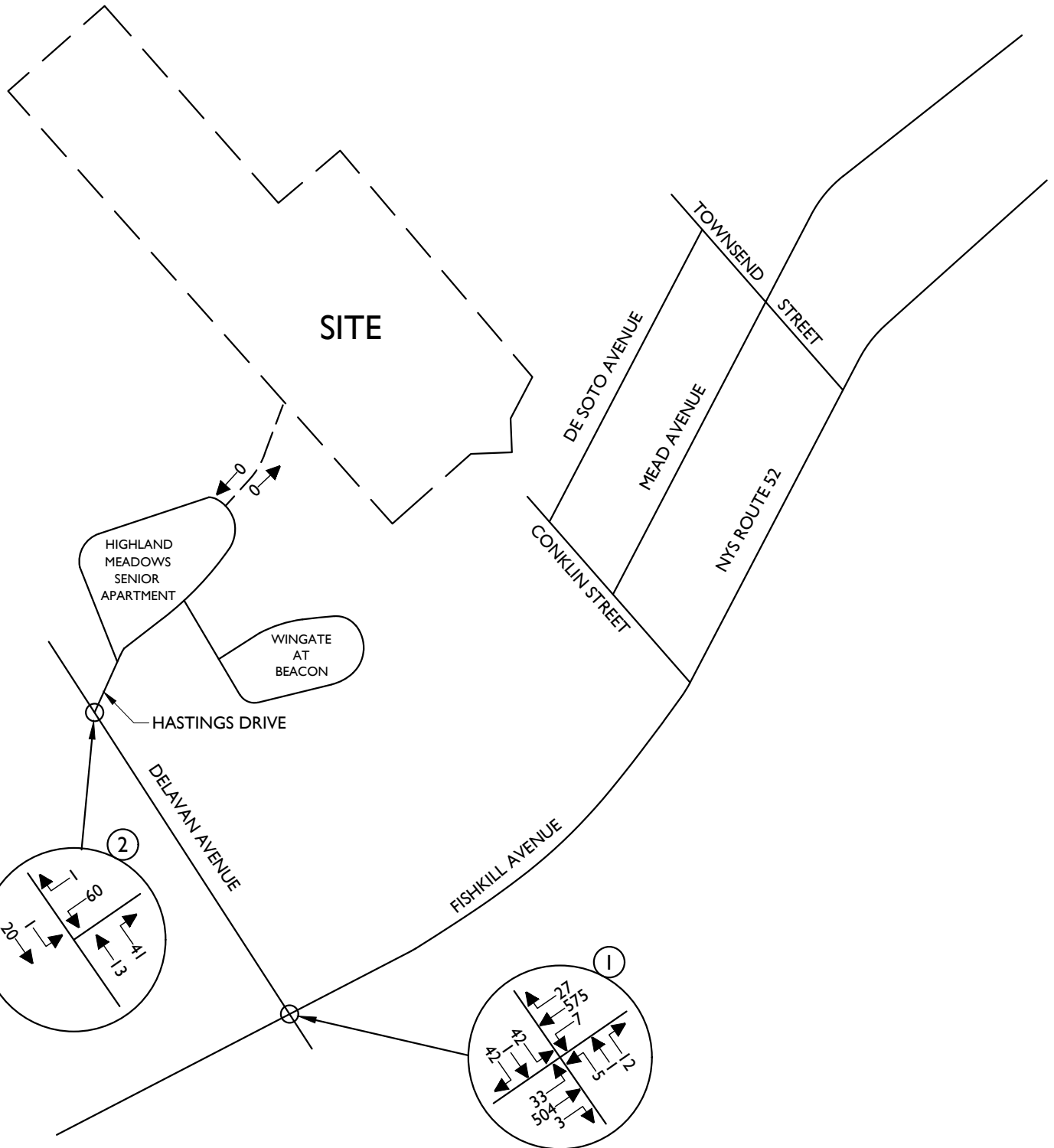
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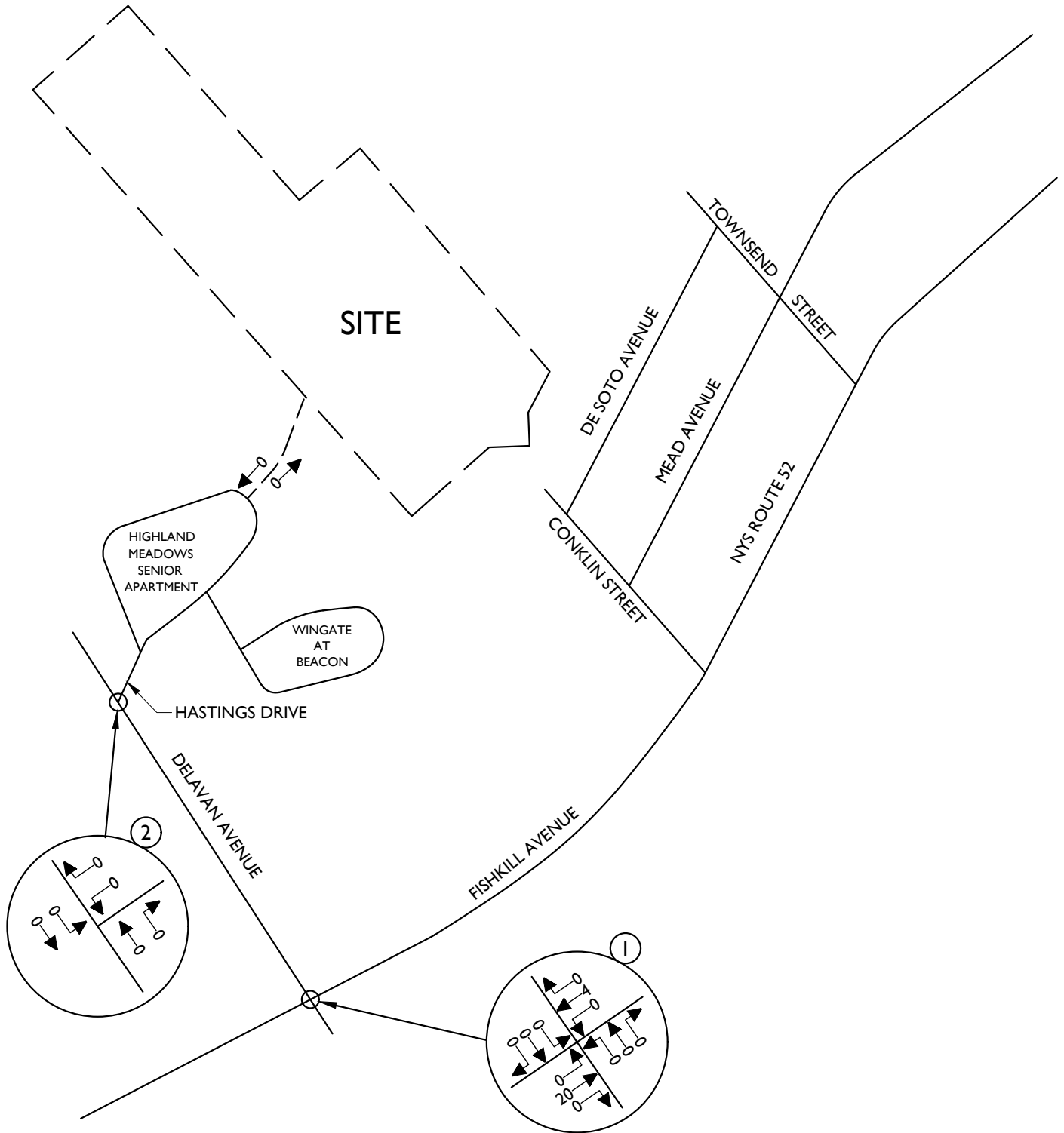
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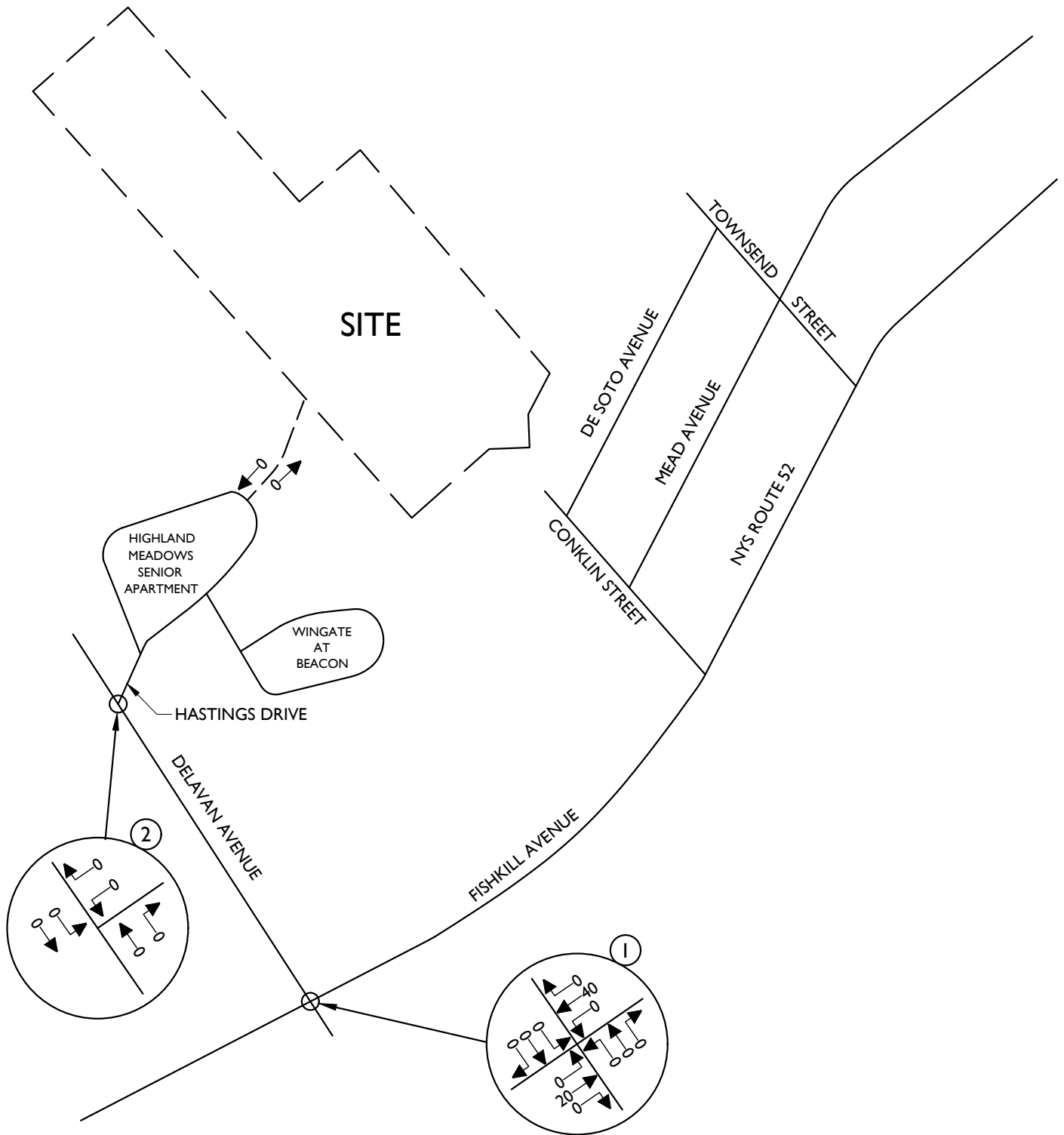
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SHEET TITLE:  
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VOLUMES  
WEEKDAY AM PEAK HOUR**

