

October 29, 2025

Project No. 1013-2025

Mr. Prem Tiwari
IDM Consultants Inc.
5325 Harvester Road
Burlington, ON L7L 5K4

Mr. Tiwari

**Re: Transportation Brief
55 Simpson Road
Town of Caledon**

S.K.Y. Transportation Engineering Inc. (S.K.Y.) is pleased to submit this Transportation Brief for the proposed redevelopment of the site located at the intersection of Simpson Road and George Bolton Parkway. This report outlines our findings and conclusions regarding the traffic impact of the development.

The Transportation Brief includes existing and future trip generation forecasts, an evaluation of the existing corner clearances, a review of the proposed parking provisions, and a review of the proposed on-site vehicle maneuverability.

Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

S.K.Y. Transportation Engineering Inc.

Kavleen S. Younan, P.Eng.,
President



INTRODUCTION

S.K.Y. Transportation Engineering (S.K.Y.) was retained by IDM Consultants Inc. to prepare a Transportation Brief in support of both the Temporary Use Zoning By-law and the subsequent Site Plan Application for the property located at 55 Simpson Road in the Town of Caledon. The analyses, recommendations, and conclusions presented herein are applicable and supportable for both the temporary open-lot condition and the future building development, as the site circulation, access, and parking arrangements remain consistent and functionally supportable under both the temporary and ultimate development scenarios.

This letter is split into three main parts:

Part 1: Trip Generation: This section provides an overview of the proposed development, including its location. The projected trip generation for the site will be calculated based on the *Institute of Transportation Engineers (ITE)* methodologies.

Part 2: Site Access Review: This section includes an evaluation of driveway corner clearance to ensure compliance with the *Transportation Association of Canada (TAC)* corner clearance criteria.

Part 3: Vehicle Maneuverability: This section evaluates vehicle maneuverability throughout the site using Vehicle Tracking software, based on the latest concept plan. Turning movements for design vehicles will be analyzed to confirm adequate clearance and safe circulation.

Recommendations will be provided to optimize the layout and ensure sufficient space for vehicle turning radii.

PART 1: TRIP GENERATION

This section outlines the proposed development, including its location. The section also includes trip generation calculations using ITE methodologies, an assessment of the potential impacts on the surrounding transportation network, and provides recommendations for mitigation measures, if needed.

Existing Road Network

Simpson Road is a north-south collector roadway (as per Figure 3-7 of the Town's Multi-Modal Transportation Master Plan, June 2024) under the jurisdiction of the Town of Caledon. Simpson Road has a two-lane urban cross-section with an assumed speed limit of 50km/h. In the vicinity of the site, it is generally straight with no major vertical or horizontal curvature.

George Bolton Parkway is a east-west collector roadway (as per Figure 3-7 of the Town's Multi-Modal Transportation Master Plan, June 2024) under the jurisdiction of the Town of Caledon. George Bolton Parkway has a two-lane urban cross-section and a posted speed limit of 50km/h. In the vicinity of the site, George Bolton Parkway is generally flat with horizontal curvature to the west of Simpson Road.

Active Transportation and Transit Facilities

Active transportation facilities are currently present along George Bolton Parkway. East of Simpson Road, a separated multi-use path (MUP) is present on the north side of George Bolton Parkway, with no sidewalk or MUP located on the south side. West of Simpson Road, a curb-faced MUP is present along the north side of George Bolton Parkway.

Sidewalks are also currently present along the east side of Simpson Road.

The site is currently served by Brampton Transit Route 41 (Bolton), which operates exclusively during weekday peak periods (AM and PM), with headways of roughly 45–60 minutes.

An aerial of the project site location and the surrounding roadway network is shown in **Figure 1**.

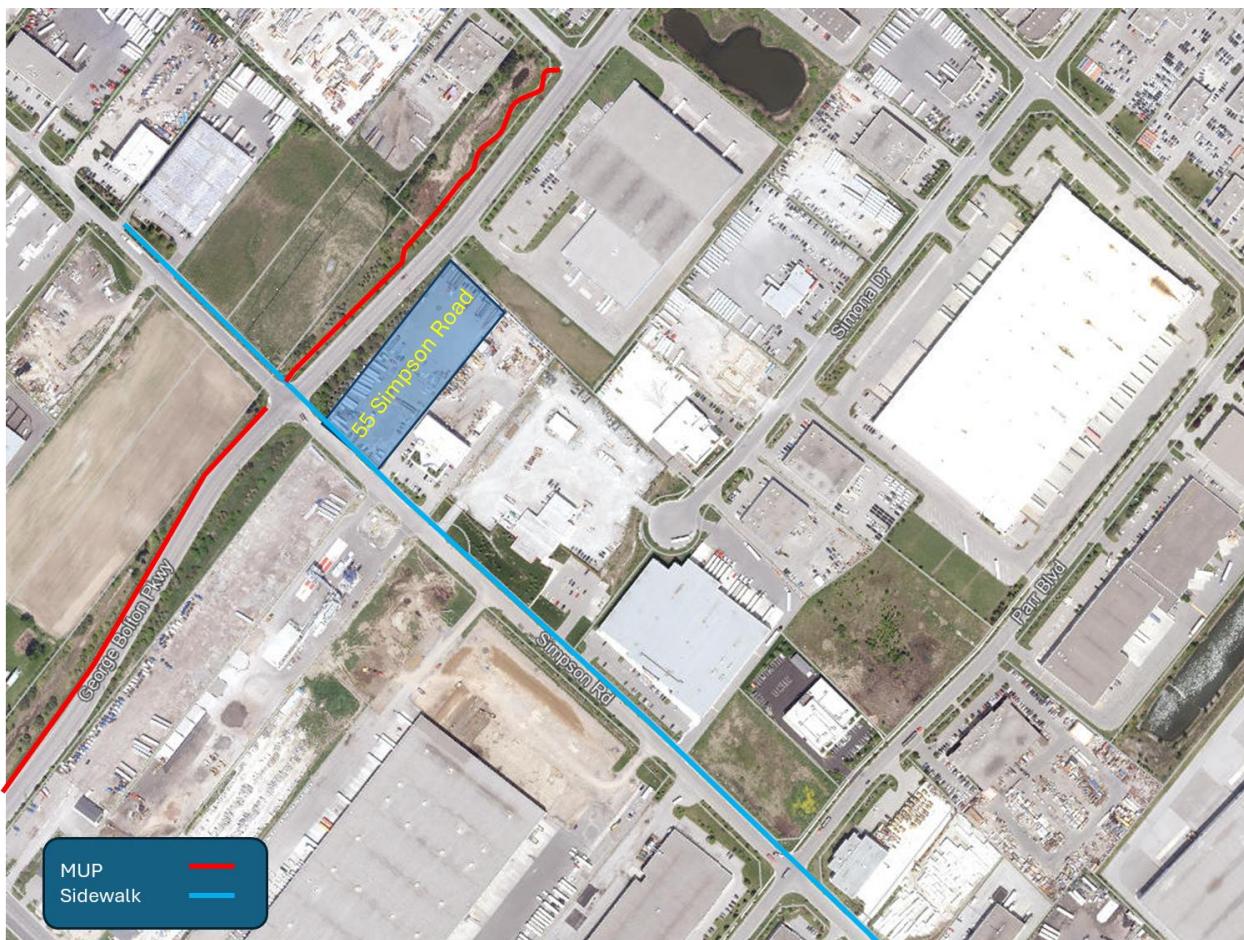


Figure 1: Site Location

Proposed Development

The site is located at 55 Simpson Road, in the southeast quadrant of George Bolton Parkway and Simpson Road.

