893 & 911 Lockhart Road

Town of Innisfil

Traffic Brief for

Soheil & Mohamed Fayaz

Type of Document:
Final Report

Project Number:
JDE – 19087

Date Submitted:
May 1st, 2020

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Legal Notification

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1 Introduction

1.1 Background

Soheil & Mohamed Fayaz [The Developer] is proposing a residential development [subject site], municipally known as 893 & 911 Lockhart Road, located on the south side of Lockhart Road, across from Sandy Cove Acres – Main Street, in the Town of Innisfil [Town]. The subject site is anticipated to include 27 single detached residential units.

The proposed development includes two full-movement access intersections onto Lockhart Road [East Access and West Access] which are connected via Street 'A'. The East Access is located directly across from Main Street.

The Developer has retained **JD Northcote Engineering Inc.** [JD Engineering] to prepare this traffic brief in support of the proposed development.

1.2 Study Area

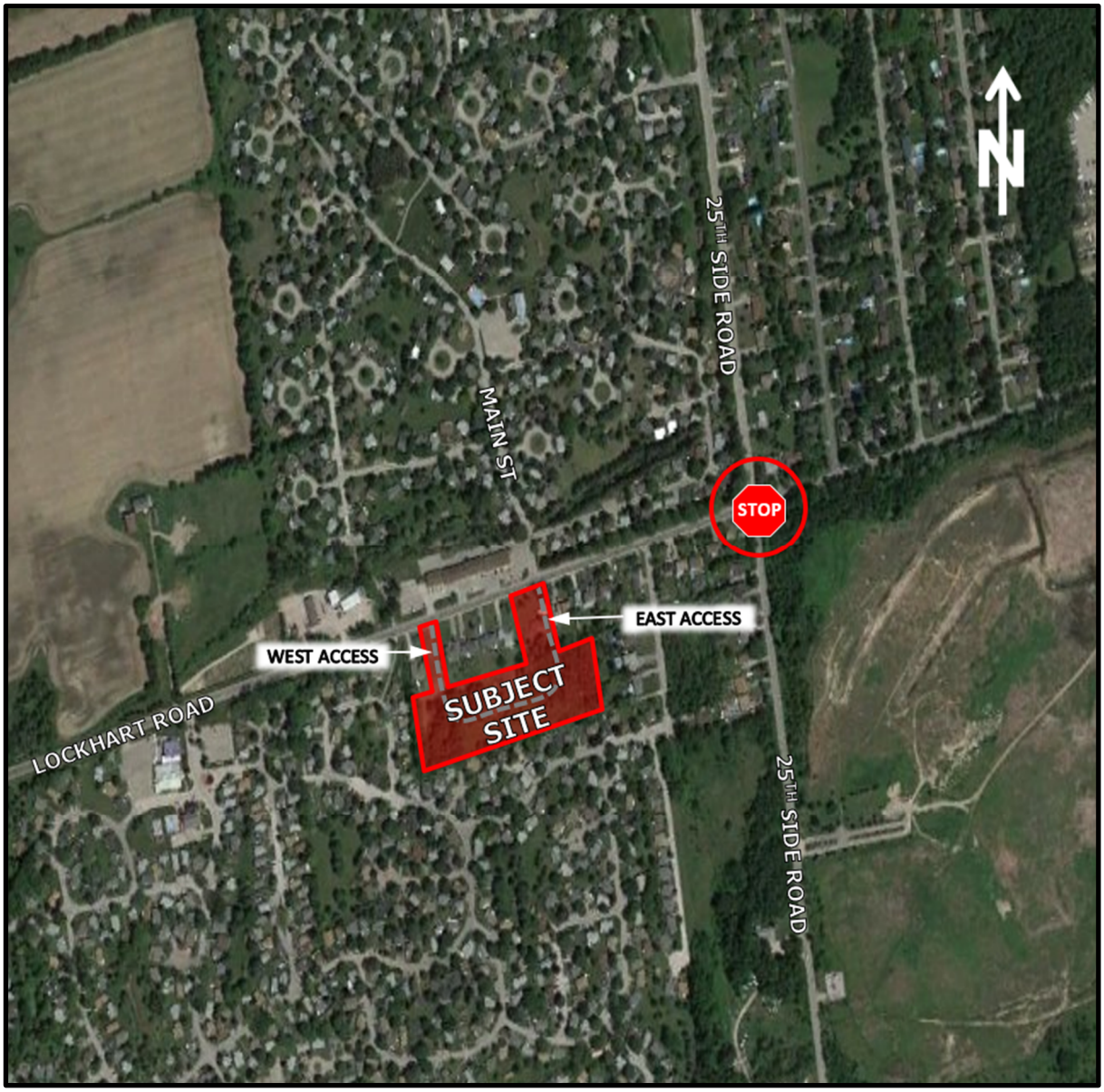
Figure 1 illustrates the location of the subject site and study area intersections in relation to the surrounding area. The Site Plan by John Consulting Group Ltd. is attached in **Appendix A**.

