TRANSPORTATION IMPACT STUDY

180 ONTARIO STREET
RESIDENTIAL DEVELOPMENT
TOWN OF COLLINGWOOD
SIMCOE COUNTY

PREPARED FOR:
2374515 ONTARIO CORPORATION

PREPARED BY:

C.F. CROZIER & ASSOCIATES INC.
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COLLINGWOOD, ON L9Y 4L4

APRIL 2024

CFCA FILE NO. 2598-6970

CROZIER

Revision Number	Date	Comments
Rev. 0	April 2024	First Submission

1.0 Executive Summary

2374515 Ontario Corp. retained C.F. Crozier & Associates Inc. (Crozier) to prepare a Transportation Impact Study (TIS) in support of a Zoning By-Law Amendment applications for a proposed residential development at 180 Ontario Street (Subject Property) in the Town of Collingwood.

Development of the Subject Property is proposed to consist of a 4-storey apartment building with 60 residential dwelling units. Access to the site will be provided through a single entrance to Ontario Street. A 6.0 m Right-of-Way (ROW) private driveway is proposed along east side of the building providing access to on-site parking, waste collection bins and the amenity area.

The existing site access at Ontario Street was analyzed as part of this study. Under existing and future background conditions the site operates as a daycare centre and the access operates at a Level of Service (LOS) "B" during the weekday a.m. and p.m. peak hours, with minimal delay and internal queueing of less than one vehicle.

Development of the Subject Property is proposed to generate 15 and 24 total two-way trips during the weekday a.m. and p.m. peak hours, respectively.

Under future total conditions the site access is forecasted to continue operating at a LOS "B" or better during the weekday a.m. and p.m. peak hours with minimal delay and internal queueing of less than one vehicle.

There are opportunities for the Subject Property to incorporate active transportation connections on site and to the wider community. Sidewalks are proposed along the east and south sides of the building connecting to the Ontario Street sidewalk to the north, amenity area to the south and Train Trail to the west. Additionally, bike lanes in both directions are available on Ontario Street as well as a transit stop for the Collingwood Crosstown Route, approximately 30 m from the Subject Property.

The analysis contained within this report was prepared using the Site Plan prepared by Cusimano Architect, dated April 4, 2024. In conclusion, the proposed development can be supported from a transportation perspective.

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2.1 Background

2374515 Ontario Corp. retained C.F. Crozier & Associates Inc. (Crozier) to prepare a Transportation Impact Study (TIS) in support of a Zoning By-law Amendment applications for a proposed residential development at 180 Ontario Street (Subject Property) in the Town of Collingwood. The purpose of the study is to evaluate the transportation-related impacts of the proposed development on the boundary road network and to recommend any mitigation measures, as required. The Subject Property is bound by Ontario Street to the north, residential dwellings to the east, a forested area to the south and an existing public trail to the east. **Figure 1** illustrates the site location.

The Subject Property is approximately 5,200 m^2 (55,980 ft^2) in size and is classified as "Development Deferred Zone (DR)" per Schedule 'A' – Map 21 of the Collingwood Zoning By-Law. There is an existing building currently on site which is operating as a daycare facility with a single entrance from Ontario Street.

2.2 Development Proposal

Development of the Subject Property is proposed to consist of a 4-storey apartment building with 60 residential dwelling units. Access to the site will be provided through a single entrance to Ontario Street shifted to the east of the existing driveway location.

A 6.0 m internal driveway is proposed along east side of the building providing access to on-site parking, waste collection bins and the amenity area.

Figure 2 illustrates the Site Plan prepared by Cusimano Architect, dated April 4, 2024.

2.3 Purpose and Scope

The primary purpose of this Transportation Impact Study is to review the transportation-related impacts of the proposed development, if any, on the boundary road network and to recommend mitigation measures if warranted. This report also addresses other required components specified in the Town's Official Plan regarding active transportation and transit connections.

The study reviews the following main aspects of the proposed development from a transportation engineering perspective:

- Existing, future background and future total operations of the site access.
- Forecasted trip generation and distribution of trips generated by the development.
- Opportunities to encourage alternative transportation (i.e., active transportation and public transportation).

The study has been prepared based on the Terms of Reference circulated to the Town of Collingwood, which received input from the Town's peer reviewer R.J. Burnside. The Terms of Reference communications have been provided in **Appendix A** for reference, as well as responses to the Terms of Reference comments.

3.0 Existing Conditions

3.1 Boundary Road Network

The existing site access at Ontario Street was analyzed as part of this study. Ontario Street is a collector road with a two-lane cross-section, running east-west through the Town of Collingwood. Ontario Street is under the jurisdiction of the Town of Collingwood and includes 2.0 m sidewalks with 1.5 – 2.5 m green boulevards on both sides of the roadway. The collector road also includes dedicated cycling lanes on both sides of the roadway.

Review of the boundary network was scoped to Ontario Street and the proposed site access as the forecasted peak hour trip generated by the development are forecasted to be lower than the existing volumes on site. The trips will also be diffused throughout the external transportation network, minimizing the impact on external intersections. Details regarding the trip generation for the site are outlined in **Section 5.2.**

3.2 Public Transportation Network

Active transportation and transit connections at the Subject Property provide connection to the downtown area of Collingwood as well as surrounding municipalities. **Table 1** outlines the existing active transportation facilities on the boundary road network.

Table 1: Active and Public Transportation Network

Road	Pedestrian Facilities	Cycling Facilities	Transit Routes	Typical Headways
Ontario Street	• 1.5 metres sidewalk with 1.5 – 2.5 metres grass boulevards on both sides of the roadway. • Train Trail which stems from Collingwood Harbour to Stayner and connects to River trail, Siding trail Pilkington trail and Bay loop trail within the Town.	• 2.0 m dedicated cycling lane on both sides of the roadway. • Train Trail which stems from Collingwood Harbour to Stayner and connects to River trail, Siding trail Pilkington trail and Bay loop trail within the Town.	Collingwood Crosstown Route	60 mins

Appendix B includes the South Georgian Bay Regional Transit Map for reference. The Crosstown Route bus stops along Ontario Street is located approximately 20 metres east of the site access. The Town began a phased approach to offering On-Demand Transit (ODT) services in June of 2023. An on-demand system will allow greater access to transit services within Town, as services will not be tied to specific routes or schedules.

The multi-use Train Trail is located to the west of the Subject Property and spans from the Town of Collingwood to the community of Stayner, thus providing extensive connectivity within the Georgian Bay area. **Appendix C** contains a Collingwood Trails map.

3.3 Traffic Data

Turning movement count data for the intersection of Ontario Street and the existing site access were collected by Spectrum Traffic Inc. on Wednesday January 31st,2024, from 6:00 a.m. – 10:00 a.m. and 3:00 p.m. – 7:00 p.m. **Table 2** outlines the calculated peak hour factors at each intersection during each peak hour. **Appendix D** contains the collected traffic data.

Table 2: Intersection Count Peak Hour Factors

Intersection	Count Date	Peak Hour	Peak Hour Factor
Ontario Street & Site Access	Wednesday January 31st,2024	Weekday A.M. 8:15 a.m. – 9:15 a.m.	0.89
		Weekday P.M. 3:45 p.m. – 4:45 p.m.	0.87

3.4 Intersection Operations

The 2024 existing site access operations at the study intersection was analyzed based on the volumes illustrated in **Figure 3. Appendix E** contains Level of Service definitions. **Appendix F** includes the detailed capacity analysis worksheets. **Table 3** outlines the 2024 site access traffic operations.

Table 3: 2023 Adjusted Existing Traffic Operations

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c Ratio	Internal 95th %ile Queue
Ontario Street & Site Access	Stop	Weekday A.M.	B	10.4 s	0.06 (NB)	1.4 m
		Weekday P.M.	B	11.5 s	0.09 (NB)	2.3 m

Note: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

The site access is currently operating at LOS "B" during the weekday a.m. and p.m. peak hours, with minimal delay and internal queueing of less than one vehicle.

4.0 Future Background Conditions

4.1 Horizon Years

As outlined in the Terms of Reference established with the Town, the future horizon years of 2028 and 2033, assumed to be the year of full build-out and five years beyond, have been assessed.

4.2 Growth Rate

The Collingwood Transportation Study Update, prepared by R.J. Burnside for the Town in August 2019 used a background growth rate of 0.5% and included the addition of several forecasted developments.

As there are no forecasted developments adjacent to the Subject Property an industry standard annual growth rate of 2% has been applied to the Ontario Street traffic volumes as a conservative assessment.

4.3 Basis of Assessment

To establish the future background traffic volumes, the through volumes on Ontario Street were grown by the growth rate while the existing in and out volumes at the site access were left unchanged as the daycare capacity was assumed to remain consistent. **Figures 4 and 5** outline the 2028 and 2033 future background traffic volumes, respectively.

4.4 Intersection Operations

Table 4 and Table 5 outline the 2028 and 2033 future background traffic operations, respectively. **Appendix E** contains Level of Service definitions. **Appendix F** includes the detailed capacity analysis worksheets.

Table 4: 2028 Future Background Traffic Operations

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c Ratio	Internal 95th %ile Queue
Ontario Street & Site Access	Stop	Weekday A.M.	B	10.6 s	0.06 (NB)	1.4 m
		Weekday P.M.	B	11.7 s	0.09 (NB)	2.4 m

Note: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Table 5: 2033 Future Background Traffic Operations

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c Ratio	Internal 95th %ile Queue
Ontario Street & Site Access	Stop	Weekday A.M.	B	10.8 s	0.06 (NB)	1.5 m
		Weekday P.M.	B	12.1 s	0.10 (NB)	2.6 m

Note: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

The existing site access of the Subject Property is forecast to continue operating at LOS "B" during the weekday a.m. and p.m. peak hours with minimal delay and internal queueing of less than one vehicle.

5.0 Future Total Conditions

5.1 Removal of Existing Volumes

To establish the future volumes at the site access, the existing inbound and outbound volumes to the Subject Property were removed to reflect the removal of the existing use.

5.2 Site Trip Generation

Trip generation for the Subject Property was forecasted using published data from the ITE Trip Generation Manual, 11th Edition. The ITE Trip Generation Manual is a compendium of industry collected trip generation data across North America for a variety of land uses and is used industry wide as a source for trip generation forecasts. Land Use Category 221: Multifamily Housing (Mid-rise) was selected as it defines a mid-rise residential building as four to ten storeys in height.

Table 6 outlines the trip generation for the proposed redevelopment.

Table 6: Site Trip Generation

Use	Roadway Peak Hour	Number of Trips		
		Inbound	Outbound	Total
LUC 221: Multifamily Housing (Mid-rise) (60 Units)	Weekday A.M.	3	12	15
	Weekday P.M.	14	10	24

The proposed redevelopment is expected to generate 15 and 24 total two-way trips during the weekday a.m. and p.m. peak hours, respectively.

5.3 Trip Distribution

Based on 2016 Transportation Tomorrow Survey data, trips generated by existing residential homes in the study zone of the Subject Property distribute approximately 50% to the east and 50% to the west. As such, an equal distribution of generated trips were assigned to the east and west of the Subject Property.

Figures 6 illustrates the trip assignment for the proposed development. **Appendix G** contains the Transportation Tomorrow Survey data for reference.

5.4 Basis of Assessment

The site generated traffic volumes illustrated in **Figure 6** were added to the grown existing through volumes on Ontario Street to determine the future total traffic volumes. **Figures 7 and 8** outline the 2028 and 2033 future total traffic volumes, respectively.

5.5 Intersection Operations

Table 7 and Table 8 outline the 2028 and 2033 future traffic operations, respectively. **Appendix E** contains Level of Service definitions. **Appendix F** includes the detailed capacity analysis worksheets.

Table 7: 2028 Future Total Traffic Operations

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c Ratio	Internal 95th %ile Queue
Ontario Street & Site Access	Stop	Weekday A.M.	A	9.8 s	0.02 (NB)	0.4 m
		Weekday P.M.	B	10.5 s	0.02 (NB)	0.4 m

Note: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

Table 8: 2033 Future Total Traffic Operations

Intersection	Control	Peak Hour	Level of Service	Control Delay	Maximum v/c Ratio	Internal 95th %ile Queue
Ontario Street & Site Access	Stop	Weekday A.M.	A	10.0 s	0.02 (NB)	0.4 m
		Weekday P.M.	B	10.7 s	0.02 (NB)	0.5 m

Note: The Level of Service of a stop-controlled intersection is based on the delay associated with the critical minor road approach.

The site access of the Subject Property is forecasted to continue operating at a LOS "B" or better during the weekday a.m. and p.m. peak hours with minimal delay and internal queueing of less than one vehicle. These metrics indicate that the study road network has reserve capacity to accommodate the proposed redevelopment of the site.

6.0 Active Transportation Connections

There are opportunities for the Subject Property to incorporate active transportation connections on site and to the wider community.

6.1 Pedestrian Circulation

As illustrated on the Site Plan, sidewalks are proposed along the east and south sides of the building connecting to the Ontario Street sidewalk to the north, amenity area to the south and Train Trail to the west. **Figure 7** provides illustration of these connections as well as the existing Ontario Street bike lanes in a pedestrian and cycling circulation plan.

6.2 Pedestrian Crossing

Based on aerial imagery there was a painted pedestrian crossing on Ontario Street for the Train Trail which was not repainted after road works between 2016 and 2018. Under existing conditions, a Level 2 Type D pedestrian crossing is recommended per the Ontario Traffic Manual (OTM) Book 15. Growth to the 2033 horizon does not change the recommended crossing type. **Appendix H** contains relevant excerpts from OTM Book 15.

The Town may also wish to implement traffic calming measures per their Traffic Calming Policy, prepared by Tatham Engineering in June 2021. Traffic calming measures such as dynamic speed signs, textured crosswalks, and speed bumps or cushions can be considered within the vicinity of the Train Trail crossing, to reduce speeds and increase driver awareness. **Appendix I** contains excerpts from the Town's Traffic Calming Policy.

7.0 Access Geometry

A single access driveway is proposed for the east side of the Subject Property entrance. The full moves driveway is proposed to be 6.0-7.6 m in width meeting the requirements of the Town of Collingwood Standard Drawing 405. The east and west driveway radii are 8.5 m and 9.0 m, respectively, adhering to the Ontario Provincial Standard Drawings (OPSD) 350.010. It is noted that the eastern curb return ends at the property line.

The location of the driveway is approximately 56m (centreline-to-centreline) from Minnesota Street and 34 m (centreline-to-centreline) from Olde Towne a private roadway on the north side of Ontario Street and the Train Trail on the south side. The locations allows for a 6.0 m drive aisle with parking on both sides.

Ontario Street is relatively straight and flat, providing more than 150 m of sight distance in the east and west directions at the site access. The available site distance is adequate for a roadway with a posted speed of 50 km/h, which require 130 m of available sight distance per the Transportation Association of Canada Geometric Design Guidelines for Canadian Roads.

8.0 Vehicle Maneuverability

A review of vehicle maneuverability through the site was conducted using AutoTurn software. An Aerial Fire Truck, Medium Single Unit Truck and a Simcoe County Waste Collection vehicle were assessed. The waste collection vehicle is required to make a five-point turn to avoid reversing more than 15m through the site. While the body of the vehicle is expected to extend over the curb for this movement, there are no conflicts with the tires. All other design vehicles navigate the site without conflict. **Appendix J** includes the vehicle maneuverability diagrams.

9.0 Conclusions

The analysis contained within this report has resulted in the following key findings:

- The development of the Subject Property is forecast to generate approximately 15 and 24 total two-way trips during the weekday a.m. and p.m. peak hours, respectively.
- Analysis of the future background and total conditions found that the driveway connection to Ontario Street is expected to operate at a Level of Service "B" or better with minimal delay and internal queuing of less than one vehicle in the weekday a.m. and p.m. peak hours.
- Connections to existing sidewalk and trail networks will be provided on site, allowing for increased connectivity with the surrounding network.
- Fire, delivery, and waste collection vehicles can maneuver throughout the site without conflict.

The analysis contained within this report was prepared using the Site Plan prepared by Cusimano Architect, dated April 4, 2024. In conclusion, the proposed development can be supported from a transportation perspective.

Respectfully submitted by,

C.F. CROZIER & ASSOCIATES INC.

Kerianne Hagan, E.I.T.
Engineering Intern, Transportation

C.F. CROZIER & ASSOCIATES INC.

Madeliene Ferguson, P.Eng.
Manager (Planning), Transportation

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APPENDIX A

Terms of Reference Correspondence

Kerianne Hagan

From: Diego Bustamante
Sent: February 9, 2024 10:38 AM
To: Kerianne Hagan
Subject: FW: 180 Ontario Street - TIS Terms of Reference

Follow Up Flag: Follow up
Flag Status: Completed

Hi Keri,

FYI.

Regards,

Diego Bustamante, EIT
Engineering Intern, Transportation
DID: 705.434.3421

From: Stefanie Thorne <sthorne@collingwood.ca>
Sent: Wednesday, February 7, 2024 11:05 AM
To: Diego Bustamante <dbustamante@cfcrozier.ca>; Madeleine Ferguson <mferguson@cfcrozier.ca>
Cc: Stuart West <swest@collingwood.ca>; Lindsay Ayers <layers@collingwood.ca>
Subject: 180 Ontario Street - TIS Terms of Reference

Good Morning Diego,

The peer review of the Terms of Reference (TOR) has been completed by R.J. Burnside, for the completion of a Traffic Impact Study (TIS) and Parking Justification Study (PJS). The TOR have been found acceptable, unless identified below (in red) with modifications/clarifications noted in red below:

TRAFFIC IMPACT STUDY (TIS)

- The TIS will be scoped to assess the operations of the existing site access on Ontario Street, which is proposed to remain. Please confirm the basis for completing a scoped TIS (i.e., access review only), rather than expanding the study to include nearby public road intersections. We note that the site plan proposes that the existing site access is to be shifted, rather than to remain in its current location. Relocation of an existing pole may be required to accommodate this relocation. The TIS will assess the weekday a.m. and p.m. peak hours.
    - Traffic data collection will occur in January 2024, given the upcoming holiday season.

- We will analyze opening year (assumed 2028), as well as five (2033) years beyond.

- A growth rate of 1.5% will be used. Please confirm the basis for the assumed growth rate.

- We kindly request the Town to identify and provide us with any additional nearby developments to be accounted for in the background traffic volume forecasts, if applicable. Burnside is not aware of any nearby developments and no active developments are shown on the Town's Development map. We defer to the Town

to confirm if there are any nearby developments that may increase traffic on Ontario Street or if there are any active construction projects that may impact traffic counts in this area.

- The trip generation characteristics of the development will be forecast using ITE Trip Generation Manual, 11th Edition.
    - Trips will be applied to the boundary road network based on Transportation Tomorrow Survey (TTS) data.

- Review the proposed development roadway connections from a geometrics and safety perspective, including turn-lane and signal requirements based on TAC and OTM Book 12 guidelines, as applicable. Traffic operations (capacity, delay) are to be reviewed using Synchro.

- Summarize the existing and future active transportation opportunities in the area including sidewalk connectivity, bicycle routes, trail connections to surrounding developments and transit routes. Also include road crossing requirements and traffic speed/traffic calming requirements on Ontario Street.

- Prepare a plan that will illustrate active transportation facilities within the Site and any proposed connections to the boundary road network.

- Incorporate vehicle manoeuvring diagrams into the report and summarize findings. Include AutoTURN swept path analysis for the access and internal to the site for fire trucks, delivery trucks, waste trucks and cars.

PARKING JUSTIFICATION STUDY (PJS)

In addition to the TIS, we are also seeking confirmation on a proposed scope of work for a parking study to support a reduced parking supply at the site. The Parking Justification Study will review the following items:

By-Law Requirements
A review of the Town of Collingwood Zoning By-Lawand Urban Design Manual to determine the required number of vehicle and bicycle parking requirements in relation to the number to be provided on site.

ITE Parking Generation
ITE Parking Generation 5th Edition will be used to calculate the expected parking demand for the development. Please use ITE Parking Generation 6th Edition, with comparison to the 85th percentile demands.

Transportation Tomorrow Survey
A review the TTS data from the Town of Collingwood will determine the expected vehicle ownership rates for the proposed development. The TTS data that is used for comparison should reflect the type of development (purpose built rental units?, affordable housing?).

Comparable Municipal Rates
A review of the minimum parking rate requirements of similar municipalities will be undertaken to determine nearby supportable rates.