The proposed development includes an industrial building consisting of 23,342 sq.ft of industrial space and 4,161 sq.ft of office space, together with a total of 34 parking spaces. The proposed Concept Plan has been provided in Appendix A.

The site is designated *Prestige Industrial (MP)*, which permits industrial and warehousing uses. No modifications to the existing access points are proposed, ensuring continuity in site circulation and access management.

Site Trip Generation

Trip generation for the subject site was estimated using the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The development of the site is planned to be completed in 2026.

Table 1 summarizes the results of the trip generation analysis for the proposed industrial site during the weekday a.m. and p.m. peak hours. No transit modal split reduction was applied in this analysis, reflecting the limited transit service currently available in the vicinity of the site. Relevant excerpts from ITE are provided in Appendix B.

Table 1: Site Trip Generation

LUC	GFA (Sq. ft)	Weekday AM			Weekday PM			
		In	Out	Total	In	Out	Total	
Warehousing	150	23,342.72	20	6	26	8	21	29
General Office Building	710	4,161.76	10	1	11	2	10	12
Total		30	7	37	10	31	41	

The proposed development is expected to generate about 37 vehicle trips in the weekday morning peak hour (30 inbound and 7 outbound) and 41 trips in the afternoon peak hour (10 inbound and 31 outbound). This equates to approximately one vehicle trip every 1.5 - 2 minutes on average accessing the development.

Given the relatively small scale of the site and the limited number of trips the site is projected to add during the busiest times of day, the overall effect on nearby intersections, roadway levels of service, and general traffic flow is expected to be minimal. The existing road network should be able to accommodate the additional traffic without the need for changes or improvements.

PART 2: SITE ACCESS REVIEW

This section includes an evaluation of driveway corner clearance to ensure compliance with the *Transportation Association of Canada (TAC)* corner clearance criteria.

The intersection of George Bolton Parkway and Simpson Road is controlled by a Two-Way Stop (TWSC). The site access location is existing and is not proposed to change. However, an

analysis of the corner clearances for the existing access was conducted to evaluate conformity with TAC guidelines.

According to **Figure 8.8.2** of the TAC Guidelines, a corner clearance of 25 meters is recommended for the Simpson Road access. Under existing conditions, the access fronting Simpson Road measures approximately 51 meters, exceeding the TAC's recommended corner clearance. From a transportation perspective, the existing access location is considered supportable.

It is understood that the Town has concern related to the location of the existing access in relation to potential future queues at the George Bolton Parkway and Simpson Road intersection, should the intersection be signalized in the future. Given the relatively short frontage available, there is limited opportunity to shift the access further south.

In addition, a fire hydrant is located near the existing access which would require relocation if the driveway were moved even two metres south—an approach that is not considered feasible. Furthermore, the neighbouring property at 57 Simpson Road has a curb radius that encroaches into this site's frontage, further restricting the ability to relocate the access.

Even if the access were shifted to the southernmost end of the frontage, the resulting change would provide no more than approximately one vehicle length of additional separation from the intersection. This minimal gain would not offer any meaningful operational or safety benefit and would not justify the associated cost or disruption.

Combined, these constraints indicate that the existing access location cannot reasonably be adjusted without significant complications and minimal benefit.

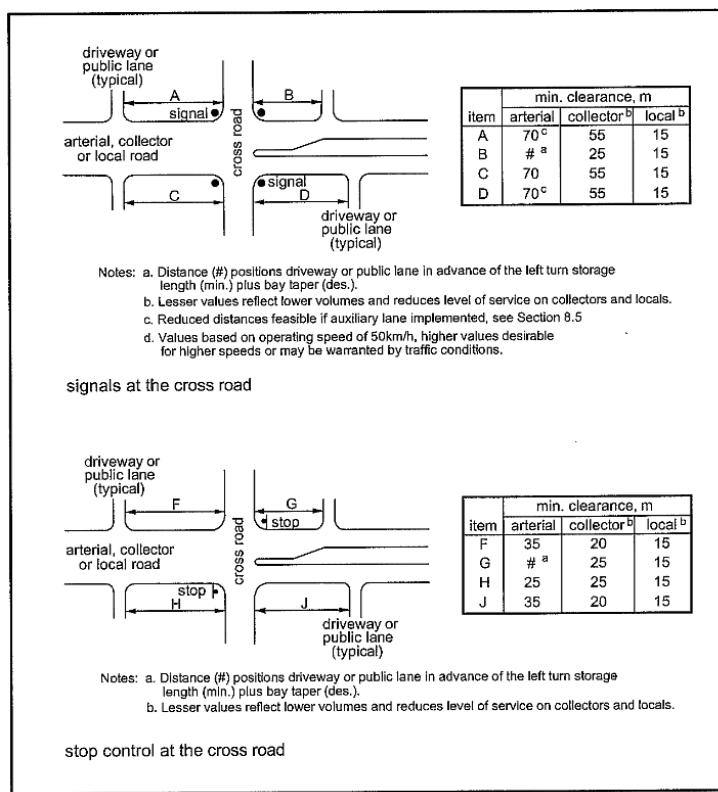


Figure 8.8.2: Suggested Minimum Corner Clearances to Accesses or Public Lanes at Major Intersections

PART 3: VEHICLE MANEUVERABILITY

A vehicle maneuverability analysis was completed in support of both the Temporary Use Zoning By-law and the Site Plan Application. The analysis confirms that vehicle access and circulation can be accommodated under both the temporary and ultimate development scenarios. As the lot will remain vacant under the temporary condition, the analysis has been illustrated based on the ultimate development layout (as per the Site Plan Application).