The subject site is bound by Lockhart Road to the north and existing residential lands to the east, west, north and south.

Based on our experience with similar studies, a functional review of the following intersections is included in the Traffic Brief:

- Lockhart Road / East Access; and
- Lockhart Road / West Access.

Figure 1 – Proposed Site Location and Study Area



1.3 Study Scope and Objectives

The purpose of this study is to identify the potential impacts to traffic flow at the site access and on the surrounding roadway network. The study analysis includes the following tasks:

- Consult with the Town to address any traffic-related issues or concerns they have with the proposed development;
- Estimate the amount of traffic that would be generated by the proposed development and assign to the roadway network;
- Provide an assessment of the impact of the additional traffic on the local road network;
- Identify improvement options to address operational deficiencies;

- Calculate lane improvements for the site access based on the Transportation Association of Canada [TAC] and Ontario Ministry of Transportation guidelines;
- Complete a review of traffic operations of the site access;
- Complete a review of the proposed intersection spacing;
- Review the available sight distance at the site access; and
- Document findings and recommendations in a final report.

1.4 Analysis Periods

The weekday morning [AM] and weekday afternoon [PM] peak hours have been selected as the analysis periods for this study.

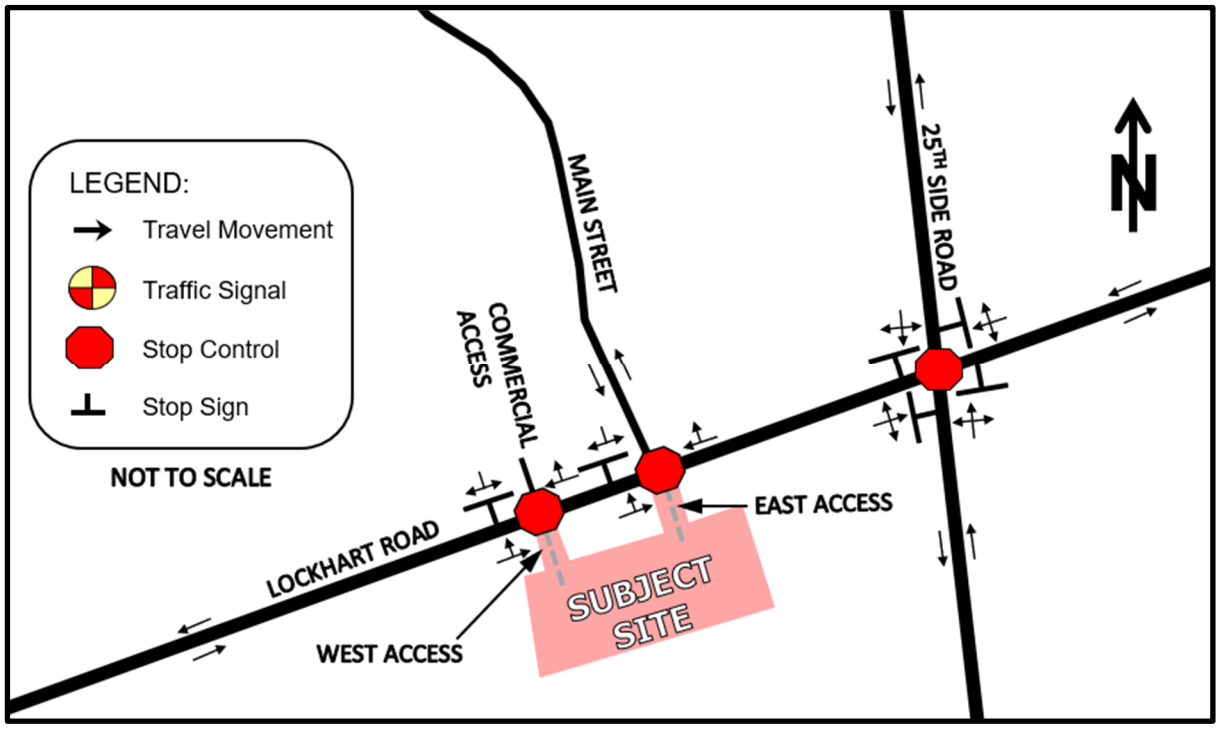
2 Information Gathering

2.1 Street and Intersection Characteristics

Lockhart Road *is* a two-lane major collector road with a rural cross section within the study area. Lockhart Road has a gravel shoulder with no sidewalk on both sides of the road within the study area. Lockhart Road has a posted speed limit of 50km/h and is under the jurisdiction of the Town within the study area.

The existing intersection lane configuration within the study area is illustrated in **Figure 2**.

Figure 2 – Existing (2020) Lane Configuration with in Study Area



2.2 Transit Access

There is no municipal transit service within the study area; however, the Town has partnered with Uber to provide discounted fares within the Town.

2.3 Other Developments within the Study Area