Proxy Sites
Collection of proxy site data will be used to support the proposed rate. A parking survey will be commissioned at the existing daycare facility to understand existing peak parking and pick-up/drop-off operations. Please clarify how this data is to be used in the analysis, since it is assumed that the daycare will be replaced by the development.

In addition, we have reviewed data Crozier has collected in the past and are asking for confirmation of the following sites to be used:

1. 417 Peel Street – Town of Collingwood (Three 4-storey buildings) Please confirm occupancies, affordable units, number of resident and visitor parking spaces available etc., for comparison to the proposed development. Parking demand data should be separated between resident parking and visitor parking. Please confirm the costs for parking and that it is unbundled from rental rates.
2. 35-45 Bredin Parkway – Town of Orangeville (One 4-storey building and one 6-storey building) We don't recommend the use of this site as a proxy site. The development is in close proximity to offsite commercial parking lots and the buildings have a combination of surface and underground parking; these conditions are different than the proposed development.

A minimum of 3 proxy sites should be reviewed. Please provide two other representative sites, in addition to the 417 Peel Street site. We note that the site plan proposes a parking deficit of 56% from the bylaw requirement; therefore the extent of the PJS should reflect this significant shortfall.

Transportation Demand Management

A review of TDM opportunities for the development, such as transit routes, pedestrian facilities, and proximity to downtown public parking areas, will be undertaken.

If you have any questions, please do not hesitate to contact me.

Sincerely,

Stefanie Thorne, C.Tech.
Engineering Technologist, Engineering Services
705-445-1030 Ext. 4214

Town of Collingwood
545 Tenth Line North, P.O. Box 157
Collingwood ON L9Y 3Z5

sthorne@collingwood.ca I www.collingwood.ca

The following responses have been provided to the comments received on the Terms of Reference to provide an ease of review.

Crozier Workplan	Town/Burnside Response	Crozier Response
The TIS will be scoped to assess the operations of the existing site access on Ontario Street, which is proposed to remain. Traffic data collection will occur in January 2024, given the upcoming holiday season.	Please confirm the basis for completing a scoped TIS (i.e., access review only), rather than expanding the study to include nearby public road intersections. We note that the site plan proposes that the existing site access is to be shifted, rather than to remain in its current location. Relocation of an existing pole may be required to accommodate this relocation.	The assessment was scoped to the access as the forecasted peak hour trips generated by the redevelopment are forecasted to be lower than the existing volumes on site. Detailes regarding the trip generation for the site are outlined in Section 4.4.
We will analyze opening year (assumed 2028), as well as five (2033) years beyond.	-	-
A growth rate of 1.5% will be used.	Please confirm the basis for the assumed growth rate.	The 1.5% growth rate suggestion was a typo. The Collingwood Transportation Study Update, prepared in August 2019 reviewed a background growth rate of 0.5% and the addition of several forecasted developments. As no background developments were identified adjacent to the site, an industry standard annual growth rate of 2% has been applied.
We kindly request the Town to identify and provide us with any additional nearby developments to be accounted for in the background traffic volume forecasts, if applicable.	Burnside is not aware of any nearby developments and no active developments are shown on the Town's Development map. We defer to the Town to confirm if there are any nearby developments that may increase traffic on Ontario Street or if there are any active construction projects that may impact traffic counts in this area.	No background developments were provided by the Town for inclusion.

Crozier Workplan	Town/Burnside Response	Crozier Response
The trip generation characteristics of the development will be forecast using ITE Trip Generation Manual, 11th Edition. Trips will be applied to the boundary road network based on Transportation Tomorrow Survey (TTS) data.	-	-
Summarize the existing and future active transportation opportunities in the area including sidewalk connectivity, bicycle routes, trail connections to surrounding developments and transit routes.	Also include road crossing requirements and traffic speed/traffic calming requirements on Ontario Street.	Discussion of road crossing requirements and traffic calming is included in Section 6.2.
Review the proposed development roadway connections from a geometrics and safety perspective, including turn-lane and signal requirements based on TAC and OTM Book 12 guidelines, as applicable.	Traffic operations (capacity, delay) are to be reviewed using Synchro.	Synchro modelling was completed for existing, future background and future total conditions.
Prepare a plan that will illustrate active transportation facilities within the Site and any proposed connections to the boundary road network.	-	-
Incorporate vehicle manoeuvring diagrams into the report and summarize findings.	Include AutoTURN swept path analysis for the access and internal to the site for fire trucks, delivery trucks, waste trucks and cars.	Please reference the AutoTurn diagrams in Appendix I.

APPENDIX B

South Georgian Bay Regional Transit Map

Wasaga Beach Route 1 West

Archer Road	Deerbrook Drive	Wally Drive	Walmart Supercentre (Transfer)	Nancy Island Welcome Centre	18th Street	Riverbend Plaza	Macs Convenience Store	Knox Road West	Meadowlark Boulevard	Real Canadian Superstore (Transfer)	St. Noel Elementary School	Lyons Court
MONDAY - SUNDAY												
7:15	7:20	7:25	7:30	7:35	7:38	7:40	7:41	7:42	7:44	7:45	7:53	8:00
8:45	8:50	8:55	9:00	9:05	9:08	9:10	9:11	9:12	9:14	9:15	9:23	9:30
10:15	10:20	10:25	10:30	10:35	10:38	10:40	10:41	10:42	10:44	10:45	10:53	11:00
11:45	11:50	11:55	12:00	12:05	12:08	12:10	12:11	12:12	12:14	12:15	12:23	12:30
1:15	1:20	1:25	1:30	1:35	1:38	1:40	1:41	1:42	1:44	1:45	1:53	2:00
2:45	2:50	2:55	3:00	3:05	3:08	3:10	3:11	3:12	3:14	3:15	3:23	3:30
4:15	4:20	4:25	4:30	4:35	4:38	4:40	4:41	4:42	4:44	4:45	4:53	5:00
5:45	5:50	5:55	6:00	6:05	6:08	6:10	6:11	6:12	6:14	6:15	6:23	6:30
7:15	7:20	7:25	7:30	7:35	7:38	7:40	7:41	7:42	7:44	7:45	7:53	8:00

Wasaga Beach Route 1 East

Lyons Court	St. Noel Elementary School	Real Canadian Superstore (Transfer)	Meadowlark Boulevard	Sunnidale Road	Mac's Milk (Mosley Street)	Riverbend Plaza	18th Street	Nancy Island Welcome Centre	Walmart Supercentre (Transfer)	Mary Street	Archer Road
MONDAY - SUNDAY											
8:00	8:02	8:05	8:07	8:10	8:11	8:15	8:18	8:20	8:25	8:34	8:45
9:30	9:32	9:35	9:37	9:40	9:41	9:45	9:48	9:50	9:55	10:04	10:15
11:00	11:02	11:05	11:07	11:10	11:11	11:15	11:18	11:20	11:25	11:34	11:45
12:30	12:32	12:35	12:37	12:40	12:41	12:45	12:48	12:50	12:55	1:04	1:15
2:00	2:02	2:05	2:07	2:10	2:11	2:15	2:18	2:20	2:25	2:34	2:45
3:30	3:32	3:35	3:37	3:40	3:41	3:45	3:48	3:50	3:55	4:04	4:15
5:00	5:02	5:05	5:07	5:10	5:11	5:15	5:18	5:20	5:25	5:34	5:45
6:30	6:32	6:35	6:37	6:40	6:41	6:45	6:48	6:50	6:55	7:04	7:15
8:00	8:02	8:05	8:07	8:10	8:11	8:15	8:18	8:20	8:25	8:34	8:45

SOUTH GEORGIAN BAY REGIONAL TRANSIT

RIDERS GUIDE

Effective January 2019

Blue Mountain - Clearview - Collingwood - Wasaga Beach

collingwood.ca/transit 705.446.1196

Wasaga Beach Route 2 West

Wasaga Stars Arena	Walmart Supercentre	Blueberry Trail	Lauderdale Boulevard	Riverbend Plaza	Rec Plex	Real Canadian Superstore (Transfer)	57th Street	Lorna Dune
MONDAY - SUNDAY								
6:55	7:05	7:08	7:11	7:14	7:18	7:20	7:22	7:25
7:55	8:05	8:08	8:11	8:14	8:18	8:20	8:22	8:25
8:55	9:05	9:08	9:11	9:14	9:18	9:20	9:22	9:25
9:55	10:05	10:08	10:11	10:14	10:18	10:20	10:22	10:25
10:55	11:05	11:08	11:11	11:14	11:18	11:20	11:22	11:25
11:55	12:05	12:08	12:11	12:14	12:18	12:20	12:22	12:25
12:55	1:05	1:08	1:11	1:14	1:18	1:20	1:22	1:25
1:55	2:05	2:08	2:11	2:14	2:18	2:20	2:22	2:25
2:55	3:05	3:08	3:11	3:14	3:18	3:20	3:22	3:25
3:55	4:05	4:08	4:11	4:14	4:18	4:20	4:22	4:25
4:55	5:05	5:08	5:11	5:14	5:18	5:20	5:22	5:25
5:55	6:05	6:08	6:11	6:14	6:18	6:20	6:22	6:25
6:55	7:05	7:08	7:11	7:14	7:18	7:20	7:22	7:25
7:55	8:05	8:08	8:11	8:14	8:18	8:20	8:22	8:25

Wasaga Beach Route 2 East

Lorna Dune	57th Street	Real Canadian Superstore (Transfer)	Rec Plex	Riverbend Plaza	Lauderdale Boulevard	Blueberry Trail	Foodland	Pioneer Gas Station
MONDAY - SUNDAY								
7:30	7:32	7:35	7:38	7:40	7:43	7:46	7:49	7:55
8:30	8:32	8:35	8:38	8:40	8:43	8:46	8:49	8:55
9:30	9:32	9:35	9:38	9:40	9:43	9:46	9:49	9:55
10:30	10:32	10:35	10:38	10:40	10:43	10:46	10:49	10:55
11:30	11:32	11:35	11:38	11:40	11:43	11:46	11:49	11:55
12:30	12:32	12:35	12:38	12:40	12:43	12:46	12:49	12:55
1:30	1:32	1:35	1:38	1:40	1:43	1:46	1:49	1:55
2:30	2:32	2:35	2:38	2:40	2:43	2:46	2:49	2:55
3:30	3:32	3:35	3:38	3:40	3:43	3:46	3:49	3:55
4:30	4:32	4:35	4:38	4:40	4:43	4:46	4:49	4:55
5:30	5:32	5:35	5:38	5:40	5:43	5:46	5:49	5:55
6:30	6:32	6:35	6:38	6:40	6:43	6:46	6:49	6:55
7:30	7:32	7:35	7:38	7:40	7:43	7:46	7:49	7:55
8:30	8:32	8:35	8:38	8:40	8:43	8:46	8:49	8:55

Legend

- Collingwood Crosstown Route
- Collingwood East Route
- Collingwood West Route
- Collingwood Wasaga Beach Link
- Collingwood Wasaga Beach Link 5-6pm
- Blue Mountain Transit Link
- Wasaga Beach Route 1
- Wasaga Beach Route 2
- Clearview Stayner Route
- Clearview Wasaga Beach Link
- Multiple Routes
- Transit Hub
- Bus Stops
- Arena
- Community Centre
- Hospital
- Library
- Municipal Building
- Museum
- Point of Interest
- School
- Shopping Centre

Collingwood West Route

Terminal	Blue Mountain Centre	Wal-Mart	Eighth & Oak	Tenth & High	Oak & Cameron	Collingwood Collegiate	Terminal
MONDAY - FRIDAY							
6:30	6:36	6:38	6:43	6:45	6:49	6:51	6:55
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
7:30	7:36	7:38	7:43	7:45	7:49	7:51	7:55
8:00	8:06	8:08	8:13	8:15	8:19	8:21	8:25
8:30	8:36	8:38	8:43	8:45	8:49	8:51	8:55
9:00	9:06	9:08	9:13	9:15	9:19	9:21	9:25
10:00	10:06	10:08	10:13	10:15	10:19	10:21	10:25
11:00	11:06	11:08	11:13	11:15	11:19	11:21	11:25
12:00	12:06	12:08	12:13	12:15	12:19	12:21	12:25
1:00	1:06	1:08	1:13	1:15	1:19	1:21	1:25
2:00	2:06	2:08	2:13	2:15	2:19	2:21	2:25
2:30	2:36	2:38	2:43	2:45	2:49	2:51	2:55
3:00	3:06	3:08	3:13	3:15	3:19	3:21	3:25
...and every 30 minutes to...							
6:00	6:06	6:08	6:13	6:15	6:19	6:21	6:25
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
8:00	8:06	8:08	8:13	8:15	8:19	8:21	8:25
SATURDAY							
6:30	6:36	6:38	6:43	6:45	6:49	6:51	6:55
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
...and every 30 minutes to...							
11:30	11:36	11:38	11:43	11:45	11:49	11:51	11:55
12:00	12:06	12:08	12:13	12:15	12:19	12:21	12:25
12:30	12:36	12:38	12:43	12:45	12:49	12:51	12:55
1:00	1:06	1:08	1:13	1:15	1:19	1:21	1:25
...and every 30 minutes to...							
6:00	6:06	6:08	6:13	6:15	6:19	6:21	6:25
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
8:00	8:06	8:08	8:13	8:15	8:19	8:21	8:25
SUNDAY							
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
8:00	8:06	8:08	8:13	8:15	8:19	8:21	8:25
...and every 60 minutes to...							
12:00	12:06	12:08	12:13	12:15	12:19	12:21	12:25
1:00	1:06	1:08	1:13	1:15	1:19	1:21	1:25
...and every 60 minutes to...							
7:00	7:06	7:08	7:13	7:15	7:19	7:21	7:25
8:00	8:06	8:08	8:13	8:15	8:19	8:21	8:25

Collingwood East Route

Terminal	Bay Haven	Sunset Manor	Hospital	Jean Vanier	Collingwood Collegiate	YMCA	Ontario & St. Marie	Terminal
MONDAY - FRIDAY								
6:30	6:36	6:38	6:41	6:44	6:47	6:50	6:52	6:55
7:00	7:06	7:08	7:11	7:14	7:17	7:20	7:22	7:25
7:30	7:36	7:38	7:41	7:44	7:47	7:50	7:52	7:55
8:00	8:06	8:08	8:11	8:14	8:17	8:20	8:22	8:25
8:30	8:36	8:38	8:41	8:44	8:47	8:50	8:52	8:55
9:30	9:36	9:38	9:41	9:44	9:47	9:50	9:52	9:55
10:30	10:36	10:38	10:41	10:44	10:47	10:50	10:52	10:55
11:30	11:36	11:38	11:41	11:44	11:47	11:50	11:52	11:55
12:30	12:36	12:38	12:41	12:44	12:47	12:50	12:52	12:55
1:30	1:36	1:38	1:41	1:44	1:47	1:50	1:52	1:55
2:30	2:36	2:38	2:41	2:44	2:47	2:50	2:52	2:55
3:00	3:06	3:08	3:11	3:14	3:17	3:20	3:22	3:25
...and every 30 minutes to...								
6:30	6:36	6:38	6:41	6:44	6:47	6:50	6:52	6:55
7:30	7:36	7:38	7:41	7:44	7:47	7:50	7:52	7:55
8:30	8:36	8:38	8:41	8:44	8:47	8:50	8:52	8:55
SATURDAY								
6:30	6:36	6:38	6:41	6:44	6:47	6:50	6:52	6:55
7:00	7:06	7:08	7:11	7:14	7:17	7:20	7:22	7:25
...and every 30 minutes to...								
11:30	11:36	11:38	11:41	11:44	11:47	11:50	11:52	11:55
12:00	12:06	12:08	12:11	12:14	12:17	12:20	12:22	12:25
12:30	12:36	12:38	12:41	12:44	12:47	12:50	12:52	12:55
1:00	1:06	1:08	1:11	1:14	1:17	1:20	1:22	1:25
...and every 30 minutes to...								
6:30	6:36	6:38	6:41	6:44	6:47	6:50	6:52	6:55
7:30	7:36	7:38	7:41	7:44	7:47	7:50	7:52	7:55
8:30	8:36	8:38	8:41	8:44	8:47	8:50	8:52	8:55
SUNDAY								
7:30	7:36	7:38	7:41	7:44	7:47	7:50	7:52	7:55
8:30	8:36	8:38	8:41	8:44	8:47	8:50	8:52	8:55
...and every 60 minutes to...								
12:30	12:36	12:38	12:41	12:44	12:47	12:50	12:52	12:55
1:30	1:36	1:38	1:41	1:44	1:47	1:50	1:52	1:55
...and every 60 minutes to...								
7:30	7:36	7:38	7:41	7:44	7:47	7:50	7:52	7:55
8:30	8:36	8:38	8:41	8:44	8:47	8:50	8:52	8:55

Collingwood Crosstown Route

Terminal	YMCA	Hospital	Elliot & St. Clair	Sunset Point	Terminal	Balsam St. @ Blue Mountain Centre	Lighthouse Point	Cranberry Links	Georgian Bay Conference Centre	Pretty River Academy	Dawson & Oxbow	Blue Mountain Centre	Oak & Second	Terminal
MONDAY - SUNDAY														
--	--	--	--	--	6:25	6:34	6:36	6:38	6:41	6:42	6:45	6:47	6:50	6:55
7:00	7:02	7:03	7:06	7:12	7:25	7:34	7:36	7:38	7:41	7:42	7:45	7:47	7:50	7:55
8:00	8:02	8:03	8:06	8:12	8:25	8:34	8:36	8:38	8:41	8:42	8:45	8:47	8:50	8:55
9:00	9:02	9:03	9:06	9:12	9:25	9:34	9:36	9:38	9:41	9:42	9:45	9:47	9:50	9:55
10:00	10:02	10:03	10:06	10:12	10:25	10:34	10:36	10:38	10:41	10:42	10:45	10:47	10:50	10:55
11:00	11:02	11:03	11:06	11:12	11:25	11:34	11:36	11:38	11:41	11:42	11:45	11:47	11:50	11:55
12:00	12:02	12:03	12:06	12:12	12:25	12:34	12:36	12:38	12:41	12:42	12:45	12:47	12:50	12:55
1:00	1:02	1:03	1:06	1:12	1:25	1:34	1:36	1:38	1:41	1:42	1:45	1:47	1:50	1:55
2:00	2:02	2:03	2:06	2:12	2:25	2:34	2:36	2:38	2:41	2:42	2:45	2:47	2:50	2:55
3:00	3:02	3:03	3:06	3:12	3:25	3:34	3:36	3:38	3:41	3:42	3:45	3:47	3:50	3:55
4:00	4:02	4:03	4:06	4:12	4:25	4:34	4:36	4:38	4:41	4:42	4:45	4:47	4:50	4:55
5:00	5:02	5:03	5:06	5:12	5:25	5:34	5:36	5:38	5:41	5:42	5:45	5:47	5:50	5:55
6:00	6:02	6:03	6:06	6:12	6:25	6:34	6:36	6:38	6:41	6:42	6:45	6:47	6:50	6:55
7:00	7:02	7:03	7:06	7:12	7:25	7:34	7:36	7:38	7:41	7:42	7:45	7:47	7:50	7:55
8:00	8:02	8:03	8:06	8:12	8:25	8:34	8:36	8:38	8:41	8:42	8:45	8:47	8:50	8:55

