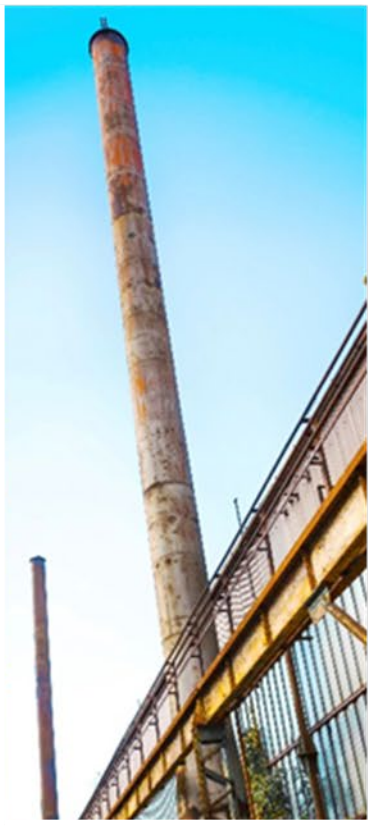
Preserve Block 299
Traffic Impact Study

Proposed Residential Development
Town of Oakville



Executive Summary

GHD Limited (GHD) is pleased to provide this updated Traffic Impact Study for the proposed Preserve Block 299 residential development located at northeast corner of North Park Boulevard and Carding Mill Trail in the Town of Oakville. This report addresses comments received from the Town on the second submission report dated May 28, 2021, a copy of which are included in Appendix A. This report continues to determine the site related traffic and the subsequent traffic-related impacts on the adjacent road network during the weekday AM and PM peak hours. These impacts are based on projected future background traffic and road network conditions derived for the 2022 and 2027 future planning horizon years.

Proposed Site Characteristics

The site plan prepared by Q4 Architects Incorporation consists of two five story buildings with the following characteristics:

- Building “A” with 112 residential units and 376 SM commercial GFA; and
- Building “B” with 39 residential units.

Access to the subject site is proposed via a driveway connection to Carding Mill Trail located directly opposite Ironside Drive. A second driveway connection is provided behind Building “B” to the adjacent townhouse public road. This access is limited to outbound movement only to facilitate waste collection vehicles only and does not provide ingress to the general public or residents.

New Site Traffic

The subject development is estimated to generate 58 new two-way trips during AM peak hour consisting of 16 inbound and 42 outbound trips. During PM peak hour, it is estimated to generate 118 new trips consisting of 57 inbound and 61 outbound trips.

In Addition, the commercial GFA is expected to generate 18 two-way pass-by trips consisting of 9 inbound and 9 outbound trips during PM peak hour.

Summary of Conclusion and Recommendation

Under existing traffic conditions, all study area intersections are operating satisfactorily with substantial reserve capacity and without any delays.

The assessment of future traffic condition confirms that the overall impact of the development traffic is negligible and can be accommodated without requiring any intersection or road improvements within the study area.

The swept path analysis confirms that the proposed site plan is sufficient to accommodate TAC MSU Vehicle, TAC Passenger Vehicle, Waste Collection Truck, and Oakville’s Para Transit Bus.

The proposed parking supply of 201 spaces consisting of 157 resident spaces, 31 residential visitor spaces and 13 commercial spaces meets the Town’s North Oakville Zoning By-Law.

The following TDM measures are recommended for the site:

- Sidewalks
- Bicycle Parking

We trust that this satisfies your requirements, but do not hesitate to contact the undersigned if you have any questions.

Sincerely,

GHD

August 17, 2021

William Maria, P. Eng.
Transportation Planning Lead

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1. Introduction

1.1 Objective and Retainer

GHD Limited (GHD) was retained to prepare a Traffic Impact Study for the proposed Preserve Block 299 residential development located at northeast corner of North Park Boulevard and Carding Mill Trail in the Town of Oakville.

The purpose of this study is to:

- Establish baseline traffic conditions for the study area and update the existing traffic conditions to derive the future background operating conditions at the study intersections for build-out in 2022 and a future 5 year planning horizon post build-out in 2027.
- Apply Institute of Transportation Engineer's (ITE) Trip Generation data to estimate traffic generation for the subject site and distribute the development traffic to the adjacent road network.
- Determine existing, future background, and future total traffic conditions during the critical peak hours through intersection capacity analysis.
- Complete a site access and circulation review for the site plan including AutoTurn assessment for passenger vehicles, delivery vehicles and garbage truck collection.
- Review site plan in context of operational, geometric and safety issues, and provide recommendations on how to address any deficiencies (if any revealed) by identifying the transportation system requirements and ensuring that sufficient intersection capacity is available to accommodate the additional site generated traffic on the adjacent road network.

1.2 Study Team

The GHD team involved in the preparation of this study are:

- William Maria, P. Eng., Transportation Planning Lead
- Dhaval Harpal, Dipl. In T., Transportation Analyst

Figure 1 Site Location

2. Site Characteristics

2.1 Study Area

The study area as confirmed by the Town includes the following intersections:

- North Park Boulevard and Carding Mill Trail;
- Carding Mill Trail and Harold Dent Trail; and
- Carding Mill Trail/Ironside Drive and the site access.

2.2 Site Plan Review

The proposed site plan developed by Q4 Architects is shown in the **Figure 2**. The development consists of two five story buildings with the following characteristics:

- Building “A” with 112 residential units and 376 SM commercial GFA; and
- Building “B” with 39 residential units.

Access to the site is proposed via a driveway connection to Carding Mill Trail located directly opposite Ironside Drive.

An additional driveway connection is provided behind Building B to the adjacent townhouse public road to facilitate waste collection for the site. This access is limited to egress movements only for waste collection vehicles and does not provide ingress to the general public or residents.

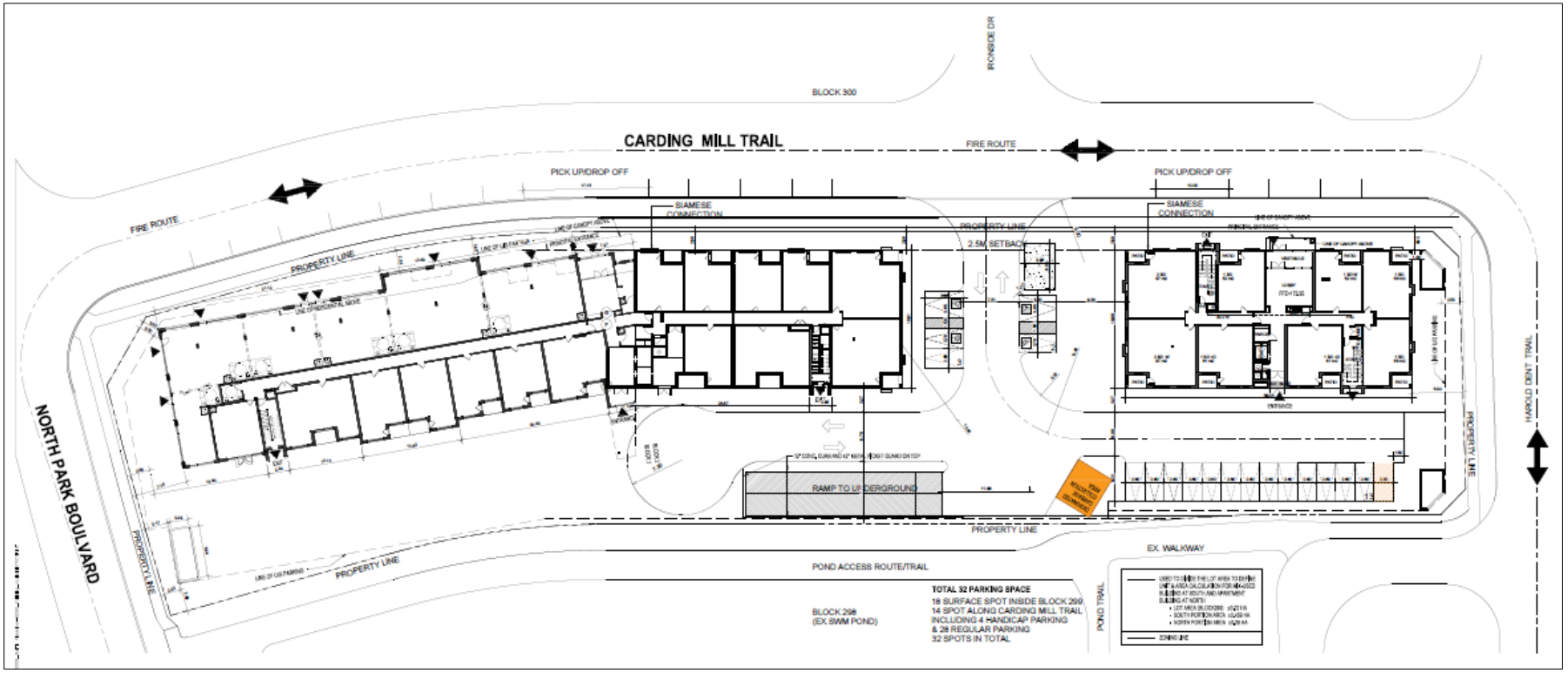

Figure 2 Proposed Site Plan

3. Existing Conditions

3.1 Existing Road network

The following describes the existing road infrastructure within the study area.

North Park Boulevard is an east-west major collector road under the jurisdiction of the Town of Oakville fronting the southern limit of the site. It currently has a two-lane urban cross-section with a speed limit of 50 km/h. North Park Boulevard current extends from Neyagawa Boulevard in the west and terminates just east of Sawmill Street to the east. It currently does not extend to Sixth Line.

Carding Mill Trail is a north-south collector road under the jurisdiction of Town of Oakville that currently extends from Sixteen Mile Drive in the south to north of the subject site. It has a speed limit of 50 km/h. The intersection of Carding Mill Trail with North Park Boulevard is under all way stop control with no existing marked auxiliary turn lanes.

Ironside Drive is an east/west local road under the jurisdiction of the Town of Oakville. It intersects with George Savage Avenue to the west and Carding Mill Trail to the east. It has a speed limit of 50 km/h.

Harold Dent Trail is an east/west local road under the jurisdiction of the Town of Oakville fronting the northern limit of the site. It intersects with George Savage Avenue to the west and Charles Fay Pass to the east. It currently has a two-lane urban cross-section with an assumed posted speed limit of 50 km/h. The intersection of Harold Dent Rail with Carding Mill Trail is under all way stop control with no existing marked auxiliary turn lanes.

3.2 Existing Transit Services

Within the study area, Oakville Transit currently does not provide any transit service within walking distance to transit stops.

3.3 Existing Traffic Data

GHD collected turning movements' counts in September 2020 during the weekday AM and PM peak hours at each of the study intersections.

The turning movement counts are included in **Appendix B**, while a figure summarizing existing 2020 traffic volumes is provided in **Figure 3**.

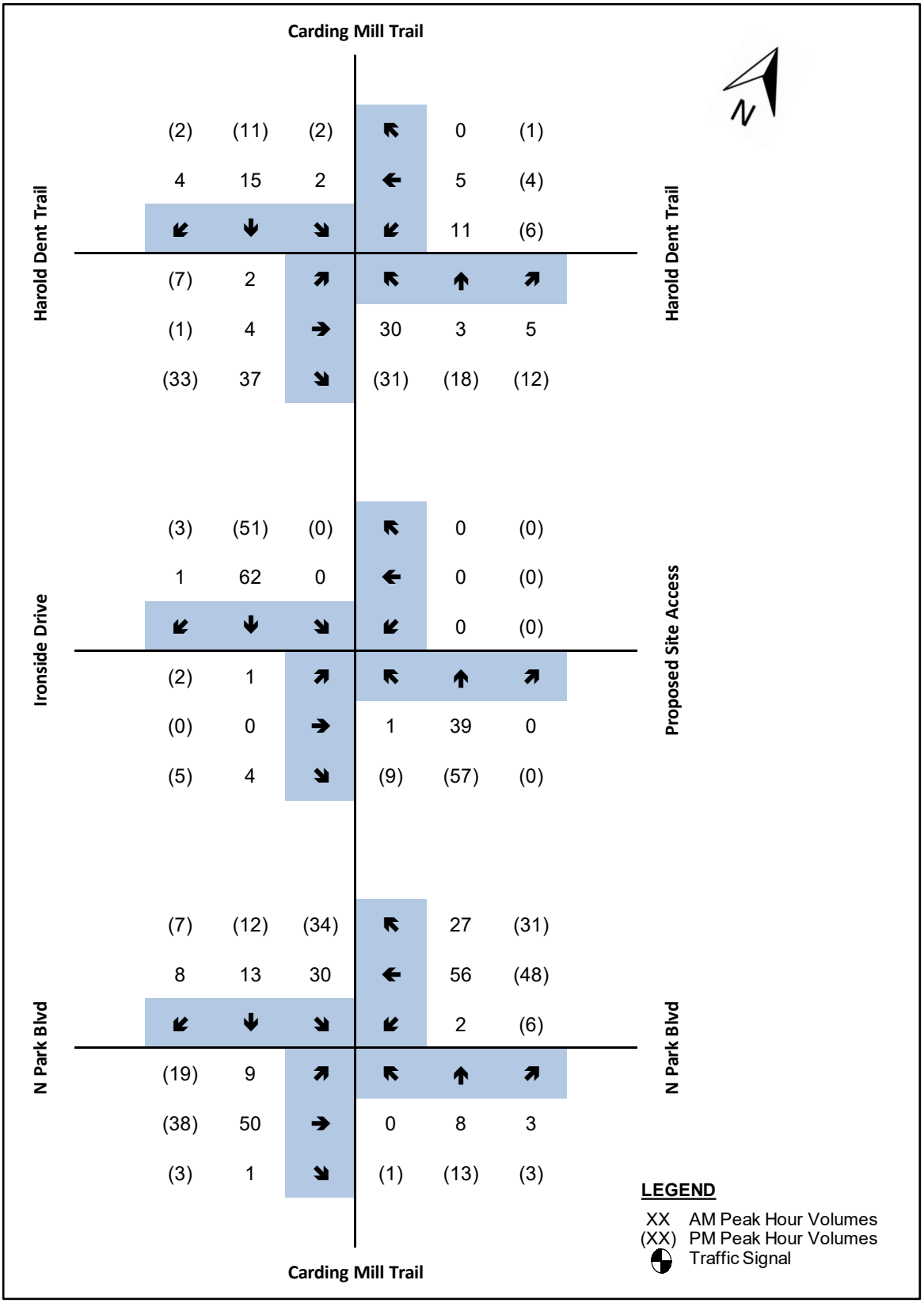

Figure 3 2020 Existing Traffic Volumes

4. Future Background Traffic Conditions

4.1 Study Horizon Year

For the purpose of traffic analysis the horizon years selected for the analysis include the expected year of full build-out in 2022 and five years post build-out in 2027.

4.2 Future Road Improvements

There are currently no road or intersection improvements planned within the planning horizon years that would impact the selected study intersections.

4.3 Future Background Developments

The areas surrounding the subject site is fairly built-out with no additional development planned within the planning horizon that would generate significant additional traffic onto the study area roads.

4.4 Future Background Growth

Town of Oakville staff have requested the use of a higher growth rate with the expectation of potential future developments in the future after Halton Region's recent development allocation. Therefore, a conservative compound annual growth rate of 5.0% was adopted and applied to all through and turning movements at each of the study area road network.

4.5 Future Total Background Traffic Volumes

Future background traffic volumes were derived by adding the forecasted corridor growth to the existing 2020 traffic volumes to the study intersections. The future total background traffic volumes at the 2022 and 2027 planning horizon during the weekday AM and PM peak hours are provided in **Figures 4 and 5**, respectively.

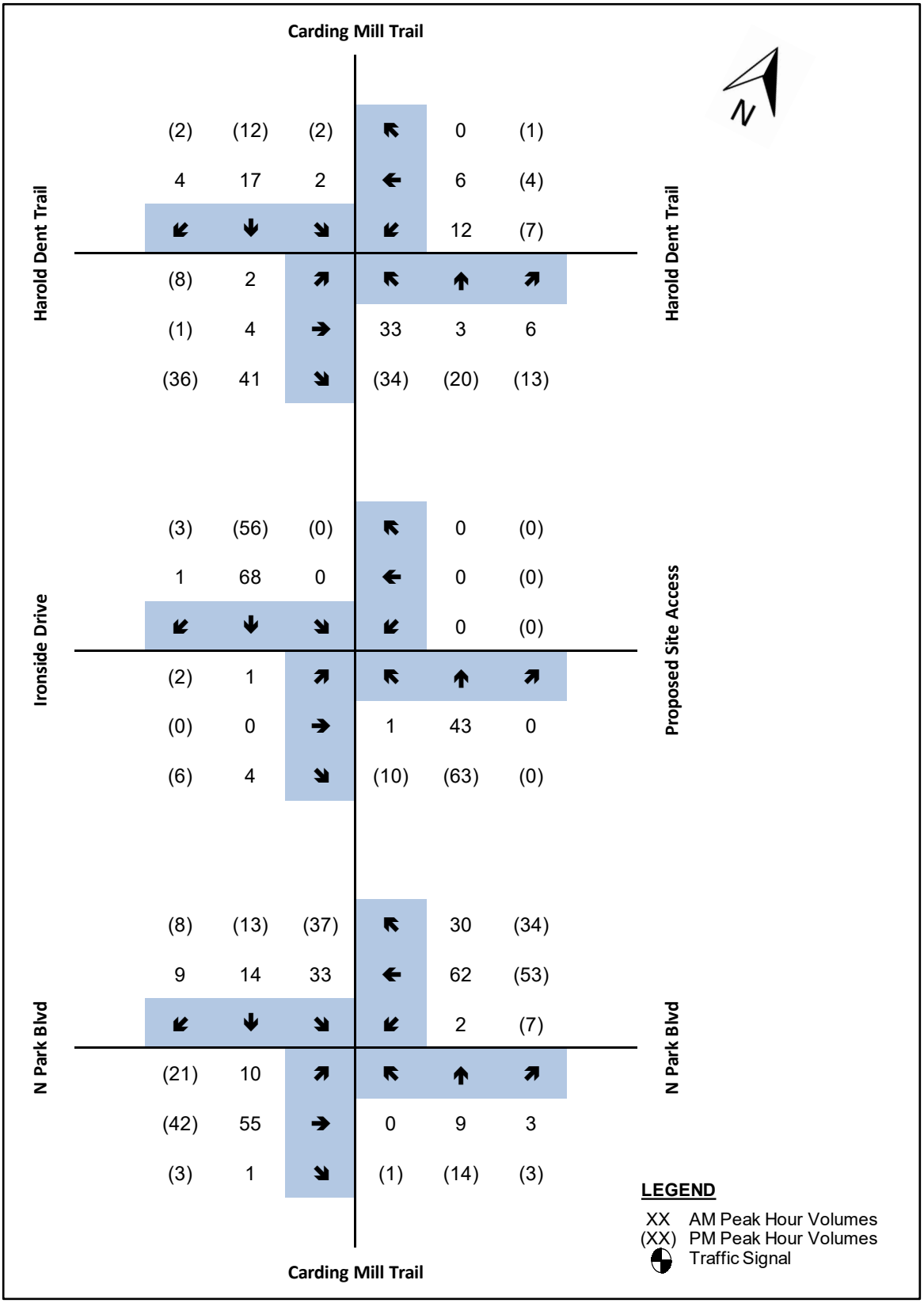

Figure 4 2022 Future Background Traffic Volumes

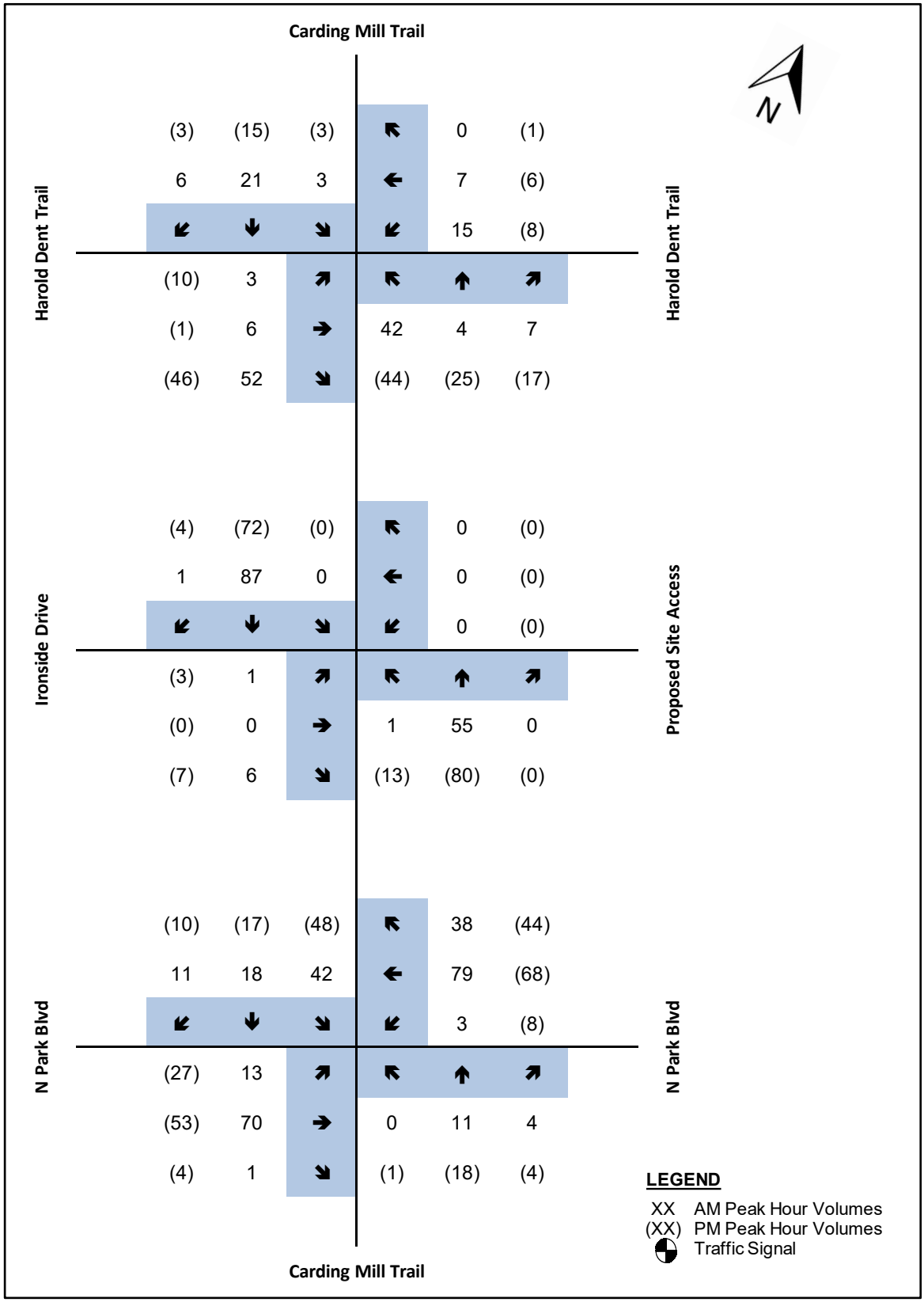

Figure 5 2027 Future Background Traffic Volumes

5. Site Generation Traffic

5.1 Site Trip Generation

Site traffic generated by the proposed development for the weekday AM and PM peak hours was estimated by applying rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th Edition. Trips generated for the residential units were estimated using Land Use Code (LUC) 221 - Multifamily Housing (Mid-Rise) and the commercial component using LUC 820 – Shopping Center.

As a conservative measure, trip generation for the proposed residential development did not include a reduction for an increase in transit modal split.

Retail developments typically generate new primary trips onto the adjacent road network and pass-by trips at the site access from trips that are already on the adjacent roads. A pass-by rate of 34% from the ITE Trip Generation manual was applied for the PM peak hour only. The trip generation results are provided in the **Table 1** below.

Table 1 Trip Generation Table

Land Use	Units/ G.F.A (1,000 ft2)	Parameter	Peak Hour Trip Generation Weekday AM Peak			Peak Hour Trip Generation Weekday PM Peak		
			In	Out	Total	In	Out	Total
Multifamily Housing (Mid-Rise) (221)	112	Gross Rate	0.089	0.268	0.357	0.214	0.224	0.438
		Gross Trips	10	30	40	24	25	49
		Transit Reduction	0	0	0	0	0	0
		New Trips	**10**	**30**	**40**	**24**	**25**	**49**
Multifamily Housing (Mid-Rise) (221)	39	Gross Rate	0.103	0.256	0.359	0.231	0.231	0.462
		Gross Trips	10	30	40	9	9	18
		Transit Reduction	0	0	0	0	0	0
		New Trips	**4**	**10**	**14**	**9**	**9**	**18**
Shopping Center (820)	4.040	Gross Rate	0.495	0.495	0.990	5.941	6.683	12.624
		Gross Trips	2	2	4	24	27	51
		Pass-By (PM=34%)	0	0	0	9	9	18
		Transit Reduction	0	0	0	0	0	0
		New Trips	**2**	**2**	**4**	**15**	**18**	**33**
Total New Trips			**16**	**42**	**58**	**48**	**52**	**100**
Total Pass-By Trips			**0**	**0**	**0**	**9**	**9**	**18**
Total Site Trips			**16**	**42**	**58**	**57**	**61**	**118**

The proposed development is estimated to generate 58 new two-way trips during the AM peak hour consisting of 16 inbound and 42 outbound trips. During PM peak hour, it is estimated to generate 118 new trips consisting of 57 inbound and 61 outbound trips.

During the PM peak hour the commercial GFA is expected to generate 18 two-way pass-by trips comprising of 9 inbound and 9 outbound trips at site driveway. However, for a conservative analysis these trips are thoroughly distributed in the entire study area road network.

5.2 Site Trip Distribution and Assignment

The distribution of site traffic between the subject site through the study area was derived using the 2016 Transportation Tomorrow Survey (TTS) summary data. The AM peak distribution was determined by summarizing all trips that originate between 6:00-9:00 AM from Oakville to employment destinations in all GTHA zones. While the PM peak distribution was determined by summarizing all trips that originate in other GTHA zones destined to Oakville between 4:00-6:00 PM. The TTS query and distribution calculations are provided in the **Appendix C**, while **Table 2** below summarises the distribution percentages.

Table 2 TTS Distribution Percentages

To/From	Distribution
North	5%
South	15%
West	60%
East	20%
Total	**100%**

The resulting distribution was then adopted to the local area network and the expected site trips were assigned to individual turning movements at the study area intersections based on route choice assignments with consideration for anticipated travel times.

Figure 6 and 7 respectively summarizes site trip distribution and assignment for the AM and PM peak hours.