The vehicle maneuverability analyses were conducted using the largest design vehicle expected on-site. It was identified that the largest vehicle expected is a tractor-trailer with a total length of 76 feet. To ensure a conservative analysis, a WB-21 (82 feet in length) was utilized. A Pumper Fire Truck (12.19m) was analyzed to confirm that emergency vehicles can access the site safely. The approximate location of the proposed garbage enclosure has been provided on the plan. As such, a front-end garbage truck was utilized for the purposes of the analysis. The analysis demonstrates that a garbage truck can safely enter and exit the site.

Considering the site's proximity to George Bolton Parkway, it is assumed that all trucks will enter and exit the site heading to and from the north, with trucks entering via a left-turn maneuver and exiting using a right-turn maneuver. For emergency vehicles, it is anticipated that they will enter the site using the same maneuver, as the nearest fire station is located at 14002 Highway 50, Bolton. Please refer to Appendix C for the AutoTURN simulation drawings. The analysis determined that all vehicles will be able to enter and exit the site in a forward motion. During the exiting maneuver, trucks are expected to encroach over the centerline of Simpson Road, which is typical and acceptable for two-lane industrial roadways accommodating large design vehicles and as such, does not pose any operational or safety concerns.

CONCLUSION

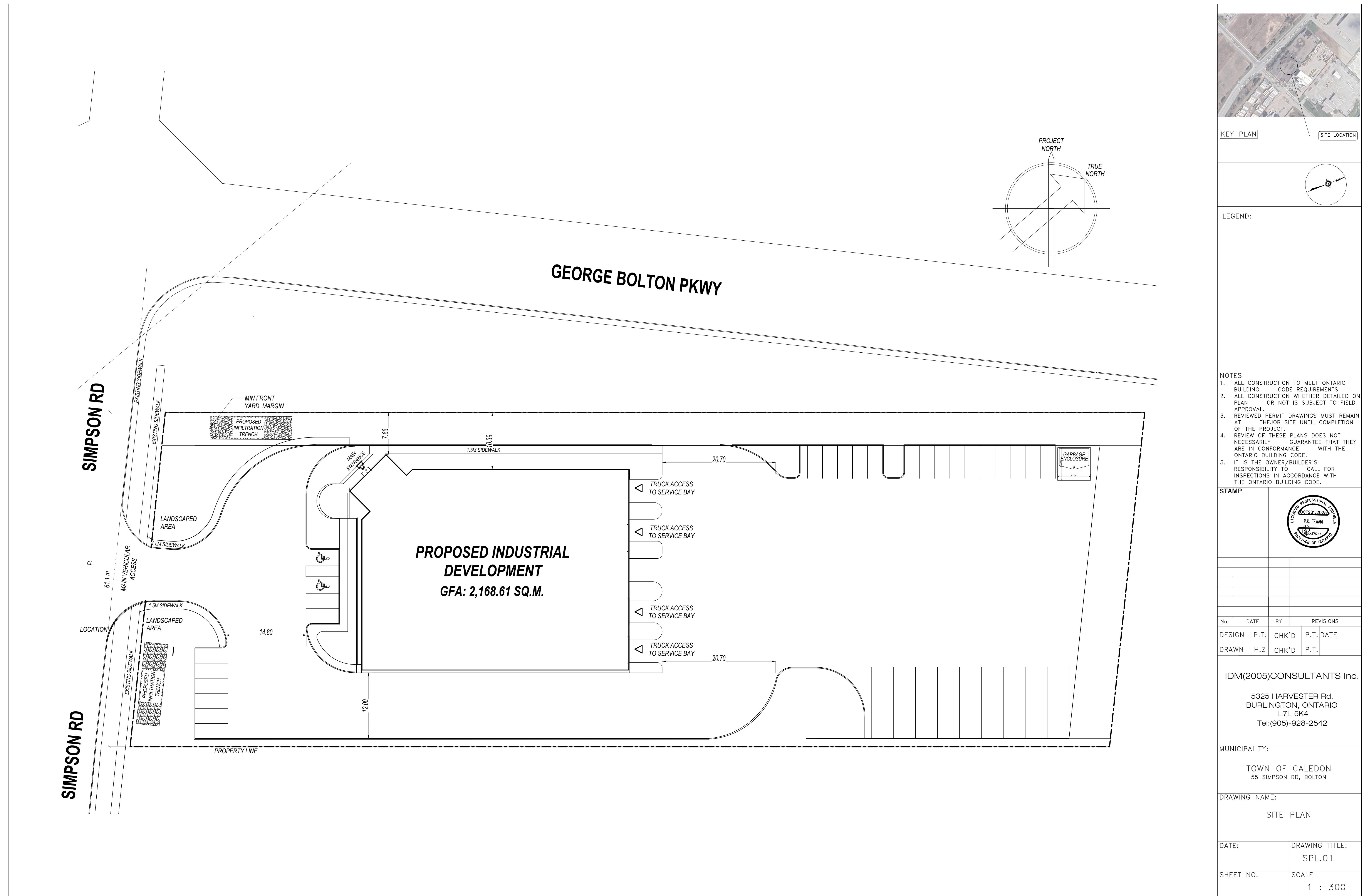
The findings and conclusions of this Transportation Brief are summarized as follows:

- The proposed industrial development is expected to generate approximately 37 trips during the weekday a.m. peak hour and 41 trips during the weekday p.m. peak hour, relatively minor volumes which are not anticipated to adversely impact the surrounding road network.
- The existing site access provides a 51-metre corner clearance, exceeding the TAC recommended minimum of 25 metres, and is therefore considered supportable from a safety and operations standpoint.
- Vehicle maneuverability analysis confirmed that all design vehicles, including a WB-21 tractor-trailer, a Pumper Fire Truck and front-end garbage truck, can enter, circulate, and exit the site in a forward motion without conflict.
- The proposed parking supply of 34 spaces is appropriate and sufficient for the intended industrial and office uses.
- The analyses, recommendations, and conclusions presented herein are applicable and supportable for both the temporary open-lot condition and the future building development, as the site circulation, access, and parking arrangements remain consistent and functionally supportable under both the temporary and ultimate development scenarios.

Overall, the proposed development can be supported from a traffic engineering perspective.

Appendix A

Proposed Concept Plan



Appendix B

ITE Excerpts

Land Use: 710

General Office Building

Description

A general office building is a location where affairs of businesses, commercial or industrial organizations, or professional persons or firms are conducted. An office building houses multiple tenants that can include, as examples, professional services, insurance companies, investment brokers, a banking institution, a restaurant, or other service retailers. A general office building with a gross floor area of 10,000 square feet or less is classified as a small office building (Land Use 712). Corporate headquarters building (Land Use 714), single tenant office building (Land Use 715), medical-dental office building (Land Use 720), office park (Land Use 750), research and development center (Land Use 760), and business park (Land Use 770) are additional related uses.