YELLOW TIMES ARE NOT IN SERVICE ON WEEKENDS

Collingwood Wasaga Beach Link - Collingwood East to Wasaga Beach

Hurontario Street at TD Bank (Colltrans Stop)	Hurontario Street at Macs (Colltrans Stop)	St. Marie Street and Hume Street (Colltrans Stop)	YMCA on Hume Street (Colltrans Stop)	Hume Street and Minnesota	TSC Hardware Store (Colltrans Stop)	Raglan Street at Ron Eno Drive	Georgian College	Poplar Sideroad at Summerview Avenue	Beachwood and Poplar Sideroad	Hwy 26 and Cook Street off Highway	Relax Inn	Rockdell Restaurant	Fairgrounds Road (Right Turn Lane)	Bluewater Gate Entrance	Krown Rust Control/Penzoil	Wasaga Motel	Loma Dune	58th Street at Lights	Home Hardware on Mosely (Current Stop)	45th Street at Superstore	Ramblewood Medical Centre (BY REQUEST ONLY)
MONDAY - SUNDAY																					
6:01	6:01	6:02	6:02	6:03	6:04	6:06	6:07	6:10	6:10	6:11	6:12	6:12	6:13	6:13	6:14	6:15	6:17	6:18	6:19	6:20	N/A
7:01	7:01	7:02	7:02	7:03	7:04	7:06	7:07	7:10	7:10	7:11	7:12	7:12	7:13	7:13	7:14	7:15	7:17	7:18	7:19	7:20	N/A
8:01	8:01	8:02	8:02	8:03	8:04	8:06	8:07	8:10	8:10	8:11	8:12	8:12	8:13	8:13	8:14	8:15	8:17	8:18	8:19	8:20	N/A
9:01	9:01	9:02	9:02	9:03	9:04	9:06	9:07	9:10	9:10	9:11	9:12	9:12	9:13	9:13	9:14	9:15	9:17	9:18	9:19	9:20	N/A
10:01	10:01	10:02	10:02	10:03	10:04	10:06	10:07	10:10	10:10	10:11	10:12	10:12	10:13	10:13	10:14	10:15	10:17	10:18	10:19	10:20	N/A
11:01	11:01	11:02	11:02	11:03	11:04	11:06	11:07	11:10	11:10	11:11	11:12	11:12	11:13	11:13	11:14	11:15	11:17	11:18	11:19	11:20	N/A
12:01	12:01	12:02	12:02	12:03	12:04	12:06	12:07	12:10	12:10	12:11	12:12	12:12	12:13	12:13	12:14	12:15	12:17	12:18	12:19	12:20	N/A
1:01	1:01	1:02	1:02	1:03	1:04	1:06	1:07	1:10	1:10	1:11	1:12	1:12	1:13	1:13	1:14	1:15	1:17	1:18	1:19	1:20	N/A
2:01	2:01	2:02	2:02	2:03	2:04	2:06	2:07	2:10	2:10	2:11	2:12	2:12	2:13	2:13	2:14	2:15	2:17	2:18	2:19	2:20	N/A
3:01	3:01	3:02	3:02	3:03	3:04	3:06	3:07	3:10	3:10	3:11	3:12	3:12	3:13	3:13	3:14	3:15	3:17	3:18	3:19	3:20	N/A
4:01	4:01	4:02	4:02	4:03	4:04	4:06	4:07	4:10	4:10	4:11	4:12	4:12	4:13	4:13	4:14	4:15	4:17	4:18	4:19	4:20	N/A
5:01	5:01	5:02	5:02	5:03	5:04	5:06	5:07	5:10	5:10	5:11	5:12	5:12	5:13	5:13	5:14	5:15	5:17	5:18	5:19	5:20	N/A
6:01	6:01	6:02	6:02	6:03	6:04	6:06	6:07	6:10	6:10	6:11	6:12	6:12	6:13	6:13	6:14	6:15	6:17	6:18	6:19	6:20	N/A
7:01	7:01	7:02	7:02	7:03	7:04	7:06	7:07	7:10	7:10	7:11	7:12	7:12	7:13	7:13	7:14	7:15	7:17	7:18	7:19	7:20	N/A
8:01	8:01	8:02	8:02	8:03	8:04	8:06	8:07	8:10	8:10	8:11	8:12	8:12	8:13	8:13	8:14	8:15	8:17	8:18	8:19	8:20	N/A

Collingwood Wasaga Beach Link - Wasaga Beach West to Collingwood

Mosely Street Tim Hortons (Current Stop)	58th Street at Traffic Signals	Loma Dune Mini Putt	74th Street on paved shoulder	Marilyn Avenue on paved shoulder	Bluewater Gate at Entrance	Middlebrook Road on side of road	Rockdell Restaurant	Relax Inn	Hwy 26 and King Street off Highway	Wellington Street	Poplar Sideroad at Summerview Avenue	Georgian College	Raglan Street at Ron Eno Drive	Tim Hortons	Collingwood G&M Hospital at Heidelberg Inn	Peel Street across from Hanna Motors	Peel Street and Ontario Street	Ontario Street and Minnesota Street (Colltrans Stop)	Ontario Street and St. Marie Street (Colltrans Stop)
MONDAY - SUNDAY																			
6:31	6:33	6:34	6:36	6:37	6:38	6:38	6:39	6:39	6:40	6:40	6:41	6:44	6:45	6:48	6:48	6:49	6:50	6:51	6:52
7:31	7:33	7:34	7:36	7:37	7:38	7:38	7:39	7:39	7:40	7:40	7:41	7:44	7:45	7:48	7:48	7:49	7:50	7:51	7:52
8:31	8:33	8:34	8:36	8:37	8:38	8:38	8:39	8:39	8:40	8:40	8:41	8:44	8:45	8:48	8:48	8:49	8:50	8:51	8:52
9:31	9:33	9:34	9:36	9:37	9:38	9:38	9:39	9:39	9:40	9:40	9:41	9:44	9:45	9:48	9:48	9:49	9:50	9:51	9:52
10:31	10:33	10:34	10:36	10:37	10:38	10:38	10:39	10:39	10:40	10:40	10:41	10:44	10:45	10:48	10:48	10:49	10:50	10:51	10:52
11:31	11:33	11:34	11:36	11:37	11:38	11:38	11:39	11:39	11:40	11:40	11:41	11:44	11:45	11:48	11:48	11:49	11:50	11:51	11:52
12:31	12:33	12:34	12:36	12:37	12:38	12:38	12:39	12:39	12:40	12:40	12:41	12:44	12:45	12:48	12:48	12:49	12:50	12:51	12:52
1:31	1:33	1:34	1:36	1:37	1:38	1:38	1:39	1:39	1:40	1:40	1:41	1:44	1:45	1:48	1:48	1:49	1:50	1:51	1:52
2:31	2:33	2:34	2:36	2:37	2:38	2:38	2:39	2:39	2:40	2:40	2:41	2:44	2:45	2:48	2:48	2:49	2:50	2:51	2:52
3:31	3:33	3:34	3:36	3:37	3:38	3:38	3:39	3:39	3:40	3:40	3:41	3:44	3:45	3:48	3:48	3:49	3:50	3:51	3:52
4:31	4:33	4:34	4:36	4:37	4:38	4:38	4:39	4:39	4:40	4:40	4:41	4:44	4:45	4:48	4:48	4:49	4:50	4:51	4:52
5:31	5:33	5:34	5:36	5:37	5:38	5:38	5:39	5:39	5:40	5:40	5:41	5:44	5:45	5:48	5:48	5:49	5:50	5:51	5:52
6:31	6:33	6:34	6:36	6:37	6:38	6:38	6:39	6:39	6:40	6:40	6:41	6:44	6:45	6:48	6:48	6:49	6:50	6:51	6:52
7:31	7:33	7:34	7:36	7:37	7:38	7:38	7:39	7:39	7:40	7:40	7:41	7:44	7:45	7:48	7:48	7:49	7:50	7:51	7:52
8:31	8:33	8:34	8:36	8:37	8:38	8:38	8:39	8:39	8:40	8:40	8:41	8:44	8:45	8:48	8:48	8:49	8:50	8:51	8:52

Blue Mountain Transit Link

Collingwood Terminal	Georgian Meadows (Outbound)	Blue Mountain Village	Craigleith	Georgian Meadows (Inbound)
MONDAY - SUNDAY				
7:00	7:06	7:20	7:27	7:37
8:00	8:06	8:20	8:27	8:37
9:00	9:06	9:20	9:27	9:37
10:00	10:06	10:20	10:27	10:37
11:00	11:06	11:20	11:27	11:37
12:00	12:06	12:20	12:27	12:37
1:00	1:06	1:20	1:27	1:37
2:00	2:06	2:20	2:27	2:37
3:00	3:06	3:20	3:27	3:37
4:00	4:06	4:20	4:27	4:37
5:00	5:06	5:20	5:27	5:37
6:00	6:06	6:20	6:27	6:37
7:00	7:06	7:20	7:27	7:37
8:00	8:06	8:20	8:27	8:37
9:00	-	-	-	-

Clearview Route

Weir Street	Stayner Collegiate Institute	Fountain Park	Station Park (Library)	Huron Meadows	Byng Public School	Stayner Foodland	Stayner Community Centre	Medical Centre	Brock Street	Coffee Culture	Superior Street	Wasaga Sands Subdivision	Wasaga Beach Superstore	Ramblewood Medical Centre
MONDAY - SATURDAY														
7:39	7:44	7:46	7:47	7:49	7:50	7:52	8:00	8:05	8:07	8:08	8:10	8:16	8:30	8:32
8:39	8:44	8:46	8:47	8:49	8:50	8:52	9:00	9:05	9:07	9:08	9:10	9:16	9:30	9:32
9:39	9:44	9:46	9:47	9:49	9:50	9:52	10:00	10:05	10:07	10:08	10:10	10:16	10:30	10:32
10:39	10:44	10:46	10:47	10:49	10:50	10:52	11:00	11:05	11:07	11:08	11:10	11:16	11:30	11:32
11:39	11:44	11:46	11:47	11:49	11:50	11:52	12:00	12:05	12:07	12:08	12:10	12:16	12:30	12:32
12:39	12:44	12:46	12:47	12:49	12:50	12:52	1:00	1:05	1:07	1:08	1:10	1:16	1:30	1:32
1:39	1:44	1:46	1:47	1:49	1:50	1:52	2:00	2:05	2:07	2:08	2:10	2:16	2:30	2:32
2:39	2:44	2:46	2:47	2:49	2:50	2:52	3:00	3:05	3:07	3:08	3:10	3:16	3:30	3:32
3:39	3:44	3:46	3:47	3:49	3:50	3:52	4:00	4:05	4:07	4:08	4:10	4:16	4:30	4:32
4:39	4:44	4:46	4:47	4:49	4:50	4:52	5:00	5:05	5:07	5:08	5:10	5:16	5:30	5:32
5:39	5:44	5:46	5:47	5:49	5:50	5:52	6:00	6:05	6:07	6:08	6:10	6:16	6:30	6:32
6:39	6:44	6:46	6:47	6:49	6:50	6:52	7:00	7:05	7:07	7:08	7:10	7:16	7:30	7:32
7:39	7:44	7:46	7:47	7:49	7:50	7:52	8:00	8:05	8:07	8:08	8:10	-	-	-
SUNDAY														
9:39	9:44	9:46	9:47	9:49	9:50	9:52	10:00	10:05	10:07	10:08	10:10	10:16	10:30	10:32
10:39	10:44	10:46	10:47	10:49	10:50	10:52	11:00	11:05	11:07	11:08	11:10	11:16	11:30	11:32
11:39	11:44	11:46	11:47	11:49	11:50	11:52	12:00	12:05	12:07	12:08	12:10	12:16	12:30	12:32
12:39	12:44	12:46	12:47	12:49	12:50	12:52	1:00	1:05	1:07	1:08	1:10	1:16	1:30	1:32
1:39	1:44	1:46	1:47	1:49	1:50	1:52	2:00	2:05	2:07	2:08	2:10	2:16	2:30	2:32
2:39	2:44	2:46	2:47	2:49	2:50	2:52	3:00	3:05	3:07	3:08	3:10	3:16	3:30	3:32
3:39	3:44	3:46	3:47	3:49	3:50	3:52	4:00	4:05	4:07	4:08	4:10	4:16	4:30	4:32
4:39	4:44	4:46	4:47	4:49	4:50	4:52	5:00	5:05	5:07	5:08	5:10	-	-	-

Single fares

Collingwood and Wasaga Beach Transit

Adults:	$2.00
Seniors/Students:	$1.50
Children (5 & under):	Free
Collingwood/Blue Mountains link:	$2.00 (all riders)
Collingwood/Wasaga Beach link:	$2.00 (all riders)
Red Cross Para-Transit:	$2.00 (one-way)
Clearview Transit Adult/Student/Senior	$2.00

Monthly passes

All Transit Routes

Adult:	$40.00
Seniors/Students:	$30.00
Universal pass:	$120.00*

*(valid on Colltrans, Wasaga beach transit and Link bus)

Wasaga Beach Youth Pass $5.00/mth

Operating Hours

Monday-Friday - WB Link & Colltrans	6:30am - 9:00pm
Monday-Friday - All other routes	7:00am - 9:00pm
Saturday	7:00am - 9:00pm
Sunday	9:00am - 9:00pm

Clearview Transit

Monday-Saturday	6:30am - 8:30pm
Sunday	8:30am - 5:30pm

Red Cross Para-Transit is also available within the Town of Collingwood. Hours are Monday - Friday 7:00am - 5:00pm. Please contact 705-721-3313 x5266 to apply for eligibility or to arrange for service.

Collingwood Accessible Shuttle Service
The Town of Collingwood together with Ace Cabs operates an accessible taxi service available 365 days a year 24 hours a day and can be contacted at 705-445-3300.

Legend

- Collingwood Crosstown Route
- Collingwood East Route
- Collingwood West Route
- Collingwood Wasaga Beach Link
- Collingwood Wasaga Beach Link 5-6pm
- Blue Mountain Transit Link
- Wasaga Beach Route 1
- Wasaga Beach Route 2
- Clearview Stayner Route
- Clearview Wasaga Beach Link
- Multiple Routes
- Transit Hub
- Bus Stops
- Arena
- Community Centre
- Hospital
- Library
- Municipal Building
- Museum
- Point of Interest
- School
- Shopping Centre

0 .5 1 1.5 2 Kilometres / Kilomètres

Georgian Bay

Nipissing Ridge
Craigleith
Blue Mountain
Cranberry Village
Collingwood
Bowers Beach
Nottawa
Brocks Beach
Springhurst Beach
Oakview Beach
Wasaga Beach
New Wasaga Beach
Klondike Park
Stayner

COLLINGWOOD
CLEARVIEW

APPENDIX C

Collingwood Trails Map

Collingwood Trails
Connect 2 the Lifestyle
Interpretive Signs
1 Keith Family Dairy
2 Collingwood Meat Company
3 Manufacturing History
4 North-West Ward School
5 Collingwood Milling Company
6 Smart Bros. Ltd.
7 Wetlands
8 Birds
9 Water/Fish
10 Historic Swim
11 Walk of History
12 Shipbuilder's Park
13 North West Mounted Police
14 Area History
15 Earlier Residents
16 Railway Freight Yards
17 Sewer & Water History
18 Central Park
19 Glory Whalen Parkette
20 Shannon's Bridge
21 Fish Hatchery
22 Harbour Plaque
23 Bryan Manufacturing
24 D.G. Cooper Company Ltd.
25 Story of Collingwood 'The Setting'
26 Story of Collingwood 1858 to1908
27 Story of Collingwood 1908 to1958
28 Story of Collingwood 1958 to 2008
29 Lady Elgin Locomotive
30 Cranberry Golf Clubhouse
Monterra Rd.
Jozo Weider Blvd.
Gord Canning Dr.
Scenic Caves Rd.
Paved Shoulders (Bike Lanes)
Scenic Caves Nature Adventures
collingwood.ca/trails
Great care has been taken in design and production to make this map as complete and convenient as possible for users, however we cannot guarantee its complete accuracy.
Please use these recreational trails at your own risk.
Trails are not maintained from November 1 – April 30.
Know Where You Are
Watch for these Safety Signs
Distance scale
0
1km
Georgian Trail
Monterra Rd. (see inset below)
(see inset)
George Christie Nature Trails
Colberry trail
Squirrel link
Rabbit trail
Turkey trail
Snowshoe trail
Seatbelt trail
Deer trail
Atoka trail
Vacation Inn trail
Cranberry Marsh trail
Cranberry Inn trail
Hen and Chickens trail
Harbour Street trail
Stynie trail
Tenth Line trail
Eleventh Line trail
Mountain Road trail
Black Ash trail
Black Ash Creek
Georgian Meadows trail
Georgian Meadows link
Currie Farm trail
Sixth St. trail
High Street trail
Underwood Creek trail
Walnut trail
Hamilton Drain trail
Train trail
Train trail Link
College trail
Vanier Link
Hospital trail
River trail
Siding trail
Pilkington trail
Bay Loop trail
Nottawasaga Bay trail
Sunset Point trail
Promenade
Boardwalk trail
Birch St trail
Arboretum
Harbourview trail
Saunders Bridge
The Station
Collingwood Harbour
Mariner's Haven
Living Water
Princeton Shores
Dockside
Lighthouse Point
Rupert's Landing
Cranberry Resort
Cranberry Trail W.
Cranberry Trail E.
Georgian Bay Hotel
Blueshores
Mair Mills
Clearview
Long Pt. Rd.
Silver Creek Drive
Forest Drive
to Thornbury (16 km)
Osler Bluff Rd.
Holly Crt.
Laurel
Mountain Rd.
Sixth St.
Tenth Line
Bruce Trail
Poplar Sideroad
to Nottawa
to Stayner (12 km)
Sandford Fleming Dr.
Ron Emo Rd.
Pretty River
Raglan
Hurontario
Hume
First
Second
Third
Fourth
Sixth
Hamilton
Robinson
Katherine
Campbell
Findlay Dr.
Cameron
Telfer
Lockhart Rd.
Collins
Manning
Dillon
Bush
Harben
Erie
Ontario
Simcoe
Huron
Napier
Minnesota
Niagara
Pine
Maple
Beech
Birch
Oak
Cedar
Walnut
Hickory
Spruce
High St.
Balsam
Ste. Marie
Pretty River Prkwy
Oliver
Shannon
Albert St.
St. Clair
Georgian Manor Dr.
Summer View
Poplar Sideroad
Beachwood Road
Sixth Line
Wasaga Beach
Bowers Bay
Fairgrounds Rd.
Toner Street
HARBOUR / HARBOURVIEW PARK AREA
Collingwood Harbour
Mariner's Haven
Boardwalk trail
Labyrinth
Birch St trail
Arboretum
Harbourview trail
Saunders Bridge
First St.
Hurontario
Promenade
Train trail
COLLINGWOOD DOWNTOWN
First (Hwy 26)
Second St
Third St
Fourth St
Fifth St
Huron St
Simcoe St
Ontario St
Market Ln
Hume
Interpretive sign
Arena (Town Hall)
Library
Washrooms
Public parking
Museum
Information
Legend
Stone-dusted trail
Hard-surface trail
Nature trail
On-road bike route
Designated bicycle lane
Heather Pathway
East circle route
West circle route
Harbour circle route
Groomed Snowmobile trail
Birding
Playground
Parking
Fishing
Cross country skiing
Labyrinth
GPS marker
Arena
Centennial Aquatic Centre
Tim Hortons
Scenic lookout
Park
Picnic tables
Snowshoeing
Amphitheatre
Fire Station
Public Washroom
Off-leash Dog Park
Map: RMD Communications

APPENDIX D

Traffic Data

Spectrum

Turning Movement Count
Location Name: 180 ONTARIO ST & ONTARIO ST
Date: Wed, Jan 31, 2024 Deployment Lead: David Chu

Crozier & Associates
ACCOUNTS PAYABLE
TORONTO - SELECT PROVINCE -, M1W1Y6
- SELECT COUNTRY -

Turning Movement Count (1 . 180 ONTARIO ST & ONTARIO ST)