Based on discussions with the Town, there is one adjacent development actively moving through the development process within the study area.

The Innis Village development is located in the southeast corner of the Lockhart Road / 25th Sideroad intersection and is anticipated to consist of 317 single detached houses, 63 townhomes, 202 condominium residential units, 30,000 sq.ft. commercial space, a future development block consisting of 20,000 sq.ft. ground floor commercial and 150 condominium residential units, a community centre, 200 adult lifestyle bungalows and a 9300 sq.ft. medical centre. It is anticipated the ultimate development will be constructed and occupied by 2026.

2.4 Local Transportation Infrastructure Improvements

Based on a review of the Town's May 2018 Transportation Master Plan Update, Lockhart Road is to be reconstructed from 20th Sideroad to Lake Simcoe by 2021. Lockhart Road will remain as a two lane road after reconstruction.

3 Proposed Development Traffic Generation and Assignment

3.1 Traffic Generation

The traffic generation for the proposed development has been based on the Institute of Transportation Engineers [ITE] *Trip Generation Manual* (10th Edition) [ITE Trip Generation Manual]. The following ITE land uses have been applied to estimate the traffic from the proposed development:

- ITE land use 210 (Single-Family Detached Housing) – General Urban / Suburban Setting

The estimated trip generation of the proposed development is illustrated below in **Table 1**. The AM and PM peak traffic generation for the proposed development is not expected to exactly align with the AM and PM peak hour in the traffic counts; consequently, we have applied the peak hour of adjacent street traffic values provided in the ITE Trip Generation Manual.

Table 1 – Estimated Traffic Generation of Proposed Development

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Single-Family Detached Housing ITE Land Use: 210	27 units	6	18	24	18	11	29

No transportation modal split has been applied to the above-noted traffic generation calculation.

3.2 Traffic Assignment

For the purposes of this study, it has been assumed that all traffic generated by the proposed development will be new traffic and would not be in the study area if the development was not constructed.