Additional Data

If two or more general office buildings are in close physical proximity (within a close walk) and function as a unit (perhaps with a shared parking facility and common or complementary tenants), the total gross floor area or employment of the paired office buildings can be used for calculating the site trip generation. If the individual buildings are isolated or not functionally related to one another, trip generation should be calculated for each building separately.

For study sites with reported gross floor area and employees, an average employee density of 3.3 employees per 1,000 square feet GFA (or roughly 300 square feet per employee) has been consistent through the 1980s, 1990s, and 2000s. No sites counted in the 2010s reported both GFA and employees.

The average building occupancy varies considerably within the studies for which occupancy data were provided. The reported occupied gross floor area was 88 percent for general urban/suburban sites and 96 percent for the center city core and dense multi-use urban sites.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The average numbers of person trips per vehicle trip at the eight center city core sites at which both person trip and vehicle trip data were collected are as follows:

- 2.8 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 7 and 9 a.m.
- 2.9 during Weekday, AM Peak Hour of Generator
- 2.9 during Weekday, Peak Hour of Adjacent Street Traffic, one hour between 4 and 6 p.m.
- 3.0 during Weekday, PM Peak Hour of Generator

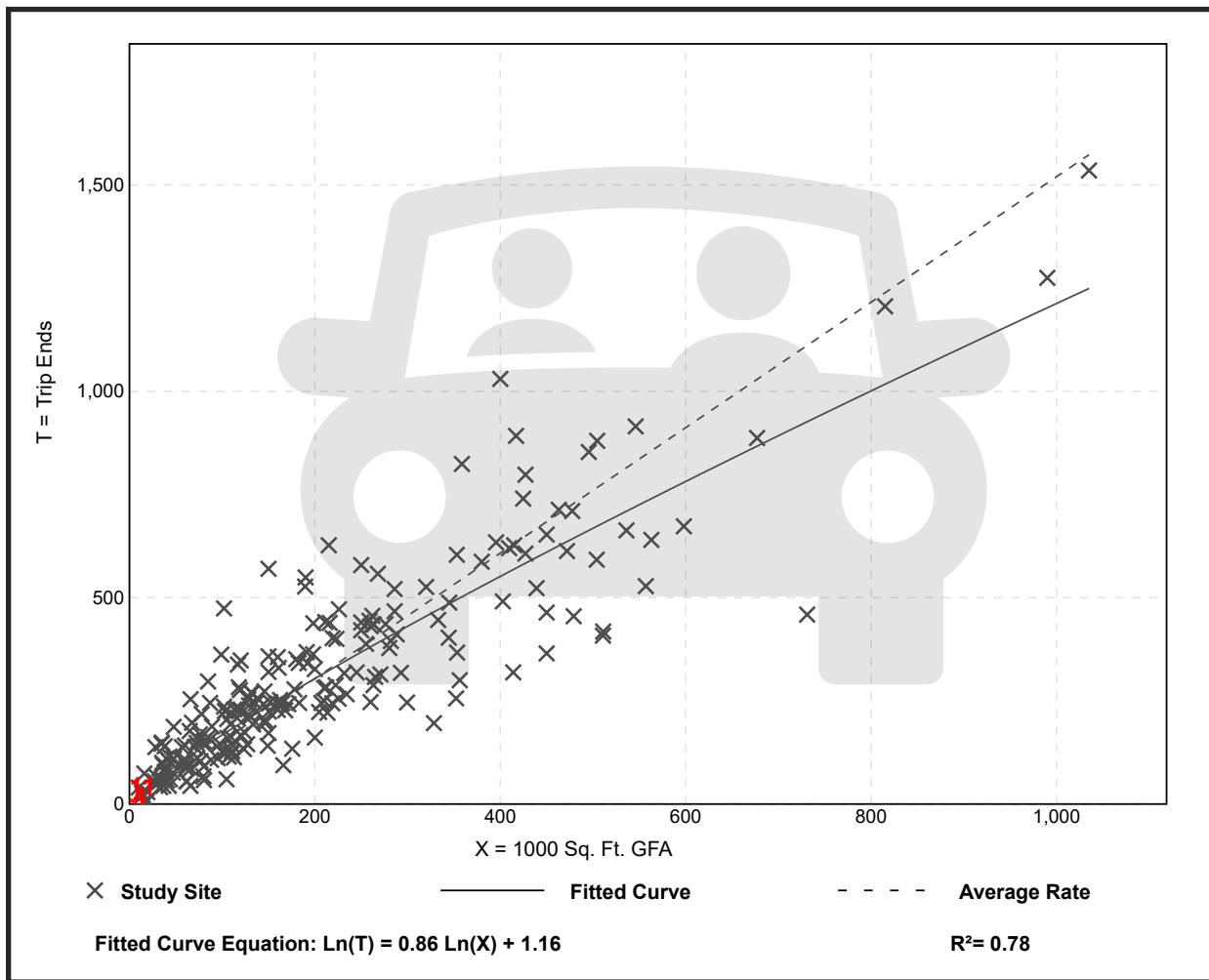
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 221
Avg. 1000 Sq. Ft. GFA: 201
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.52	0.32 - 4.93	0.58