Start Time	N Approach NORTH DRIVEWAY						E Approach ONTARIO ST						S Approach 180 ONTARIO ST (ACCESS)						W Approach ONTARIO ST						Int. Total (15 min)	Int. Total (1 hr)
	Right N:W	Thru N:S	Left N:E	UTurn N:N	Peds N:	Approach Total	Right E:N	Thru E:W	Left E:S	UTurn E:E	Peds E:	Approach Total	Right S:E	Thru S:N	Left S:W	UTurn S:S	Peds S:	Approach Total	Right W:S	Thru W:E	Left W:N	UTurn W:W	Peds W:	Approach Total		
06:00:00	0	0	0	0	0	0	0	4	0	0	0	4	0	0	0	0	0	0	0	1	0	0	0	1	5	
06:15:00	0	0	0	0	0	0	0	5	0	0	0	5	0	0	0	0	0	0	0	2	0	0	0	2	7	
06:30:00	0	0	0	0	1	0	0	3	0	0	0	3	0	0	0	0	0	0	0	3	0	0	0	3	6	
06:45:00	0	0	0	0	1	0	0	8	0	0	0	8	0	0	0	0	0	0	0	4	0	0	0	4	12	30
07:00:00	0	0	0	0	0	0	0	6	0	0	0	6	0	0	0	0	1	0	0	8	0	1	0	9	15	40
07:15:00	0	0	0	0	1	0	0	7	1	0	0	8	0	0	0	0	1	0	1	7	0	0	0	8	16	49
07:30:00	0	0	0	0	0	0	0	15	2	0	0	17	1	0	0	0	1	1	2	9	0	0	1	11	29	72
07:45:00	0	0	0	0	6	0	0	17	0	0	0	17	0	0	1	0	0	1	2	10	0	0	2	12	30	90
08:00:00	0	0	0	0	0	0	0	21	4	0	0	25	0	0	2	0	3	2	8	13	0	0	1	21	48	123
08:15:00	0	0	0	0	1	0	0	40	4	0	0	44	6	0	5	0	0	11	6	20	0	0	1	26	81	188
08:30:00	0	0	0	0	2	0	0	27	3	0	0	30	2	0	5	0	3	7	7	20	0	0	2	27	64	223
08:45:00	0	0	0	0	2	0	0	38	3	0	0	41	2	0	7	0	6	9	9	27	0	0	3	36	86	279
09:00:00	0	0	0	0	2	0	0	39	1	0	0	40	2	0	6	0	2	8	4	23	0	0	2	27	75	306
09:15:00	0	0	0	0	2	0	0	34	2	0	1	36	2	0	3	0	2	5	0	22	0	0	1	22	63	288
09:30:00	0	0	0	0	3	0	0	39	1	0	0	40	3	0	1	0	4	4	1	25	0	0	3	26	70	294
09:45:00	0	0	0	0	5	0	0	41	0	0	0	41	0	0	1	0	2	1	1	33	0	0	2	34	76	284
BREAK																										
15:00:00	0	0	0	0	3	0	0	35	0	0	0	35	0	0	0	0	5	0	0	32	0	0	2	32	67	
15:15:00	0	0	0	0	6	0	0	48	1	0	1	49	0	0	0	0	2	0	1	29	0	0	3	30	79	
15:30:00	0	0	0	0	2	0	0	33	1	0	0	34	1	0	2	0	4	3	4	32	0	0	5	36	73	
15:45:00	0	0	0	0	2	0	0	37	2	0	0	39	0	0	4	0	4	4	1	37	0	0	3	38	81	300
16:00:00	0	0	0	0	2	0	0	34	4	0	0	38	4	0	9	0	6	13	10	31	0	0	0	41	92	325
16:15:00	0	0	0	0	2	0	0	45	4	0	0	49	3	0	13	0	6	16	16	23	0	0	4	39	104	350
16:30:00	0	0	0	0	1	0	0	21	1	0	0	22	4	0	10	0	3	14	1	47	0	0	0	48	84	361
16:45:00	0	0	0	0	2	0	0	33	0	0	0	33	2	0	4	0	7	6	0	26	0	0	2	26	65	345
17:00:00	0	0	0	0	1	0	0	21	0	0	0	21	0	0	0	0	2	0	0	35	0	1	2	36	57	310
17:15:00	0	0	0	0	4	0	0	39	0	0	0	39	1	0	0	0	3	1	0	23	0	0	1	23	63	269
17:30:00	0	0	0	0	0	0	0	24	0	0	0	24	0	0	0	0	0	0	0	21	0	0	1	21	45	230
17:45:00	0	0	0	0	4	0	0	21	0	0	0	21	0	0	0	0	6	0	0	29	0	0	0	29	50	215
18:00:00	0	0	0	0	0	0	0	14	0	0	0	14	0	0	0	0	11	0	0	15	0	1	1	16	30	188
18:15:00	0	0	0	0	1	0	0	20	0	0	0	20	0	0	0	0	2	0	0	10	0	0	0	10	30	155
18:30:00	0	0	0	0	0	0	0	16	0	0	0	16	0	0	0	0	3	0	0	19	0	0	0	19	35	145
18:45:00	0	0	0	0	6	0	0	14	0	0	0	14	0	0	0	0	16	0	0	15	0	0	0	15	29	124
Grand Total	0	0	0	0	62	0	0	799	34	0	2	833	33	0	73	0	105	106	74	651	0	3	42	728	**1667**	-
Approach%	0%	0%	0%	0%		-	0%	95.9%	4.1%	0%		-	31.1%	0%	68.9%	0%		-	10.2%	89.4%	0%	0.4%		-	-	-
Totals %	0%	0%	0%	0%		0%	0%	47.9%	2%	0%		50%	2%	0%	4.4%	0%		6.4%	4.4%	39.1%	0%	0.2%		43.7%	-	-
Heavy	0	0	0	0		-	0	17	0	0		-	0	0	0	0		-	0	12	0	0		-	-	-
Heavy %	0%	0%	0%	0%		-	0%	2.1%	0%	0%		-	0%	0%	0%	0%		-	0%	1.8%	0%	0%		-	-	-
Bicycles	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-
Bicycle %	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-	-	-		-	-	-

Peak Hour: 08:15 AM - 09:15 AM Weather: Broken Clouds (0.42 °C)

Start Time	N Approach NORTH DRIVEWAY						E Approach ONTARIO ST						S Approach 180 ONTARIO ST (ACCESS)						W Approach ONTARIO ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
08:15:00	0	0	0	0	1	0	0	40	4	0	0	44	6	0	5	0	0	11	6	20	0	0	1	26	81
08:30:00	0	0	0	0	2	0	0	27	3	0	0	30	2	0	5	0	3	7	7	20	0	0	2	27	64
08:45:00	0	0	0	0	2	0	0	38	3	0	0	41	2	0	7	0	6	9	9	27	0	0	3	36	86
09:00:00	0	0	0	0	2	0	0	39	1	0	0	40	2	0	6	0	2	8	4	23	0	0	2	27	75
Grand Total	0	0	0	0	7	0	0	144	11	0	0	155	12	0	23	0	11	35	26	90	0	0	8	116	**306**
Approach%	0%	0%	0%	0%		-	0%	92.9%	7.1%	0%		-	34.3%	0%	65.7%	0%		-	22.4%	77.6%	0%	0%		-	**-**
Totals %	0%	0%	0%	0%		0%	0%	47.1%	3.6%	0%		50.7%	3.9%	0%	7.5%	0%		11.4%	8.5%	29.4%	0%	0%		37.9%	**-**
PHF	0	0	0	0		0	0	0.9	0.69	0		0.88	0.5	0	0.82	0		0.8	0.72	0.83	0	0		0.81	**-**
Heavy	0	0	0	0		0	0	3	0	0		3	0	0	0	0		0	0	3	0	0		3	**-**
Heavy %	0%	0%	0%	0%		0%	0%	2.1%	0%	0%		1.9%	0%	0%	0%	0%		0%	0%	3.3%	0%	0%		2.6%	**-**
Lights	0	0	0	0		0	0	139	10	0		149	12	0	23	0		35	26	85	0	0		111	**-**
Lights %	0%	0%	0%	0%		0%	0%	96.5%	90.9%	0%		96.1%	100%	0%	100%	0%		100%	100%	94.4%	0%	0%		95.7%	**-**
Single-Unit Trucks	0	0	0	0		0	0	1	0	0		1	0	0	0	0		0	0	2	0	0		2	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		1.7%	**-**
Buses	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.4%	0%	0%		1.3%	0%	0%	0%	0%		0%	0%	1.1%	0%	0%		0.9%	**-**
Bicycles on Road	0	0	0	0		0	0	2	1	0		3	0	0	0	0		0	0	2	0	0		2	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	1.4%	9.1%	0%		1.9%	0%	0%	0%	0%		0%	0%	2.2%	0%	0%		1.7%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	11	-	-	-	-	-	8	-	**-**
Pedestrians%	-	-	-	-	26.9%		-	-	-	-	0%		-	-	-	-	42.3%		-	-	-	-	30.8%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	0%		**-**

Peak Hour: 03:45 PM - 04:45 PM Weather: Overcast Clouds (2.67 °C)

Start Time	N Approach NORTH DRIVEWAY						E Approach ONTARIO ST						S Approach 180 ONTARIO ST (ACCESS)						W Approach ONTARIO ST						Int. Total (15 min)
	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	Right	Thru	Left	UTurn	Peds	Approach Total	
15:45:00	0	0	0	0	2	0	0	37	2	0	0	39	0	0	4	0	4	4	1	37	0	0	3	38	81
16:00:00	0	0	0	0	2	0	0	34	4	0	0	38	4	0	9	0	6	13	10	31	0	0	0	41	92
16:15:00	0	0	0	0	2	0	0	45	4	0	0	49	3	0	13	0	6	16	16	23	0	0	4	39	104
16:30:00	0	0	0	0	1	0	0	21	1	0	0	22	4	0	10	0	3	14	1	47	0	0	0	48	84
Grand Total	0	0	0	0	7	0	0	137	11	0	0	148	11	0	36	0	19	47	28	138	0	0	7	166	**361**
Approach%	0%	0%	0%	0%		-	0%	92.6%	7.4%	0%		-	23.4%	0%	76.6%	0%		-	16.9%	83.1%	0%	0%		-	**-**
Totals %	0%	0%	0%	0%		0%	0%	38%	3%	0%		41%	3%	0%	10%	0%		13%	7.8%	38.2%	0%	0%		46%	**-**
PHF	0	0	0	0		0	0	0.76	0.69	0		0.76	0.69	0	0.69	0		0.73	0.44	0.73	0	0		0.86	**-**
Heavy	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	**-**
Heavy %	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.4%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	**-**
Lights	0	0	0	0		0	0	135	11	0		146	11	0	36	0		47	28	136	0	0		164	**-**
Lights %	0%	0%	0%	0%		0%	0%	98.5%	100%	0%		98.6%	100%	0%	100%	0%		100%	100%	98.6%	0%	0%		98.8%	**-**
Single-Unit Trucks	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	**-**
Single-Unit Trucks %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	**-**
Buses	0	0	0	0		0	0	2	0	0		2	0	0	0	0		0	0	1	0	0		1	**-**
Buses %	0%	0%	0%	0%		0%	0%	1.5%	0%	0%		1.4%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	**-**
Bicycles on Road	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	1	0	0		1	**-**
Bicycles on Road %	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%		0%	0%	0.7%	0%	0%		0.6%	**-**
Pedestrians	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	18	-	-	-	-	-	6	-	**-**
Pedestrians%	-	-	-	-	21.2%		-	-	-	-	0%		-	-	-	-	54.5%		-	-	-	-	18.2%		**-**
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	1	-	**-**
Bicycles on Crosswalk%	-	-	-	-	0%		-	-	-	-	0%		-	-	-	-	3%		-	-	-	-	3%		**-**

Peak Hour: 08:15 AM - 09:15 AM **Weather: Broken Clouds (0.42 °C)**

	Bicycles on Crosswalk	Pedestrians
N	0	7
S	0	11
E	0	0
W	0	8

Peak Hour: 03:45 PM - 04:45 PM **Weather: Overcast Clouds (2.67 °C)**

	Bicycles on Crosswalk	Pedestrians
N	0	7
S	1	18
E	0	0
W	1	6

APPENDIX E

Level of Service Definitions

Level of Service Definitions

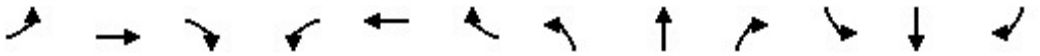
Two-Way Stop Controlled Intersections

Level of Service	Control Delay per Vehicle (seconds)	Interpretation
A	≤ 10	EXCELLENT. Large and frequent gaps in traffic on the main roadway. Queuing on the minor street is rare.
B	> 10 and ≤ 15	VERY GOOD. Many gaps exist in traffic on the main roadway. Queuing on the minor street is minimal.
C	> 15 and ≤ 25	GOOD. Fewer gaps exist in traffic on the main roadway. Delay on minor approach becomes more noticeable.
D	> 25 and ≤ 35	FAIR. Infrequent and shorter gaps in traffic on the main roadway. Queue lengths develop on the minor street.
E	> 35 and ≤ 50	POOR. Very infrequent gaps in traffic on the main roadway. Queue lengths become noticeable.
F	> 50	UNSATISFACTORY. Very few gaps in traffic on the main roadway. Excessive delay with significant queue lengths on the minor street.

Adapted from Highway Capacity Manual 2000, Transportation Research Board

Appendix F

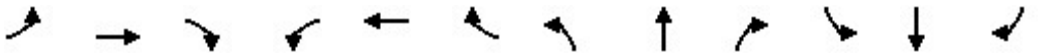
Capacity Analysis Worksheets



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	90	26	11	144	0	23	0	12	0	0	0
Future Volume (Veh/h)	0	90	26	11	144	0	23	0	12	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	101	29	12	162	0	26	0	13	0	0	0
Pedestrians								11			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	169			141			312	320	126	322	334	169
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	169			141			312	320	126	322	334	169
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	99	100	100	100
cM capacity (veh/h)	1412			1441			627	587	921	612	576	875

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	130	174	39	0
Volume Left	0	12	26	0
Volume Right	29	0	13	0
cSH	1412	1441	701	1700
Volume to Capacity	0.00	0.01	0.06	0.00
Queue Length 95th (m)	0.0	0.2	1.4	0.0
Control Delay (s)	0.0	0.6	10.4	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.6	10.4	0.0
Approach LOS			B	A

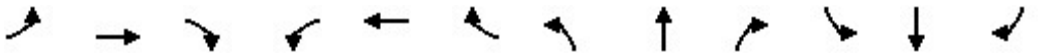
Intersection Summary				
Average Delay	1.5			
Intersection Capacity Utilization	24.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	138	28	11	137	0	36	0	11	0	0	0
Future Volume (Veh/h)	0	138	28	11	137	0	36	0	11	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	159	32	13	157	0	41	0	13	0	0	0
Pedestrians								19			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	164			210			377	384	194	378	400	164
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	164			210			377	384	194	378	400	164
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			93	100	98	100	100	100
cM capacity (veh/h)	1418			1351			561	536	839	557	525	881

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	191	170	54	0
Volume Left	0	13	41	0
Volume Right	32	0	13	0
cSH	1418	1351	610	1700
Volume to Capacity	0.00	0.01	0.09	0.00
Queue Length 95th (m)	0.0	0.2	2.3	0.0
Control Delay (s)	0.0	0.7	11.5	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.7	11.5	0.0
Approach LOS			B	A

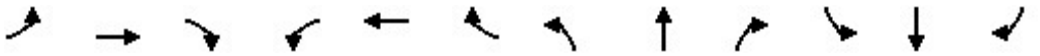
Intersection Summary				
Average Delay	1.8			
Intersection Capacity Utilization	26.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	97	26	11	156	0	23	0	12	0	0	0
Future Volume (Veh/h)	0	97	26	11	156	0	23	0	12	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	109	29	12	175	0	26	0	13	0	0	0
Pedestrians								11			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	182			149			334	340	134	342	355	182
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			149			334	340	134	342	355	182
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	99	100	100	100
cM capacity (veh/h)	1397			1432			607	571	911	592	560	861

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	138	187	39	0
Volume Left	0	12	26	0
Volume Right	29	0	13	0
cSH	1397	1432	683	1700
Volume to Capacity	0.00	0.01	0.06	0.00
Queue Length 95th (m)	0.0	0.2	1.4	0.0
Control Delay (s)	0.0	0.5	10.6	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.5	10.6	0.0
Approach LOS			B	A

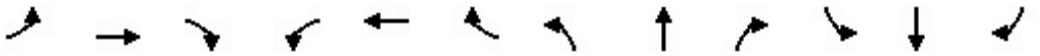
Intersection Summary				
Average Delay	1.4			
Intersection Capacity Utilization	27.3%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	149	28	11	148	0	36	0	11	0	0	0
Future Volume (Veh/h)	0	149	28	11	148	0	36	0	11	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	171	32	13	170	0	41	0	13	0	0	0
Pedestrians								19			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	177			222			402	409	206	403	425	177
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	177			222			402	409	206	403	425	177
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			92	100	98	100	100	100
cM capacity (veh/h)	1403			1337			540	519	826	536	508	866

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	203	183	54	0
Volume Left	0	13	41	0
Volume Right	32	0	13	0
cSH	1403	1337	589	1700
Volume to Capacity	0.00	0.01	0.09	0.00
Queue Length 95th (m)	0.0	0.2	2.4	0.0
Control Delay (s)	0.0	0.6	11.7	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.6	11.7	0.0
Approach LOS			B	A

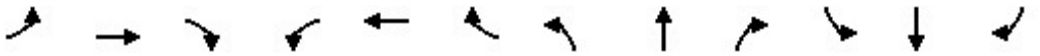
Intersection Summary				
Average Delay	1.7			
Intersection Capacity Utilization	26.8%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	108	26	11	172	0	23	0	12	0	0	0
Future Volume (Veh/h)	0	108	26	11	172	0	23	0	12	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	121	29	12	193	0	26	0	13	0	0	0
Pedestrians								11			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	200			161			364	370	146	372	385	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	200			161			364	370	146	372	385	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			96	100	99	100	100	100
cM capacity (veh/h)	1376			1417			580	549	898	566	539	841

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	150	205	39	0
Volume Left	0	12	26	0
Volume Right	29	0	13	0
cSH	1376	1417	658	1700
Volume to Capacity	0.00	0.01	0.06	0.00
Queue Length 95th (m)	0.0	0.2	1.5	0.0
Control Delay (s)	0.0	0.5	10.8	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.5	10.8	0.0
Approach LOS			B	A

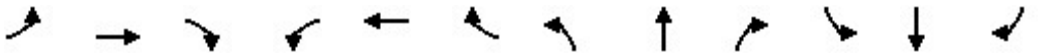
Intersection Summary				
Average Delay	1.3			
Intersection Capacity Utilization	28.1%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	165	28	11	164	0	36	0	11	0	0	0
Future Volume (Veh/h)	0	165	28	11	164	0	36	0	11	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	190	32	13	189	0	41	0	13	0	0	0
Pedestrians								19			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	196			241			440	447	225	441	463	196
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	196			241			440	447	225	441	463	196
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			92	100	98	100	100	100
cM capacity (veh/h)	1381			1316			510	494	806	506	483	845

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	222	202	54	0
Volume Left	0	13	41	0
Volume Right	32	0	13	0
cSH	1381	1316	559	1700
Volume to Capacity	0.00	0.01	0.10	0.00
Queue Length 95th (m)	0.0	0.2	2.6	0.0
Control Delay (s)	0.0	0.6	12.1	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.6	12.1	0.0
Approach LOS			B	A

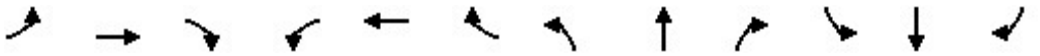
Intersection Summary				
Average Delay	1.6			
Intersection Capacity Utilization	27.7%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	97	2	1	156	0	6	0	6	0	0	0
Future Volume (Veh/h)	0	97	2	1	156	0	6	0	6	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	109	2	1	175	0	7	0	7	0	0	0
Pedestrians								11			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	182			122			298	305	121	301	306	182
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	182			122			298	305	121	301	306	182
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1397			1464			644	602	927	639	601	861

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	111	176	14	0
Volume Left	0	1	7	0
Volume Right	2	0	7	0
cSH	1397	1464	760	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.4	0.0
Control Delay (s)	0.0	0.0	9.8	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.0	9.8	0.0
Approach LOS			A	A

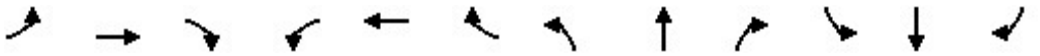
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	19.9%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	149	7	7	148	0	5	0	5	0	0	0
Future Volume (Veh/h)	0	149	7	7	148	0	5	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	171	8	8	170	0	6	0	6	0	0	0
Pedestrians								19			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	177			198			380	387	194	374	391	177
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	177			198			380	387	194	374	391	177
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	100	100
cM capacity (veh/h)	1403			1365			560	536	839	567	533	866

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	179	178	12	0
Volume Left	0	8	6	0
Volume Right	8	0	6	0
cSH	1403	1365	672	1700
Volume to Capacity	0.00	0.01	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.4	0.0
Control Delay (s)	0.0	0.4	10.5	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.4	10.5	0.0
Approach LOS			B	A

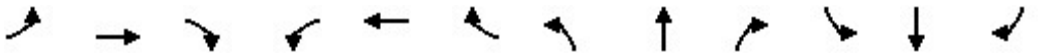
Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	23.5%	ICU Level of Service	A	
Analysis Period (min)	15			