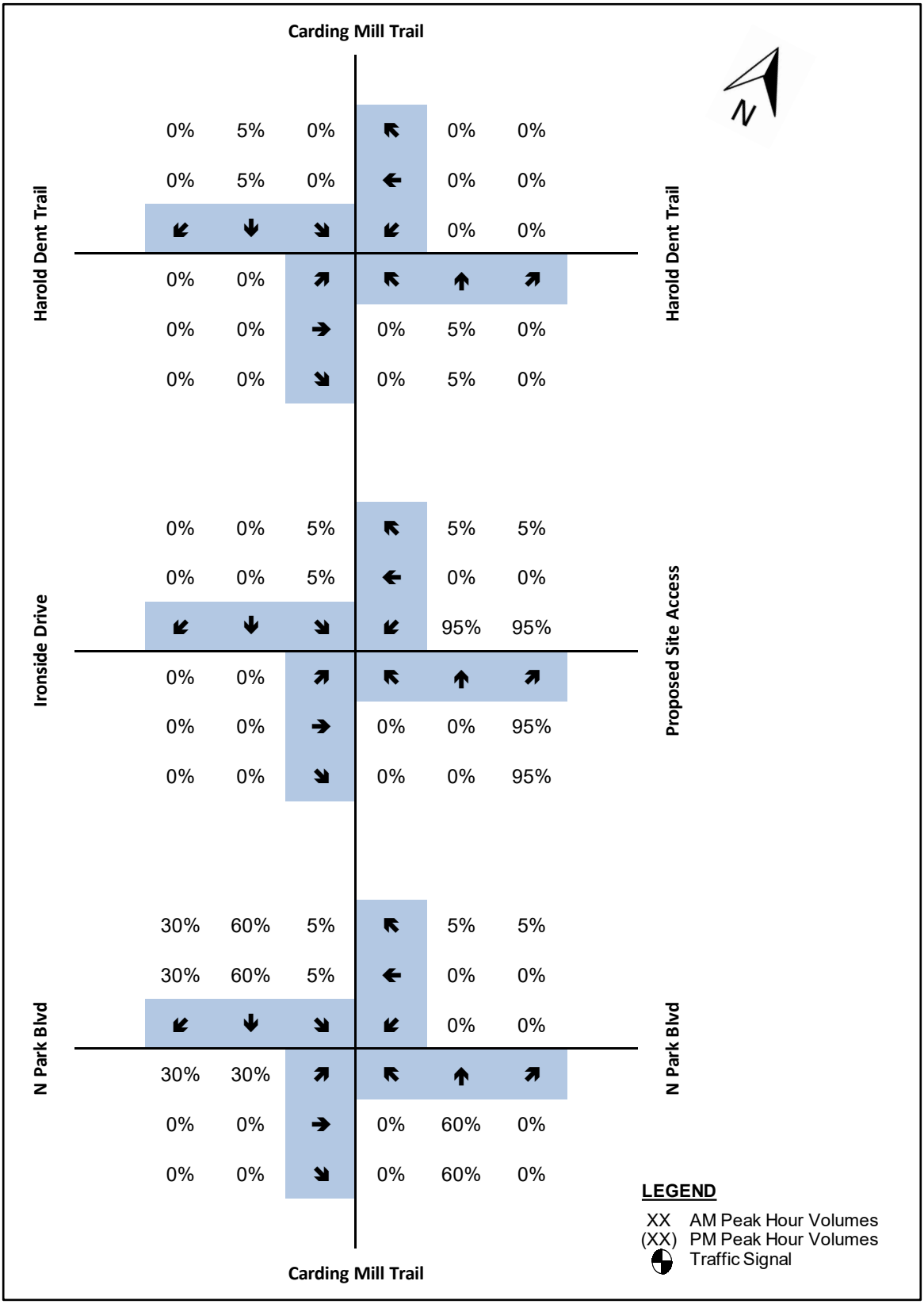

Figure 6 Trip Distribution Percentages

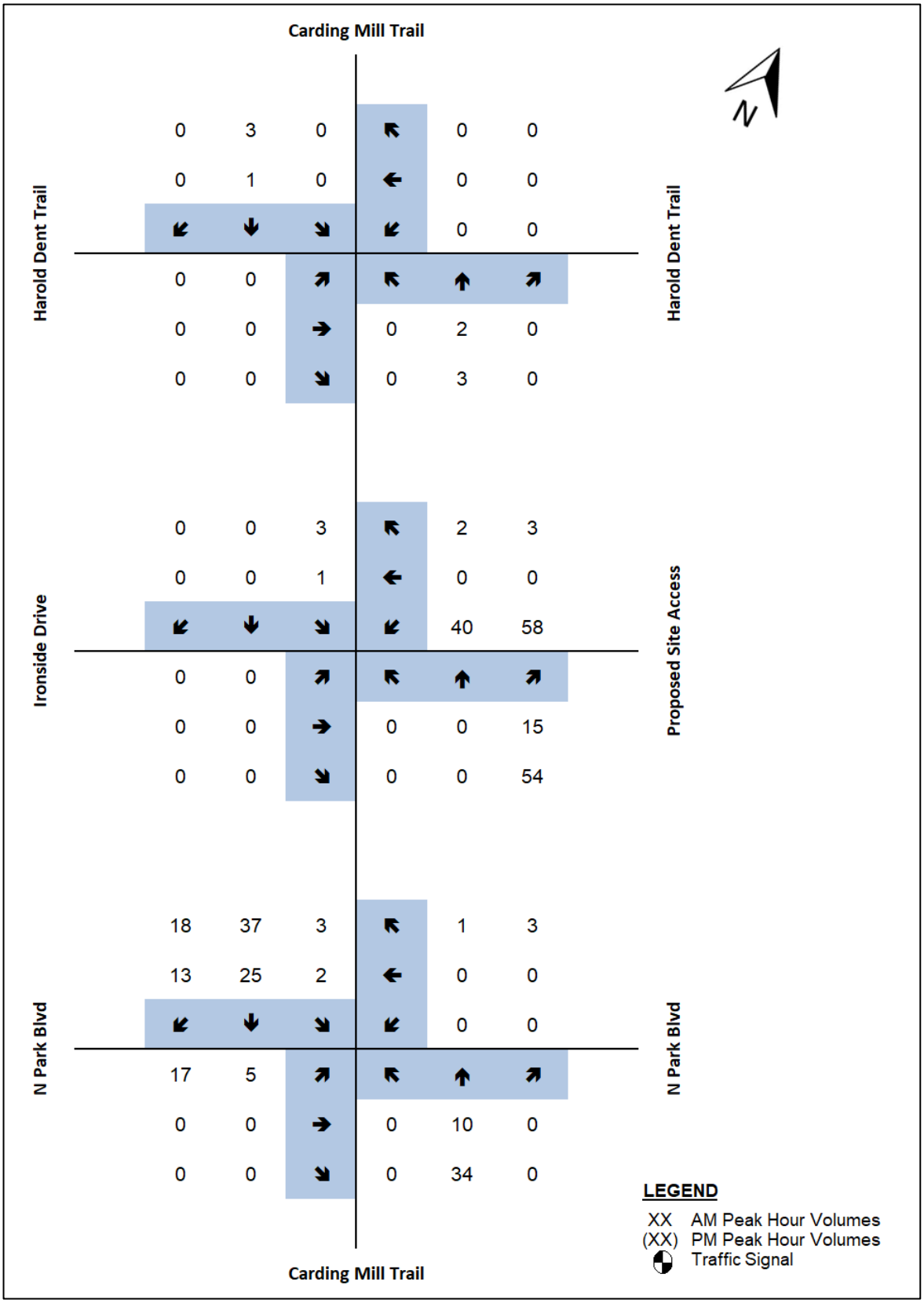

Figure 7 Site Traffic Assignment

6. Future Total Traffic

The future total traffic conditions in the weekday AM and PM peak study hours for the 2022 and 2027 planning horizons were derived by combining the future background traffic volumes with the estimated site generation traffic of the proposed development.

Figure 8 and **Figure 9** summarize the future total traffic volumes for the 2022 and 2027 planning horizons during the weekday AM and PM peak hours.

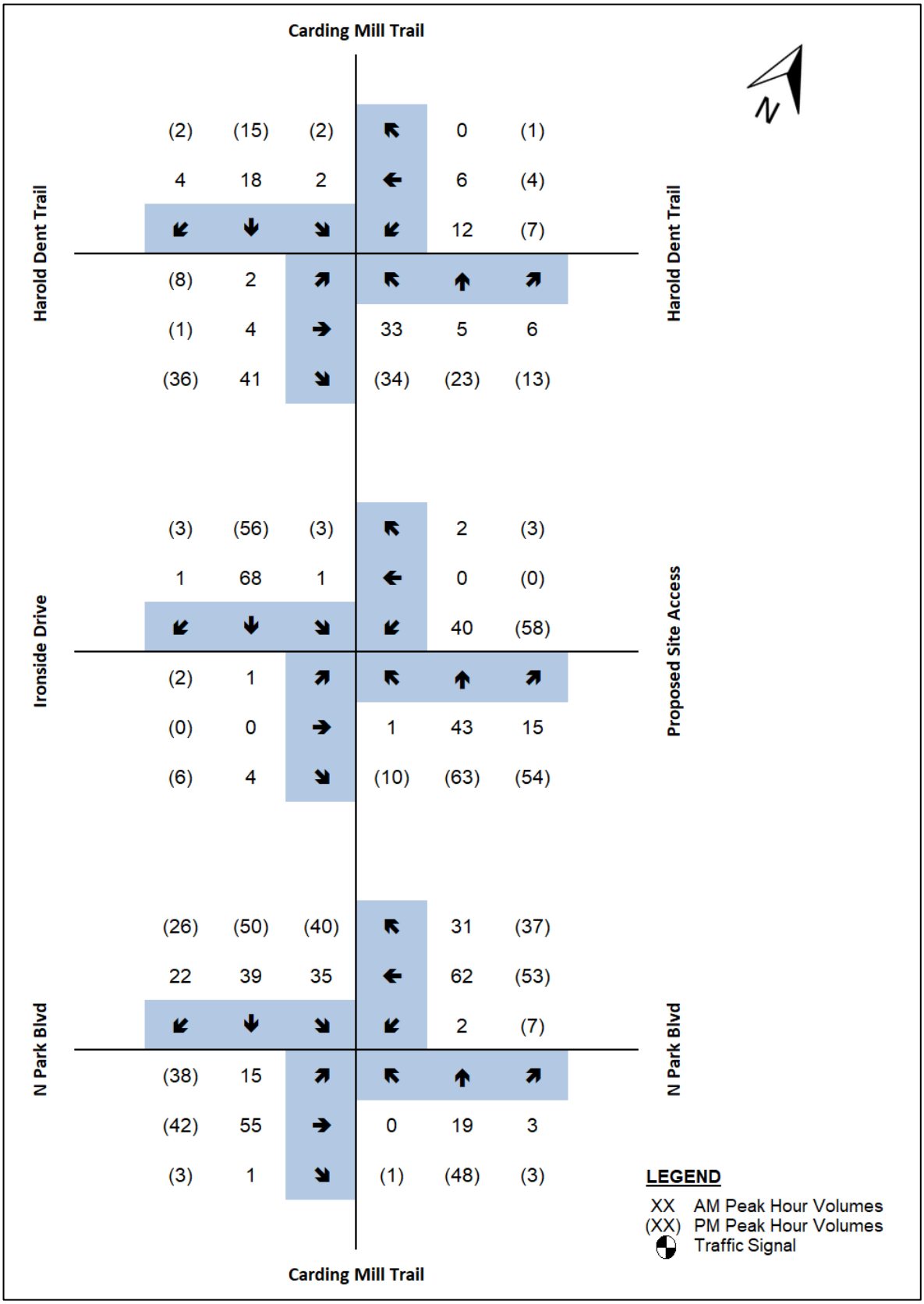

Figure 8 2022 Future Total Traffic Volumes

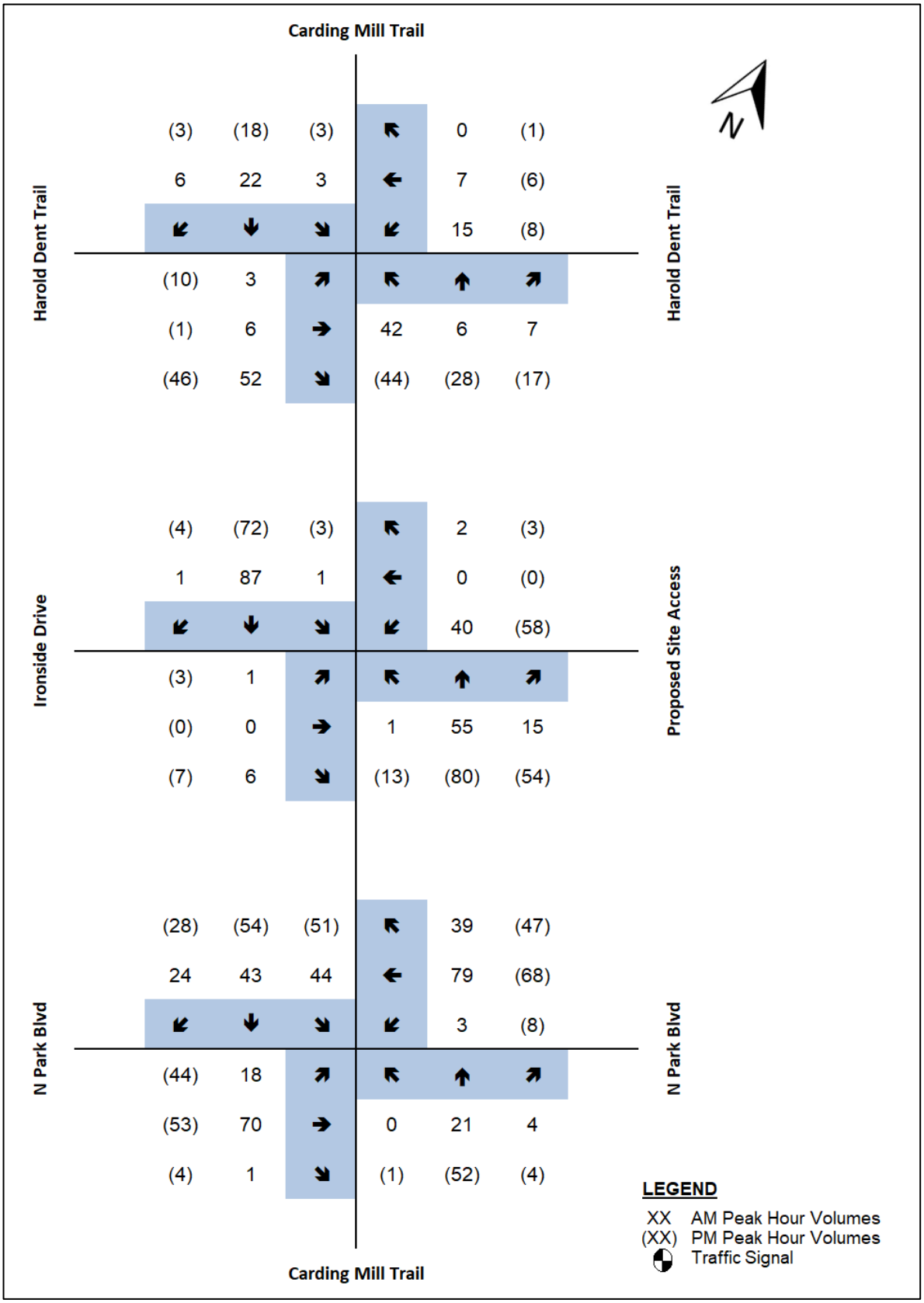

Figure 9 2027 Future Total Traffic Volumes

7. Capacity Analysis

7.1 Intersection Capacity Analysis

The capacity analysis identifies how well an intersection is operating. The analysis contained within this report utilized the Highway Capacity Manual (HCM) 2000 techniques within the Synchro Version 10 Software package. The reported intersection volume-to-capacity ratios (v/c) are a measure of the saturation volume for each turning movement, while the levels-of-service (LOS) are a measure of the average delay for each turning movement. Queuing characteristics are reported as the predicted 95th percentile queue for each turning movement. Detailed Synchro reports are included in **Appendix D**.

In accordance with the North Oakville's Transportation Impact Study guidelines, the analysis includes identification for all v/c ratios, Los indicators and 95th percentile queue lengths for all movements at all study intersections. Critical intersections and movements shall be highlighted (in **bold**).

- 'Critical' intersections and movements for a signalized intersection include:
    - V/C ratios for overall intersections operations increase to 0.85 or above;
    - V/C ratios for individual through or turning movements increase to 0.95 or higher; or
    - Queue length for individual movements that are projected to, or exceed, the storage length.
- 'Critical' intersections and movements for a signalized intersection include:
    - Level of Services (LOS), based on average delay per vehicle, on individual movements exceeds LOS "D",
    - Queue length for individual movements that are projected to, or exceed, the storage length.

The following tables summarize the capacity results for the site related key movements at the study intersections during the weekday AM and PM peak hours.

7.2 Carding Mill Trail at North Park Boulevard

The capacity analysis of this intersection is summarized in **Table 3** from the detailed Synchro/HCM capacity sheets provided in **Appendix D**.

Table 3 Capacity Analysis of Carding Mill Trail at North Park Blvd

Traffic Condition	AM Peak Hour	PM Peak Hour
	Movement v/c (LOS) Delays	Movement v/c (LOS) Delays
Existing 2020	EBTLR = 0.08 (A) <1 veh WBTLR = 0.1 (A) <1 veh NBTLR = 0.01 (A) <1 veh SBTLR = 0.07 (A) <1 veh	EBTLR = 0.08 (A) <1 veh WBTLR = 0.1 (A) <1 veh NBTLR = 0.02 (A) <1 veh SBTLR = 0.07 (A) <1 veh
2022 Future Background	EBTLR = 0.08 (A) <1 veh WBTLR = 0.11 (A) <1 veh NBTLR = 0.02 (A) <1 veh SBTLR = 0.07 (A) <1 veh	EBTLR = 0.09 (A) <1 veh WBTLR = 0.11 (A) <1 veh NBTLR = 0.02 (A) <1 veh SBTLR = 0.08 (A) <1 veh
2022 Future Total	EBTLR = 0.09 (A) <1 veh WBTLR = 0.12 (A) <1 veh NBTLR = 0.03 (A) <1 veh SBTLR = 0.12 (A) <1 veh	EBTLR = 0.12 (A) <1 veh WBTLR = 0.13 (A) <1 veh NBTLR = 0.08 (A) <1 veh SBTLR = 0.17 (A) <1 veh
2027 Future Total	EBTLR = 0.12 (A) <1 veh WBTLR = 0.15 (A) <1 veh NBTLR = 0.04 (A) <1 veh SBTLR = 0.15 (A) <1 veh	EBTLR = 0.15 (A) <1 veh WBTLR = 0.16 (A) <1 veh NBTLR = 0.09 (A) <1 veh SBTLR = 0.2 (A) <1 veh

Under existing traffic conditions, the all-way stopped control intersection is operating satisfactorily with substantial reserve capacity, low level of delays, and without any queuing issues.

With additional corridor growth and site traffic added in 2022 and 2027, this intersection is expected to continue to operate satisfactorily with substantial reserve capacity, low level of delays, and no queuing issues.

7.3 Carding Mill Trail at Harold Dent Trail

The capacity analysis of this intersection is summarized in **Table 4** from the detailed Synchro/HCM capacity sheets provided in **Appendix D**.

Table 4 Capacity Analysis of Carding Mill Trail at Harold Dent Trail

Traffic Condition	AM Peak Hour	PM Peak Hour
	Movement v/c (LOS) Delays	Movement v/c (LOS) Delays
Existing 2020	EBTLR = 0.05 (A) <1 veh WBTLR = 0.2 (A) <1 veh NBTLR = 0.05 (A) <1 veh SBTLR = 0.02 (A) <1 veh	EBTLR = 0.05 (A) <1 veh WBTLR = 0.01 (A) <1 veh NBTLR = 0.08 (A) <1 veh SBTLR = 0.02 (A) <1 veh
2022 Future Background	EBTLR = 0.05 (A) <1 veh WBTLR = 0.02 (A) <1 veh NBTLR = 0.05 (A) <1 veh SBTLR = 0.03 (A) <1 veh	EBTLR = 0.05 (A) <1 veh WBTLR = 0.02 (A) <1 veh NBTLR = 0.08 (A) <1 veh SBTLR = 0.02 (A) <1 veh
2022 Future Total	EBTLR = 0.05 (A) <1 veh WBTLR = 0.02 (A) <1 veh NBTLR = 0.06 (A) <1 veh SBTLR = 0.03 (A) <1 veh	EBTLR = 0.05 (A) <1 veh WBTLR = 0.02 (A) <1 veh NBTLR = 0.09 (A) <1 veh SBTLR = 0.02 (A) <1 veh
2027 Future Total	EBTLR = 0.07 (A) <1 veh WBTLR = 0.03 (A) <1 veh NBTLR = 0.07 (A) <1 veh SBTLR = 0.04 (A) <1 veh	EBTLR = 0.06 (A) <1 veh WBTLR = 0.02 (A) <1 veh NBTLR = 0.11 (A) <1 veh SBTLR = 0.03 (A) <1 veh

Under existing traffic conditions, the all-way stopped control intersection is operating satisfactorily with substantial reserve capacity, low level of delays, and without any queuing concerns.

With additional corridor growth and site traffic added in 2022 and 2027, this intersection is expected to continue to operate satisfactorily with substantial reserve capacity, low level of delays, and no queuing issues.

7.4 Carding Mill Trail at Ironside Drive/ Proposed Site Access

The capacity analysis of this intersection is summarized in **Table 5** from the detailed Synchro/HCM capacity sheets provided in **Appendix D**.

Table 5 Capacity Analysis of Carding Mill Trail at Ironside Drive/Site Access

Traffic Condition	AM Peak Hour	PM Peak Hour
	Movement v/c (LOS) Delays	Movement v/c (LOS) Delays
Existing 2020 (three-leg intersection)	EBLR = 0.01 (A) <1 veh NBTL = 0.0 (A) <1 veh SBTR = 0.04 (A) <1 veh	EBLR = 0.01 (A) <1 veh NBTL = 0.01 (A) <1 veh SBTR = 0.03 (A) <1 veh
2022 Future Background (three-leg intersection)	EBTLR = 0.01 (A) <1 veh WBTL = 0.00 (A) <1 veh SBTR = 0.04 (A) <1 veh	EBTLR = 0.01 (A) <1 veh WBTL = 0.01 (A) <1 veh SBTR = 0.04 (A) <1 veh
2022 Future Total (four-leg intersection)	EBTLR = 0.01 (A) <1 veh WBTLR = 0.05 (A) <1 veh NBTLR = 0.00 (A) <1 veh SBTLR = 0.00 (A) <1 veh	EBTLR = 0.01 (A) <1 veh WBTLR = 0.11 (A) <1 veh NBTLR = 0.01 (A) <1 veh SBTLR = 0.00 (A) <1 veh
2027 Future Total (four-leg intersection)	EBTLR = 0.01 (A) <1 veh WBTLR = 0.06 (A) <1 veh NBTLR = 0.00 (A) <1 veh SBTLR = 0.00 (A) <1 veh	EBTLR = 0.01 (A) <1 veh WBTLR = 0.11 (A) <1 veh NBTLR = 0.01 (A) <1 veh SBTLR = 0.00 (A) <1 veh

Under existing and future background traffic condition, the three-leg intersection of Ironside Drive at Carding Mill Trail is operating satisfactorily with substantial reserve capacity, low level of delays, and no queuing concerns.

The proposed site access is located directly opposite Ironside Drive and forms the fourth leg of this four-leg intersection. Under the future total traffic condition, the intersection was analyzed as a four-leg intersection with Ironside Drive and the site access stopped controlled.

The capacity analysis of the future total traffic confirms that the intersection is expected to operate satisfactorily with substantial reserve capacity, low level of delays, and no queuing concerns.

8. Parking Assessment

The proposed parking supply for the subject site was reviewed in comparison to the Town's Zoning By-Law requirement.

8.1 Existing Zoning By-Law

As per the Town's North Oakville Zoning By-Law 2009-189, the parking requirement for an apartment building with more than 4 storey is a maximum of up to 1.25 parking spaces per dwelling unit for residents and a minimum of 0.20 spaces per dwelling unit for visitors.

The By-Law further requires parking for retail at a rate pf 1 parking space per 30 sq.m. of GFA.

- Building "A"
    - 112 units at a min of 0 spaces per unit for residents – requires 0 parking spaces
    - 112 units at 0.20 spaces per unit for visitors – requires 23 parking spaces
    - 376 sq.m. of Commercial GFA at 1 space per 30 sq.m. – requires 13 parking spaces
- Building "B"
    - 39 units at a min of 0 spaces per unit for residents – requires 0 parking spaces
    - 39 units at 0.20 spaces per unit for visitors – requires 8 parking spaces

The minimum bicycle parking requirement is as follows:

- 151 residential units at rate of 0.75 per dwelling unit for residents – requires 114 spaces
- 151 residential units at rate of 0.25 per dwelling unit for visitors – requires 38 spaces
- minimum of five or 7% of total commercial automobile parking spaces, whichever is higher value – requires 5 commercial bicycle parking spaces

The proposed development requires a total of 44 vehicle parking spaces and 157 bicycle parking spaces to meet the current By-Law.

8.2 Proposed Parking Spaces

The development proposes a total of 201 vehicular parking spaces consisting of 169 underground parking spaces, 18 surface parking spaces and 14 on-street layby parking spaces along Carding Mill Trail.

In addition, a total of 157 bicycle parking spaces consisting of 43 surface and 114 underground spaces are proposed.

Based on a review of the site statistics, the proposed development exceeds the minimum parking requirement for vehicle parking and meets the By-Law requirement for bicycle parking based on the current the Town's North Oakville Zoning By-Law 2009-189.

9. Transportation Demand Management

9.1 Objectives

Development of site specific Transportation Demand Management (TDM) measures for the proposed site has been done in the context that the primary objective is to reduce single occupancy vehicle use, the plan will review opportunities to set realistic targets for increased use of transit, cycling, and walking trips.

9.2 Travel Demand Management

The TDM refers to a variety of strategies to reduce congestion, minimize the number of single-occupant vehicles, encourage non-auto modes of travel, and reduce vehicle dependency to create a sustainable transportation system. TDM strategies have multiple benefits including the following:

- Reduced auto-related emissions to improve air quality;
- Decreased traffic congestion to reduce travel time;
- Increased travel options for businesses and commuters;
- Reduced personal transportation costs and energy consumptions; and
- Support Provincial smart growth objectives.
- Support the development of healthy communities.

The combined benefits listed above will assist in creating a more active and livable community through improvements to overall active transportation standards for the local businesses and surrounding community.

9.3 TDM Measures

Sidewalks

The development is proposing new sidewalks along frontage on Carding Mill Trail and Harold Dent Trail. Pedestrian connections are also proposed from the entrance of both building to main roads.

These connections provide excellent connection to the existing sidewalks along Carding Mill Trail and Harold Dent Trail.

Bicycle Parking

The provision of safe and secure bicycle parking spaces, and cycling friendly infrastructure encourages both visitors and employees to choose cycling over automobile trips.

The site is proposing long-term bicycle parking at a rate of 0.75 space per unit for residents located in the underground parking garage and 0.25 short-term visitor spaces per unit for visitors located at-grade.