Data Plot and Equation



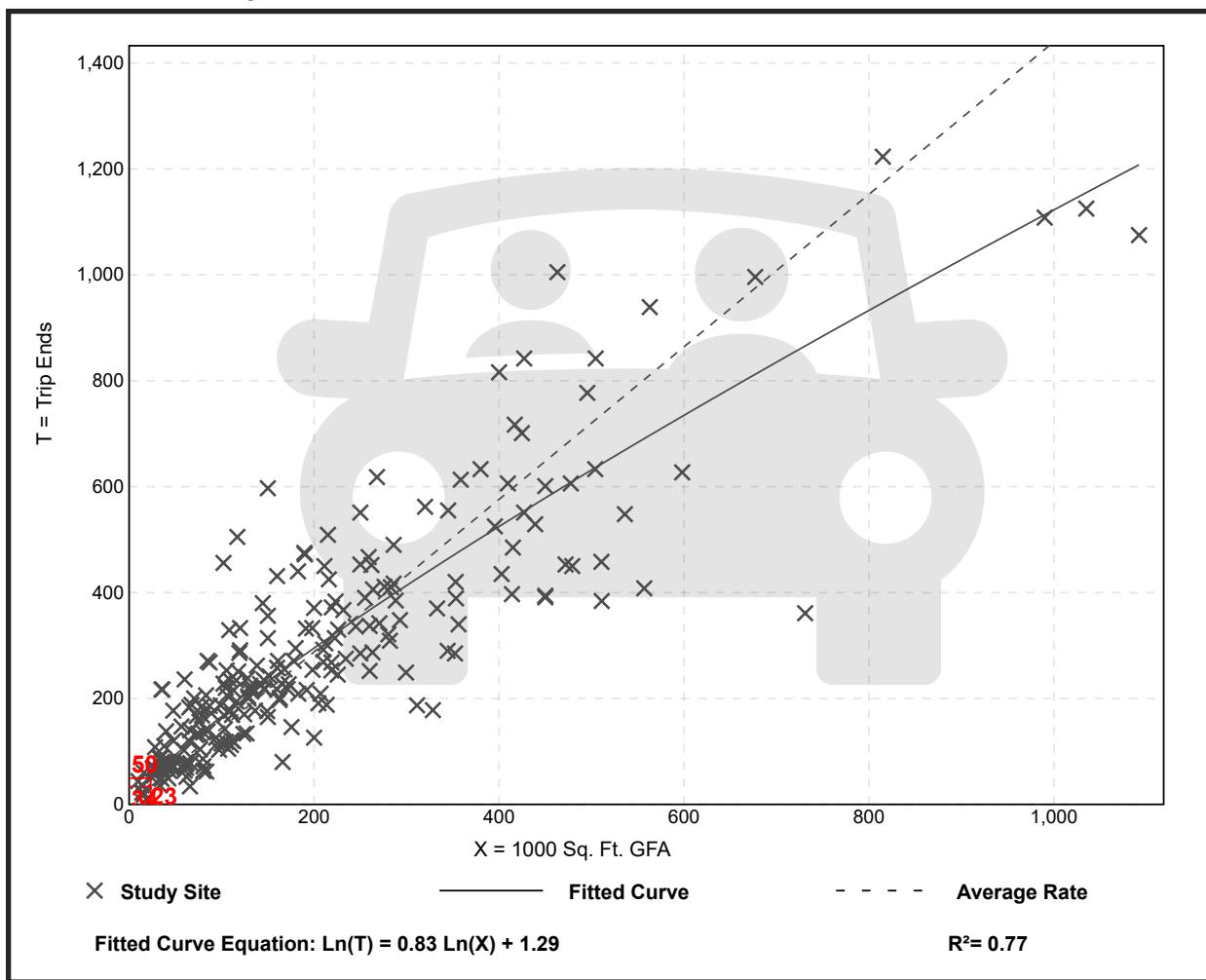
General Office Building (710)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 232
 Avg. 1000 Sq. Ft. GFA: 199
 Directional Distribution: 17% entering, 83% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.44	0.26 - 6.20	0.60

Data Plot and Equation



Land Use: 150 Warehousing

Description

A warehouse is primarily devoted to the storage of materials, but it may also include office and maintenance areas. High-cube transload and short-term storage warehouse (Land Use 154), high-cube fulfillment center warehouse (Land Use 155), high-cube parcel hub warehouse (Land Use 156), and high-cube cold storage warehouse (Land Use 157) are related uses.

Additional Data

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip generation resource page on the ITE website (<https://www.ite.org/technical-resources/topics/trip-and-parking-generation/>).

The sites were surveyed in the 1980s, the 1990s, the 2000s, and the 2010s in California, Connecticut, Minnesota, New Jersey, New York, Ohio, Oregon, Pennsylvania, and Texas.

Source Numbers

184, 331, 406, 411, 443, 579, 583, 596, 598, 611, 619, 642, 752, 869, 875, 876, 914, 940, 1050

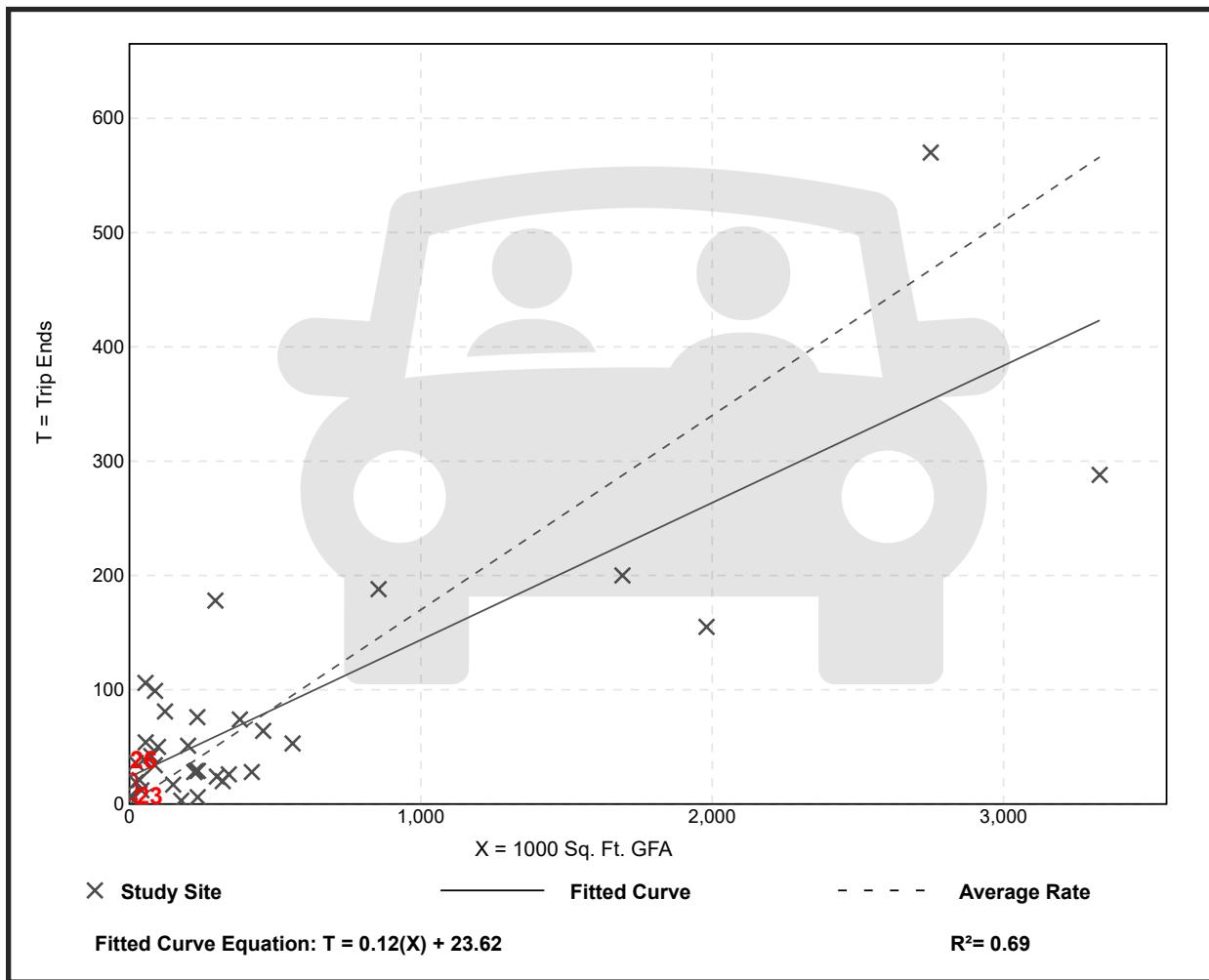
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
Number of Studies: 36
Avg. 1000 Sq. Ft. GFA: 448
Directional Distribution: 77% entering, 23% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.17	0.02 - 1.93	0.19

