



**BA Group**

# **16-18 MILL STREET RESIDENTIAL DEVELOPMENT**

Traffic Impact Study

Prepared For: AGK Multi-Res

May 15, 2023



**MOVEMENT  
IN URBAN  
ENVIRONMENTS**  
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## 1.0 INTRODUCTION

BA Group is retained by AGK Multi-Res to provide a traffic impact study for the Official Plan Amendment and Zoning By-law Amendment at 16-18 Mill Street (the “Site”) in Georgetown (Halton Hills) in Halton Region. The proposed development consists of a 30-unit apartment building with 4 stories and 2 parking levels.

As requested by the Town of Halton Hills, a cover letter outlining comments addressed by BA Group since the most recent submission in December of 2020 is shown in **Appendix A**.

### 1.1 THE EXISTING SITE

16 and 18 Mill Street are located on the northwest side of Mill Street between Guelph Street and McNabb Street. The Site is bounded by residential property on the southwest and northwest, and by greenspace and Silver Creek on the northeast.

The Site location and context are shown in **Figure 1**.

The Site is currently occupied by a 9-unit low-rise residential apartment building at 16 Mill Street and a triplex dwelling at 18 Mill Street. Each building is served by an access driveway. A parking lot wraps around the perimeter of the Site. A sidewalk on the northwest side of Mill Street provides connections for pedestrians along the Site boundary.

The Georgetown GO Station is located approximately 500 metres walking distance northeast of the Site. Georgetown GO is designated as an existing Major Transit Station in the Region Official Plan (ROP, Maps 1 and 3) and the Town has identified the GO station area at the top of its hierarchy of intensification areas.

The Site is designated by the Official Plan (OP) and the Georgetown GO Station Area Secondary Plan as a Medium Density Residential Area and Greenlands. Under Zoning By-law 2010-0050, the Site is zoned as Low Density Residential One.

The Site is located within the Mill Street Corridor Precinct that is currently undergoing a neighbourhood study to identify opportunities for pedestrian, cyclist and road network improvements.

### 1.2 PROPOSED DEVELOPMENT

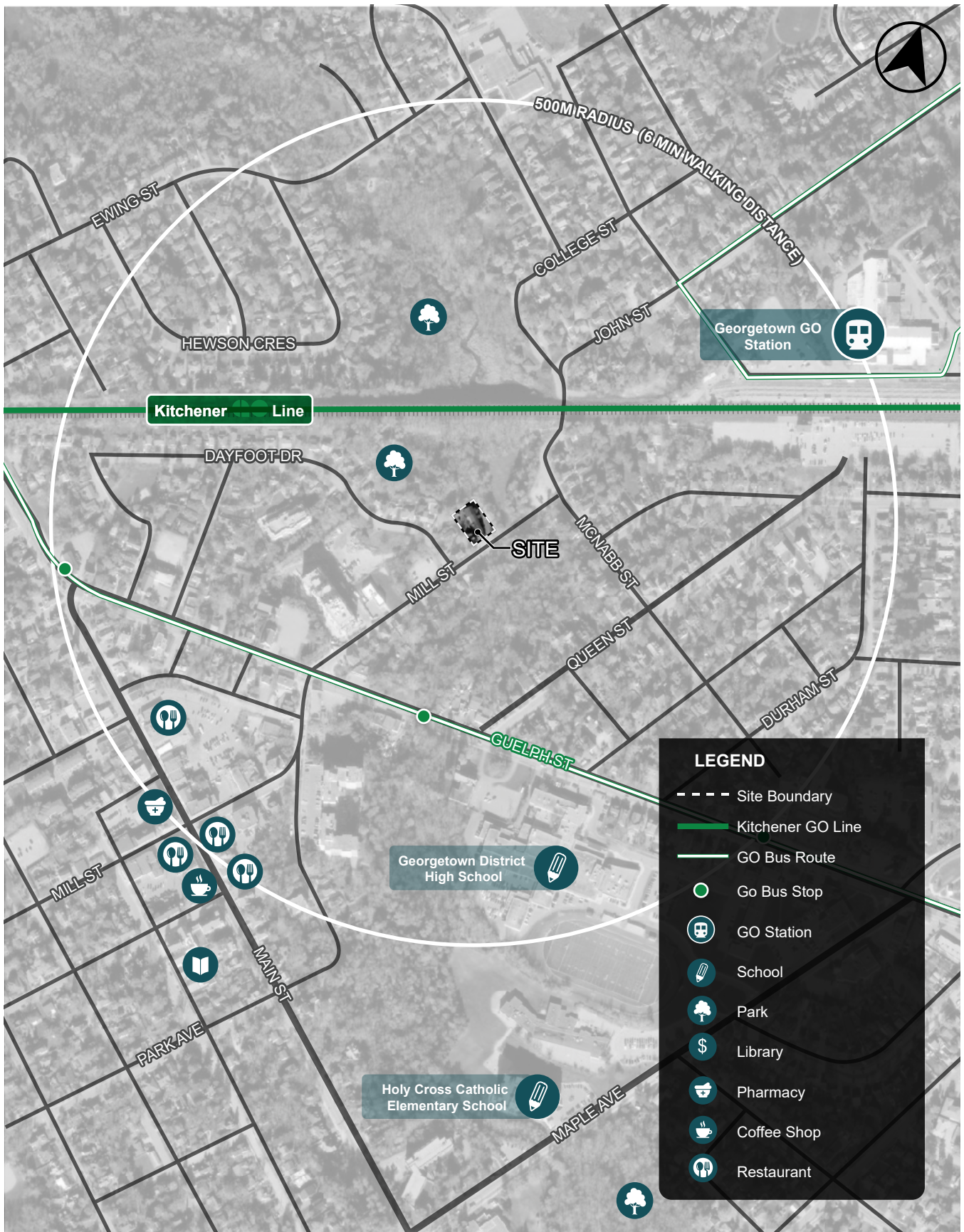
The proposed development consists of a 30-unit apartment building with 4 stories and 2 parking levels. The existing buildings on-site will be demolished to accommodate the proposed apartment building.

A total of 61 vehicular parking spaces are proposed for the Site, 3 spaces at-grade, 28 spaces on parking level P1 and 30 spaces on parking level P2. Among the 61 spaces, 4 barrier free spaces will be provided. Two bicycle parking racks will be provided for short-term usage on the ground floor in addition to underground bicycle parking rooms for residents.

The proposed Site driveway is located at the existing driveway for 18 Mill Street which provides vehicular access to the Site parking and loading areas from Mill Street.

The Site plan is shown in **Figure 2** and **Appendix B**.



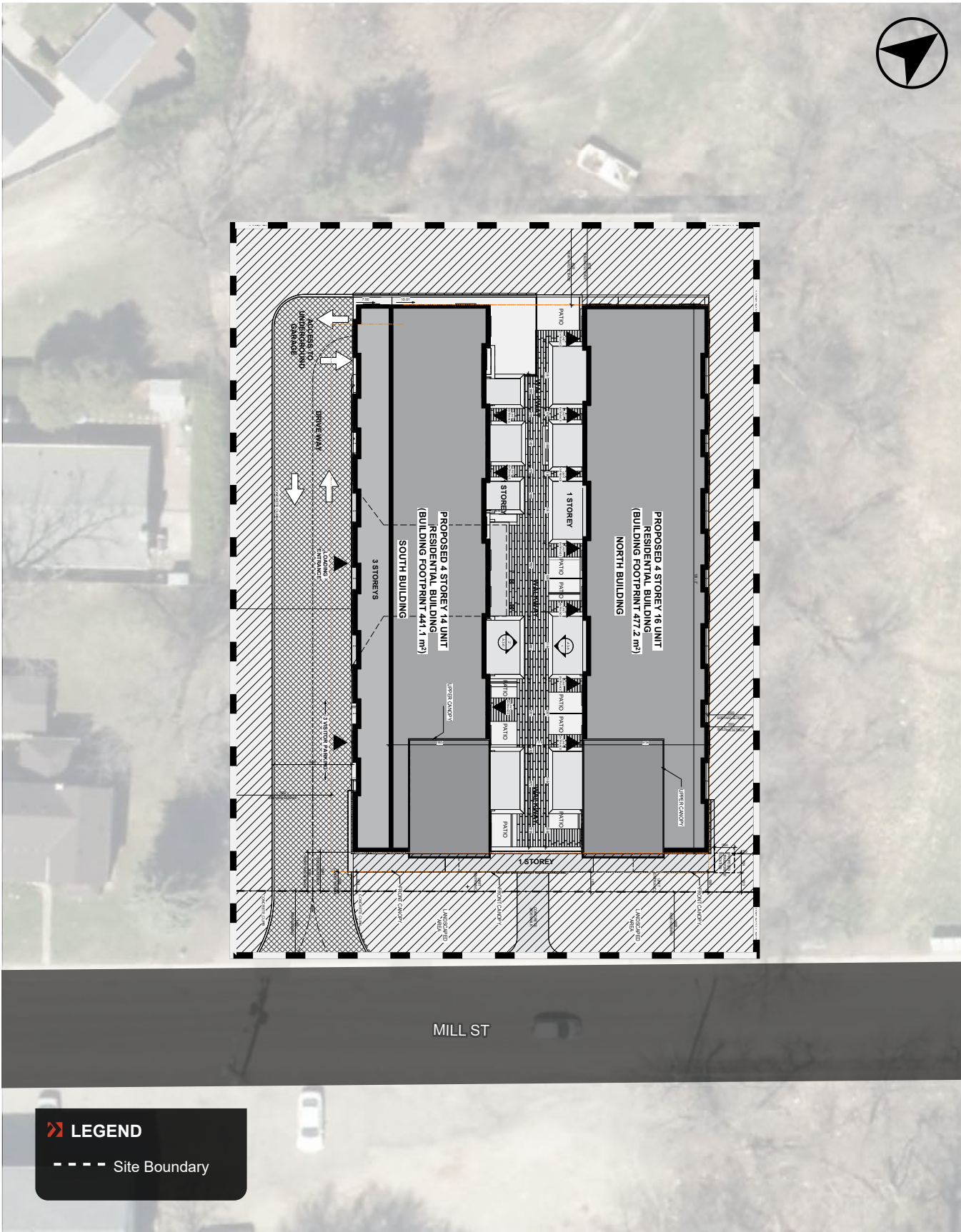


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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 1 SITE LOCATION & CONTEXT**





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Aerial maps provided courtesy of Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, the GIS User Community and/or Google Earth/Maps.

**FIGURE 2 SITE PLAN**

## 2.0 TRANSPORTATION CONTEXT

### 2.1 ROAD NETWORK

**Mill Street** is a local two-lane road, aligned in the northeast-southwest direction. Mill Street extends from Charles Street in the south to McNabb Street in the north.

**Dayfoot Drive** is a local two-lane road stretching from Mill Street to a cul-de-sac adjacent to Guelph Street. The intersection with Mill Street is a three-legged intersection with stop control on Dayfoot Drive.

**Guelph Street (Hwy 7)** is a major east-west road that connects Georgetown to Acton in the west and Brampton in the east. The Guelph Street / Mill Street intersection is signalized with pedestrian crossings on all four legs. Left turn lanes are provided for both directions on Guelph Street, in addition to a right turn channel to Mill Street on the westbound approach.

The Site is located within the Mill Street Corridor Precinct that is currently undergoing a neighbourhood study to identify opportunities for pedestrian, cyclist and road network improvements.

The existing lane configurations for the road network are shown in **Figure 3**.

### 2.2 TRANSIT NETWORK

The Site is well served by the Georgetown GO station that is located within a 500-metre walking distance, providing frequent access to Toronto and the GTA via the Kitchener GO line. The route operates at intervals of approximately 30 minutes during the AM and PM peak hour.

Guelph Street is served by GO bus routes 31 and 33, including the Guelph St @ Mill St stop located 100 metres east of the intersection and a 400-metre walk from the Site. These routes operate offset from one another at intervals of approximately 1 hour each during the AM and PM peak hour; providing an average headway of 30 minutes between buses.

There is no formal provision of local transit services in the vicinity of the Site. The existing transit network is shown in **Figure 1**.

## 2.3 PEDESTRIAN AND CYCLING NETWORK

Sidewalks extend along Mill Street on both sides from Charles Street to Dayfoot Drive, where the east sidewalk ends, and the west sidewalk continues onward to McNabb Street.

Sidewalks are provided on both sides of Guelph Street, with pedestrian crossing signals at the Mill Street intersection.

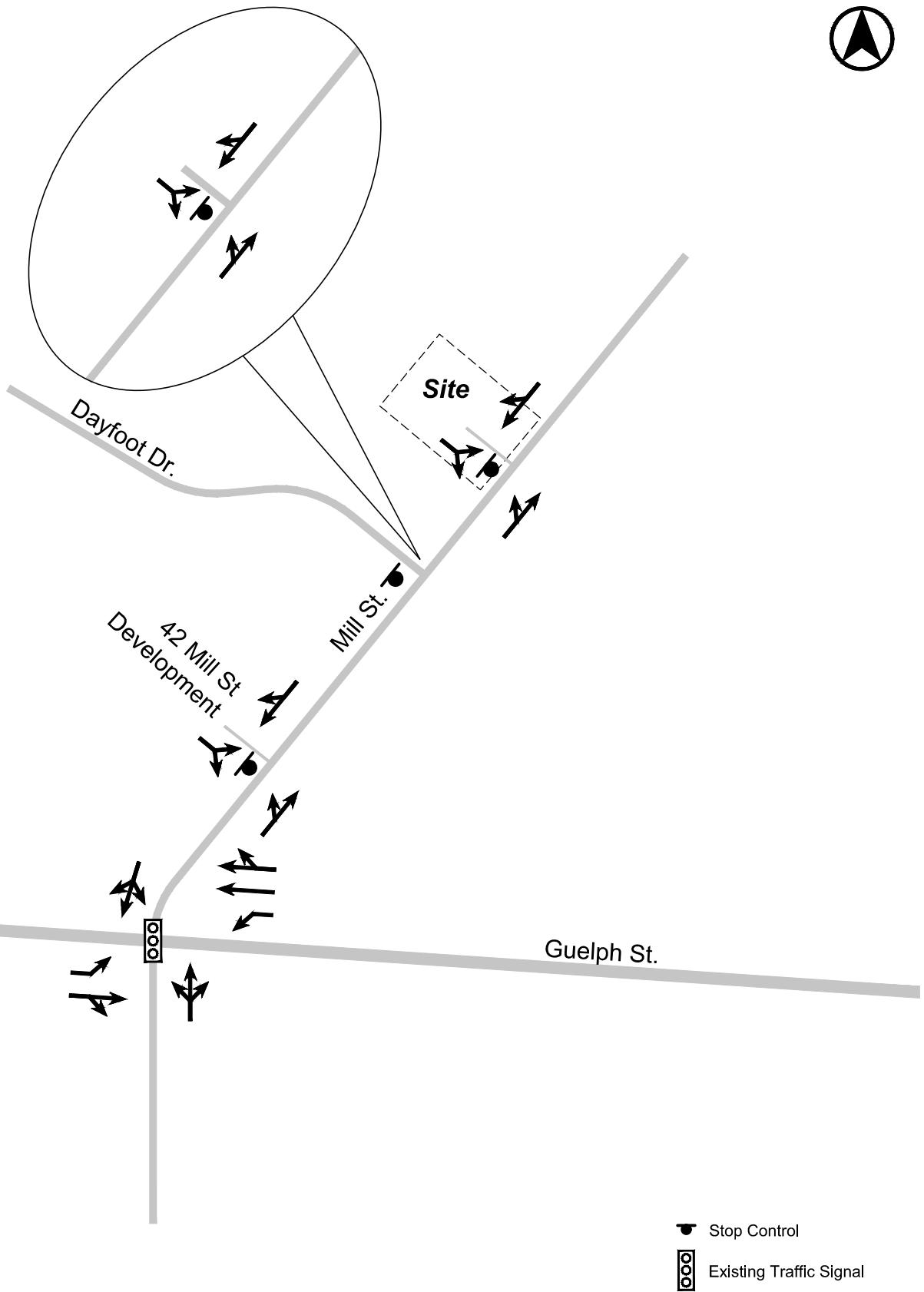
The Site is located within the Mill Street Corridor Precinct which has undergone a neighbourhood study endorsed by Council in December of 2020 to identify opportunities for pedestrian, cyclist and road network improvements. As part of the study, changes to the existing Mill Street cross section between Dayfoot Drive and McNabb Street are to be implemented. The revised cross section consists of two 3.5 metre shared use lanes along with a 1.8 metre sidewalk on the west side and a 1.27 metre paved boulevard with planters. The total 10.07 metre width of the cross section can be accommodated within the existing right-of-way.

The Halton Hills Active Transportation Master Plan (ATMP) was endorsed by Council on October 26, 2020, and further identifies improvements to the active transportation network, including:

- a proposed On-Road Facility in the form of a Signed Bike Route with Sharrows along Mill Street. The ATMP identifies this facility for Short Term (0-5 years) implementation.
- a proposed Off-Road Facility along Silver Creek. The ATMP identifies this facility for Long Term (10+ years) implementation.



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**FIGURE 3 EXISTING LANE CONFIGURATION**

## 3.0 PARKING CONSIDERATIONS

### 3.1 TOWN PARKING REQUIREMENTS

The Town of Halton Hills Zoning By-law 2010-0050 governs parking requirements for established zones, one of which being the Medium Density Residential Two zone (herein referred to as MDR2) which is applicable to the proposed developments Zoning By-law Amendment submitted alongside this report. The MDR2 zone permits the use of both Multiple Dwellings and Apartment Dwellings. Given the unique functionality of the proposed development, vehicular parking rates for both land uses have been considered for comparison purposes.

The Town of Halton Hills By-law 2005-0117 governs off-street parking regulations, including requirements for accessible parking. Consideration is also made for the Accessibility for Ontarians with Disabilities Act (AODA) for comparison purposes.

Bicycle parking and loading spaces are not required for residential land uses under Zoning By-law 2010-0050.

#### 3.1.1 Vehicular Parking Requirements for Multiple Dwellings

The Town of Halton Hills Zoning By-law 2010-0050 requires a vehicle parking supply rate of 2 residential spaces plus 0.3 visitor spaces for multiple dwelling units. The summary of required spaces, as applied to the current Site statistics, is shown in **Table 1**.

**TABLE 1 TOWN OF HALTON HILLS ZONING BY-LAW 2010-0050 VEHICULAR PARKING REQUIREMENTS FOR MULTIPLE DWELLINGS**

Use	Dwelling Units	Rate	Parking Spaces Required
Residential Spaces	30	2 spaces/unit	60 spaces
Visitor Spaces		0.3 spaces/unit	9 spaces
<b>Total Required</b>		<b>2.3 spaces/unit</b>	<b>69 spaces</b>

Notes:

1. Per Zoning By-Law 2010-0050 5.3.3 Where the minimum number of parking spaces is calculated on the basis of a rate or ratio, the required number of parking spaces shall be rounded to the next higher whole number.

#### 3.1.2 Vehicular Parking Requirements for Apartment Dwellings

The Town of Halton Hills Zoning By-law 2010-0050 requires a vehicle parking supply rate of 1.5 residential spaces plus 0.25 visitor spaces for apartment dwelling units. The summary of required spaces, as applied to the current Site statistics, is shown in **Table 2**.



**TABLE 2 TOWN OF HALTON HILLS ZONING BY-LAW 2010-0050 VEHICULAR PARKING REQUIREMENTS FOR APARTMENT DWELLINGS**

Use	Dwelling Units	Rate	Parking Spaces Required
Residential Spaces	30	1.5 spaces/unit	45 spaces
Visitor Spaces		0.25 spaces/unit	8 spaces
<b>Total Required</b>		<b>1.75 spaces/unit</b>	<b>53 spaces</b>

Notes:

1. Per Zoning By-Law 2010-0050 5.3.3 Where the minimum number of parking spaces is calculated on the basis of a rate or ratio, the required number of parking spaces shall be rounded to the next higher whole number.

### 3.1.3 Barrier Free Vehicular Parking Requirements

Town of Halton Hills By-law 2005-0117 requires that 4 parking spaces to be provided as accessible spaces. By-law 2005-0117 requires that accessible spaces have a minimum dimension of 4.4 metres long and 2.4-metres wide. A 2-metre-wide access aisle next to each accessible space is required, which may be shared between two accessible parking spaces.

Accessibility for Ontarians with Disabilities Act (AODA) requires that 3 parking spaces be provided as barrier free (accessible). The 3 spaces must compose of a minimum of one Type A parking space, one Type B parking space and one additional space which may be Type B. A Type A accessible space has a standard length and a minimum width of 3.4 metres. A Type B accessible space has a standard length and a minimum width of 2.4 metres.

## 3.2 APPROPRIATENESS OF THE ZONING BY-LAW

The Town of Halton Hills has commented on the land use of the proposed development being considered Multiple Dwelling under the current zoning and arrangement of direct pedestrian access to outdoors (i.e., not entirely from a common external access door).

However, the parking garage below grade acts as a common element access for all residential parking spaces directly below the building units which are accessible to residential dwellings exclusively via a common corridor system (staircases and elevators). This configuration functions more similar to an apartment parking configuration and differs from at grade parking spaces typically found with Multiple Dwellings.

Further to the above, this Site's location within the Georgetown GO Station Area (Major Transit Station Area) makes it an appropriate location to consider a further reduction to the in-force by-law.

On the basis of the above, it is our opinion that the adaptation of the vehicular parking requirements for Apartment Dwellings would be appropriate for the proposed development in this context, which is consistent with the Town of Halton Hills direction towards a more sustainable transportation system.

### 3.3 PROPOSED PARKING FACILITIES

The Site is proposed to accommodate a total of 61 vehicular parking spaces, including 4 accessible spaces.

The residential vehicular parking supply meets the Zoning By-law 2010-0050 requirement for Apartment Dwellings of 45 residential spaces and 8 visitor spaces.

The accessible parking supply meets the Zoning By-law 2005-0117 requirement of 4 accessible parking spaces. Dimensions of the 4 accessible parking spaces follow Zoning By-law 2005-0117 requirements which differ from the AODA, as instructed by the Town of Halton Hills.

Loading space requirements specified in Zoning By-law 2010-0050 were advised by the Town of Halton Hills to not apply to pure residential developments, however, the proposed development provides 1 loading space with a clear height of 6.5 metres which will accommodate for private collection.

While not required in the Zoning By-law, 2 short-term bicycle parking racks are provided on the exterior of the property in addition to bicycle parking rooms for residents within the parking structure.

Vehicle manoeuvring diagrams are attached in **Appendix C**, which demonstrate access into and out of loading spaces.

### 3.4 TRANSPORTATION DEMAND MANAGEMENT

Transportation Demand Management (TDM) strategies encompass a range of policies, tools, and programs designed to promote and facilitate the use of walking, cycling, public transit, telecommuting and carpooling as an alternative to single passenger vehicle travel. TDM strategies aim to reduce vehicle travel with the primary objective of:

- reducing demand on road infrastructure, thereby minimizing road and parking capital expenditures;
- increasing travel efficiency;
- reducing climate change emissions;
- improving air quality; and,
- improving overall health.

A TDM plan has been crafted to tailor to the future residents of the 16-18 Mill Street proposed development. The components of the proposed TDM plan are outlined in **Table 3**.

**TABLE 3 PROPOSED TDM IMPLEMENTATION PLAN / TDM CHECKLIST**

	<b>Measure</b>	<b>Description</b>
1	“Unbundle Parking”	Since multiple units are expected to be rentals, a sales program should be commenced which gives renters the option of leasing a parking space.
2	Visible Transit Information	The lobby of the building should have access to local and regional transit information to assist residents in taking transit.
3	Bicycle Parking	The proposed development shall meet the bicycle parking requirements of the site-specific zoning by-law to support and encourage bicycle use to and from the Site. Provide short-term bicycle parking in highly visible locations in close proximity to major entrances.
4	Transit Context	The Site is located within 500 metres of the Georgetown GO regional rail service. This existing measure will make transit use more attractive and accessible when used alongside other TDM measures.
5	Area Network Improvements	The Site is located within the Mill Street Corridor Precinct which has undergone a neighbourhood study endorsed by Council in December of 2020 to identify opportunities for pedestrian, cyclist and road network improvements. These measures will improve pedestrian and active transportation facilities.

## 4.0 TRAFFIC VOLUME PROJECTIONS

### 4.1 SCOPE

The study area for this Site comprises of three intersections:

- Mill Street / Site Access
- Mill Street / Dayfoot Drive
- Mill Street / Guelph Street

In accordance with Halton Region's TIS guidelines, a horizon period of 5 years was adopted for the future impact analysis. Traffic analysis was completed for the following scenarios during the weekday morning (AM) and afternoon (PM) peak hour:

- Existing Traffic Conditions
- 5-Year Future Background Traffic Conditions (2028)
- 5-Year Future Total Traffic Conditions (2028)

### 4.2 EXISTING TRAFFIC CONDITIONS

Existing peak hour traffic volumes at the Site driveways have been established based on traffic counts provided by the Town and supplemented by counts undertaken by Spectrum Traffic Data on behalf of BA Group. In addition to 2020 traffic counts, 2022 counts were performed by Spectrum. Video footage from 2022 indicates significant roadworks along Mill Street, affecting peak hour traffic patterns during that time. As such, 2020 Spectrum traffic counts were adopted alongside the Town's 2018 counts.

A summary of the counts undertaken is provided in **Table 4**. The corresponding turning movement counts are attached in **Appendix D**.

**TABLE 4 EXISTING TRAFFIC DATA SOURCES**

Intersection	Count Date	Count Times	Source
Guelph Street / Mill Street	Monday, November 5 <sup>th</sup> , 2018	7:00 AM-9:00 AM 11:00 AM-2:00 PM 3:00 PM-6:00 PM	Town
Guelph Street / Mill Street	Tuesday, November 3 <sup>rd</sup> , 2020	7:00 AM-9:00 AM 4:00 PM-6:00 PM	Spectrum Traffic Data
Mill St / Dayfoot Drive			

As the counts conducted by Spectrum were completed during the COVID-19 pandemic, it is anticipated that these counts reflect reduced traffic volumes compared to normal operations. To obtain a more accurate representation of existing conditions at Mill St / Dayfoot Dr, an adjustment factor was obtained by comparing the two-way volumes on the north leg of Guelph St / Mill St during the two count dates. The through volumes on Mill St were then balanced to obtain the final adopted volumes for existing conditions.

The adopted existing baseline area traffic volumes for the weekday AM and PM peak hour are provided in **Figure 4**.

#### 4.2.1 Existing Site Trips

To remain conservative, it was assumed that the existing trips from the Site were negligible and did not warrant removal from the background traffic volumes.

### 4.3 FUTURE BACKGROUND TRAFFIC VOLUMES

#### 4.3.1 Background Development Growth

Two background developments were identified by the Town within the vicinity of the Site, as summarized in **Table 5**.

**TABLE 5 AREA BACKGROUND DEVELOPMENT**

Location	Type	Development Description	Study	Status
42 Mill Street	Residential	Building 1: 6 storey condominium – 76 residential units	Report prepared by LEA Consulting Ltd (dated November 2016)	Under construction
	Residential	Building 2: 6-storey townhouses – 54 residential units		Under review
	Residential	Building 3: 5-storey condominium – 144 residential units		Under review
22 Dayfoot Drive	Residential	5-storey condominium – 82 residential units	N/A	Pre-consultation

Background development trip generation rates for 42 Mill Street were determined from the site traffic volumes within the Transportation Impact Study prepared by LEA in November of 2016.

Background development trip generation rates for 22 Dayfoot Drive were determined using the ITE Trip Generation Manual (11<sup>th</sup> Edition). The mode split characteristics for the proposed site are captured in the ITE rates associated with the specific land use. The development is categorized under Land Use Code 221 – Multifamily Housing (Mid-Rise) with a Land Use Subcategory of Close to Rail Transit. According to ITE, a site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile (805 m) or less. This criterion is satisfied by the Georgetown GO station located within an 800-metre walking distance from 22 Dayfoot Drive. The total vehicle trips generated from the background developments are summarized in **Table 6**.



**TABLE 6 BACKGROUND DEVELOPMENT TRIP GENERATION**

	Number of Units	AM Peak Hour			PM Peak Hour		
		In	Out	2 Way	In	Out	2 Way
42 Mill Street – Vehicle Trips <sup>1</sup>	274	35	75	110	95	55	150
ITE Trip Rate Per Dwelling Unit	–	0.14	0.22	0.36	0.34	0.11	0.45
22 Dayfoot Drive – Vehicle Trips	82	10	20	30	30	5	35
<b>Total</b>	<b>356</b>	<b>45</b>	<b>95</b>	<b>140</b>	<b>125</b>	<b>60</b>	<b>185</b>

Notes:

1. 42 Mill Street rates are determined from the site traffic volumes within the TIS prepared by LEA in November of 2016.

### 4.3.2 Corridor Growth

Corridor growth rates for Mill Street and Guelph Street were estimated using seven traffic counts spanning a period between 2005 and 2020. Due to significant roadworks along Mill Street, 2022 traffic counts were omitted from the corridor growth analysis. As there was no discernible growth along either of the roads at this intersection, a growth rate of 0% was assumed.

The background developments identified above will contribute directly to growth not encompassed within the 0% assumption.

Detailed corridor growth analysis charts are attached in **Appendix E**.

### 4.3.3 Background Traffic Volumes

Background traffic volumes, inclusive of background development growth, are shown in **Figure 5**.

### 4.3.4 Future Background Traffic Volumes

The future background traffic volumes, determined by adding existing traffic volumes and background traffic volumes, are shown in **Figure 6**.

## 4.4 SITE TRAFFIC FORECASTS

### 4.4.1 Vehicle Trip Generation

The ITE Trip Generation Manual (11<sup>th</sup> Edition) was used to obtain a trip generation rate for the proposed development. The proposed development is categorized under Land Use Code 221 – Multifamily Housing (Mid-Rise) with a Land Use Subcategory of Close to Rail Transit. According to ITE, a site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile (805 m) or less. This criterion is satisfied by the Georgetown GO station located within a 500-metre walking distance from the Site.

Based on the rates outlined above, the traffic volumes projected to be generated by the proposed development in the AM and PM peak hour are summarized in **Table 7**.

**TABLE 7 SITE VEHICLE TRIP GENERATION**

	Number of Units	AM Peak Hour			PM Peak Hour		
		In	Out	2 Way	In	Out	2 Way
Trip Rate Per Dwelling Unit	–	0.14	0.22	0.36	0.34	0.11	0.45
Vehicle Trips	30	5	5	10	10	5	15

On the basis of the above, it is estimated that the proposed development will generate **in the order of 10 and 15 two-way vehicle trips** during the AM and PM peak hours, respectively.

#### 4.4.2 Vehicle Trip Distribution

Site generated traffic was assigned onto the area road network based on the trip distribution percentages summarized in **Table 8**. The distribution was determined through a TTS query for existing home-based vehicle trips in the area for the weekday peak periods. TTS queries are provided in **Appendix F**.

**TABLE 8 SITE TRAFFIC DISTRIBUTION**

Street	Direction	AM Peak		PM Peak	
		Inbound	Outbound	Inbound	Outbound
Guelph St	East	60%	60%	60%	60%
	West	10%	10%	10%	10%
Mill Street	North	20%	15%	20%	15%
	South	10%	15%	10%	15%
<b>Total</b>		<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

#### 4.4.3 Site Traffic Volumes

The projected Site traffic volumes are shown in **Figure 7**.