The distribution of traffic entering at each access location is based on our review of the internal parking and building layout, in conjunction with the external traffic distribution.

The ITE data provides the anticipated percentage of new traffic entering and exiting during the peak hour. The distribution of traffic has been calculated based on the 2016 Transportation Tomorrow Survey [TTS] data for traffic zone 8621, retrieved using the TTS Internet Data Retrieval System [IDRS] (output attached as **Appendix B**) with a slight adjustment to account for the proposed development's location within the community of Innisfil. TTS data provides historical origin and destination work trip percentages for specific areas within the City and southern Ontario.

Traffic distribution for the trips generated by the proposed development during the AM and PM peak hour is expected to generally follow commuter travel patterns. Our analysis is based on egress traffic during the AM peak hour. Logically, the distribution of ingress traffic will follow the inverse of the exiting traffic distribution. For each of the individual areas identified in the TTS data, we have selected the probable route of travel, assuming that people will select their route primarily based on travel time.

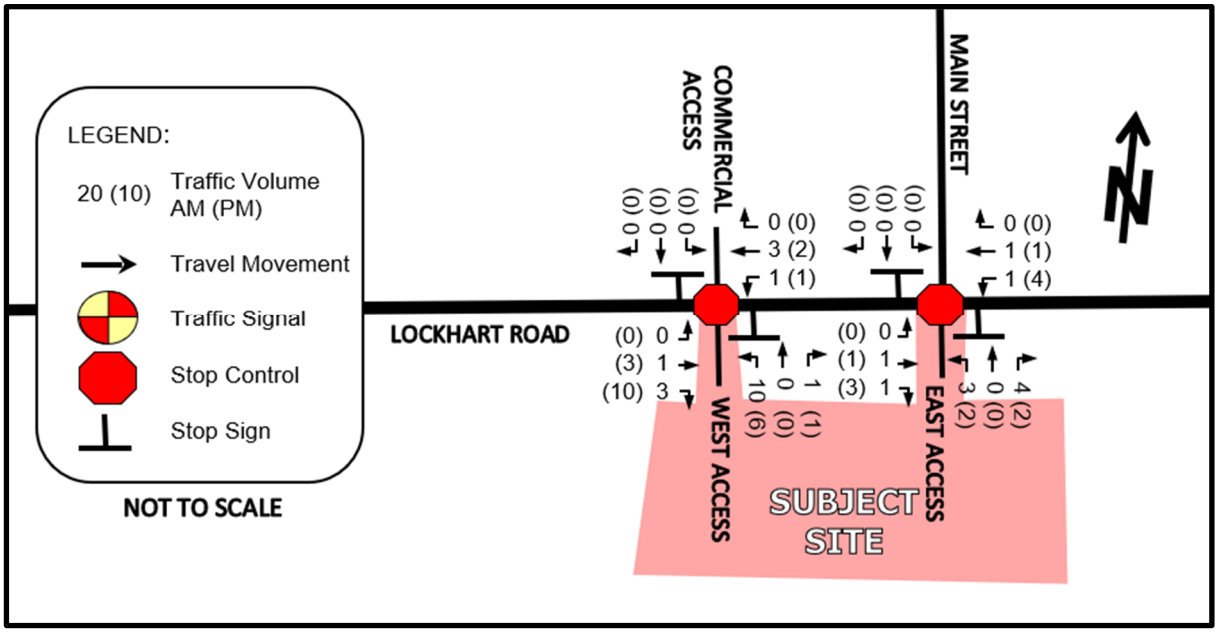
The distribution of trips is illustrated in **Table 2** using the methodology outlined above.

Table 2 – Proposed Development Traffic Distribution

Travel Direction (to / from)	Percentage of Total Traffic Generation
East via Lockhart Road	29%
West via Lockhart Road	71%
TOTAL	**100%**

Using the traffic distribution pattern noted above, the traffic assignment for the proposed development was calculated for the AM and PM peak hour and is illustrated in **Figure 3**.