Data Plot and Equation



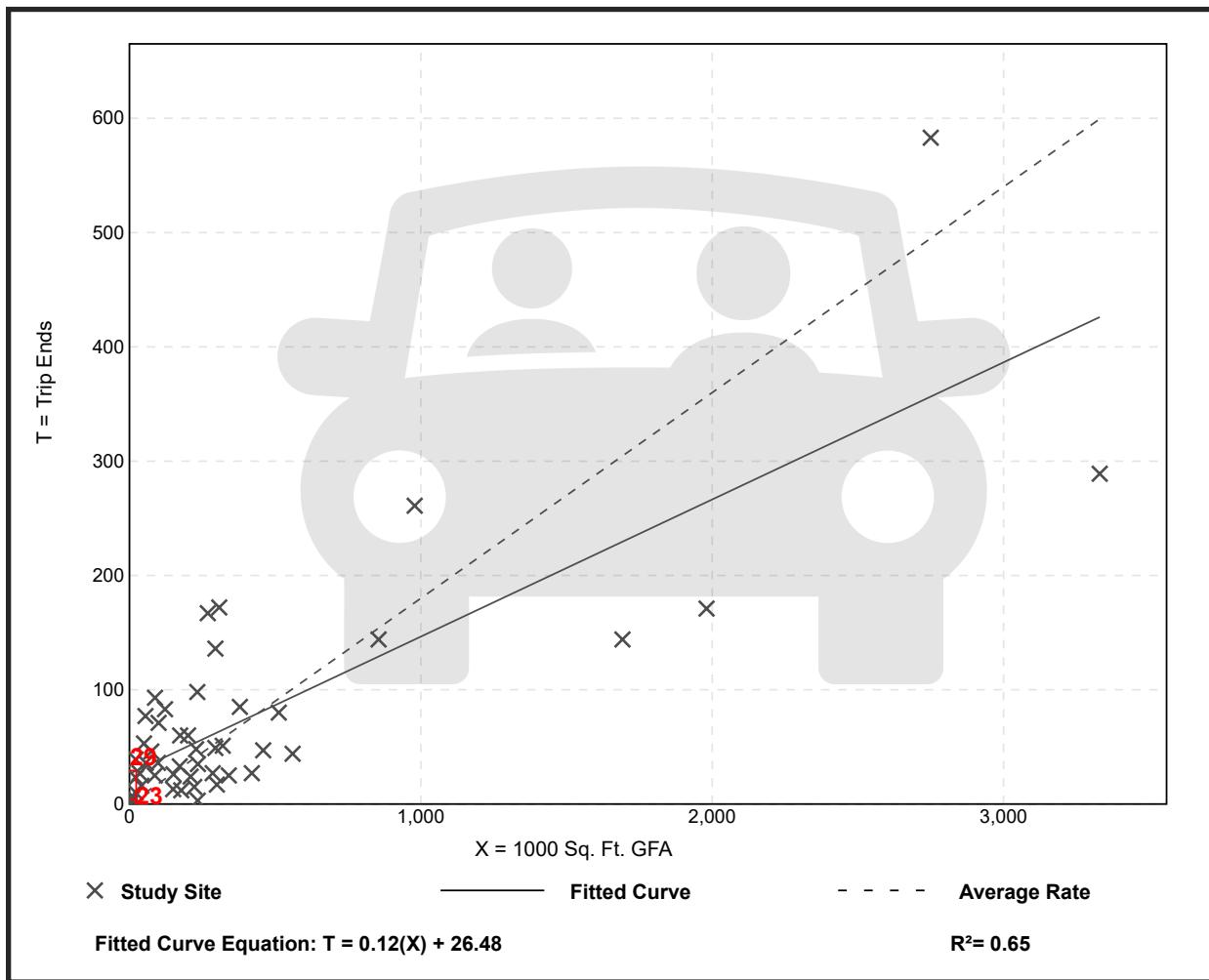
Warehousing (150)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 49
 Avg. 1000 Sq. Ft. GFA: 400
 Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

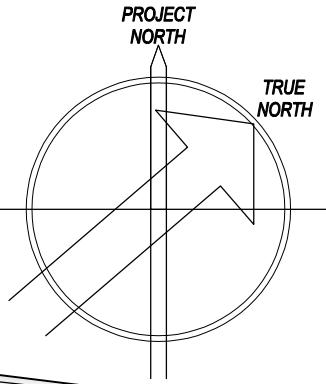
Average Rate	Range of Rates	Standard Deviation
0.18	0.01 - 1.80	0.18