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	108	2	1	172	0	5	0	5	0	0	0
Future Volume (Veh/h)	0	108	2	1	172	0	5	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Hourly flow rate (vph)	0	121	2	1	193	0	6	0	6	0	0	0
Pedestrians								11			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								1			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	200			134			328	335	133	330	336	200
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	200			134			328	335	133	330	336	200
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			99	100	99	100	100	100
cM capacity (veh/h)	1376			1450			616	579	913	612	579	841

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	123	194	12	0
Volume Left	0	1	6	0
Volume Right	2	0	6	0
cSH	1376	1450	736	1700
Volume to Capacity	0.00	0.00	0.02	0.00
Queue Length 95th (m)	0.0	0.0	0.4	0.0
Control Delay (s)	0.0	0.0	10.0	0.0
Lane LOS		A	A	A
Approach Delay (s)	0.0	0.0	10.0	0.0
Approach LOS			A	A

Intersection Summary				
Average Delay	0.4			
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)	0	165	7	7	164	0	5	0	5	0	0	0
Future Volume (Veh/h)	0	165	7	7	164	0	5	0	5	0	0	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	190	8	8	189	0	6	0	6	0	0	0
Pedestrians								19			7	
Lane Width (m)								3.6			3.6	
Walking Speed (m/s)								1.2			1.2	
Percent Blockage								2			1	
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	196			217			418	425	213	412	429	196
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	196			217			418	425	213	412	429	196
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			99	100	99	100	100	100
cM capacity (veh/h)	1381			1343			529	510	819	535	507	845

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	198	197	12	0
Volume Left	0	8	6	0
Volume Right	8	0	6	0
cSH	1381	1343	643	1700
Volume to Capacity	0.00	0.01	0.02	0.00
Queue Length 95th (m)	0.0	0.1	0.5	0.0
Control Delay (s)	0.0	0.4	10.7	0.0
Lane LOS		A	B	A
Approach Delay (s)	0.0	0.4	10.7	0.0
Approach LOS			B	A

Intersection Summary				
Average Delay	0.5			
Intersection Capacity Utilization	24.3%	ICU Level of Service	A	
Analysis Period (min)	15			

Appendix G

Transportation Tomorrow Survey Data

Cross Tabulation Query Form - Trip - 2016 v1.1

Row: 2006 GTA zone of household - gta06_hhld
Column: 2006 GTA zone of destination - gta06_dest

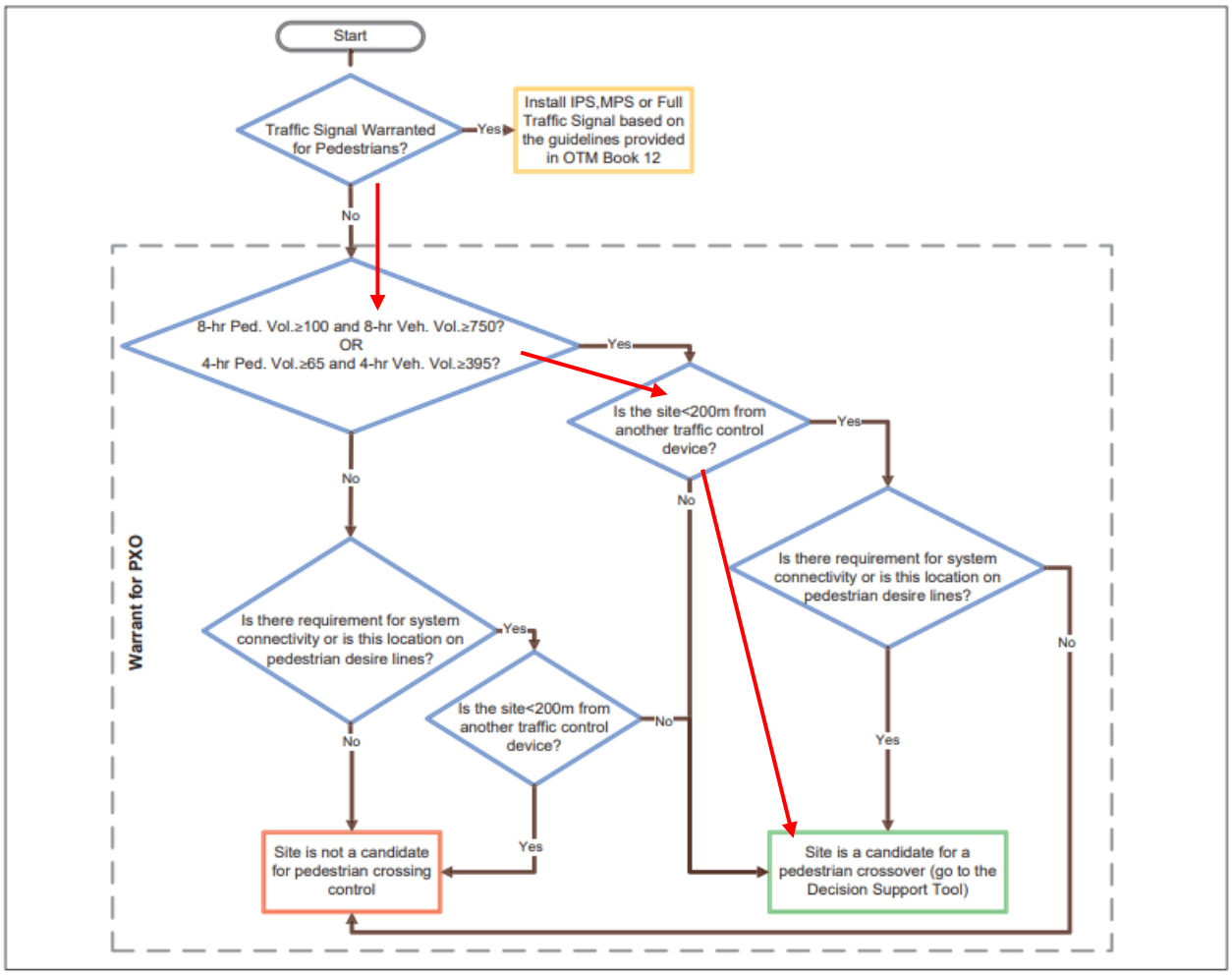
Filters:
2006 GTA zone of household - gta06_hhld In 8605

Trip 2016
ROW : gta06_hhld
COLUMN : gta06_dest

gta06_hhld	gta06_dest	total				
8605	1132	15	Durham		East	49.21%
8605	1217	15	Durham		West	50.79%
8605	2085	19	York			
8605	2271	77	York			
8605	2606	10	York			
8605	2621	21	York			
8605	3495	21	Peel			
8605	3816	10	Peel			
8605	7125	22	Waterloo			
8605	8121	29	Guelph			
8605	8415	30	Dufferin			
8605	8510	22	Barrie			
8605	8514	8	Barrie			
8605	8526	30	Barrie			
8605	8529	15	Barrie			
8605	8555	17	Simcoe	East		
8605	8558	57	Simcoe	East		
8605	8567	256	Simcoe	West		
8605	8568	258	Simcoe	East		
8605	8569	27	Simcoe	East		
8605	8605	2289	Simcoe	East/West (Internal)		
8605	8607	94	Simcoe	West		
8605	8608	318	Simcoe	West		
8605	8614	41	Simcoe	East		
8605	8617	14	Simcoe	East		
8605	8618	23	Simcoe	East/West (South)		
8605	8624	32	Simcoe	East		
8605	8664	29	Simcoe	East		
8605	8714	13	Kawartha			
8605	9032	14	External	omitted		
8605	9053	224	External	omitted		
8605	9998	69	Undefined	omitted		

Appendix H

Ontario Traffic Manual Book 15 Excerpts



Existing Volumes: Wednesday January 31, 2024

Eastbound peak 8 hour count: 725
Westbound peak 8 hour count: 872
Threshold - 8 hour vehicle volumes > 750

Eastbound peak 4 hour count: 457
Westbound peak 4 hour count: 497
Threshold - 4 hour vehicle volumes > 395

Table 7: Pedestrian Crossover Selection Matrix

Two-way Vehicular Volume			Posted Speed Limit (km/h	Total Number of Lanes for the Roadway Cross Section[1]			
Time Period	Lower Bound	Upper Bound		1 or 2 Lanes	3 lanes	4 lanes w/raised refuge	4 lanes w/o raised refuge
8 Hour	750	2,250	≤50	Level 2 Type D	Level 2 Type C[3]	Level 2 Type D[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	750	2,250	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	395	1,185					
8 Hour	2,250	4,500	≤50	Level 2 Type D	Level 2 Type B	Level 2 Type D[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	2,250	4,500	60	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	1,185	2,370					
8 Hour	4,500	6,000	≤50	Level 2 Type C	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	4,500	6,000	60	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 2 Type B
4 Hour	2,370	3,155					
8 Hour	6,000	7,500	≤50	Level 2 Type B	Level 2 Type B	Level 2 Type C[2]	Level 1 Type A
4 Hour	3,155	3,950					
8 Hour	6,000	7,500	60	Level 2 Type B	Level 2 Type B		
4 Hour	3,155	3,950					
8 Hour	7,500	17,500	≤50	Level 2 Type B	Level 2 Type B		
4 Hour	3,950	9,215					
8 Hour	7,500	17,500	60	Level 2 Type B			
4 Hour	3,950	9,215					

Type A Type B Type C Type D

Approaches to roundabouts should be considered a separate roadways.

[1]The total number of lanes is representative of crossing distance. The width of these lanes is assumed to be between 3.0 m and 3.75 m according to MTO Geometric Design Standards for Ontario Highways (Chapter D.2). A cross sectional feature (e.g. bike lane or on-street parking) may extend the average crossing distance beyond this range of lane widths.

[2]Use of two sets of side mounted signs for each direction (one on the right side and one on the median)

[3] Use Level 2 Type B PXO up to 3 lanes total, cross section one-way.

The hatched cells in this table show that a PXO is not recommended for sites with these traffic and geometric conditions. Generally a traffic signal is warranted for such conditions.

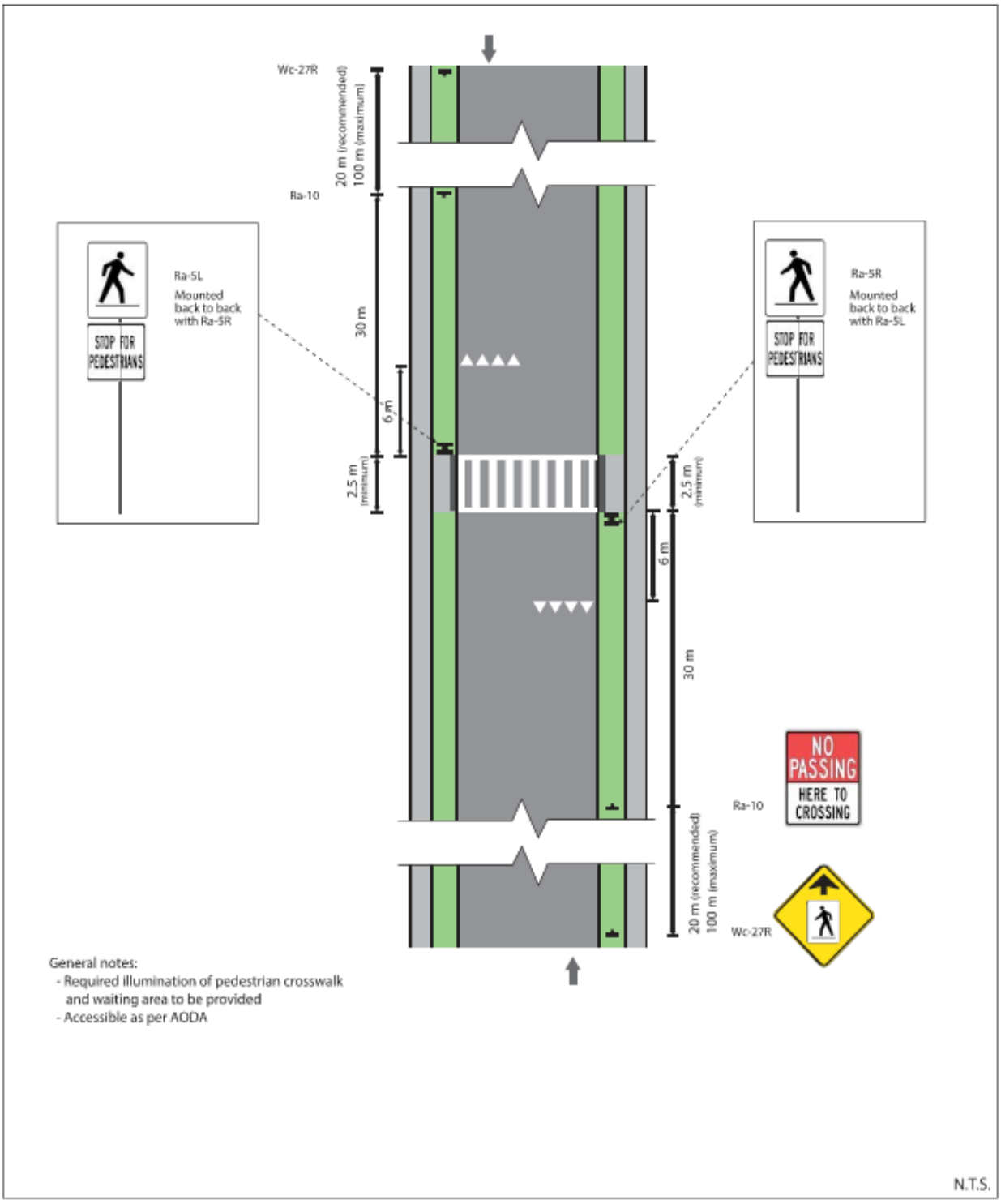


Figure 39: Pedestrian Crossover Level 2 Type D – Mid-block (2-lane, 2-way)

Appendix I

Town of Collingwood Traffic Calming Policy Excerpts

TATHAM ENGINEERING

Enhancing our communities

Traffic Calming

POLICIES & PROCEDURES

Town of Collingwood

File 120131 | June 8, 2021

Document Control

File:

120131

Date:

June 8, 2021

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Issue	Date	Description
1	June 8, 2021	Final Policy as Approved by Council

3 Traffic Calming Measures

Traffic calming measures are typically classified into the follow categories:

- physical measures which relate to physical alterations to the road surface or geometry; or
- non-physical measure which relate to “soft” methods such as enforcement, pavement markings and signage.

3.1 PHYSICAL MEASURES

Physical measures include:

- speed humps (rounded raised areas placed across the roadway);
- speed cushions (variation of speed humps with gaps in the humps to accommodate emergency vehicles and busses);
- speed tables (flat-topped speed humps);
- rumble strips (raised bars/grooves closely spaced);
- textured crosswalks (patterned surface contrasting the adjacent roadway);
- raised intersections (flat raised areas covering entire intersections, with ramps on all approaches and often with brick or other textured materials on the flat section);
- traffic circles (raised island, placed in intersections, around which traffic circulates);
- roundabouts (larger than traffic circles and typically have raised splitter islands to channel approaching traffic to the right and are used on higher volume streets);
- chicanes (curb extensions that alternate from one side of the street to the other, forming S-shaped curves);
- chokers (curb extensions at midblock locations that narrow a street);
- curb radius reductions (reconstruction of an intersection corner to a smaller radius);
- realigned intersections (changes in alignment that convert T-intersections with straight approaches into curving streets that meet at right angles);
- neckdowns (curb extensions at intersections that reduce roadway width curb to curb);
- centre island narrowings (placement of a raised island located along the centerline of a street that narrows the travel lanes at that location);
- on-street parking (allowing vehicles to park adjacent and parallel to the curb); and

- gateways (a combination of traffic calming measures that identify a transition between rural and urban zones - ideal for arterial roads).

3.2 NON-PHYSICAL MEASURES

As previously noted, non-physical traffic calming measures are usually implemented through enforcement, signage and pavement markings. Such measures include:

- speed enforcement (police enforcement, particularly in school and community safety zones; can also include automated speed enforcement);
- pavement marking legends (painted speed limits on the pavement surface to remind drivers of the speed limits);
- transverse lane markings (transverse bars or chevron pavement markings on a travel lane);
- lane narrowing and shoulder widening through pavement marking; and
- dynamic speed displays (radar signs which indicate travel speeds).

It is noted that while stop signs are often employed as a means of traffic calming, such is not recommended. As per the *Ontario Traffic Manual Book 5 Regulatory Signs*, stop signs should not be used for speed control. Unwarranted stop signs increase vehicular speeds between stop signs (stop signs only affect speeds within approximately 40 metres of the stop sign), encourage rolling stops and ultimately, non-compliance. An excessive number of stop signs, particularly those that are not warranted, also breeds disrespect for stop signs and other traffic control devices.

3.3 TOWN OF COLLINGWOOD MEASURES

In consideration of the Town objectives in implementing traffic calming guidelines, and recognizing the combination of urban, semi-urban and rural roads within the Town's road network, the following traffic calming measures have been considered:

- police enforcement;
- automated speed enforcement;
- dynamic speed signs;
- lane narrowing via road markings;
- chicanes;
- curb radius reductions;
- curb extensions;
- traffic calming curbs;
- textured cross walks;
- speed humps;
- speed cushions;
- speed tables;
- centre median;
- traffic circles; and
- on-street parking.

Dynamic Speed Signs

Dynamic speed signs are portable or permanent radar activated signs that instantaneously display approaching speeds for individual vehicles. They can also be programmed to display appropriate messages (e.g. Too Fast or Slow Down). These devices create a sense of being monitored to the driver and provide an instant notification that the speed limit is being exceeded (if such is the case).

It is recommended that the Town require implementation of dynamic speed signs at sensitive locations (i.e. parks, school zones, school crossings, collector streets, etc.) as part of the approval process for greenfield subdivisions.

Permanent installations of dynamic speed signs can lose their effectiveness over time as drivers become accustomed to them and presence and message gets ignored. Notwithstanding, application in unique circumstances (at schools or near parks) is considered beneficial. The use of portable signs would allow the Town to position signs at varying locations throughout the Town on a short-term basis, thus providing the appropriate messaging to motorists with the intent of changing their driving behaviour.

Advantages

- Educational tool, good public relations, effective as a temporary speed reduction measure.
- Can help residents understand the actual speed of a vehicle vs perceived speed.
- No impact to emergency vehicle operations or road maintenance operations.

Disadvantages

- Relies on motorist to voluntarily comply, duration of effectiveness is limited, not accurate on two-lane roads (too much traffic).
- Requires regular maintenance and a source of power.
- Light pollution on residential streets.

Estimated Cost

- $8,000 for sign.
- $25,000-$35,000 for trailer.

Textured Crosswalks

Textured crosswalks incorporate a textured and/or pattered surface which contrasts the adjacent roadway. Textured crosswalks are utilized to enhance visual identification of a traffic calmed area, emphasizing pedestrian priority. Priority locations include high pedestrian crossing locations (i.e. in downtown area, park and school locations as well as trail crossings).

Advantages

- Improves pedestrian safety.
- No impacts to emergency services or snow plowing operations.
- Enhanced roadway aesthetics.

Disadvantages

- May create additional noise.
- Traction or stability problems for seniors, disabled individuals, wheelchairs etc.
- Increased maintenance depending on base stability (maintenance to repair uneven transition between textured crosswalk and asphalt).

Estimated Cost

- $50 to $150 per m^2.

Speed Humps

Speed humps are defined as a raised area of the road which deflects both the wheels and frame of a traversing vehicle. Typically, speed humps are 80 mm high and 4.0 metres wide (in the direction of travel), and spaced 125 to 225 metres apart. Speed humps are used on residential streets and, in some instances, on collector roads.

Advantages

- Relatively cost-efficient.
- Easy to construct.
- Deters cut-through traffic.
- Reduces vehicle speeds.

Disadvantages

- Increases emergency vehicle response time.
- Possible noise from braking/ acceleration.
- Potential impacts to snow plows and trucks.
- Added wear and tear on vehicles over time (including snow plows).

Estimated Cost

- $2,000 to $3,000 each.

Speed Cushions

A speed cushion is a variation on a speed hump that can be straddled by large vehicles such as emergency vehicles and busses, but passenger vehicles are impacted in the same manner as a speed hump.

Advantages

- Relatively cost-efficient.
- Easy to construct.
- Deters cut-through traffic.
- Reduces vehicle speeds.
- Does not disrupt speed of emergency or transit vehicles.