Additionally, 5 short-term bicycle parking spaces are provided for the commercial use at-grade.

10. Vehicle Swept Path Analysis

GHD undertook a vehicle swept path analysis to assess the site's ability to accommodate the required turning movements of a TAC Passenger Vehicle, Waste Collection Truck, and Oakville's Para Transit Bus. The results of the analysis, which are provided in **Appendix E** illustrate that the site can sufficiently accommodate the aforementioned design vehicles.

11. Pavement and Signage Marking Plan

A pavement marking and signage plan, PMP-101 and PMP-102 drawings, have been prepared for the subject development and is provided in the **Appendix F**. The plan shows the recommended pavement marking and signage within the site and along the frontage of the development for the on-street layby parking spaces.

The proposed signs are as per the Ontario Traffic Manuals Book-5, Regulatory Signs. Whereas the pavement markings are based on the OTM Book-11 - Pavement, Hazard and Delineation Markings.

12. Conclusion

The subject development is estimated to generate 58 new two-way trips during AM peak hour comprising of 16 inbound and 42 outbound trips. During PM peak hour, it is estimated to generate 118 new trips comprising of 57 inbound and 61 outbound. The commercial GFA is expected to generate 18 two-way pass-by trips comprising of 9 inbound and 9 outbound trips during PM peak hour.

Under existing traffic conditions, all study intersections are operating satisfactorily with substantial reserve capacity and no significant delays to vehicles or pedestrians.

The assessment of future traffic condition confirms that the overall impact of development traffic is negligible, and that the development can be accommodated without requiring any intersection or road improvements within study area.

The proposed parking supply for the site meets the current Zoning By-Law with respect to vehicle and bicycle parking.

Lastly, the swept path analysis undertaken for the site plan confirmed that the proposed site plan is sufficient to accommodate TAC Passenger Vehicle, Waste Collection Truck, and Oakville's Para Transit Bus.

about GHD

GHD is one of the world's leading professional services companies operating in the global markets of water, energy and resources, environment, property and buildings, and transportation. We provide engineering, environmental, and construction services to private and public sector clients.

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Appendices

Appendix A
Terms of References

Draft Site Plan Comments Report

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To:	**Bailey Russell,** Mattamy	**bailey.russell@mattamycorp.com**
cc:	**Catherine McEwan**, Korsiak Urban Planning	**catherine@korsiak.com**
From:	**Kelly Livingstone**, Planner, Planning Services	
Contact Info:	T: 905-845-6601 ext. 3045 F: 905-338-4414 E: kelly.livingstone@oakville.ca	
Re:	**Site Plan Circulation Comments (3rd submission)**	
Application:	Pendent Developments (Carding Mill Trail)	
Description:	Five storey mixed use building and five storey apartment building	
Address:	3279 Carding Mill Trail	
Site Plan File #:	**SP.1318.005/01**	

The above-noted site plan application has been circulated to various municipal departments and external agencies for review. Comments which have been received with respect to the site plan application are included below. Please be aware that comments from some departments and/or agencies may still be pending.

Please contact the staff member responsible for each set of comments, as listed below, in order to resolve any outstanding site plan approval issues. Kindly request the responsible staff member to send me an email/fax of all correspondence for our records.

Revised and coordinated plans and documents which fully address the attached comments must be submitted according to the process outlined in the **Step by Step Digital Submissions Guide** on the Town's website. Digital materials must be named in an organized and descriptive manner according to format outlined in Planning's **Digital Submission Naming Conventions** document.

You are also required to submit the following items (forming a complete resubmission package):

- **a cover letter describing how each comment within this report has been addressed.**
- a transmittal provided in .doc (Word) format listing the materials submitted, with their revision number and date and the titles and information presented in the format as provided at the end of this report

Furthermore, all reports, documents and drawings submitted must:

- be presented in metric measure that can be accurately scaled,
- be prepared, stamped and signed by a qualified professional architect (for site plan and architectural drawings), engineer (for site plan and engineering drawings/reports), or landscape architect (for landscape and tree protection drawings/reports)

Circulation Comments:

PLANNING SERVICES

1 Current Planning

Kelly Livingstone ext. 3045

Circulation 3

Comments Circ. 3

Based on the following values provided, the required security amount is $193,198.95

- Area: 0.720986 ha
- Frontage to all streets: 278.25m

$75,000 * (site area, ha) + $500 * (frontage, m)
$75,000 * 0.720986 + $500 * 278.25
$54,073.95 + $139,125.00
= $193,198.95

Comments Circ. 2

Per Development Engineering Grading & Servicing comment #9 and Transportation Services comments #1 and #2: future submissions should remove any access to the laneway. If required I can set up meetings with Region Waste Management staff to find a solution to garbage truck circulation through the site.

Comments Circ. 1

- Per Urban Design comments the owner shall obtain a street gardening permit (Eng. & Con) for the off-site planting within the municipal right-of-way prior to Site Plan Approval.
- Per Development Engineering comments Vince Blosser (vince.blosser@oakville.ca) should be consulted regarding the need for any future permits or reports. Since there are no road widenings here I believe Engineering & Construction comments are covered by Urban Design and Development Engineering, but this should be confirmed.

Conditions of Final Site Plan Approval

- *Securities* – That the owner deposit securities with the Finance Department, in a form meeting the Finance Department's requirements **(as a certified cheque or letter of credit, not a standard cheque)**, in the lump-sum amount of **$XXX,XXX.XX**

  For your application, the lump-sum amount will be calculated as follows:
  o **RES (mid & hi) and MU- $75,000 * (site area, ha) + $500 * (frontage, m) = $XXX,XXX.XX**

- *Site Plan Agreement* – That the owner enter into a Site Plan Agreement with the Town, to be registered on title, containing clauses suitable to the Director of Planning, Director of Development Engineering and the Town Solicitor.

- *Final Plans* – That the owner submits a full set of coordinated, digital drawings in PDF format, to the satisfaction of the Planning Services Department.

Re-Circulation Fee

- A re-circulation fee will be required after the 3rd submission and every resubmission thereafter in the amount 15% of the in-effect application fee – per Fee By-law 2019-002, Schedule 'A', Section 10.

File Naming

Future submission materials must be named according to the following format:

- **File Number _ Condensed Name _ Version Number _ Date (with no spaces)**

For example, your set of files should look like the following list:

- 00_CoverLetter_v1_2020-02-28
- 01_Aerial_v1_2020-02-14
- 02_Survey_v1_2020-02-23
- 03_SitePlan_v1_2020-02-23
- 04_SitePlanDetails_v1_2020-02-23

Requirements:

- NO spaces in the file name.
- NO special characters within the file name (i.e. @ # $ % & * / \ |).
- ONLY Letters, Numbers, Dashes, Underscores and Periods are permitted in the file name.

Final Note:

- All submission of plans and/or studies must be clearly labelled and in a larger font size in the title block as the next submission by number, corresponding to the version number and date in the file name

2 Urban Design

Philip Wiersma ext. 3795, Jana Kelemen ext. 3026

Circulation 3

The following comments are based on materials circulated September 1, 2021 [Circ 3]

Comments

Development and public realm improvements shall be evaluated in accordance with the urban design direction provided in the Livable by Design Manual, as amended, to ascertain conformity with the

urban design policies of Livable Oakville, the Town's official plan. If not done previously, please review online Livable Oakville policies and the related standards contained in Livable by Design Manual (Part A & C).

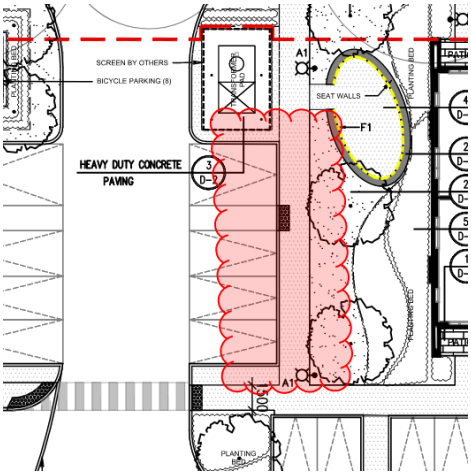
Landscape (comments provided by Philip Wiersma)

1. [Circ 2] Comment addressed.

   [Circ 1] Barrier free parking spaces should have direct access to the sidewalk to avoid having people travers long distances down the driveway to access the sidewalk. Revise layout as necessary.

2. [Circ 3] Comment addressed.

   [Circ 2] Comment not fully satisfied. Provide sidewalk dimension adjacent to parking. (min 1.8m)



   [Circ 1] Layout plan should dimension the width of all walkways.

3. [Circ 3] Comment addressed.

   [Circ 2] Comment not fully satisfied. I could not find where the specific type of paving within the municipal right-of-way is specified. Ensure it matches what was used on Preserve Phase 1. Tree grates should be used instead of the tree pit covers. Tree grate used at the Preserve was the Praxis Grate 1200 with 600 DIA opening by Citygreen.

   [Circ 1] The existing streetscape will need to be removed and replaced to accommodate the proposed on-street parking and retail use. To this end, the streetscape along Carding Mill Trail and North Park Blvd as far as the pond access road, should have street trees located within a paved boulevard using metal tree grates and/or curbed open planters. Curbed open planters should be used as much as possible; however, placement must not conflict with access to street parking. All trees should have access to 30m3 of soil, using soil cells to achieve the necessary soil volume. The pedestrian clearway should be constructed with

concrete, and the boulevard with unit stone paving. Surface runoff should be collected with trench drain and distributed to the soil cells. Pedestrian bump-outs (neckdowns) should be provided at street corners to extend areas for seating, planting, public art or other amenities and to reduce the width of the crosswalk between street corners. Boulevard materials and layout should be consistent with that proposed on Block 253 and Preserve Phase 1. Refer to North Oakville Urban Design and Open Space Guidelines section 3.8.1.1.

4. [Circ 2] Comment addressed.

   [Circ 1] Enhanced paving treatment should be proposed in front of the retail space in lieu of concrete. Paving should be compatible with the unit stone paving within the right-of-way.

5. [Circ 2] Comment addressed.

   [Circ 1] All plant material within the daylight triangle should not obstruct sight lines between 600mm to 2400mm above grade. Adjust planting as necessary.

6. **[Circ 3] Comment remains applicable.**

   [Circ 2] Comment remains applicable.

   [Circ 1] The owner shall obtain a street gardening permit (Eng & Con) for the off-site planting within the municipal right-of-way.

7. [Circ 3] Comment addressed.

   [Circ 2] Comment not satisfied. The proposed White Spruce having a potential spread of 6–8m within a planting area only 2.5-3.5m wide, will also overhang the municipal sidewalk. Revise planting or layout as necessary to provide year round screening of the waste pick up area while not impinging upon the municipal property.

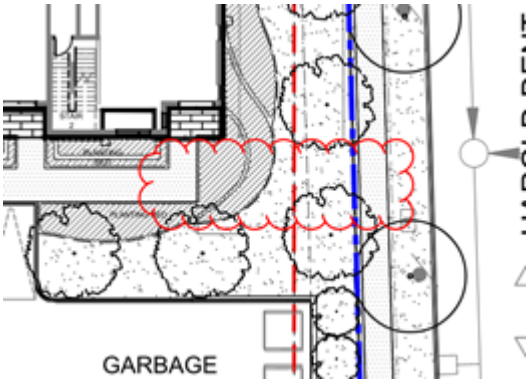
   [Circ 1] The Columnar European Beech, with a potential spread of 4-5m, may overhang the municipal sidewalk and pond access route. Revise planting or layout as necessary to provide year round screening of the waste pick up area while not impinging upon the municipal property.

8. [Circ 2] Comment addressed.

   [Circ 1] Grading plan should be revised to show a depressed curb to provide barrier free access from the vehicle turn around to Building A’s main entrance.

9. [Circ 2] Comment addressed.

[Circ 1] Provide a convenient access to the municipal right-of-way at the north east corner of Building B.



10. [Circ 2] Comment addressed.

    [Circ 1] Clarify on the drawings the location of any hydro transformer and related duct bank.

11. **[Circ 3] Comment not addressed.** Provide details for barrier free curb ramps. Provide note on the drawings stating that the vehicular entrance within right-of-way will be consistent with OPSD 350.010.

    [Circ 2] Comment not fully addressed. Provide details for curb ramp and flush curb complying with AODA standards, pedestrian crossing at vehicular entrance within right-of-way consistent with OPSD 350.010, etc.

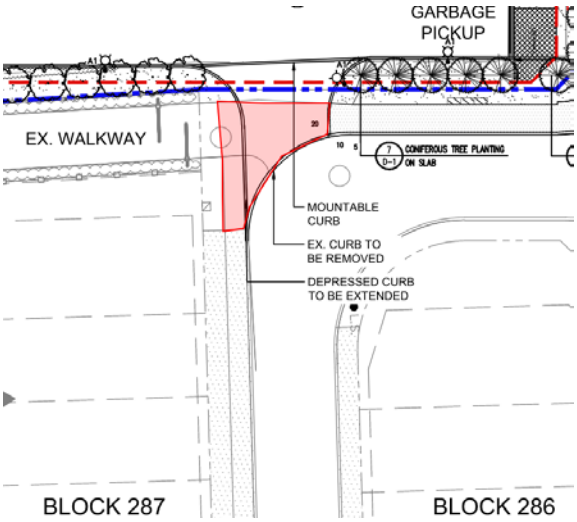
    [Circ 1] Provide construction details for all hardscape elements, including but not limited to seat walls, bike racks.

12. [Circ 2] Comment addressed. See conditions section.

    [Circ 1] Landscape plan notes the use of patio dividers and wood slat fence. Landscape details provide one detail of a wood slate privacy fence. Are the dividers and the fence the same thing? Revise drawings as necessary to clarify. Note that fencing facing the right-of-way over 1.1m in height will not be accepted.

13. [Circ 3] Comment addressed.

    [Circ 2] Comment not satisfied. Grading plan is showing a 5.5% cross slope on the pedestrian walkway where it crosses the vehicle entrance. The maximum cross slope should be 4%, 2% preferred. The concrete walk should extend across the driveway to meet the pond trail to better define it from the driveway. If there is a concrete walkway in front of Block 287, the concrete walk should continuously connect to it. Clarify treatment in front of Block 287.



[Circ 1] Clarify / provide a barrier free pedestrian connection through the vehicular entrance at the rear of the property. Pedestrian walkway should be maintained at a constant elevation (not slope/ramp down to driveway, as per OPSD 350.010).

14. [Circ 2] Comment addressed.

    [Circ 1] Clarify on the layout drawings the location and type of fall prevention around the opening to the underground parking.

15. [Circ 2] Comment remains applicable, see conditions section.

    [Circ 1] It is assumed that snow will be removed from the site in lieu of on-site snow storage. See snow removal condition in the Conclusion/Conditions section below.

16. [Circ 2] Comment addressed.

    [Circ 1] Provide a note on the lighting plan stating: “All lighting devices shall be full cut off and night sky friendly, and shall be mitigated at the source so that no light (0.0 lux) will be directly projected onto adjacent properties.”

<u>Built Form</u>

17. [Circ 3] Comment addressed.

    [Circ 2] Comment not completely satisfied. The proposed solution uses only an interchange of two colours (Cement Panel 2 with Cement Panel 3). All of the other elements- the modulation of the façade, materials, parapet heights, window patterns and shapes are the same – such solution does not create sufficiently unique façade or an illusion of two separate buildings. The intent is to create enough interest along a lengthy façade so the actual break of 6x9 metres (as described below) would not be necessary.

Please also reconsider the use of the EIFS cornices- the previous, more contemporary treatment would better fit with the proposed architectural style.

[Circ 1] As per Town's Livable by Design Manual, Section 3.1.16.: "Design the building at a maximum length of 55.0m along the façade zone before incorporating a significant break in massing. Incorporate a break with a minimum depth of 6.0m and minimum length of 9.0m to achieve a significant vertical break and setbacks."
As the proposed building is designed as a composition of two forms joined under a slight angle, a natural break might be created by this configuration. To support such a break and this unique opportunity, it is strongly suggested to design the facades as facades of two different buildings- complementing each other in their architectural style while using varied elements such as windows, materials, colours, height of parapets, etc. to create an illusion of two different structures.

18. [Circ 3] Comment addressed.

    [Circ 2] Comment not satisfied. The blank walls around and above the residential windows at the ground floor should be designed with more architectural interest. Also, the commercial area should not be reduced – larger area provides for a better flexibility and more viable options for commercial spaces. Commercial frontage provides more interest and better relationship with the street than ground floor residential units. All of the effort should be made to create a viable commercial frontage along Carding Mill Trail. Detailed Elevations for ground floor facing Carding Mill Trail and North Park Blvd at scale 1:50 should be submitted with the next circulation.

    [Circ 1] The architectural treatment along Carding Mill Trail is of a high importance. The ground floor facades should create an appropriate relationship with the public realm (for example, taller windows and less blank walls for the portion with residential units at grade). Also, more architectural detailing is suggested along both commercial as well as residential uses at the ground floor level. Detailed Elevations indicating these enhancements for ground floor facing Carding Mill Trail and North Park Blvd at scale 1:50 should be submitted with the next circulation.

19. [Circ 3] Comment addressed.

    [Circ 2] Comment not fully satisfied. The enhanced hardscape treatment has been proposed. However, the bike racks are still shown in two areas which due to their depth and location have the most potential for an outdoor patio. Please relocate the bike parking.

    [Circ 1] As mentioned in the comment #4, enhanced hardscape should be proposed in front of the commercial units. There are larger areas which could be used for patios if well designed. It is suggested to also move the bike racks along Carding Mill (in front of the retail units) to a better location where it wouldn't obstruct a potential patio area.

20. [Circ 2] Comment addressed.

[Circ 1] The “tower’ feature above the main residential entrance creates a concern. It is recognized that there is a functional element to the raised height (mechanical penthouse). However, it creates a strange, very narrow element much taller than the rest of the roof line, with a blank façade facing the street. It is strongly encouraged to redesign this area to either recess the mechanical penthouse beyond the facade or to create this portion as a wider one and design its upper façade with additional architectural interest.

21. [Circ 3] Comment addressed.

    [Circ 2] Comment not satisfied. It is still strongly suggested to create a 2 or 3-storey wall at this edge to integrate the commercial space within the overall massing. The private balconies do not meet the intent- if only a roof over the commercial space is proposed, it should be designed as a common amenity space with an extensive green roof, pergolas, etc. This scenario was suggested to help integrate the retail space into the massing of the building, which is not achieved simply by adding private balconies. Other ideas how to achieve appropriate integration could be explored.
    Also, the signage is approved through a different process. Remove all signage and any reference to signage from the drawings.

    [Circ 1] The 1-storey commercial element on the south side should be redesigned to not read as an addition to the building, but rather a strong element of it. It is strongly suggested to explore a possibility of adding few units on the second storey, a green roof/ patio over the commercial unit, or other design features which would better tie this element with the rest of the structure.

22. [Circ 3] Comment addressed.

    [Circ 2] Comment not addressed. The North Elevation of Building B features even less window area than the previous design.

    [Circ 1] As per LBDM, Section 3.1.15.: “On a corner lot, design and mass the building main wall to wrap the corner and address both frontages and incorporate enhanced architectural treatment that highlight the corner…”
    North Elevation of Building B (facing public street) should be revised to add more and/or larger windows. If larger areas of blank walls are still proposed, enhanced architectural detailing should be added to these areas.

23. [Circ 2] Comment addressed.

    [Circ 1] All proposed exterior materials and colours must be noted on the elevation drawings (some notes seem to be incorrect G1-glazing noted on a solid wall, for example). It appears that EIFS is used for an extensive amount of the facades – 4 storeys out of five.
    As per LBDM, Section 3.1. 42.: “Incorporate cladding materials that include brick, stone, metal, glass, wood, and in-situ concrete of high architectural quality. Incorporate high quality stucco only as an accent material. Incorporate Spandrel materials only in circumstances where clear and transparent vision glass is not a viable option due to privacy concerns. Vinyl

siding, plastic, plywood, concrete block, tinted and mirrored glass, and metal siding are strongly discouraged. The use of local materials is encouraged." It is suggested to switch one of the areas- either the dark or the lighter colour to a different material thank EIFS.

24. [Circ 3] Comment addressed.

    [Circ 2] Comment mostly addressed. With the next circulation, indicate which is intake and which exhaust. Exhaust should be located the furthest from the public sidewalk.

    [Circ 1] If any intakes/exhausts (and any other service elements) are proposed for the underground parking structure, the location and design must be shown on the drawings at this stage. As per LBDM, Section 3.3.21., for utilities and building service elements, locate these features in the rear or side yard to ensure they are not visible from the public realm and integrate them into the architectural composition of the building or screened from view. Please note that these elements must be designed to not impact the public realm.

25. [Circ 3] Comment addressed.

    [Circ 2] Comment mostly addressed by slightly moving this area away from the street and proposing a screen. However, details of all screens and any other structures must be shown on the drawings.

    [Circ 1] As mentioned at the Pre-consultation meeting, the location of the waste staging area should be reconsidered.

26. [Circ 2] Comment addressed.

    [Circ 1] Coloured Elevations should be also provided with the next submission.

27. [Circ 2] Comment addressed.

    [Circ 1] Please submit the Material Sample Board or a high-resolution photograph of such a board with the next circulation.

28. **[Circ 3] Note: Drawing has been submitted in AutoCAD format. Please export into SketchUp and provide a link to download.**

    [Circ 2] Please provide revised SketchUp model with the next submission.

Conclusion/Conditions

The following should be satisfied prior to final site plan approval:

- Site Plan Agreement – That the owner enter into a Site Plan Agreement with the Town, to be registered on title, containing clauses suitable to the Director of Planning, Director of Development Engineering, and the Town Solicitor, including but not limited to the following:

That the owner and tenants / future purchasers will maintain a minimum tree canopy cover or potential canopy cover of 20% over the site area. Any tree removals granted by way of Town permits will require the replanting of trees so as to maintain this minimum tree canopy cover target to the satisfaction of the Town.

That all owners and tenants / future purchasers are required to maintain all access ramps and driveways, parking and loading areas, and walkways, unobstructed to ensure safe operations within this private development, and as there is insufficient on site snow storage, all snow cleared from the access ramps and driveways, parking and loading areas, and walkways shall be removed from the site. In no circumstance shall snow cleared from the site be placed in a manner that might damage private or public landscaping, fences, or impinge on adjacent properties or open space. The contracting for private snow removal from the site shall remain the sole responsibility of the owners and tenants / future purchasers.

That the owners and tenants / future purchasers are not permitted to install a fence(s), greater than 1.1m in height, facing the municipal right-of-way.

- Urban Design: That the owner submit and obtains final approval for the following to the satisfaction of the Planning Services Department:

a) Revised and final Site Plan
b) SketchUp model
c) Revised and final Landscape Plan
d) Revised and final Grading Plan
e) Revised and final Lighting Plan
f) Revised and final Tree Canopy Plan and Canopy Calculation Chart

- Further comments may be provided after review of revised materials in subsequent submissions.

Circulation Comment Chronology

3 Development Engineering

Dan Bijsterveld ext. 3763

Circulation 3

SECTION 1: TECHNICAL REVIEW

Development Services has reviewed the submitted storm water management, grading and servicing materials and provides the following comments:

Grading and Servicing Comments

1. As this site is a block within an un-assumed subdivision, authorization from the subdivision engineer is to be provided. *Update May17/21 – The letter is to be revised to clearly indicate it is being prepared by the subdivision engineer and needs to be stamped and signed. The letter should reference the FSR in the list of materials being reviewed. The proposed overland spill and it's compatibility with the existing pond block, fencing etc. should be part of the review. Also see comments below.* ***Update Oct.8/21 – Has not been addressed. The FSR (including date and revision) are to be part of the subdivider's review authorization clearance.***

2. There appears to be two grading plans for the site. The following comments are based on the plan prepared by DSEL. Please confirm if this should be revised. *Update May17/21 – CLEARED. Please note that the grading information on the site plan was not reviewed by Development Engineering.*

3. The drawings are bit unclear in some areas with overlaying information etc. Please ensure the information is clearly shown. *Update May17/21 – CLEARED*

4. The boundary grades show both existing and subdivision design grades. It is assumed that the subdivision grades will be used. The crossfall of the boulevard is to be 2%. Please clarify. *Update May17/21 – Please clarify the grades abutting the pond. Some areas don't appear to match the subdivision grades and have been revised from the previous submission. Sections along the property line abutting the pond are required. As a cut-off swale has been shown in this area has been however it still appears that there could be spilling of the minor drainage in some areas. The CB at the end of the cul-de-sac has also been removed with a curb outlet. The pond block currently has been graded, landscaped and fenced. Please review and clarify. Also see SWM comments below.* ***Update Oct.8/21 – CLEARED***

5. The sidewalks are to be continuous through the driveways (ie. no curb across). Not reflected on all drawings. *Update May17/21 – Has not been addressed. The drawings now also show tactile plates at the driveway which are not to be installed and curbing on some plans. The sidewalk is to be continuous and at the grade consistent with the subdivision x-section (ie. not to dip at the driveway****). Update Oct.8/21 – CLEARED***

6. The FFE is to be shown on the grading plan. Based on the info shown on SPA 102 there appears to be some clarification required with grades at the rear outside the building above the FFE. There appears to be an access in the area. Please review. *Update May17/21 – CLEARED*

7. The drainage at the east limit appears to sheet flow into the pond and adjacent property. This needs to be revised. All drainage is to be self-contained and to discharge through the existing stub. *Update May17/21 – See other comments.* ***Update Oct.8/21 – CLEARED***

8. No pedestrian connections from the site to the pond block are permitted. Please revise as required. *Update May17/21 – Has not been addressed and still applies.* ***Update Oct.8/21 – CLEARED***

9. *New Comment May17/21 – It appears that a new access is being proposed off Lane 174. Development Services does not support this access from the residential laneway. The*

laneways are designed to provide driveway access to the local adjoining residential units only and are not intended as access or through connections for adjoining sites. This area is also the overland flow route and pedestrian connection from Harold Dent Trail and Laneway 174 to the SWM facility. ***Update Oct.8/21 – CLEARED***

Stormwater Comments

1. The FSR needs to be stamped and signed by the engineer. *Update May17/21 – CLEARED*

2. Show the grade of the existing pond access path at the spill location to verify that it works. *Update May17/21 – CLEARED*

3. Please confirm that there will be no spill from the site to the underground parking based on the proposed design. This needs to be stated in the report. *Update May17/21 – CLEARED*

4. The drainage areas used in the design do not appear to reflect what is shown on the approved subdivision plans. The entire site area was to be conveyed to the pond block connection, Please review and revise. *Update May17/21 – The proposed new overland flow route was not shown on the approved subdivision drawings. This needs to be discussed as part of the FSR and certification information. The FSR references 5yr site design with anything exceeding this being conveyed overland to pond. The appendix in the revised FSR from J.F. Sabourin references 100yr capture. Please clarify as this impacts the frequency of the spills to the pond. Further discussion will be required on this issue.* ***Update Oct.8/21 – Will clear with revisions to certification letter.***

5. The subdivision storm drainage area plan is to be appended into the FSR *Update May17/21 – Has not been addressed. Only the current site plan drainage area plans have been appended.* ***Update Oct.8/21 – Will clear with revisions to certification letter.***

For questions and comments, contact Dan Bijsterveld, Development Services ext. 3763.