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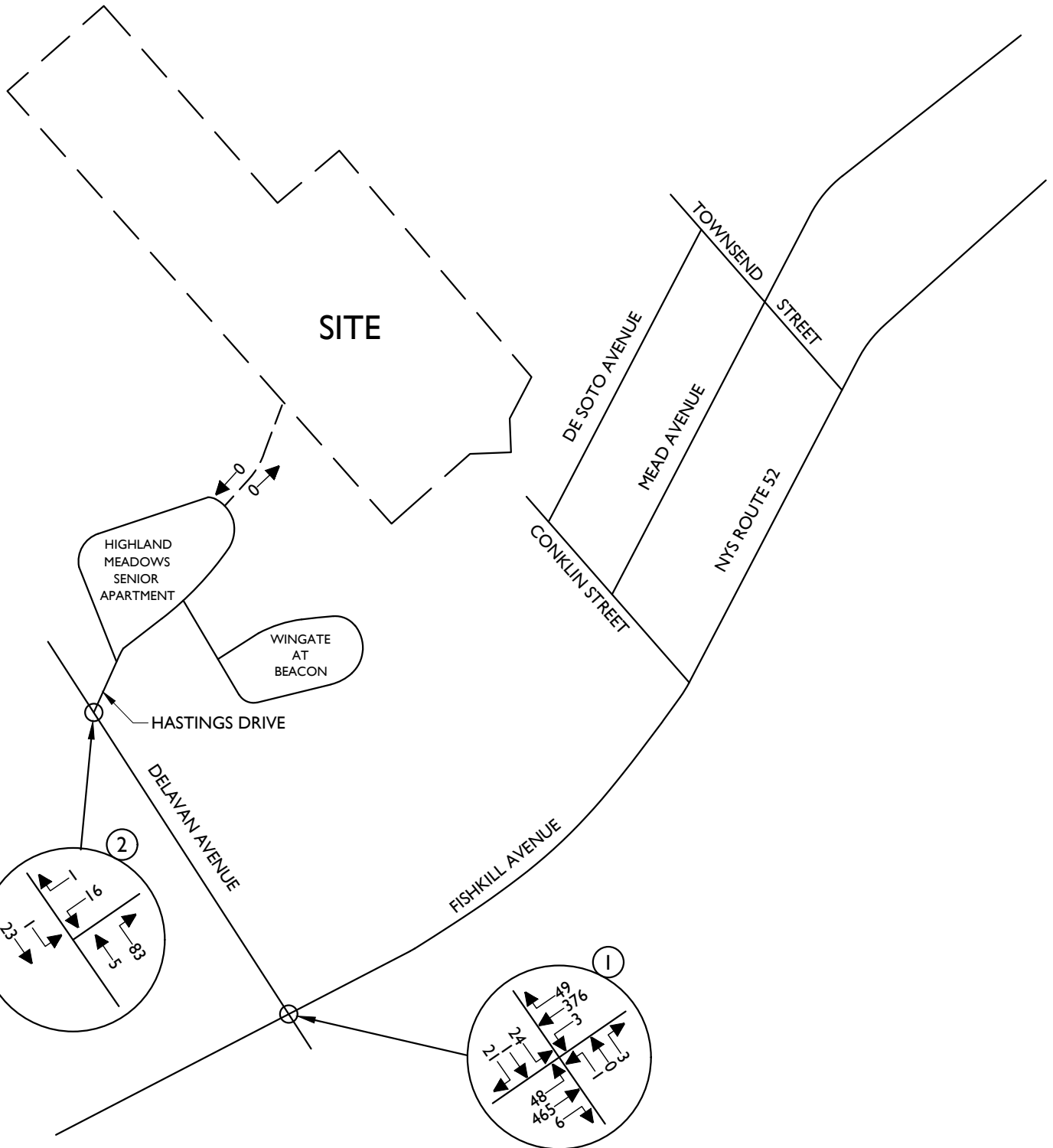
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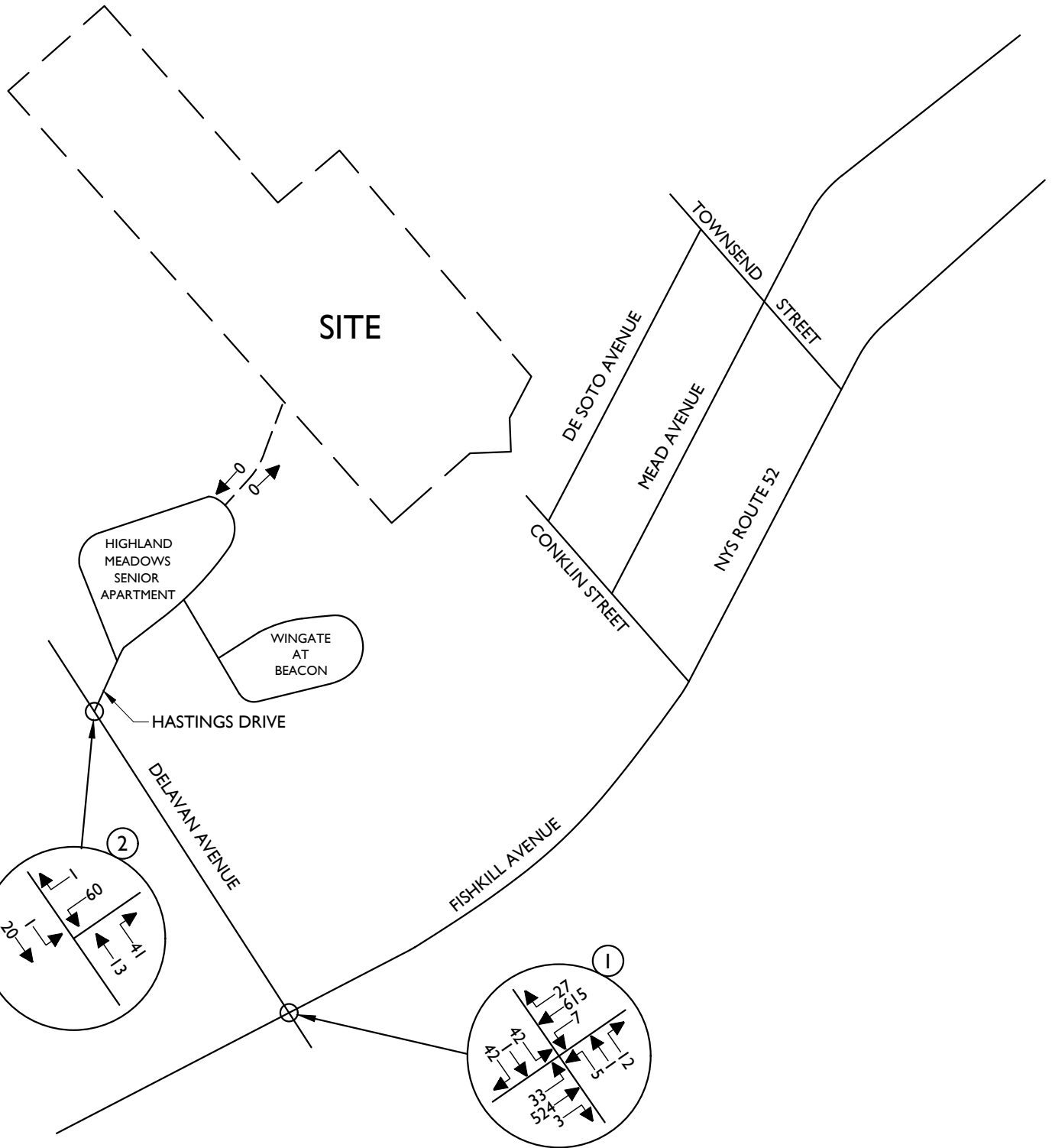