### 4.5 FUTURE TOTAL TRAFFIC VOLUMES

Future total traffic volumes are determined by adding the future background traffic volumes and the Site traffic volumes and are shown in **Figure 8**.



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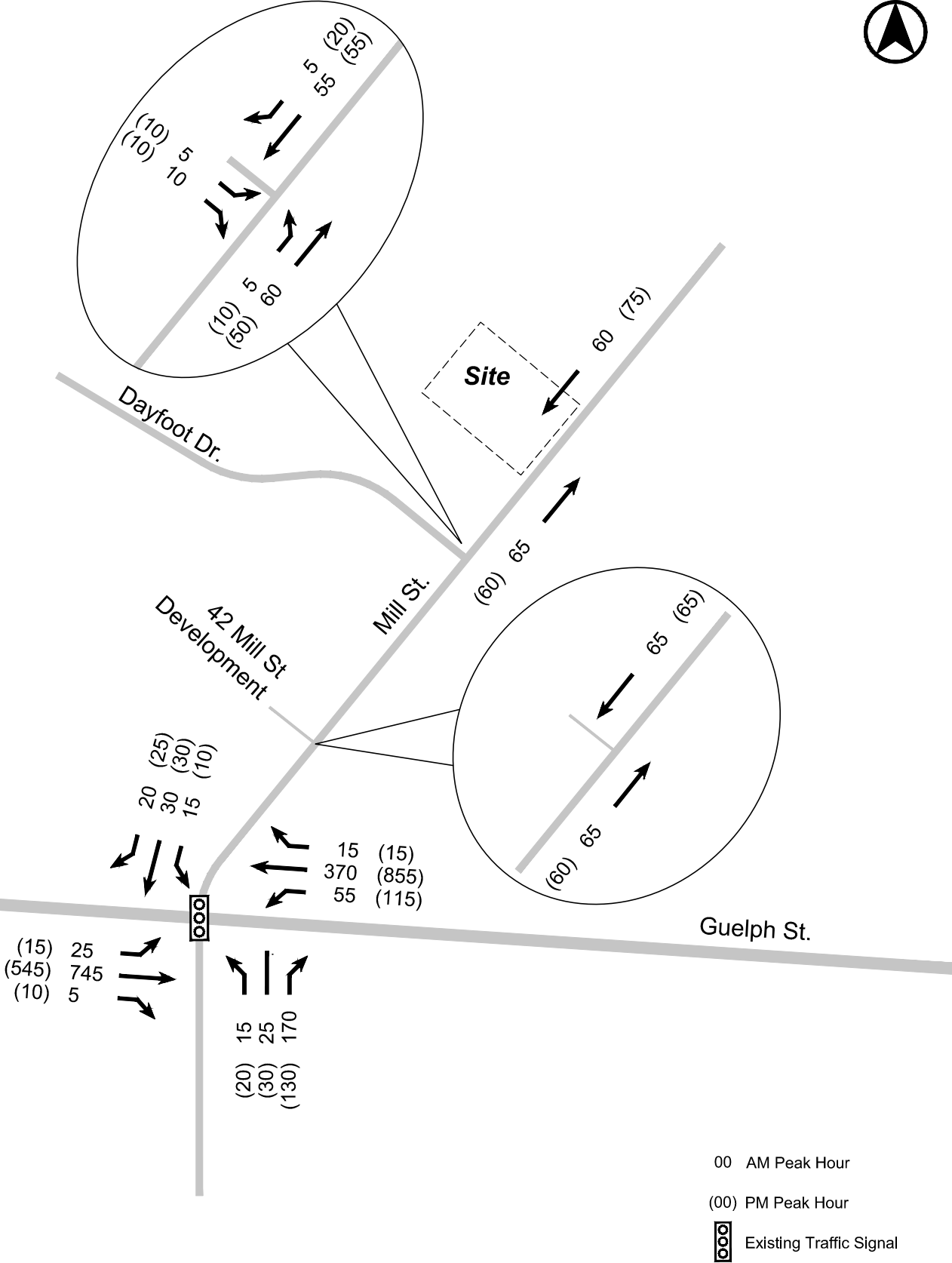


FIGURE 4 EXISTING TRAFFIC VOLUMES



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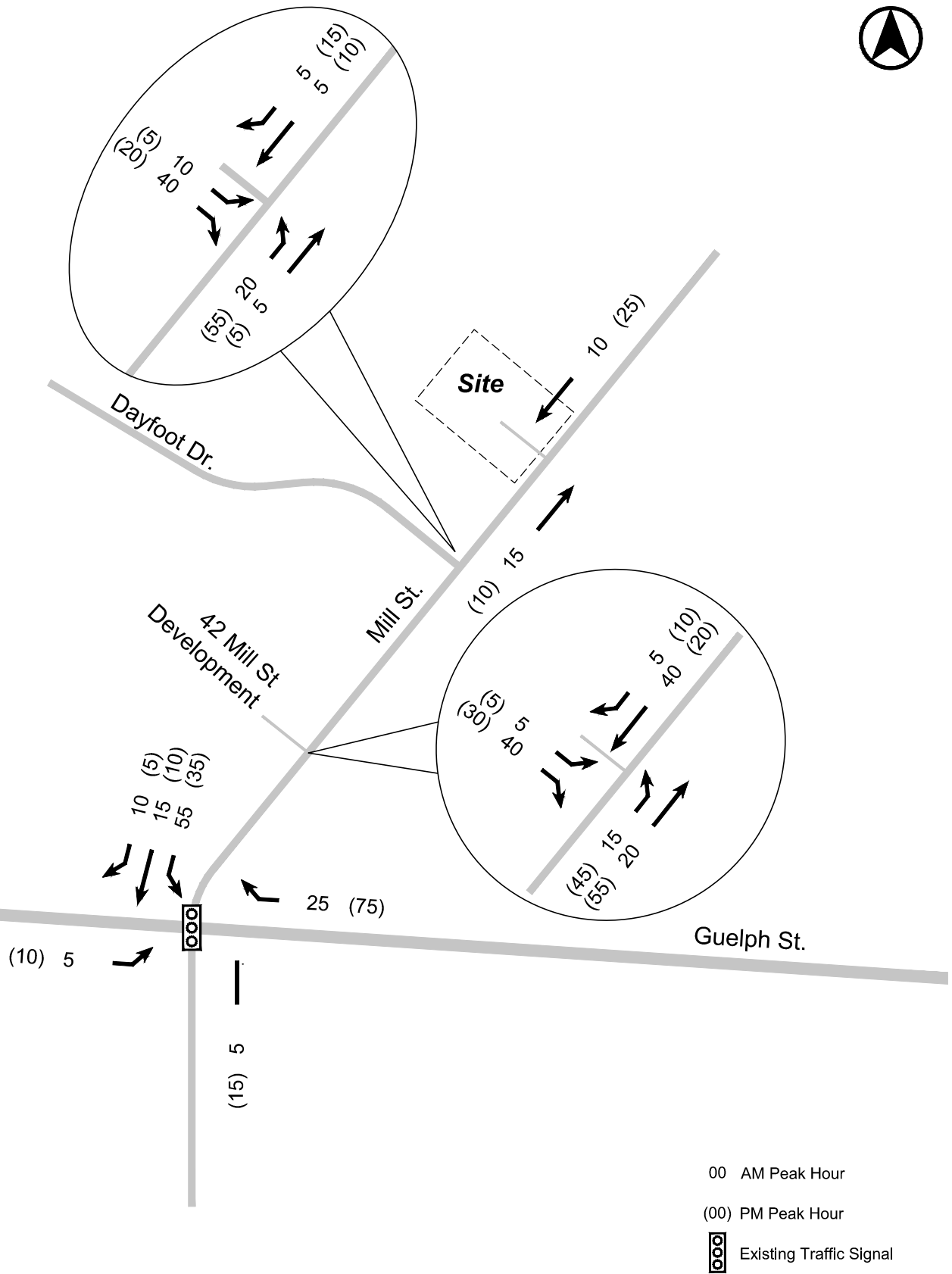


FIGURE 5 BACKGROUND DEVELOPMENT TRAFFIC VOLUMES



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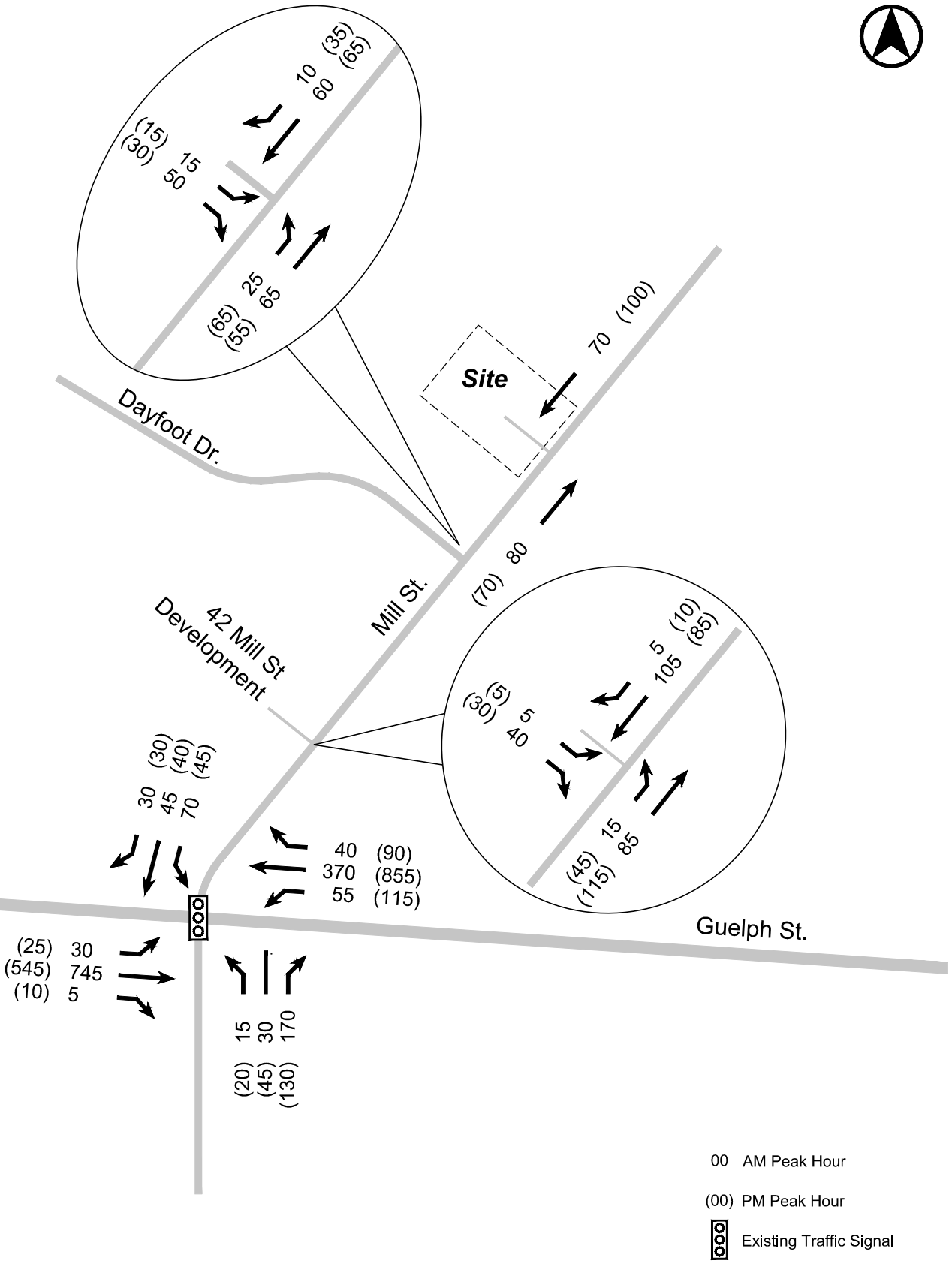
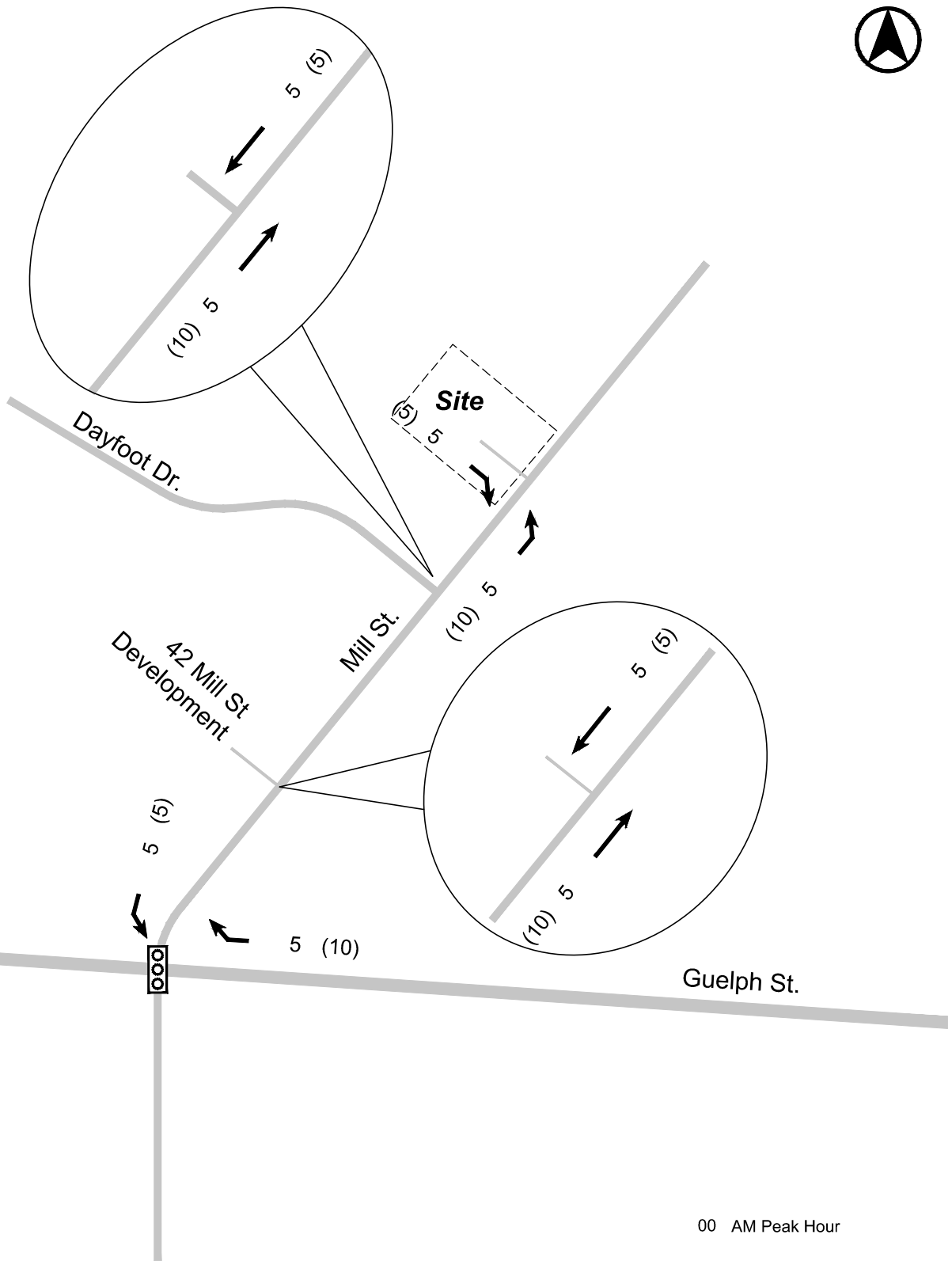


FIGURE 6 FUTURE BACKGROUND TRAFFIC VOLUMES





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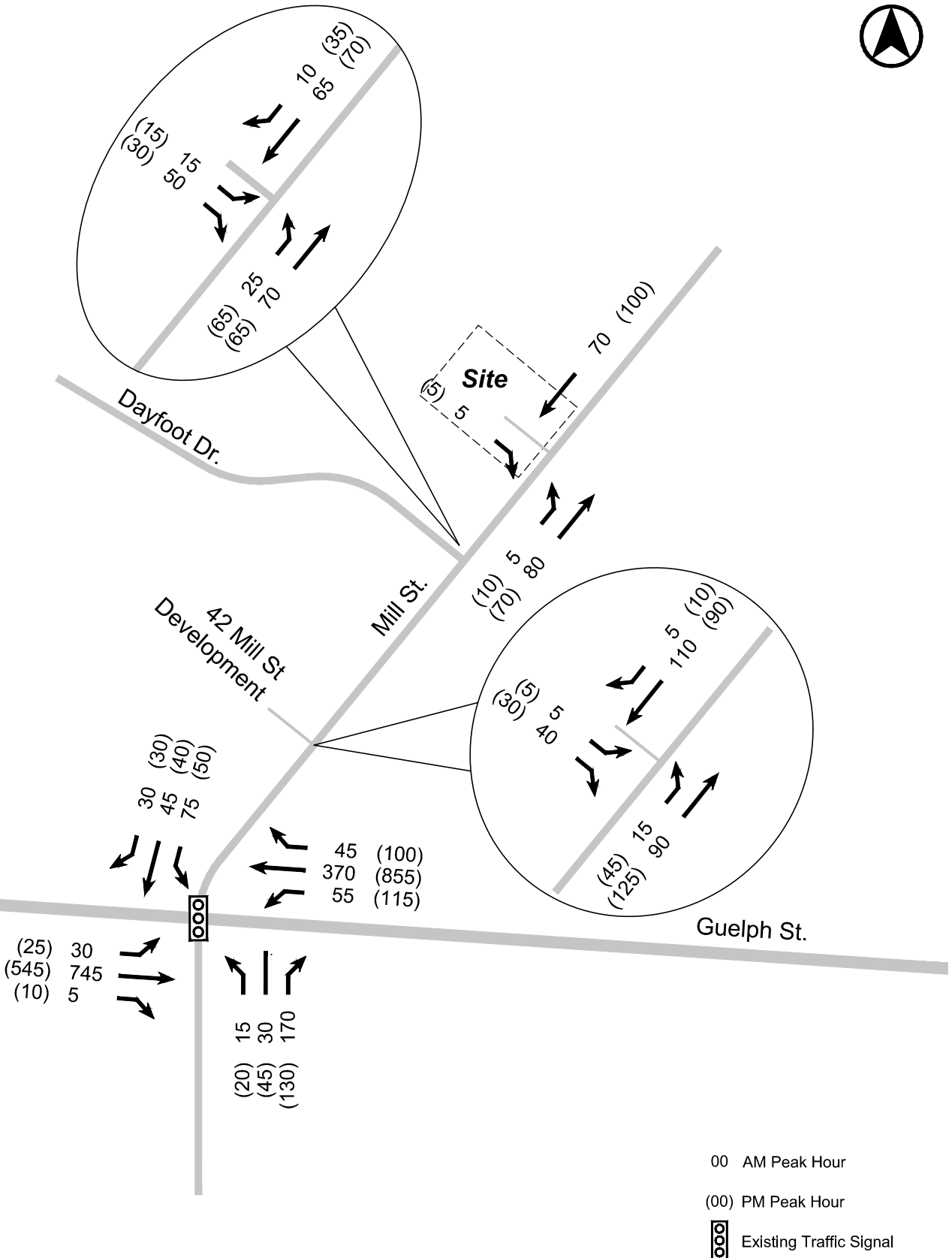


- 00 AM Peak Hour
- ((00)) PM Peak Hour
- Existing Traffic Signal

**FIGURE 7 SITE TRAFFIC TRAFFIC VOLUMES**



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**FIGURE 8 FUTURE TOTAL TRAFFIC VOLUMES**

## 5.0 OPERATIONAL ANALYSIS

### 5.1 ANALYSIS METHODOLOGY

Synchro Version 11 and the Highway Capacity Manual (HCM) methodology were used to analyze the study area intersections.

For unsignalized intersections, level of service (LOS) characterizes operational conditions for key movements in terms of average delay experienced by vehicles attempting to complete a manoeuvre through the intersection. LOS 'A' represents a good level of service with short delays, while LOS 'F' represents a poor level of service with extended delays.

For signalized intersections, the volume to capacity ratio (V/C ratio) is an indicator of the capacity utilization for the key movements in the intersection. A V/C ratio of 1.0 indicates that certain governing traffic movements through the intersection are operating at or near maximum capacity.

Detailed analysis worksheets are attached in **Appendix G**.

### 5.2 ANALYSIS AND ASSUMPTIONS AND PARAMETERS

Synchro analyses were performed to conform to the requirements of the Halton Region Transportation Impact Studies Guidelines (January 2015).

The existing signal timing plan for the Guelph St / Mill Street intersection was provided by the Town and used for existing conditions. Future background and future total traffic scenarios used optimized signal phasing and timing parameters to respond to changing traffic conditions as appropriate, whilst maintaining cycle lengths and flash don't walk times.

A base saturation flow of 1,900 vehicles per hour per lane and a peak hour factor of 0.92 were assumed for all streets in the study area road network. Heavy vehicle percentages were calculated based on existing traffic volume data extracted from the traffic counts utilized in this study.

## 5.3 OPERATIONS

### 5.3.1 Signalized Intersection

A summary of the traffic capacity analysis for the existing signalized Guelph Street / Mill Street intersection is provided in **Table 9** and the 95<sup>th</sup> percentile queues for the intersection are shown in **Table 10**.

**TABLE 9 PEAK HOUR ANALYSIS RESULTS: GUELPH ST / MILL ST**

Lane Group	Existing		Future Background		Future Total	
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS
EBL	0.05 (0.05)	A (A)	0.06 (0.10)	A (A)	0.06 (0.10)	A (A)
EBTR	0.69 (0.62)	A (B)	0.70 (0.62)	A (B)	0.70 (0.62)	A (B)
WBL	0.24 (0.28)	A (A)	0.26 (0.28)	A (A)	0.26 (0.29)	A (A)
WBTR	0.19 (0.38)	A (A)	0.21 (0.42)	A (A)	0.21 (0.43)	A (A)
NBLTR	0.27 (0.38)	B (C)	0.25 (0.47)	C (C)	0.24 (0.43)	C (C)
SBLTR	0.16 (0.16)	B (C)	0.54 (0.46)	C (C)	0.56 (0.47)	C (C)
<b>Overall</b>	<b>0.58 (0.55)</b>	<b>A (B)</b>	<b>0.65 (0.57)</b>	<b>B (B)</b>	<b>0.66 (0.57)</b>	<b>B (B)</b>

Notes:

1. xx (xx) – AM Peak (PM Peak)

**TABLE 10 95<sup>TH</sup> PERCENTILE QUEUES: GUELPH ST / MILL ST**

Lane Group	Existing Traffic	Future Background Traffic	Future Total Traffic	Storage Lane Capacity (m)
EBL	4.9 (5.1)	5.6 (7.6)	5.6 (7.6)	45 m
EBTR	134.3 (120.1)	133.1 (118.5)	133.1 (119.3)	140 m
WBL	12.2 (14.8)	12.3 (14.5)	12.3 (14.6)	50 m
WBTR	21.4 (51.8)	21.8 (57.4)	22.1 (58.8)	200 m
NBLTR	25.7 (36.2)	25.3 (43.9)	25.3 (40.5)	40 m
SBLTR	16.4 (18.8)	41.2 (35.4)	43.2 (35.9)	190 m

Notes:

1. xx (xx) – AM Peak (PM Peak)

### 5.3.2 Unsignalized Intersections

A summary of the traffic capacity analysis for the unsignalized intersections is provided in **Table 11**.

**TABLE 11 PEAK HOUR ANALYSIS RESULTS: MILL ST / DAYFOOT DR**

Lane Group	Existing		Future Background		Future Total	
	Delay (s)	LOS	Delay (s)	LOS	Delay (s)	LOS
<b>Mill Street / Dayfoot Drive</b>						
EBLR	8.9 (9.2)	A (A)	9.2 (9.8)	A (A)	9.3 (9.8)	A (A)
NBLT	0.6 (1.3)	A (A)	2.2 (4.3)	A (A)	2.1 (4.0)	A (A)
<b>Mill Street / Site Access</b>						
EBLR	-- (--)	-- (--)	-- (--)	-- (--)	8.7 (8.8)	A (A)
NBLT	-- (--)	-- (--)	-- (--)	-- (--)	0.4 (1.0)	A (A)

Notes:

1. xx (xx) – AM Peak (PM Peak)

Traffic operations at area signalized and unsignalized intersections are considered acceptable under both existing and future scenarios, considering the addition of area background traffic and Site traffic. Existing and future queuing at Guelph Street / Mill Street can also be readily accommodated within the existing area road network and turning lane storage.



## 6.0 GEOMETRIC GUIDELINES

### 6.1 SIGHT DISTANCES

Available sight lines were reviewed at the proposed driveway along the southeastern border of the development.

The sight line analysis was undertaken in accordance with the 2017 Transportation Association of Canada (TAC) methodology and a design speed of 60 kilometers per hour (10 kilometers per hour above an assumed posted 50 kilometers per hour speed limit as per Town of Halton Hills By-Law 84-1). An AutoCAD analysis was conducted based off the proposed development plan provided. Graphics are presented in **Appendix H** and a summary of the calculated sight distances and results are presented below:

#### 2017 TAC Requirements

- Stopping Sight Distance (Table 2.5.2): 85 metres
- Case B1 – Left turn from the minor road (Table 9.9.4): 130 metres
- Case B2 – Right turn from the minor road (Table 9.9.6): 110 metres

#### Site Access / Mill Street

- A **right turning departing vehicle looking north** along Mill Street can see clear beyond the minimum turning sight distance requirement of 110 metres.
- A **left turning departing vehicle looking south** along Mill Street can see clear beyond the minimum turning sight distance requirement of 130 metres. Vehicles entering Mill Street from Dayfoot Drive are within the 130-metre sight distance, however, speeds are expected to be reduced while turning and the intersection of Dayfoot Drive / Mill Street is seen clearly from the Site access.
- A **left turning departing vehicle looking north** along Mill Street can see clear beyond the stopping sight distance of 85 metres and the minimum turning sight distance requirement of 110 metres.

Based on the foregoing, the sight distance at the proposed Site Access / Mill Street intersection is acceptable.

## 6.2 CORNER CLEARANCE

Corner clearance was reviewed for the proposed driveway relative to the nearby Dayfoot Drive / Mill Street intersection.

The corner clearance analysis was undertaken in accordance with the 2017 Transportation Association of Canada (TAC) methodology. The TAC requirement for an acceptable corner clearance of a residential driveway at a minor intersection is 11.0 metres: 6.0 metre minimum corner curb radius, 2.0 metre minimum tangent separation distance, and 3.0 metre minimum driveway curb radius (Figure 8.9.2). There are no nearby driveways on Mill Street to test corner clearances of adjacent driveways.

The proposed Site access on Mill Street has a corner clearance of approximately 40 metres from Dayfoot Drive, including a 6-metre corner curb radius at Dayfoot Drive and a 12-metre driveway curb radius. Based on the foregoing, the corner clearance at the proposed Site access relative to Dayfoot Drive is acceptable.

## 7.0 CONCLUSIONS

BA Group is retained by AGK Multi-Res GP Ltd to provide a traffic impact study for a 30-unit apartment building at 16-18 Mill Street in Georgetown (Halton Hills) located in Halton Region.

### Existing Site and Transportation Context

1. The Site is currently occupied by a 9-unit low-rise residential apartment building at 16 Mill Street and a triplex dwelling at 18 Mill Street.
2. The Georgetown GO Station is located approximately 500 metres walking distance northeast of the Site. Regional GO bus routes also operate within 500 metres of the Site along Guelph Street at its intersection with Mill Street.
3. The Site is designated by the Official Plan (OP) and the Georgetown GO Station Area Secondary Plan as a Medium Density Residential Area and Greenlands. Under Zoning By-law 2010-0050, the Site is zoned as Low Density Residential One.
4. The Site is located within the Mill Street Corridor Precinct which has undergone a neighbourhood study endorsed by Council in December of 2020 to identify opportunities for pedestrian, cyclist and road network improvements.
5. The Halton Hills Active Transportation Master Plan (ATMP) was endorsed by Council on October 26, 2020, and further identifies improvements to the active transportation network, including a proposed On-Road Facility in the form of a Signed Bike Route with Sharrows along Mill Street and a proposed Off-Road Facility along Silver Creek.

### Proposed Development

6. The proposed development consists of a 30-unit apartment building with 4 stories and 2 parking levels.
7. A total of 61 parking spaces are proposed for the Site, 3 spaces at-grade, 28 spaces on parking level P1 and 30 spaces on parking level P2. 4 barrier free spaces will be provided on the Site.
8. The proposed Site driveway is located at the existing driveway for 18 Mill Street and provides vehicular access to the Site parking and loading areas from Mill Street.
9. Two bicycle parking racks will be provided for short-term usage on the ground floor in addition to underground bicycle parking rooms for residents.

## Traffic

10. Traffic operations have been reviewed for existing, future background, and future total conditions for existing and full buildout (2028).
11. Background traffic allowances were made for the proposed developments at 42 Mill Street and 22 Dayfoot Drive.
12. The Site is estimated to generate **in the order of 10 and 15 two-way vehicle trips** during the morning and afternoon peak hours, respectively.

**Site traffic volumes can be acceptably accommodated on the local area road network and Site driveway under future background and future total conditions. No road network improvements are required to accommodate Site traffic under future total conditions.**

## Geometric Guidelines

13. Available sight lines and corner clearances were reviewed at the proposed Site Access / Mill Street intersection.
14. The sight line analysis was undertaken in accordance with the 2017 TAC methodology and a design speed of 60 kilometers per hour. A stopping sight distance of 85 metres was used alongside a left turn from minor road sightline distance of 130 metres and a right turn from minor road distance of 110 metres.
15. Based on our analysis, the sight distance at the proposed Site Access / Mill Street intersection is acceptable.
16. Based on our analysis of the corner clearance between the proposed Site access and Dayfoot Drive, an approximate 40 metre clearance satisfies the 2017 TAC requirement of 11.0 metres for a residential driveway nearby a minor intersection.

We trust the foregoing provides an appropriate presentation of our analysis, as well as a satisfactory discussion of all relevant results and their implications. Please do not hesitate to contact us directly should you require any further information and/or clarification.

  
**BA Consulting Group Ltd.**  
Emily J. Ecker, P.Eng. Senior Associate

# **APPENDIX A: Response to Transportation Comments**



May 15, 2023

Michael Kosziwka care of Egmond Associates Ltd  
AGK Multi Res  
(519) 217 – 2892  
[Michael@cleanwave.ca](mailto:Michael@cleanwave.ca)

**RE: 16-18 Mill Street – Residential Development  
Response to Transportation Comments**

Dear Michael:

BA Group is retained by AGK Multi-Res to provide a traffic impact study for the Official Plan Amendment and Zoning By-law Amendment at 16-18 Mill Street in Georgetown (Halton Hills) in Halton Region. The proposed development has a total gross floor area of 3,091 m<sup>2</sup> and consists of a 30-unit apartment building with 4 stories and 2 parking levels.

The original study was prepared by BA group on December 15, 2020, which proposed a total floor area of 4,367 m<sup>2</sup> and consisted of a 52-unit apartment building with 6 stories and 2 parking levels.