SECTION 2: CONDITIONS OF APPROVAL

Conditions which must be satisfied prior to final site plan approval:

1) That the owner submits the following information, to the satisfaction of the Development Engineering Department:
   1. Stormwater Management Plan and Report *(See comments)*
   2. Grading, Drainage and Servicing Plan *(See comments)*
   3. Authorization from subdivision engineer regarding grading and stormwater management for any blocks within an unassumed plan of subdivision *(See comments)*
   4. Tree Inventory and Protection Plan *(See comments by Urban Forester)*
   5. Arborists Report *(See comments by Urban Forester)*
   6. Tree Protection Securities: That the applicant deposit tree securities to the Town of Oakville. *(See comments by Urban Forester)*
   7. Erosion & Sediment Control Plan *(Has been provided and is acceptable)*
   8. Boulevard & Road Restoration Details to be provided on civil drawings.

2) That the owner submits the following information, to the satisfaction of the Engineering & Construction Department:

Note: The applicant is to consult with the Engineering & Construction Department regarding the need and or requirements any further permits and reports.

SECTION 3: NOTES TO THE APPLICANT

All works within the road allowance to be completed during the hours of 9 AM – 3PM and will require the applicant to obtain a Temporary Street Occupancy Permit and Excavation Permit from the Engineering and Construction Department. In addition, the applicant is required to notify the Engineering & Construction Department 24hours prior.

That at the building permit stage, the owner shall contact Permits and Construction Section to inquire what the requirements for this site are such as follows:

- Driveway Permit
- Excavation Permit
- Sidewalk/Street Occupancy Permit
- Boulevard (Streetscape) Permit
- Construction Staging and Parking Plan
- Boulevard & Road Restoration Details to be provided on civil drawings.

Technical documents, such as the stormwater management report or arborist's report, must be signed and sealed by a professional engineer or certified arborist, respectively.

4 Development Engineering, Forestry

Tony Molnar ext. 3869

Circulation 1

No tree related issues, signing off on this SP. The street tree planting is being dealt with through the subdivision process.

5 Engineering and Construction, Transportation

Syed Rizvi ext. 3981

Circulation 3

Sustainable Transportation

1. [Circ. 3] Staff has no further comments at this time.
2. [Circ. 2] Staff has no further comments at this time.
3. [Circ. 1 - Addressed] Staff requests the applicant to clarify whether or not the underground storage lockers are dedicated bike storage lockers or if they are resident storage lockers

please. It would appear they are being shown as an “either-or” option, and this is not the intent or typical practice for providing residential bike parking.

Oakville Transit

1. [Circ. 3] The comment from Circ. 2 about a bus shelter concrete pad has been acknowledged, however it is not reflected in the site plan drawings. Staff would also want to apply new bus stop design standard to accommodate a bus shelter and a garbage receptacle, as such requesting the size of the concrete pad to increase to 5.27x1.83m.
2. [Circ. 2 – Partially addressed] Staff would like to know if a bus shelter concrete pad can be incorporated into the design at the bus stop on North Park Boulevard. The concrete pad would measure 4.27m x 1.83m, in addition to the 1.8m walkway pad already shown in the site plan.
3. [Circ. 1 - Addressed] North Park Boulevard and Carding Mill Trail are identified as transit corridors in the North Oakville Secondary Plan. As per the Transit Facilities Plan of the subdivision, the nearest bus stops are located at the intersection of North Park Boulevard and Carding Mill Trail. Please identify these bus stop locations on the site plan.
4. [Circ. 1 - Addressed] Conventional, fixed route transit service in this area is not currently available. At this time, Oakville Transit provides an on-demand service called Home to Hub in this area. Customers can travel between any eligible addresses in the area to and from the Uptown Core bus terminal located at Trafalgar Road and Dundas Street East, where they can connect to other conventional bus routes. Home to Hub is provided Monday to Friday, rush hours only. The availability of conventional transit service in this area is subject to council approval through the annual budget process. We are unable to confirm when conventional transit would be available.
5. [Circ. 1 - Addressed] Oakville Transit provides door-to-door paratransit service called care-A-van for persons with disabilities. Service is provided by low-floor, fully accessible 26ft buses supplemented in partnership with local taxi providers. Drivers will leave the vehicle and escort the customer to the first accessible public entrance. Please confirm if paratransit pick up and drop off can be provided in the on-street pick up and drop off areas on Carding Mill Trail.

Transportation Services Comments

Based on the Site Plan information received, Transportation Services provides the following comments:

1. [Circ. 3] Transportation Services appreciates submission of the revised garbage collection location and have no further comments on the garbage vehicle circulation analysis plan. It is noted that the final waste management plan is subject to approval of the Halton Region Waste Management group.
2. [Circ. 2 Addressed] The applicant should confirm if there is an easement agreement required for garbage collection vehicle to exit the proposed site after garbage collection using adjacent property driveway.
3. [Circ. 2 addressed] Ref figure AT-103, the turning movement plan shows reverse movement of the garbage vehicle to approach the garbage receptacles. Traffic consultant should justify the need of reverse movement of the vehicle causing unsafe site traffic conditions once vehicle can travel in forward direction and able to exit the site after garbage collection.

Based on the TIS prepared by GHD dated April 2021, Transportation Services provides the following comments:

1. [Circ. 2 addressed] Ref TIS report, figure 9-Total Traffic Volumes year should be updated.
2. [Circ. 2 addressed] Staff appreciate using (5%) higher growth rate of study area considering Region's land allocation plan.
3. [Circ. 1 Addressed] TIS for the proposed development is not submitted, the traffic consultant should collect the TMC's of the project study area as per the TOR and submit the report for review and comments by Transportation Strategy.

Syed Rizvi, P. Eng
Transportation Engineer West, Engineering & Construction
Syed.rizvi@oakville.ca
(905) 845-6601, Ext: 3981

INTERNAL DEPARTMENTS

6 Building Services, Building Code

Louisa He ext. 3142

Circulation 3

Building Services has reviewed the above noted Site Plan Application circulation and has the following comments:

1. 3.3.1.22. If travel distance from locker rooms behind parking stall 160 & 161 to Stair 3 are measured through the space between parking stall # 135 & 136 and #104 & 105, the path of travel between parking stalls shall have clear width of not less than 750mm.

7 Building Services, Fire Prevention

Jonathan O'Neil ext. 3183

Circulation 1

Based on the information provided, no further action is required by the applicant to satisfy Fire Department review.

8 Building Services, Zoning

Matt Rubic ext. 3361

Circulation 3

1) Please label the number of visitor bicycle parking spaces at each location where they are provided on the site plan so it is clear the number indicated meets the minimum requirement of 42 visitor bicycle parking spaces.

2) A minimum of 111 resident bicycle parking spaces is required and indicated as provided in the site statistics but the plans do not indicate the location of all 111 resident bicycle parking spaces. Drawing A100-00 indicates that there are 102 bicycle lockers. Please provide the location on the floor plans for the remaining 9 bicycle lockers.

3) A structural column located between parking spaces 73 and 74 projects into the 7.0m minimum aisle where not permitted to reduce the aisle to less than 7.0m.

9 Legal, Realty Services

Jim Knighton ext. 3022

Circulation 2

Re: CILP - Planner to review with Planning Manager for the Area as to whether the application lands fall under the North Oakville Master Parkland related agreements. Planning Manager to confirm if the lands are subject to NOMP agreements and exempt from CILP through appropriate satisfaction letters, and then advise Realty Services Manager. In the event the lands are not exempt from CILP or not subject to the plan, further comment will be required in regard to CILP matters.

10 Parks and Open Space

Frank Loconte ext. 3158

Circulation 1

The applicant shall install siltation control fencing along the shared property line of the SWM pond block as soon as possible. Grading work within this block has caused siltation over the municipal sidewalk and asphalt pathways. Notwithstanding the above requirement, the Parks and Open Space Department has reviewed the site plan application, are satisfied with the proposal and offer no further comments.

EXTERNAL AGENCIES

11 Hydro One Network, Real Estate Services

Dennis De Rango tel. 905-946-6237

Circulation 1

We are in receipt of Application SP 1318.005.01 dated September 25, 2020. We have reviewed the documents concerning the noted Plan and have no comments or concerns at this time. Our preliminary review considers issues affecting Hydro One's 'High Voltage Facilities and Corridor Lands' only.

12 Region of Halton, Planning & Public Works Dept

Quadri Adebayo tel. 905-825-6000 ext. 3105

Circulation 3

Pending

Circulation 2

We acknowledge the information update from the Owner that the proposed development will not be phased. However, Halton Region at this time, is still not in a position to issue condition of site plan approval until the Owner secures the outstanding allocation requirement necessary to support the proposed development before it can be determined that adequate water and sewer connection can be extended to the subject lands.

Meanwhile, Regional comment letter issued on December 10, 2020 (attached) still applies. We are currently reviewing the waste management requirement updates (waste management plan, and drive through agreement) provided by the Owner in this second site plan application circulation, and we will provide commentary if there are any additional technical requirements that need addressing ahead of a third site plan application circulation.

Respecting a future third site plan circulation, the Owner should clarify within the same submission package, the accurate number of residential apartment units they are proposing in accordance with the total allocation they must have secured at that time. In this second site plan circulation package, the site plan drawing showed a total of 151 residential apartment units proposed, while their comment response matrix identified 147 residential apartment units as being proposed.

(see the following pages for December 10, 2020 comment letter)

Legislative and Planning Services
Planning Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: (905) 825-8822

December 10, 2020

Mr. Kelly Livingstone, Planner
Town of Oakville
1225 Trafalgar Road
Oakville, ON L6H 0H3
Town of Oakville

Dear Mr. Livingstone:

Re: Proposed Site Plan Application
3279 Carding Mill Trail
Town of Oakville, Region of Halton
Files: S.P.1318.005/01, Pendent Developments Ltd/Lower Fourth Ltd

Regional Planning Staff has completed the review of the above-referenced Site Plan application received September 25, 2020. The application proposes to develop the subject property with a mixed use development that will consist of 148 residential apartment dwelling units within two buildings (5-storeys each) commercial/retail at grade, surface parking, and one-level of underground parking.

Regional staff note that the proposed number of residential apartment units does not correspond with the amount of high density single detached equivalents (SDEs) available to the owner in order to fulfill the agreement requirements of the Region's 2020 Allocation Program. The **applicable SDEs must be appropriately confirmed before water and sewer connection can be extended to the subject lands to facilitate the development**.

Based on this, Regional staff require a second site plan submission that addresses the comments outlined herein this letter.

PLANNING ANALYSIS

Regional Official Plan

The subject lands are designated as Urban Area within the 2009 Regional Official Plan (ROP). The Urban Area policies of the ROP are in effect and provide that the range of permitted uses and the creation of new lots within the Urban Area will be in accordance with Local Official Plans and Zoning By-laws, and subject to all other relevant the policies of the Regional Plan.

Servicing Allocation

As set out in ROP Section 58(1.1), uses are permitted as specified for each land use designation provided that adequate supply of water and treatment of wastewater for the proposed use has been secured, to the satisfaction of Halton Region. Section 77(15) requires that the development industry absorb their share of the cost of the provision for infrastructure and that any financial impact of new development or redevelopment on existing residents be based on a financing plan communicated to the taxpayers and subsequently approved by

Council. To this end, Halton Region has implemented Allocation Program(s) that require proponents of residential development applications to secure servicing allocation from Halton Region through an Allocation Agreement.

These lands are located within the designated 'Greenfield Area' and are therefore subject to the Regional Allocation program. Through the 2020 Allocation program, allocation has been secured for the subject lands. Specifically, 52 high density single detached equivalents (SDEs) have been reserved for the subject lands under the Region's 2020 Allocation program.

Based upon a review of the submitted site plan application, the proposed high density residential uses will require a total of 67 SDEs to facilitate the full build-out of the proposed 148 residential apartment dwelling units. The Region allows draft approval to proceed on the basis that the applicant has secured 40% of the required allocation. As 52 SDE's have been reserved for these lands, the owner can currently service approximately 77% of the development on the basis of the above mentioned 148 residential apartment units, with a balance of 15 additional high density SDEs required to facilitate the full build-out of the proposed development.

Overall, in order ensure that the proposed Site Plan Application conforms to the Urban Area policies of the ROP, the owner should consider the following options in a second site plan submission:

1. A revised site plan application with a reduced number of residential apartment units that accurately corresponds with the available SDEs reserved for the subject lands under the 2020 Allocation program. An allocation summary table and supporting justification must also be provided along with this submission.
2. A revised site plan application with a phasing plan supported by an allocation summary table and justification on how additional SDEs will be secured in order to achieve the proposed 148 residential apartment dwelling units.

Regarding the second option, any request for additional SDEs will be considered under its own merits and not guaranteed to receive Regional support.

Please note that in accordance with Section 5.5 of the 2020 Allocation program agreement, a Public Works Commissioner's Notice (PWCN) will be required prior to obtaining a building permit. In order to be able to receive the PWCN from the Region, the owner must complete the Zone 3/4/5 Boundary Realignment assessment that demonstrates that the Region's pressure zone changes will not impact the proposed development or identify any required changes to ensure the water pressures remain in the acceptable range throughout all three stages (present, interim, and ultimate).

For more information about the PWCN, please contact allocationprogram@halton.ca for Allocation program inquiries.

Archaeological Resources

In accordance with Section 167(6) of the ROP, the subject lands have been identified to be within an area of archaeological potential. An archaeological assessment is not considered to

be required as it has been addressed in earlier *Planning Act* applications, being the Preserve North Subdivision and Zoning applications.

In the interim, should deeply buried archaeological artifacts or remains be found on the subject lands during construction activities, the Heritage Operations Unit of the Ontario Ministry of Tourism, Culture and Sports (MTCS) should be notified immediately.

Municipal Servicing Infrastructure

Section 89(3) of the ROP, requires that all new development within the Urban Areas be on the basis of connection to Halton's municipal water and wastewater service. Regional Staff note that a 300mm diameter water main and a 600mm diameter water main are located on North Park Boulevard adjacent to the subject lands. 200mm diameter water mains are also located on Carding Mill Trail and Harold Dent Trail respectively, adjacent to the subject lands. Likewise, 200mm diameter sanitary sewers are located on North Park Boulevard, Carding Mill Trail, and Harold Dent Trail respectively, adjacent to the subject lands. The owner shall be responsible to undertake their own fire flow testing in the area in order to confirm the design requirements for domestic water supply and fire protection.

The proposed servicing scheme provided in the applicant's submission has been reviewed and its consideration is **subject to confirmation of servicing allocation before water and sewer connection can be extended to the subject lands to facilitate the development**.

The Region will be in a position to issue conditions regarding Regional service permit process and other servicing requirements once allocation matters have been satisfactorily addressed.

As an advisory, the Region requires shoring drawings for the proposed deep excavation for the underground parking garage complex including an analysis from a qualified engineer that confirms that no anchor rods, tie backs and/or rock pins that encroach underground into the municipal right of way will conflict or interfere with any existing Regional water main and/or sanitary sewer infrastructure located in the abutting roadway. The owner may provide this requirement as part of a second site plan application submission, or have it included as a condition prior to the Region being able recommend site plan approval.

Regional Waste Management

Regional Staff considered the proposed development based upon our Waste Management Guidelines for Source Separation of Solid Waste, and note that the waste pad and drive through layout for collection vehicles for service is acceptable subject to the following:

1. A reconfiguration of both waste rooms to show all containers in the room for waste collection and also the layout of the compacting equipment. An engineer's certificate will be required as a condition of site plan approval to confirm that portions of the waste collection area and access that sits on top of the underground garage can support the weight of the waste collection vehicle.
2. A completed drive through agreement will be required as a condition of site plan approval before collection can commence on the site.

File: S.P.1318.005/01, 3279 Carding Mill Trail (Pendent Developments Ltd/Lower Fourth Ltd)_Quadri Adebayo_December 10, 2020

Finance

The following notes are provided for information:

1. This development requires Regional Allocation for the single detached equivalents units (SDEs) proposed. The payments and contributions are payable in accordance with the terms and conditions set out in the applicable allocation program agreement in which the SDEs are being reserved for the Owner.
2. The Owner will be required to pay all applicable Regional Development Charges (DCs) in accordance with the Region of Halton Development Charges By-law(s), as amended. In addition, commencing January 1, 2017 every owner of land located in Halton Region intended for residential development will be subject to the Front-ending Recovery Payment prior to the issuance of any building permits, unless a subdivision (or other form of development) agreement is required in which case a portion of the DC's and Front-ending Recovery Payment may be payable upon execution of the agreement.
3. To obtain the most current Development Charge and Front-ending Recovery Payment information, which is subject to change, please visit our website at https://www.halton.ca/The-Region/Finance-and-Transparency/Financing-Growth/Development-Charges-Front-ending-Recovery-Payment

Disclaimer: It is the Owner's responsibility to ensure that all applicable payments and development charges for the SDEs being requested are paid for as required by the terms and conditions of the applicable allocation program agreement.

CONCLUSION

Given the comments provided herein, Regional Staff are unable to support approval of the above referenced site plan application at this time. In this regard, we kindly recommend that as part of any resubmission, a detailed matrix and supporting justification be provided to address the comments provided herein.

Should you have any questions or concerns about the above comments, please contact me at (905) 825-6000 ext. 3105 or Quadri.Adebayo@halton.ca (Please send a copy of the Town's decision on this application).

Sincerely,

Quadri Adebayo

Quadri Adebayo, M.PL, PMP
Intermediate Planner

cc: Bernie Steiger, Senior Planner, Halton Region (via email)
Alicia Jakaitis, Allocation Project Manager (via email)
Andrew Suprun, Multi-Residential Waste Diversion Coordinator (via email)
Ron Mackenzie, Development Project Manager, Halton Region (via email)

File: S.P.1318.005/01, 3279 Carding Mill Trail (Pendent Developments Ltd/Lower Fourth Ltd)_Quadri Adebayo_December 10, 2020

October 22, 2021

Legislative and Planning Services
Planning Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: (905) 825-8822

Kelly Livingstone, Planner
Current Planning,
Planning Services Department
Town of Oakville
1225 Trafalgar Road
Oakville, ON L6H 0H3

Dear Mr. Livingstone**:**

Re: Proposed Site Plan Application – 3rd Submission Comments
3279 Carding Trail
Town of Oakville, Region of Halton
Files: S.P.1318.005/01 (Pendent Developments Ltd. / Lower Fourth Ltd.)

Regional Planning Staff has completed the third review of the above-referenced Site Plan application received September 1, 2021, which proposes to permit the construction of two 5-storey mixed-use buildings with commercial/retail at-grade and residential above, including ancillary amenities like surface and below-grade parking stepped.

As confirmed by the applicant on September 13, 2021, it is understood that the total number of residential apartment dwelling units proposed in this development will be 147. Based on this confirmation, and recent approval of the Owner's allocation top-request by the Region in August 2021 (15 high-density single detached equivalents 'SDEs' top-up), Regional staff is now satisfied that the proposed number of residential apartment units corresponds with the amount of high-density SDEs available to the Owner in order to fulfill the agreement requirements of the Region's 2020 Allocation Program.

Please note that this letter supersedes the previous letter issued on December 10, 2020 and June 2, 2021 respectively. The comments in this letter specifically provide updates to servicing allocation, municipal servicing, and waste management matters (please refer to the respective comment sections, including the conditions section). Regional comments per other archeological resources and finance generally remain the same.

In order to inform the Town of Oakville decision, Regional staff have considered this submission from a Provincial and Regional policy perspective. Regional staff offer no objections overall, subject to the conditions outlined in Schedule 'A' of this letter.

MATTERS OF PROVINCIAL & REGIONAL PLANNING INTEREST

Provincial Policy

The 2020 Provincial Policy Statement (PPS) PPS promotes within urban areas and settlement areas, development densities and a mix of land uses which are appropriate for, and efficiently use, the infrastructure and public service facilities which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion where this can be accommodated, taking into account existing building stock or areas, and the availability of suitable existing or planned infrastructure facilities required to accommodate projected needs. Section 1.4 of the PPS also provides that the allocation of units by the upper-tier municipality shall be based on, and reflect provincial plans where these exist.

The 2020 Growth Plan (GP) encourage municipalities to leverage infrastructure investment, to direct growth and development in accordance with the policies and schedules of the Plan, including the achievement of the minimum intensification and density targets in the Plan. The subject lands are located within the 'Designated Greenfield Area' of the Plan. Section 2.2.7 provides that development taking place in the designated Greenfield area will be in a manner that supports complete communities, active transportation, and encourages the integration of sustained viable transit service.

Regional staff are of the opinion that the proposed application is consistent with the PPS and generally conforms to the GP concerning specific technical matters of Regional interest within the context of site plan applications, and subject to the conditions outlined in Schedule 'A' of this letter.

Regional Policy

Land Use

The subject lands are designated as Urban Area within the 2009 Regional Official Plan (ROP). The Urban Area policies promote development of vibrant and healthy mixed-use communities, which afford maximum choices for residence, work and leisure. The ROP also requires development in the Greenfield Area (outside the Urban Built Boundary) to contribute to achieving development density targets established by the Plan, within foreseeable healthy communities that will comprise of a range of mixed-use neighbourhoods.

As noted above, the merits of a favourable staff recommendation is subject to the proposed development addressing Official Plan policies related to growth management (allocation), municipal servicing of the lands, and waste management. The review of this site plan is tied to the resolution of these conditions. The status of these matters is as follows:

Servicing Allocation:

As set out in ROP Section 58(1.1), uses are permitted as specified for each land use designation provided that adequate supply of water and treatment of wastewater for the proposed use has been secured, to the satisfaction of Halton Region. Section 77(15) also

requires that the development industry absorb their share of the cost of the provision for infrastructure and that any financial impact of new development or redevelopment on existing residents be based on a financing plan communicated to the taxpayers and subsequently approved by Council. To this end, Halton Region has implemented Allocation Program(s) that require proponents of residential development applications in the designated 'Greenfield Area' to secure servicing allocation from Halton Region through an Allocation Agreement.

These lands are located within the designated 'Greenfield Area' and are therefore subject to the Regional Allocation program. Through the 2020 Allocation program, allocation has been secured for the subject lands. Specifically, 67 high-density SDEs have been reserved for the subject lands under the Region's 2020 Allocation program (being 52 SDEs under law file number 2020-137 & a top-up of 15 SDEs). Based on the SDEs that are available, the owner can currently service 100% of the development on the basis of the above mentioned 147 residential apartment units, and facilitate the full build-out of the proposed development.

Archaeological Resources:

As advised in previous Regional comments, an archaeological assessment is not considered required as it has been addressed in earlier Planning Act applications, being the Preserve North Subdivision and Zoning applications.

In the interim, should deeply buried archaeological artifacts or remains be found on the subject lands during construction activities, the Heritage Operations Unit of the Ontario Ministry of Tourism, Culture and Sports (MTCS) should be notified immediately.

Summary:

Regional Staff has considered the proposed development within the context of the ROP policy prescriptions, and have no concerns regarding the proposed development from a land stewardship perspective, subject to the conditions outlined in Schedule 'A' of this letter.

In addition, the following technical matters related to site servicing, waste management, and finance need to be regarded.

Municipal Servicing Infrastructure

Section 89(3) of the ROP requires that all new developments within the Urban Area be on the basis of connection to Halton's municipal water and waste water system.

Submitted along with this third site plan submission is a revised Servicing Plan & Functional Servicing Report (prepared by DSEL Engineering Ltd. – August 18, 2021). Regional staff has reviewed the proposed servicing scheme and offer the following comments:

1. Road:

The property does not abut a Regional Road.

2. Water mains:

The following water services are located adjacent to the subject lands:

- a 300mm diameter water main on North Park Boulevard;
- a 600mm diameter water main on North Park Boulevard;
- a 200mm diameter water main on Carding Mill Trail; and,
- a 200mm diameter water main on Harold Dent Trail.

Please note that the owner shall be responsible to undertake their own fire flow testing in the area in order to confirm the design requirements for domestic water supply and fire protection.

3. Sanitary Services:

The following sanitary services are located adjacent to the subject lands:

- a 200mm diameter sanitary sewer on North Park Boulevard;
- a 200mm diameter sanitary sewer on Carding Mill Trail; and,
- a 200mm diameter sanitary sewer on Harold Dent Trail.

Summary:

Regional staff offer no objection to the proposed development from a servicing perspective, subject to the conditions outlined in Schedule 'A' of this letter

Regional Waste Management

As an update to the previous Regional comments, and with the exception of one item, the Owner has, in their second submission package, addressed staff concerns as follows:

1. A satisfactory relocation of the waste pad for waste collection; and

2. A satisfactory drive through agreement.

The only outstanding item is a certified engineering letter confirming that the underground garage can support the weight of waste collection vehicle.

Subject to a satisfactory review of the above-mentioned engineering letter, and fulfilling the corresponding condition in Schedule 'A' of this letter, the Region will service the subject lands for full waste collection.

Finance

This development requires Regional Allocation for the single detached equivalent units (SDEs) proposed. The payments and contributions are payable in accordance with the terms and conditions set out in the applicable allocation program agreement in which the SDEs are being reserved for the Owners. The following notes are provided for information:

1. The owners are also required to pay all applicable Regional Development Charges (DCs) and Front-ending Recovery Payments prior to the issuance of any building permits, unless a subdivision (or other form of development) agreement is required in which case a portion of the DC's and Front-ending Recovery Payment may be payable upon execution of the agreement.
2. To obtain the most current Development Charge and Front-ending Recovery Payment information, which is subject to change, please visit our website at: https://www.halton.ca/The-Region/Finance-and-Transparency/Financing-Growth/Development-Charges-Front-ending-Recovery-Payment

Please note that it is the owner's responsibility to ensure that all applicable payments and development charges for the SDEs being requested are paid for as required by the terms and conditions of the applicable Allocation program agreement.

CONCLUSION

In conclusion, Regional staff has no objection to the proposed site plan application application subject to the conditions outlined in Schedule 'A' of this letter.

Should you have any questions or concerns about the above comments, please contact me at (905) 825-6000 ext. 3105 or Quadri.Adebayo@halton.ca. **Please send a copy of the Town's decision on this application.**

Sincerely,

Quadri Adebayo

_____

Quadri Adebayo, M.PL, PMP
Intermediate Planner

cc: Bernie Steiger, Acting-Manager South, Halton Region (via email)
Alicia Jakaitis, Allocation Project Manager, Halton Region (via email)
Andrew Suprun, Multi-Residential Waste Diversion Coordinator, Halton Region (via email)
Cathie Boyle, Finance, Halton Region (via email)
Ron MacKenzie, Development Project Manager, Halton Region (via email)
Sara Gregory, Intermediate Planner, Halton Region (via email)

Schedule 'A'

SITE PLAN CONDITIONS: S.P.1318.005/01 (3rd Submission)

The following Regional Conditions must be satisfied and/or included in any site plan/servicing agreement.