Figure 3 – Subject Site Traffic Assignment



4 Intersection Operation with Proposed Development

4.1 Traffic Impact Analysis

The proposed development is estimated to generate an additional 24 AM peak hour trips and 29 PM peak hour trips. Based on our review of the existing and projected volume of traffic on Lockhart Road at the Subject Site[1], there is sufficient capacity in the surrounding road network to accommodate the additional traffic generated by the proposed development. No improvements are recommended within the study area as a result of the proposed development.

4.2 Sight Distance Review

A review of the available sight distance for the proposed Site Accesses was completed as part of this analysis.

The sight distance east and west on Lockhart Road at the East Access and West Access is greater than the minimum stopping sight distance requirements as identified in the Transportation Association of Canada *Design Guide for Canadian Roads* (2017) [TAC Guidelines] for a design speed of 60km/h (85 meters).

Consequently, there are no issues with the sight distance available for the proposed East Access and West Access.

[1] Existing and future traffic volume projections on Lockhart Road are based on the Traffic Impact Study for the Innis Village Subdivision by C.C. Tatham & Associates Ltd. (November 2016).

4.3 Site Access

The East Access and West Access will operate efficiently as full-movement intersections, with stop control for the northbound movements. No lane improvements are recommended on Lockhart road at the East Access and West Access. A single northbound and southbound lane at the East Access and West Access will provide the necessary capacity to service the proposed development.

The proposed spacing between the East Access and the West Access (measured centre of intersection to centre of intersection) is significantly greater than the suggested minimum intersection spacing along a collector road as identified in the TAC Guidelines – Section 9.4.2.2 (60 metres).

The proposed spacing between the East Access and the existing residential driveway to the east and west (measured end of radius to end of radius), is in excess of the suggested minimum corner clearance requirements for residential driveways as identified in the TAC Guidelines – Figure 8.9.2 (Driveway Spacing Guidelines – Locals and Collectors) – 2 metres for residential driveways. Similarly, the proposed spacing between the West Access and the existing residential driveway to the east and west (measured end of radius to end of radius), is in excess of the suggested minimum corner clearance requirements for residential driveways as identified in the TAC Guidelines.

The West Access and Commercial Entrance opposite of Lockhart Road are offset by approximately 5.5 meters (measured center to center of road). Based on the close proximity of the proposed development and the existing commercial development, most trips between the two developments are anticipated to be pedestrian or active transportation trips with negligible vehicular through traffic between the two roads. Consequently, there is no operational concern with the offset distance proposed.

4.4 Parking Review

The proposed parking supply for the subject site meets the parking requirements specified in the Town Zoning By-law 080-13. The proposed parking breakdown is provided in **Table 3**.

Table 3 – Parking Statistics

Category	Zoning By-Law Section	Parking Standard	Parking	
			Required	Provided
Single Detached Dwelling	3.35.1.1	2 spaces per unit	34 Spaces	34 spaces