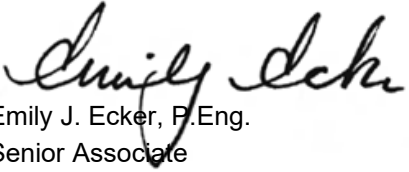
Since the submission of the original application, comments have been received from stakeholders including the Town of Halton Hills, BrookMcIlroy, and the Region of Halton. This letter provides responses to transportation related items outlined in the following comments forwarded from Egmond Associated Ltd. and their recommended actions:

- OPA & ZBA – First Submission, dated February 19, 2021, by the Town of Halton Hills
- 16-18 Mill St., Georgetown – OPA and ZBA Application Urban Design Peer Review, dated February 26, 2021, by BrookMcIlroy
- Regional Comments - Local Official Plan & Zoning By-law Amendments, dated March 1, 2021, by the Region of Halton
- D09OPA20.005 & D14ZBA20.014 – AGK MULTI-RES GP LTD. PROPOSED OFFICIAL PLAN & ZONING BY-LAW AMENDMENTS TO PERMIT THE DEVELOPMENT OF A 6-STOREY, 52-UNIT RESIDENTIAL APARTMENT BUILDING AT 16 & 18 MILL STREET, GEORGETOWN (GO STATION DISTRICT), dated March 1, 2021, by the Town of Halton Hills

Should you require any further information, please contact the undersigned.

Sincerely,

**BA Consulting Group Ltd.**



Emily J. Ecker, P.Eng.  
Senior Associate



Anthony Latorre, EIT  
Transportation Analyst

**cc.**

Steve Krossey, Principal – BA Group



## 1.0 RESPONSE TO TOWN OF HALTON HILLS COMMENTS

### 1.1 OPA & ZBA – FIRST SUBMISSION – FEBRUARY 19, 2021

#### A – Official Plan Amendment & Zoning By-law Amendment Comments

(1) Parking space loading rating in the ZBA Text needs to be updated to 1.35, currently it states 1.32 in the text which does match the analysis completed in the TIS for 70 parking spots. (Page 9 of the TIS, Table 2)

**Response:** TIS has been updated to reflect the most recent proposed development of 61 parking spaces. The proposed parking rate is 2.03 spaces/unit which is greater than the requirement of 1.75 spaces/unit for apartment dwellings. **Section 3.2** of the TIS provides justification for the use of apartment dwelling rates.

### 1.2 D09OPA20.005 & D14ZBA20.014 – AGK MULTI-RES GP LTD. PROPOSED OFFICIAL PLAN & ZONING BY-LAW AMENDMENTS TO PERMIT THE DEVELOPMENT OF A 6-STOREY, 52-UNIT RESIDENTIAL APARTMENT BUILDING AT 16 & 18 MILL STREET, GEORGETOWN (GO STATION DISTRICT) – MARCH 1, 2021

#### A – Transportation Impact Study

(1) Section 2.0 Transportation Context – Please note that the Mill Street Neighbourhood Study has been finalized and endorsed by Council in December 2020.

**Response:** Noted in **Section 2.3** Pedestrian and Cycling Network.

(2) Section 2.2 Transit Network – More detail is to be provided regarding the transit headways during the peak hours.

**Response:** Refer to **Section 2.2**. The frequency of nearby transit routes has been described and a context map is provided.

(3) Section 2.3 Pedestrian and Cycling Network – As mentioned, the Mill Street Neighbourhood Study is now complete, please review the document as it relates to identified active transportation enhancements/recommendations.

**Response:** Noted.

(4) Please remove the repeated discussion relating to the road widening of up to 5.0 metres in Section 2.3 Pedestrian and Cycling Network.

**Response:** Noted.



**(5) The Town previously requested the submission of a Parking Justification Study through pre-consultation/development review committee meeting notes, held by the Town, and advised the proponent that should there be any shortage of parking supply to the existing Zoning By-law a Parking Justification Study with scope of work would be circulated prior to commencing the study. However, the Parking Justification Study was not scoped by the Town prior to the application submission. Please have the consultant circulate a scope of work, as there are concerns with the provided parking assessment.**

**Response:** No longer applicable. The current application meets the parking minimum requirements in Zoning By-law 2010-0050 for apartment dwellings. **Section 3.2** of the TIS provides justification for the use of apartment dwelling rates.

**(6) The site must provide the number of short-term secure bike parking spaces proposed in the TIS and this must clearly be shown on the plans. Please provide details (manufacturer, name, type, dimensions) of the proposed bike racks. All bike parking spaces must be shown and accounted for on the plans. The provision of additional bicycle parking spaces is strongly recommended to encourage active transportation.**

**Response:** Refer to architectural drawings A1.1 – r2 and A2.3 – r6 for short-term bicycle parking spaces dated April 26, 2023.

**(7) Figure 6 (Background Development Traffic Volumes) – Appears to be underestimated to the future development traffic in the immediate study area. Please ensure that the background development is taken from the 42 Mill Street, Proposed Residential Development Transportation Impact Study dated November 2016 (pages 15-16). It appears that the projected future development volumes are under projected and provide an inaccurate traffic analysis. Please review and provide any further changes to the analysis as required.**

**Response:** Background development traffic volumes have been updated. 42 Mill Street site traffic has been taken from the TIS prepared by LEA in November of 2016. 22 Dayfoot Drive site traffic has been updated based on trip generation rates from the ITE Trip Generation Manual (11<sup>th</sup> Edition).

**(8) Based on the information, the proposed full built-out year of 2020 appears to be inaccurate. Please revise the full build-out year for the proposed development and make the necessary changes to the future horizon years accordingly.**

**Response:** The current and horizon year have been updated to 2023 and 2028, respectively.

**(9) Please note that as per the stated Terms of Reference, dated Oct 13, 2020, that as part of the trip distribution component, any external resources (TTS) used for the assumption of trip distribution must be appended to the report for our reference and review.**

**Response:** Added to report **Appendix F**.

**(10) Please note that as per the stated Terms of Reference, dated Oct 13, 2020, that the TIS study shall provide detailed assessment of internal circulation. This assessment should include turning manoeuvres for passenger vehicles, emergency vehicles, delivery vehicles, and waste collection within and to/from the site. Provide AutoTurn drawings in the appendix to illustrate the feasibility of efficient turning manoeuvres.**

**Response:** AutoTrack vehicle manoeuvring diagrams have been added to report **Appendix C**. Access route design for emergency vehicles adheres to the Ontario Building Code (Section 3.2.5.6) as demonstrated by the site plan drawing A1.1 – r2. The parking garage adheres to parking standards outlined in Part 5 – Parking and Loading Standards of Zoning By-law 2010-0050.

**(11) Please note that as per the stated Terms of Reference, dated Oct 13, 2020, that a review of the proposed site access to Mill Street will be required. Ensure that all TAC standards are adhered to include, but not limited to, sightlines, intersection spacing, corner clearances, road alignments, etc.**

**Response:** **Section 6.0** of the TIS addresses TAC standards including sight distances and a corner clearance for the proposed driveway.

## 2.0 RESPONSE TO BROOKMCLLROY COMMENTS

### 2.1 16-18 MILL ST., GEORGETOWN – OPA AND ZBA APPLICATION URBAN DESIGN PEER REVIEW – FEBRUARY 26, 2021

#### A – Low-Rise Residential (Southwest) Interface

##### (c) Reduction of Non-Permeable Surface Area

- Surface parking dominates the southwestern portion of the site and accounts for a large percentage of the overall site area. Every effort should be made to reduce the area of non-permeable parking surface by:
  - Reducing the number of parking spaces located at-grade;
  - Using permeable paving in surface parking spaces;
  - Examining potential alternative truck maneuvers to eliminate the necessity of a paved painted zone opposite to the loading area; and,
  - Converting any excess parking or maneuvering area into a series of landscape bump-outs with a combination of trees and low-level plantings.

**Response:** TIS has been updated to reflect the most recent proposed development including 61 parking spaces and the removal of surface parking. Loading space requirements specified in Zoning By-law 2010-0050 were advised by the Town of Halton Hills to not apply to pure residential developments, however, the proposed development provides 1 loading space with dimensions in alignment with Zoning By-law 2010-0050 and 2 bike parking racks. AutoTrack vehicle manoeuvring diagrams for the loading space are included in report **Appendix C**.

## 3.0 RESPONSE TO REGION OF HALTON COMMENTS

### 3.1 REGIONAL COMMENTS - LOCAL OFFICIAL PLAN & ZONING BY-LAW AMENDMENTS – MARCH 1, 2021

#### A – Waste Management

The subject property can be serviced by Regional waste collection. Regional staff require a Waste Management Plan be provided for review that includes representative scaled drawings. The Waste Plan is to include the criteria outlined in Section 1.4.1 of the Region's Development Design Guidelines for Source Separation of Solid Waste (<https://www.halton.ca/Repository/Development-Design-Guidelinesfor-Source-Separatio>). Regional staff will also require the following items to be included in the Plan:

- Turning radius of 13 m centre line is required for waste collection vehicles;
- Overhead clearance of 7.5 m if waste collection truck required to drive under;
- Collection point level (+/- 2%);
- Weight capacity 35 tonnes (P.Eng certified) if waste collection truck required to drive over structure (i.e. parking garage);
- Two-way traffic – 6 m road width/One-way traffic – 4.5 m road width;
- Continuous forward collection of Waste collection vehicles without reversing (Cul-de-sac or T-turnaround may be acceptable);
- 18 m minimum head-on approach;
- 18 m maximum back-up distance;
- Collection area – minimum area required for waste receptacles;
- Door width for waste rooms and any door where a waste receptable must go through – minimum 2.2 m;
- Internal storage requirements included as per Section 1.9 – note which section applies; and
- Sufficient storage for all waste receptacles (and compactors if required).

**Response:** A Turtle Island garbage truck was tested as a private garbage collection vehicle. Architectural plans which demonstrate a shared loading and garbage collection space are provided in report **Appendix B** and AutoTrack vehicle manoeuvring diagrams are provided in report **Appendix C**.

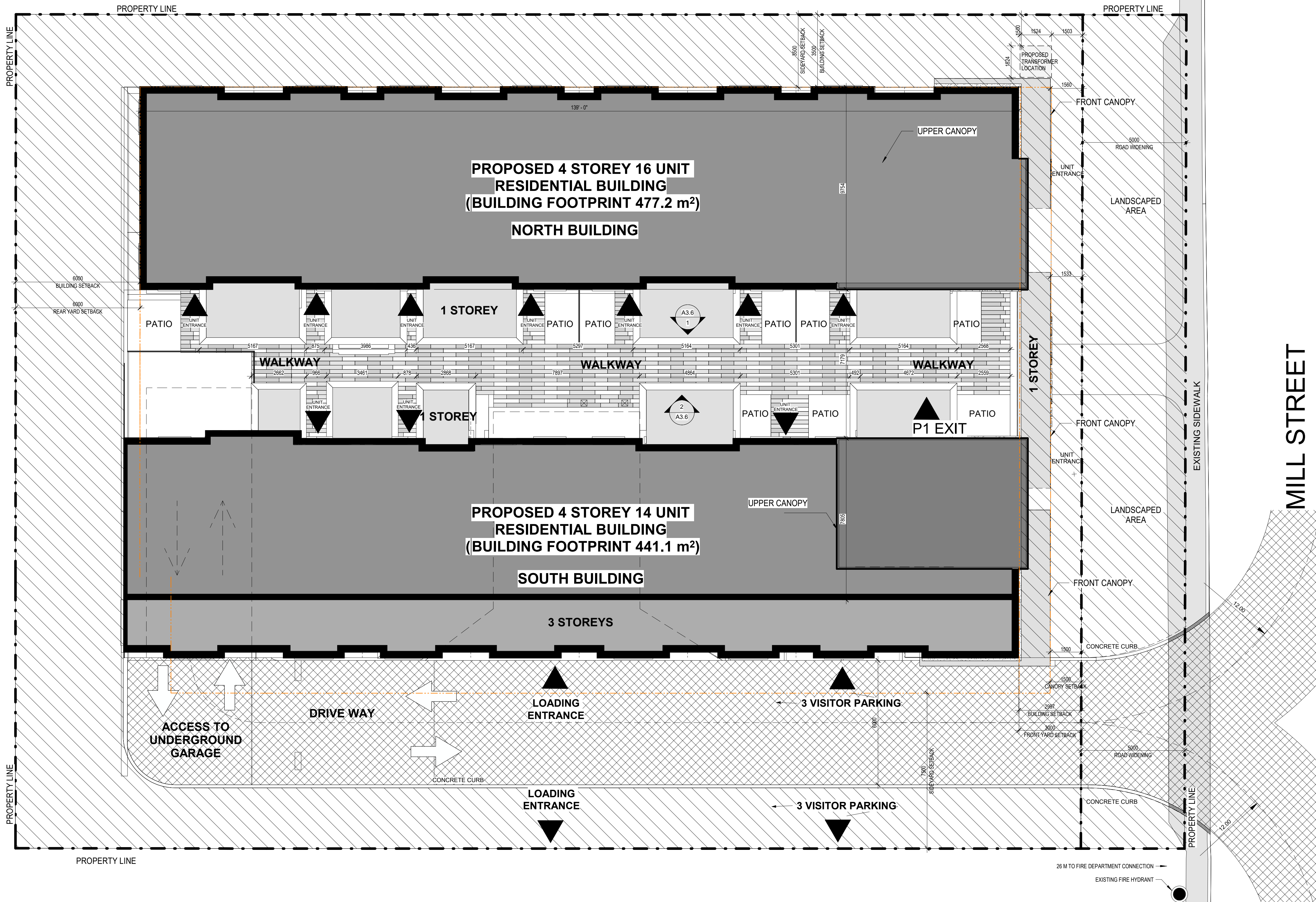
## **APPENDIX B: Architectural Plans**





# GREENSPACE - SILVER CREEK

TYPICAL PARKING FLOOR AREA = 15,502 SF  
 GROUND FLOOR APPROX AREA = 7,515 SF  
 2ND FLOOR AREA = 8,360 SF  
 3RD FLOOR AREA = 9,356 SF  
 4TH FLOOR AREA = 7,957 SF



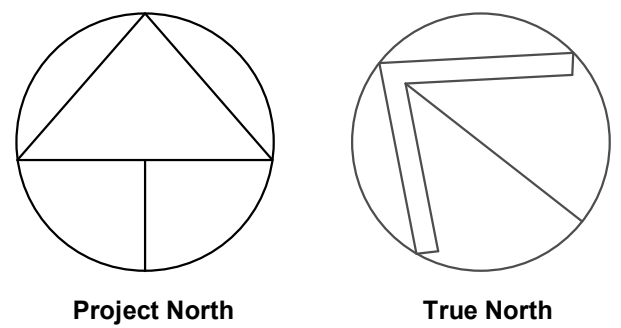
SITE DATA			
16 & 18 Mill Street, Georgetown, Ontario			
DATA	EXISTING ZONE	PROPOSED ZONE	PROPOSED
EXISTING ZONING		ZONING - LDR1-2	
PROPOSED ZONING		ZONING - MDR2-SPECIAL (MULTIPLE DWELLING)	
LOT AREA (m <sup>2</sup> ) - PRE-ROAD WIDENING			2271.69 (m <sup>2</sup> )
LOT AREA (m <sup>2</sup> ) - POST-ROAD WIDENING			2070.51 (m <sup>2</sup> )
MINIMUM LOT FRONTAGE (m)	11.0 (m)	11.0 (m)	40.23 (m)
SETBACKS	FRONT YARD (m)	4.5 (m)	4.5 (m) pre-road widening 7.9 (m) post-road widening
	INTERIOR SIDE YARD (m)	4.5 (m)	4.5 (m)
	EXTERIOR SIDE YARD (m)	4.5 (m)	3.5 (m) (north) & 7.5 (m) (south)
	REAR YARD (m)	4.5 (m)	4.5 (m)

BUILDING DATA		
DATA	REQUIRED	PROVIDED
TOTAL DENSITY (# of units)	145 (units per ha.)	30 units (Pre-Road Widening, 133 units per ha) 146 units (Post-Road Widening, 146 units per ha)
BUILDING AREA (m <sup>2</sup> ) - NORTH BUILDING	XX (m <sup>2</sup> )	450.8 (m <sup>2</sup> )
BUILDING AREA (m <sup>2</sup> ) - SOUTH BUILDING	XX (m <sup>2</sup> )	461.3 (m <sup>2</sup> )
TOTAL		912.1 (m <sup>2</sup> )
GROSS FLOOR AREA (m <sup>2</sup> ) - NORTH	XX (m <sup>2</sup> )	1,672.8 (m <sup>2</sup> )
GROSS FLOOR AREA (m <sup>2</sup> ) - SOUTH	XX (m <sup>2</sup> )	1,417.7 (m <sup>2</sup> )
TOTAL		3,090.5 (m <sup>2</sup> )
FLOOR SPACE INDEX (FSI) INCLUDING BELOW GRADE - NORTH BUILDING	XX (m <sup>2</sup> )	GFA + P1 & P2 COMM AND SERVICE / LOT AREA = 1.5
FLOOR SPACE INDEX (FSI) INCLUDING BELOW GRADE - SOUTH BUILDING	XX (m <sup>2</sup> )	GFA + P1 & P2 COMM AND SERVICE / LOT AREA = 1.3
FLOOR SPACE INDEX (FSI) ABOVE GRADE ONLY - NORTH BUILDING	XX (m <sup>2</sup> )	GFA / LOT AREA = 0.81
FLOOR SPACE INDEX (FSI) ABOVE GRADE ONLY - SOUTH BUILDING	XX (m <sup>2</sup> )	GFA / LOT AREA = 0.68
NUMBER OF STOREYS	6 MAX.	4
BUILDING HEIGHT (m)	11 (m) MAX.	14.1 (m)

LANDSCAPING DATA		
DATA	REQUIRED	PROVIDED
LANDSCAPE AREA (percentage)	XX (%)	29 (%)
LANDSCAPE AREA (m <sup>2</sup> )	XX (m <sup>2</sup> )	748 (m <sup>2</sup> )

VEHICLE PARKING DATA		
DATA	REQUIRED	PROVIDED
RESIDENTIAL PARKING (NORTH BUILDING)	In Multiple Dwelling - 2 per dwelling unit = 60	
RESIDENTIAL PARKING (SOUTH BUILDING)	2 residential unit = 32	53
TOTAL	60	53
BARRIER FREE PARKING (INCLUDED IN RES. COUNT)	-	4
VISITOR PARKING	30 UNITS * 0.3 = 9	8
TOTAL		61

BICYCLE PARKING DATA		
DATA	REQUIRED	PROVIDED
RESIDENTIAL BICYCLE PARKING	N/A	2
TOTAL		2



- GENERAL NOTES**
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
  - ALL WORK SHALL COMPLY WITH THE 2012 ONTARIO BUILDING CODE AND AMENDMENTS.
  - CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND SPECIFICATIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
  - ALL CONTRACTORS AND SUB-CONTRACTORS SHALL HAVE A SET OF APPROVED CONSTRUCTION DOCUMENTS ON SITE AT ALL TIMES.
  - ALL DOCUMENTS REMAIN THE PROPERTY OF THE ARCHITECT. UNAUTHORIZED USE, MODIFICATION, AND/OR REPRODUCTION OF THESE DOCUMENTS IS PROHIBITED WITHOUT WRITTEN PERMISSION. THE CONTRACT DOCUMENTS WERE PREPARED BY THE CONSULTANT FOR THE ACCOUNT OF THE OWNER.
  - THE MATERIAL CONTAINED HEREIN REFLECTS THE CONSULTANT'S BEST JUDGEMENT IN LIGHT OF THE INFORMATION AVAILABLE TO HIM AT THE TIME OF PREPARATION. ANY USE WHICH A THIRD PARTY MAKES OF THE CONTRACT DOCUMENTS, OR ANY RELIANCE ON OR DECISIONS TO BE MADE BASED ON THEM ARE THE RESPONSIBILITY OF SUCH THIRD PARTIES.
  - THE CONSULTANT ACCEPTS NO RESPONSIBILITY FOR DAMAGES, IF ANY, SUFFERED BY ANY THIRD PARTY AS A RESULT OF DECISIONS MADE OR ACTIONS BASED ON THE CONTRACT DOCUMENTS.

No.	Date	Revision
2	2022-04-11	ISSUED FOR OPA/ZBA
1	2022-04-06	ISSUED FOR REZONING

Project No. 20052  
 Project Date 2022-04-11  
 Drawn by TJM  
 Checked by MYV  
 Plot Date / Time 2023-04-26 2:48:59 PM

16 & 18 MILL STREET,  
 GEORGETOWN  
 DEVELOPMENT

## SITE PLAN

**PRELIMINARY**

Drawing Scale As indicated  
 Status  
 COORDINATION  
 Drawing No. Revision No.  
**A1.1 - r2**

**NOTES:**  
 As recommended within the Environmental Noise Assessment prepared by SLR Consulting (Canada) Ltd., dated December 14, 2020, An Acoustical Consultant (a qualified professional) shall be retained to review and confirm the final building design to ensure compliance with the recommendations made within the report.

1 SITE PLAN  
 1 : 100

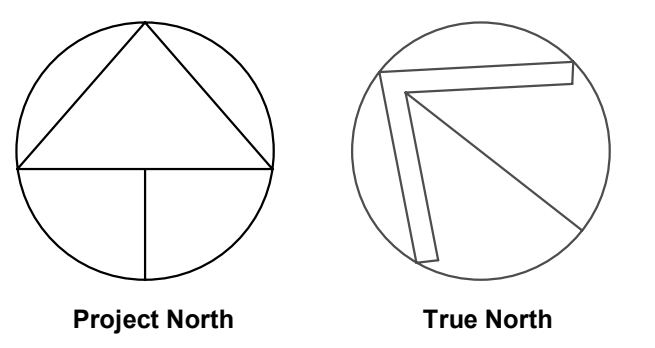
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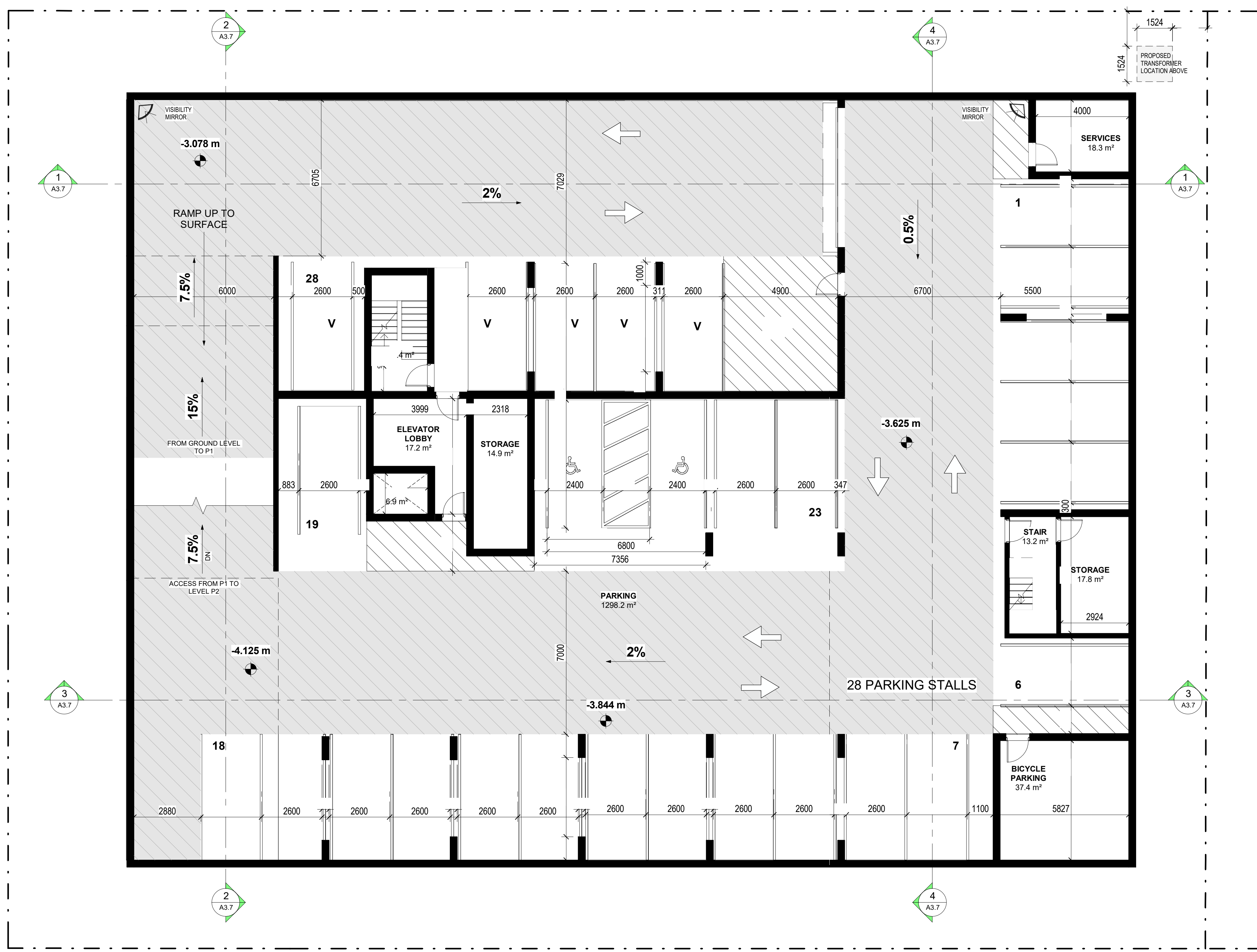
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**AREA STATISTICS - LEVEL P1**

Name	Area
<b>Common</b>	
STAIR	16.35 m <sup>2</sup>
STORAGE	17.83 m <sup>2</sup>
STAIR	13.23 m <sup>2</sup>
	<b>47.41 m<sup>2</sup></b>
<b>MECH. ROOM</b>	
ELEVATOR LOBBY	17.16 m <sup>2</sup>
STORAGE	14.93 m <sup>2</sup>
ELEV	6.91 m <sup>2</sup>
BICYCLE PARKING	37.38 m <sup>2</sup>
	<b>76.37 m<sup>2</sup></b>
<b>Parking</b>	
PARKING	1298.16 m <sup>2</sup>
	<b>1298.16 m<sup>2</sup></b>
<b>Services</b>	
SERVICES	18.26 m <sup>2</sup>
	<b>18.26 m<sup>2</sup></b>
<b>Grand total</b>	<b>1440.20 m<sup>2</sup></b>



- GENERAL NOTES**
- DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
  - ALL WORK SHALL COMPLY WITH THE 2012 ONTARIO BUILDING CODE AND AMENDMENTS.
  - CONTRACTORS MUST CHECK AND VERIFY ALL DIMENSIONS AND SPECIFICATIONS AND REPORT ANY DISCREPANCIES TO THE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
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  - THE MATERIAL CONTAINED HEREIN REFLECTS THE CONSULTANT'S BEST JUDGEMENT IN LIGHT OF THE INFORMATION AVAILABLE TO HIM AT THE TIME OF PREPARATION. ANY USE WHICH A THIRD PARTY MAKES OF THE CONTRACT DOCUMENTS, OR ANY RELIANCE ON OR DECISIONS TO BE MADE BASED ON THEM ARE THE RESPONSIBILITY OF SUCH THIRD PARTIES.
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No.	Date	Revision
6	2022-04-11	ISSUED FOR OPA/ZBA
5	2022-04-06	ISSUED FOR REZONING
4	2020-12-16	ISSUED FOR REZONING
3	2020-12-04	Consultant Coordination
2	2020-11-19	Consultant Coordination
1	2020-09-28	Consultant Coordination

**srm**  
ARCHITECTS INC.

Project No: 20052  
Project Date: 2022-04-11  
Drawn by: M.S  
Checked by: MYV  
Plot Date / Time: 2023-04-26 2:48:59 PM

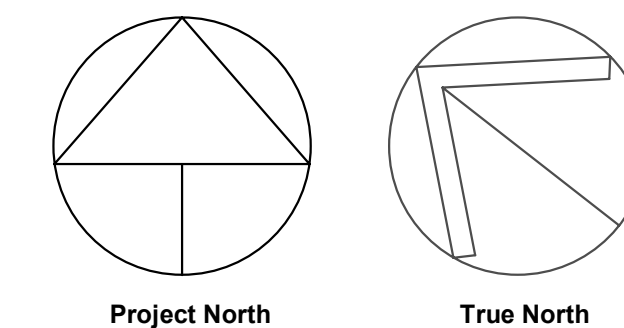
**16 & 18 MILL STREET,  
GEORGETOWN  
DEVELOPMENT**

**P1 LEVEL PARKING**

**1** P1 PARKING LEVEL  
1:100

**PRELIMINARY**

Drawing Scale: 1:100  
Status: COORDINATION  
Drawing No. / Revision No. / Date: A2.1 - r6



**GENERAL NOTES**

1. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL HAVE PRECEDENCE OVER SCALED DIMENSIONS.
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**srm**  
ARCHITECTS INC.