Owner: Pendent Developments Ltd. & Lower Fourth Ltd.

Public Works Commissioner's Notice Letter (PWCN)

1. Prior to final approval, the Owner shall address all the requirements of the Allocation Program including, but not limited to, the signing of any additional agreements, provision of any required payments and the issuance of a Region of Halton Public Works Commissioner's Notice (PWCN), to the satisfaction of the Region of Halton.

   Note: For more information on how to obtain a PWCN, please follow the steps in Appendix 'A' and contact Sara Gregory, Intermediate Planner

Waste Management

2. The Owner shall submit to the satisfaction of Halton Region, an engineering certificate confirming that the concrete slab of the underground parking garage can support a fully loaded 35-tonne waste truck. The document shall be certified/stamped by a profession engineer.

Municipal Servicing

4. The Owner shall contact the Regional Services Permit Section (extension 7878 or 7879) for a detailed review and approval of the proposed water and sanitary servicing, to obtain water and sanitary sewer Services Permits, and pay all necessary fees. As part of the Services Permit Review, the Owner will be required to comply with Halton Region's multi-unit servicing policy as set out in report PPW01-96, specifically Section 3.3.

5. The Owner agrees to submit the shoring drawings for the proposed deep excavation for the underground parking garage complex and also provide an analysis from a qualified engineer that confirms that no anchor rods, tie backs and/or rock pins that encroach underground into the municipal right-of-ways adjacent to the property will not conflict or interfere with any existing Regional water main and/or sanitary sewer infrastructure located in these roadways to the satisfaction of the Region's Development Project Manager.

   Note: In this regard, the Owner shall submit a letter from a qualified engineer, supported with a shoring plan, and other plans demonstrating that the above-noted condition has been satisfied, to the satisfaction of Halton Region.

Appendix ‘A’

PROCEDURE OF OBTAINING PWCN

In order to obtain a Public Works Commissioner’s Notice (PWCN), please provide a formal request in an email or letter along with the following information to the Regional Planner on file thus:

- The number of single detached equivalents (SDEs) that the PWCN is being requested for, the respective law file number and corresponding allocation program, including a copy of the draft plan drawing.
- A Functional Servicing Report (FSR) OR a Design Brief rationalizing the most current FSR that was approved for the proposed development.
- Confirmation that the Zone 3/4/5 Boundary Realignment Assessment in relation to your proposed development is deemed satisfactorily by the Region’s Development Project Manager (Please contact the Ron Mackenzie, Development Project Manager for more details: Ronald.Mackenzie@halton.ca)

Important Note: Please be advised that a PWCN cannot be issued until all projects listed in the respective group of your proposed site location in Schedule G (Engineering and Construction projects) have been completed.

Legislative and Planning Services
Planning Services
1151 Bronte Road
Oakville ON L6M 3L1
Fax: (905) 825-8822

April 14, 2021

Guidelines for Zone 3/4/5 Boundary Realignment Assessment

Our Infrastructure Planning team provides this general guidance to complete the assessment for the Zone 3/4/5 Boundary Realignment. Please note that the Region will not prescribe the exact method for the assessment, as the complexity, built form and size of the development may impact the approach. Regional staff would be happy to discuss and assist as needed to support your consultant in this assessment. General guidance and requirements are outlined below:

Modeling:

The Zone 3/4/5 Boundary Re-alignment assessment can include the use of the Region's Hydraulic Model, which the Region will make available, but it is not a requirement for approval and may be overly complex in some instances. Any modeling exercise or theoretical calculation, which can demonstrate adequate servicing under all pressure scenarios, is considered suitable. In general, it is expected that the pressure boundary assessment will build on the servicing assessment done as part of the Functional Servicing Study.

Required Information for Regional Approval:

The Zone 3/4/5 Boundary Re-alignment assessment must demonstrate the following at a minimum:

- That fire flow/pressure will be suitable for all residents/buildings within the development under existing, interim and future pressure scenarios.
- That residential/employment water flow/pressure within the development (i.e., general servicing) will adhere to both Regional guidelines and Building Code guidelines under existing interim and pressure scenarios.
- If any requirement will not be met under one or more pressure scenarios, the developer must outline what provisions or mitigating measures will be put in place to address the deficiency.

It is required that the assessment is carried out by a reputable consultant. The submission must include a covering letter with a summary of the assessment as well as results and mitigating measures (as required). The letter will be signed and stamped by a qualified professional.

Appendix B
Existing Traffic Data

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Project #20-143 - GHD

Intersection Count Report

Intersection:	Carding Mill Trail & Harold Dent Trail
Municipality:	Oakville
Count Date:	Sep 23, 2020
Site Code:	2014300001
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Map

Intersection:	Carding Mill Trail & Harold Dent Trail
Municipality:	Oakville
Count Date:	Sep 23, 2020

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

Carding Mill Trail - Traffic Summary

	North Approach Totals						South Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	1	10	6	1	18	1	30	3	2	0	35	1
08:00 - 09:00	1	11	9	0	21	1	35	4	5	2	46	0
BREAK												
16:00 - 17:00	2	11	2	0	15	0	31	18	12	0	61	4
17:00 - 18:00	3	5	0	0	8	7	19	6	11	1	37	5
GRAND TOTAL	**7**	**37**	**17**	**1**	**62**	**9**	**115**	**31**	**30**	**3**	**179**	**10**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

Harold Dent Trail - Traffic Summary

	East Approach Totals						West Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	7	3	0	0	10	2	3	4	28	0	35	1
08:00 - 09:00	7	5	0	0	12	3	3	4	27	0	34	0
BREAK												
16:00 - 17:00	6	4	1	0	11	0	7	1	33	0	41	2
17:00 - 18:00	11	4	1	0	16	2	2	3	28	0	33	9
GRAND TOTAL	**31**	**16**	**2**	**0**	**49**	**7**	**15**	**12**	**116**	**0**	**143**	**12**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
07:30	0	2	0	0	2	1	2	3	1	7	0	0	0	0	0	0
07:45	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	0
08:00	0	3	0	0	3	0	1	1	0	2	0	0	0	0	0	0
08:15	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
08:30	0	1	0	0	1	0	0	5	0	5	0	0	0	0	0	1
08:45	0	3	0	0	3	0	1	2	0	3	1	0	1	0	2	0
SUBTOTAL	0	16	0	0	16	1	5	14	1	21	1	0	1	0	2	2

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	0	2	1	0	3	0	1	0	0	1	0	0	0	0	0	0
16:15	1	3	1	0	5	0	0	0	0	0	0	0	0	0	0	0
16:30	0	3	0	0	3	1	0	0	0	1	0	0	0	0	0	0
16:45	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0
17:00	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	6
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	1	0	0	1	0	0	0	0	0	2	2	0	0	4	1
17:45	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	1	11	2	0	14	2	3	0	0	5	2	2	0	0	4	7
GRAND TOTAL	**1**	**27**	**2**	**0**	**30**	**3**	**8**	**14**	**1**	**26**	**3**	**2**	**1**	**0**	**6**	**9**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	↰	↑	↱	↷	Total	
07:00	5	1	0	0	6	6	1	0	0	7	0	0	0	0	0	0
07:15	4	0	1	0	5	4	0	0	0	4	0	0	0	0	0	1
07:30	4	0	0	0	4	6	0	0	0	6	0	0	0	0	0	0
07:45	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0	0
08:00	2	0	0	0	2	4	0	1	0	5	0	0	0	0	0	0
08:15	9	1	2	0	12	4	0	1	0	5	0	1	0	0	1	0
08:30	5	1	0	1	7	3	0	0	0	3	0	0	0	0	0	0
08:45	5	0	1	1	7	3	1	0	0	4	0	0	0	0	0	0
SUBTOTAL	34	3	5	2	44	31	3	2	0	36	0	1	0	0	1	1

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	8	3	3	0	14	2	0	0	0	2	0	0	0	0	0	0
16:15	3	2	3	0	8	2	1	1	0	4	0	0	0	0	0	0
16:30	6	4	1	0	11	0	2	0	0	2	0	0	0	0	0	0
16:45	8	6	3	0	17	2	0	1	0	3	0	0	0	0	0	4
17:00	3	1	5	0	9	0	1	0	0	1	0	0	0	0	0	1
17:15	1	0	2	1	4	0	0	0	0	0	0	1	1	0	2	2
17:30	6	1	1	0	8	1	0	0	0	1	0	0	0	0	0	1
17:45	8	1	2	0	11	0	1	0	0	1	0	0	0	0	0	1
SUBTOTAL	43	18	20	1	82	7	5	2	0	14	0	1	1	0	2	9
GRAND TOTAL	**77**	**21**	**25**	**3**	**126**	**38**	**8**	**4**	**0**	**50**	**0**	**2**	**1**	**0**	**3**	**10**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

East Approach - Harold Dent Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
07:30	4	1	0	0	5	1	0	0	0	1	1	0	0	0	1	0
07:45	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	0
08:00	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	2
08:15	2	1	0	0	3	0	1	0	0	1	0	0	0	0	0	0
08:30	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	1
08:45	2	1	0	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	11	4	0	0	15	2	4	0	0	6	1	0	0	0	1	5

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

East Approach - Harold Dent Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0
16:15	1	0	0	0	1	0	0	1	0	1	0	2	0	0	2	0
16:30	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	4	0	0	0	4	0	0	0	0	0	0	0	0	0	0	1
17:15	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0
17:30	1	1	0	0	2	1	0	1	0	2	0	2	0	0	2	1
17:45	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
SUBTOTAL	15	2	0	0	17	2	2	2	0	6	0	4	0	0	4	2
GRAND TOTAL	26	6	0	0	32	4	6	2	0	12	1	4	0	0	5	7

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - Harold Dent Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	1	0	5	0	6	0	0	2	0	2	0	0	0	0	0	0
07:15	0	0	5	0	5	1	1	2	0	4	0	0	0	0	0	0
07:30	0	0	8	0	8	1	0	0	0	1	0	0	0	0	0	1
07:45	0	0	6	0	6	0	3	0	0	3	0	0	0	0	0	0
08:00	0	0	10	0	10	0	0	4	0	4	0	0	0	0	0	0
08:15	0	0	4	0	4	1	1	5	0	7	0	0	0	0	0	0
08:30	1	0	1	0	2	0	0	0	0	0	0	1	0	0	1	0
08:45	0	1	2	0	3	1	1	1	0	3	0	0	0	0	0	0
SUBTOTAL	2	1	41	0	44	4	6	14	0	24	0	1	0	0	1	1

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Harold Dent Trail
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - Harold Dent Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	2	0	8	0	10	0	0	4	0	4	0	0	0	0	0	0
16:15	1	0	5	0	6	0	0	1	0	1	0	0	0	0	0	2
16:30	2	1	5	0	8	0	0	6	0	6	0	0	0	0	0	0
16:45	0	0	1	0	1	2	0	3	0	5	0	0	0	0	0	0
17:00	0	0	5	0	5	1	0	1	0	2	0	0	0	0	0	3
17:15	0	0	7	0	7	0	1	2	0	3	0	0	0	0	0	0
17:30	1	0	3	0	4	0	0	2	0	2	0	0	0	0	0	2
17:45	0	2	5	0	7	0	0	3	0	3	0	0	0	0	0	4
SUBTOTAL	6	3	39	0	48	3	1	22	0	26	0	0	0	0	0	11
GRAND TOTAL	**8**	**4**	**80**	**0**	**92**	**7**	**7**	**36**	**0**	**50**	**0**	**1**	**0**	**0**	**1**	**12**

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:30:00
To:	09:00:00	To:	08:30:00

Intersection: Carding Mill Trail & Harold Dent Trail
Site ID: 2014300001
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
	11	1	12
	10	4	14
	0	1	1
	21	**6**	**27**

Carding Mill Trail

	0	0	0	0
	4	4	1	1
	0	11	0	0
Totals	**4**	**15**	**1**	**1**

East Approach

	Out	In	Total
	12	3	15
	3	7	10
	1	0	1
	16	**10**	**26**

Harold Dent Trail

			Totals
0	0	0	**0**
0	2	0	**2**
0	4	0	**4**
0	9	28	**37**

Peds: 1

Peds: 0

Peds: 2

Peds: 0

Harold Dent Trail

	Totals			
	0	0	0	0
	0	0	0	0
	5	3	2	0
	11	9	1	1

West Approach

	Out	In	Total
	28	18	46
	15	21	36
	0	0	0
	43	**39**	**82**

Totals	**30**	**3**	**5**	**0**
	15	1	3	0
	15	1	2	0
	0	1	0	0

Carding Mill Trail

South Approach

	Out	In	Total
	19	48	67
	18	14	32	
	1	1	2
	38	**63**	**101**

- Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & Harold Dent Trail
Count Date: Sep 23, 2020
Period: 07:00 - 09:00

Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach Harold Dent Trail						West Approach Harold Dent Trail						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:30	1	4	3	1	0	9	10	0	0	0	0	10	6	1	0	0	0	7	1	0	8	0	1	9	35
07:45	0	5	0	0	0	5	1	1	1	0	0	3	1	1	0	0	0	2	0	3	6	0	0	9	19
08:00	0	4	1	0	0	5	6	0	1	0	0	7	2	1	0	0	2	3	0	0	14	0	0	14	29
08:15	0	2	0	0	0	2	13	2	3	0	0	18	2	2	0	0	0	4	1	1	9	0	0	11	35
Grand Total	**1**	**15**	**4**	**1**	**0**	**21**	**30**	**3**	**5**	**0**	**0**	**38**	**11**	**5**	**0**	**0**	**2**	**16**	**2**	**4**	**37**	**0**	**1**	**43**	**118**
Approach %	4.8	71.4	19	4.8		-	78.9	7.9	13.2	0		-	68.8	31.3	0	0		-	4.7	9.3	86	0		-	
Totals %	0.8	12.7	3.4	0.8		17.8	25.4	2.5	4.2	0		32.2	9.3	4.2	0	0		13.6	1.7	3.4	31.4	0		36.4	
PHF	**0.25**	**0.75**	**0.33**	**0.25**		**0.58**	**0.58**	**0.38**	**0.42**	**0**		**0.53**	**0.46**	**0.63**	**0**	**0**		**0.57**	**0.5**	**0.33**	**0.66**	**0**		**0.77**	**0.84**
Cars	0	11	0	0		11	15	1	3	0		19	9	3	0	0		12	0	0	28	0		28	70
% Cars	0	73.3	0	0		52.4	50	33.3	60	0		50	81.8	60	0	0		75	0	0	75.7	0		65.1	59.3
Trucks	1	4	4	1		10	15	1	2	0		18	1	2	0	0		3	2	4	9	0		15	46
% Trucks	100	26.7	100	100		47.6	50	33.3	40	0		47.4	9.1	40	0	0		18.8	100	100	24.3	0		34.9	39
Bicycles	0	0	0	0		0	0	1	0	0		1	1	0	0	0		1	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	33.3	0	0		2.6	9.1	0	0	0		6.3	0	0	0	0		0	1.7
Peds					0	-					0	-					2	-					1	-	3
% Peds					0	-					0	-					66.7	-					33.3	-	

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:00:00
To:	18:00:00	To:	17:00:00

Intersection: Carding Mill Trail & Harold Dent Trail
Site ID: 2014300001
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
Cars	12	20	32
Trucks	3	6	9
Bicycles	0	0	0
	15	**26**	**41**

Carding Mill Trail

Bicycles	0	0	0	0
Trucks	0	2	1	0
Cars	2	9	1	0
Totals	**2**	**11**	**2**	**0**

Peds: 0

East Approach

	Out	In	Total
Cars	6	12	18
Trucks	3	3	6
Bicycles	2	0	2
	11	**15**	**26**

Harold Dent Trail

Bicycles	Trucks	Cars	Totals	
0	0	0	**0**	
0	2	5	**7**	
0	0	1	**1**	
0	14	19	**33**	

Peds: 2

Peds: 0

Harold Dent Trail

Totals	Cars	Trucks	Bicycles
0	0	0	0
1	0	1	0
4	0	2	2
6	6	0	0

Peds: 4

West Approach

	Out	In	Total
Cars	25	27	52
Trucks	16	8	24
Bicycles	0	2	2
	41	**37**	**78**

Totals	31	18	12	0
Cars	25	15	10	0
Trucks	6	3	2	0
Bicycles	0	0	0	0

Carding Mill Trail

South Approach

	Out	In	Total
Cars	50	34	84
Trucks	11	16	27
Bicycles	0	0	0
	61	**50**	**111**

Cars - Cars Trucks - Trucks Bicycles - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & Harold Dent Trail
Count Date: Sep 23, 2020
Period: 16:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach Harold Dent Trail						West Approach Harold Dent Trail						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	0	3	1	0	0	4	10	3	3	0	0	16	4	0	0	0	0	4	2	0	12	0	0	14	38
16:15	1	3	1	0	0	5	5	3	4	0	0	12	1	2	1	0	0	4	1	0	6	0	2	7	28
16:30	1	3	0	0	0	4	6	6	1	0	0	13	1	2	0	0	0	3	2	1	11	0	0	14	34
16:45	0	2	0	0	0	2	10	6	4	0	4	20	0	0	0	0	0	0	2	0	4	0	0	6	28
Grand Total	**2**	**11**	**2**	**0**	**0**	**15**	**31**	**18**	**12**	**0**	**4**	**61**	**6**	**4**	**1**	**0**	**0**	**11**	**7**	**1**	**33**	**0**	**2**	**41**	**128**
Approach %	13.3	73.3	13.3	0		-	50.8	29.5	19.7	0		-	54.5	36.4	9.1	0		-	17.1	2.4	80.5	0		-	
Totals %	1.6	8.6	1.6	0		11.7	24.2	14.1	9.4	0		47.7	4.7	3.1	0.8	0		8.6	5.5	0.8	25.8	0		32	
PHF	**0.5**	**0.92**	**0.5**	**0**		**0.75**	**0.78**	**0.75**	**0.75**	**0**		**0.76**	**0.38**	**0.5**	**0.25**	**0**		**0.69**	**0.88**	**0.25**	**0.69**	**0**		**0.73**	**0.84**
Cars	1	9	2	0		12	25	15	10	0		50	6	0	0	0		6	5	1	19	0		25	93
% Cars	50	81.8	100	0		80	80.6	83.3	83.3	0		82	100	0	0	0		54.5	71.4	100	57.6	0		61	72.7
Trucks	1	2	0	0		3	6	3	2	0		11	0	2	1	0		3	2	0	14	0		16	33
% Trucks	50	18.2	0	0		20	19.4	16.7	16.7	0		18	0	50	100	0		27.3	28.6	0	42.4	0		39	25.8
Bicycles	0	0	0	0		0	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	2
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	50	0	0		18.2	0	0	0	0		0	1.6
Peds					0	-					4	-					0	-					2	-	6
% Peds					0	-					66.7	-					0	-					33.3	-	

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Project #20-143 - GHD

Intersection Count Report

Intersection:	Carding Mill Trail & Ironside Drive
Municipality:	Oakville
Count Date:	Sep 23, 2020
Site Code:	2014300002
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Map

Intersection:	Carding Mill Trail & Ironside Drive
Municipality:	Oakville
Count Date:	Sep 23, 2020

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

Carding Mill Trail - Traffic Summary

	North Approach Totals						South Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	0	44	0	0	44	0	2	37	0	0	39	0
08:00 - 09:00	0	47	1	0	48	0	4	44	0	0	48	1
BREAK												
16:00 - 17:00	0	51	3	0	54	4	9	57	0	0	66	0
17:00 - 18:00	0	43	4	0	47	0	2	36	0	0	38	0
GRAND TOTAL	**0**	**185**	**8**	**0**	**193**	**4**	**17**	**174**	**0**	**0**	**191**	**1**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

Ironside Drive - Traffic Summary

	East Approach Totals						West Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	0	0	0	0	0	0	1	0	5	0	6	0
08:00 - 09:00	0	0	0	0	0	0	0	0	6	0	6	0
BREAK												
16:00 - 17:00	0	0	0	0	0	0	2	0	5	0	7	0
17:00 - 18:00	0	0	0	0	0	0	3	0	6	0	9	0
GRAND TOTAL	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**22**	**0**	**28**	**0**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	6	0	0	6	0	2	0	0	2	0	0	0	0	0	0
07:15	0	4	0	0	4	0	2	0	0	2	0	0	0	0	0	0
07:30	0	13	0	0	13	0	4	0	0	4	0	1	0	0	1	0
07:45	0	12	0	0	12	0	0	0	0	0	0	0	0	0	0	0
08:00	0	15	0	0	15	0	5	0	0	5	0	0	0	0	0	0
08:15	0	7	0	0	7	0	5	1	0	6	0	0	0	0	0	0
08:30	0	4	0	0	4	0	1	0	0	1	0	0	0	0	0	0
08:45	0	8	0	0	8	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	0	69	0	0	69	0	21	1	0	22	0	1	0	0	1	0

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	0	15	0	0	15	0	6	0	0	6	0	0	0	0	0	0
16:15	0	9	0	0	9	0	1	0	0	1	0	0	2	0	2	0
16:30	0	9	0	0	9	0	5	1	0	6	0	0	0	0	0	4
16:45	0	2	0	0	2	0	4	0	0	4	0	0	0	0	0	0
17:00	0	10	0	0	10	0	3	0	0	3	0	0	0	0	0	0
17:15	0	10	1	0	11	0	2	0	0	2	0	1	0	0	1	0
17:30	0	5	0	0	5	0	2	1	0	3	0	0	2	0	2	0
17:45	0	6	0	0	6	0	4	0	0	4	0	0	0	0	0	0
SUBTOTAL	0	66	1	0	67	0	27	2	0	29	0	1	4	0	5	4
GRAND TOTAL	0	135	1	0	136	0	48	3	0	51	0	2	4	0	6	4

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
07:00	0	7	0	0	7	0	10	0	0	10	0	0	0	0	0	0
07:15	0	4	0	0	4	1	2	0	0	3	0	0	0	0	0	0
07:30	0	5	0	0	5	0	5	0	0	5	0	0	0	0	0	0
07:45	1	2	0	0	3	0	2	0	0	2	0	0	0	0	0	0
08:00	0	2	0	0	2	0	5	0	0	5	0	0	0	0	0	0
08:15	0	12	0	0	12	0	5	0	0	5	0	1	0	0	1	0
08:30	3	6	0	0	9	0	2	0	0	2	0	0	0	0	0	0
08:45	1	7	0	0	8	0	4	0	0	4	0	0	0	0	0	1
SUBTOTAL	5	45	0	0	50	1	35	0	0	36	0	1	0	0	1	1

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	1	11	0	0	12	0	1	0	0	1	2	0	0	0	2	0
16:15	3	10	0	0	13	0	2	0	0	2	2	0	0	0	2	0
16:30	1	11	0	0	12	0	2	0	0	2	0	0	0	0	0	0
16:45	0	17	0	0	17	0	3	0	0	3	0	0	0	0	0	0
17:00	0	7	0	0	7	0	1	0	0	1	0	1	0	0	1	0
17:15	1	4	0	0	5	0	0	0	0	0	0	2	0	0	2	0
17:30	0	8	0	0	8	0	1	0	0	1	0	0	0	0	0	0
17:45	1	11	0	0	12	0	1	0	0	1	0	0	0	0	0	0
SUBTOTAL	7	79	0	0	86	0	11	0	0	11	4	3	0	0	7	0
GRAND TOTAL	12	124	0	0	136	1	46	0	0	47	4	4	0	0	8	1

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - Ironside Drive

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
07:15	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0
07:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	1	0	1	1	0	0	0	1	0	0	0	0	0	0
08:00	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:15	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:30	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
08:45	0	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	0	0	10	0	10	1	0	1	0	2	0	0	0	0	0	0

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & Ironside Drive
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - Ironside Drive

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	3	0	3	0	0	0	0	0	1	0	0	0	1	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0
17:00	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
17:15	1	0	2	0	3	0	0	0	0	0	0	0	0	0	0	0
17:30	1	0	0	0	1	0	0	1	0	1	0	0	0	0	0	0
17:45	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
SUBTOTAL	4	0	10	0	14	0	0	1	0	1	1	0	0	0	1	0
GRAND TOTAL	4	0	20	0	24	1	0	2	0	3	1	0	0	0	1	0

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	07:00:00	From:	07:30:00
To:	09:00:00	To:	08:30:00

Intersection: Carding Mill Trail & Ironside Drive
Site ID: 2014300002
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
Cars	47	21	68
Trucks	15	18	33
Bicycles	1	1	2
	63	**40**	**103**

Carding Mill Trail

Bicycles	0	1	0
Trucks	1	14	0
Cars	0	47	0
Totals	**1**	**62**	**0**

Peds: 0

Ironside Drive

			Totals
0	0	0	**0**
0	1	0	**1**
0	0	4	**4**

Peds: 0

Peds: 0

Peds: 0

West Approach

	Out	In	Total
Cars	4	1	5
Trucks	1	1	2
Bicycles	0	0	0
	5	**2**	**7**

Totals	**1**	**39**	**0**
Cars	1	21	0
Trucks	0	17	0
Bicycles	0	1	0

Carding Mill Trail

South Approach

	Out	In	Total
Cars	22	51	73
Trucks	17	14	31
Bicycles	1	1	2
	40	**66**	**106**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & Ironside Drive
Count Date: Sep 23, 2020
Period: 07:00 - 09:00

Peak Hour Data (07:30 - 08:30)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach						West Approach Ironside Drive						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
07:30		18	0	0	0	18	0	10		0	0	10				0			0		1	0	0	1	29
07:45		12	0	0	0	12	1	4		0	0	5				0			1		1	0	0	2	19
08:00		20	0	0	0	20	0	7		0	0	7				0			0		1	0	0	1	28
08:15		12	1	0	0	13	0	18		0	0	18				0			0		1	0	0	1	32
Grand Total		**62**	**1**	**0**	**0**	**63**	**1**	**39**		**0**	**0**	**40**				**0**	**0**		**1**		**4**	**0**	**0**	**5**	**108**
Approach %		98.4	1.6	0		-	2.5	97.5		0		-					-		20		80	0		-	
Totals %		57.4	0.9	0		58.3	0.9	36.1		0		37					0		0.9		3.7	0		4.6	
PHF		**0.78**	**0.25**	**0**		**0.79**	**0.25**	**0.54**		**0**		**0.56**					**0**		**0.25**		**1**	**0**		**0.63**	**0.84**
Cars		47	0	0		47	1	21		0		22					0		0		4	0		4	73
% Cars		75.8	0	0		74.6	100	53.8		0		55					0		0		100	0		80	67.6
Trucks		14	1	0		15	0	17		0		17					0		1		0	0		1	33
% Trucks		22.6	100	0		23.8	0	43.6		0		42.5					0		100		0	0		20	30.6
Bicycles		1	0	0		1	0	1		0		1					0		0		0	0		0	2
% Bicycles		1.6	0	0		1.6	0	2.6		0		2.5					0		0		0	0		0	1.9
Peds					0	-					0	-				0	-						0	-	0
% Peds					0	-					0	-				0	-						0	-	