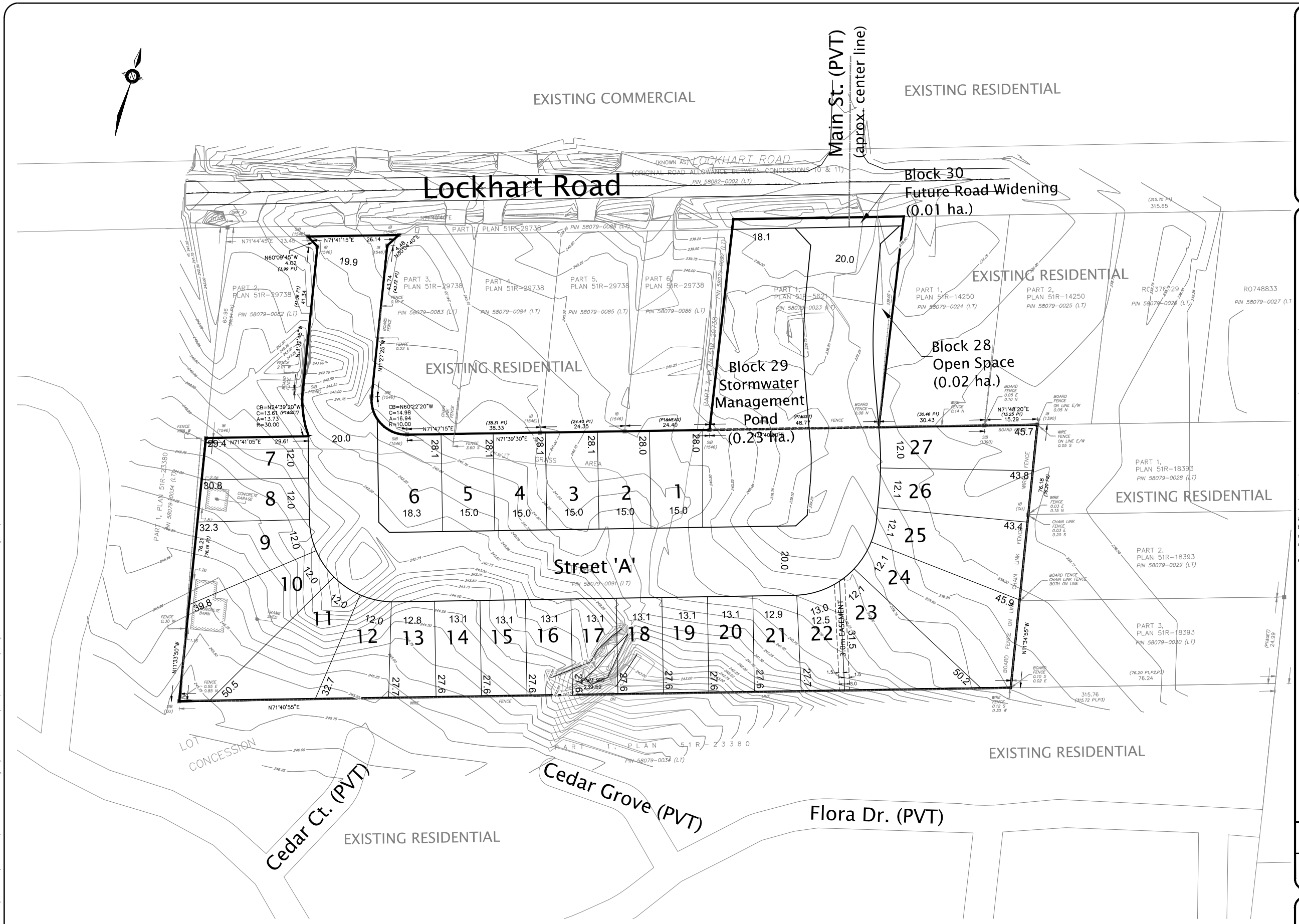
5 Summary

Soheil & Mohamed Fayaz retained **JD Engineering** to prepare this traffic brief in support of the proposed development in the Town of Innisfil. The proposed Site Plan is shown in **Appendix A**. This chapter summarizes the conclusions and recommendations from the study.

The subject site includes 27 residential single detached units.

1. The proposed development is expected to generate a total of 24 AM and 29 PM peak hour trips.
2. An estimate of the amount of traffic that would be generated by the Subject Site was prepared and assigned to the study area streets and intersections.
3. Based on our analysis of the proposed development traffic generation, no improvements are recommended within the study area.
4. The East Access and West Access will operate efficiently as full-movement intersections, with stop control for the northbound movements. No lane improvements are recommended on Lockhart road at the East Access and West Access. A single northbound and southbound lane at the East Access and West Access will provide the necessary capacity to service the proposed development.
5. The sight distance available for the proposed East Access and West Access meet the minimum stopping sight distance requirements.
6. The proposed parking supply for the subject site meets the parking requirements specified in the Town Zoning By-law 080-13.
7. In summary, the proposed development will not cause any operational issues and will not add significant delay or congestion to the local roadway network.