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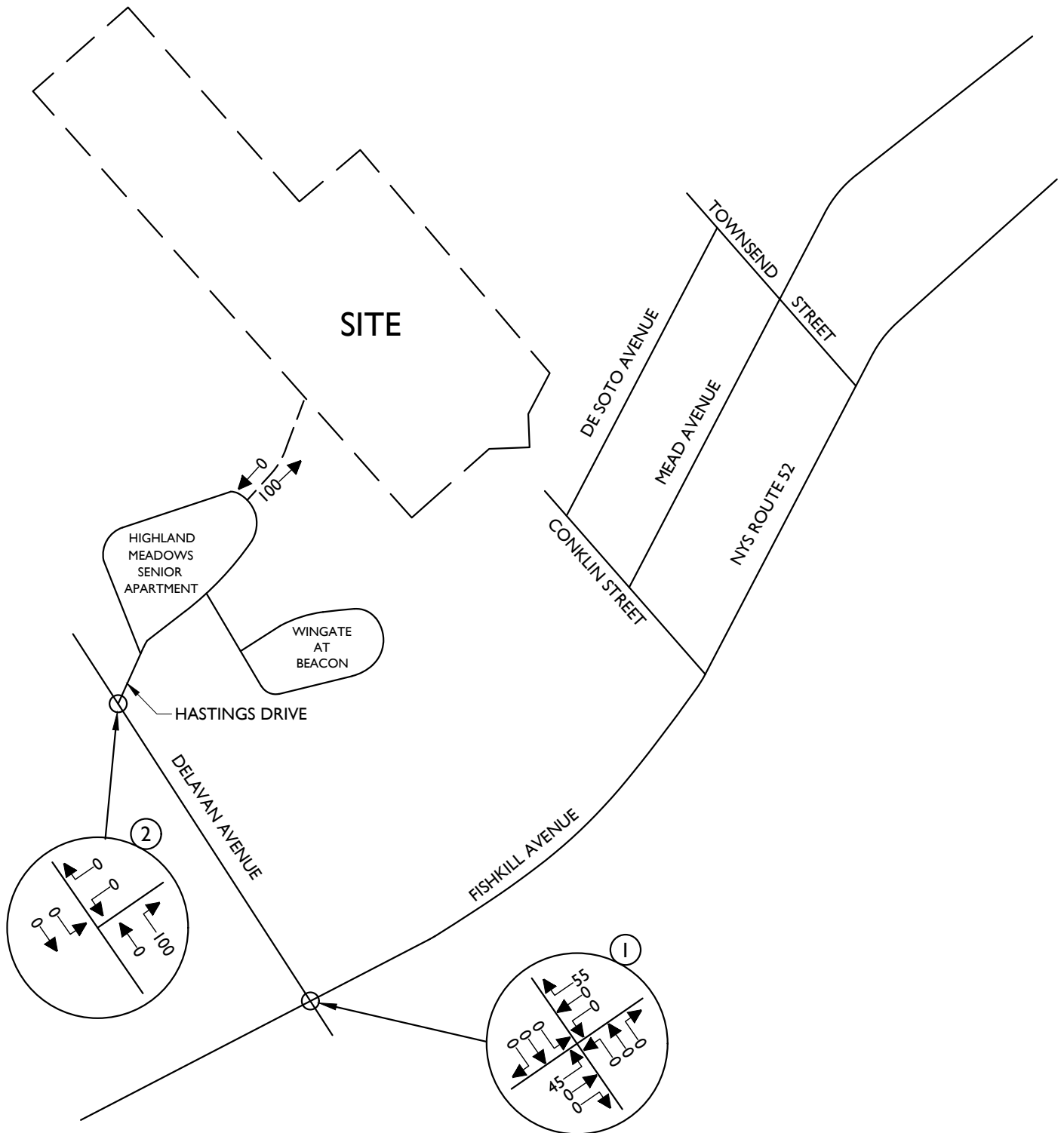
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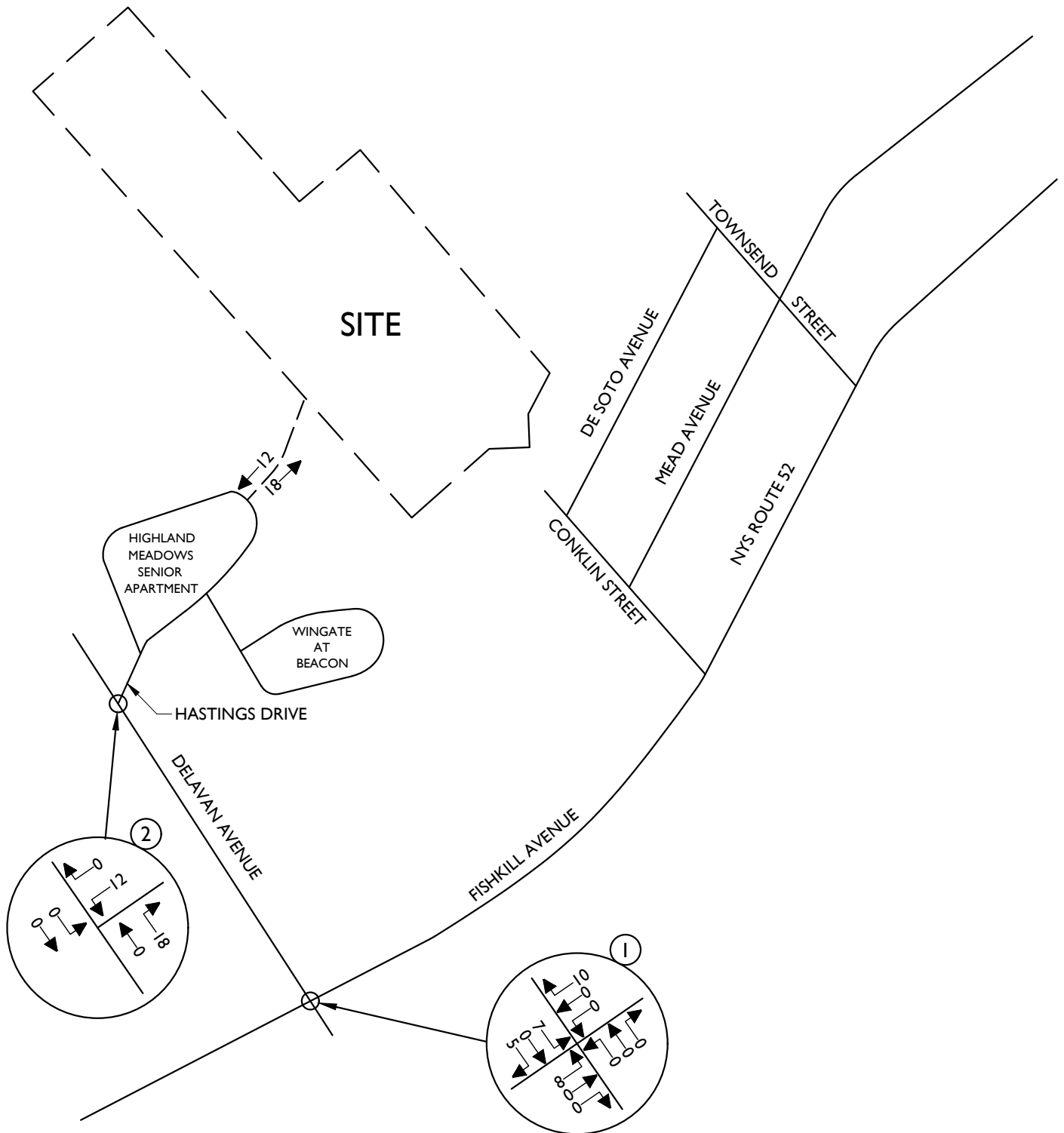
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