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:00:00
To:	18:00:00	To:	17:00:00

Intersection: Carding Mill Trail & Ironside Drive
Site ID: 2014300002
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
Cars	35	50	85
Trucks	17	8	25
Bicycles	2	1	3
	54	**59**	**113**

Carding Mill Trail

Bicycles	2	0	0
Trucks	1	16	0
Cars	0	35	0
Totals	**3**	**51**	**0**

Peds: 4

Ironside Drive

			Totals
0	0	0	**0**
1	0	1	**2**
0	0	5	**5**

Peds: 0

Peds: 0

Peds: 0

West Approach

	Out	In	Total
Cars	6	5	11
Trucks	0	1	1
Bicycles	1	6	7
	7	**12**	**19**

Totals	**9**	**57**	**0**
Cars	5	49	0
Trucks	0	8	0
Bicycles	4	0	0

Carding Mill Trail

South Approach

	Out	In	Total
Cars	54	40	94
Trucks	8	16	24
Bicycles	4	0	4
	66	**56**	**122**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & Ironside Drive
Count Date: Sep 23, 2020
Period: 16:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach						West Approach Ironside Drive						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00		21	0	0	0	21	3	12		0	0	15				0			1		0	0	0	1	37
16:15		10	2	0	0	12	5	12		0	0	17				0			1		3	0	0	4	33
16:30		14	1	0	4	15	1	13		0	0	14				0			0		0	0	0	0	29
16:45		6	0	0	0	6	0	20		0	0	20				0			0		2	0	0	2	28
Grand Total		**51**	**3**	**0**	**4**	**54**	**9**	**57**		**0**	**0**	**66**				**0**	**0**		**2**		**5**	**0**	**0**	**7**	**127**
Approach %		94.4	5.6	0		-	13.6	86.4		0		-					-		28.6		71.4	0		-	
Totals %		40.2	2.4	0		42.5	7.1	44.9		0		52					0		1.6		3.9	0		5.5	
PHF		**0.61**	**0.38**	**0**		**0.64**	**0.45**	**0.71**		**0**		**0.83**					**0**		**0.5**		**0.42**	**0**		**0.44**	**0.86**
Cars		35	0	0		35	5	49		0		54					0		1		5	0		6	95
% Cars		68.6	0	0		64.8	55.6	86		0		81.8					0		50		100	0		85.7	74.8
Trucks		16	1	0		17	0	8		0		8					0		0		0	0		0	25
% Trucks		31.4	33.3	0		31.5	0	14		0		12.1					0		0		0	0		0	19.7
Bicycles		0	2	0		2	4	0		0		4					0		1		0	0		1	7
% Bicycles		0	66.7	0		3.7	44.4	0		0		6.1					0		50		0	0		14.3	5.5
Peds					4	-					0	-				0	-						0	-	4
% Peds					100	-					0	-				0	-						0	-	

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Project #20-143 - GHD

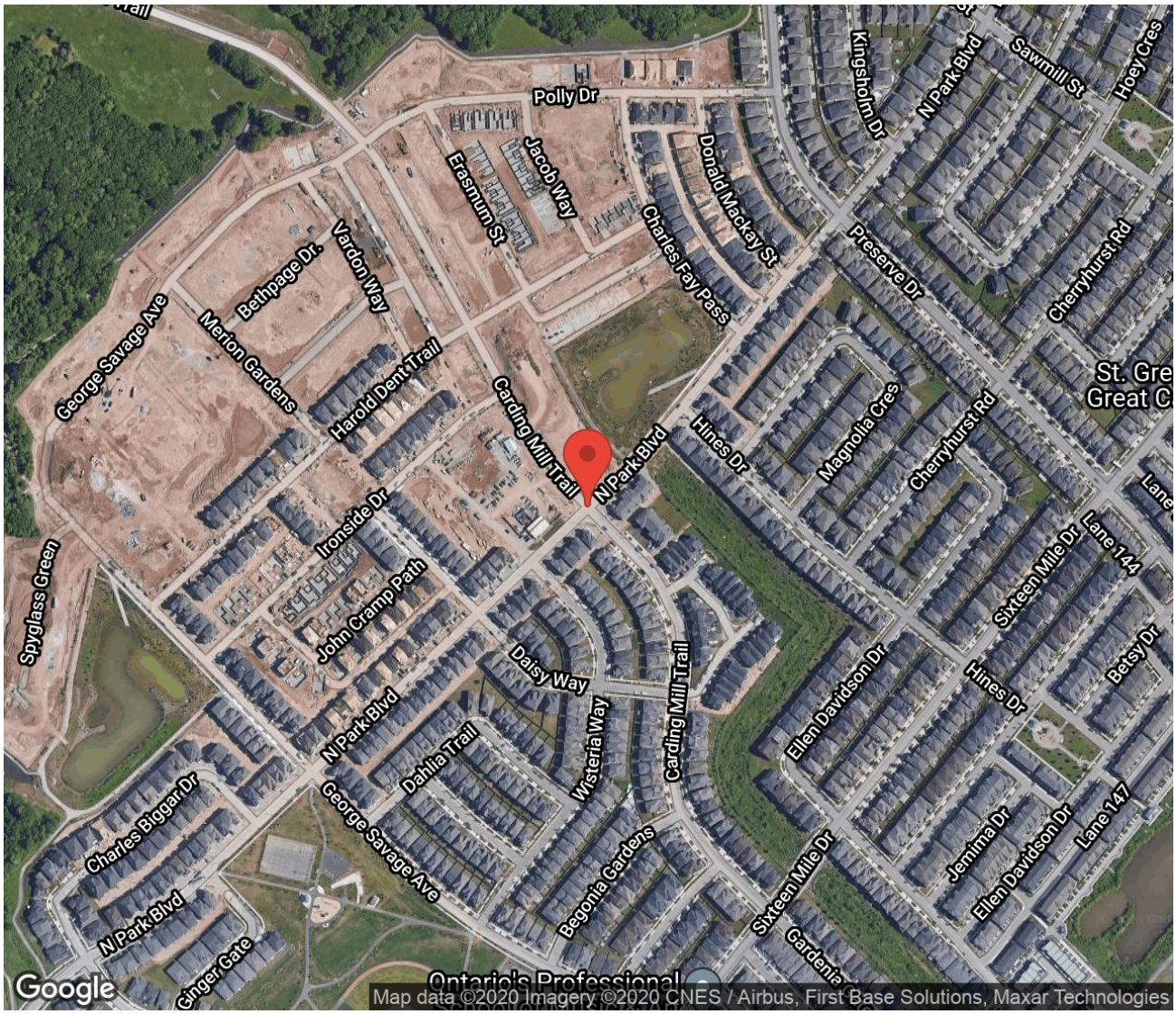
Intersection Count Report

Intersection:	Carding Mill Trail & North Park Blvd
Municipality:	Oakville
Count Date:	Sep 23, 2020
Site Code:	2014300003
Count Categories:	Cars, Trucks, Bicycles, Pedestrians
Count Period:	07:00-09:00, 16:00-18:00
Weather:	Clear

Traffic Count Map

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Intersection:	Carding Mill Trail & North Park Blvd
Municipality:	Oakville
Count Date:	Sep 23, 2020



Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

Carding Mill Trail - Traffic Summary

	North Approach Totals						South Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	33	9	9	0	51	4	1	10	2	0	13	15
08:00 - 09:00	29	13	8	1	51	15	0	8	3	0	11	19
BREAK												
16:00 - 17:00	34	12	7	0	53	7	1	13	3	0	17	4
17:00 - 18:00	35	6	11	0	52	9	5	7	3	0	15	11
GRAND TOTAL	**131**	**40**	**35**	**1**	**207**	**35**	**7**	**38**	**11**	**0**	**56**	**49**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Summary

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

North Park Blvd - Traffic Summary

	East Approach Totals						West Approach Totals					
	Includes Cars, Trucks, Bicycles						Includes Cars, Trucks, Bicycles					
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds
07:00 - 08:00	1	16	24	0	41	0	6	16	1	0	23	2
08:00 - 09:00	2	56	27	0	85	0	9	50	1	0	60	1
BREAK												
16:00 - 17:00	6	48	31	0	85	7	19	38	3	0	60	1
17:00 - 18:00	4	62	22	1	89	3	7	38	2	0	47	3
GRAND TOTAL	**13**	**182**	**104**	**1**	**300**	**10**	**41**	**142**	**7**	**0**	**190**	**7**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	5	1	2	0	8	1	1	0	0	2	0	0	0	0	0	0
07:15	3	0	2	0	5	2	0	0	0	2	0	0	0	0	0	1
07:30	9	4	2	0	15	1	1	0	0	2	0	1	0	0	1	2
07:45	11	1	3	0	15	1	0	0	0	1	0	0	0	0	0	1
08:00	11	1	3	0	15	3	2	0	0	5	0	0	0	0	0	0
08:15	6	1	1	0	8	1	3	0	0	4	0	0	0	0	0	1
08:30	2	1	2	0	5	0	0	1	0	1	0	0	0	0	0	3
08:45	5	5	1	1	12	1	0	0	0	1	0	0	0	0	0	11
SUBTOTAL	52	14	16	1	83	10	7	1	0	18	0	1	0	0	1	19

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

North Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	10	2	2	0	14	3	2	1	0	6	0	0	0	0	0	4
16:15	7	3	1	0	11	0	0	0	0	0	0	0	0	0	0	1
16:30	7	2	1	0	10	3	1	0	0	4	0	0	0	0	0	1
16:45	3	0	1	0	4	1	2	1	0	4	0	0	0	0	0	1
17:00	8	2	4	0	14	1	2	0	0	3	0	0	0	0	0	0
17:15	8	1	3	0	12	2	0	0	0	2	1	0	0	0	1	1
17:30	4	1	1	0	6	2	0	0	0	2	0	0	0	0	0	4
17:45	8	0	1	0	9	1	0	2	0	3	0	0	0	0	0	4
SUBTOTAL	55	11	14	0	80	13	7	4	0	24	1	0	0	0	1	16
GRAND TOTAL	107	25	30	1	163	23	14	5	0	42	1	1	0	0	2	35

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	2
07:15	0	2	1	0	3	1	0	1	0	2	0	0	0	0	0	13
07:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15	0	2	1	0	3	0	1	0	0	1	0	0	0	0	0	0
08:30	0	1	2	0	3	0	0	0	0	0	0	0	0	0	0	1
08:45	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0	18
SUBTOTAL	0	9	4	0	13	1	9	1	0	11	0	0	0	0	0	34

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

South Approach - Carding Mill Trail

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
16:15	1	2	1	0	4	0	2	1	0	3	0	0	0	0	0	1
16:30	0	4	1	0	5	0	0	0	0	0	0	0	0	0	0	1
16:45	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0	1
17:00	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3
17:15	2	0	1	0	3	0	0	0	0	0	0	2	1	0	3	3
17:30	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0	2
17:45	1	5	0	0	6	0	0	0	0	0	0	0	0	0	0	3
SUBTOTAL	6	16	4	0	26	0	2	1	0	3	0	2	1	0	3	15
GRAND TOTAL	**6**	**25**	**8**	**0**	**39**	**1**	**11**	**2**	**0**	**14**	**0**	**2**	**1**	**0**	**3**	**49**

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

East Approach - North Park Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	6	5	0	11	0	0	0	0	0	0	0	0	0	0	0
07:15	0	4	5	0	9	0	1	0	0	1	0	0	0	0	0	0
07:30	0	3	8	0	11	0	0	0	0	0	0	0	0	0	0	0
07:45	1	2	6	0	9	0	0	0	0	0	0	0	0	0	0	0
08:00	1	11	6	0	18	0	0	4	0	4	0	0	0	0	0	0
08:15	1	9	5	0	15	0	1	2	0	3	0	0	0	0	0	0
08:30	0	5	6	0	11	0	2	0	0	2	0	0	0	0	0	0
08:45	0	23	4	0	27	0	2	0	0	2	0	3	0	0	3	0
SUBTOTAL	3	63	45	0	111	0	6	6	0	12	0	3	0	0	3	0

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

East Approach - North Park Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
16:00	2	14	6	0	22	0	0	1	0	1	0	1	2	0	3	5
16:15	2	11	5	0	18	0	6	0	0	6	0	0	2	0	2	2
16:30	0	11	6	0	17	0	1	0	0	1	1	0	0	0	1	0
16:45	1	4	9	0	14	0	0	0	0	0	0	0	0	0	0	0
17:00	0	9	2	1	12	0	2	0	0	2	0	0	1	0	1	0
17:15	1	4	3	0	8	0	1	0	0	1	0	1	0	0	1	1
17:30	1	14	8	0	23	0	2	1	0	3	1	10	0	0	11	2
17:45	1	11	7	0	19	0	0	0	0	0	0	8	0	0	8	0
SUBTOTAL	8	78	46	1	133	0	12	2	0	14	2	20	5	0	27	10
GRAND TOTAL	11	141	91	1	244	0	18	8	0	26	2	23	5	0	30	10

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - North Park Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	↰	↑	↱	↻	Total	
07:00	0	3	0	0	3	1	0	0	0	1	0	1	0	0	1	1
07:15	0	0	0	0	0	4	0	0	0	4	0	1	0	0	1	0
07:30	1	1	0	0	2	0	0	1	0	1	0	0	0	0	0	1
07:45	0	10	0	0	10	0	0	0	0	0	0	0	0	0	0	0
08:00	1	14	0	0	15	0	0	0	0	0	1	0	0	0	1	0
08:15	2	9	0	0	11	0	0	0	0	0	0	0	0	0	0	0
08:30	1	6	0	0	7	0	0	0	0	0	0	0	0	0	0	1
08:45	1	21	0	0	22	3	0	0	0	3	0	0	1	0	1	0
SUBTOTAL	6	64	0	0	70	8	0	1	0	9	1	2	1	0	4	3

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Traffic Count Data

Intersection: Carding Mill Trail & North Park Blvd
Municipality: Oakville
Count Date: Sep 23, 2020

West Approach - North Park Blvd

Start Time	Cars					Trucks					Bicycles					Total Peds
	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	↰	↑	↱	↶	Total	
16:00	2	3	2	0	7	2	3	0	0	5	0	1	0	0	1	0
16:15	4	10	0	0	14	1	0	0	0	1	0	3	0	0	3	0
16:30	3	4	0	0	7	1	2	0	0	3	0	0	0	0	0	1
16:45	5	9	1	0	15	1	0	0	0	1	0	3	0	0	3	0
17:00	2	15	0	0	17	0	1	0	0	1	0	2	0	0	2	2
17:15	2	5	0	0	7	0	0	0	0	0	0	1	0	0	1	0
17:30	1	7	0	0	8	1	1	0	0	2	0	0	0	0	0	1
17:45	0	3	2	0	5	1	2	0	0	3	0	1	0	0	1	0
SUBTOTAL	19	56	5	0	80	7	9	0	0	16	0	11	0	0	11	4
GRAND TOTAL	25	120	5	0	150	15	9	1	0	25	1	13	1	0	15	7

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:00:00
To:	09:00:00	To:	09:00:00

Intersection: Carding Mill Trail & North Park Blvd
Site ID: 2014300003
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
Cars	40	34	74
Trucks	11	10	21
Bicycles	0	1	1
	51	**45**	**96**

Carding Mill Trail

Bicycles	0	0	0	0
Trucks	1	5	5	0
Cars	7	8	24	1
Totals	**8**	**13**	**29**	**1**

Peds: 15

East Approach

	Out	In	Total
Cars	71	77	148
Trucks	11	5	16
Bicycles	3	0	3
	85	**82**	**167**

North Park Blvd

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
1	3	5	**9**
0	0	50	**50**
1	0	0	**1**

Peds: 1

Peds: 0

North Park Blvd

Totals	Cars	Trucks	Bicycles
0	0	0	0
27	21	6	0
56	48	5	3
2	2	0	0

Peds: 19

West Approach

	Out	In	Total
Cars	55	55	110
Trucks	3	6	9
Bicycles	2	3	5
	60	**64**	**124**

Totals	0	8	3	0
Cars	0	7	3	0
Trucks	0	1	0	0
Bicycles	0	0	0	0

Carding Mill Trail

South Approach

	Out	In	Total
Cars	10	10	20
Trucks	1	5	6
Bicycles	0	1	1
	11	**16**	**27**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & North Park Blvd
Count Date: Sep 23, 2020
Period: 07:00 - 09:00

Peak Hour Data (08:00 - 09:00)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach North Park Blvd						West Approach North Park Blvd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:00	14	3	3	0	0	20	0	0	0	0	0	0	1	11	10	0	0	22	2	14	0	0	0	16	58
08:15	7	4	1	0	1	12	0	3	1	0	0	4	1	10	7	0	0	18	2	9	0	0	0	11	45
08:30	2	1	3	0	3	6	0	1	2	0	1	3	0	7	6	0	0	13	1	6	0	0	1	7	29
08:45	6	5	1	1	11	13	0	4	0	0	18	4	0	28	4	0	0	32	4	21	1	0	0	26	75
Grand Total	**29**	**13**	**8**	**1**	**15**	**51**	**0**	**8**	**3**	**0**	**19**	**11**	**2**	**56**	**27**	**0**	**0**	**85**	**9**	**50**	**1**	**0**	**1**	**60**	**207**
Approach %	56.9	25.5	15.7	2		-	0	72.7	27.3	0		-	2.4	65.9	31.8	0		-	15	83.3	1.7	0		-	
Totals %	14	6.3	3.9	0.5		24.6	0	3.9	1.4	0		5.3	1	27.1	13	0		41.1	4.3	24.2	0.5	0		29	
PHF	**0.52**	**0.65**	**0.67**	**0.25**		**0.64**	**0**	**0.5**	**0.38**	**0**		**0.69**	**0.5**	**0.5**	**0.68**	**0**		**0.66**	**0.56**	**0.6**	**0.25**	**0**		**0.58**	**0.69**
Cars	24	8	7	1		40	0	7	3	0		10	2	48	21	0		71	5	50	0	0		55	176
% Cars	82.8	61.5	87.5	100		78.4	0	87.5	100	0		90.9	100	85.7	77.8	0		83.5	55.6	100	0	0		91.7	85
Trucks	5	5	1	0		11	0	1	0	0		1	0	5	6	0		11	3	0	0	0		3	26
% Trucks	17.2	38.5	12.5	0		21.6	0	12.5	0	0		9.1	0	8.9	22.2	0		12.9	33.3	0	0	0		5	12.6
Bicycles	0	0	0	0		0	0	0	0	0		0	0	3	0	0		3	1	0	1	0		2	5
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	5.4	0	0		3.5	11.1	0	100	0		3.3	2.4
Peds					15	-					19	-					0	-					1	-	35
% Peds					42.9	-					54.3	-					0	-					2.9	-	

Peak Hour Diagram

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Specified Period		One Hour Peak	
From:	16:00:00	From:	16:00:00
To:	18:00:00	To:	17:00:00

Intersection: Carding Mill Trail & North Park Blvd
Site ID: 2014300003
Count Date: Sep 23, 2020

Weather conditions:

**** Unsignalized Intersection ****

Major Road: Carding Mill Trail runs N/S

North Approach

	Out	In	Total
Cars	39	51	90
Trucks	14	8	22
Bicycles	0	4	4
	53	**63**	**116**

Carding Mill Trail

Bicycles	0	0	0	0
Trucks	2	5	7	0
Cars	5	7	27	0
Totals	**7**	**12**	**34**	**0**

Peds: 7

East Approach

	Out	In	Total
Cars	71	55	126
Trucks	8	13	21
Bicycles	6	7	13
	85	**75**	**160**

North Park Blvd

Bicycles	Trucks	Cars	Totals
0	0	0	**0**
0	5	14	**19**
7	5	26	**38**
0	0	3	**3**

Peds: 1

Peds: 7

North Park Blvd

Totals	Cars	Trucks	Bicycles
0	0	0	0
31	26	1	4
48	40	7	1
6	5	0	1

Peds: 4

West Approach

	Out	In	Total
Cars	43	46	89
Trucks	10	9	19
Bicycles	7	1	8
	60	**56**	**116**

Carding Mill Trail

Totals	**1**	**13**	**3**	**0**
Cars	1	11	2	0
Trucks	0	2	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	14	15	29
Trucks	3	5	8
Bicycles	0	1	1
	17	**21**	**38**

Cars - Trucks - Bicycles

Comments

Ontario Traffic Inc.
TRAFFIC MONITORING SERVICES & PRODUCTS

Peak Hour Summary

Intersection: Carding Mill Trail & North Park Blvd
Count Date: Sep 23, 2020
Period: 16:00 - 18:00

Peak Hour Data (16:00 - 17:00)

Start Time	North Approach Carding Mill Trail						South Approach Carding Mill Trail						East Approach North Park Blvd						West Approach North Park Blvd						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
16:00	13	4	3	0	4	20	0	0	0	0	1	0	2	15	9	0	5	26	4	7	2	0	0	13	59
16:15	7	3	1	0	1	11	1	4	2	0	1	7	2	17	7	0	2	26	5	13	0	0	0	18	62
16:30	10	3	1	0	1	14	0	4	1	0	1	5	1	12	6	0	0	19	4	6	0	0	1	10	48
16:45	4	2	2	0	1	8	0	5	0	0	1	5	1	4	9	0	0	14	6	12	1	0	0	19	46
Grand Total	**34**	**12**	**7**	**0**	**7**	**53**	**1**	**13**	**3**	**0**	**4**	**17**	**6**	**48**	**31**	**0**	**7**	**85**	**19**	**38**	**3**	**0**	**1**	**60**	**215**
Approach %	64.2	22.6	13.2	0		-	5.9	76.5	17.6	0		-	7.1	56.5	36.5	0		-	31.7	63.3	5	0		-	
Totals %	15.8	5.6	3.3	0		24.7	0.5	6	1.4	0		7.9	2.8	22.3	14.4	0		39.5	8.8	17.7	1.4	0		27.9	
PHF	**0.65**	**0.75**	**0.58**	**0**		**0.66**	**0.25**	**0.65**	**0.38**	**0**		**0.61**	**0.75**	**0.71**	**0.86**	**0**		**0.82**	**0.79**	**0.73**	**0.38**	**0**		**0.79**	**0.87**
Cars	27	7	5	0		39	1	11	2	0		14	5	40	26	0		71	14	26	3	0		43	167
% Cars	79.4	58.3	71.4	0		73.6	100	84.6	66.7	0		82.4	83.3	83.3	83.9	0		83.5	73.7	68.4	100	0		71.7	77.7
Trucks	7	5	2	0		14	0	2	1	0		3	0	7	1	0		8	5	5	0	0		10	35
% Trucks	20.6	41.7	28.6	0		26.4	0	15.4	33.3	0		17.6	0	14.6	3.2	0		9.4	26.3	13.2	0	0		16.7	16.3
Bicycles	0	0	0	0		0	0	0	0	0		0	1	1	4	0		6	0	7	0	0		7	13
% Bicycles	0	0	0	0		0	0	0	0	0		0	16.7	2.1	12.9	0		7.1	0	18.4	0	0		11.7	6
Peds					7	-					4	-					7	-					1	-	19
% Peds					36.8	-					21.1	-					36.8	-					5.3	-	

Appendix C
TTS Summary Data

Thu Jan 14 2021 13:55:47 GMT-0500 (Eastern Standard Time) - Run Time: 2791ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of employment - pd_emp
Column: Planning district of origin - pd_orig

RowG:
ColG:(39)
TblG:

Filters:
Start time of trip - start_time In 600-900
and
Primary travel mode of trip - mode_prime In D, M, P, T

Trip 2016
Table:

		North	South	East	West		North	South	East	West
PD 1 of Toronto	3185			1			0	0	3185	0
PD 2 of Toronto	727			1			0	0	727	0
PD 3 of Toronto	259			1			0	0	259	0
PD 4 of Toronto	307			1			0	0	307	0
PD 5 of Toronto	241			1			0	0	241	0
PD 6 of Toronto	30			1			0	0	30	0
PD 7 of Toronto	221			1			0	0	221	0
PD 8 of Toronto	1071			1			0	0	1071	0
PD 9 of Toronto	394			1			0	0	394	0
PD 10 of Toronto	581			1			0	0	581	0
PD 11 of Toronto	186			1			0	0	186	0
PD 12 of Toronto	111			1			0	0	111	0
PD 13 of Toronto	112			1			0	0	112	0
PD 14 of Toronto	9			1			0	0	9	0
PD 15 of Toronto	17			1			0	0	17	0
PD 16 of Toronto	99			1			0	0	99	0
Newmarket	27			1			0	0	27	0
Richmond Hill	131			1			0	0	131	0
Whitchurch-Stouffville	46			1			0	0	46	0
Markham	381			1			0	0	381	0
Vaughan	780			1			0	0	780	0
Caledon	37			1			0	0	37	0
Brampton	1582	0.5		0.5			791	0	791	0
Mississauga	15920			1			0	0	15920	0
Halton Hills	196	1					196	0	0	0
Milton	951	1					951	0	0	0
Oakville	21497		0.5	0.25	0.25		0	10749	5374	5374
Burlington	4024				1		0	0	0	4024
Flamborough	176				1		0	0	0	176
Ancaster	60				1		0	0	0	60
Glanbrook	78				1		0	0	0	78
Stoney Creek	140				1		0	0	0	140
Hamilton	1644				1		0	0	0	1644
Grimsby	53				1		0	0	0	53
Lincoln	38				1		0	0	0	38
St. Catharines	116				1		0	0	0	116
Niagara Falls	14				1		0	0	0	14
Waterloo	159	1					159	0	0	0
Kitchener	79	1					79	0	0	0
Cambridge	287	1					287	0	0	0
Wellesley	15	1					15	0	0	0
City of Guelph	214	1					214	0	0	0
Puslinch	31	1					31	0	0	0
Orangeville	17	1					17	0	0	0
New Tecumseth	22			1			0	0	22	0
Peterborough	47			1			0	0	47	0
Brant	216				1		0	0	0	216
Brantford	185				1		0	0	0	185

No Usual Place	5071	0.25	0.25	0.25	0.25		1268	1268	1268	1268	
External	231	0.25	0.25	0.25	0.25		58	58	58	58	
Not employed	20252	-	-	-	-		-	-	-	-	
						Total	4066	12075	32432	13444	62017
						Distribution	7%	19%	52%	22%	100%
						Conservative	**5%**	**20%**	**50%**	**25%**	**100%**

Thu Jan 14 2021 14:11:48 GMT-0500 (Eastern Standard Time) - Run Time: 2512ms

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: Planning district of employment - pd_emp
Column: Planning district of destination - pd_dest

RowG:
ColG:(39)
TblG:

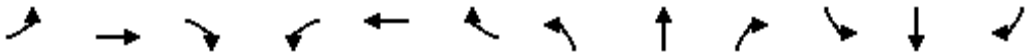
Filters:
Start time of trip - start_time In 1600-1800
and
Primary travel mode of trip - mode_prime In D, M, P, T

Trip 2016
Table:

		North	South	East	West		North	South	East	West
PD 1 of Toronto	2802			1			0	0	2802	0
PD 2 of Toronto	657			1			0	0	657	0
PD 3 of Toronto	228			1			0	0	228	0
PD 4 of Toronto	362			1			0	0	362	0
PD 5 of Toronto	254			1			0	0	254	0
PD 6 of Toronto	30			1			0	0	30	0
PD 7 of Toronto	225			1			0	0	225	0
PD 8 of Toronto	784			1			0	0	784	0
PD 9 of Toronto	348			1			0	0	348	0
PD 10 of Toronto	456			1			0	0	456	0
PD 11 of Toronto	157			1			0	0	157	0
PD 12 of Toronto	64			1			0	0	64	0
PD 13 of Toronto	21			1			0	0	21	0
PD 15 of Toronto	17			1			0	0	17	0
PD 16 of Toronto	23			1			0	0	23	0
Ajax	31			1			0	0	31	0
Whitby	12			1			0	0	12	0
Newmarket	19			1			0	0	19	0
Richmond Hill	82			1			0	0	82	0
Whitchurch-Stouffville	46			1			0	0	46	0
Markham	194			1			0	0	194	0
Vaughan	390			1			0	0	390	0
Caledon	75			1			0	0	75	0
Brampton	1351	0.5		0.5			676	0	676	0
Mississauga	14723			1			0	0	14723	0
Halton Hills	243	1					243	0	0	0
Milton	676	1					676	0	0	0
Oakville	18400		0.5	0.25	0.25		0	9200	4600	4600
Burlington	3500				1		0	0	0	3500
Flamborough	172				1		0	0	0	172
Ancaster	44				1		0	0	0	44
Glanbrook	32				1		0	0	0	32
Stoney Creek	69				1		0	0	0	69
Hamilton	1276				1		0	0	0	1276
Grimsby	8				1		0	0	0	8
Lincoln	38				1		0	0	0	38
St. Catharines	92				1		0	0	0	92
Niagara Falls	14				1		0	0	0	14
Waterloo	205	1					205	0	0	0
Kitchener	83	1					83	0	0	0
Cambridge	287				1		0	0	0	287
City of Guelph	115	1					115	0	0	0
Puslinch	31	1					31	0	0	0
Guelph/Eramosa	17	1					17	0	0	0

Orangeville	17	1					17	0	0	0	
Barrie	37			1			0	0	37	0	
New Tecumseth	22			1			0	0	22	0	
Brant	137				1		0	0	0	137	
Brantford	87				1		0	0	0	87	
No Usual Place	4209	0.25	0.25	0.25	0.25		1052	1052	1052	1052	
External	192	0.25	0.25	0.25	0.25		48	48	48	48	
Not employed	15277	-	-	-	-		-	-	-	-	
						Total	3163	10300	28435	11456	53354
						Distribution	6%	19%	53%	21%	100%
						Conservative	**5%**	**20%**	**50%**	**25%**	**100%**

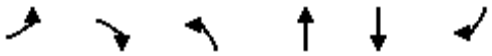
Appendix D
Capacity Analysis Reports



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	4	37	11	5	0	30	3	5	2	15	4
Future Volume (vph)	2	4	37	11	5	0	30	3	5	2	15	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	40	12	5	0	33	3	5	2	16	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	46	17	41	22
Volume Left (vph)	2	12	33	2
Volume Right (vph)	40	0	5	4
Hadj (s)	-0.48	0.18	0.12	-0.06
Departure Headway (s)	3.6	4.3	4.2	4.0
Degree Utilization, x	0.05	0.02	0.05	0.02
Capacity (veh/h)	982	828	839	878
Control Delay (s)	6.7	7.3	7.4	7.1
Approach Delay (s)	6.7	7.3	7.4	7.1
Approach LOS	A	A	A	A

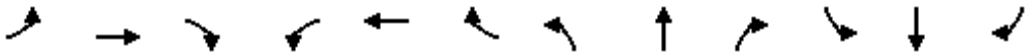
Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	21.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	4	1	39	62	1
Future Volume (Veh/h)	1	4	1	39	62	1
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)	1	4	1	42	67	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	112	68	68			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	112	68	68			
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	100	100			
cM capacity (veh/h)	885	996	1533			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	5	43	68
Volume Left	1	1	0
Volume Right	4	0	1
cSH	971	1533	1700
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (m)	0.1	0.0	0.0
Control Delay (s)	8.7	0.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.7	0.2	0.0
Approach LOS	A		

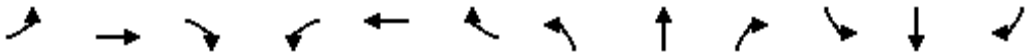
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	13.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	9	50	1	2	56	27	0	8	3	30	13	8
Future Volume (vph)	9	50	1	2	56	27	0	8	3	30	13	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	10	54	1	2	61	29	0	9	3	33	14	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	65	92	12	56
Volume Left (vph)	10	2	0	33
Volume Right (vph)	1	29	3	9
Hadj (s)	0.06	-0.15	-0.12	0.06
Departure Headway (s)	4.2	4.0	4.2	4.3
Degree Utilization, x	0.08	0.10	0.01	0.07
Capacity (veh/h)	836	886	817	805
Control Delay (s)	7.5	7.4	7.2	7.6
Approach Delay (s)	7.5	7.4	7.2	7.6
Approach LOS	A	A	A	A

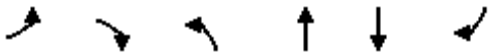
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	23.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	7	1	33	6	4	1	31	18	12	2	11	2
Future Volume (vph)	7	1	33	6	4	1	31	18	12	2	11	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	1	36	7	4	1	34	20	13	2	12	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	45	12	67	16
Volume Left (vph)	8	7	34	2
Volume Right (vph)	36	1	13	2
Hadj (s)	-0.41	0.10	0.02	-0.02
Departure Headway (s)	3.7	4.2	4.0	4.1
Degree Utilization, x	0.05	0.01	0.08	0.02
Capacity (veh/h)	951	831	866	866
Control Delay (s)	6.9	7.3	7.4	7.1
Approach Delay (s)	6.9	7.3	7.4	7.1
Approach LOS	A	A	A	A

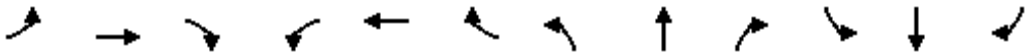
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	19.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	5	9	57	51	3
Future Volume (Veh/h)	2	5	9	57	51	3
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)	2	5	10	62	55	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	138	56	58			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	138	56	58			
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	100	99			
cM capacity (veh/h)	849	1010	1546			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	7	72	58
Volume Left	2	10	0
Volume Right	5	0	3
cSH	958	1546	1700
Volume to Capacity	0.01	0.01	0.03
Queue Length 95th (m)	0.2	0.1	0.0
Control Delay (s)	8.8	1.1	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	1.1	0.0
Approach LOS	A		

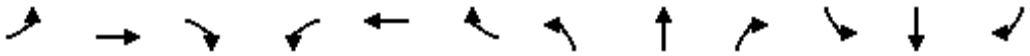
Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	20.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	19	38	3	6	48	31	1	13	3	34	12	7
Future Volume (vph)	19	38	3	6	48	31	1	13	3	34	12	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	21	41	3	7	52	34	1	14	3	37	13	8

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	65	93	18	58
Volume Left (vph)	21	7	1	37
Volume Right (vph)	3	34	3	8
Hadj (s)	0.07	-0.17	-0.05	0.08
Departure Headway (s)	4.2	4.0	4.2	4.3
Degree Utilization, x	0.08	0.10	0.02	0.07
Capacity (veh/h)	828	884	805	799
Control Delay (s)	7.6	7.4	7.3	7.7
Approach Delay (s)	7.6	7.4	7.3	7.7
Approach LOS	A	A	A	A

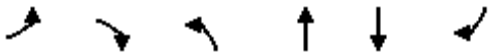
Intersection Summary				
Delay	7.5			
Level of Service	A			
Intersection Capacity Utilization	25.0%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	3	41	12	6	0	33	3	6	2	17	4
Future Volume (vph)	2	3	41	12	6	0	33	3	6	2	17	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	3	45	13	7	0	36	3	7	2	18	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	50	20	46	24
Volume Left (vph)	2	13	36	2
Volume Right (vph)	45	0	7	4
Hadj (s)	-0.50	0.16	0.10	-0.05
Departure Headway (s)	3.6	4.3	4.2	4.0
Degree Utilization, x	0.05	0.02	0.05	0.03
Capacity (veh/h)	981	825	839	870
Control Delay (s)	6.8	7.4	7.4	7.1
Approach Delay (s)	6.8	7.4	7.4	7.1
Approach LOS	A	A	A	A

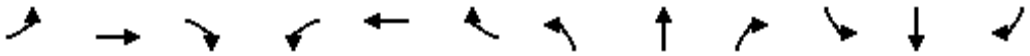
Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	21.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	1	4	1	43	68	1
Future Volume (Veh/h)	1	4	1	43	68	1
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)	1	4	1	47	74	1
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	124	74	75			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	124	74	75			
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	100	100			
cM capacity (veh/h)	871	987	1524			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	5	48	75
Volume Left	1	1	0
Volume Right	4	0	1
cSH	961	1524	1700
Volume to Capacity	0.01	0.00	0.04
Queue Length 95th (m)	0.1	0.0	0.0
Control Delay (s)	8.8	0.2	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	0.2	0.0
Approach LOS	A		

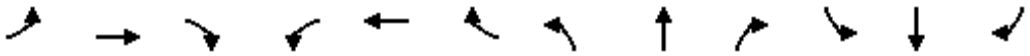
Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	13.6%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	55	1	2	62	30	0	9	3	33	14	9
Future Volume (vph)	10	55	1	2	62	30	0	9	3	33	14	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	60	1	2	67	33	0	10	3	36	15	10

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	72	102	13	61
Volume Left (vph)	11	2	0	36
Volume Right (vph)	1	33	3	10
Hadj (s)	0.06	-0.16	-0.10	0.05
Departure Headway (s)	4.2	4.0	4.2	4.3
Degree Utilization, x	0.08	0.11	0.02	0.07
Capacity (veh/h)	830	881	804	785
Control Delay (s)	7.6	7.5	7.3	7.7
Approach Delay (s)	7.6	7.5	7.3	7.7
Approach LOS	A	A	A	A

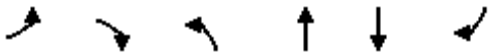
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	24.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	1	36	7	4	1	34	20	13	2	12	2
Future Volume (vph)	8	1	36	7	4	1	34	20	13	2	12	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	1	39	8	4	1	37	22	14	2	13	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	49	13	73	17
Volume Left (vph)	9	8	37	2
Volume Right (vph)	39	1	14	2
Hadj (s)	-0.41	0.11	0.02	-0.01
Departure Headway (s)	3.7	4.2	4.1	4.1
Degree Utilization, x	0.05	0.02	0.08	0.02
Capacity (veh/h)	944	824	862	861
Control Delay (s)	6.9	7.3	7.4	7.2
Approach Delay (s)	6.9	7.3	7.4	7.2
Approach LOS	A	A	A	A

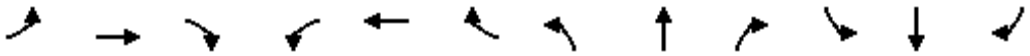
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	20.4%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	2	6	10	63	56	3
Future Volume (Veh/h)	2	6	10	63	56	3
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)	2	7	11	68	61	3
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	152	62	64			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	152	62	64			
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)	833	1002	1538			

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	9	79	64
Volume Left	2	11	0
Volume Right	7	0	3
cSH	959	1538	1700
Volume to Capacity	0.01	0.01	0.04
Queue Length 95th (m)	0.2	0.2	0.0
Control Delay (s)	8.8	1.1	0.0
Lane LOS	A	A	
Approach Delay (s)	8.8	1.1	0.0
Approach LOS	A		

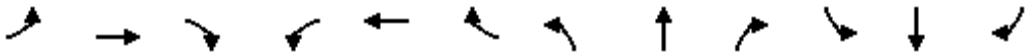
Intersection Summary			
Average Delay	1.1		
Intersection Capacity Utilization	20.5%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	21	42	3	7	53	34	1	14	3	37	13	8
Future Volume (vph)	21	42	3	7	53	34	1	14	3	37	13	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	46	3	8	58	37	1	15	3	40	14	9

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	72	103	19	63
Volume Left (vph)	23	8	1	40
Volume Right (vph)	3	37	3	9
Hadj (s)	0.07	-0.17	-0.05	0.08
Departure Headway (s)	4.3	4.0	4.3	4.4
Degree Utilization, x	0.09	0.11	0.02	0.08
Capacity (veh/h)	821	877	793	779
Control Delay (s)	7.7	7.5	7.4	7.7
Approach Delay (s)	7.7	7.5	7.4	7.7
Approach LOS	A	A	A	A

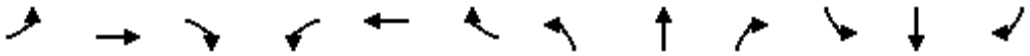
Intersection Summary				
Delay	7.6			
Level of Service	A			
Intersection Capacity Utilization	25.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	2	4	41	12	6	0	33	5	6	2	18	4
Future Volume (vph)	2	4	41	12	6	0	33	5	6	2	18	4
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	4	45	13	7	0	36	5	7	2	20	4

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	51	20	48	26
Volume Left (vph)	2	13	36	2
Volume Right (vph)	45	0	7	4
Hadj (s)	-0.49	0.16	0.10	-0.04
Departure Headway (s)	3.6	4.3	4.2	4.0
Degree Utilization, x	0.05	0.02	0.06	0.03
Capacity (veh/h)	975	823	839	868
Control Delay (s)	6.8	7.4	7.4	7.2
Approach Delay (s)	6.8	7.4	7.4	7.2
Approach LOS	A	A	A	A

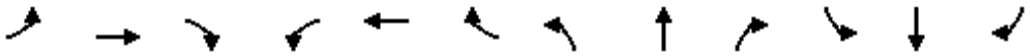
Intersection Summary				
Delay	7.1			
Level of Service	A			
Intersection Capacity Utilization	22.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	4	40	0	2	1	43	17	1	68	1
Future Volume (Veh/h)	1	0	4	40	0	2	1	43	17	1	68	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	4	43	0	2	1	47	18	1	74	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	136	144	74	138	135	56	75			65		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	136	144	74	138	135	56	75			65		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	100	95	100	100	100			100		
cM capacity (veh/h)	832	747	987	828	755	1011	1524			1537		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	5	45	66	76
Volume Left	1	43	1	1
Volume Right	4	2	18	1
cSH	952	834	1524	1537
Volume to Capacity	0.01	0.05	0.00	0.00
Queue Length 95th (m)	0.1	1.3	0.0	0.0
Control Delay (s)	8.8	9.6	0.1	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	8.8	9.6	0.1	0.1
Approach LOS	A	A		

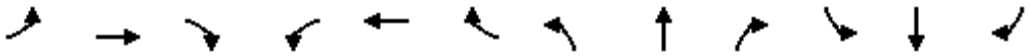
Intersection Summary				
Average Delay	2.6			
Intersection Capacity Utilization	19.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	15	55	1	2	62	31	0	20	3	35	39	22
Future Volume (vph)	15	55	1	2	62	31	0	20	3	35	39	22
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	60	1	2	67	34	0	22	3	38	42	24

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	77	103	25	104
Volume Left (vph)	16	2	0	38
Volume Right (vph)	1	34	3	24
Hadj (s)	0.07	-0.16	-0.04	-0.03
Departure Headway (s)	4.4	4.1	4.4	4.3
Degree Utilization, x	0.09	0.12	0.03	0.12
Capacity (veh/h)	793	843	776	803
Control Delay (s)	7.8	7.7	7.5	7.9
Approach Delay (s)	7.8	7.7	7.5	7.9
Approach LOS	A	A	A	A

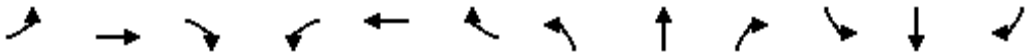
Intersection Summary				
Delay		7.8		
Level of Service		A		
Intersection Capacity Utilization	29.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	8	1	36	7	4	1	34	24	13	2	15	2
Future Volume (vph)	8	1	36	7	4	1	34	24	13	2	15	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	9	1	39	8	4	1	37	26	14	2	16	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	49	13	77	20
Volume Left (vph)	9	8	37	2
Volume Right (vph)	39	1	14	2
Hadj (s)	-0.41	0.11	0.02	-0.01
Departure Headway (s)	3.7	4.3	4.1	4.1
Degree Utilization, x	0.05	0.02	0.09	0.02
Capacity (veh/h)	939	819	861	859
Control Delay (s)	6.9	7.3	7.5	7.2
Approach Delay (s)	6.9	7.3	7.5	7.2
Approach LOS	A	A	A	A

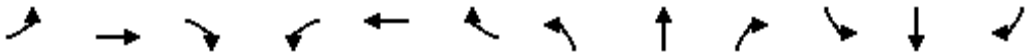
Intersection Summary				
Delay	7.2			
Level of Service	A			
Intersection Capacity Utilization	20.6%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	2	0	6	70	0	4	10	63	65	3	56	3
Future Volume (Veh/h)	2	0	6	70	0	4	10	63	65	3	56	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	2	0	7	76	0	4	11	68	71	3	61	3
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	198	230	62	201	196	104	64			139		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	198	230	62	201	196	104	64			139		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	90	100	100	99			100		
cM capacity (veh/h)	752	664	1002	747	693	951	1538			1445		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	9	80	150	67
Volume Left	2	76	11	3
Volume Right	7	4	71	3
cSH	933	755	1538	1445
Volume to Capacity	0.01	0.11	0.01	0.00
Queue Length 95th (m)	0.2	2.7	0.2	0.0
Control Delay (s)	8.9	10.3	0.6	0.4
Lane LOS	A	B	A	A
Approach Delay (s)	8.9	10.3	0.6	0.4
Approach LOS	A	B		

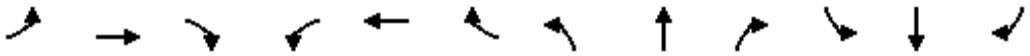
Intersection Summary				
Average Delay	3.3			
Intersection Capacity Utilization	28.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	41	42	3	7	53	37	1	55	3	41	57	30
Future Volume (vph)	41	42	3	7	53	37	1	55	3	41	57	30
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	46	3	8	58	40	1	60	3	45	62	33

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	94	106	64	140
Volume Left (vph)	45	8	1	45
Volume Right (vph)	3	40	3	33
Hadj (s)	0.11	-0.18	0.01	-0.04
Departure Headway (s)	4.6	4.3	4.5	4.4
Degree Utilization, x	0.12	0.13	0.08	0.17
Capacity (veh/h)	733	783	747	772
Control Delay (s)	8.2	7.9	7.9	8.3
Approach Delay (s)	8.2	7.9	7.9	8.3
Approach LOS	A	A	A	A

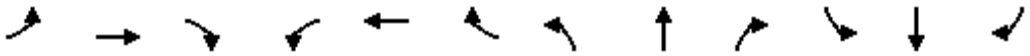
Intersection Summary				
Delay	8.1			
Level of Service	A			
Intersection Capacity Utilization	31.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	3	6	52	15	7	0	42	6	7	3	22	6
Future Volume (vph)	3	6	52	15	7	0	42	6	7	3	22	6
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	7	57	16	8	0	46	7	8	3	24	7

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	67	24	61	34
Volume Left (vph)	3	16	46	3
Volume Right (vph)	57	0	8	7
Hadj (s)	-0.47	0.17	0.11	-0.07
Departure Headway (s)	3.7	4.3	4.2	4.1
Degree Utilization, x	0.07	0.03	0.07	0.04
Capacity (veh/h)	951	806	824	858
Control Delay (s)	6.9	7.5	7.5	7.2
Approach Delay (s)	6.9	7.5	7.5	7.2
Approach LOS	A	A	A	A

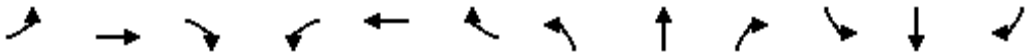
Intersection Summary				
Delay	7.3			
Level of Service	A			
Intersection Capacity Utilization	23.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	1	0	6	40	0	2	1	55	17	1	87	1
Future Volume (Veh/h)	1	0	6	40	0	2	1	55	17	1	87	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	1	0	7	43	0	2	1	60	18	1	95	1
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	170	178	96	176	169	69	96			78		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	170	178	96	176	169	69	96			78		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	94	100	100	100			100		
cM capacity (veh/h)	791	715	961	780	723	994	1498			1520		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	8	45	79	97
Volume Left	1	43	1	1
Volume Right	7	2	18	1
cSH	936	788	1498	1520
Volume to Capacity	0.01	0.06	0.00	0.00
Queue Length 95th (m)	0.2	1.4	0.0	0.0
Control Delay (s)	8.9	9.8	0.1	0.1
Lane LOS	A	A	A	A
Approach Delay (s)	8.9	9.8	0.1	0.1
Approach LOS	A	A		

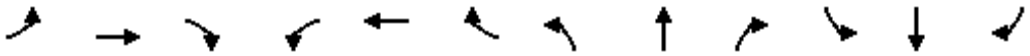
Intersection Summary				
Average Delay	2.3			
Intersection Capacity Utilization	20.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	18	70	1	3	79	39	0	22	4	44	43	24
Future Volume (vph)	18	70	1	3	79	39	0	22	4	44	43	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	20	76	1	3	86	42	0	24	4	48	47	26

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	97	131	28	121
Volume Left (vph)	20	3	0	48
Volume Right (vph)	1	42	4	26
Hadj (s)	0.07	-0.15	-0.05	-0.02
Departure Headway (s)	4.5	4.2	4.5	4.4
Degree Utilization, x	0.12	0.15	0.04	0.15
Capacity (veh/h)	774	812	746	764
Control Delay (s)	8.1	8.0	7.7	8.2
Approach Delay (s)	8.1	8.0	7.7	8.2
Approach LOS	A	A	A	A

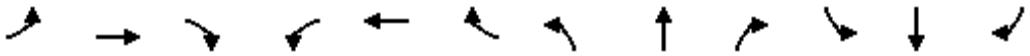
Intersection Summary				
Delay	8.0			
Level of Service	A			
Intersection Capacity Utilization	30.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	10	1	46	8	6	1	44	29	17	3	18	3
Future Volume (vph)	10	1	46	8	6	1	44	29	17	3	18	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	11	1	50	9	7	1	48	32	18	3	20	3

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	62	17	98	26
Volume Left (vph)	11	9	48	3
Volume Right (vph)	50	1	18	3
Hadj (s)	-0.41	0.10	0.02	-0.01
Departure Headway (s)	3.8	4.3	4.1	4.1
Degree Utilization, x	0.06	0.02	0.11	0.03
Capacity (veh/h)	920	802	850	844
Control Delay (s)	7.0	7.4	7.6	7.3
Approach Delay (s)	7.0	7.4	7.6	7.3
Approach LOS	A	A	A	A

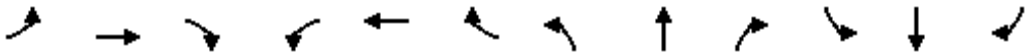
Intersection Summary				
Delay	7.4			
Level of Service	A			
Intersection Capacity Utilization	21.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	3	0	7	70	0	4	13	80	65	3	72	4
Future Volume (Veh/h)	3	0	7	70	0	4	13	80	65	3	72	4
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	3	0	8	76	0	4	14	87	71	3	78	4
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	240	272	80	244	238	122	82			158		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	240	272	80	244	238	122	82			158		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	100	99	89	100	100	99			100		
cM capacity (veh/h)	704	628	980	697	655	929	1515			1422		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	80	172	85
Volume Left	3	76	14	3
Volume Right	8	4	71	4
cSH	886	706	1515	1422
Volume to Capacity	0.01	0.11	0.01	0.00
Queue Length 95th (m)	0.3	2.9	0.2	0.0
Control Delay (s)	9.1	10.7	0.7	0.3
Lane LOS	A	B	A	A
Approach Delay (s)	9.1	10.7	0.7	0.3
Approach LOS	A	B		

Intersection Summary				
Average Delay	3.2			
Intersection Capacity Utilization	31.2%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Traffic Volume (vph)	47	53	4	8	68	47	1	59	4	52	61	32
Future Volume (vph)	47	53	4	8	68	47	1	59	4	52	61	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	51	58	4	9	74	51	1	64	4	57	66	35

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	113	134	69	158
Volume Left (vph)	51	9	1	57
Volume Right (vph)	4	51	4	35
Hadj (s)	0.10	-0.18	0.00	-0.03
Departure Headway (s)	4.7	4.4	4.7	4.5
Degree Utilization, x	0.15	0.16	0.09	0.20
Capacity (veh/h)	715	765	717	743
Control Delay (s)	8.5	8.3	8.1	8.7
Approach Delay (s)	8.5	8.3	8.1	8.7
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.4			
Level of Service	A			
Intersection Capacity Utilization	33.7%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix E
Vehicle Swept Path Analysis Drawings

BLOCK 300

IRON

CARDING MILL TRAIL

FIRE ROUTE

PICK UP/DROP OFF

PICK UP/DROP OFF

SIAMESE CONNECTION

SIAMESE CONNECTION

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

LINE OF U/G PARKING

PROPERTY LINE

2.5M SETBACK

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

EXIT

LINE OF CANOPY ABOVE

PATIO

2 BD 87 m2

1 BD 52 m2

STAIR 1

FHC

VESTIBULE

LOBBY FFE=172.95

MAIL BOX

FHC

1 BD bf 52 m2

1 BD 56 m2

20.2 m

PARCEL

ELEVATOR

CHUTE

VESTIBULE

2 BD bf 87 m2

1 BD +D 61 m2

1 BD +D 61 m2

STAIR 2

ELEC CLOSET

1 BD 56 m2

ENTRANCE

LINE OF U/G PARKING

EXIT

ENTRANCE

3

2

BLOCK 2

BLOCK 1

12" CONC. C[illegible] AL PICKET GUARD ON TOP

RAMP TO UNDERGROUND

DESIGNATED GARBAGE COLLECTION AREA

PROPERTY LINE

HAROLD DENT TRAIL

PROPERTY LINE

EX. WALKWAY

POND ACCESS ROUTE/TRAIL

POND TRAIL

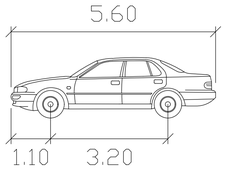
USED TO DIVIDE THE LOT AREA TO DEFINE UNIT & AREA CALCULATION FOR MIX-USED BUILDING AT SOUTH AND APARTMENT BUILDING AT NORTH
- LOT AREA (BLOCK299) ±0.72 HA
- SOUTH PORTION AREA ±0.459 HA
- NORTH PORTION AREA ±0.26 HA

ZONING LINE

BLOCK 298
(EX.SWM POND)