Disadvantages

- Possible noise from braking/acceleration.
- Potential impacts to snow plows and trucks.
- Drivers may try to straddle the cushions on right side of road and impact bicycle lanes.
- Added wear and tear on vehicles over time.

Estimated Cost

- $4,000 for a set of 3.

Speed Tables

Speed tables are flat-topped asphalt or rubber mounds that cover the full width of the roadway. The ramps of the speed table are more gently sloped than speed humps and thus speed tables are less jarring than a standard speed hump and can allow larger vehicles (emergency vehicles, trucks, snow plows, etc.) to cross with reduced disruption. Supplementary text can be added to the pavement in advance of the speed table (i.e. SLOW DOWN).

Advantages

- Relatively cost-efficient.
- Easy to construct.
- Deters cut-through traffic.
- Reduces vehicle speeds.
- Lesser impacts to larger vehicles as compared to speed humps.

Disadvantages

- May delay emergency vehicle response times.
- Traffic may divert traffic to alternate routes.
- Possible noise created by braking/acceleration.
- Negative impacts to snow plows operations.
- Added wear and tear on vehicles over time.

Estimated Cost

- $3,000 to $5,000 each.
- $10,000 for a modular speed hump.

4 Traffic Calming Policy

4.1 CONSIDERATION FOR TRAFFIC CALMING

Traffic calming measures should:

- be considered only after education and enforcement efforts have failed to produce the desired results;
- be considered when there is a demonstrated safety or speed concern and acceptable alternative measures have been exhausted;
- be considered after focus is placed first on improvements to the arterial road network, such as signal timing optimization (thereby making those roads more appealing);
- be considered in new plans of subdivision where the absence of such measures is likely to result in speeding and/or related safety concerns;
- be predominantly restricted to two lane roads (one lane of through traffic in each direction);
- maintain reasonable automobile access to Town roads;
- only be installed after Town staff have investigated existing traffic conditions and the necessary approvals have been received; and
- be monitored with follow-up studies to assess their effectiveness, with the results communicated to the community and Council.

Traffic calming measures should not:

- impede emergency and transit services access unless alternate measures are agreed upon; or
- impede non-motorized, alternative modes of transportation such as walking and cycling.

4.2 GREEN FIELD DEVELOPMENT

It is noted that the traffic calming policy and associated process contained herein are intended to inform the implementation of traffic calming measures in existing areas or developments where conditions on the surrounding road network have evolved over time to the point that the intended function of the road network has been compromised. With respect to green field development, a traffic calming review should be conducted during draft plan design. The potential need for traffic calming measures will be discussed during pre-consultation, with the intent that a traffic calming plan (should such be deemed necessary) be submitted for review by

the Town. Upon review and assessment of the traffic calming plan, any traffic calming measures to be implemented will be added to the draft plan conditions for the respective development.

The traffic calming measures identified in Section 3.3 may also be considered for green field developments. Additionally, roundabouts can be considered within new developments, as may be appropriate. Roundabouts provide similar advantages to traffic circles; however, they are typically installed at higher volume intersections. Given the additional right-of-way typically required to construct a roundabout, the implementation of such is ideal in green field developments (i.e. where there are no constraints imposed by existing development).

4.3 COMMUNITY INVOLVEMENT

Restoring neighbourhood streets to their intended function and improving overall livability are the primary objectives of traffic calming. In order to achieve this goal, community involvement and support is paramount.

Communication with residents should occur at various stages throughout the process as the traffic calming plan is developed and implemented. Traffic calming plans should be developed with an understanding of current and historical traffic patterns within the area under investigation. For a traffic calming program to be successful, the community must support and be committed to the solution. The only means of gaining this commitment is to involve the residents by informing them of the study location being considered for traffic calming measures.

The benefit of community involvement is that it generates support for a traffic calming program and assists in the implementation of a plan without significant opposition upon completion. Community involvement also enhances the credibility of the traffic calming program, particularly when it is ultimately presented to Council for approval.

The review and implementation of traffic calming measures is a time consuming and expensive process requiring many resources. Without public support, the traffic calming measures intended to alleviate traffic concerns could be met with negative public opinion, potentially jeopardizing the outcome and positive impacts to affected neighbourhoods.

Neighbourhood support, enforcement, education of motorists, bicyclists and pedestrians, appropriate engineering applications and economics typically determine the success of any traffic calming endeavor. A cooperative partnership between the affected residents and the Town is essential to the success of the project.

4.4 CLASS ENVIRONMENTAL ASSESSMENT PROCESS

Traffic calming is currently exempt from the Ontario Environmental Assessment Act and is not an undertaking subject to the *Municipal Engineers Association Municipal Class Environmental*

Assessment (October 2000, as amended in 2007, 2011 & 2015). Under the proposed 2020 MEA Class EA Amendments, the implementation of traffic calming measures is to be a Schedule A+ undertaking. Schedule A+ projects are pre-approved, provided that the public is advised prior to implementation.

5 Traffic Calming Process

The following process will be used when proceeding with a request for traffic calming measures within the Town of Collingwood (corresponding flow chart is provided in Appendix A). An established and formal process for investigating roads provides consistency and equality in the determination of need and suitability of traffic calming measures.

5.1 STEP 1: TRAFFIC CALMING REQUEST

Residents with traffic related concerns are instructed to submit their written request, accompanied by a petition, to the Town to investigate traffic calming on their road or within their neighbourhood. Town staff will provide a copy of the petition to the proponent (refer to Appendix B). The purpose of the petition is to establish whether or not there is sufficient neighbourhood/local support for traffic calming measures prior to the Town initiating an investigation into the need for such measures on the subject road. The petition serves as a preliminary screening tool that will prevent unsupported traffic calming requests from being advanced.

The petition results must clearly demonstrate that a minimum of 51% of the dwelling units with direct frontage or flankage onto the candidate road or road section support the potential implementation of traffic calming measures, as defined by Town staff. Each dwelling unit is represented by one signature, regardless of the number of people in the unit. Failure to satisfy the minimum support threshold of 51% will result in termination of the investigation. Successful petitions (i.e. those that satisfy the required 51% support threshold) will trigger the screening by Town staff (Step 2).

5.2 STEP 2: TOWN SCREENING

Following an appropriate request for traffic calming consideration, Town staff will undertake a screening of the request and candidate road section considering road classification, traffic volumes, length, grade and actual travel speeds.

Initial Criteria

Initial screening criteria to determine eligibility for consideration for traffic calming measures have been established. With respect to the road or road section in question, it must:

- be a local road assumed and maintained by the Town of Collingwood;
- have a minimum annual average daily traffic (AADT) volume of 900 vehicles;

- have a minimum uncontrolled (i.e. no stop signs or traffic signals) length of 220 metres without being a dead-end road section or cul-de-sac;
- have a grade that does not exceed 6%; and
- not have been the subject of a previous speed study or traffic calming request within the past 5 years.

In addition, the following must also be satisfied:

- all reasonable efforts must have been made to address the concerns utilizing other means including education and enforcement tools; and
- zoning should be primarily residential in nature.

If the subject road or road section does not satisfy the above criteria, it will not be considered an appropriate candidate for traffic calming.

While the focus of traffic calming will be on local roads, Town staff may, at their discretion, review select collector roads for consideration provided that they also meet the above criteria and serve in excess of 2000 vehicles per day.

Speed Criteria

For locations meeting the initial screening criteria, a travel speed survey will be conducted to determine whether speeding is occurring through the study area. For vehicle speeds, it is not prudent to consider the highest speed at which motorists travel. Rather, the 85th percentile speed is typically considered, which is the speed at which 85% of the total traffic volume on a road is travelling at or below. The 85th percentile concept is based on the theory that the large majority of drivers:

- are reasonable and prudent;
- do not want to be involved in a motor vehicle accident; and
- desire to reach their destination in the shortest possible time.

Based on these assumptions, the 85th percentile speed (which represents the large majority) observed under good conditions (i.e. favourable weather and visibility) may be considered as the maximum safe speed for that location. The speed limit and 85th percentile speed should be relatively comparable - thus indicating that the function and physical characteristics of the road are properly communicated, understood and respected by motorists. Ideally, the 85th percentile speed should be ±10 km/h of the speed limit. Where the 85th percentile speed exceeds the posted speed by more than 10 km/h, it is an indication that intervention is required to reduce vehicle operating speeds. A lower tolerance may be applied in reduced speed zones and

community safety zones where stricter adherence to the speed limit is desired for obvious reasons.

In considering the need for traffic calming, the 85th percentile speed must exceed the posted speed limit by the values provided in Table 2.

Table 2: 85th Percentile Speed Considerations

POSTED SPEED LIMIT	85TH PERCENTILE SPEED	EXCEEDANCE OF SPEED LIMIT
40 km/h	45 km/h	+5 km/h
50	60	+10
60	70	+10

If the observed 85th percentile travel speed exceeds the posted speed limit by the threshold noted in Table 2, the road section will be identified as a candidate for traffic calming measures and will proceed to Step 3. Road sections with 85th percentile travel speeds that do not exceed the noted thresholds will be disqualified from consideration.

Resident Notification

Following the screening process, the Town will inform the resident(s) in writing as to whether their location meets the screening criteria for implementation of traffic calming measures. For locations not meeting the screening criteria, investigation for traffic calming will cease and the location will be precluded from future traffic calming consideration for a period of 5 years.

5.3 STEP 3: DATA COLLECTION

If the requested location satisfies the petition requirements and screening criteria, additional data collection and analysis will commence. The collection of traffic data, as deemed necessary by Town staff, will serve to provide a better understanding of the current traffic conditions, inform the selection of appropriate traffic calming measures and prioritize locations for the implementation of traffic calming.

Staff will conduct/coordinate the necessary traffic studies to quantify and qualify the submitted traffic concerns. The data collected may include traffic volumes and composition (cars and trucks), collision records (for those that are attributed to excessive speeding), pedestrian activity and historical site-specific information. It is noted that traffic volumes and vehicle composition data can be gathered with the speed surveys conducted in Step 2.

5.4 STEP 4: PRELIMINARY DESIGN & REVIEW

Traffic Calming Measure

To identify potential traffic calming measures, a comprehensive review of the data collected in Step 3 will be conducted, supplemented by site visits, historical information, future maintenance and construction plans, as well as stakeholder feedback. Appropriate traffic calming measures will be determined based on the list of traffic calming measures outlined in Section 3.3. The traffic calming strategy could include one or more of the noted traffic calming techniques. The proposed traffic calming measures will be selected at the sole discretion of the Town, in accordance with the design guidelines outlined in the *Canadian Guide to Traffic Calming* and the judgment and experience of Town staff.

Initial Preliminary Design

Following selection of the traffic calming measure(s) to be implemented, Town staff will prepare preliminary design drawings illustrating the proposed solution.

Agency/Department Review

Staff will provide the preliminary design drawings to the relevant agencies and/or Town departments (e.g. emergency services, transit services, road operations, applicable Town advisory committees, etc.) for review and comment. As required, Town staff will work with the agencies/departments to modify the preliminary design to address concerns. If however, concerns cannot be appropriately mitigated to ensure support for the traffic calming measure, the traffic calming process will be discontinued for the road under investigation.

Final Preliminary Design

Further to the agency/department review and in keeping with the goals, objectives and principles set out in these guidelines, staff will finalize the preliminary traffic calming design. General consideration will be given to the various aspects of road design such as utility placement, landscaping, signage requirements and drainage with the purpose of establishing a cost estimate for implementation.

5.5 STEP 5: COMMUNITY NOTIFICATION

Using summarized comments from the submitted petition and preliminary information about the subject road and surrounding area, staff will define the limits for community notification, which may include surrounding roads and neighbourhoods. As a minimum, dwelling units with direct frontage onto the road to be investigated will be notified via direct mailings and/or email, in addition to each property whose side yard abuts the subject road section. Notifications will

include a description of the intended traffic calming strategy and its location. The noted information will also be posted on the Town website and social media platforms.

5.6 STEP 6: PRIORITIZATION

Prioritization Assessment

The prioritization assessment is a process that weighs and scores various attributes of a candidate road or road section with the intent of quantifying and prioritizing the urgency for traffic calming. A predetermined set of road attributes are assigned weighted points based on the severity of each individual attribute (e.g. 85th percentile speed, pedestrian volumes, etc.). The candidate road is reviewed and scored in context of these attributes. This process quantifies the conditions of the road and further provides a method of prioritizing each candidate location in terms of need. A basis for assessment has been prepared and is provided in Appendix C.

Locations will be prioritized based on the point system, with those locations with the highest points implemented first. If funding does not permit all locations to be implemented in one year, roads will be carried forward to the next year when they will then be re-prioritized to include any new locations. While the intent is to implement traffic calming measures according to the priority ranking, where funding does not permit all pending projects to be implemented, locations with a lower priority rank may be implemented ahead of higher ranking projects at the Town's discretion to ensure use of available funding is maximized.

Council Notification

During yearly budget deliberations, Town staff will propose one or more traffic calming projects to be implemented. Projects put forward will be based on the priority ranking. Where necessary, an amending By-law will be brought to Council for approval (ie. changes to regulatory signage, etc.).

5.7 STEP 7: FINAL DESIGN & IMPLEMENTATION

Final Design

In advance of implementation, detailed engineering drawings will be completed as necessary. These drawings will provide a high level of detail taking into consideration but not limited to the following:

- surface drainage;
- sub-base requirements (i.e. granular type and thickness);
- surface type (asphalt, concrete, decorative concrete);
- road grade;

- requirements for warning signs and pavement markings;
- sightlines and sight distances;
- driveway and intersection locations; and
- utility locations or relocations.

At this point, the feasibility and costing of the preferred traffic calming measures will be evaluated in detail. If, during the detailed design stage, limitations are identified which challenge the feasibility of the plan, alternatives will be considered. This may include alterations or a re-development of the preferred plan. If staff believe that the required modifications to create the detailed design result in a significantly different final design from that which was originally presented, staff may recommend additional agency/department reviews to inform the revision process.

Community Notification

Notices detailing planned project timing will be distributed to residents prior to implementation, in the same manner as the previous notification. The notices will also be posted on the Town website and social media platforms.

Implementation

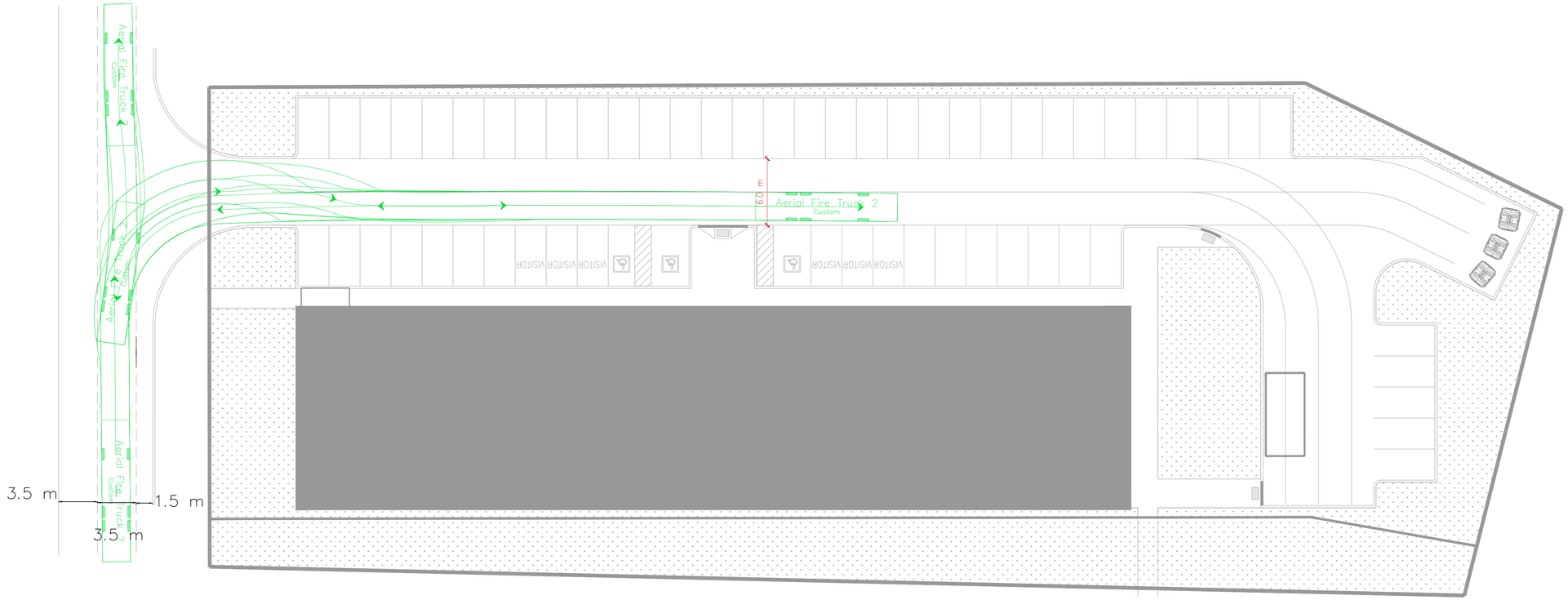
Following resident notification, traffic calming measures will be implemented. Where feasible, staff may decide it is beneficial to phase in the traffic calming plan through the use of temporary or removable traffic calming measures such as pavement markings, curbs/barriers, planters or barrels. This will allow time to examine the impact of the measures and their effectiveness before implementing permanent treatments.

5.8 STEP 8: MONITOR & EVALUATE

Town staff may monitor the road to determine the effectiveness of the utilized measures and their impact on the surrounding road network. This information will be used in recommending similar measures within the Town in the future.