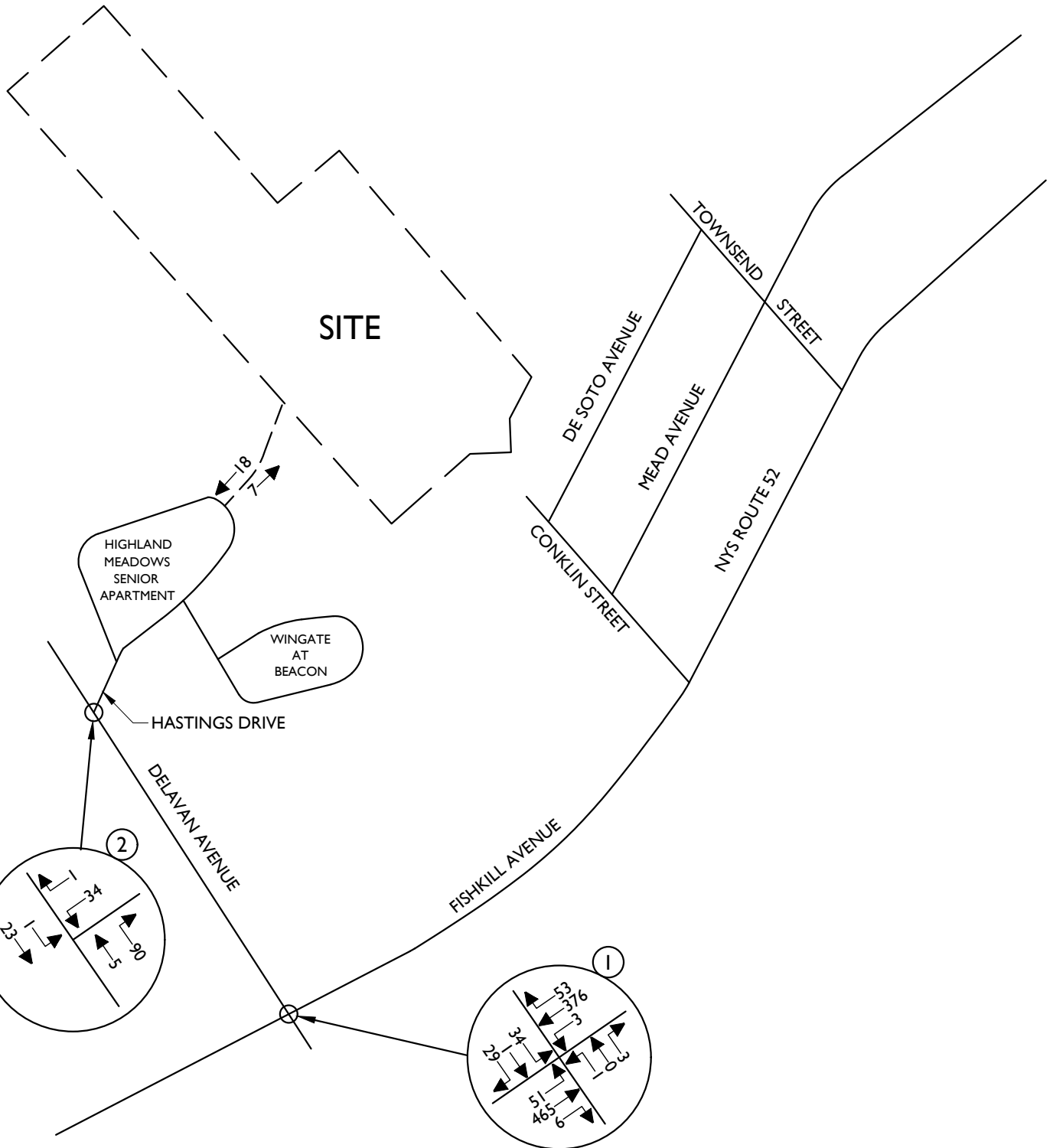
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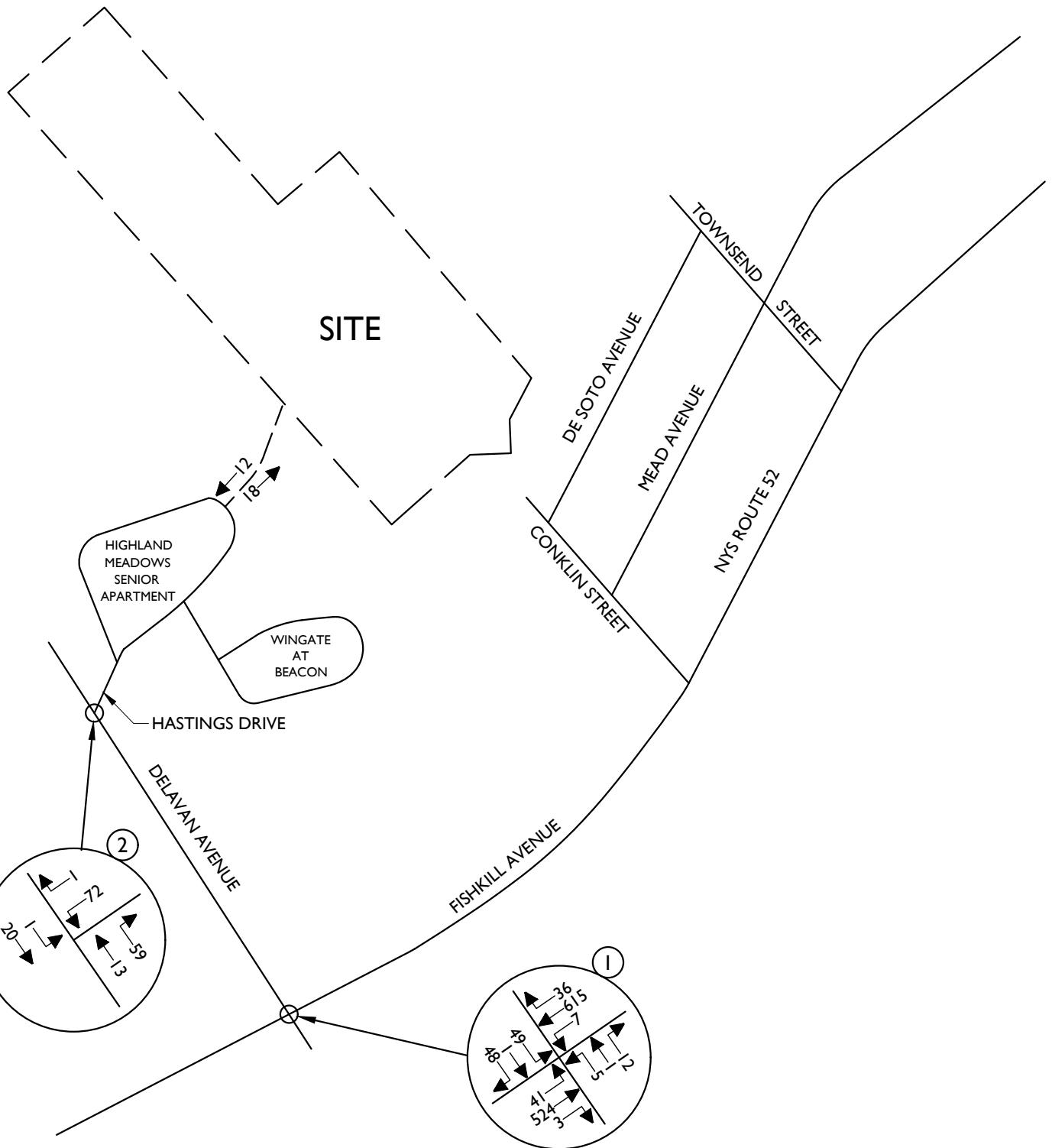
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## ***BEACON VIEWS***