TOTAL 32 PARKING SPACE

18 SURFACE SPOT INSIDE BLOCK 299
14 SPOT ALONG CARDING MILL TRAIL
INCLUDING 4 HANDICAP PARKING
& 28 REGULAR PARKING
32 SPOTS IN TOTAL



P

meters
Width : 2.00
Track : 2.00
Lock to Lock Time: 6.0
Steering Angle : 35.9

No.	Issue	Drawn	Approved	Date
D	Fourth Submission	D.D.	W.M.	17/08/2021
C	Third Submission	D.H.	W.M.	05/04/2021
B	Second Submission	D.H.	W.M.	19/02/2021
A	First Submission	D.H.	W.M.	09/07/2020

Bar is one inch on original size sheet
0 1"

LICENSED PROFESSIONAL ENGINEER
Aug 17, 2021
W.C. MARIA
PROVINCE OF ONTARIO

GHD Ltd.
6705 Millcreek Drive Unit 1
Mississauga Ontario L5N 5M4 Canada
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Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
		Scale	1:5

Client: Mattamy Homes
Project: North Preserve Block 299 (Traffic Impact Study)
Title: Vehicle Circulation Plan
Oakville Paratransit Vehicle
Project No. 11220411
Original Size: Arch D
Sheet No. AT - 101
Sheet 1 of 1

Plot Date: 18 August 2021 - 10:04 AM
Plotted By: Devindra Dharry
Filename: G:\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\AutoTurn\GHD_Preserve Block 299_AutoTurn Drawings_v4.dwg

BLOCK 300

IRC

R 11.26 m

CARDING MILL TRAIL

FIRE ROUTE

PICK UP/DROP OFF

PICK UP/DROP OFF

SIAMESE CONNECTION

SIAMESE CONNECTION

R 11.26 m

PROPERTY LINE

2.5M SETBACK

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

LINE OF U/G PARKING

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

ERTY LINE

RESIDENTIAL ABOVE

R 195.16 m

R 662.69 m

R 51.29 m

R 21.44 m

R 90.90 m

R 145.32 m

R 103.30 m

R 11.26 m

R 33.95 m

EXIT

ENTRANCE

EXIT

ENTRANCE

R 12.01 m

R 44.36

154.97 m

PATIO

2 BD 87 m2

1 BD 52 m2

STAIR 1

FHC

20.2 m

VESTIBULE

LOBBY FFE=172.95

MAIL BOX

FHC

1 BD bf 52 m2

1 BD 56 m2

PARCEL

ELEVATOR

CHUTE

VESTIBULE

2 BD bf 87 m2

1 BD +D 61 m2

1 BD +D 61 m2

STAIR 2

ELEC. CLOSET

1 BD 56 m2

LINE OF U/G PARKING

BLOCK 2

BLOCK 1

12" CONC. CURB AND 42" METAL PICKET GUARD ON TOP

RAMP TO UNDERGROUND

R 2683.66 m

R 17.97 m

DESIGNATED GARBAGE COLLECTION AREA

13

PROPERTY LINE

R 13.63 m

HAROLD DENT TRAIL

PROPERTY LINE

EX. WALKWAY

POND ACCESS ROUTE/TRAIL

POND TRAIL

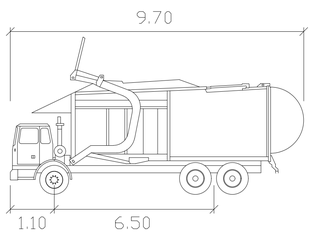
BLOCK 298
(EX.SWM POND)

TOTAL 32 PARKING SPACE

18 SURFACE SPOT INSIDE BLOCK 299
14 SPOT ALONG CARDING MILL TRAIL
INCLUDING 4 HANDICAP PARKING
& 28 REGULAR PARKING
32 SPOTS IN TOTAL

USED TO DIVIDE THE LOT AREA TO DEFINE UNIT & AREA CALCULATION FOR MIX-USED BUILDING AT SOUTH AND APARTMENT BUILDING AT NORTH
- LOT AREA (BLOCK299) ±0.72 HA
- SOUTH PORTION AREA ±0.459 HA
- NORTH PORTION AREA ±0.26 HA

ZONING LINE



Halton Front Loader Garbage

meters

Width	: 2.70
Track	: 2.70
Lock to Lock Time	6.0
Steering Angle	: 35.3

No.	Issue	Drawn	Approved	Date
D	Fourth Submission	D.D.	W.M.	17/08/2021
C	Third Submission	D.H.	W.M.	05/04/2021
B	Second Submission	D.H.	W.M.	19/02/2021
A	First Submission	D.H.	W.M.	09/07/2020

Bar is one inch on original size sheet
0 1"

LICENSED PROFESSIONAL ENGINEER
Aug 17, 2021
W.C. MARIA
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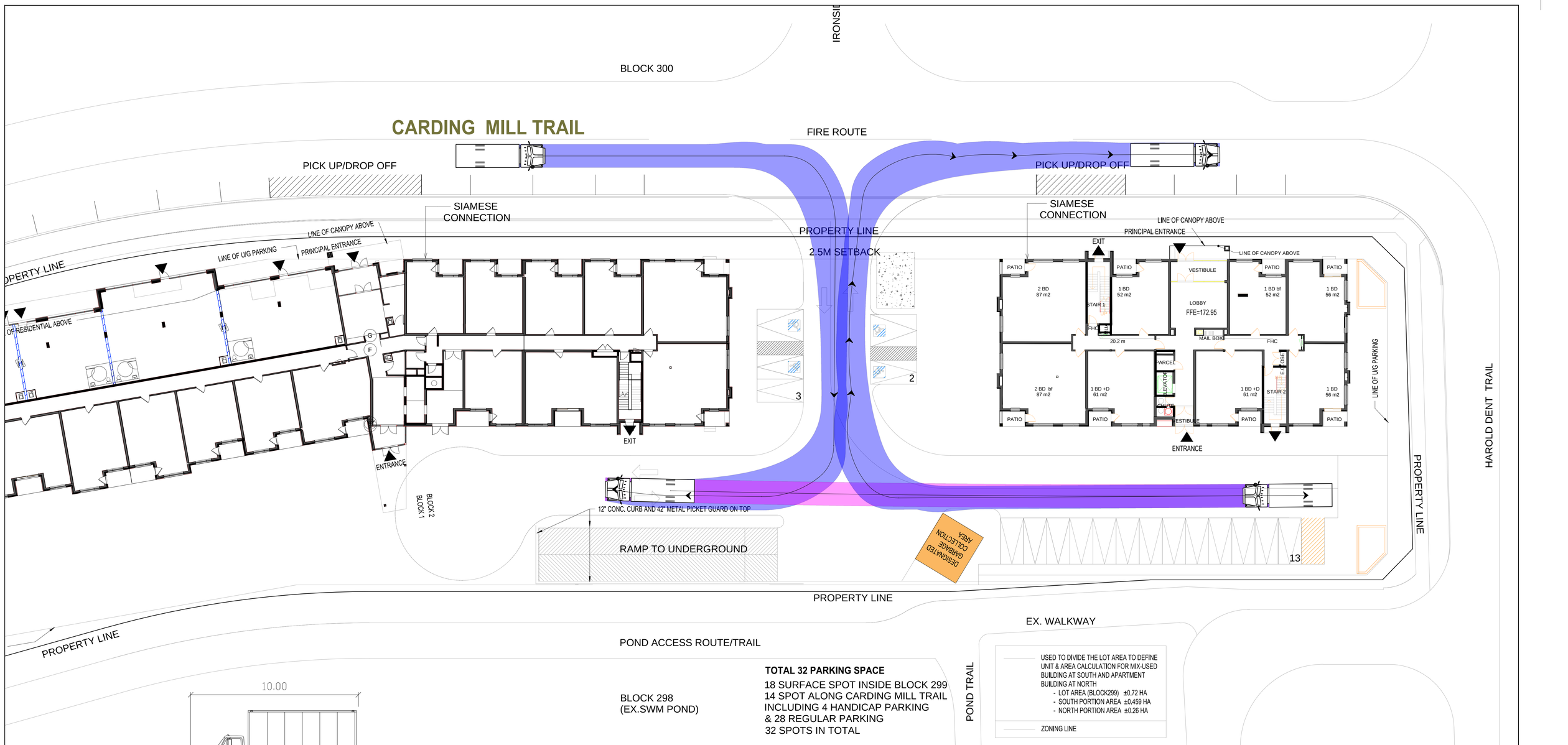
Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
This document shall not be used for construction unless signed and sealed for construction.		Scale	1:5

Client: Mattamy Homes
Project: North Preserve Block 299 (Traffic Impact Study)
Title: Vehicle Circulation Plan
Oakville Paratransit Vehicle
Project No. 11220411
Original Size: Arch D
Sheet No. AT - 102
Sheet 1 of 1

Plot Date: 18 August 2021 - 10:06 AM
Plotted By: Devindra Dharry
Filename: G:\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\AutoTurn\GHD_Preserve Block 299_AutoTurn Drawings_v4.dwg



No.	Issue	Drawn	Approved	Date
D	Fourth Submission	D.D.	W.M.	17/08/2021
C	Third Submission	D.H.	W.M.	05/04/2021
B	Second Submission	D.H.	W.M.	19/02/2021
A	First Submission	D.H.	W.M.	09/07/2020

Bar is one inch on original size sheet
0 1"

LICENSED PROFESSIONAL ENGINEER
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Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
This document shall not be used for construction unless signed and sealed for construction.		Scale	1:5

Client	Mattamy Homes
Project	North Preserve Block 299 (Traffic Impact Study)
Title	Vehicle Circulation Plan Oakville Paratransit Vehicle
Project No.	11220411
Original Size	Arch D
Sheet No.	AT - 103
Sheet	1 of 1

Plot Date: 18 August 2021 - 10:06 AM Plotted By: Devindra Dharry Filename: G:\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\AutoTurn\GHD_Preserve Block 299_AutoTurn Drawings_v4.dwg

BLOCK 300

IRONSIDE

CARDING MILL TRAIL

FIRE ROUTE

PICK UP/DROP OFF

PICK UP/DROP OFF

SIAMESE CONNECTION

SIAMESE CONNECTION

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

LINE OF U/G PARKING

PROPERTY LINE

2.5M SETBACK

LINE OF CANOPY ABOVE

PRINCIPAL ENTRANCE

EXIT

PATIO

2 BD 87 m2

1 BD 52 m2

STAIR 1

FHC

20.2 m

VESTIBULE

LOBBY FFE=172.95

MAIL BOX

FHC

1 BD bf 52 m2

1 BD 56 m2

PARCEL

ELEVATOR

CHUTE

VESTIBULE

2 BD bf 87 m2

1 BD +D 61 m2

1 BD +D 61 m2

STAIR 2

E.C.CLOSET

1 BD 56 m2

ENTRANCE

LINE OF U/G PARKING

HAROLD DENT TRAIL

PROPERTY LINE

EXIT

ENTRANCE

BLOCK 2
BLOCK 1

12" CONC. CURB AND 42" METAL PICKET GUARD ON TOP

RAMP TO UNDERGROUND

DESIGNATED GARBAGE COLLECTION AREA

13

PROPERTY LINE

PROPERTY LINE

EX. WALKWAY

POND ACCESS ROUTE/TRAIL

BLOCK 298
(EX.SWM POND)

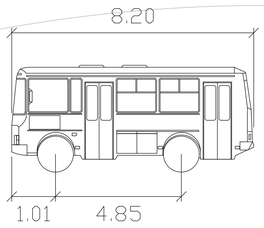
TOTAL 32 PARKING SPACE

18 SURFACE SPOT INSIDE BLOCK 299
14 SPOT ALONG CARDING MILL TRAIL
INCLUDING 4 HANDICAP PARKING
& 28 REGULAR PARKING
32 SPOTS IN TOTAL

POND TRAIL

USED TO DIVIDE THE LOT AREA TO DEFINE UNIT & AREA CALCULATION FOR MIX-USED BUILDING AT SOUTH AND APARTMENT BUILDING AT NORTH
- LOT AREA (BLOCK299) ±0,72 HA
- SOUTH PORTION AREA ±0,459 HA
- NORTH PORTION AREA ±0,26 HA

ZONING LINE



Oakville Paratransit

meters

Width : 2.44
Track : 2.44
Lock to Lock Time 6.0
Steering Angle : 32.9

No.	Issue	Drawn	Approved	Date
D	Fourth Submission	D.D.	W.M.	17/08/2021
C	Third Submission	D.H.	W.M.	05/04/2021
B	Second Submission	D.H.	W.M.	19/02/2021
A	First Submission	D.H.	W.M.	09/07/2020

Bar is one inch on original size sheet
0 1"

LICENSED PROFESSIONAL ENGINEER
Aug 17, 2021
W.C. MARIA
PROVINCE OF ONTARIO

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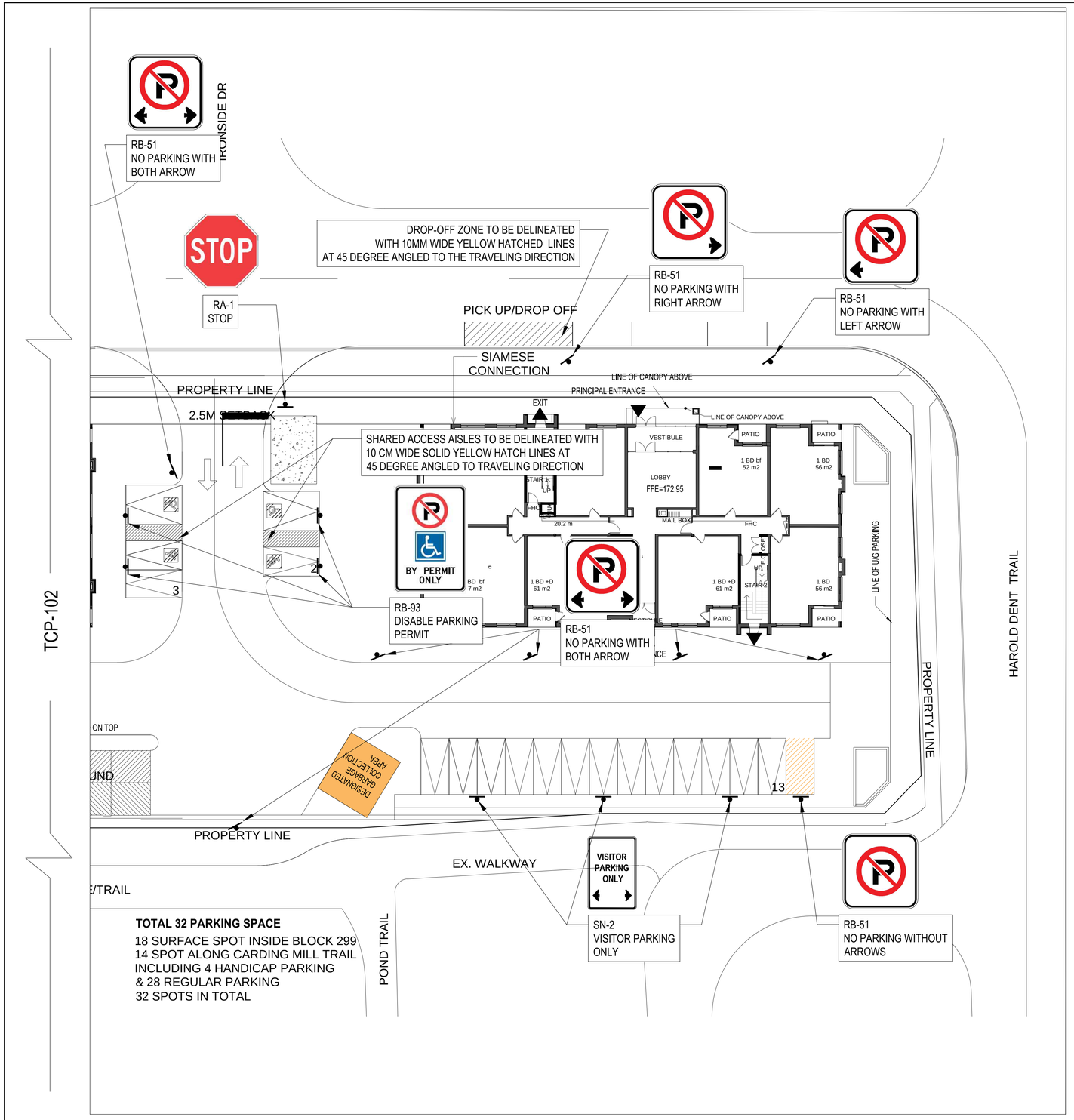
Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
This document shall not be used for construction unless signed and sealed for construction.		Scale	1:5

Client	Mattamy Homes
Project	North Preserve Block 299 (Traffic Impact Study)
Title	Vehicle Circulation Plan Oakville Paratransit Vehicle
Project No.	11220411
Original Size	Arch D
Sheet No.	AT - 104
Sheet	1 of 1

Plot Date: 18 August 2021 - 10:07 AM Plotted By: Devindra Dharry Filename: G:\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\AutoTurn\GHD_Preserve Block 299_AutoTurn Drawings_v4.dwg

Appendix F
Pavement Marking and Signage Plan

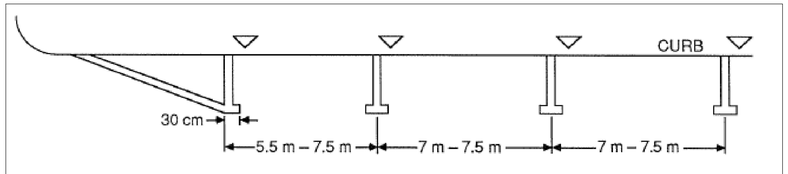


PAVEMENT MARKING LEGEND

IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
4	SOLID	YELLOW	10
6	SOLID	YELLOW	60

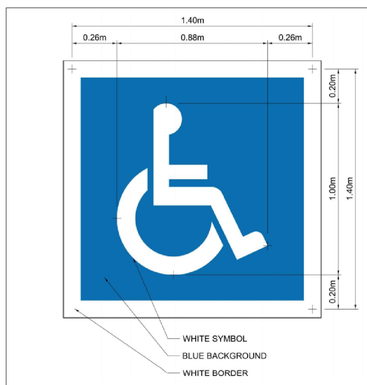
TRAFFIC SIGN SCHEDULE

SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Ra-1	STOP	1	
Rb-51	NO PARKING	6	WITH BOTH ARROW
Rb-51	NO PARKING	1	WITH LEFT ARROW
Rb-51	NO PARKING	1	WITH RIGHT ARROW
Rb-93	DISABLE PARKING PERMIT	4	
SN-2	VISITOR PARKING ONLY	3	
Rb-51	NO PARKING	1	
Total		17	



SINGLE METERS

DETAIL DESIGN-1
TYPICAL MARKINGS FOR PARALLEL PARKING



DETAIL DESIGN-2
ACCESSIBLE PARKING SYMBOL

No.	Issue	Drawn	Approved	Date
C	Third Submission	D.D.	W.M.	17/08/2021
B	Second Submission	D.H.	W.M.	05/04/2021
A	First Submission	D.H.	W.M.	09/07/2020

Note:
1. ALL SIGNS TO BE PLACED AS PER ONTARIO TRAFFIC MANUALS BOOKS (OTM)
2. PAVEMENT MARKINGS FOR ON-STREET PARKING SHOULD BE AS PER DETAILED DESIGN-1
3. ALL ACCESSIBLE PARKING SHOULD BE DEMARCATED WITH ACCESSIBLE PARKING SYMBOL AS PER DETAILED DESIGN-2

Bar is one inch on original size sheet
0 1"

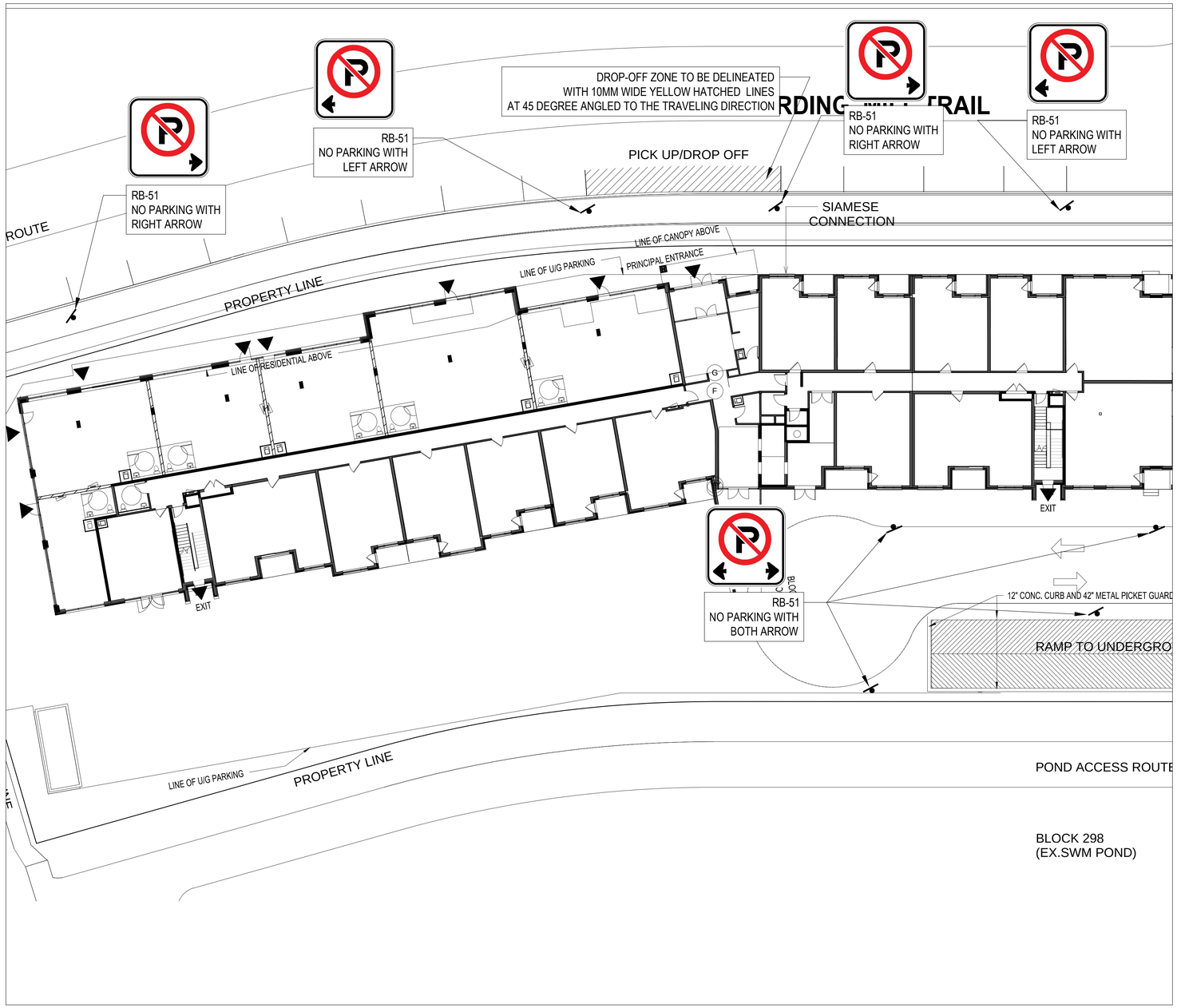
LICENSED PROFESSIONAL ENGINEER
Aug 17, 2021
W.C. MARIA
PROVINCE OF ONTARIO

GHD Ltd.
6705 Millcreek Drive Unit 1
Mississauga Ontario L5N 5M4 Canada
T 1 416 213 7121 F 1 905 890 8499 W www.ghd.com

Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
This document shall not be used for construction unless signed and sealed for construction.		Scale	1:5

Client: Mattamy Homes
Project: North Preserve Block 299 (Traffic Impact Study)
Title: Signage and Pavement Marking Plan
Project No.: 11220411
Original Size: Arch D
Sheet No.: PMP - 101
Sheet 1 of 2

Plot Date: 18 August 2021 - 11:56 AM
Plotted By: Devindra Dharry
Filename: G:\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\PMP\GHD_299 Preserve Dr_PMP Drawings_v3.dwg



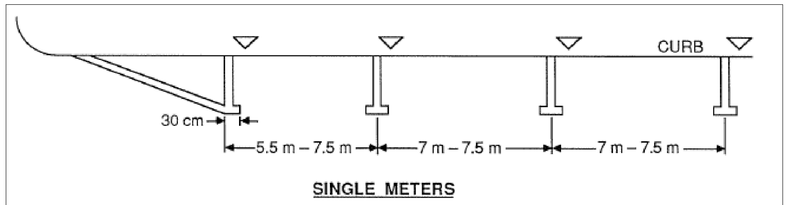
TCP-101

PAVEMENT MARKING LEGEND

IDENTIFICATION	TYPE	COLOUR	WIDTH (cm)
1	SOLID	WHITE	10
4	SOLID	YELLOW	10
6	SOLID	YELLOW	60

TRAFFIC SIGN SCHEDULE

SIGN NUMBER	SIGN NAME	QUANTITY	COMMENTS
Rb-51	NO PARKING	4	WITH BOTH ARROW
Rb-51	NO PARKING	2	WITH LEFT ARROW
Rb-51	NO PARKING	2	WITH RIGHT ARROW
Total		18	



SINGLE METERS

DETAIL DESIGN-1
TYPICAL MARKINGS FOR PARALLEL PARKING

No.	Issue	Drawn	Approved	Date
C	Third Submission	D.D.	W.M.	17/08/2021
B	Second Submission	D.H.	W.M.	04/05/2021
A	First Submission	D.H.	W.M.	09/07/2020

Note:
1. ALL SIGNS TO BE PLACED AS PER ONTARIO TRAFFIC MANUALS BOOKS (OTM)
2. PAVEMENT MARKINGS FOR ON-STREET PARKING SHOULD BE AS PER DETAILED DESIGN-1
3. ALL ACCESSIBLE PARKING SHOULD BE DEMARCATED WITH ACCESSIBLE PARKING SYMBOL AS PER DETAILED DESIGN-2

Bar is one inch on original size sheet
0 1"

LICENSED PROFESSIONAL ENGINEER
Aug 17, 2021
W.C. MARIA
PROVINCE OF ONTARIO

GHD Ltd.
6705 Millcreek Drive Unit 1
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T 1 416 213 7121 F 1 905 890 8499 W www.ghd.com

Drawn	D. Harpal	Designer	D. Harpal
Drafting Check	W. Maria	Design Check	W. Maria
Project Manager	W. Maria	Date	05/04/2021
This document shall not be used for construction unless signed and sealed for construction.		Scale	1:5

Client: Mattamy Homes
Project: North Preserve Block 299 (Traffic Impact Study)
Title: Signage and Pavement Marking Plan
Project No. 11220411
Original Size: Arch D
Sheet No. PMP - 102
Sheet 2 of 2

Plot Date: 17 August 2021 - 4:12 PM
Plotted By: Devindra Dharry
Filename: N:\CA\Mississauga\Projects\Legacy\SernasTransTech\Projects\2020\Preserve Block - 299 (11220411)\Drawings\PMP\GHD_299 Preserve Dr_PMP Drawings_v3.dwg