Appendix J

Vehicle Maneuverability Diagram



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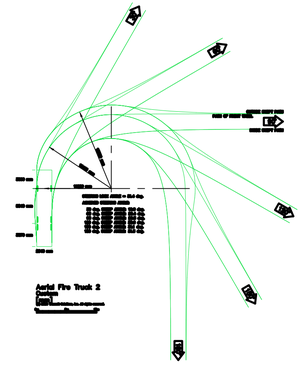
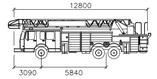
SWEEP PATH



VEHICLE PROFILE



Aerial Fire Truck 2

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No.	ISSUE	DATE: MM/DD/YYYY
0	ISSUED FOR REVIEW	02/01/2024

Engineer

Engineer

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

Project

180 ONTARIO ST

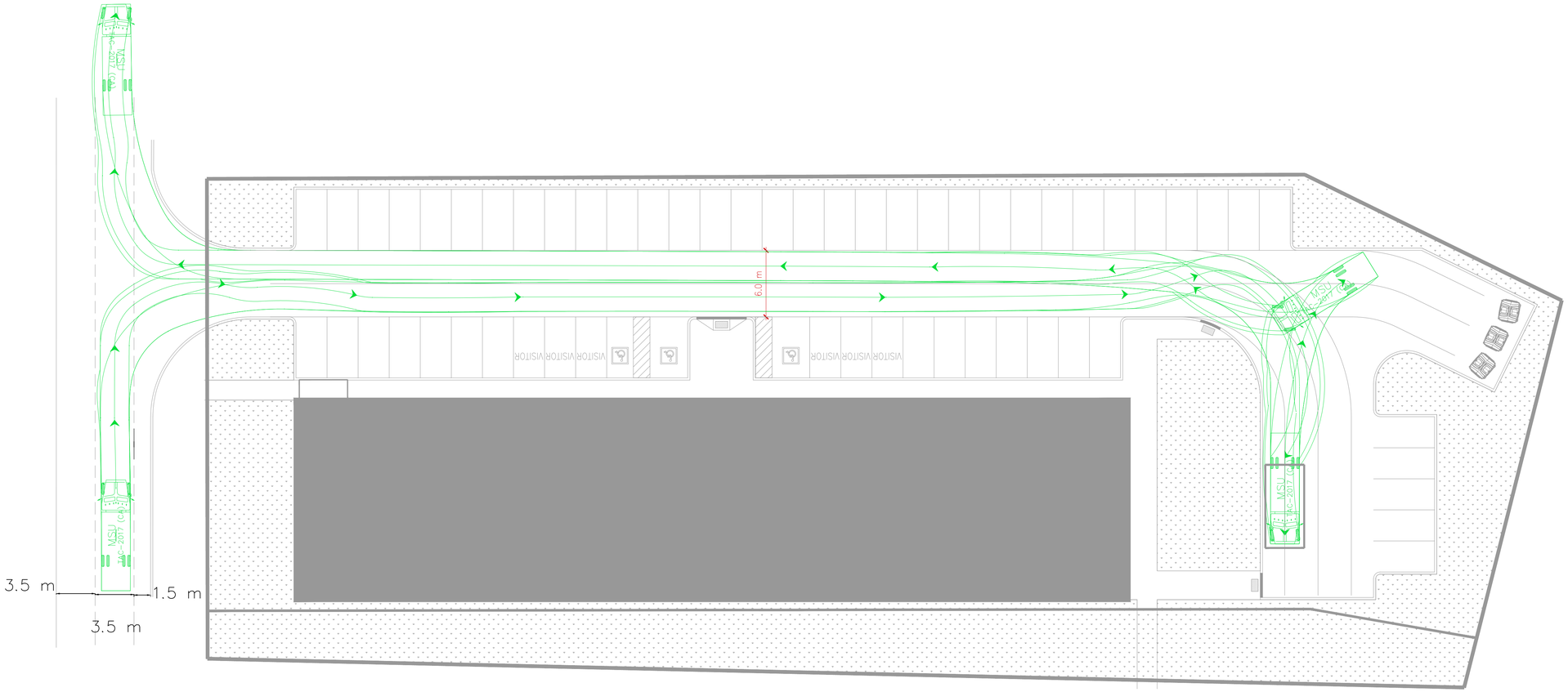
Drawing

VEHICLE MANEUVERING DIAGRAM
FIRE TRUCK

CROZIER
CONSULTING ENGINEERS

2800 High Point Drive
Suite 100
Milton, ON, L9T 6P4
905-875-0026 T
905-875-4915 F
www.cfcrozier.ca
info@cfcrozier.ca

Drawn By	Design By	Project	
B.L.	B.L.		2598-6970
Check By	Check By	Scale	Drawing
D.B.	M.F.	N.T.S	T300



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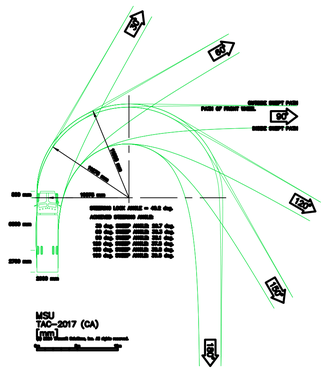
SWEEP PATH



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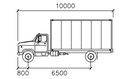

MSU

	mm
Width	: 2600
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Steering Angle	: 40.2

No.	ISSUE	DATE: MM/DD/YYYY
0	ISSUED FOR REVIEW	02/01/2024

Engineer

Engineer

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

Project

180 ONTARIO ST

Drawing

VEHICLE MANEUVERING DIAGRAM
MEDIUM SINGLE UNIT TRUCK

CROZIER
CONSULTING ENGINEERS

2800 High Point Drive
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Milton, ON, L9T 6P4
905-875-0026 T
905-875-4915 F
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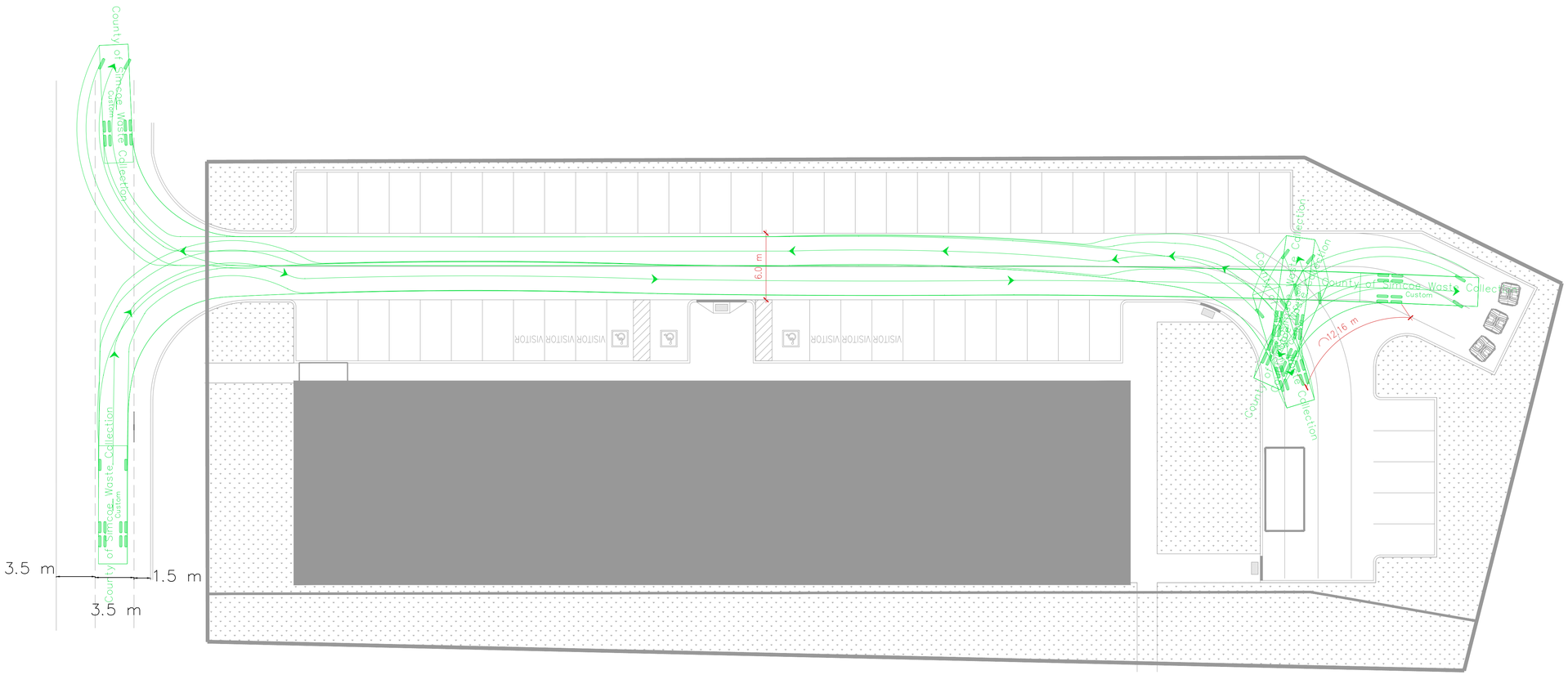
Drawn By	Design By	Project	
B.L.	B.L.		2598-6970
Check By	Check By	Scale	Drawing
D.B.	M.F.	N.T.S	T302



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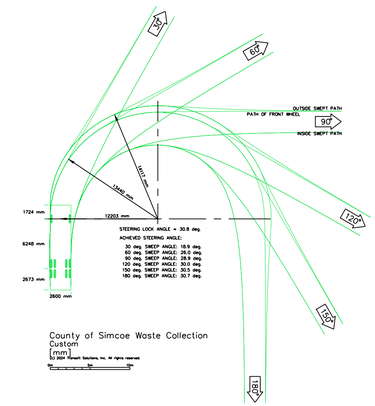
SWEEP PATH



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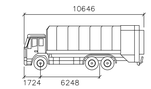

County of Simcoe Waste Collection

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Steering Angle	: 30.8

No.	ISSUE	DATE: MM/DD/YYYY
0	ISSUED FOR REVIEW	02/01/2024

Engineer

Engineer

PRELIMINARY

NOT TO BE USED FOR CONSTRUCTION

Project

180 ONTARIO ST

Drawing

VEHICLE MANEUVERING DIAGRAM
SIMCOE COUNTY GT

CROZIER
CONSULTING ENGINEERS

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Suite 100
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905-875-4915 F
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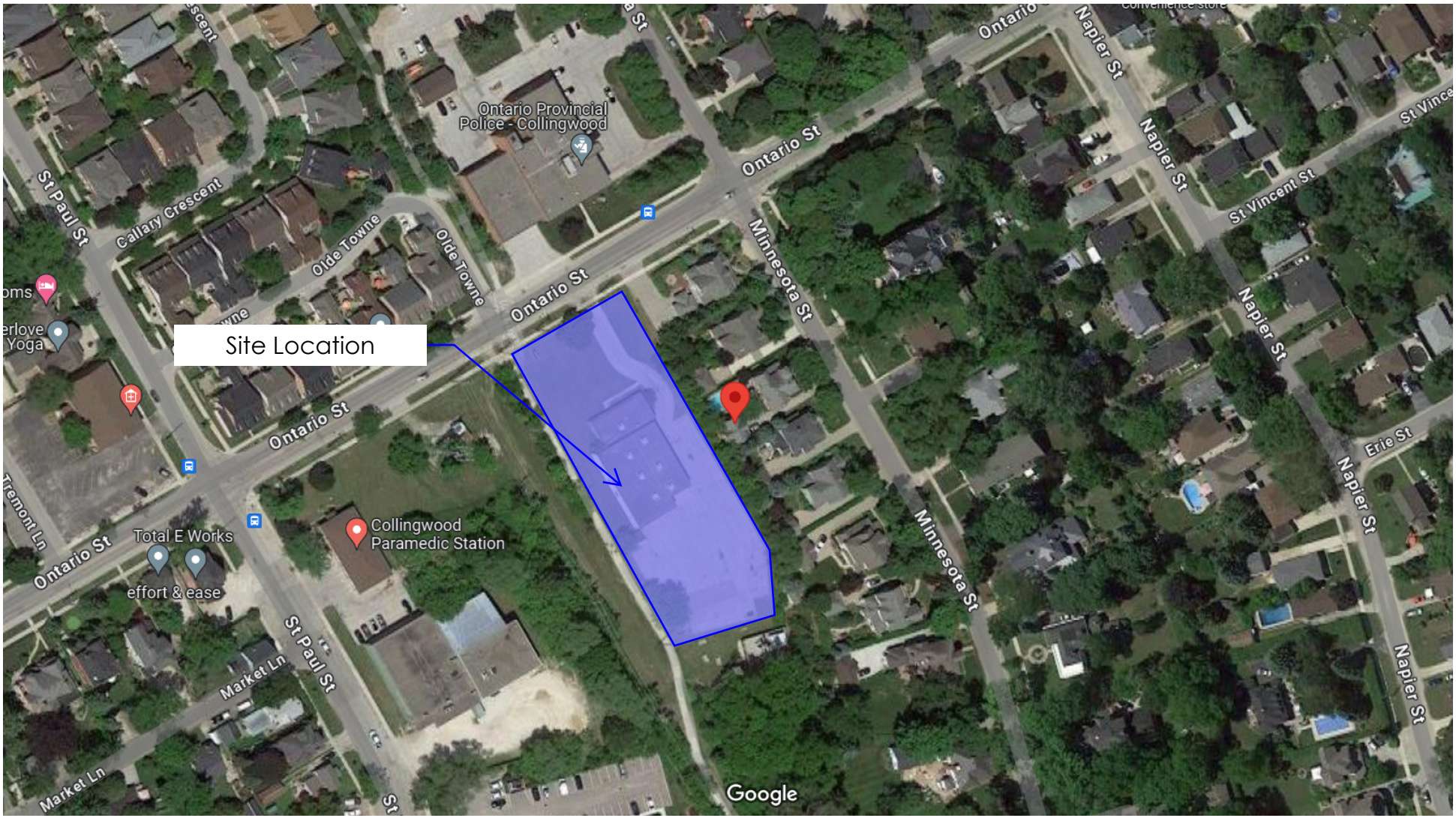
info@cfcrozier.ca

Drawn By	Design By	Project	
B.L.	B.L.		2598-6970
Check By	Check By	Scale	Drawing
D.B.	M.F.	N.T.S	T303

FIGURES



Project

180 ONTARIO STREET

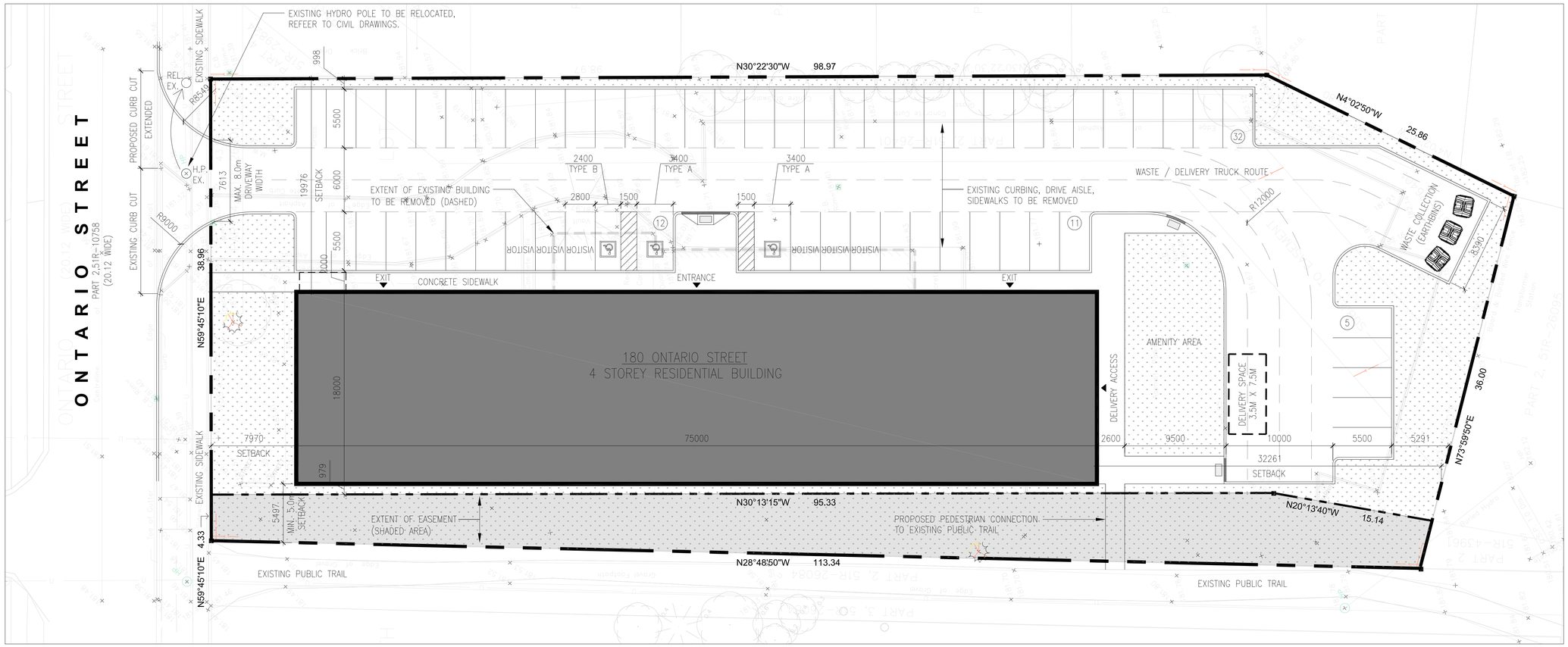
Drawing

SITE LOCATION PLAN

CROZIER CONSULTING ENGINEERS
ADMIRAL BUILDING
1 FIRST STREET, SUITE 200
COLLINGWOOD, ON L9Y 1A1
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA

Drawn By	Design By	Project
D.B.	D.B.	2598-6970

Scale	Date	Check By	Drawing
N.T.S.	JAN. 17, 2023		FIG. 1



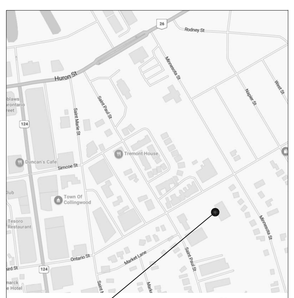
1 / A100 PROPOSED SITE PLAN
SCALE: 1:200

ZONING REQUIRENENTS		
ZONING CATEGORY: RESIDENTIAL FOURTH DENSITY (R4) ZONE		
LOT REGULATIONS	REQUIRED	PROVIDED
MINIMUM LOT AREA	NIL	5,193 sqm
MINIMUM LOT FRONTAGE	30.0 m	43.29 m
MINIMUM FRONT YARD	7.5 m	7.97 m
MINIMUM INTERIOR SIDE YARD (WEST)	7.5 m	5.49 m
MINIMUM INTERIOR SIDE YARD (EAST)	7.5 m	19.97 m
MINIMUM REAR YARD	7.5 m	32.26 m
MAXIMUM HEIGHT	18.0 m	18.00 m
MAXIMUM LOT COVERAGE	40 %	26.00 %
MINIMUM LANDSCAPED OPEN SPACE	40 %	(1,529 sqm) 29.44 %
GROSS FLOOR AREA		
TYPICAL FLOOR AREA	1,350 sqm	14,531 sqft
TOTAL GFA (4 FLOORS)	5,400 sqm	58,124 sqft
UNIT COUNT	15± UNITS PER FLOOR	60± UNITS TOTAL
PARKING REGULATIONS	REQUIRED	PROVIDED
RESIDENTIAL USE: 1.00 SPACES PER DWELLING UNIT	60 UNITS 60 X 1.00 = 60 SPACES	60 UNITS 60 X 0.90 = 54 SPACES
RESIDENTIAL USE: VISITOR PARKING 0.25 PER UNIT	60 UNITS 60 X 0.25 = 15 SPACES	60 UNITS 60 X 0.10 = 6 SPACES
TOTAL PARKING SPACES	75 SPACES	60 SPACES
MINIMUM DRIVE ENTRANCE WIDTH	7.50 m	7.61 m
MINIMUM DRIVE AISLE WIDTH	6.00 m	6.00 m
PARKING STALL SIZE (W X L)	2.80 m X 6.00 m	2.80 m X 5.50 m
ACCESSIBLE STALL SIZE (W X L)	4.50 m X 6.00 m	4.50 m X 5.50 m
DELIVERY SPACE SIZE (W X L)	3.50 m X 6.00 m	3.50 m X 6.00 m

LEGEND

- PROPERTY LINE
- PROPOSED EASEMENT
- PROPOSED BUILDING
- LANDSCAPED AREA
  MINIMUM LANDSCAPE OPEN SPACE 25%

SITE PLAN INFORMATION IS TAKEN FROM PLAN OF SURVEY
PREPARED BY ZUBEK, EMO PATTEN & THOMSEN LTD.
DATED: DECEMBER 12, 2022
PLAN 51R-43961
PART OF NORTH HALF OF LOT 43
CONCESSION 8
(FORMERLY TOWNSHIP OF NOTTAWASAGA)
TOWN OF COLLINGWOOD
COUNTY OF SIMCOE



PRINT DATE:
2024-04-04

No.	DESCRIPTION	DATE
	REVISIONS	

No.	DESCRIPTION	DATE
2	ISSUED FOR 1ST ZONING BY-LAW AMENDMENT REVIEW	2024-04-04
1	ISSUED FOR CLIENT REVIEW	2023-08-18
	ISSUED FOR	