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## **APPENDIX B**

## **TABLES**

**TABLE NO. 1**

**HOURLY TRIP GENERATION RATES (HTGR) AND ANTICIPATED  
SITE GENERATED TRAFFIC VOLUMES**

<b>BEACON VIEWS</b> CITY OF BEACON, NEW YORK	ENTRY		EXIT	
	HTGR <sup>1</sup>	VOLUME	HTGR <sup>1</sup>	VOLUME
TOWNHOUSES (42 DWELLING UNITS)				
PEAK AM HOUR	0.17	7	0.43	18
PEAK PM HOUR	0.42	18	0.28	12

NOTES:

- 1) THE HOURLY TRIP GENERATION RATES (HTGR) ARE BASED ON DATA PUBLISHED BY THE INSTITUTE OF TRANSPORTATION ENGINEERS (ITE) AS CONTAINED IN THE TRIP GENERATION HANDBOOK, 10TH EDITION, 2017. ITE LAND USE CODE - 220 - MULTIFAMILY HOUSING (LOW-RISE)

**TABLE NO. 2 AM**  
**LEVEL OF SERVICE SUMMARY TABLE**

				2019 EXISTING			2022 NO-BUILD			2022 BUILD			CHANGE IN DELAY NO-BUILD TO BUILD	
				AM	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS		DELAY
1	NYS ROUTE 52 & DELAVAN AVENUE/ MAVIS DRIVEWAY			UNSIGNALIZED										
	NYS ROUTE 52	EB	LTR	0.05	A	8.4	0.05	A	8.5	0.05	A	8.6	0.1	
	NYS ROUTE 52	WB	LTR	0.00	A	8.3	0.00	A	8.5	0.00	A	8.5	0.0	
	MAVIS DRIVEWAY	NB	LTR	0.01	B	13.8	0.01	B	14.7	0.01	C	15.0	0.3	
	DELAVAN AVENUE	SB	LTR	0.15	C	17.8	0.17	C	19.7	0.25	C	21.4	1.7	
2	DELAVAN AVENUE & HASTINGS DRIVE			UNSIGNALIZED										
	HASTINGS DRIVE	WB	LR	0.02	A	9.0	0.02	A	9.1	0.05	A	9.2	0.1	
	DELAVAN AVENUE	SB	L	0.00	A	7.5	0.00	A	7.5	0.00	A	7.5	0.0	

**NOTES:**

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF

**TABLE NO. 2 PM**  
**LEVEL OF SERVICE SUMMARY TABLE**

				2019 EXISTING			2022 NO-BUILD			2022 BUILD			CHANGE IN DELAY NO-BUILD TO BUILD
			PM	V/C	LOS	DELAY	V/C	LOS	DELAY	V/C	LOS	DELAY	
1	NYS ROUTE 52 & DELAVAN AVENUE/ MAVIS DRIVEWAY			UNSIGNALIZED									
	NYS ROUTE 52	EB	LTR	0.04	A	8.9	0.04	A	9.2	0.05	A	9.3	0.1
	NYS ROUTE 52	WB	LTR	0.01	A	8.5	0.01	A	8.6	0.01	A	8.6	0.0
	MAVIS DRIVEWAY	NB	LTR	0.07	C	18.5	0.08	C	21.0	0.08	C	21.8	0.8
	DELAVAN AVENUE	SB	LTR	0.35	D	26.9	0.45	E	35.7	0.54	E	42.5	6.8
2	DELAVAN AVENUE & HASTINGS DRIVE			UNSIGNALIZED									
	HASTINGS DRIVE	WB	LR	0.08	A	9.2	0.09	A	9.3	0.1	A	9.4	0.1
	DELAVAN AVENUE	SB	L	0.00	A	7.4	0.00	A	7.4	0.00	A	7.4	0.0

**NOTES:**

- 1) THE ABOVE REPRESENTS THE LEVEL OF SERVICE AND VEHICLE DELAY IN SECONDS, C [16.2], FOR EACH KEY APPROACH OF THE UNSIGNALIZED INTERSECTIONS AS WELL AS FOR EACH APPROACH AND THE OVERALL INTERSECTION FOR THE SIGNALIZED INTERSECTIONS. SEE APPENDIX "C" FOR A DESCRIPTION OF THE LEVELS OF

## ***BEACON VIEWS***

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### **APPENDIX C**

### **LEVEL OF SERVICE STANDARDS**

## **LEVEL OF SERVICE STANDARDS**

### **LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS**

Level of Service (LOS) can be characterized for the entire intersection, each intersection approach, and each lane group. Control delay alone is used to characterize LOS for the entire intersection or an approach. Control delay and volume-to-capacity (v/c) ratio are used to characterize LOS for a lane group. Delay quantifies the increase in travel time due to traffic signal control. It is also a measure of driver discomfort and fuel consumption. The volume-to-capacity ratio quantifies the degree to which a phase's capacity is utilized by a lane group.

**LOS A** describes operations with a control delay of 10 s/veh or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If it is due to favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.

**LOS B** describes operations with control delay between 10 and 20 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.

**LOS C** describes operations with control delay between 20 and 35 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate.

**LOS D** describes operations with control delay between 35 and 55 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long.



**LOS E** describes operations with control delay between 55 and 80 s/veh and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long.

**LOS F** describes operations with control delay exceeding 80 s/veh or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long.

A lane group can incur a delay less than 80 s/veh when the volume-to-capacity ratio exceeds 1.0. This condition typically occurs when the cycle length is short, the signal progression is favorable, or both. As a result, both the delay and volume-to-capacity ratio are considered when lane group LOS is established. A ratio of 1.0 or more indicates that cycle capacity is fully utilized and represents failure from a capacity perspective (just as delay in excess of 80 s/veh represents failure from a delay perspective).

The Level of Service Criteria for signalized intersections are given in Exhibit 19-8 from the *Highway Capacity Manual, 6<sup>th</sup> Edition* published by the Transportation Research Board.

**Exhibit 19-8**

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
≤10	A	F
>10-20	B	F
>20-35	C	F
>35-55	D	F
>55-80	E	F
>80	F	F

For approach-based and intersection wide assessments, LOS is defined solely by control delay.

## **LEVEL OF SERVICE CRITERIA**

### **FOR TWO-WAY STOP-CONTROLLED (TWSC) UNSIGNALIZED INTERSECTIONS**

Level of Service (LOS) for a two-way stop-controlled (TWSC) intersection is determined by the computed or measured control delay. For motor vehicles, LOS is determined for each minor-street movement (or shared movement) as well as major-street left turns. LOS is not defined for the intersection as a whole or for major-street approaches.

The Level of Service Criteria for TWSC unsignalized intersections are given in Exhibit 20-2 from the *Highway Capacity Manual, 6<sup>th</sup> Edition* published by the Transportation Research Board.

**Exhibit 20-2**

<b>Control Delay (s/veh)</b>	<b>LOS by Volume-to-Capacity Ratio</b>	
	<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

The LOS criteria apply to each lane on a given approach and to each approach on the minor street.  
LOS is not calculated for major-street approaches or for the intersection as a whole.

As Exhibit 20-2 notes, LOS F is assigned to the movement if the volume-to-capacity ratio for the movement exceeds 1.0, regardless of the control delay.

The Level of Service Criteria for unsignalized intersections are somewhat different from the criteria for signalized intersections.

## **LEVEL OF SERVICE CRITERIA**

### **FOR ALL-WAY STOP-CONTROLLED (AWSC) UNSIGNALIZED INTERSECTIONS**

The Levels of Service (LOS) for all-way stop-controlled (AWSC) intersections are given in Exhibit 21-8. As the exhibit notes, LOS F is assigned if the volume-to-capacity (v/c) ratio of a lane exceeds 1.0, regardless of the control delay. For assessment of LOS at the approach and intersection levels, LOS is based solely on control delay.