Project No: 20052  
Project Date: 2022-04-11  
Drawn by: M.S.  
Checked by: MYV  
Plot Date / Time: 2023-04-26 2:49:00 PM

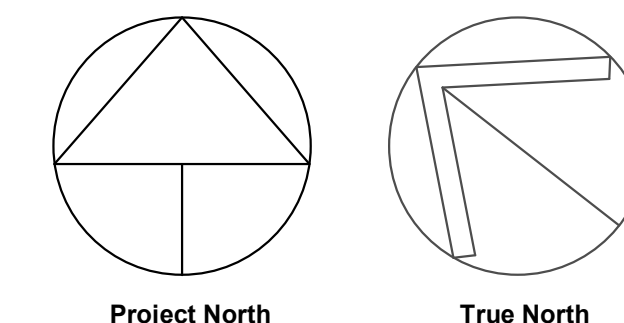
**16 & 18 MILL STREET,  
GEORGETOWN  
DEVELOPMENT**

**P2 LEVEL PARKING**

**PRELIMINARY**

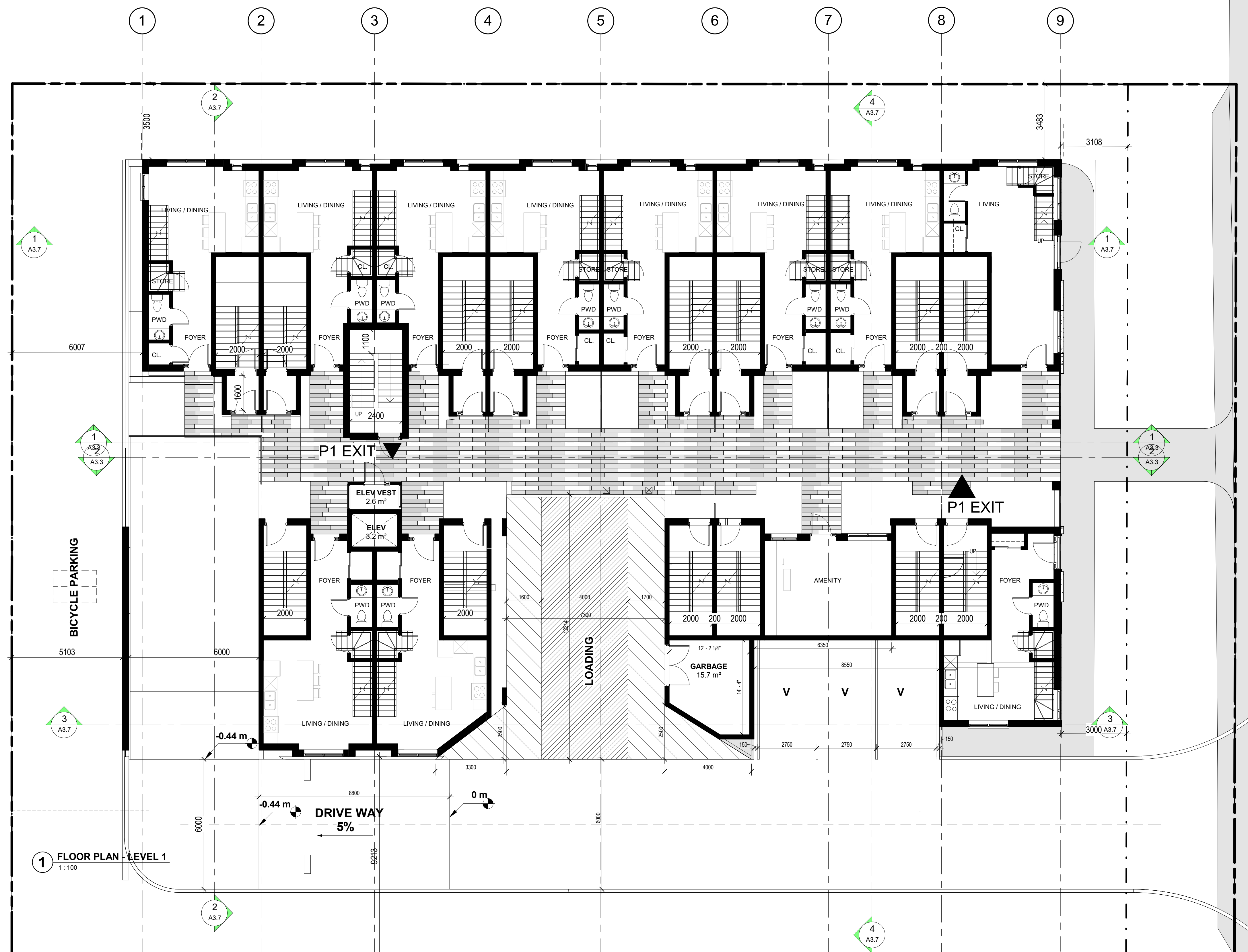
Drawing Scale: 1 : 100  
Status: COORDINATION  
Drawing No. / Revision No.: A2.2 - r6





**GENERAL NOTES**

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Project No. 20052  
 Project Date 2022-04-11  
 Drawn by M.S.  
 Checked by MYV  
 Plot Date / Time 2023-04-26 2:49:01 PM



**16 & 18 MILL STREET,  
 GEORGETOWN  
 DEVELOPMENT**

**LEVEL 1 FLOOR PLANS**

Drawing Scale 1 : 100  
 Status

COORDINATION  
 Drawing No. Revision No.

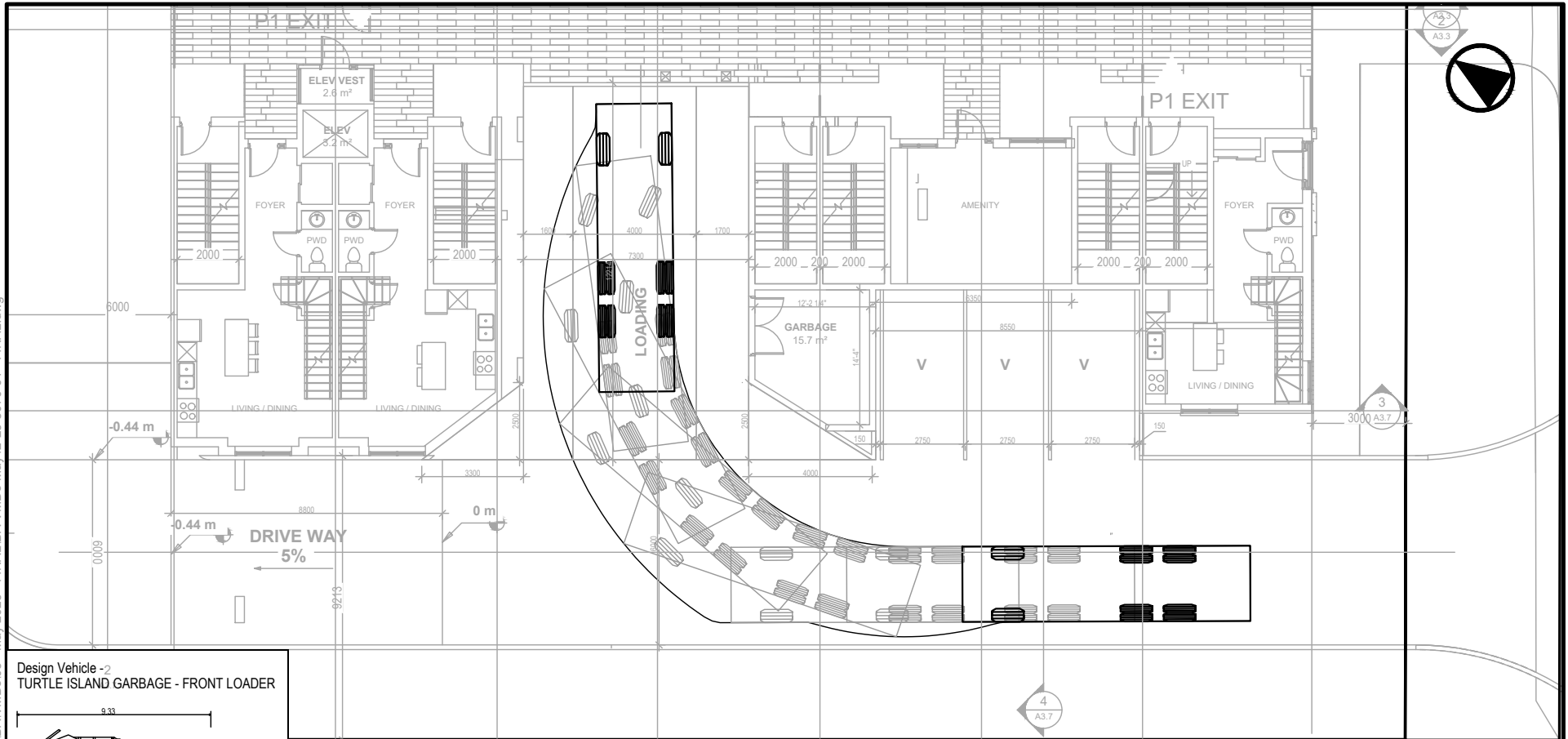
**PRELIMINARY**

**A2.3 - r6**

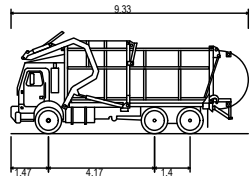
## **APPENDIX C: Vehicle Manoeuvring Diagrams**



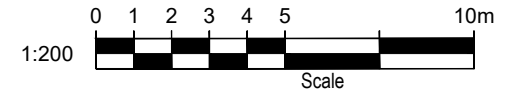
Date Plotted: May 11, 2023 J:\180\U-U\18A\VINULS\MAY12-23-25-30-U-U\1 - FINAL.dwg



Design Vehicle -2  
TURTLE ISLAND GARBAGE - FRONT LOADER



Overall Length	9.330m
Overall Width	2.440m
Overall Body Height	4.021m
Min Body Ground Clearance	0.250m
Track Width	2.440m
Wall to Wall Turning Radius	11.700m



# 16-18 Mill Street Residential Development

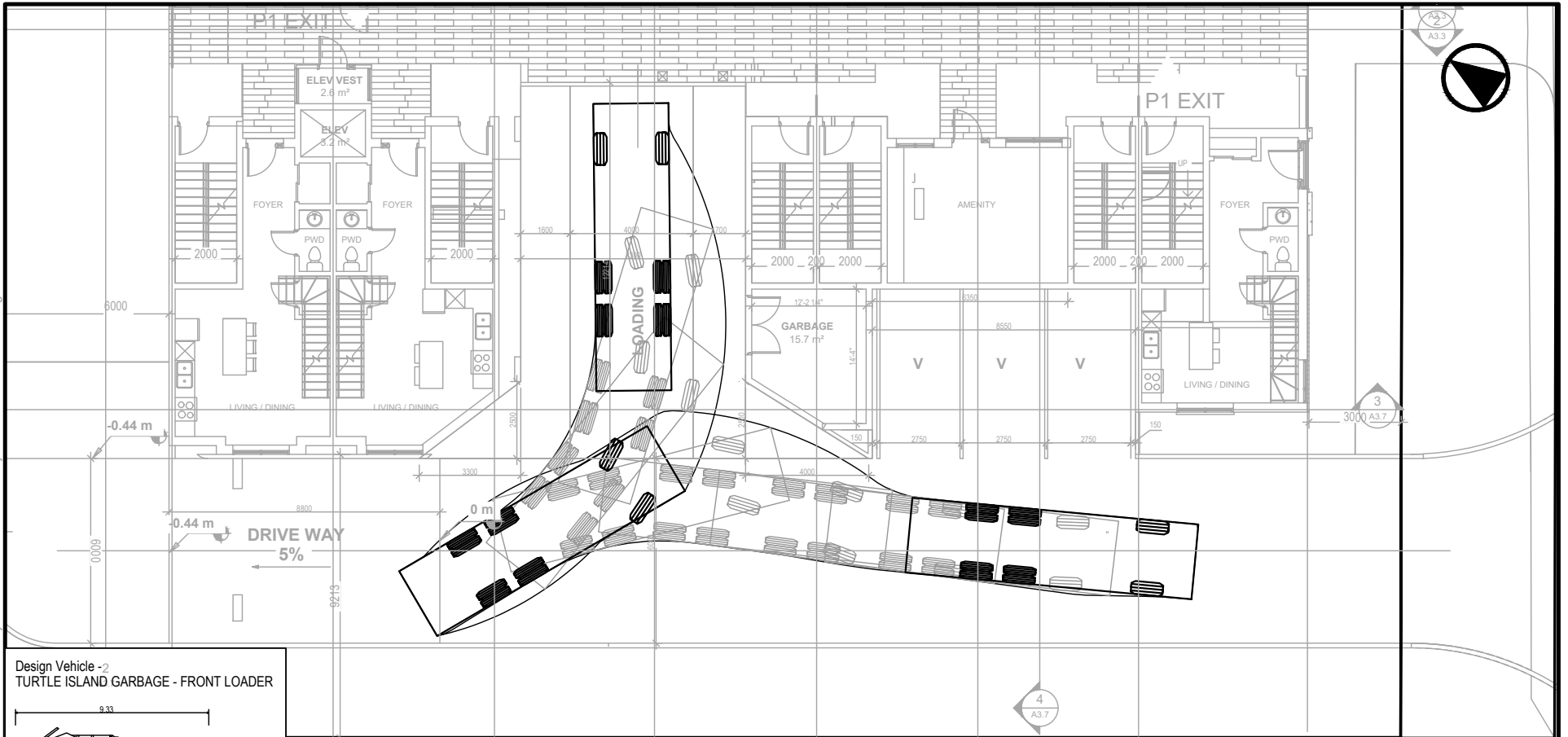
## Vehicle Manoeuvring Diagram - Private Collection - Inbound

### Turtle Island Garbage Truck - Front Loader

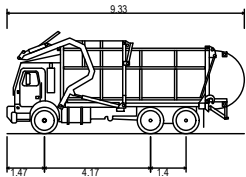
Project: 16-18 Mill Street  
Project No. 8070-01  
Date: May 12, 2023  
Revised: -

Drawing No. **VMD-01**

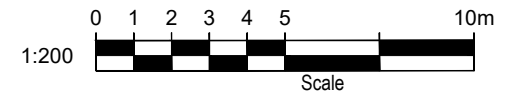
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Date Plotted: May 11, 2023



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TURTLE ISLAND GARBAGE - FRONT LOADER



Overall Length	9.330m
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Overall Body Height	4.021m
Min Body Ground Clearance	0.250m
Track Width	2.440m
Wall to Wall Turning Radius	11.700m



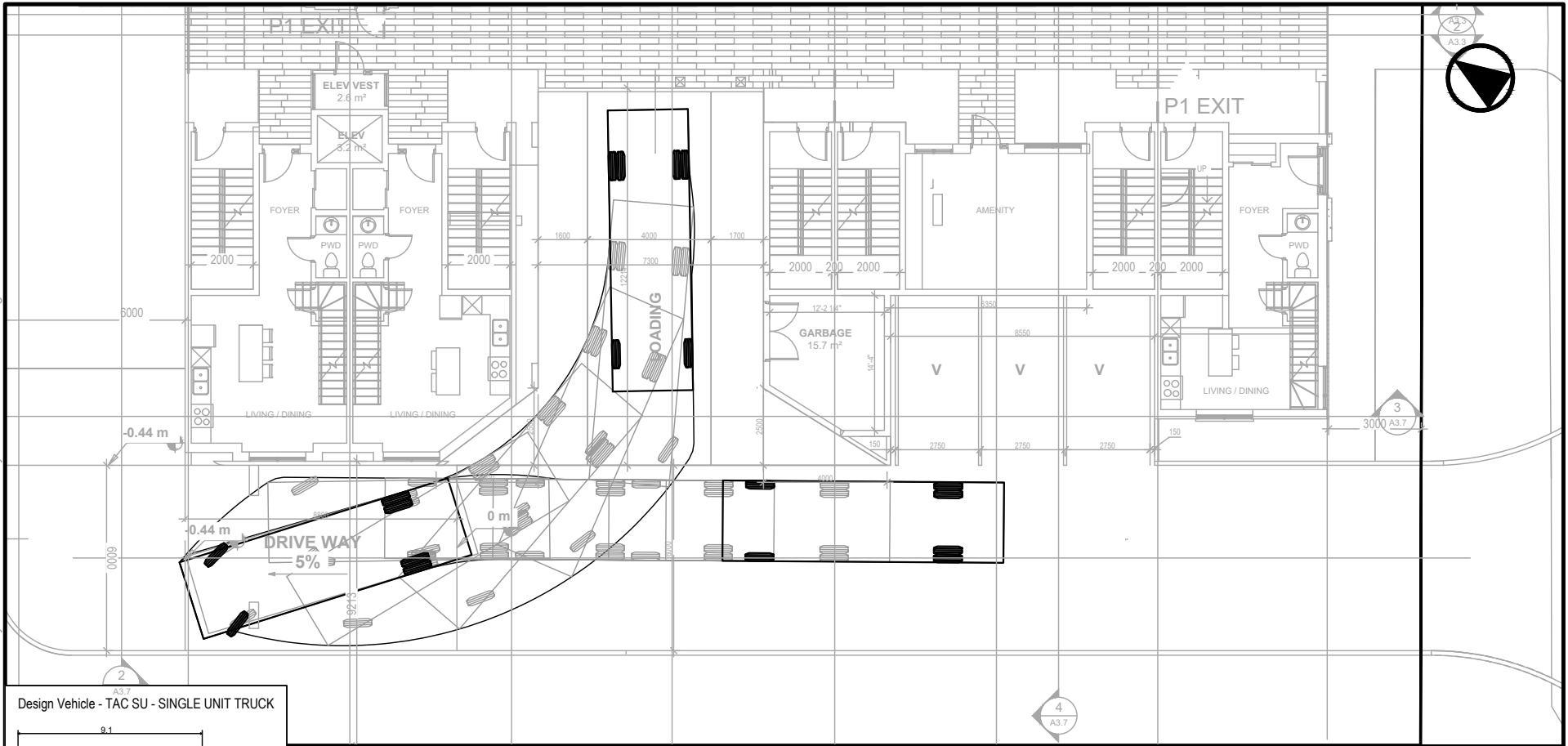
**16-18 Mill Street Residential Development**  
Vehicle Manoeuvring Diagram - Private Collection - Outbound  
Turtle Island Garbage Truck - Front Loader

Project: 16-18 Mill Street  
Project No. 8070-01  
Date: May 12, 2023  
Revised: -

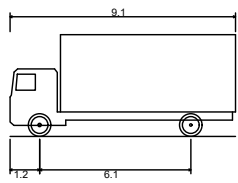
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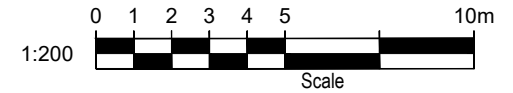
Date Plotted: May 11, 2023



Design Vehicle - TAC SU - SINGLE UNIT TRUCK



Overall Length 9.100m  
 Overall Width 2.600m  
 Overall Body Height 4.110m  
 Inside Turning Radius 8.60m  
 Outside Turning Radius 13.40m



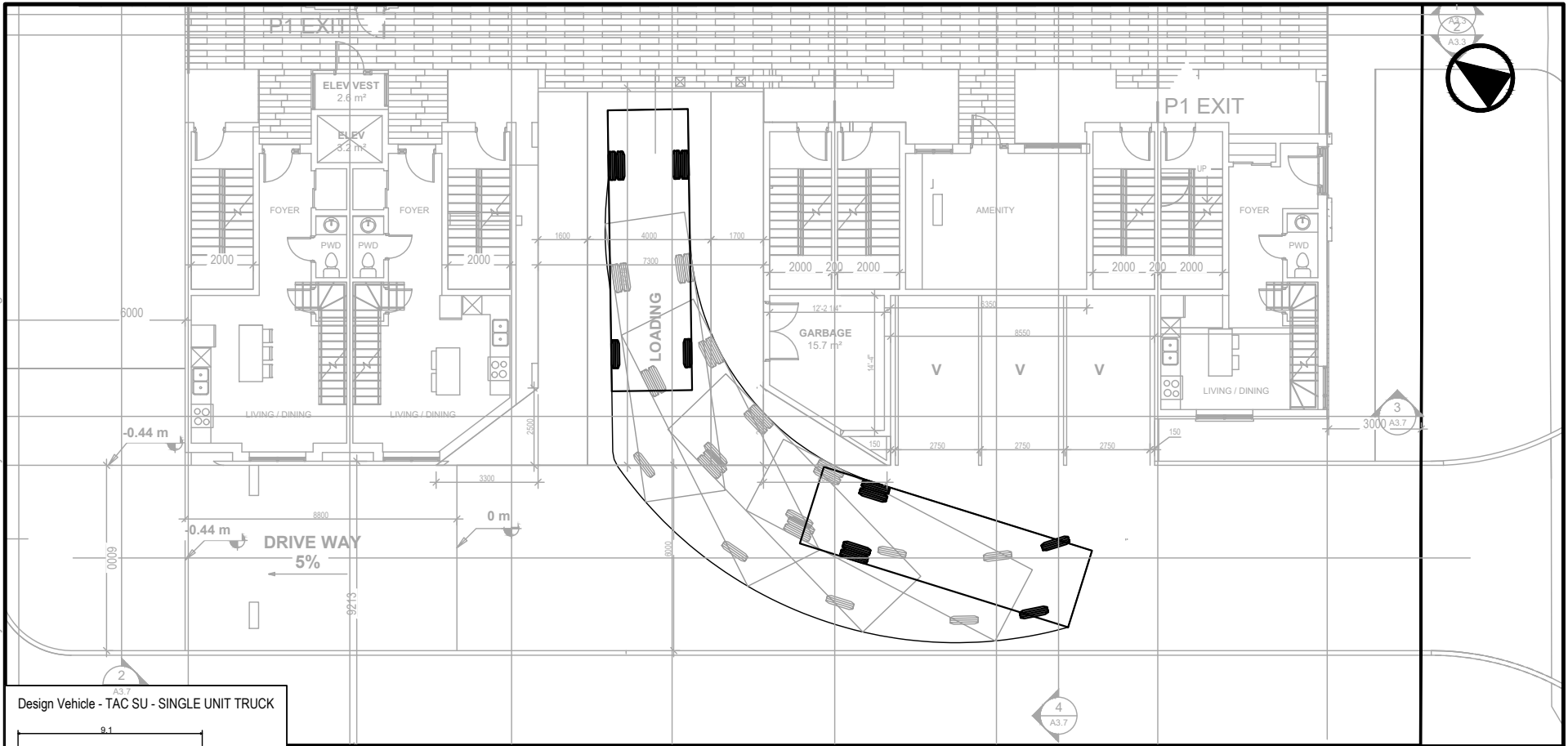
**16-18 Mill Street Residential Development**  
 Vehicle Manoeuvring Diagram - Inbound  
 TAC Single Unit (SU) Truck

Project: 16-18 Mill Street  
 Project No. 8070-01  
 Date: May 12, 2023  
 Revised: -

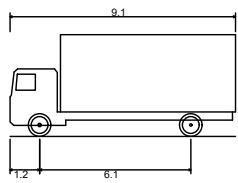
Drawing No. **VMD-03**

J:\180\U-U\180\AVM\180\U-U\1 - FINAL.dwg

Date Plotted: May 11, 2023



Design Vehicle - TAC SU - SINGLE UNIT TRUCK



Overall Length	9.100m
Overall Width	2.600m
Overall Body Height	4.110m
Inside Turning Radius	8.60m
Outside Turning Radius	13.40m



# 16-18 Mill Street Residential Development

## Vehicle Manoeuvring Diagram - Outbound

### TAC Single Unit (SU) Truck

Project: 16-18 Mill Street  
 Project No. 8070-01  
 Date: May 12, 2023  
 Revised: -

Drawing No. **VMD-04**

## **APPENDIX D: Turning Movement Counts**



# Guelph St @ Mill St

## Morning Peak Diagram

### Specified Period

**From:** 7:00:00

**To:** 9:00:00

### One Hour Peak

**From:** 7:45:00

**To:** 8:45:00

**Municipality:** Halton Hills  
**Site #:** 000000002  
**Intersection:** Guelph St & Mill St  
**TFR File #:** 2  
**Count date:** 5-Nov-2018

**Weather conditions:**  
 Rain/Cloudy  
**Person(s) who counted:**  
 Les

**\*\* Signalized Intersection \*\***

**Major Road:** Guelph St runs W/E

North Leg Total: 134  
 North Entering: 69  
 North Peds: 8  
 Peds Cross:  $\times$

Heavys	0	1	0	1
Trucks	0	0	1	1
Cars	21	31	15	67
<b>Totals</b>	<b>21</b>	<b>32</b>	<b>16</b>	



Heavys	1
Trucks	2
Cars	62
<b>Totals</b>	<b>65</b>

East Leg Total: 1368  
 East Entering: 440  
 East Peds: 3  
 Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
23	9	374	406

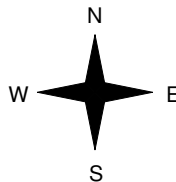


Mill St

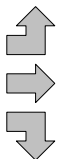
Cars	Trucks	Heavys	Totals
15	0	0	15
338	9	23	370
54	0	1	55
<b>407</b>	<b>9</b>	<b>24</b>	



Guelph St



Heavys	Trucks	Cars	Totals
1	1	23	25
20	14	710	744
0	0	2	2
<b>21</b>	<b>15</b>	<b>735</b>	



Guelph St



Peds Cross:  $\times$   
 West Peds: 0  
 West Entering: 771  
 West Leg Total: 1177

Cars	87
Trucks	0
Heavys	2
<b>Totals</b>	<b>89</b>



Cars	15	24	165	204
Trucks	0	1	1	2
Heavys	0	0	2	2
<b>Totals</b>	<b>15</b>	<b>25</b>	<b>168</b>	

Mill St



Cars	Trucks	Heavys	Totals
890	16	22	928

Peds Cross:  $\times$   
 South Peds: 18  
 South Entering: 208  
 South Leg Total: 297

## Comments



# Guelph St @ Mill St

## Mid-day Peak Diagram

### Specified Period

**From:** 11:00:00

**To:** 14:00:00

### One Hour Peak

**From:** 11:15:00

**To:** 12:15:00

**Municipality:** Halton Hills  
**Site #:** 000000002  
**Intersection:** Guelph St & Mill St  
**TFR File #:** 2  
**Count date:** 5-Nov-2018

### Weather conditions:

Rain/Cloudy

### Person(s) who counted:

Les

### \*\* Signalized Intersection \*\*

**Major Road:** Guelph St runs W/E

North Leg Total: 80

North Entering: 47

North Peds: 2

Peds Cross:  $\times$

Heavys	0	0	0	0
Trucks	1	0	0	1
Cars	12	19	15	46
<b>Totals</b>	<b>13</b>	<b>19</b>	<b>15</b>	



Heavys 0

Trucks 1

Cars 32

Totals 33

East Leg Total: 1134

East Entering: 515

East Peds: 5

Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
6	17	424	447

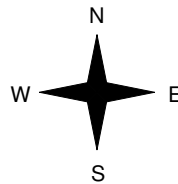


Mill St

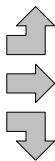
Cars	Trucks	Heavys	Totals
5	0	0	5
408	16	6	430
78	0	2	80
<b>491</b>	<b>16</b>	<b>8</b>	



Guelph St



Heavys	Trucks	Cars	Totals
0	0	6	6
10	11	452	473
0	0	5	5
<b>10</b>	<b>11</b>	<b>463</b>	



Guelph St



Peds Cross:  $\times$   
 West Peds: 4  
 West Entering: 484  
 West Leg Total: 931

Cars	102	Cars	4	21	128	153
Trucks	0	Trucks	0	1	2	3
Heavys	2	Heavys	0	0	1	1
<b>Totals</b>	<b>104</b>	<b>Totals</b>	<b>4</b>	<b>22</b>	<b>131</b>	



Mill St



Peds Cross:  $\times$   
 South Peds: 9  
 South Entering: 157  
 South Leg Total: 261

## Comments

# Guelph St @ Mill St

## Afternoon Peak Diagram

### Specified Period

**From:** 15:00:00

**To:** 18:00:00

### One Hour Peak

**From:** 16:45:00

**To:** 17:45:00

**Municipality:** Halton Hills  
**Site #:** 000000002  
**Intersection:** Guelph St & Mill St  
**TFR File #:** 2  
**Count date:** 5-Nov-2018

### Weather conditions:

Rain/Cloudy

### Person(s) who counted:

Les

### \*\* Signalized Intersection \*\*

**Major Road:** Guelph St runs W/E

North Leg Total: 125

North Entering: 64

North Peds: 4

Peds Cross:  $\times$

Heavys	0	0	0	0
Trucks	0	0	0	0
Cars	27	28	9	64
<b>Totals</b>	<b>27</b>	<b>28</b>	<b>9</b>	



Heavys 0

Trucks 0

Cars 61

Totals 61

East Leg Total: 1666

East Entering: 982

East Peds: 4

Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
10	12	876	898

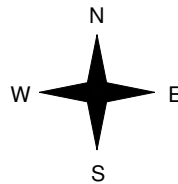


Mill St

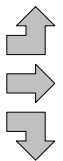
Cars	Trucks	Heavys	Totals
14	0	0	14
832	11	10	853
114	0	1	115
<b>960</b>	<b>11</b>	<b>11</b>	



Guelph St



Heavys	Trucks	Cars	Totals
0	0	16	16
9	6	532	547
0	0	11	11
<b>9</b>	<b>6</b>	<b>559</b>	



Guelph St



Peds Cross:  $\times$   
 West Peds: 11  
 West Entering: 574  
 West Leg Total: 1472

Cars	153	Cars	17	31	126	174
Trucks	0	Trucks	1	0	1	2
Heavys	1	Heavys	0	0	1	1
<b>Totals</b>	<b>154</b>	<b>Totals</b>	<b>18</b>	<b>31</b>	<b>128</b>	



Mill St



Peds Cross:  $\times$   
 South Peds: 5  
 South Entering: 177  
 South Leg Total: 331

## Comments

# Guelph St @ Mill St

## Total Count Diagram

**Municipality:** Halton Hills  
**Site #:** 000000002  
**Intersection:** Guelph St & Mill St  
**TFR File #:** 2  
**Count date:** 5-Nov-2018

**Weather conditions:**  
 Rain/Cloudy  
**Person(s) who counted:**  
 Les

**\*\* Signalized Intersection \*\***

**Major Road:** Guelph St runs W/E

North Leg Total: 809  
 North Entering: 445  
 North Peds: 28  
 Peds Cross:  $\times$

Heavys	1	3	1	5
Trucks	3	5	6	14
Cars	134	215	77	426
<b>Totals</b>	<b>138</b>	<b>223</b>	<b>84</b>	



Heavys	3
Trucks	6
Cars	355
<b>Totals</b>	<b>364</b>

East Leg Total: 10097  
 East Entering: 4777  
 East Peds: 29  
 Peds Cross:  $\times$

Heavys	Trucks	Cars	Totals
100	100	4044	4244

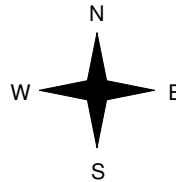


Mill St

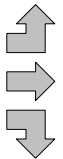
Cars	Trucks	Heavys	Totals
90	1	0	91
3829	94	99	4022
649	5	10	664
<b>4568</b>	<b>100</b>	<b>109</b>	



Guelph St



Heavys	Trucks	Cars	Totals
2	2	108	112
128	99	3972	4199
0	1	55	56
<b>130</b>	<b>102</b>	<b>4135</b>	



Mill St

Guelph St



Cars	Trucks	Heavys	Totals
5060	120	140	5320

Peds Cross:  $\times$   
 West Peds: 54  
 West Entering: 4367  
 West Leg Total: 8611

Cars	919	Cars	81	157	1011	1249
Trucks	11	Trucks	3	3	15	21
Heavys	13	Heavys	0	1	11	12
<b>Totals</b>	<b>943</b>	<b>Totals</b>	<b>84</b>	<b>161</b>	<b>1037</b>	



Peds Cross:  $\times$   
 South Peds: 117  
 South Entering: 1282  
 South Leg Total: 2225

### Comments



Turning Movement Count (1 . GUELPH ST & MILL ST)

Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	U-Turn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	U-Turn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	U-Turn W:W	Peds W:	Approach Total		
07:00:00	2	2	1	0	1	5	2	43	6	0	0	51	9	0	0	0	0	9	1	103	0	0	0	104	169	
07:15:00	2	0	2	0	0	4	0	56	7	0	0	63	6	2	2	0	0	10	2	130	3	0	2	135	212	
07:30:00	1	6	2	0	0	9	1	69	6	0	2	76	14	1	0	0	0	15	0	150	2	0	0	152	252	
07:45:00	1	9	1	0	0	11	7	63	5	0	1	75	21	4	1	0	0	26	0	173	5	0	1	178	290	923
08:00:00	1	2	10	0	0	13	5	101	12	0	1	118	12	0	0	0	0	12	1	178	2	0	0	181	324	1078
08:15:00	1	8	7	0	1	16	5	100	15	0	4	120	28	3	2	0	4	33	0	146	2	0	1	148	317	1183
08:30:00	2	4	6	0	2	12	1	75	15	0	2	91	40	3	2	0	12	45	0	163	0	0	6	163	311	1242
08:45:00	6	5	7	0	1	18	6	97	19	0	0	122	40	1	0	0	7	41	1	118	3	0	0	122	303	1255
***BREAK***																										
16:00:00	6	3	4	0	0	13	5	196	21	0	1	222	26	4	2	0	0	32	1	123	3	0	1	127	394	
16:15:00	3	9	2	0	0	14	4	162	21	0	3	187	19	7	2	0	0	28	4	159	3	0	2	166	395	
16:30:00	6	6	1	0	1	13	4	179	27	0	1	210	19	4	2	0	3	25	2	139	1	0	2	142	390	
16:45:00	4	8	3	0	2	15	5	177	24	0	3	206	26	9	2	0	0	37	4	136	0	0	0	140	398	1577
17:00:00	4	3	3	0	1	10	5	202	25	0	0	232	30	6	0	0	1	36	1	111	6	0	5	118	396	1579
17:15:00	4	4	5	0	1	13	6	176	24	0	1	206	34	6	3	0	1	43	3	113	1	0	3	117	379	1563
17:30:00	5	3	4	0	0	12	3	178	22	0	0	203	28	1	1	0	2	30	4	115	1	0	3	120	365	1538
17:45:00	3	5	5	0	0	13	1	167	21	0	0	189	34	5	3	0	1	42	2	107	5	0	5	114	358	1498
<b>Grand Total</b>	<b>51</b>	<b>77</b>	<b>63</b>	<b>0</b>	<b>10</b>	<b>191</b>	<b>60</b>	<b>2041</b>	<b>270</b>	<b>0</b>	<b>19</b>	<b>2371</b>	<b>386</b>	<b>56</b>	<b>22</b>	<b>0</b>	<b>31</b>	<b>464</b>	<b>26</b>	<b>2164</b>	<b>37</b>	<b>0</b>	<b>31</b>	<b>2227</b>	<b>5253</b>	<b>-</b>
<b>Approach%</b>	26.7%	40.3%	33%	0%	-	-	2.5%	86.1%	11.4%	0%	-	-	83.2%	12.1%	4.7%	0%	-	-	1.2%	97.2%	1.7%	0%	-	-	-	-
<b>Totals %</b>	1%	1.5%	1.2%	0%	3.6%	1.1%	38.9%	5.1%	0%	45.1%	7.3%	1.1%	0.4%	0%	8.8%	0.5%	41.2%	0.7%	0%	42.4%	-	-	-	-	-	-
<b>Heavy</b>	0	1	2	0	-	1	95	7	0	-	10	1	0	0	-	2	97	1	0	-	-	-	-	-	-	-
<b>Heavy %</b>	0%	1.3%	3.2%	0%	-	1.7%	4.7%	2.6%	0%	-	2.6%	1.8%	0%	0%	-	7.7%	4.5%	2.7%	0%	-	-	-	-	-	-	-
<b>Bicycles</b>	0	0	0	0	-	0	0	0	0	-	1	0	0	0	-	0	0	0	0	-	-	-	-	-	-	-
<b>Bicycle %</b>	0%	0%	0%	0%	-	0%	0%	0%	0%	-	0.3%	0%	0%	0%	-	0%	0%	0%	0%	-	-	-	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Shower Rain (4.47 °C)

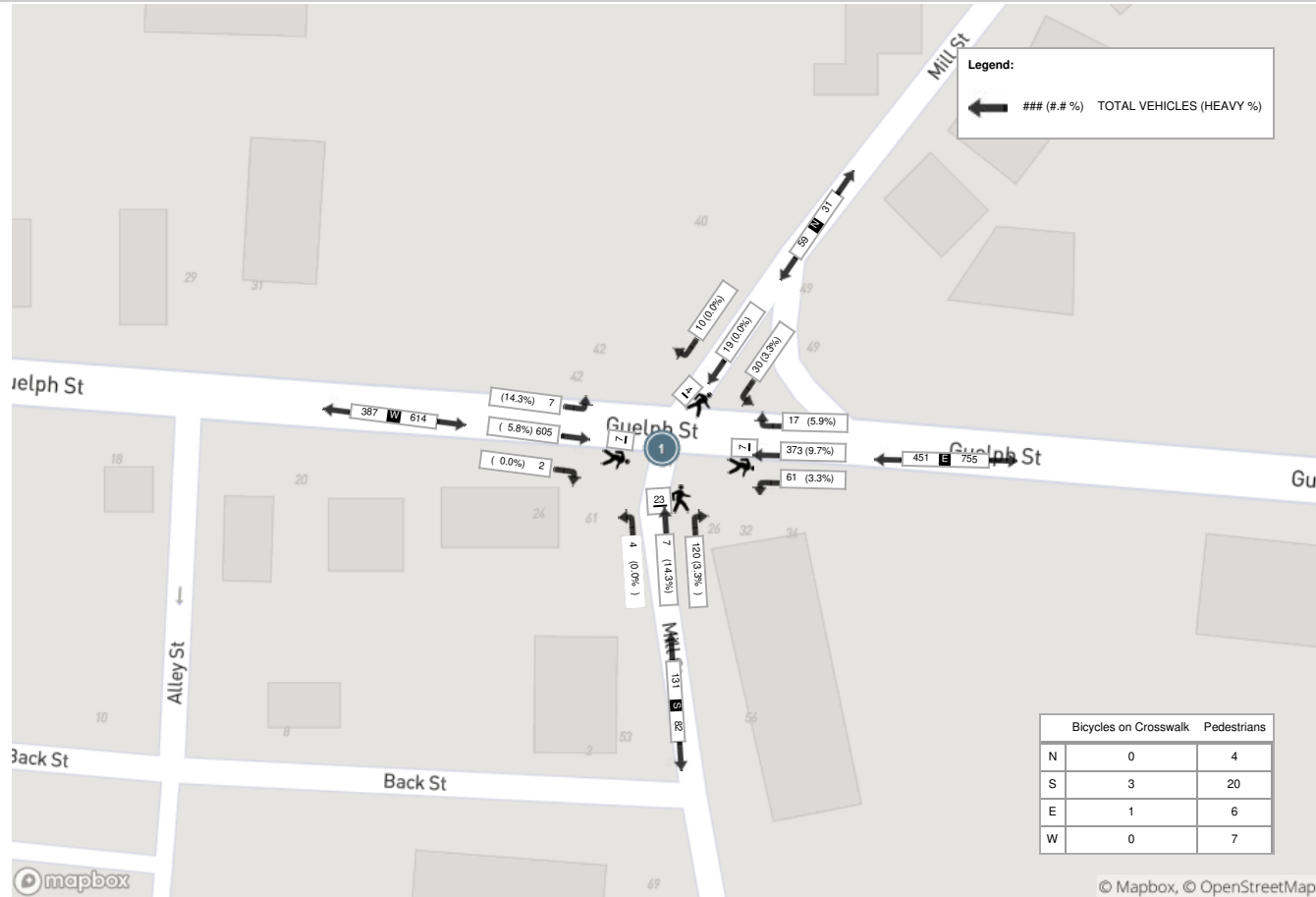
Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	1	2	10	0	0	13	5	101	12	0	1	118	12	0	0	0	0	12	1	178	2	0	0	181	324
08:15:00	1	8	7	0	1	16	5	100	15	0	4	120	28	3	2	0	4	33	0	146	2	0	1	148	317
08:30:00	2	4	6	0	2	12	1	75	15	0	2	91	40	3	2	0	12	45	0	163	0	0	6	163	311
08:45:00	6	5	7	0	1	18	6	97	19	0	0	122	40	1	0	0	7	41	1	118	3	0	0	122	303
<b>Grand Total</b>	<b>10</b>	<b>19</b>	<b>30</b>	<b>0</b>	<b>4</b>	<b>59</b>	<b>17</b>	<b>373</b>	<b>61</b>	<b>0</b>	<b>7</b>	<b>451</b>	<b>120</b>	<b>7</b>	<b>4</b>	<b>0</b>	<b>23</b>	<b>131</b>	<b>2</b>	<b>605</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>614</b>	<b>1255</b>
<b>Approach%</b>	16.9%	32.2%	50.8%	0%	-	-	3.8%	82.7%	13.5%	0%	-	-	91.6%	5.3%	3.1%	0%	-	-	0.3%	98.5%	1.1%	0%	-	-	-
<b>Totals %</b>	0.8%	1.5%	2.4%	0%	4.7%	4.7%	1.4%	29.7%	4.9%	0%	35.9%	35.9%	9.6%	0.6%	0.3%	0%	10.4%	10.4%	0.2%	48.2%	0.6%	0%	48.9%	48.9%	-
<b>PHF</b>	0.42	0.59	0.75	0	0.82	0.82	0.71	0.92	0.8	0	0.92	0.92	0.75	0.58	0.5	0	0.73	0.73	0.5	0.85	0.58	0	0.85	0.85	-
<b>Heavy</b>	0	0	1	0	1	1	1	36	2	0	39	39	4	1	0	0	5	5	0	35	1	0	36	36	-
<b>Heavy %</b>	0%	0%	3.3%	0%	1.7%	1.7%	5.9%	9.7%	3.3%	0%	8.6%	8.6%	3.3%	14.3%	0%	0%	3.8%	3.8%	0%	5.8%	14.3%	0%	5.9%	5.9%	-
<b>Lights</b>	10	19	29	0	58	58	16	337	59	0	412	412	116	6	4	0	126	126	2	570	6	0	578	578	-
<b>Lights %</b>	100%	100%	96.7%	0%	98.3%	98.3%	94.1%	90.3%	96.7%	0%	91.4%	91.4%	96.7%	85.7%	100%	0%	96.2%	96.2%	100%	94.2%	85.7%	0%	94.1%	94.1%	-
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	16	1	0	17	17	2	0	0	0	2	2	0	18	1	0	19	19	-
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	4.3%	1.6%	0%	3.8%	3.8%	1.7%	0%	0%	0%	1.5%	1.5%	0%	3%	14.3%	0%	3.1%	3.1%	-
<b>Buses</b>	0	0	1	0	1	1	0	10	1	0	11	11	2	0	0	0	2	2	0	13	0	0	13	13	-
<b>Buses %</b>	0%	0%	3.3%	0%	1.7%	1.7%	0%	2.7%	1.6%	0%	2.4%	2.4%	1.7%	0%	0%	0%	1.5%	1.5%	0%	2.1%	0%	0%	2.1%	2.1%	-
<b>Articulated Trucks</b>	0	0	0	0	0	0	1	10	0	0	11	11	0	1	0	0	1	1	0	4	0	0	4	4	-
<b>Articulated Trucks %</b>	0%	0%	0%	0%	0%	0%	5.9%	2.7%	0%	0%	2.4%	2.4%	0%	14.3%	0%	0%	0.8%	0.8%	0%	0.7%	0%	0%	0.7%	0.7%	-
<b>Pedestrians</b>	-	-	-	-	4	4	-	-	-	-	6	6	-	-	-	-	20	20	-	-	-	-	7	7	-
<b>Pedestrians%</b>	-	-	-	-	9.8%	9.8%	-	-	-	-	14.6%	14.6%	-	-	-	-	48.8%	48.8%	-	-	-	-	17.1%	17.1%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	0	-	-	-	-	1	1	-	-	-	-	3	3	-	-	-	-	0	0	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	0%	-	-	-	-	2.4%	2.4%	-	-	-	-	7.3%	7.3%	-	-	-	-	0%	0%	-
<b>Bicycles on Road</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-	-	-	-	0%	0%	-



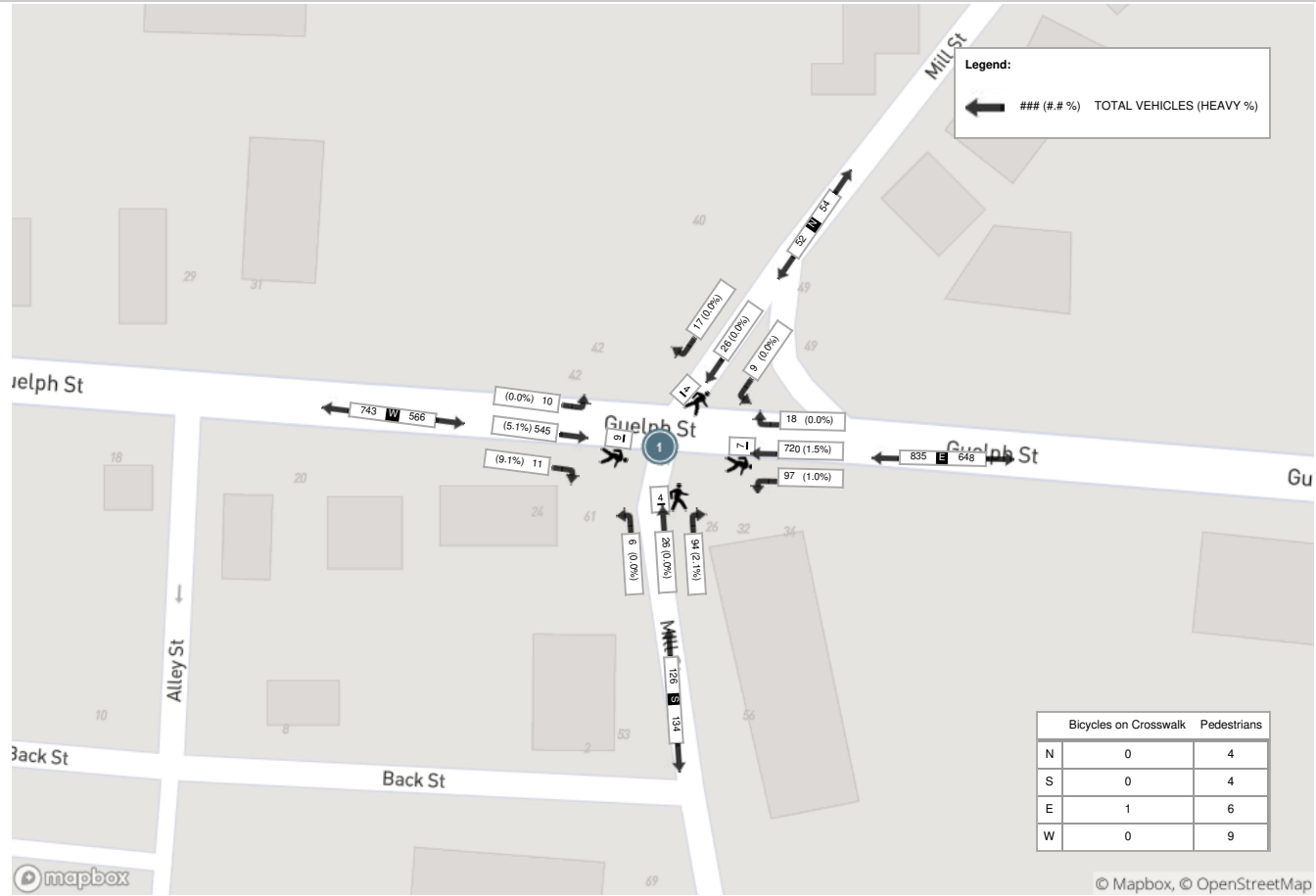
**Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (5.94 °C)**

Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)	
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total		
16:15:00	3	9	2	0	0	14	4	162	21	0	3	187	19	7	2	0	0	28	4	159	3	0	2	166	395	
16:30:00	6	6	1	0	1	13	4	179	27	0	1	210	19	4	2	0	3	25	2	139	1	0	2	142	390	
16:45:00	4	8	3	0	2	15	5	177	24	0	3	206	26	9	2	0	0	37	4	136	0	0	0	140	398	
17:00:00	4	3	3	0	1	10	5	202	25	0	0	232	30	6	0	0	1	36	1	111	6	0	5	118	396	
<b>Grand Total</b>	<b>17</b>	<b>26</b>	<b>9</b>	<b>0</b>	<b>4</b>	<b>52</b>	<b>18</b>	<b>720</b>	<b>97</b>	<b>0</b>	<b>7</b>	<b>835</b>	<b>94</b>	<b>26</b>	<b>6</b>	<b>0</b>	<b>4</b>	<b>126</b>	<b>11</b>	<b>545</b>	<b>10</b>	<b>0</b>	<b>9</b>	<b>566</b>	<b>1579</b>	
<b>Approach%</b>	32.7%	50%	17.3%	0%	-	-	2.2%	86.2%	11.6%	0%	-	-	74.6%	20.6%	4.8%	0%	-	-	1.9%	96.3%	1.8%	0%	-	-	-	-
<b>Totals %</b>	1.1%	1.6%	0.6%	0%	3.3%	1.1%	45.6%	6.1%	0%	52.9%	6%	1.6%	0.4%	0%	8%	0.7%	34.5%	0.6%	0%	35.8%	-	-	-	35.8%	-	
<b>PHF</b>	0.71	0.72	0.75	0	0.87	0.9	0.89	0.9	0	0.9	0.78	0.72	0.75	0	0.85	0.69	0.86	0.42	0	0.85	-	-	-	0.85	-	
<b>Heavy</b>	0	0	0	0	0	0	0	11	1	0	12	2	0	0	2	1	28	0	0	29	-	-	-	29	-	
<b>Heavy %</b>	0%	0%	0%	0%	0%	0%	0%	1.5%	1%	0%	1.4%	2.1%	0%	0%	1.6%	9.1%	5.1%	0%	0%	5.1%	-	-	-	5.1%	-	
<b>Lights</b>	17	26	9	0	52	18	709	96	0	823	92	26	6	0	124	10	517	10	0	537	-	-	-	537	-	
<b>Lights %</b>	100%	100%	100%	0%	100%	100%	98.5%	99%	0%	98.6%	97.9%	100%	100%	0%	98.4%	90.9%	94.9%	100%	0%	94.9%	-	-	-	94.9%	-	
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	5	0	0	5	1	0	0	1	1	21	0	0	22	-	-	-	22	-	
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0.7%	0%	0%	0.6%	1.1%	0%	0%	0.8%	9.1%	3.9%	0%	0%	3.9%	-	-	-	3.9%	-	
<b>Buses</b>	0	0	0	0	0	0	0	2	1	0	3	1	0	0	1	0	6	0	0	6	-	-	-	6	-	
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	0.3%	1%	0%	0.4%	1.1%	0%	0%	0.8%	0%	1.1%	0%	0%	1.1%	-	-	-	1.1%	-	
<b>Articulated Trucks</b>	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	1	0	0	1	-	-	-	1	-	
<b>Articulated Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0.6%	0%	0%	0.5%	0%	0%	0%	0%	0%	0.2%	0%	0%	0.2%	-	-	-	0.2%	-	
<b>Pedestrians</b>	-	-	-	-	4	-	-	-	-	6	-	-	-	4	-	-	-	-	-	9	-	-	-	9	-	
<b>Pedestrians%</b>	-	-	-	-	16.7%	-	-	-	-	25%	-	-	-	16.7%	-	-	-	-	-	37.5%	-	-	-	37.5%	-	
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	1	-	-	-	0	-	-	-	-	-	0	-	-	-	0	-	
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	-	-	-	-	4.2%	-	-	-	0%	-	-	-	-	-	0%	-	-	-	0%	-	
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	-	1	0	0	0	0	0	-	0	0	0	0	-	0	-	
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	0%	-	-	-	-	-	0%	-	-	-	0%	-	

Peak Hour: 08:00 AM - 09:00 AM Weather: Shower Rain (4.47 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (5.94 °C)







Turning Movement Count (1 . MILL ST & GUELPH ST)

Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)	Int. Total (1 hr)	
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total			
07:00:00	0	0	0	0	0	0	0	78	9	0	0	87	11	0	0	0	0	11	0	135	0	0	0	135	233		
07:15:00	0	0	0	0	1	0	0	82	10	0	0	92	20	0	2	0	1	22	0	140	0	0	1	140	254		
07:30:00	0	0	0	0	1	0	0	66	6	0	1	72	15	0	1	0	1	16	2	165	0	0	0	167	255		
07:45:00	0	0	0	0	2	0	1	107	12	0	0	120	22	0	0	0	2	22	0	189	0	0	0	189	331	1073	
08:00:00	0	0	0	0	1	0	0	91	17	0	3	108	24	0	1	0	2	25	0	200	0	0	0	200	333	1173	
08:15:00	0	0	0	0	0	0	1	123	30	0	0	154	42	0	1	0	3	43	3	203	0	0	0	206	403	1322	
08:30:00	2	0	0	0	4	2	0	103	14	0	1	117	50	0	1	0	14	51	1	167	0	0	3	168	338	1405	
08:45:00	0	0	0	0	3	0	0	99	21	0	1	120	51	0	2	0	17	53	4	153	0	0	1	157	330	1404	
***BREAK***																											
16:00:00	0	0	0	0	2	0	0	188	26	0	2	214	34	0	5	0	3	39	5	131	0	0	1	136	389		
16:15:00	0	0	0	0	2	0	0	178	31	0	2	209	35	0	4	0	3	39	4	150	0	0	1	154	402		
16:30:00	0	0	0	0	5	0	0	223	28	0	2	251	29	0	10	0	4	39	3	135	0	0	4	138	428		
16:45:00	0	0	0	0	4	0	0	170	33	0	3	203	32	0	2	0	0	34	3	154	0	0	4	157	394	1613	
17:00:00	0	0	0	0	2	0	0	218	24	0	3	242	34	0	0	0	0	34	3	140	0	0	2	143	419	1643	
17:15:00	0	0	0	0	0	0	0	197	30	0	2	227	37	0	4	0	0	41	2	125	0	0	0	127	395	1636	
17:30:00	0	0	0	0	4	0	0	197	36	0	6	233	31	0	2	0	4	33	1	138	0	0	3	139	405	1613	
17:45:00	0	0	0	0	0	0	0	144	33	0	4	177	34	0	4	0	3	38	1	126	0	0	0	127	342	1561	
<b>Grand Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>2</b>	<b>2</b>	<b>2264</b>	<b>360</b>	<b>0</b>	<b>30</b>	<b>2626</b>	<b>501</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>57</b>	<b>540</b>	<b>32</b>	<b>2451</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>2483</b>	<b>5651</b>	<b>-</b>	
<b>Approach%</b>	100%	0%	0%	0%	-	-	0.1%	86.2%	13.7%	0%	-	-	92.8%	0%	7.2%	0%	-	-	1.3%	98.7%	0%	0%	-	-	-	-	
<b>Totals %</b>	0%	0%	0%	0%	0%	0%	0%	40.1%	6.4%	0%	46.5%	46.5%	8.9%	0%	0.7%	0%	9.6%	9.6%	0.6%	43.4%	0%	0%	43.9%	43.9%	-	-	
<b>Heavy</b>	1	0	0	0	-	-	1	129	4	0	-	-	4	0	2	0	-	-	1	121	0	0	-	-	-	-	
<b>Heavy %</b>	50%	0%	0%	0%	-	-	50%	5.7%	1.1%	0%	-	-	0.8%	0%	5.1%	0%	-	-	3.1%	4.9%	0%	0%	-	-	-	-	
<b>Bicycles</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
<b>Bicycle %</b>	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	



**Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (6.71 °C)**

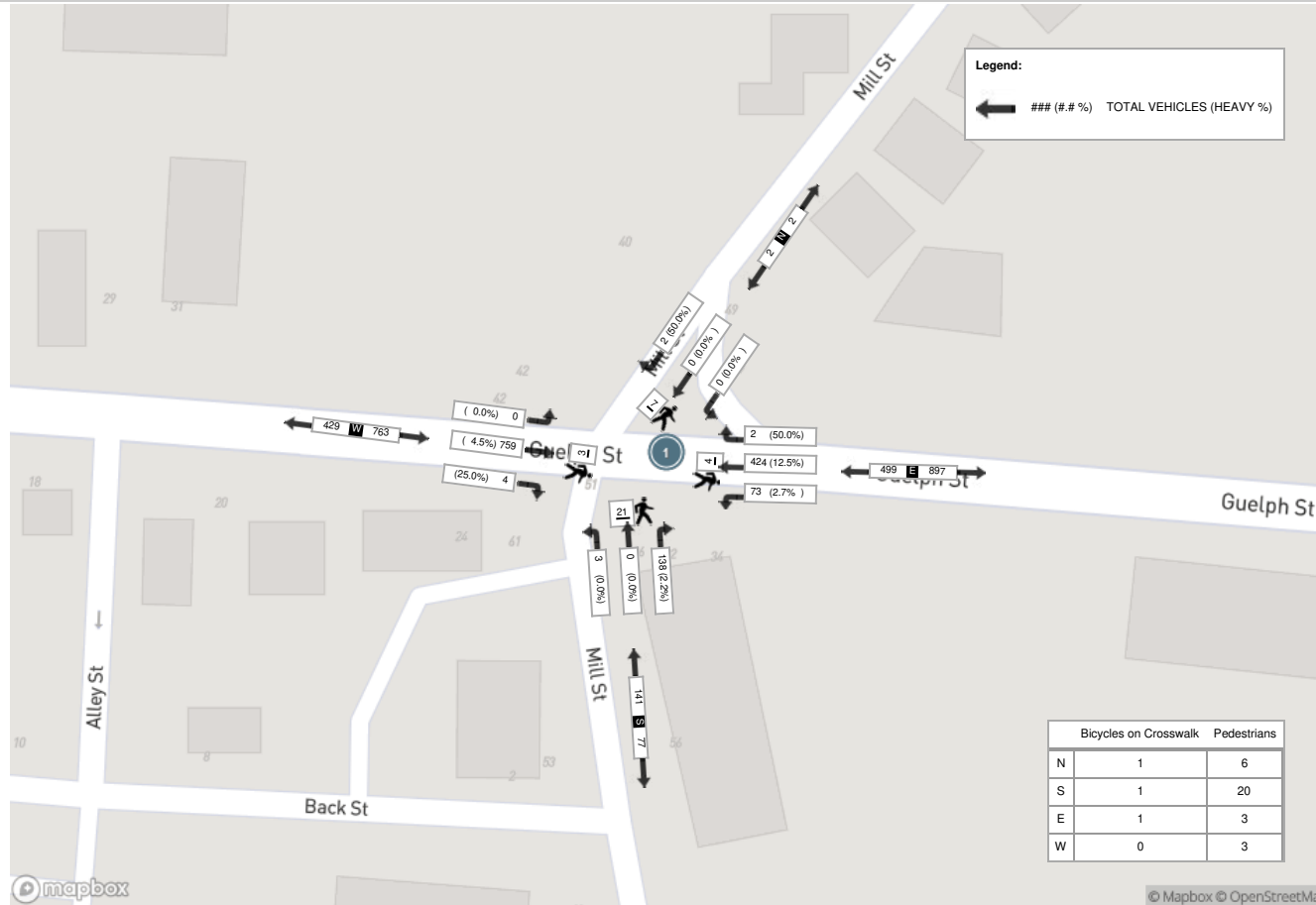
Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	0	0	0	0	2	0	1	107	12	0	0	120	22	0	0	0	2	22	0	189	0	0	0	189	331
08:00:00	0	0	0	0	1	0	0	91	17	0	3	108	24	0	1	0	2	25	0	200	0	0	0	200	333
08:15:00	0	0	0	0	0	0	1	123	30	0	0	154	42	0	1	0	3	43	3	203	0	0	0	206	403
08:30:00	2	0	0	0	4	2	0	103	14	0	1	117	50	0	1	0	14	51	1	167	0	0	3	168	338
<b>Grand Total</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>2</b>	<b>2</b>	<b>424</b>	<b>73</b>	<b>0</b>	<b>4</b>	<b>499</b>	<b>138</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>21</b>	<b>141</b>	<b>4</b>	<b>759</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>763</b>	<b>1405</b>
<b>Approach%</b>	100%	0%	0%	0%	-	-	0.4%	85%	14.6%	0%	-	-	97.9%	0%	2.1%	0%	-	-	0.5%	99.5%	0%	0%	-	-	-
<b>Totals %</b>	0.1%	0%	0%	0%	0.1%	0.1%	0.1%	30.2%	5.2%	0%	35.5%	35.5%	9.8%	0%	0.2%	0%	10%	10%	0.3%	54%	0%	0%	54.3%	54.3%	-
<b>PHF</b>	0.25	0	0	0	0.25	0.25	0.5	0.86	0.61	0	0.81	0.81	0.69	0	0.75	0	0.69	0.69	0.33	0.93	0	0	0.93	0.93	-
<b>Heavy</b>	1	0	0	0	1	1	1	53	2	0	56	56	3	0	0	0	3	3	1	34	0	0	35	35	-
<b>Heavy %</b>	50%	0%	0%	0%	50%	50%	50%	12.5%	2.7%	0%	11.2%	11.2%	2.2%	0%	0%	0%	2.1%	2.1%	25%	4.5%	0%	0%	4.6%	4.6%	-
<b>Lights</b>	1	0	0	0	1	1	1	371	71	0	443	443	135	0	3	0	138	138	3	725	0	0	728	728	-
<b>Lights %</b>	50%	0%	0%	0%	50%	50%	50%	87.5%	97.3%	0%	88.8%	88.8%	97.8%	0%	100%	0%	97.9%	97.9%	75%	95.5%	0%	0%	95.4%	95.4%	-
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	20	1	0	21	21	1	0	0	0	1	1	0	15	0	0	15	15	-
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	4.7%	1.4%	0%	4.2%	4.2%	0.7%	0%	0%	0%	0.7%	0.7%	0%	2%	0%	0%	2%	2%	-
<b>Buses</b>	0	0	0	0	0	0	0	15	1	0	16	16	2	0	0	0	2	2	1	13	0	0	14	14	-
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	3.5%	1.4%	0%	3.2%	3.2%	1.4%	0%	0%	0%	1.4%	1.4%	25%	1.7%	0%	0%	1.8%	1.8%	-
<b>Articulated Trucks</b>	1	0	0	0	1	1	1	18	0	0	19	19	0	0	0	0	0	0	0	6	0	0	6	6	-
<b>Articulated Trucks %</b>	50%	0%	0%	0%	50%	50%	4.2%	0%	0%	0%	3.8%	3.8%	0%	0%	0%	0%	0%	0%	0%	0.8%	0%	0%	0.8%	0.8%	-
<b>Pedestrians</b>	-	-	-	-	6	-	-	-	-	-	3	3	-	-	-	-	20	20	-	-	-	-	3	3	-
<b>Pedestrians%</b>	-	-	-	-	17.1%	-	-	-	-	-	8.6%	8.6%	-	-	-	-	57.1%	57.1%	-	-	-	-	8.6%	8.6%	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	1	-	-	-	-	-	1	1	-	-	-	-	1	1	-	-	-	-	0	0	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	2.9%	-	-	-	-	-	2.9%	2.9%	-	-	-	-	2.9%	2.9%	-	-	-	-	0%	0%	-