Appendix A – Site Plan



KEY PLAN SCALE 1:25,000

Proposed Draft Plan of Subdivision

Part of Lot 25, Concession 10
Town of Innisfil, County of Simcoe
2020

OWNER'S CERTIFICATE

I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE THE JONES CONSULTING GROUP LTD., TO PREPARE THIS DRAFT PLAN OF SUBDIVISION AND TO SUBMIT SAME TO THE TOWN OF INNISFIL FOR APPROVAL.

DATE OWNER

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE RUDY MAK
ONTARIO LAND SURVEYOR

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

a) SHOWN ON DRAFT PLAN
b) SHOWN ON DRAFT PLAN
c) SHOWN ON KEY PLAN
d) RESIDENTIAL, OPEN SPACE & STORMWATER MANAGEMENT
e) SHOWN ON DRAFT PLAN
f) SHOWN ON DRAFT PLAN
g) SHOWN ON DRAFT PLAN
h) MUNICIPAL PIPED WATER TO BE PROVIDED
i) SANDY/CLAY LOAM
j) SHOWN ON DRAFT PLAN
k) ALL MUNICIPAL SERVICES TO BE PROVIDED
l) SHOWN ON DRAFT PLAN

Residential Zone R2 with Municipal Sewer Services

STATISTICS	AREA (ha.)	UNITS
15.0 m Singles (Lots 1 - 6)	0.26 ha.	6 units
12.0 m Singles (Lots 7 - 27)	1.05 ha.	21 units
Open Space (BLOCK 28)	0.02 ha.	
Stormwater Management (BLOCK 29)	0.23 ha.	
Road Widening (BLOCK 30)	0.01 ha.	
Road (Street 'A')	0.65 ha.	
TOTAL	2.22 ha.	27 units

20 0 20 40 60 80 100m
SCALE = 1:1000

FAYAZ - 893 & 911 LOCKHART ROAD
BARRIE, ONTARIO
DRAFT PLAN OF SUBDIVISION

Raymond J. Dubanel REGISTERED PROFESSIONAL PLANNER R.P.P.

Date Issued:	APRIL 9, 2020
Checked By:	RD
Project No.:	FAY-19035
Drawn By:	m.c.r.
Drawing Name:	FAY-19035-DP-1.dwg

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FAYAZ

893 & 911 LOCKHART ROAD
TOWN OF INNISFIL, ONTARIO

SCHEDULE OF REVISIONS

DATE	DESCRIPTION	DRAWN

Appendix B –
Transportation Tomorrow Survey Excerpts

datamanagementgroup

Hello John Northcote

Database Index | DMG | TTS | CCP | Contact | Logout

TTS Cross Tabulation

Cross Tabulation Query Form - Trip - 2016 v1.1

Filter Variables

2006 GTA zone of desti... × | 2006 GTA zone of hous... × | (Optional) Table Attribute

Group Attributes

Row Grouping | Column Grouping | Table Grouping

Grouping file: Choose File No file chosen

Filter Selection +

☑	2006 GTA zone of household	In	8621
	And		
☑	Start time of trip	In	700-900
	And		
☑	Trip purpose of destination	In	w,r

Add | Delete

Output

◉ Comma-delimited table ○ Column format | Expansion Factor On | Click to Select Load | Load

Execute Query | Select All | Save As

```
Mon Apr 27 2020 11:22:15 GMT-0400 (Eastern Daylight Time) - Run Time: 2379ms

Cross Tabulation Query Form - Trip - 2016 v1.1

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


Filters:
(2006 GTA zone of household - gta06_hhld In 8621
and
Start time of trip - start_time In 700-900
and
Trip purpose of destination - purp_dest In w,r)

Trip 2016
Table:

,8621
2031,33
2757,24
3651,33
3701,9
8509,17
8516,36
8521,17
8527,55
8595,63
8627,16
```