The Level of Service Criteria for AWSC unsignalized intersections are given in Exhibit 21-8 from the *Highway Capacity Manual, 6<sup>th</sup> Edition* published by the Transportation Research Board.

**Exhibit 21-8**

<b>Control Delay (s/veh)</b>	<b>LOS by Volume-to-Capacity Ratio</b>	
	<b>v/c ≤ 1.0</b>	<b>v/c &gt; 1.0</b>
0-10	A	F
>10-15	B	F
>15-25	C	F
>25-35	D	F
>35-50	E	F
>50	F	F

For approaches and intersection wide assessment, LOS is defined solely by control delay.

## ***BEACON VIEWS***

















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## **APPENDIX D**

## **CAPACITY ANALYSIS**

2019 Existing Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	23	1	20	1	0	3	45	420	6	3	351	46
Future Volume (vph)	23	1	20	1	0	3	45	420	6	3	351	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.939			0.899			0.998			0.984	
Flt Protected		0.974			0.988			0.995				
Satd. Flow (prot)	0	1672	0	0	1884	0	0	1813	0	0	1808	0
Flt Permitted		0.974			0.988			0.995				
Satd. Flow (perm)	0	1672	0	0	1884	0	0	1813	0	0	1808	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	4%	2%	2%	5%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	26	1	22	1	0	3	50	467	7	3	390	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	4	0	0	524	0	0	444	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2019 Existing Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

Intersection												
Int Delay, s/veh	1.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	23	1	20	1	0	3	45	420	6	3	351	46
Future Vol, veh/h	23	1	20	1	0	3	45	420	6	3	351	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	2	2	2	5	4	2	2	5	5
Mvmt Flow	26	1	22	1	0	3	50	467	7	3	390	51










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	994	996	416	1004	1018	471	441	0	0	474	0	0
Stage 1	422	422	-	571	571	-	-	-	-	-	-	-
Stage 2	572	574	-	433	447	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	247	270	645	233	251	601	1103	-	-	1088	-	-
Stage 1	633	611	-	522	521	-	-	-	-	-	-	-
Stage 2	533	531	-	616	588	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	233	252	645	213	234	601	1103	-	-	1088	-	-
Mov Cap-2 Maneuver	233	252	-	213	234	-	-	-	-	-	-	-
Stage 1	594	609	-	490	489	-	-	-	-	-	-	-
Stage 2	497	498	-	591	586	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	13.8	13.8	0.8	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1103	-	-	413	329	1088	-	-	-	-	-	-
HCM Lane V/C Ratio	0.045	-	-	0.011	0.149	0.003	-	-	-	-	-	-
HCM Control Delay (s)	8.4	0	-	13.8	17.8	8.3	0	-	-	-	-	-
HCM Lane LOS	A	A	-	B	C	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0	0.5	0	-	-	-	-	-	-

2019 Existing Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	22	5	78	15	1
Future Volume (vph)	1	22	5	78	15	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.873		0.993	
Flt Protected		0.998			0.955	
Satd. Flow (prot)	0	1642	1532	0	1716	0
Flt Permitted		0.998			0.955	
Satd. Flow (perm)	0	1642	1532	0	1716	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	29	6	101	19	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	30	107	0	20	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2019 Existing Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

Intersection

Int Delay, s/veh 1.2

Movement SEL SET NWT NWR SWL SWR

Lane Configurations 

Traffic Vol, veh/h 1 22 5 78 15 1

Future Vol, veh/h 1 22 5 78 15 1

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # 0 0 - 0 -

Grade, % - -2 6 - 0 -

Peak Hour Factor 77 77 77 77 77 77

Heavy Vehicles, % 5 5 5 5 5 5

Mvmt Flow 1 29 6 101 19 1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 107 0 - 0 88 57

Stage 1 - - - - 57 -

Stage 2 - - - - 31 -

Critical Hdwy 4.15 - - - 6.45 6.25

Critical Hdwy Stg 1 - - - - 5.45 -

Critical Hdwy Stg 2 - - - - 5.45 -

Follow-up Hdwy 2.245 - - - 3.545 3.345

Pot Cap-1 Maneuver 1465 - - - 906 1001

Stage 1 - - - - 958 -

Stage 2 - - - - 984 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 1465 - - - 905 1001

Mov Cap-2 Maneuver - - - - 905 -

Stage 1 - - - - 957 -

Stage 2 - - - - 984 -

Approach SE NW SW

HCM Control Delay, s 0.3 0 9

HCM LOS A

Minor Lane/Major Mvmt NWT NWR SEL SE\$WLn1

Capacity (veh/h) - - 1465 - 910

HCM Lane V/C Ratio - - 0.001 - 0.023

HCM Control Delay (s) - - 7.5 0 9

















HCM Lane LOS - - A A A

HCM 95th %tile Q(veh) - - 0 - 0.1



2019 Existing Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	40	1	40	5	1	11	31	475	3	7	542	25
Future Volume (vph)	40	1	40	5	1	11	31	475	3	7	542	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.933			0.910			0.999			0.994	
Flt Protected		0.976			0.986			0.997			0.999	
Satd. Flow (prot)	0	1664	0	0	1904	0	0	1852	0	0	1875	0
Flt Permitted		0.976			0.986			0.997			0.999	
Satd. Flow (perm)	0	1664	0	0	1904	0	0	1852	0	0	1875	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	43	1	43	5	1	12	34	516	3	8	589	27
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	87	0	0	18	0	0	553	0	0	624	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2019 Existing Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

Intersection												
Int Delay, s/veh	2.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	40	1	40	5	1	11	31	475	3	7	542	25
Future Vol, veh/h	40	1	40	5	1	11	31	475	3	7	542	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	5	2	2	2	2	5
Mvmt Flow	43	1	43	5	1	12	34	516	3	8	589	27










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1211	1206	603	1227	1218	518	616	0	0	519	0	0
Stage 1	619	619	-	586	586	-	-	-	-	-	-	-
Stage 2	592	587	-	641	632	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	180	207	510	166	193	566	949	-	-	1047	-	-
Stage 1	505	509	-	513	513	-	-	-	-	-	-	-
Stage 2	521	525	-	480	491	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	167	194	510	144	181	566	949	-	-	1047	-	-
Mov Cap-2 Maneuver	167	194	-	144	181	-	-	-	-	-	-	-
Stage 1	480	503	-	487	487	-	-	-	-	-	-	-
Stage 2	483	499	-	433	485	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay (s)	26.9	18.5	0.5	0.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	949	-	-	285	251	1047	-	-	-	-	-	-
HCM Lane V/C Ratio	0.036	-	-	0.065	0.351	0.007	-	-	-	-	-	-
HCM Control Delay (s)	8.9	0	-	18.5	26.9	8.5	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	D	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	1.5	0	-	-	-	-	-	-




2019 Existing Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	19	12	39	57	1
Future Volume (vph)	1	19	12	39	57	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.897		0.998	
Flt Protected		0.998			0.953	
Satd. Flow (prot)	0	1642	1574	0	1721	0
Flt Permitted		0.998			0.953	
Satd. Flow (perm)	0	1642	1574	0	1721	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	25	16	51	74	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	26	67	0	75	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

















2019 Existing Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

Intersection						
Int Delay, s/veh	4.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	1	19	12	39	57	1
Future Vol, veh/h	1	19	12	39	57	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	-2	6	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	25	16	51	74	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	67	0	-	0	69	42
Stage 1	-	-	-	-	42	-
Stage 2	-	-	-	-	27	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1516	-	-	-	928	1020
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	988	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1516	-	-	-	927	1020
Mov Cap-2 Maneuver	-	-	-	-	927	-
Stage 1	-	-	-	-	972	-
Stage 2	-	-	-	-	988	-
Approach	SE	NW		SW		
HCM Control Delay, s	4.4	0		9.2		
HCM LOS				A		
Minor Lane/Major Mvmt	NWT	NWR	SEL	SE	SWLn1	
Capacity (veh/h)	-	-	1516	-	928	
HCM Lane V/C Ratio	-	-	0.001	-	0.081	
HCM Control Delay (s)	-	-	7.4	0	9.2	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0.3	

2022 No-Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	24	1	21	1	0	3	48	465	6	3	376	49
Future Volume (vph)	24	1	21	1	0	3	48	465	6	3	376	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.939			0.899			0.998			0.985	
Flt Protected		0.974			0.988			0.995				
Satd. Flow (prot)	0	1672	0	0	1884	0	0	1813	0	0	1809	0
Flt Permitted		0.974			0.988			0.995				
Satd. Flow (perm)	0	1672	0	0	1884	0	0	1813	0	0	1809	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	4%	2%	2%	5%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	27	1	23	1	0	3	53	517	7	3	418	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	51	0	0	4	0	0	577	0	0	475	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2022 No-Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