ONTARIO ASSOCIATION OF ARCHITECTS
DANIEL LOUIS CUSIMANO
LICENCE 4400

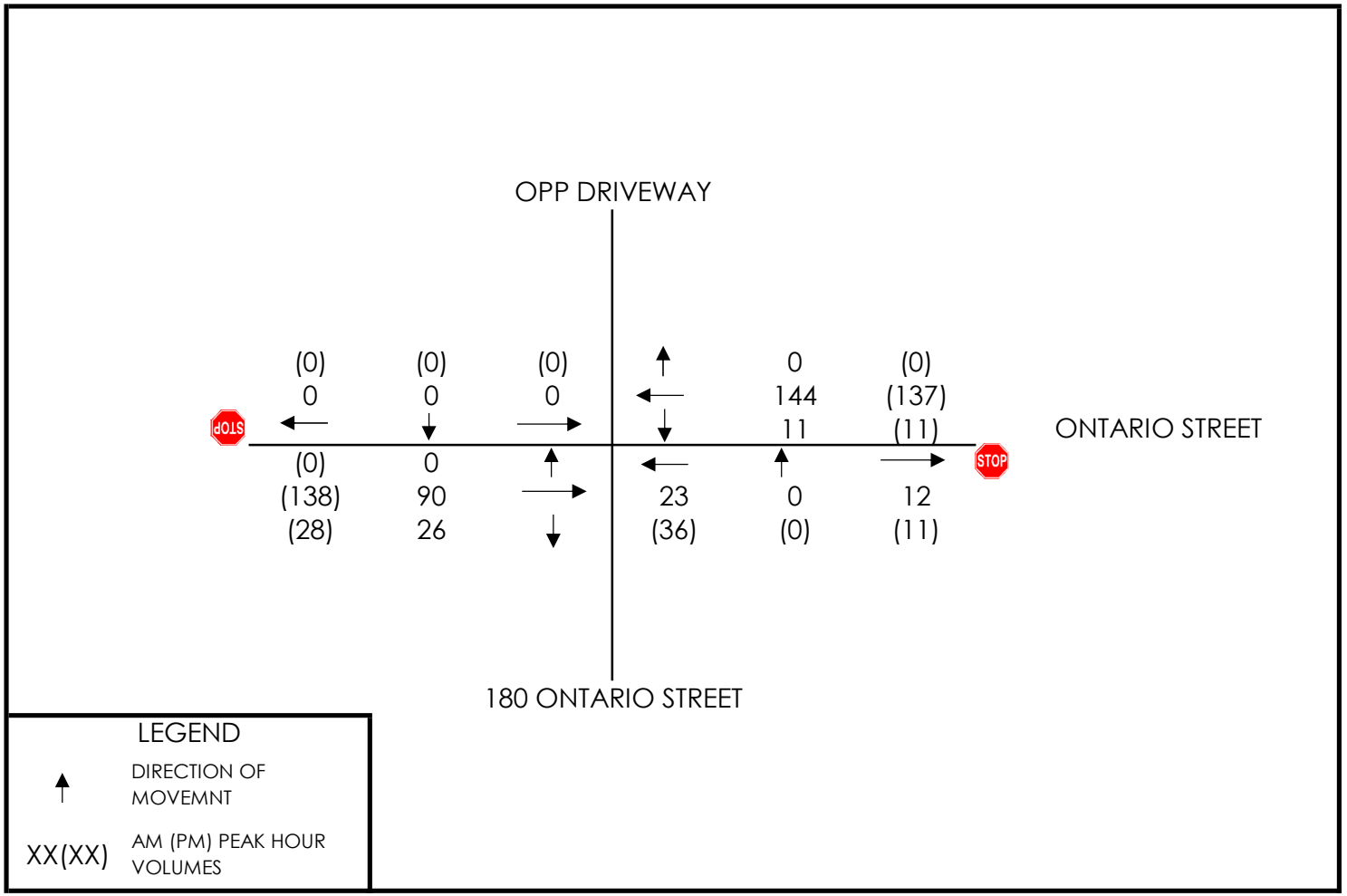
CUSIMANO ARCHITECT
185 BRIDGELAND AVENUE, SUITE 107, TORONTO, ONTARIO M6A 1Y7
T (416)783-5193 F (416)783-3100

PROJECT:
PROPOSED RESIDNETIAL BUILDING DEVELOPMENT
180 ONTARIO STREET
COLLINGWOOD, ON L9Y 3S5

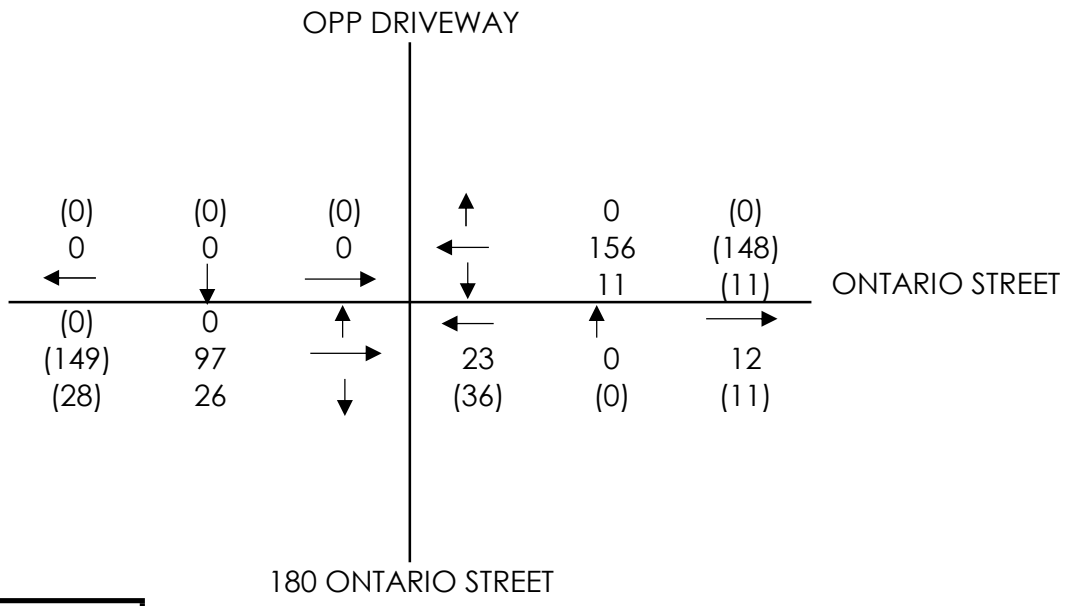
DATE:	DWN. BY:	CH'D. BY:
AUGUST 2023	MR	DLC

DRAWING TITLE:
PROPOSED SITE PLAN & SITE STATISTICS

SCALE:	DRAWING No.:
AS NOTED	A100
PROJ. NO.: 2024-02	



PROJECT:	**180 ONTARIO STREET, COLLINGWOOD**	DRAWN BY:	**KH**	CROZIER CONSULTING ENGINEERS	Admiral Building, 1 First Street, Suite 200, Collingwood, ON, L9Y 1A1, 705-446-3510 T, 705-446-3520 F, www.cfcrozier.ca, info@cfcrozier.ca
		CHECK BY:	**MF**		
DRAWING:	**2024 EXISTING TRAFFIC VOLUMES**	SCALE:	**N.T.S.**		
		PROJECT NO.	**2598-6970**	FIGURE:	**3**



LEGEND

↑ DIRECTION OF MOVEMNT

XX(XX) AM (PM) PEAK HOUR VOLUMES

PROJECT:	**180 ONTARIO STREET, COLLINGWOOD**	DRAWN BY:	**KH**	CROZIER CONSULTING ENGINEERS	Admiral Building, 1 First Street, Suite 200, Collingwood, ON, L9Y 1A1, 705-446-3510 T, 705-446-3520 F, www.cfcrozier.ca, info@cfcrozier.ca
		CHECK BY:	**MF**		
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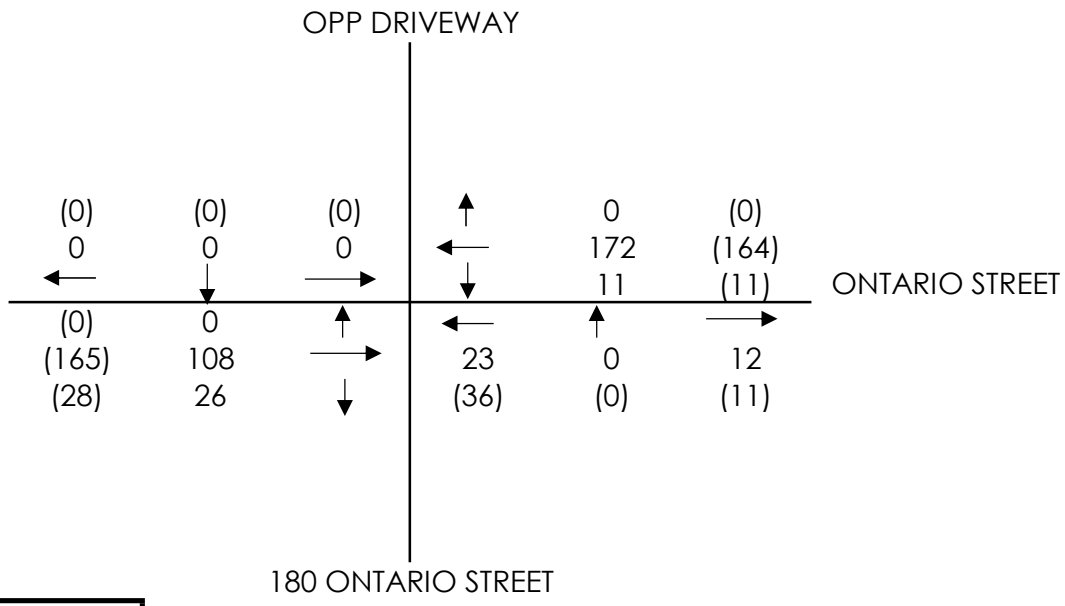

LEGEND

↑ DIRECTION OF MOVEMNT

XX(XX) AM (PM) PEAK HOUR VOLUMES

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		CHECK BY:	**MF**		
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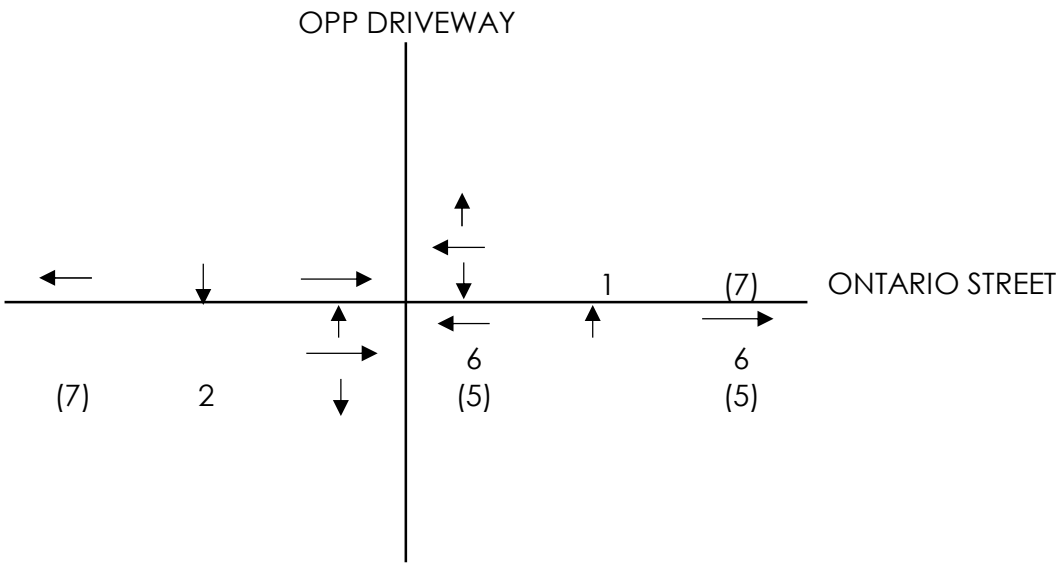
		PROJECT NO.	**2598-6970**	FIGURE:	**5**



LEGEND

↑ DIRECTION OF MOVEMNT

XX(XX) AM (PM) PEAK HOUR VOLUMES

PROJECT:	**180 ONTARIO STREET, COLLINGWOOD**	DRAWN BY:	**KH**	CROZIER CONSULTING ENGINEERS	Admiral Building, 1 First Street, Suite 200, Collingwood, ON, L9Y 1A1, 705-446-3510 T, 705-446-3520 F, www.cfcrozier.ca, info@cfcrozier.ca
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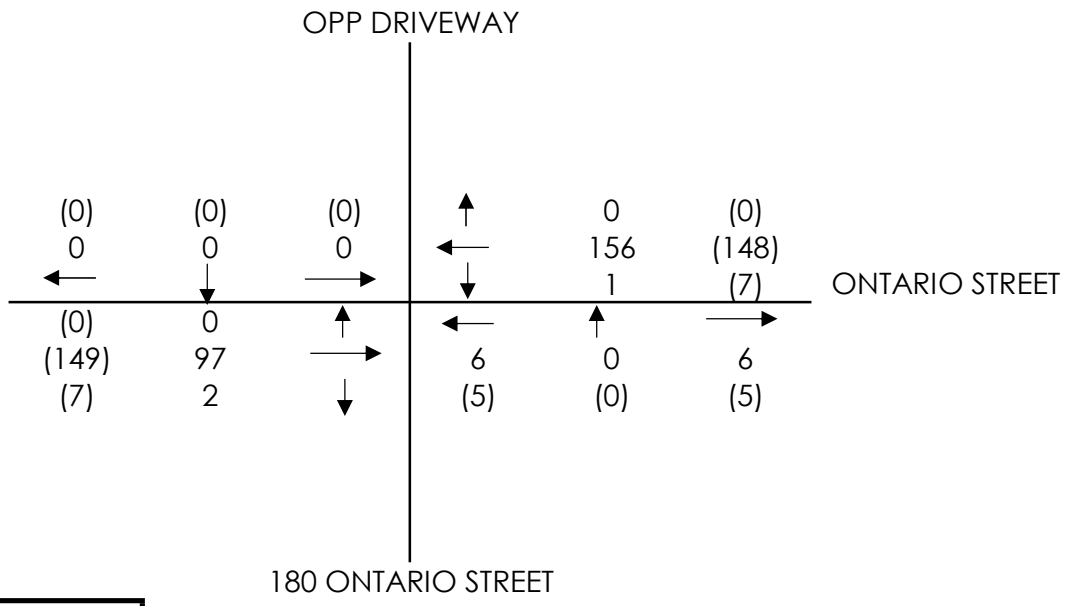

LEGEND

↑ DIRECTION OF MOVEMNT

XX(XX) AM (PM) PEAK HOUR VOLUMES

PROJECT:	**180 ONTARIO STREET, COLLINGWOOD**	DRAWN BY:	**KH**	CROZIER CONSULTING ENGINEERS	Admiral Building, 1 First Street, Suite 200, Collingwood, ON, L9Y 1A1, 705-446-3510 T, 705-446-3520 F, www.cfcrozier.ca, info@cfcrozier.ca
		CHECK BY:	**MF**		
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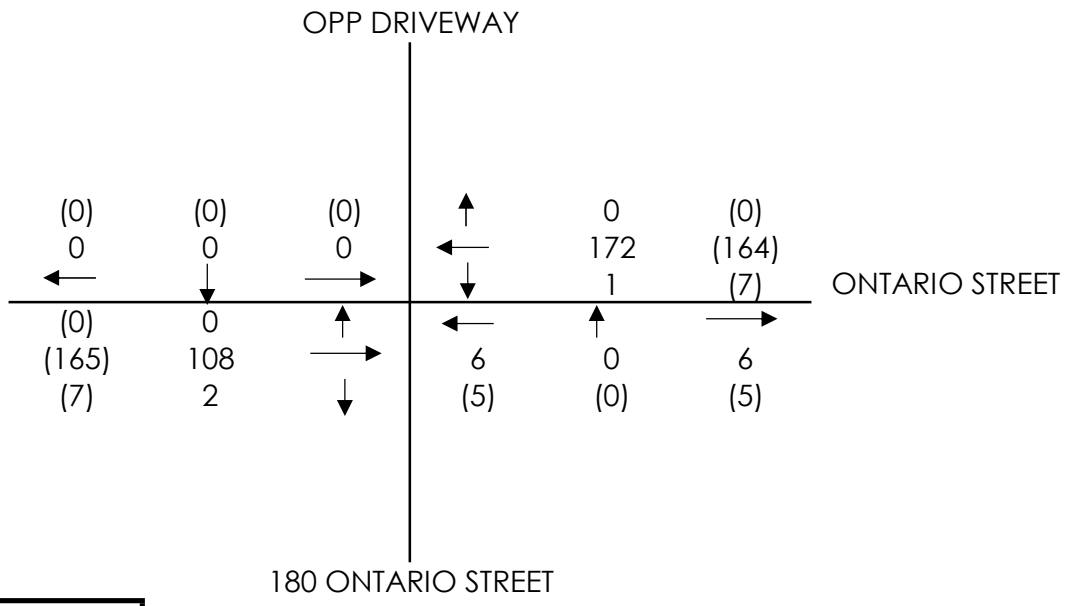
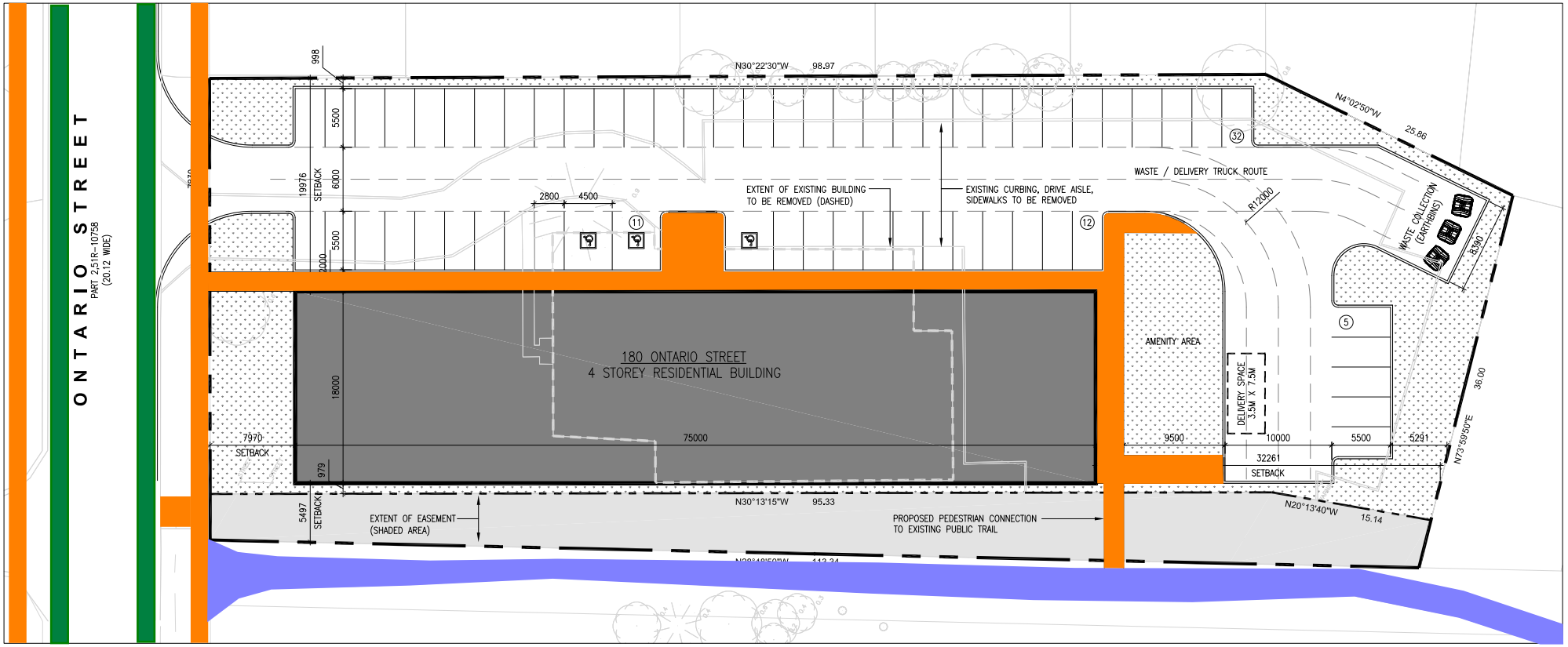


LEGEND

↑ DIRECTION OF MOVEMNT

XX(XX) AM (PM) PEAK HOUR VOLUMES

PROJECT:	**180 ONTARIO STREET, COLLINGWOOD**	DRAWN BY:	**KH**	CROZIER CONSULTING ENGINEERS	Admiral Building, 1 First Street, Suite 200, Collingwood, ON, L9Y 1A1, 705-446-3510 T, 705-446-3520 F, www.cfcrozier.ca, info@cfcrozier.ca
		CHECK BY:	**MF**		
DRAWING:	**2033 FUTURE TOTAL TRAFFIC VOLUMES**	SCALE:	**N.T.S.**		
		PROJECT NO.	**2598-6970**	FIGURE:	**8**



LEGEND

- BIKE LANES
- TRAIN TRAIL
- SIDEWALK

Project

180 ONTARIO STREET

Drawing

PEDESTRIAN AND CYCLING CIRCULATION PLAN

CROZIER CONSULTING ENGINEERS

ADMIRAL BUILDING
1 FIRST STREET, SUITE 200
COLLINGWOOD, ON L9Y 1A1
705 446-3510 T
705 446-3520 F
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Drawn By	Design By	Project
KH	KH	2598-6970

Scale	Date	Check By	Drawing
N.T.S.	2024.02.26	MF	FIG. 9