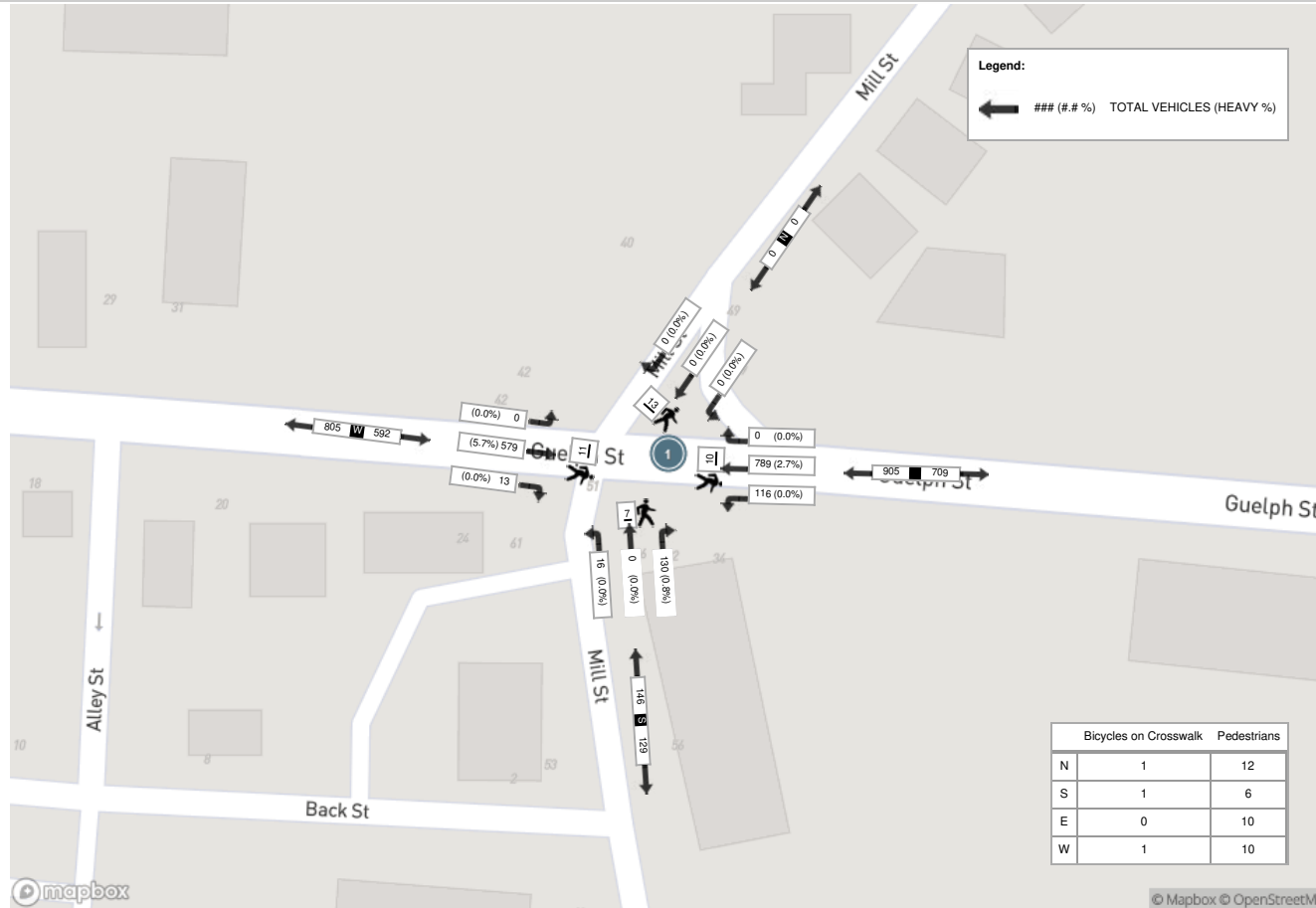
**Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (14.07 °C)**

Start Time	N Approach MILL ST						E Approach GUELPH ST						S Approach MILL ST						W Approach GUELPH ST						Int. Total (15 min)	
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total		
16:15:00	0	0	0	0	2	0	0	178	31	0	2	209	35	0	4	0	3	39	4	150	0	0	1	154	402	
16:30:00	0	0	0	0	5	0	0	223	28	0	2	251	29	0	10	0	4	39	3	135	0	0	4	138	428	
16:45:00	0	0	0	0	4	0	0	170	33	0	3	203	32	0	2	0	0	34	3	154	0	0	4	157	394	
17:00:00	0	0	0	0	2	0	0	218	24	0	3	242	34	0	0	0	0	34	3	140	0	0	2	143	419	
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>0</b>	<b>789</b>	<b>116</b>	<b>0</b>	<b>10</b>	<b>905</b>	<b>130</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>7</b>	<b>146</b>	<b>13</b>	<b>579</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>592</b>	<b>1643</b>	
<b>Approach%</b>	0%	0%	0%	0%		-	0%	87.2%	12.8%	0%		-	89%	0%	11%	0%		-	2.2%	97.8%	0%	0%		-	-	
<b>Totals %</b>	0%	0%	0%	0%		0%	0%	48%	7.1%	0%		55.1%	7.9%	0%	1%	0%		8.9%	0.8%	35.2%	0%	0%		36%	-	
<b>PHF</b>	0	0	0	0		0	0	0.88	0.88	0		0.9	0.93	0	0.4	0		0.94	0.81	0.94	0	0		0.94	-	
<b>Heavy</b>	0	0	0	0		0	0	21	0	0		21	1	0	0	0		1	0	33	0	0		33	-	
<b>Heavy %</b>	0%	0%	0%	0%		0%	0%	2.7%	0%	0%		2.3%	0.8%	0%	0%	0%		0.7%	0%	5.7%	0%	0%		5.6%	-	
<b>Lights</b>	0	0	0	0		0	0	768	116	0		884	129	0	16	0		145	13	546	0	0		559	-	
<b>Lights %</b>	0%	0%	0%	0%		0%	0%	97.3%	100%	0%		97.7%	99.2%	0%	100%	0%		99.3%	100%	94.3%	0%	0%		94.4%	-	
<b>Single-Unit Trucks</b>	0	0	0	0		0	0	12	0	0		12	0	0	0	0		0	0	20	0	0		20	-	
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	3.5%	0%	0%		3.4%	-	
<b>Buses</b>	0	0	0	0		0	0	2	0	0		2	1	0	0	0		1	0	10	0	0		10	-	
<b>Buses %</b>	0%	0%	0%	0%		0%	0%	0.3%	0%	0%		0.2%	0.8%	0%	0%	0%		0.7%	0%	1.7%	0%	0%		1.7%	-	
<b>Articulated Trucks</b>	0	0	0	0		0	0	7	0	0		7	0	0	0	0		0	0	3	0	0		3	-	
<b>Articulated Trucks %</b>	0%	0%	0%	0%		0%	0%	0.9%	0%	0%		0.8%	0%	0%	0%	0%		0%	0%	0.5%	0%	0%		0.5%	-	
<b>Pedestrians</b>	-	-	-	-	12		-	-	-	-	10		-	-	-	-	6		-	-	-	-	-	10		-
<b>Pedestrians%</b>	-	-	-	-	29.3%		-	-	-	-	24.4%		-	-	-	-	14.6%		-	-	-	-	-	24.4%		-
<b>Bicycles on Crosswalk</b>	-	-	-	-	1		-	-	-	-	0		-	-	-	-	1		-	-	-	-	-	1		-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	2.4%		-	-	-	-	0%		-	-	-	-	2.4%		-	-	-	-	-	2.4%		-

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (6.71 °C)



Peak Hour: 04:15 PM - 05:15 PM Weather: Overcast Clouds (14.07 °C)





Turning Movement Count (2 . MILL ST & DAYFOOT DR)

Start Time	N Approach MILL ST						Approach Total	E Approach EAST DRIVEWAY					Approach Total	S Approach MILL ST					Approach Total	W Approach DAYFOOT DR					Approach Total	Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	U-Turn N:N	Peds N:	Right E:N		Thru E:W	Left E:S	U-Turn E:E	Peds E:	Right S:E		Thru S:N	Left S:W	U-Turn S:S	Peds S:	Right W:S		Thru W:E	Left W:N	U-Turn W:W	Peds W:				
07:00:00	0	4	0	0	0	4	0	0	0	0	0	0	0	2	0	0	0	2	0	0	4	0	1	4	10		
07:15:00	0	2	0	0	0	2	0	0	0	0	0	0	0	5	1	0	1	6	3	0	0	0	1	3	11		
07:30:00	0	8	0	0	0	8	0	0	0	0	1	0	0	5	0	0	0	5	0	0	2	0	3	2	15		
07:45:00	1	10	0	0	1	11	0	0	0	0	1	0	0	14	1	0	0	15	0	0	2	0	1	2	28	64	
08:00:00	0	8	0	0	0	8	0	0	1	0	2	1	0	5	2	0	0	7	4	0	0	0	1	4	20	74	
08:15:00	1	13	1	0	0	15	0	0	0	0	1	0	0	8	2	0	0	10	1	0	2	0	2	3	28	91	
08:30:00	0	9	0	0	0	9	1	0	0	0	1	1	0	2	2	0	1	4	2	0	0	0	4	2	16	92	
08:45:00	2	17	0	0	0	19	0	0	0	0	0	0	0	9	1	0	0	10	2	0	4	0	0	6	35	99	
***BREAK***																											
16:00:00	7	11	0	0	0	18	0	0	0	0	1	0	0	9	2	1	0	13	2	0	2	0	3	4	35		
16:15:00	2	13	1	0	0	16	0	0	0	0	0	0	0	13	0	0	0	13	2	0	0	0	0	2	31		
16:30:00	5	9	0	0	0	14	0	0	0	0	0	0	0	5	2	0	1	7	3	0	4	0	1	7	28		
16:45:00	5	14	0	0	0	19	0	0	0	0	0	0	0	7	4	0	0	11	2	0	1	0	3	3	33	127	
17:00:00	3	4	1	0	0	8	1	0	1	0	2	2	0	15	2	0	1	17	1	0	1	0	7	2	29	121	
17:15:00	2	11	0	0	0	13	0	0	0	0	1	0	0	12	0	0	3	13	0	0	0	0	2	0	26	116	
17:30:00	5	7	0	0	1	12	0	0	0	0	1	0	0	4	0	0	0	4	1	0	1	0	4	2	18	106	
17:45:00	2	10	0	0	0	12	0	0	0	0	0	0	0	11	0	0	0	11	1	0	0	0	3	1	24	97	
<b>Grand Total</b>	<b>35</b>	<b>150</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>188</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>11</b>	<b>4</b>	<b>2</b>	<b>126</b>	<b>19</b>	<b>1</b>	<b>7</b>	<b>148</b>	<b>24</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>36</b>	<b>47</b>	<b>387</b>	<b>-</b>	
<b>Approach%</b>	18.6%	79.8%	1.6%	0%	-	50%	0%	50%	0%	-	1.4%	85.1%	12.8%	0.7%	-	51.1%	0%	48.9%	0%	-	-	-	-	-	-	-	
<b>Totals %</b>	9%	38.8%	0.8%	0%	48.6%	0.5%	0%	0.5%	0%	1%	0.5%	32.6%	4.9%	0.3%	38.2%	6.2%	0%	5.9%	0%	12.1%	-	-	-	-	-	-	
<b>Heavy</b>	1	3	0	0	-	0	0	0	0	-	0	2	1	0	-	1	0	1	0	-	-	-	-	-	-	-	
<b>Heavy %</b>	2.9%	2%	0%	0%	-	0%	0%	0%	0%	-	0%	1.6%	5.3%	0%	-	4.2%	0%	4.3%	0%	-	-	-	-	-	-	-	
<b>Bicycles</b>	0	1	0	0	-	0	0	0	0	-	0	0	0	0	-	2	0	0	0	-	-	-	-	-	-	-	
<b>Bicycle %</b>	0%	0.7%	0%	0%	-	0%	0%	0%	0%	-	0%	0%	0%	0%	-	8.3%	0%	0%	0%	-	-	-	-	-	-	-	



Peak Hour: 08:00 AM - 09:00 AM Weather: Shower Rain (4.47 °C)

Start Time	N Approach MILL ST						E Approach EAST DRIVEWAY						S Approach MILL ST						W Approach DAYFOOT DR						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
08:00:00	0	8	0	0	0	8	0	0	1	0	2	1	0	5	2	0	0	7	4	0	0	0	1	4	20
08:15:00	1	13	1	0	0	15	0	0	0	0	1	0	0	8	2	0	0	10	1	0	2	0	2	3	28
08:30:00	0	9	0	0	0	9	1	0	0	0	1	1	0	2	2	0	1	4	2	0	0	0	4	2	16
08:45:00	2	17	0	0	0	19	0	0	0	0	0	0	0	9	1	0	0	10	2	0	4	0	0	6	35
<b>Grand Total</b>	<b>3</b>	<b>47</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>51</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>0</b>	<b>24</b>	<b>7</b>	<b>0</b>	<b>1</b>	<b>31</b>	<b>9</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>7</b>	<b>15</b>	<b>99</b>
<b>Approach%</b>	5.9%	92.2%	2%	0%	-	-	50%	0%	50%	0%	-	-	0%	77.4%	22.6%	0%	-	-	60%	0%	40%	0%	-	-	-
<b>Totals %</b>	3%	47.5%	1%	0%	51.5%	1%	0%	1%	0%	2%	0%	24.2%	7.1%	0%	31.3%	9.1%	0%	6.1%	0%	15.2%	-	-	-	-	-
<b>PHF</b>	0.38	0.69	0.25	0	0.67	0.25	0	0.25	0	0.5	0	0.67	0.88	0	0.78	0.56	0	0.38	0	0.63	-	-	-	-	-
<b>Heavy</b>	0	2	0	0	2	0	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	0	0	0	-
<b>Heavy %</b>	0%	4.3%	0%	0%	3.9%	0%	0%	0%	0%	0%	0%	0%	8.3%	14.3%	0%	9.7%	0%	0%	0%	0%	0%	0%	0%	0%	-
<b>Lights</b>	3	45	1	0	49	1	0	1	0	2	0	22	6	0	28	9	0	6	0	15	-	-	-	-	-
<b>Lights %</b>	100%	95.7%	100%	0%	96.1%	100%	0%	100%	0%	100%	0%	91.7%	85.7%	0%	90.3%	100%	0%	100%	0%	100%	-	-	-	-	-
<b>Single-Unit Trucks</b>	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	-
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	4.2%	0%	0%	3.2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
<b>Buses</b>	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Buses %</b>	0%	2.1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
<b>Articulated Trucks</b>	0	1	0	0	1	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	-
<b>Articulated Trucks %</b>	0%	2.1%	0%	0%	2%	0%	0%	0%	0%	0%	0%	4.2%	14.3%	0%	6.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	4	-	-	-	-	1	-	-	-	-	7	-	-	-	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	33.3%	-	-	-	-	8.3%	-	-	-	-	58.3%	-	-	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-

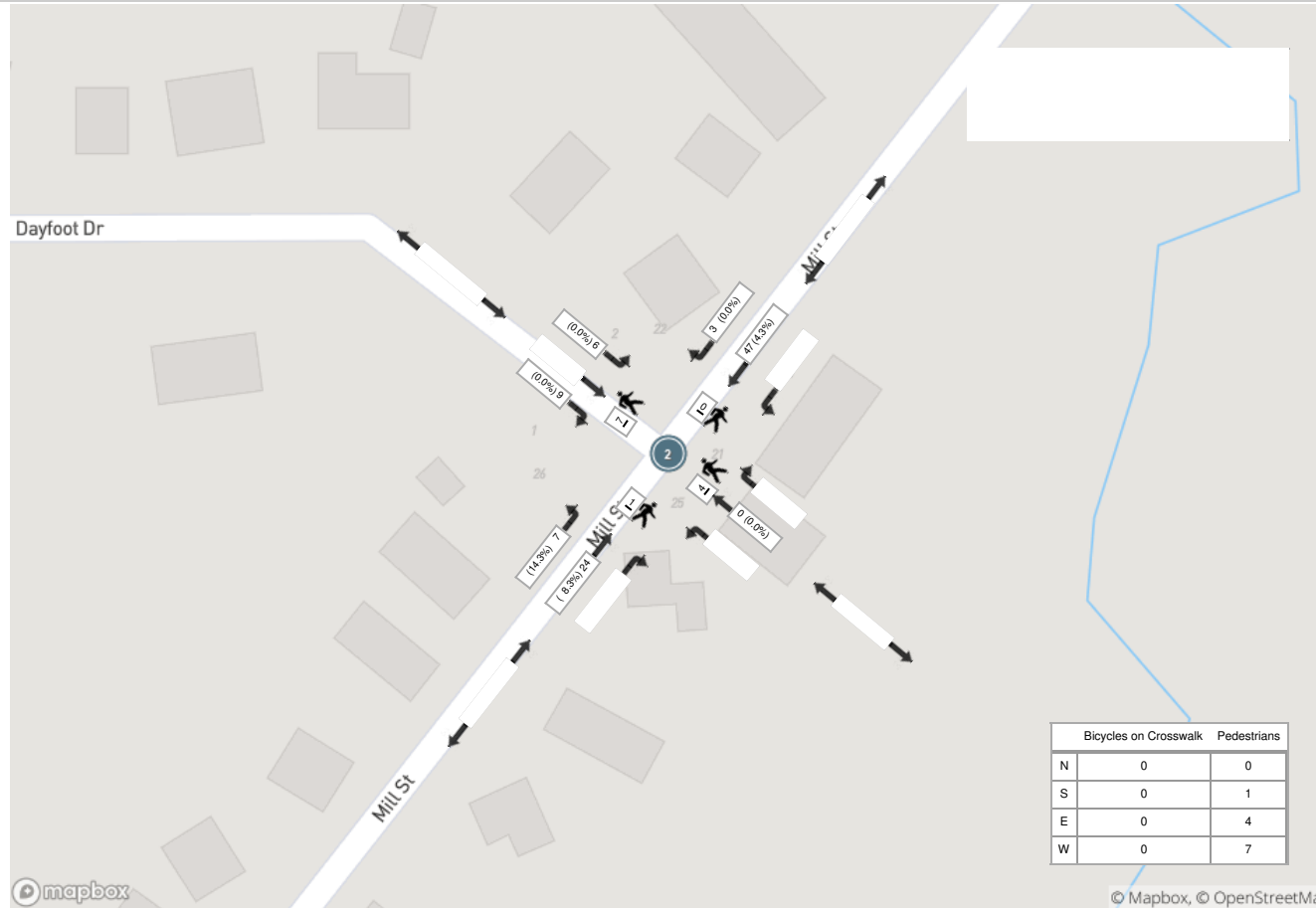


**Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (5.94 °C)**

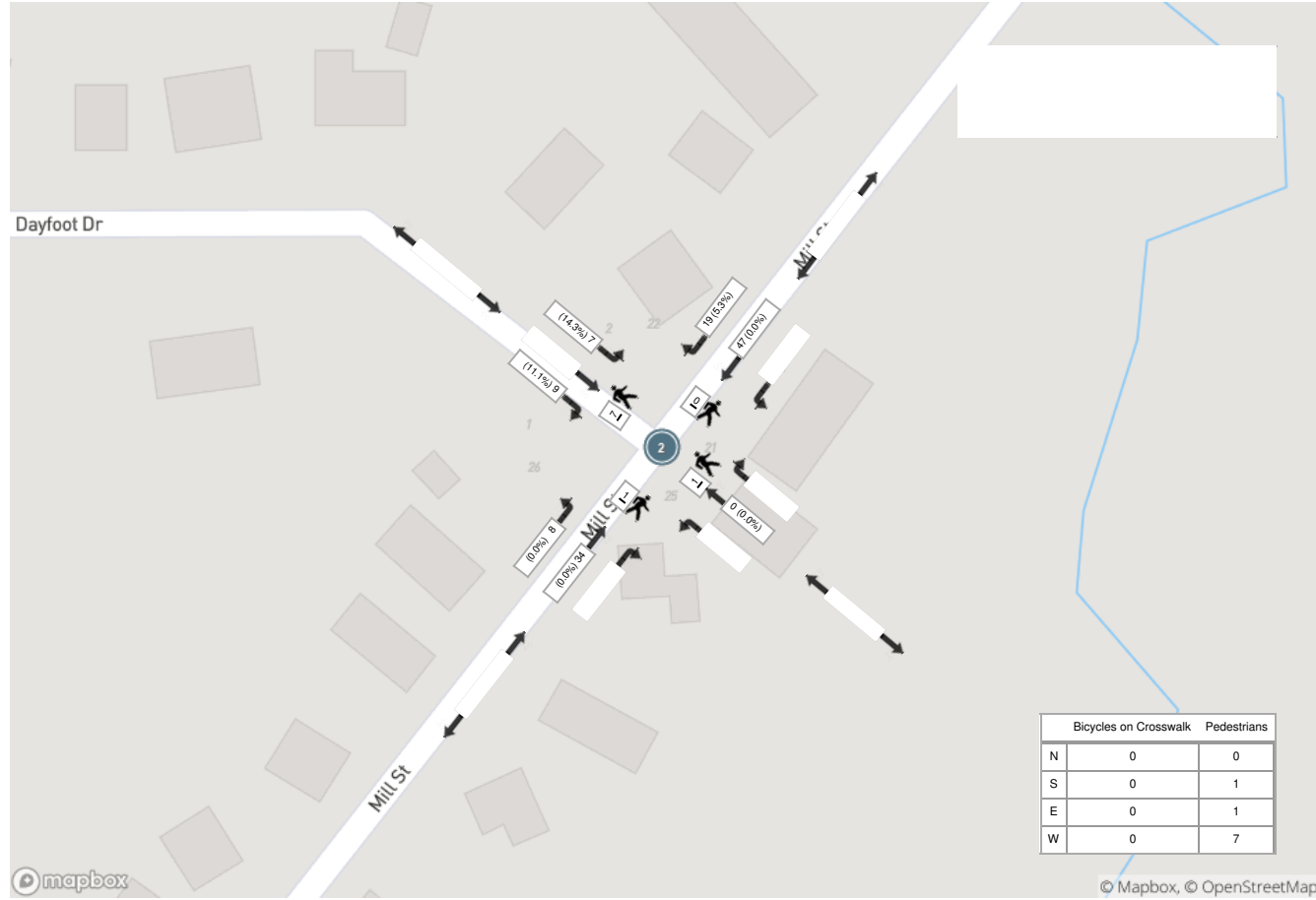
Start Time	N Approach MILL ST						E Approach EAST DRIVEWAY						S Approach MILL ST						W Approach DAYFOOT DR						Int. Total (15 min)
	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	Right	Thru	Left	U-Turn	Peds	Approach Total	
16:00:00	7	11	0	0	0	18	0	0	0	0	1	0	1	9	2	1	0	13	2	0	2	0	3	4	35
16:15:00	2	13	1	0	0	16	0	0	0	0	0	0	0	13	0	0	0	13	2	0	0	0	0	2	31
16:30:00	5	9	0	0	0	14	0	0	0	0	0	0	0	5	2	0	1	7	3	0	4	0	1	7	28
16:45:00	5	14	0	0	0	19	0	0	0	0	0	0	0	7	4	0	0	11	2	0	1	0	3	3	33
<b>Grand Total</b>	<b>19</b>	<b>47</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>34</b>	<b>8</b>	<b>1</b>	<b>1</b>	<b>44</b>	<b>9</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>7</b>	<b>16</b>	<b>127</b>
<b>Approach%</b>	28.4%	70.1%	1.5%	0%	-	-	0%	0%	0%	0%	-	-	2.3%	77.3%	18.2%	2.3%	-	56.3%	0%	43.8%	0%	-	-	-	-
<b>Totals %</b>	15%	37%	0.8%	0%	52.8%	0%	0%	0%	0%	0%	0%	0%	0.8%	26.8%	6.3%	0.8%	34.6%	7.1%	0%	5.5%	0%	12.6%	-	-	-
<b>PHF</b>	0.68	0.84	0.25	0	0.88	0	0	0	0	0	0	0	0.25	0.65	0.5	0.25	0.85	0.75	0	0.44	0	0.57	-	-	-
<b>Heavy</b>	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0	2	-	-	-
<b>Heavy %</b>	5.3%	0%	0%	0%	1.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	14.3%	0%	12.5%	-	-	-
<b>Lights</b>	18	47	1	0	66	0	0	0	0	0	0	0	1	34	8	1	44	8	0	6	0	14	-	-	-
<b>Lights %</b>	94.7%	100%	100%	0%	98.5%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	88.9%	0%	85.7%	0%	87.5%	-	-	-
<b>Single-Unit Trucks</b>	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	-	-	-
<b>Single-Unit Trucks %</b>	5.3%	0%	0%	0%	1.5%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	14.3%	0%	6.3%	-	-	-
<b>Buses</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	-	-	-
<b>Buses %</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	11.1%	0%	0%	0%	6.3%	-	-	-
<b>Articulated Trucks</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
<b>Articulated Trucks %</b>	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	-	-	-
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	7	-	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	11.1%	-	-	-	-	-	-	11.1%	-	-	-	-	77.8%	-	-	-
<b>Bicycles on Crosswalk</b>	-	-	-	-	0	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	0	-	-	-	-
<b>Bicycles on Crosswalk%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-



Peak Hour: 08:00 AM - 09:00 AM Weather: Shower Rain (4.47 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (5.94 °C)





Turning Movement Count (2 . MILL ST & DAYFOOT DR)

Start Time	N Approach MILL ST						E Approach EAST DRIVEWAY						S Approach MILL ST						W Approach DAYFOOT DR						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
07:00:00	3	0	0	0	0	3	0	0	0	0	0	0	0	0	1	0	0	1	3	0	2	0	0	5	9	
07:15:00	3	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	0	3	
07:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3	3	
07:45:00	4	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	1	0	4	0	0	5	11	26
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3	3	20
08:15:00	3	0	0	0	0	3	0	0	0	0	2	0	0	0	1	0	0	1	1	0	0	0	0	1	5	22
08:30:00	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	1	1	2	0	6	0	3	8	9	28
08:45:00	3	0	0	0	0	3	0	0	0	0	6	0	0	0	1	0	4	1	1	0	0	1	0	2	6	23
***BREAK***																										
16:00:00	6	0	0	0	1	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7	0	0	7	13	
16:15:00	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	2	3	9	
16:30:00	15	0	0	0	3	15	0	0	0	0	5	0	0	0	0	0	2	0	0	0	3	0	0	3	18	
16:45:00	5	0	0	0	0	5	0	0	0	0	1	0	0	0	0	0	4	0	0	0	7	0	0	7	12	52
17:00:00	4	0	0	0	1	4	0	0	0	0	6	0	0	0	0	0	1	0	0	0	6	1	0	7	11	50
17:15:00	4	0	0	0	1	4	0	0	0	0	3	0	0	0	0	0	0	0	0	0	2	0	0	2	6	47
17:30:00	4	0	0	0	0	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	3	7	36
17:45:00	3	0	0	1	0	4	0	0	0	0	2	0	0	0	0	0	0	0	0	0	4	0	0	4	8	32
<b>Grand Total</b>	<b>63</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>6</b>	<b>64</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>33</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>6</b>	<b>10</b>	<b>0</b>	<b>51</b>	<b>2</b>	<b>5</b>	<b>63</b>	<b>133</b>	<b>-</b>
<b>Approach%</b>	98.4%	0%	0%	1.6%	-	-	0%	0%	0%	0%	-	-	0%	0%	100%	0%	-	-	15.9%	0%	81%	3.2%	-	-	-	-
<b>Totals %</b>	47.4%	0%	0%	0.8%	-	48.1%	0%	0%	0%	0%	0%	0%	0%	0%	4.5%	0%	0%	4.5%	7.5%	0%	38.3%	1.5%	-	-	47.4%	-
<b>Heavy</b>	0	0	0	0	-	-	0	0	0	0	-	-	0	0	6	0	-	-	10	0	0	0	-	-	-	-
<b>Heavy %</b>	0%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	100%	0%	-	-	100%	0%	0%	0%	-	-	-	-
<b>Bicycles</b>	3	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-	0	0	0	0	-	-	-	-
<b>Bicycle %</b>	4.8%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	0%	0%	0%	0%	-	-	-	-



**Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (6.71 °C)**

Start Time	N Approach MILL ST						E Approach EAST DRIVEWAY						S Approach MILL ST						W Approach DAYFOOT DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
07:45:00	4	0	0	0	0	4	0	0	0	0	0	0	0	0	2	0	0	2	1	0	4	0	0	5	11
08:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	3	3
08:15:00	3	0	0	0	0	3	0	0	0	0	2	0	0	0	1	0	0	1	1	0	0	0	0	1	5
08:30:00	0	0	0	0	0	0	0	0	0	0	4	0	0	0	1	0	1	1	2	0	6	0	3	8	9
<b>Grand Total</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>5</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>3</b>	<b>17</b>	<b>28</b>	
<b>Approach%</b>	100%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	100%	0%		29.4%	0%	70.6%	0%		-	-	
<b>Totals %</b>	25%	0%	0%	0%		25%	0%	0%	0%	0%		0%	0%	14.3%	0%		14.3%	17.9%	0%	42.9%	0%		60.7%	-	
<b>PHF</b>	0.44	0	0	0		0.44	0	0	0	0		0	0	0.5	0		0.5	0.63	0	0.5	0		0.53	-	
<b>Heavy</b>	0	0	0	0		0	0	0	0	0		0	0	4	0		4	5	0	0	0		5	-	
<b>Heavy %</b>	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	100%	0%		100%	100%	0%	0%	0%		29.4%	-	
<b>Lights</b>	7	0	0	0		7	0	0	0	0		0	0	0	0		0	0	0	12	0		12	-	
<b>Lights %</b>	100%	0%	0%	0%		100%	0%	0%	0%	0%		0%	0%	0%	0%		0%	0%	0%	100%	0%		70.6%	-	
<b>Single-Unit Trucks</b>	0	0	0	0		0	0	0	0	0		0	0	4	0		4	5	0	0	0		5	-	
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	100%	0%		100%	100%	0%	0%	0%		29.4%	-	
<b>Pedestrians</b>	-	-	-	-	0	-	-	-	-	6	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-
<b>Pedestrians%</b>	-	-	-	-	0%	-	-	-	-	60%	-	-	-	-	10%	-	-	-	-	-	30%	-	-	-	-
<b>Bicycles on Road</b>	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	-	0	0	0	0	0	-	-	
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-



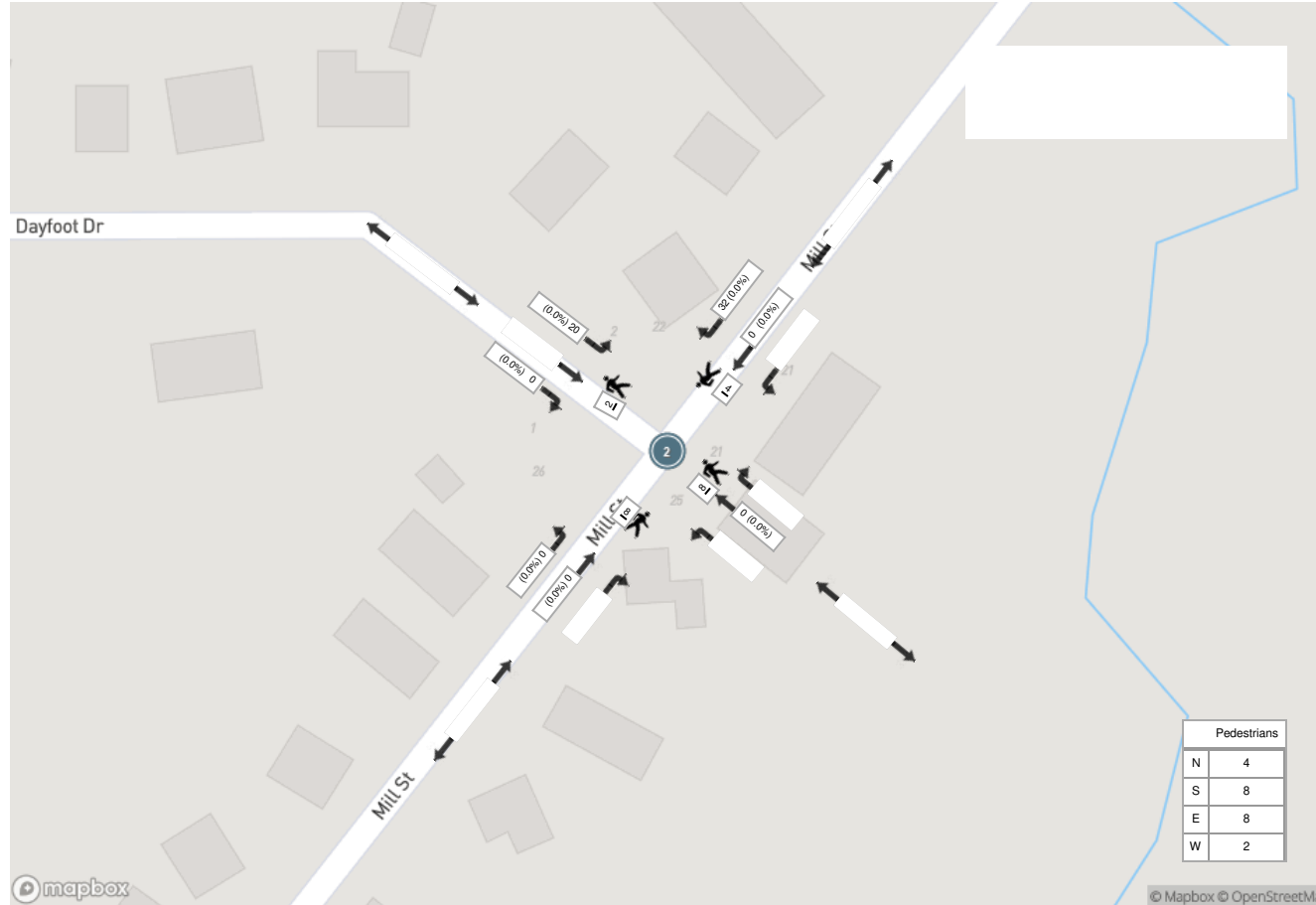
**Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (14.07 °C)**