Data Plot and Equation



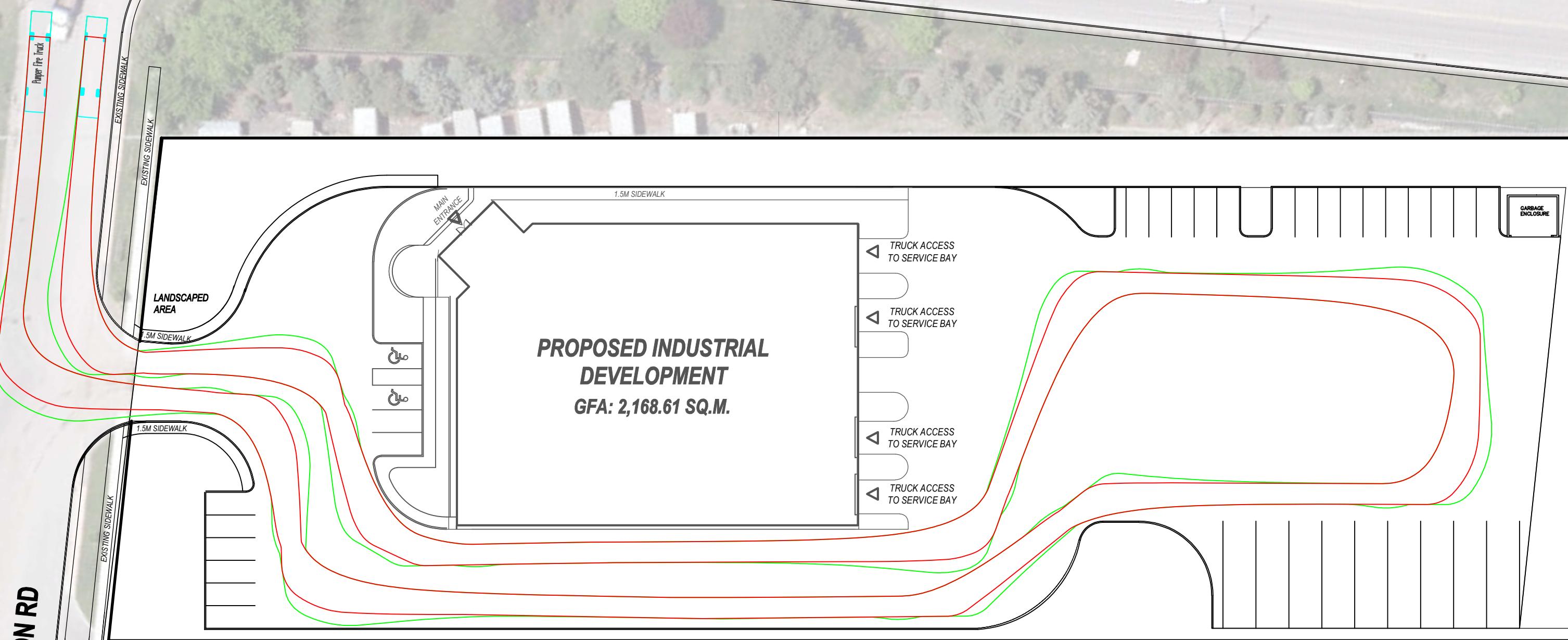
Appendix C

Vehicle Maneuvering Diagrams

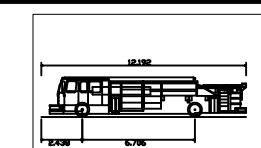


GEORGE BOLTON PKWY

George Bolton Pkwy



DDOT/DTV INC



Pumper Fire Truck
Overall Length 12.192m
Overall Width 2.495m
Body Height 3.200m
Body Ground Clearance 2.495m
Track Width 6.00m
Track-to-track 12.192m
Max Wheel Angle 45.00

Project:

55 SIMPSON ROAD
TOWN OF CALEDON

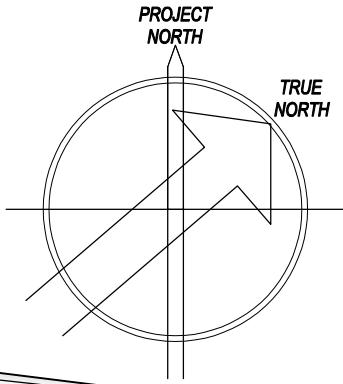
Drawing:

FIRE TRUCK

SWEPT PATH ANALYSIS

SKY
TRANSPORTATION ENGINEERING

Scale: N.T.S Date: 2025/10/29 Project No: 1013-2025
Drawn By: K.Y Check By: K.Y Drawing: TT-01



GEORGE BOLTON PKWY

George Bolton Pkwy

PROPOSED INDUSTRIAL DEVELOPMENT
GFA: 2,168.61 SQ.M.

Front-Load Garbage Truck

EXISTING SIDEWALK

LANDSCAPED AREA

1.5M SIDEWALK

MAIN ENTRANCE

1.5M SIDEWALK

TRUCK ACCESS TO SERVICE BAY

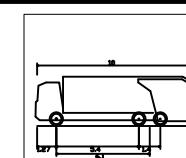
Garbage Enclosure

Front-Load Garbage Truck

N RD

PROPOSED INDUSTRIAL DEVELOPMENT

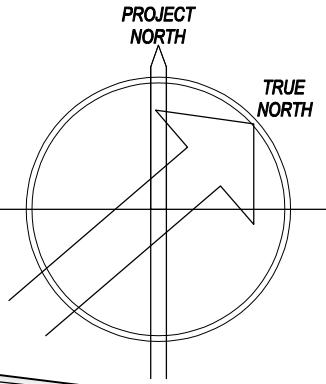
GFA: 2,168.61 SQ.M.



Front-Load Garbage Truck
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock-to-lock time
Wall to Wall Turning Radius