Intersection												
Int Delay, s/veh	1.4											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	24	1	21	1	0	3	48	465	6	3	376	49
Future Vol, veh/h	24	1	21	1	0	3	48	465	6	3	376	49
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	2	2	2	5	4	2	2	5	5
Mvmt Flow	27	1	23	1	0	3	53	517	7	3	418	54










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1079	1081	445	1090	1105	521	472	0	0	524	0	0
Stage 1	451	451	-	627	627	-	-	-	-	-	-	-
Stage 2	628	630	-	463	478	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	218	243	622	205	224	563	1074	-	-	1043	-	-
Stage 1	612	595	-	488	493	-	-	-	-	-	-	-
Stage 2	499	504	-	594	570	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	204	225	622	186	207	563	1074	-	-	1043	-	-
Mov Cap-2 Maneuver	204	225	-	186	207	-	-	-	-	-	-	-
Stage 1	569	593	-	454	458	-	-	-	-	-	-	-
Stage 2	461	469	-	568	568	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay, s	19.7	14.7	0.8	0.1
HCM LOS	C	B		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1074	-	-	374	295	1043	-	-	-	-	-	-
HCM Lane V/C Ratio	0.05	-	-	0.012	0.173	0.003	-	-	-	-	-	-
HCM Control Delay (s)	8.5	0	-	14.7	19.7	8.5	0	-	-	-	-	-
HCM Lane LOS	A	A	-	B	C	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	0.6	0	-	-	-	-	-	-

2022 No-Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	23	5	83	16	1
Future Volume (vph)	1	23	5	83	16	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.872		0.994	
Flt Protected		0.998			0.954	
Satd. Flow (prot)	0	1642	1531	0	1716	0
Flt Permitted		0.998			0.954	
Satd. Flow (perm)	0	1642	1531	0	1716	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	30	6	108	21	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	31	114	0	22	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2022 No-Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

Intersection

Int Delay, s/veh 1.3

Movement SEL SET NWT NWR SWL SWR

Lane Configurations 

Traffic Vol, veh/h 1 23 5 83 16 1

Future Vol, veh/h 1 23 5 83 16 1

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # 0 0 - 0 -

Grade, % - -2 6 - 0 -

Peak Hour Factor 77 77 77 77 77 77

Heavy Vehicles, % 5 5 5 5 5 5

Mvmt Flow 1 30 6 108 21 1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 114 0 - 0 92 60

Stage 1 - - - - 60 -

Stage 2 - - - - 32 -

Critical Hdwy 4.15 - - - 6.45 6.25

Critical Hdwy Stg 1 - - - - 5.45 -

Critical Hdwy Stg 2 - - - - 5.45 -

Follow-up Hdwy 2.245 - - - 3.545 3.345

Pot Cap-1 Maneuver 1457 - - - 901 997

Stage 1 - - - - 955 -

Stage 2 - - - - 983 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 1457 - - - 900 997

Mov Cap-2 Maneuver - - - - 900 -

Stage 1 - - - - 954 -

Stage 2 - - - - 983 -

Approach SE NW SW

HCM Control Delay, s 0.3 0 9.1

HCM LOS A

Minor Lane/Major Mvmt NWT NWR SEL SE\$WLn1

Capacity (veh/h) - - 1457 - 905

HCM Lane V/C Ratio - - 0.001 - 0.024

HCM Control Delay (s) - - 7.5 0 9.1

















HCM Lane LOS - - A A A

HCM 95th %tile Q(veh) - - 0 - 0.1



2022 No-Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	42	1	42	5	1	12	33	524	3	7	615	27
Future Volume (vph)	42	1	42	5	1	12	33	524	3	7	615	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.933			0.908			0.999			0.994	
Flt Protected		0.976			0.987			0.997			0.999	
Satd. Flow (prot)	0	1664	0	0	1901	0	0	1852	0	0	1875	0
Flt Permitted		0.976			0.987			0.997			0.999	
Satd. Flow (perm)	0	1664	0	0	1901	0	0	1852	0	0	1875	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	46	1	46	5	1	13	36	570	3	8	668	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	93	0	0	19	0	0	609	0	0	705	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2022 No-Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

Intersection												
Int Delay, s/veh	2.9											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	42	1	42	5	1	12	33	524	3	7	615	27
Future Vol, veh/h	42	1	42	5	1	12	33	524	3	7	615	27
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	5	2	2	2	2	5
Mvmt Flow	46	1	46	5	1	13	36	570	3	8	668	29










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All	1350	1344	683	1366	1357	572	697	0	0	573	0
Stage 1	699	699	-	644	644	-	-	-	-	-	-	-
Stage 2	651	645	-	722	713	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	146	174	461	134	161	528	885	-	-	1000	-	-
Stage 1	460	473	-	478	485	-	-	-	-	-	-	-
Stage 2	486	497	-	435	453	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	134	161	461	113	149	528	885	-	-	1000	-	-
Mov Cap-2 Maneuver	134	161	-	113	149	-	-	-	-	-	-	-
Stage 1	432	467	-	449	456	-	-	-	-	-	-	-
Stage 2	444	467	-	386	447	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay (s)	35.7	21	0.5	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	885	-	-	244	207	1000	-	-	-	-	-	-
HCM Lane V/C Ratio	0.041	-	-	0.080	0.446	0.008	-	-	-	-	-	-
HCM Control Delay (s)	9.2	0	-	21	35.7	8.6	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	E	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	2.1	0	-	-	-	-	-	-




2022 No-Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	20	13	41	60	1
Future Volume (vph)	1	20	13	41	60	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.898		0.998	
Flt Protected		0.998			0.953	
Satd. Flow (prot)	0	1642	1576	0	1721	0
Flt Permitted		0.998			0.953	
Satd. Flow (perm)	0	1642	1576	0	1721	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	26	17	53	78	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	27	70	0	79	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

















2022 No-Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

Intersection						
Int Delay, s/veh	4.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	1	20	13	41	60	1
Future Vol, veh/h	1	20	13	41	60	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	-2	6	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	26	17	53	78	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	70	0	-	0	72	44
Stage 1	-	-	-	-	44	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1512	-	-	-	925	1018
Stage 1	-	-	-	-	971	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1512	-	-	-	924	1018
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	970	-
Stage 2	-	-	-	-	987	-
Approach	SE	NW		SW		
HCM Control Delay, s	4.4	0		9.3		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SE	SWLn1	
Capacity (veh/h)	-	-	1512	-	925	
HCM Lane V/C Ratio	-	-	0.001	-	0.086	
HCM Control Delay (s)	-	-	7.4	0	9.3	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0.3	

2022 Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	34	1	29	1	0	3	51	465	6	3	376	53
Future Volume (vph)	34	1	29	1	0	3	51	465	6	3	376	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.939			0.899			0.998			0.983	
Flt Protected		0.974			0.988			0.995				
Satd. Flow (prot)	0	1672	0	0	1884	0	0	1813	0	0	1806	0
Flt Permitted		0.974			0.988			0.995				
Satd. Flow (perm)	0	1672	0	0	1884	0	0	1813	0	0	1806	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	4%	2%	2%	5%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	38	1	32	1	0	3	57	517	7	3	418	59
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	71	0	0	4	0	0	581	0	0	480	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2022 Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak AM Hour  
08/09/2019

Intersection

Int Delay, s/veh 1.8

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	34	1	29	1	0	3	51	465	6	3	376	53
Future Vol, veh/h	34	1	29	1	0	3	51	465	6	3	376	53
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	5	5	5	2	2	2	5	4	2	2	5	5
Mvmt Flow	38	1	32	1	0	3	57	517	7	3	418	59










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1090	1092	448	1105	1118	521	477	0	0	524	0	0
Stage 1	454	454	-	635	635	-	-	-	-	-	-	-
Stage 2	636	638	-	470	483	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	215	239	620	200	220	563	1070	-	-	1043	-	-
Stage 1	610	593	-	483	489	-	-	-	-	-	-	-
Stage 2	495	501	-	589	568	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	201	220	620	178	203	563	1070	-	-	1043	-	-
Mov Cap-2 Maneuver	201	220	-	178	203	-	-	-	-	-	-	-
Stage 1	564	591	-	447	452	-	-	-	-	-	-	-
Stage 2	455	463	-	555	566	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay (s)	21.4	15	0.8	0.1
HCM LOS	C	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	1070	-	-	365	290	1043	-	-	-	-	-	-
HCM Lane V/C Ratio	0.053	-	-	0.012	0.245	0.003	-	-	-	-	-	-
HCM Control Delay (s)	8.6	0	-	15	21.4	8.5	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	C	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0	0.9	0	-	-	-	-	-	-