Start Time	N Approach MILL ST						E Approach EAST DRIVEWAY						S Approach MILL ST						W Approach DAYFOOT DR						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
16:00:00	6	0	0	0	1	6	0	0	0	0	2	0	0	0	0	0	0	0	0	0	7	0	0	7	13
16:15:00	6	0	0	0	0	6	0	0	0	0	0	0	0	0	0	0	2	0	0	0	3	0	2	3	9
16:30:00	15	0	0	0	3	15	0	0	0	0	5	0	0	0	0	2	0	0	0	3	0	0	3	18	
16:45:00	5	0	0	0	0	5	0	0	0	0	1	0	0	0	0	4	0	0	0	7	0	0	7	12	
<b>Grand Total</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>32</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>2</b>	<b>20</b>	<b>52</b>	
<b>Approach%</b>	100%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	0%	0%		-	0%	0%	100%	0%		-	-
<b>Totals %</b>	61.5%	0%	0%	0%		61.5%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	38.5%	0%		38.5%	-
<b>PHF</b>	0.53	0	0	0		0.53	0	0	0	0		0	0	0	0	0		0	0	0	0.71	0		0.71	-
<b>Heavy</b>	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
<b>Heavy %</b>	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
<b>Lights</b>	32	0	0	0		32	0	0	0	0		0	0	0	0	0		0	0	0	20	0		20	-
<b>Lights %</b>	100%	0%	0%	0%		100%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	100%	0%		100%	-
<b>Single-Unit Trucks</b>	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	-
<b>Single-Unit Trucks %</b>	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	-
<b>Pedestrians</b>	-	-	-	-	4	-	-	-	-	8	-	-	-	-	8	-	-	-	-	-	2	-	-	-	-
<b>Pedestrians%</b>	-	-	-	-	18.2%	-	-	-	-	36.4%	-	-	-	-	36.4%	-	-	-	-	-	9.1%	-	-	-	-
<b>Bicycles on Road</b>	3	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	0	0	0	0	0	-	-
<b>Bicycles on Road%</b>	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-

Peak Hour: 07:45 AM - 08:45 AM Weather: Clear Sky (6.71 °C)



Peak Hour: 04:00 PM - 05:00 PM Weather: Overcast Clouds (14.07 °C)



## **APPENDIX E: Corridor Growth Analysis**

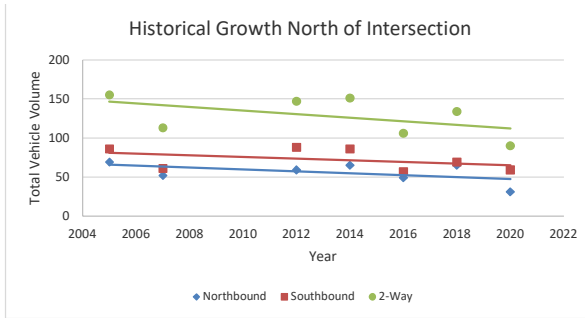




**Project:** 16-18 Mill St  
**Project ID:** 8070-01  
**Intersection:** Guelph St & Mill St  
**Peak Hour:** AM Peak

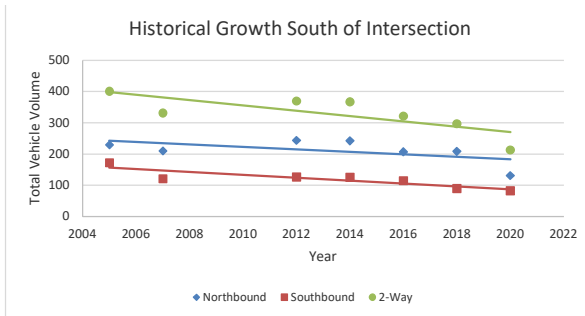
		North of Intersection		
Date	Year	Northbound	Southbound	2 Way
03-Nov-20	2020	31	59	90
05-Nov-18	2018	65	69	134
09-Nov-16	2016	49	57	106
16-Dec-14	2014	65	86	151
17-Dec-12	2012	59	88	147
13-Dec-07	2007	52	61	113
21-Dec-05	2005	69	86	155

Trend Point at start		47.4	64.9	112.3
Trend Point at end		65.6	81.1	146.7
Slope		-1.2	-1.1	-2.3
<b>Annual Growth</b>		<b>-2.1%</b>	<b>-1.5%</b>	<b>-1.8%</b>



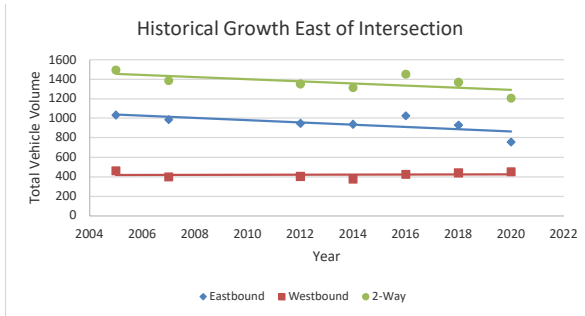
		South of Intersection		
Date	Year	Northbound	Southbound	2 Way
03-Nov-20	2020	131	82	213
05-Nov-18	2018	208	89	297
09-Nov-16	2016	207	114	321
16-Dec-14	2014	242	125	367
17-Dec-12	2012	243	126	369
13-Dec-07	2007	210	121	331
21-Dec-05	2005	229	172	401

Trend Point at start		183.1	86.5	269.6
Trend Point at end		241.9	156.3	398.3
Slope		-3.9	-4.7	-8.6
<b>Annual Growth</b>		<b>-1.8%</b>	<b>-3.9%</b>	<b>-2.6%</b>



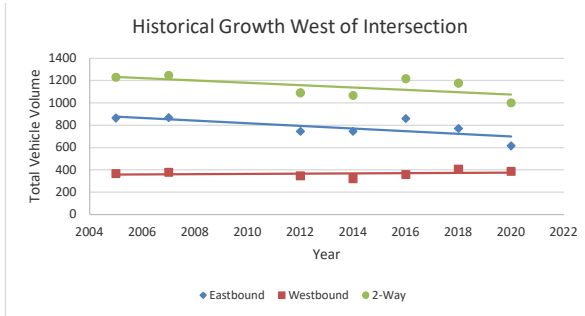
		East of Intersection		
Date	Year	Eastbound	Westbound	2 Way
03-Nov-20	2020	755	451	1206
05-Nov-18	2018	928	440	1368
09-Nov-16	2016	1026	425	1451
16-Dec-14	2014	937	376	1313
17-Dec-12	2012	947	404	1351
13-Dec-07	2007	986	398	1384
21-Dec-05	2005	1033	460	1493

Trend Point at start		865.5	426.2	1291.7
Trend Point at end		1038.5	417.0	1455.4
Slope		-11.5	0.6	-10.9
<b>Annual Growth</b>		<b>-1.2%</b>	<b>0.1%</b>	<b>-0.8%</b>



		West of Intersection		
Date	Year	Eastbound	Westbound	2 Way
03-Nov-20	2020	614	387	1001
05-Nov-18	2018	771	406	1177
09-Nov-16	2016	859	359	1218
16-Dec-14	2014	745	322	1067
17-Dec-12	2012	744	347	1091
13-Dec-07	2007	869	379	1248
21-Dec-05	2005	865	366	1231

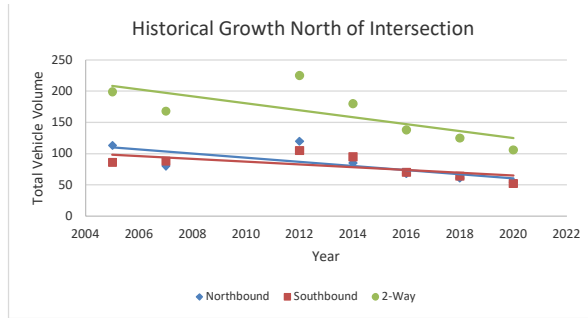
Trend Point at start		700.0	374.8	1074.8
Trend Point at end		877.2	356.8	1234.0
Slope		-11.8	1.2	-10.6
<b>Annual Growth</b>		<b>-1.5%</b>	<b>0.3%</b>	<b>-0.9%</b>



Project: 16-18 Mill St  
Project ID: 8070-01  
Intersection: Guelph St & Mill St  
Peak Hour: PM Peak

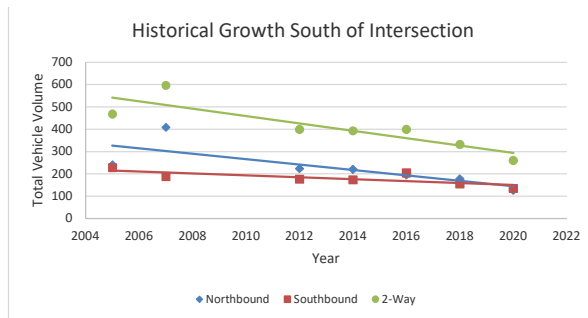
Date	North of Intersection			2 Way
	Year	Northbound	Southbound	
03-Nov-20	2020	54	52	106
05-Nov-18	2018	61	64	125
09-Nov-16	2016	68	70	138
16-Dec-14	2014	85	95	180
17-Dec-12	2012	120	105	225
13-Dec-07	2007	80	88	168
21-Dec-05	2005	113	86	199

Trend Point at start		60.2	64.7	124.9
Trend Point at end		110.1	98.1	208.2
Slope		-3.3	-2.2	-5.6
Annual Growth		-3.9%	-2.7%	-3.4%



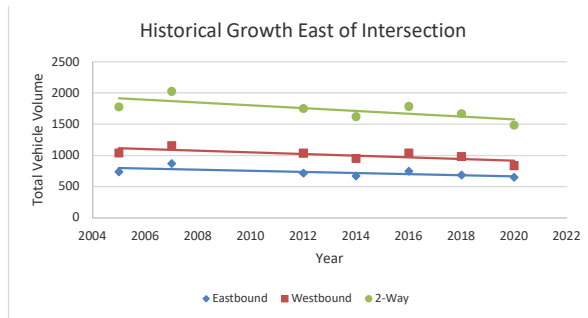
Date	South of Intersection			2 Way
	Year	Northbound	Southbound	
03-Nov-20	2020	126	134	260
05-Nov-18	2018	177	154	331
09-Nov-16	2016	195	204	399
16-Dec-14	2014	220	173	393
17-Dec-12	2012	223	176	399
13-Dec-07	2007	408	188	596
21-Dec-05	2005	241	227	468

Trend Point at start		143.5	149.5	293.0
Trend Point at end		326.4	215.0	541.4
Slope		-12.2	-4.4	-16.6
Annual Growth		-5.3%	-2.4%	-4.0%



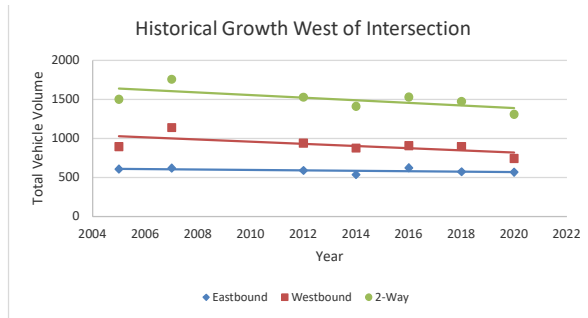
Date	East of Intersection			2 Way
	Year	Eastbound	Westbound	
03-Nov-20	2020	648	835	1483
05-Nov-18	2018	684	982	1666
09-Nov-16	2016	746	1036	1782
16-Dec-14	2014	669	952	1621
17-Dec-12	2012	716	1035	1751
13-Dec-07	2007	868	1157	2025
21-Dec-05	2005	737	1038	1775

Trend Point at start		661.6	913.3	1575.0
Trend Point at end		798.0	1113.8	1911.9
Slope		-9.1	-13.4	-22.5
Annual Growth		-1.2%	-1.3%	-1.3%



Date	West of Intersection			2 Way
	Year	Eastbound	Westbound	
03-Nov-20	2020	566	743	1309
05-Nov-18	2018	574	898	1472
09-Nov-16	2016	623	906	1529
16-Dec-14	2014	536	876	1412
17-Dec-12	2012	588	939	1527
13-Dec-07	2007	620	1137	1757
21-Dec-05	2005	607	895	1502

Trend Point at start		568.6	818.9	1387.5
Trend Point at end		610.4	1025.7	1636.1
Slope		-2.8	-13.8	-16.6
Annual Growth		-0.5%	-1.5%	-1.1%



## **APPENDIX F: TTS Queries**



### SUMMARY

	AM		PM	
	Inbound	Outbound	Inbound	Outbound
East - Guelph Street East	61.62%	59.43%	61.62%	59.43%
West - Guelph Street West	11.98%	11.71%	11.98%	11.71%
North - McNabb Street East	15.04%	11.53%	15.04%	11.53%
North - McNabb Street West	3.69%	4.12%	3.69%	4.12%
South - Mill Street South	7.68%	13.20%	7.68%	13.20%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

### ROUNDED

	AM		PM	
	Inbound	Outbound	Inbound	Outbound
East - Guelph Street East	60%	60%	60%	60%
West - Guelph Street West	10%	10%	10%	10%
North - McNabb Street East	15%	10%	15%	10%
North - McNabb Street West	5%	5%	5%	5%
South - Mill Street South	10%	15%	10%	15%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

P:\80\70\01\Analysis\3 - Trip Distribution\Summary.pdf

**AM OUTBOUND DISTRIBUTION**

Tue Oct 20 2020 16:24:35 GMT-0400 (Eastern Daylight Time) - Run Time: 2277ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of destination - pd\_dest  
 Column: 2006 GTA zone of origin - gta06\_orig

Filters:  
 2006 GTA zone of origin - gta06\_orig In 4163,4164  
 and  
 Start time of trip - start\_time In 630-930  
 and  
 Trip purpose of origin - purp\_orig In H

Trip 2016  
 Table:

Destination	Origin		Total	Route Selection					Trip Distribution					
	4163	4164		East	West	North		South	East	West	North		South	
				Guelph St E	Guelph St W	McNabb St E	McNabb St W	Mill St S	Guelph St E	Guelph St W	McNabb St E	McNabb St W	Mill St S	
PD 1 of Toronto	62	85	147	100%					3.3%	0.0%	0.0%	0.0%	0.0%	100%
PD 3 of Toronto	0	25	25	90%		5%	5%		0.5%	0.0%	0.0%	0.0%	0.0%	100%
PD 8 of Toronto	94	0	94	100%					2.1%	0.0%	0.0%	0.0%	0.0%	100%
PD 9 of Toronto	0	36	36	90%		5%	5%		0.7%	0.0%	0.0%	0.0%	0.0%	100%
PD 10 of Toronto	81	0	81	90%		5%	5%		1.6%	0.0%	0.1%	0.1%	0.0%	100%
Oshawa	52	0	52	90%		5%	5%		1.0%	0.0%	0.1%	0.1%	0.0%	100%
East Gwillimbury	14	0	14	90%		5%	5%		0.3%	0.0%	0.0%	0.0%	0.0%	100%
Caledon	32	145	177		30%	50%	20%		0.0%	1.2%	2.0%	0.8%	0.0%	100%
Brampton	252	195	447	80%		10%	10%		8.0%	0.0%	1.0%	1.0%	0.0%	100%
Mississauga	348	194	542	100%					12.1%	0.0%	0.0%	0.0%	0.0%	100%
Halton Hills	1041	1083												
4155	21	0	21	80%			20%		0.4%	0.0%	0.0%	0.0%	0.1%	100%
4157	0	8	8	60%		40%			0.1%	0.0%	0.1%	0.0%	0.0%	100%
4158	14	0	14	60%		25%	15%		0.2%	0.0%	0.1%	0.0%	0.0%	100%
4160	21	14	35	60%		15%	25%		0.5%	0.0%	0.1%	0.0%	0.2%	100%
4161	43	88	131	60%		40%			1.7%	0.0%	1.2%	0.0%	0.0%	100%
4162	254	379	633	60%		30%		10%	8.5%	0.0%	4.2%	0.0%	1.4%	100%
4163	347	211	558	15%	30%			55%	1.9%	3.7%	0.0%	0.0%	6.8%	100%
4164	9	221	230		65%		35%		0.0%	3.3%	0.0%	1.8%	0.0%	100%
4166	78	0	78	10%	30%			60%	0.2%	0.5%	0.0%	0.0%	1.0%	100%
4168	97	6	103	50%	10%			40%	1.1%	0.2%	0.0%	0.0%	0.9%	100%
4170	43	0	43	30%	60%			10%	0.3%	0.6%	0.0%	0.0%	0.1%	100%
4173	0	0	0		80%		20%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
4175	0	0	0		100%				0.0%	0.0%	0.0%	0.0%	0.0%	100%
4177	0	0	0		20%	80%			0.0%	0.0%	0.0%	0.0%	0.0%	100%
4193	102	0	102	50%		50%			1.1%	0.0%	1.1%	0.0%	0.0%	100%
4194	14	117	131	50%		50%			1.5%	0.0%	1.5%	0.0%	0.0%	100%
4195	0	0	0	20%	80%				0.0%	0.0%	0.0%	0.0%	0.0%	100%
4197	0	38	38	20%	80%				0.2%	0.7%	0.0%	0.0%	0.0%	100%
Milton	44	126	170	80%			20%		3.0%	0.0%	0.0%	0.0%	0.8%	100%
Oakville	74	73	147	80%				20%	2.6%	0.0%	0.0%	0.0%	0.7%	100%
Burlington	135	112	247	80%				20%	4.4%	0.0%	0.0%	0.0%	1.1%	100%
Hamilton	14	0	14	80%				20%	0.2%	0.0%	0.0%	0.0%	0.1%	100%
Kitchener	30	8	38	50%	50%				0.4%	0.4%	0.0%	0.0%	0.0%	100%
City of Guelph	30	0	30	50%	50%				0.3%	0.3%	0.0%	0.0%	0.0%	100%
Erin	24	0	24		100%				0.0%	0.5%	0.0%	0.0%	0.0%	100%
Essa	0	71	71	80%		5%	15%		1.3%	0.0%	0.1%	0.2%	0.0%	100%
Mono	0	12	12		70%		30%		0.0%	0.2%	0.0%	0.1%	0.0%	100%
Niagara-on-the-Lake	0	0	0		70%		30%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
Guelph/Eramosa	0	0	0	25%	75%				0.0%	0.0%	0.0%	0.0%	0.0%	100%
Centre Wellington	0	0	0	100%					0.0%	0.0%	0.0%	0.0%	0.0%	100%
External	0	0	0	50%	40%		10%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
<b>External Trips Total</b>	<b>1973</b>	<b>1732</b>	<b>3705</b>						<b>59.4%</b>	<b>11.7%</b>	<b>11.5%</b>	<b>4.1%</b>	<b>13.2%</b>	<b>100%</b>
<b>Trips Total</b>	<b>2329</b>	<b>2164</b>	<b>4493</b>						<b>60%</b>	<b>10%</b>	<b>10%</b>	<b>5%</b>	<b>15%</b>	<b>100%</b>
									<b>60%</b>	<b>10%</b>	<b>10%</b>	<b>5%</b>	<b>15%</b>	<b>100%</b>

**PM INBOUND DISTRIBUTION**

Tue Oct 20 2020 16:20:50 GMT-0400 (Eastern Daylight Time) - Run Time: 2381ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of origin - pd\_orig  
 Column: 2006 GTA zone of destination - gta06\_dest

Filters:  
 2006 GTA zone of destination - gta06\_dest In 4163,4164  
 and  
 Start time of trip - start\_time In 1600-1900  
 and  
 Trip purpose of destination - purp\_dest In H

Trip 2016  
 Table:

Origin	Destination		Total	Route Selection					Trip Distribution					
	4163	4164		East	West	North		South	East	West	North		South	
				Guelph St E	Guelph St W	McNabb St E	McNabb St W	Mill St S	Guelph St E	Guelph St W	McNabb St E	McNabb St W	Mill St S	
PD 1 of Toronto	119	156	275	100%					7.2%	0.0%	0.0%	0.0%	0.0%	100%
PD 3 of Toronto	0	0	0	90%		5%	5%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
PD 8 of Toronto	0	0	0	100%					0.0%	0.0%	0.0%	0.0%	0.0%	100%
PD 9 of Toronto	0	36	36	90%		5%	5%		0.8%	0.0%	0.0%	0.0%	0.0%	100%
PD 10 of Toronto	15	0	15	90%		5%	5%		0.4%	0.0%	0.0%	0.0%	0.0%	100%
Oshawa	0	0	0	90%		5%	5%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
East Gwillimbury	14	0	14	90%		5%	5%		0.3%	0.0%	0.0%	0.0%	0.0%	100%
Caledon	21	56	77		30%	50%	20%		0.0%	0.0%	1.0%	0.4%	0.0%	100%
Brampton	238	224	462		80%	10%	10%		9.6%	0.0%	1.2%	1.2%	0.0%	100%
Mississauga	380	112	492		100%				12.8%	0.0%	0.0%	0.0%	0.0%	100%
Halton Hills	750	1064												
4155	0	0	0	80%			20%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
4157	0	8	8	60%		40%			0.1%	0.0%	0.0%	0.0%	0.0%	100%
4158	44	0	44	60%		25%	15%		0.7%	0.0%	0.3%	0.0%	0.2%	100%
4160	21	0	21	60%		15%	25%		0.3%	0.0%	0.1%	0.0%	0.1%	100%
4161	0	0	0	60%		40%			0.0%	0.0%	0.0%	0.0%	0.0%	100%
4162	154	416	570	60%		30%	10%		8.9%	0.0%	4.4%	0.0%	1.5%	100%
4163	127	107	234	15%	30%		55%		0.9%	1.8%	0.0%	0.0%	3.3%	100%
4164	0	142	142		65%		35%		0.0%	2.4%	0.0%	1.3%	0.0%	100%
4166	14	0	14	10%	30%		60%		0.0%	0.1%	0.0%	0.0%	0.2%	100%
4168	0	0	0	50%	10%		40%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
4170	43	0	43	30%	60%		10%		0.3%	0.7%	0.0%	0.0%	0.1%	100%
4173	26	0	26		80%		20%		0.0%	0.5%	0.0%	0.1%	0.0%	100%
4175	18	0	18		100%				0.0%	0.5%	0.0%	0.0%	0.0%	100%
4177	0	39	39	20%	80%				0.2%	0.8%	0.0%	0.0%	0.0%	100%
4193	188	12	200	50%		50%			2.6%	0.0%	2.6%	0.0%	0.0%	100%
4194	94	302	396	50%		50%			5.2%	0.0%	5.2%	0.0%	0.0%	100%
4195	21	0	21	20%	80%				0.1%	0.4%	0.0%	0.0%	0.0%	100%
4197	0	38	38	20%	80%				0.2%	0.8%	0.0%	0.0%	0.0%	100%
Milton	114	50	164	80%			20%		3.4%	0.0%	0.0%	0.0%	0.9%	100%
Oakville	0	73	73	80%			20%		1.5%	0.0%	0.0%	0.0%	0.4%	100%
Burlington	61	112	173	80%			20%		3.6%	0.0%	0.0%	0.0%	0.9%	100%
Hamilton	14	0	14	80%			20%		0.3%	0.0%	0.0%	0.0%	0.1%	100%
Kitchener	0	0	0	50%	50%				0.0%	0.0%	0.0%	0.0%	0.0%	100%
City of Guelph	8	8	16	50%	50%				0.2%	0.2%	0.0%	0.0%	0.0%	100%
Erin	34	46	80		100%				0.0%	2.1%	0.0%	0.0%	0.0%	100%
Essa	0	71	71	80%		5%	15%		1.5%	0.0%	0.1%	0.3%	0.0%	100%
Mono	0	0	0		70%		30%		0.0%	0.0%	0.0%	0.0%	0.0%	100%
Niagara-on-the-Lake	0	33	33		70%		30%		0.0%	0.6%	0.0%	0.3%	0.0%	100%
Guelph/Eramosa	14	0	14	25%	75%				0.1%	0.3%	0.0%	0.0%	0.0%	100%
Centre Wellington	5	0	5	100%					0.1%	0.0%	0.0%	0.0%	0.0%	100%
External	0	15	15	50%	40%		10%		0.2%	0.2%	0.0%	0.0%	0.0%	100%
<b>External Trips Total</b>	<b>1660</b>	<b>1807</b>	<b>3467</b>						<b>61.6%</b>	<b>12.0%</b>	<b>15.0%</b>	<b>3.7%</b>	<b>7.7%</b>	<b>100%</b>
<b>Trips Total</b>	<b>1787</b>	<b>2056</b>	<b>3843</b>						<b>60%</b>	<b>10%</b>	<b>15%</b>	<b>5%</b>	<b>10%</b>	<b>100%</b>
									<b>60%</b>	<b>10%</b>	<b>15%</b>	<b>5%</b>	<b>10%</b>	<b>100%</b>

## **APPENDIX G: Synchro Outputs**



# Queues

## 1: Mill St & Guelph St

Existing AM
























Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	27	815	60	418	228	71
v/c Ratio	0.05	0.69	0.24	0.19	0.48	0.20
Control Delay	5.2	11.4	9.5	4.9	10.8	16.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.2	11.4	9.5	4.9	10.8	16.9
Queue Length 50th (m)	0.8	39.4	2.3	6.5	4.7	4.0
Queue Length 95th (m)	4.9	134.3	12.2	21.4	25.7	16.4
Internal Link Dist (m)		244.8		229.4	50.3	70.5
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	773	1655	368	3018	866	793
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.49	0.16	0.14	0.26	0.09
<b>Intersection Summary</b>						



# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Existing AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					 			 				 	
Traffic Volume (vph)	25	745	5	55	370	15	15	25	170	15	30	20	
Future Volume (vph)	25	745	5	55	370	15	15	25	170	15	30	20	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	
Total Lost time (s)	4.0	4.0		6.5	4.0			4.0			4.0		
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00		
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00		
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00			1.00		
Frt	1.00	1.00		1.00	0.99			0.89			0.96		
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99		
Satd. Flow (prot)	1604	1825		1717	3329			1632			1751		
Flt Permitted	0.51	1.00		0.23	1.00			0.98			0.91		
Satd. Flow (perm)	857	1825		410	3329			1599			1603		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	27	810	5	60	402	16	16	27	185	16	33	22	
RTOR Reduction (vph)	0	0	0	0	3	0	0	133	0	0	17	0	
Lane Group Flow (vph)	27	815	0	60	415	0	0	95	0	0	54	0	
Confl. Peds. (#/hr)	8		18	18		8			3	3			
Heavy Vehicles (%)	8%	4%	0%	1%	8%	0%	0%	4%	1%	6%	3%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		2			6			8			4		
Permitted Phases	2			6			8			4			
Actuated Green, G (s)	35.5	35.5		35.5	35.5			10.8			10.8		
Effective Green, g (s)	38.5	38.5		36.0	38.5			12.8			12.8		
Actuated g/C Ratio	0.65	0.65		0.61	0.65			0.22			0.22		
Clearance Time (s)	7.0	7.0		7.0	7.0			6.0			6.0		
Vehicle Extension (s)	4.5	4.5		4.5	4.5			2.0			2.0		
Lane Grp Cap (vph)	556	1184		248	2161			345			346		
v/s Ratio Prot		c0.45			0.12								
v/s Ratio Perm	0.03			0.15				c0.06			0.03		
v/c Ratio	0.05	0.69		0.24	0.19			0.27			0.16		
Uniform Delay, d1	3.8	6.6		5.4	4.2			19.4			18.9		
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d2	0.1	2.0		0.9	0.1			0.2			0.1		
Delay (s)	3.8	8.6		6.2	4.2			19.5			18.9		
Level of Service	A	A		A	A			B			B		
Approach Delay (s)		8.4			4.5			19.5			18.9		
Approach LOS		A			A			B			B		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			9.3									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.58										
Actuated Cycle Length (s)			59.3									Sum of lost time (s)	8.0
Intersection Capacity Utilization			66.7%									ICU Level of Service	C
Analysis Period (min)			15										
c Critical Lane Group													

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Existing AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	10	5	60	55	5
Future Volume (Veh/h)	5	10	5	60	55	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	11	5	65	60	5
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	214					
pX, platoon unblocked						
vC, conflicting volume	144	70	72			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	144	70	72			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	99	99	100			
cM capacity (veh/h)	845	993	1447			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	16	70	65			
Volume Left	5	5	0			
Volume Right	11	0	5			
cSH	942	1447	1700			
Volume to Capacity	0.02	0.00	0.04			
Queue Length 95th (m)	0.4	0.1	0.0			
Control Delay (s)	8.9	0.6	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.9	0.6	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.2			
Intersection Capacity Utilization			17.3%	ICU Level of Service	A	
Analysis Period (min)			15			

Queues

1: Mill St & Guelph St

Existing PM
























Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	16	603	125	945	196	71
v/c Ratio	0.06	0.62	0.28	0.38	0.52	0.21
Control Delay	10.9	16.4	6.0	5.4	19.3	20.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	16.4	6.0	5.4	19.3	20.6
Queue Length 50th (m)	0.9	49.6	4.0	19.4	10.7	5.1
Queue Length 95th (m)	5.1	120.1	14.8	51.8	36.2	18.8
Internal Link Dist (m)		244.8		229.4	50.3	70.5
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	512	1714	540	3419	701	689
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.03	0.35	0.23	0.28	0.28	0.10

Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Existing PM

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations					 			 			 			
Traffic Volume (vph)	15	545	10	115	855	15	20	30	130	10	30	25		
Future Volume (vph)	15	545	10	115	855	15	20	30	130	10	30	25		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6		
Total Lost time (s)	4.0	4.0		4.5	4.0			4.0			4.0			
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00			
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.99			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00			
Frt	1.00	1.00		1.00	1.00			0.90			0.95			
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99			
Satd. Flow (prot)	1741	1857		1744	3530			1660			1773			
Flt Permitted	0.30	1.00		0.24	1.00			0.96			0.94			
Satd. Flow (perm)	555	1857		445	3530			1602			1681			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	16	592	11	125	929	16	22	33	141	11	33	27		
RTOR Reduction (vph)	0	0	0	0	1	0	0	81	0	0	19	0		
Lane Group Flow (vph)	16	603	0	125	944	0	0	115	0	0	52	0		
Confl. Peds. (#/hr)	4		5	5		4	11		4	4		11		
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		2		1	6			8			4	4		
Permitted Phases	2			6			8			4				
Actuated Green, G (s)	34.5	34.5		47.0	47.0			11.4			11.4			
Effective Green, g (s)	37.5	37.5		47.5	50.0			13.4			13.4			
Actuated g/C Ratio	0.53	0.53		0.67	0.70			0.19			0.19			
Clearance Time (s)	7.0	7.0		5.0	7.0			6.0			6.0			
Vehicle Extension (s)	4.5	4.5		3.0	4.5			2.0			2.0			
Lane Grp Cap (vph)	291	975		441	2471			300			315			
v/s Ratio Prot		c0.32		0.03	c0.27									
v/s Ratio Perm	0.03			0.16				c0.07			0.03			
v/c Ratio	0.05	0.62		0.28	0.38			0.38			0.16			
Uniform Delay, d1	8.3	11.9		6.9	4.4			25.4			24.3			
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d2	0.1	1.5		0.4	0.2			0.3			0.1			
Delay (s)	8.4	13.4		7.2	4.5			25.7			24.4			
Level of Service	A	B		A	A			C			C			
Approach Delay (s)		13.3			4.9			25.7			24.4			
Approach LOS		B			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			10.3									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.55											
Actuated Cycle Length (s)			71.4								12.5			
Intersection Capacity Utilization			74.2%										ICU Level of Service	D
Analysis Period (min)			15											
c	Critical Lane Group													

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Existing PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	10	10	10	50	55	20
Future Volume (Veh/h)	10	10	10	50	55	20
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.91
Hourly flow rate (vph)	11	11	11	54	60	22
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)	214					
pX, platoon unblocked						
vC, conflicting volume	154	78	89			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	154	78	89			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	99	99	99			
cM capacity (veh/h)	800	953	1510			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	22	65	82			
Volume Left	11	11	0			
Volume Right	11	0	22			
cSH	869	1510	1700			
Volume to Capacity	0.03	0.01	0.05			
Queue Length 95th (m)	0.6	0.2	0.0			
Control Delay (s)	9.2	1.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	1.3	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			1.7			
Intersection Capacity Utilization			19.9%	ICU Level of Service	A	
Analysis Period (min)			15			

# Queues

## 1: Mill St & Guelph St

Future Background AM





















Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	33	815	60	445	234	158
v/c Ratio	0.06	0.70	0.26	0.21	0.45	0.56
Control Delay	5.8	12.6	10.6	5.4	9.8	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.8	12.6	10.6	5.4	9.8	29.5
Queue Length 50th (m)	1.2	52.7	2.9	9.0	4.4	14.0
Queue Length 95th (m)	5.6	133.1	12.3	21.8	25.3	41.2
Internal Link Dist (m)		244.8		229.4	42.0	62.2
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	729	1603	338	2907	754	477
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.51	0.18	0.15	0.31	0.33

### Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Future Background AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations													
Traffic Volume (vph)	30	745	5	55	370	40	15	30	170	70	45	30	
Future Volume (vph)	30	745	5	55	370	40	15	30	170	70	45	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	
Total Lost time (s)	4.0	4.0		6.5	4.0			4.0			4.0		
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00		
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00		
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00			1.00		
Fr <sub>t</sub>	1.00	1.00		1.00	0.99			0.89			0.97		
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00			1.00			0.98		
Satd. Flow (prot)	1603	1825		1717	3307			1637			1735		
Fl <sub>t</sub> Permitted	0.49	1.00		0.22	1.00			0.97			0.65		
Satd. Flow (perm)	834	1825		393	3307			1597			1159		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	33	810	5	60	402	43	16	33	185	76	49	33	
RTOR Reduction (vph)	0	0	0	0	9	0	0	141	0	0	11	0	
Lane Group Flow (vph)	33	815	0	60	436	0	0	93	0	0	147	0	
Confl. Peds. (#/hr)	8		18	18		8			3	3			
Heavy Vehicles (%)	8%	4%	0%	1%	8%	0%	0%	4%	1%	6%	3%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		2			6			8			4		
Permitted Phases	2			6			8			4			
Actuated Green, G (s)	38.1	38.1		38.1	38.1			13.2			13.2		
Effective Green, g (s)	41.1	41.1		38.6	41.1			15.2			15.2		
Actuated g/C Ratio	0.64	0.64		0.60	0.64			0.24			0.24		
Clearance Time (s)	7.0	7.0		7.0	7.0			6.0			6.0		
Vehicle Extension (s)	4.5	4.5		4.5	4.5			2.0			2.0		
Lane Grp Cap (vph)	533	1166		235	2113			377			273		
v/s Ratio Prot		c0.45			0.13								
v/s Ratio Perm	0.04			0.15				0.06			c0.13		
v/c Ratio	0.06	0.70		0.26	0.21			0.25			0.54		
Uniform Delay, d <sub>1</sub>	4.4	7.6		6.1	4.8			19.9			21.5		
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d <sub>2</sub>	0.1	2.1		1.0	0.1			0.1			1.0		
Delay (s)	4.4	9.7		7.1	4.9			20.0			22.5		
Level of Service	A	A		A	A			C			C		
Approach Delay (s)		9.5			5.2			20.0			22.5		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			10.8									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.65										
Actuated Cycle Length (s)			64.3									Sum of lost time (s)	8.0
Intersection Capacity Utilization			77.5%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Future Background AM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	50	25	65	60	10
Future Volume (Veh/h)	15	50	25	65	60	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	54	27	71	65	11
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	199					
pX, platoon unblocked						
vC, conflicting volume	202	78	83			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	202	78	83			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	98	95	98			
cM capacity (veh/h)	771	983	1433			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	70	98	76			
Volume Left	16	27	0			
Volume Right	54	0	11			
cSH	925	1433	1700			
Volume to Capacity	0.08	0.02	0.04			
Queue Length 95th (m)	2.0	0.5	0.0			
Control Delay (s)	9.2	2.2	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.2	2.2	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.5			
Intersection Capacity Utilization			22.0%	ICU Level of Service	A	
Analysis Period (min)			15			



# Queues

## 1: Mill St & Guelph St

Future Background PM





















Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	27	603	125	1027	212	125
v/c Ratio	0.10	0.62	0.27	0.43	0.56	0.48
Control Delay	11.6	16.6	6.0	5.9	23.1	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.6	16.6	6.0	5.9	23.1	30.6
Queue Length 50th (m)	1.7	52.1	4.4	23.9	15.1	12.7
Queue Length 95th (m)	7.6	118.5	14.5	57.4	43.9	35.4
Internal Link Dist (m)		244.8		229.4	42.0	62.2
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	471	1712	513	3377	715	533
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.06	0.35	0.24	0.30	0.30	0.23

### Intersection Summary

# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Future Background PM

														
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	25	545	10	115	855	90	20	45	130	45	40	30		
Future Volume (vph)	25	545	10	115	855	90	20	45	130	45	40	30		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6		
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0			
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00			
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.99			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00			
Fr <sub>t</sub>	1.00	1.00		1.00	0.99			0.91			0.96			
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00			0.99			0.98			
Satd. Flow (prot)	1741	1857		1744	3486			1678			1784			
Fl <sub>t</sub> Permitted	0.28	1.00		0.24	1.00			0.96			0.70			
Satd. Flow (perm)	511	1857		449	3486			1624			1274			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	27	592	11	125	929	98	22	49	141	49	43	33		
RTOR Reduction (vph)	0	0	0	0	7	0	0	64	0	0	11	0		
Lane Group Flow (vph)	27	603	0	125	1020	0	0	148	0	0	114	0		
Confl. Peds. (#/hr)	4		5	5		4	11		4	4		11		
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		2		1	6			8			4	4		
Permitted Phases	2			6			8			4				
Actuated Green, G (s)	34.7	34.7		46.8	46.8			12.1			12.1			
Effective Green, g (s)	37.7	37.7		47.3	49.8			14.1			14.1			
Actuated g/C Ratio	0.52	0.52		0.66	0.69			0.20			0.20			
Clearance Time (s)	7.0	7.0		4.5	7.0			6.0			6.0			
Vehicle Extension (s)	4.5	4.5		3.0	4.5			2.0			2.0			
Lane Grp Cap (vph)	267	973		441	2414			318			249			
v/s Ratio Prot		c0.32		0.03	c0.29									
v/s Ratio Perm	0.05			0.15				c0.09			0.09			
v/c Ratio	0.10	0.62		0.28	0.42			0.47			0.46			
Uniform Delay, d <sub>1</sub>	8.6	12.0		7.0	4.8			25.6			25.5			
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d <sub>2</sub>	0.3	1.5		0.4	0.2			0.4			0.5			
Delay (s)	8.9	13.6		7.3	5.0			26.0			26.0			
Level of Service	A	B		A	A			C			C			
Approach Delay (s)		13.4			5.3			26.0			26.0			
Approach LOS		B			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			11.0									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.57											
Actuated Cycle Length (s)			71.9								12.0			
Intersection Capacity Utilization			79.3%										ICU Level of Service	D
Analysis Period (min)			15											
c Critical Lane Group														

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Future Background PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	30	65	55	65	35
Future Volume (Veh/h)	15	30	65	55	65	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	33	71	60	71	38
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	199					
pX, platoon unblocked						
vC, conflicting volume	299	97	116			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	299	97	116			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	97	96	95			
cM capacity (veh/h)	632	930	1477			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	49	131	109			
Volume Left	16	71	0			
Volume Right	33	0	38			
cSH	806	1477	1700			
Volume to Capacity	0.06	0.05	0.06			
Queue Length 95th (m)	1.6	1.2	0.0			
Control Delay (s)	9.8	4.3	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	4.3	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.6			
Intersection Capacity Utilization			23.2%	ICU Level of Service	A	
Analysis Period (min)			15			

# Queues

## 1: Mill St & Guelph St

Future Total AM
























Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	33	815	60	451	234	164
v/c Ratio	0.06	0.71	0.26	0.21	0.45	0.58
Control Delay	5.9	12.8	10.9	5.5	9.8	31.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	5.9	12.8	10.9	5.5	9.8	31.0
Queue Length 50th (m)	1.3	54.9	3.0	9.5	4.4	15.1
Queue Length 95th (m)	5.6	133.1	12.3	22.1	25.3	43.2
Internal Link Dist (m)		244.8		229.4	42.0	68.3
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	718	1586	331	2873	747	460
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.51	0.18	0.16	0.31	0.36
<b>Intersection Summary</b>						

# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Future Total AM

													
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations					 			 			 		
Traffic Volume (vph)	30	745	5	55	370	45	15	30	170	75	45	30	
Future Volume (vph)	30	745	5	55	370	45	15	30	170	75	45	30	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	
Total Lost time (s)	4.0	4.0		6.5	4.0			4.0			4.0		
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00		
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			1.00		
Flpb, ped/bikes	0.99	1.00		0.99	1.00			1.00			1.00		
Fr <sub>t</sub>	1.00	1.00		1.00	0.98			0.89			0.97		
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00			1.00			0.98		
Satd. Flow (prot)	1603	1825		1717	3302			1637			1733		
Fl <sub>t</sub> Permitted	0.49	1.00		0.22	1.00			0.97			0.64		
Satd. Flow (perm)	829	1825		389	3302			1597			1134		
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	33	810	5	60	402	49	16	33	185	82	49	33	
RTOR Reduction (vph)	0	0	0	0	10	0	0	141	0	0	11	0	
Lane Group Flow (vph)	33	815	0	60	441	0	0	93	0	0	153	0	
Confl. Peds. (#/hr)	8		18	18		8			3	3			
Heavy Vehicles (%)	8%	4%	0%	1%	8%	0%	0%	4%	1%	6%	3%	0%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		2			6			8			4		
Permitted Phases	2			6			8			4			
Actuated Green, G (s)	38.4	38.4		38.4	38.4			13.6			13.6		
Effective Green, g (s)	41.4	41.4		38.9	41.4			15.6			15.6		
Actuated g/C Ratio	0.64	0.64		0.60	0.64			0.24			0.24		
Clearance Time (s)	7.0	7.0		7.0	7.0			6.0			6.0		
Vehicle Extension (s)	4.5	4.5		4.5	4.5			2.0			2.0		
Lane Grp Cap (vph)	528	1162		232	2103			383			272		
v/s Ratio Prot		c0.45			0.13								
v/s Ratio Perm	0.04			0.15				0.06			c0.14		
v/c Ratio	0.06	0.70		0.26	0.21			0.24			0.56		
Uniform Delay, d <sub>1</sub>	4.5	7.7		6.2	4.9			19.9			21.7		
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00		
Incremental Delay, d <sub>2</sub>	0.1	2.2		1.0	0.1			0.1			1.6		
Delay (s)	4.5	10.0		7.2	5.0			20.1			23.3		
Level of Service	A	A		A	A			C			C		
Approach Delay (s)		9.7			5.3			20.1			23.3		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			11.1									HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio			0.66										
Actuated Cycle Length (s)			65.0									Sum of lost time (s)	8.0
Intersection Capacity Utilization			77.8%									ICU Level of Service	D
Analysis Period (min)			15										
c Critical Lane Group													

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Future Total AM












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	50	25	70	65	10
Future Volume (Veh/h)	15	50	25	70	65	10
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	54	27	76	71	11
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	205					
pX, platoon unblocked						
vC, conflicting volume	214	84	89			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	214	84	89			
tC, single (s)	6.4	6.2	4.2			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.3			
p0 queue free %	98	94	98			
cM capacity (veh/h)	760	976	1426			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	70	103	82			
Volume Left	16	27	0			
Volume Right	54	0	11			
cSH	916	1426	1700			
Volume to Capacity	0.08	0.02	0.05			
Queue Length 95th (m)	2.0	0.5	0.0			
Control Delay (s)	9.3	2.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.3	2.1	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			22.3%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mill St & Site Access

Future Total AM

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	5	80	70	0
Future Volume (Veh/h)	0	5	5	80	70	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	5	87	76	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	248					
pX, platoon unblocked						
vC, conflicting volume	173	76	76			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	173	76	76			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	100			
cM capacity (veh/h)	814	985	1523			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	5	92	76			
Volume Left	0	5	0			
Volume Right	5	0	0			
cSH	985	1523	1700			
Volume to Capacity	0.01	0.00	0.04			
Queue Length 95th (m)	0.1	0.1	0.0			
Control Delay (s)	8.7	0.4	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.7	0.4	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay	0.5					
Intersection Capacity Utilization	18.3%			ICU Level of Service	A	
Analysis Period (min)	15					

# Queues

## 1: Mill St & Guelph St

Future Total PM



Lane Group	EBL	EBT	WBL	WBT	NBT	SBT
Lane Group Flow (vph)	27	603	125	1038	212	130
v/c Ratio	0.10	0.63	0.28	0.43	0.54	0.50
Control Delay	11.9	16.8	6.2	6.1	20.9	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	11.9	16.8	6.2	6.1	20.9	30.4
Queue Length 50th (m)	1.7	52.5	4.5	25.2	13.7	13.0
Queue Length 95th (m)	7.6	119.3	14.6	58.8	40.5	35.9
Internal Link Dist (m)		244.8		229.4	42.0	68.3
Turn Bay Length (m)	40.0		50.0			
Base Capacity (vph)	353	1300	639	3269	986	735
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.46	0.20	0.32	0.22	0.18

### Intersection Summary



# HCM Signalized Intersection Capacity Analysis

## 1: Mill St & Guelph St

Future Total PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations														
Traffic Volume (vph)	25	545	10	115	855	100	20	45	130	50	40	30		
Future Volume (vph)	25	545	10	115	855	100	20	45	130	50	40	30		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Lane Width	3.3	3.6	3.6	3.3	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6		
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0			
Lane Util. Factor	1.00	1.00		1.00	0.95			1.00			1.00			
Frpb, ped/bikes	1.00	1.00		1.00	1.00			0.98			0.99			
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00			
Fr <sub>t</sub>	1.00	1.00		1.00	0.98			0.91			0.97			
Fl <sub>t</sub> Protected	0.95	1.00		0.95	1.00			0.99			0.98			
Satd. Flow (prot)	1742	1857		1744	3480			1678			1785			
Fl <sub>t</sub> Permitted	0.28	1.00		0.24	1.00			0.96			0.68			
Satd. Flow (perm)	506	1857		445	3480			1624			1247			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92		
Adj. Flow (vph)	27	592	11	125	929	109	22	49	141	54	43	33		
RTOR Reduction (vph)	0	0	0	0	6	0	0	72	0	0	13	0		
Lane Group Flow (vph)	27	603	0	125	1032	0	0	140	0	0	117	0		
Confl. Peds. (#/hr)	4		5	5		4	11		4	4		11		
Heavy Vehicles (%)	0%	2%	0%	0%	2%	0%	0%	0%	1%	0%	0%	0%		
Turn Type	Perm	NA		pm+pt	NA		Perm	NA		Perm	NA			
Protected Phases		2		1	6			8			4			
Permitted Phases	2			6			8			4				
Actuated Green, G (s)	34.3	34.3		46.3	46.3			12.3			12.3			
Effective Green, g (s)	37.3	37.3		46.8	49.3			14.3			14.3			
Actuated g/C Ratio	0.52	0.52		0.65	0.69			0.20			0.20			
Clearance Time (s)	7.0	7.0		4.5	7.0			6.0			6.0			
Vehicle Extension (s)	4.5	4.5		3.0	4.5			2.0			2.0			
Lane Grp Cap (vph)	263	967		436	2396			324			249			
v/s Ratio Prot		c0.32		0.03	c0.30									
v/s Ratio Perm	0.05			0.16				0.09			c0.09			
v/c Ratio	0.10	0.62		0.29	0.43			0.43			0.47			
Uniform Delay, d <sub>1</sub>	8.7	12.2		7.1	4.9			25.1			25.3			
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00			
Incremental Delay, d <sub>2</sub>	0.3	1.6		0.4	0.2			0.3			0.5			
Delay (s)	9.0	13.8		7.5	5.2			25.4			25.8			
Level of Service	A	B		A	A			C			C			
Approach Delay (s)		13.6			5.4			25.4			25.8			
Approach LOS		B			A			C			C			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			11.0									HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio			0.57											
Actuated Cycle Length (s)			71.6								12.0			
Intersection Capacity Utilization			80.7%										ICU Level of Service	D
Analysis Period (min)			15											
c Critical Lane Group														

# HCM Unsignalized Intersection Capacity Analysis

## 2: Mill St & Dayfoot Dr

Future Total PM












Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	15	30	65	65	70	35
Future Volume (Veh/h)	15	30	65	65	70	35
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	33	71	71	76	38
Pedestrians	7					
Lane Width (m)	3.6					
Walking Speed (m/s)	1.2					
Percent Blockage	1					
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (m)	205					
pX, platoon unblocked						
vC, conflicting volume	315	102	121			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	315	102	121			
tC, single (s)	6.5	6.3	4.1			
tC, 2 stage (s)						
tF (s)	3.6	3.4	2.2			
p0 queue free %	97	96	95			
cM capacity (veh/h)	619	924	1470			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	49	142	114			
Volume Left	16	71	0			
Volume Right	33	0	38			
cSH	796	1470	1700			
Volume to Capacity	0.06	0.05	0.07			
Queue Length 95th (m)	1.6	1.2	0.0			
Control Delay (s)	9.8	4.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	4.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			3.4			
Intersection Capacity Utilization			23.7%	ICU Level of Service	A	
Analysis Period (min)			15			

# HCM Unsignalized Intersection Capacity Analysis

## 3: Mill St & Site Access

Future Total PM

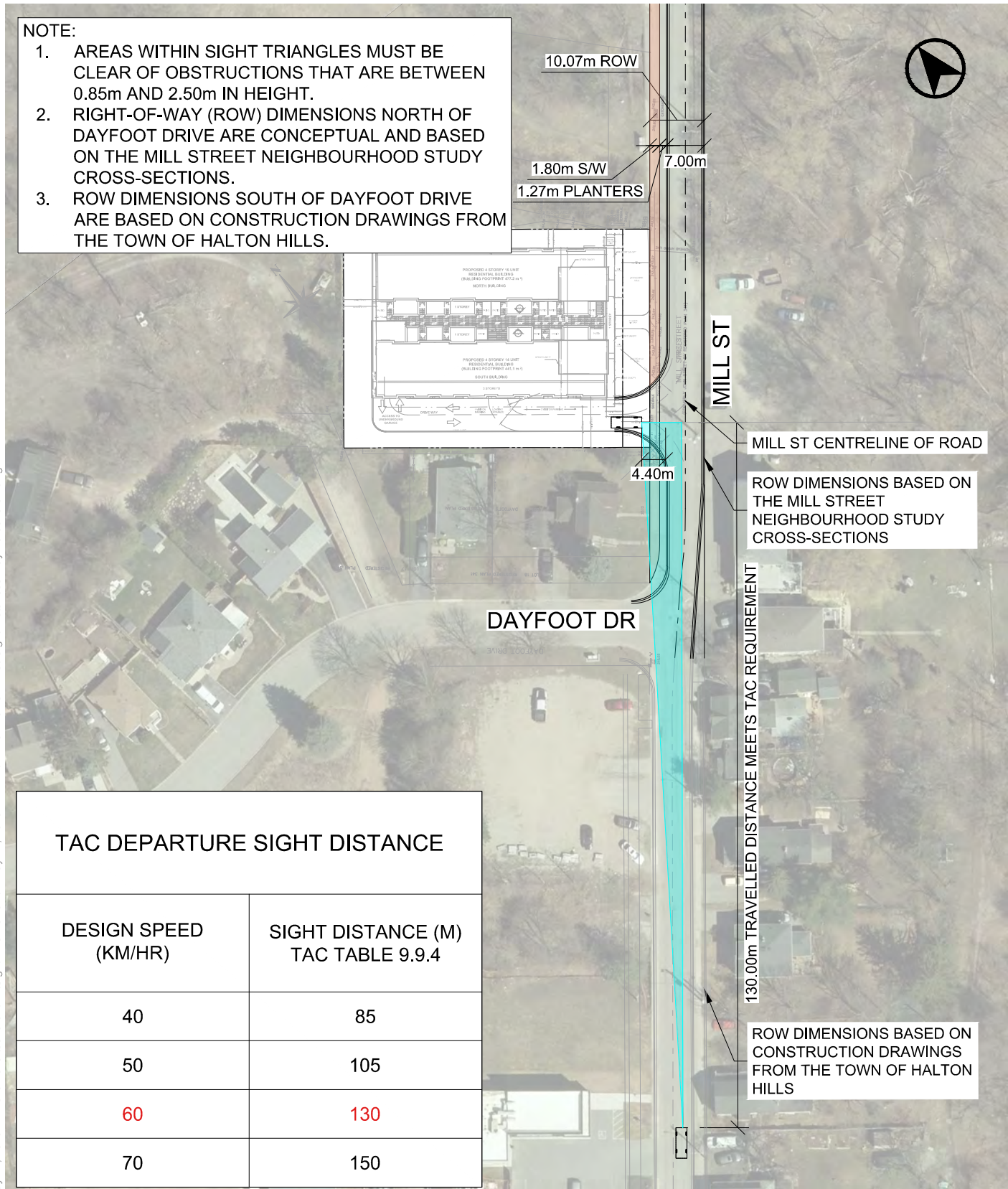
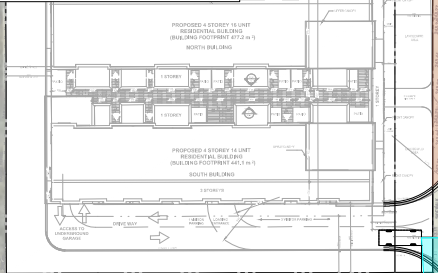
						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	5	10	70	100	0
Future Volume (Veh/h)	0	5	10	70	100	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	5	11	76	109	0
<b>Pedestrians</b>						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (m)	248					
pX, platoon unblocked						
vC, conflicting volume	207	109	109			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	207	109	109			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	99	99			
cM capacity (veh/h)	776	945	1481			
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>NB 1</b>	<b>SB 1</b>			
Volume Total	5	87	109			
Volume Left	0	11	0			
Volume Right	5	0	0			
cSH	945	1481	1700			
Volume to Capacity	0.01	0.01	0.06			
Queue Length 95th (m)	0.1	0.2	0.0			
Control Delay (s)	8.8	1.0	0.0			
Lane LOS	A	A				
Approach Delay (s)	8.8	1.0	0.0			
Approach LOS	A					
<b>Intersection Summary</b>						
Average Delay			0.6			
Intersection Capacity Utilization			20.9%	ICU Level of Service	A	
Analysis Period (min)			15			

## **APPENDIX H: Site Distance Review**



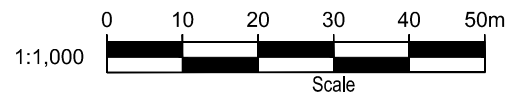
**NOTE:**

1. AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT.
2. RIGHT-OF-WAY (ROW) DIMENSIONS NORTH OF DAYFOOT DRIVE ARE CONCEPTUAL AND BASED ON THE MILL STREET NEIGHBOURHOOD STUDY CROSS-SECTIONS.
3. ROW DIMENSIONS SOUTH OF DAYFOOT DRIVE ARE BASED ON CONSTRUCTION DRAWINGS FROM THE TOWN OF HALTON HILLS.



**TAC DEPARTURE SIGHT DISTANCE**

DESIGN SPEED (KM/HR)	SIGHT DISTANCE (M) TAC TABLE 9.9.4
40	85
50	105
<b>60</b>	<b>130</b>
70	150



Date Plotted: May 11, 2023 File name: J:\8070-01\BA\Sight Line Review\4. May 12, 2023 - FINAL\BA-16 And 18 Mill St-Sight Distances-May-23-8070-01.dwg



**16-18 MILL ST  
SIGHT DISTANCE REVIEW  
SITE DRIVEWAY / MILL ST - LEFT TURN  
DESIGN SPEED OF 60 KM/HR**

Project:	16-18 Mill St
Project No.:	8070-01
Date:	May 12, 2023
Revised:	--
Drawing No.:	<b>SD-01</b>

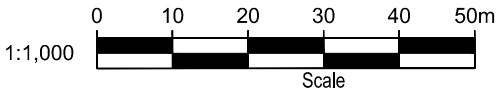
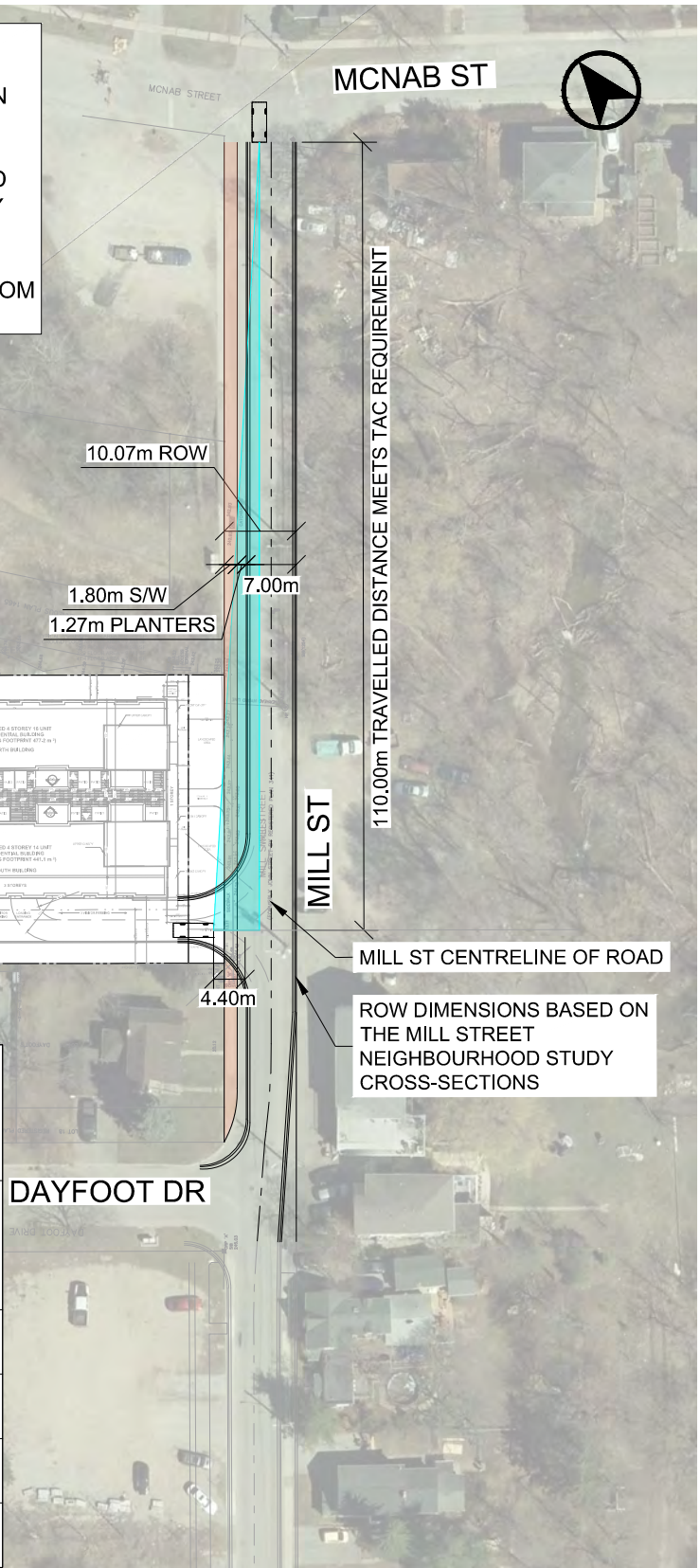


**NOTE:**

1. AREAS WITHIN SIGHT TRIANGLES MUST BE CLEAR OF OBSTRUCTIONS THAT ARE BETWEEN 0.85m AND 2.50m IN HEIGHT.
2. RIGHT-OF-WAY (ROW) DIMENSIONS NORTH OF DAYFOOT DRIVE ARE CONCEPTUAL AND BASED ON THE MILL STREET NEIGHBOURHOOD STUDY CROSS-SECTIONS.
3. ROW DIMENSIONS SOUTH OF DAYFOOT DRIVE ARE BASED ON CONSTRUCTION DRAWINGS FROM THE TOWN OF HALTON HILLS.

Date Plotted: May 11, 2023 File: J:\8070-01\BA\Sight Line Review\4. May 12, 2023 - FINAL\BA-16 And 18 Mill St-Sight Distances-May-23-8070-01.dwg

TAC DEPARTURE SIGHT DISTANCE	
DESIGN SPEED (KM/HR)	SIGHT DISTANCE (M) TAC TABLE 9.9.6
40	75
50	95
<b>60</b>	<b>110</b>
70	130



**16-18 MILL ST**  
**SIGHT DISTANCE REVIEW**  
**SITE DRIVEWAY / MILL ST - RIGHT TURN**  
**DESIGN SPEED OF 60 KM/HR**

Project:	16-18 Mill St
Project No.:	8070-01
Date:	May 12, 2023
Revised:	--
Drawing No.:	<b>SD-02</b>