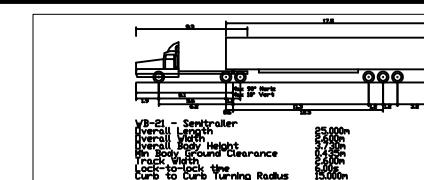
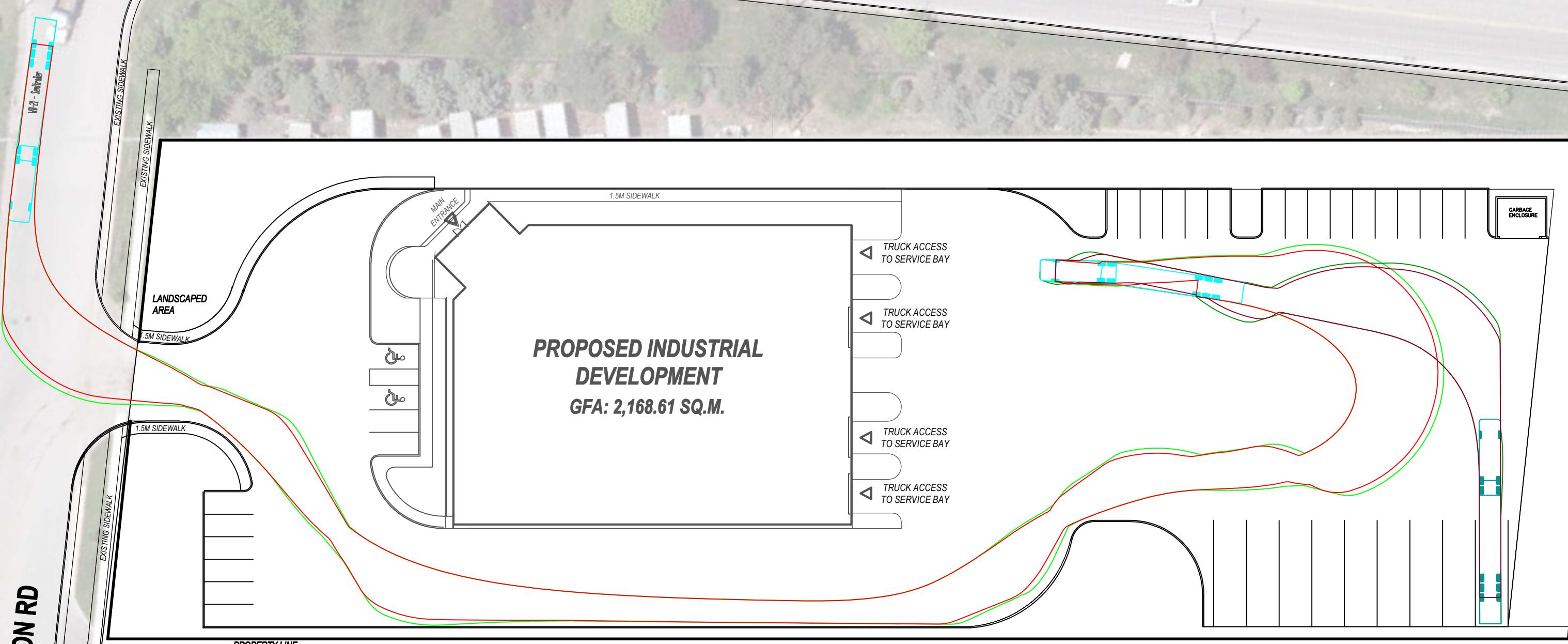
	<p>Project: 55 SIMPSON ROAD TOWN OF CALEDON</p> <p>Drawing: WASTE COLLECTION</p> <p>SWEPT PATH ANALYSIS</p>
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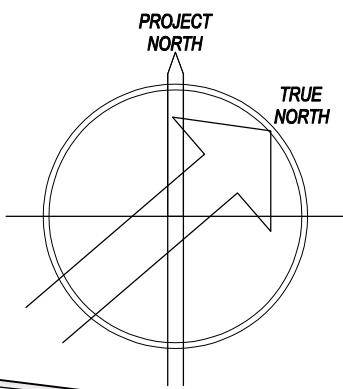
GEORGE BOLTON PKWY

George Bolton Pkwy



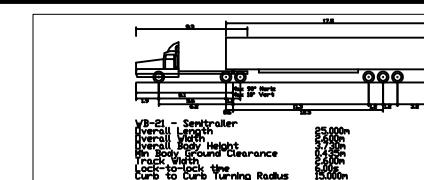
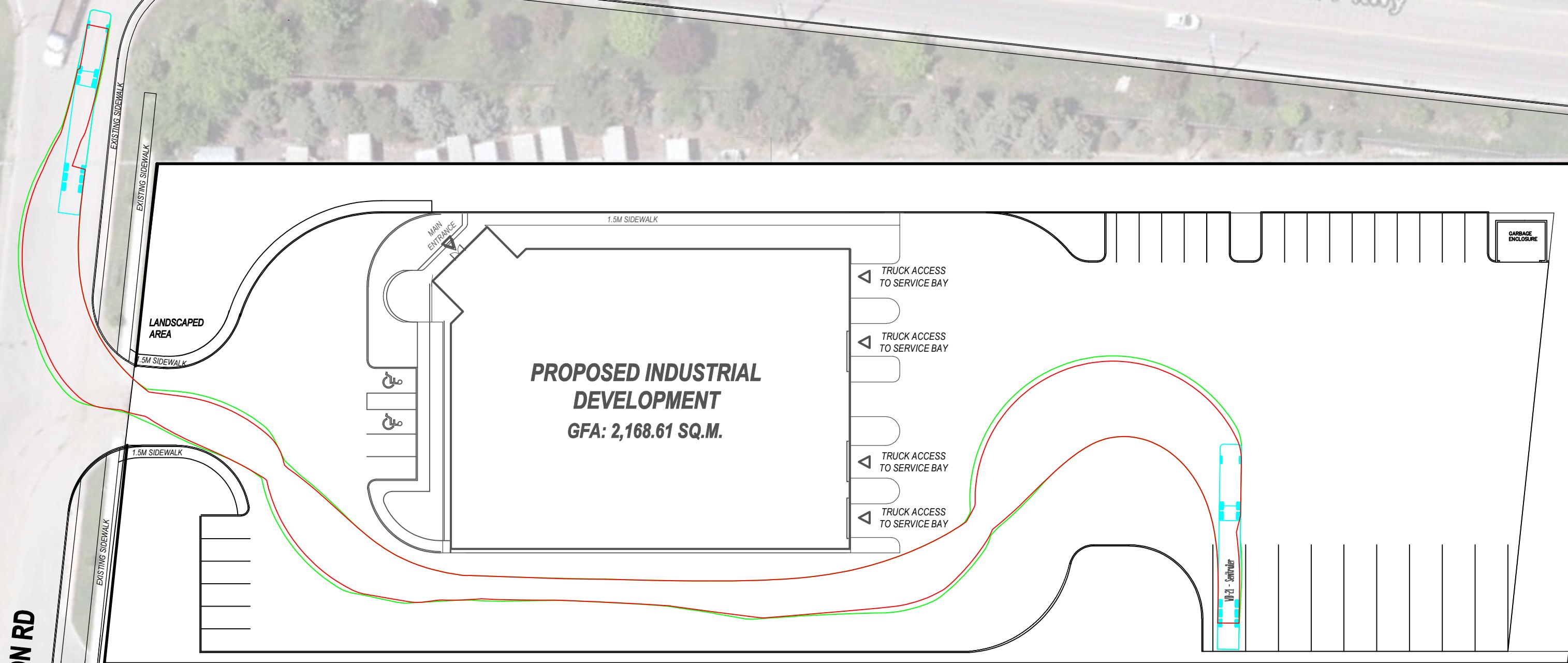
Project: 55 SIMPSON ROAD
TOWN OF CALEDON
Drawing: WB-21 (INBOUND)
SWEPT PATH ANALYSIS

SKY
TRANSPORTATION ENGINEERING
Scale: N.T.S Date: 2025/10/29 Project No: 1013-2025
Drawn By: K.Y Check By: K.Y Drawing: TT-03



GEORGE BOLTON PKWY

George Bolton Pkwy



Project: 55 SIMPSON ROAD
TOWN OF CALEDON
Drawing: WB-21 (OUTBOUND)
SWEPT PATH ANALYSIS

SKY
TRANSPORTATION ENGINEERING
Scale: N.T.S Date: 2025/10/29 Project No: 1013-2025
Drawn By: K.Y Check By: K.Y Drawing: TT-04