2022 Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	23	5	90	34	1
Future Volume (vph)	1	23	5	90	34	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.872		0.997	
Flt Protected		0.998			0.953	
Satd. Flow (prot)	0	1642	1531	0	1719	0
Flt Permitted		0.998			0.953	
Satd. Flow (perm)	0	1642	1531	0	1719	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	30	6	117	44	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	31	123	0	45	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak AM Hour  
08/09/2019

Intersection

Int Delay, s/veh 2.1

Movement SEL SET NWT NWR SWL SWR

Lane Configurations 

Traffic Vol, veh/h 1 23 5 90 34 1

Future Vol, veh/h 1 23 5 90 34 1

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # 0 0 - 0 -

Grade, % - -2 6 - 0 -

Peak Hour Factor 77 77 77 77 77 77

Heavy Vehicles, % 5 5 5 5 5 5

Mvmt Flow 1 30 6 117 44 1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 123 0 - 0 97 65

Stage 1 - - - - 65 -

Stage 2 - - - - 32 -

Critical Hdwy 4.15 - - - 6.45 6.25

Critical Hdwy Stg 1 - - - - 5.45 -

Critical Hdwy Stg 2 - - - - 5.45 -

Follow-up Hdwy 2.245 - - - 3.545 3.345

Pot Cap-1 Maneuver 1446 - - - 895 991

Stage 1 - - - - 950 -

Stage 2 - - - - 983 -

Platoon blocked, % - - -

Mov Cap-1 Maneuver 1446 - - - 894 991

Mov Cap-2 Maneuver - - - - 894 -

Stage 1 - - - - 949 -

Stage 2 - - - - 983 -

Approach SE NW SW

HCM Control Delay, s 0.3 0 9.2

HCM LOS A

Minor Lane/Major Mvmt NWT NWR SEL SE\$WLn1

Capacity (veh/h) - - 1446 - 897

HCM Lane V/C Ratio - - 0.001 - 0.051

HCM Control Delay (s) - - 7.5 0 9.2

















HCM Lane LOS - - A A A

HCM 95th %tile Q(veh) - - 0 - 0.2



2022 Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

												
Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	49	1	48	5	1	12	41	524	3	7	615	36
Future Volume (vph)	49	1	48	5	1	12	41	524	3	7	615	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	16	12	16	16	16	16	12	12	12	12	12	12
Grade (%)		-2%			-1%			0%			-3%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.934			0.908			0.999			0.993	
Flt Protected		0.976			0.987			0.996			0.999	
Satd. Flow (prot)	0	1666	0	0	1901	0	0	1849	0	0	1873	0
Flt Permitted		0.976			0.987			0.996			0.999	
Satd. Flow (perm)	0	1666	0	0	1901	0	0	1849	0	0	1873	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		724			126			581			1007	
Travel Time (s)		16.5			2.9			13.2			22.9	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	5%	2%	2%	2%	2%	5%
Parking (#/hr)			0									
Adj. Flow (vph)	53	1	52	5	1	13	45	570	3	8	668	39
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	106	0	0	19	0	0	618	0	0	715	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.84	0.99	0.84	0.84	0.84	0.84	1.00	1.00	1.00	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	
Intersection Summary												
Area Type:	Other											
Control Type:	Unsignalized											

2022 Build Traffic Volumes  
1: NYS Route 52 & Delavan Avenue

Peak PM Hour  
08/09/2019

Intersection												
Int Delay, s/veh	3.7											
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	49	1	48	5	1	12	41	524	3	7	615	36
Future Vol, veh/h	49	1	48	5	1	12	41	524	3	7	615	36
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	-2	-	-	-1	-	-	0	-	-	-3	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	5	5	5	2	2	2	5	2	2	2	2	5
Mvmt Flow	53	1	52	5	1	13	45	570	3	8	668	39










Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow	All1373	1367	688	1392	1385	572	707	0	0	573	0	0
Stage 1	704	704	-	662	662	-	-	-	-	-	-	-
Stage 2	669	663	-	730	723	-	-	-	-	-	-	-
Critical Hdwy	6.75	6.15	6.05	6.92	6.32	6.12	4.15	-	-	4.12	-	-
Critical Hdwy Stg 1	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Critical Hdwy Stg 2	5.75	5.15	-	5.92	5.32	-	-	-	-	-	-	-
Follow-up Hdwy	3.545	4.045	3.345	3.518	4.018	3.318	2.245	-	-	2.218	-	-
Pot Cap-1 Maneuver	141	169	458	129	155	528	878	-	-	1000	-	-
Stage 1	457	470	-	468	476	-	-	-	-	-	-	-
Stage 2	476	489	-	431	449	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	128	154	458	106	142	528	878	-	-	1000	-	-
Mov Cap-2 Maneuver	128	154	-	106	142	-	-	-	-	-	-	-
Stage 1	423	464	-	433	440	-	-	-	-	-	-	-
Stage 2	428	452	-	376	443	-	-	-	-	-	-	-

Approach	SE	NW	NE	SW
HCM Control Delay (s)	42.5	21.8	0.7	0.1
HCM LOS	E	C		

Minor Lane/Major Mvmt	NEL	NET	NER	NWL	NWT	NWR	SEL	SET	SER	SWL	SWT	SWR
Capacity (veh/h)	878	-	-	234	198	1000	-	-	-	-	-	-
HCM Lane V/C Ratio	0.051	-	-	0.084	0.538	0.008	-	-	-	-	-	-
HCM Control Delay (s)	9.3	0	-	21.8	42.5	8.6	0	-	-	-	-	-
HCM Lane LOS	A	A	-	C	E	A	A	-	-	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.3	2.8	0	-	-	-	-	-	-




2022 Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

						
Lane Group	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Volume (vph)	1	20	13	59	72	1
Future Volume (vph)	1	20	13	59	72	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	6%		0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.889		0.999	
Flt Protected		0.998			0.953	
Satd. Flow (prot)	0	1642	1560	0	1723	0
Flt Permitted		0.998			0.953	
Satd. Flow (perm)	0	1642	1560	0	1723	0
Link Speed (mph)		30	30		30	
Link Distance (ft)		382	724		221	
Travel Time (s)		8.7	16.5		5.0	
Peak Hour Factor	0.77	0.77	0.77	0.77	0.77	0.77
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%
Parking (#/hr)		0		0		
Adj. Flow (vph)	1	26	17	77	94	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	27	94	0	95	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	0.99	1.13	1.04	1.04	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	
Intersection Summary						
Area Type:	Other					
Control Type:	Unsignalized					

2022 Build Traffic Volumes  
2: Delavan Avenue & Hastings Drive

Peak PM Hour  
08/09/2019

Intersection						
Int Delay, s/veh	4.2					
Movement	SEL	SET	NWT	NWR	SWL	SWR
Lane Configurations						
Traffic Vol, veh/h	1	20	13	59	72	1
Future Vol, veh/h	1	20	13	59	72	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	- None		- None		- None	
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	0	-	0	-	-
Grade, %	-	-2	6	-	0	-
Peak Hour Factor	77	77	77	77	77	77
Heavy Vehicles, %	5	5	5	5	5	5
Mvmt Flow	1	26	17	77	94	1
Major/Minor	Major1	Major2		Minor2		
Conflicting Flow All	94	0	-	0	84	56
Stage 1	-	-	-	-	56	-
Stage 2	-	-	-	-	28	-
Critical Hdwy	4.15	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.245	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1481	-	-	-	910	1002
Stage 1	-	-	-	-	959	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1481	-	-	-	909	1002
Mov Cap-2 Maneuver	-	-	-	-	909	-
Stage 1	-	-	-	-	958	-
Stage 2	-	-	-	-	987	-
Approach	SE	NW		SW		
HCM Control Delay, s	4.4	0		9.4		
HCM LOS	A					
Minor Lane/Major Mvmt	NWT	NWR	SEL	SE	SWLn1	
Capacity (veh/h)	-	-	1481	-	910	
HCM Lane V/C Ratio	-	-	0.001	-	0.104	
HCM Control Delay (s)	-	-	7.4	0	9.4	
HCM Lane LOS	-	-	A	A	A	
HCM 95th %tile Q(veh)	-	-	0	-	0.3	