

# AUDREY MEADOWS PROPOSED DEVELOPMENT

## PART OF LOTS 17, 18, & 19 CONCESSION 8 TOWNSHIP OF PUSLINCH TRAFFIC IMPACT BRIEF

JUNE, 2021



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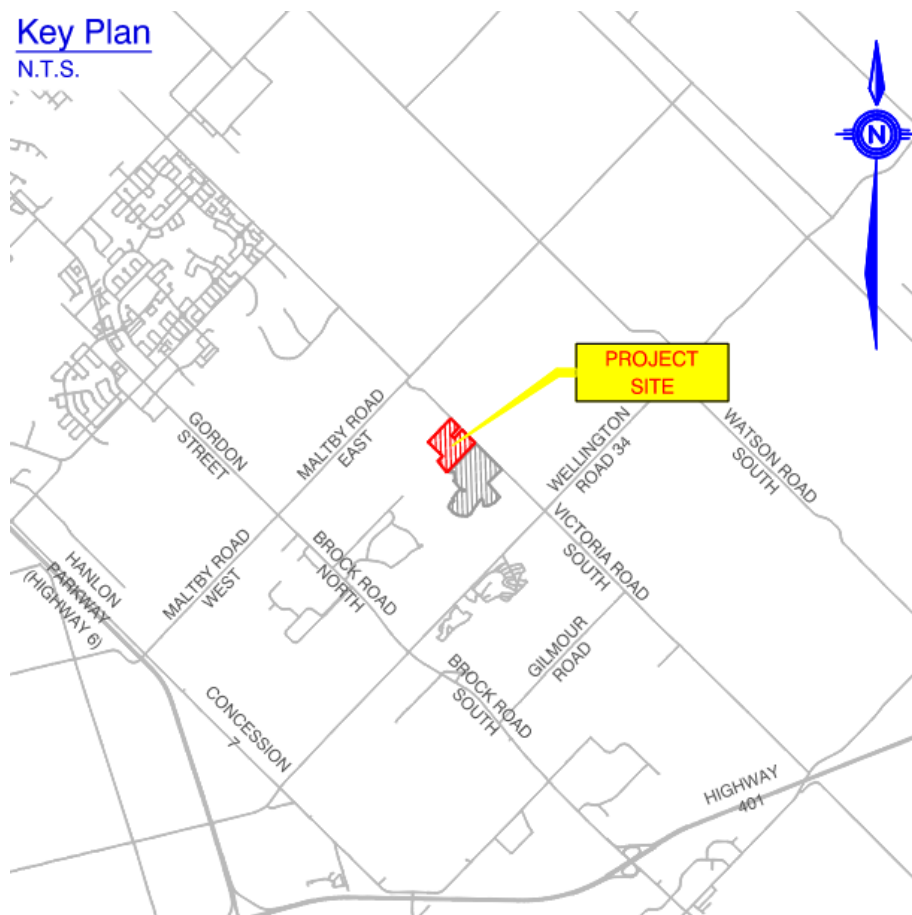
## 1.0 INTRODUCTION

Audrey Meadows Ltd. retained Triton Engineering Services Limited to undertake a traffic impact brief for a proposed residential development on Part Lots 17, 18, and 19, Concession 8, in the Township of Puslinch, Ontario. The purpose of the study is to address the impact of this development on the adjacent road system, make recommendations with respect to access, and to determine what road and intersection improvements may be required.

## 2.0 EXISTING CONDITIONS

### 2.1 Road Network

The proposed site is located on Part Lots 17, 18, and 19, Concession 8, in the Township of Puslinch, with an entrance on Victoria Road South approximately 1.2km north of the intersection with Wellington Road 34. The location of the proposed site is shown on the Key Plan below.



Key Plan

Victoria Road South is a rural north-south arterial road with one lane in each direction and gravel shoulders. Wellington Road 34 is a rural east-west arterial road with one lane in each direction and gravel shoulders. The intersection is signalized with a right-turn taper on the east approach of Wellington Road 34. The posted speed limit for Victoria Road South is 70km/h and for Wellington Road 34 is 80km/h.

## **2.2 Adjacent Land Use**

The surrounding area of the site is a mixture of agricultural, rural residential, open space, and natural environment. There is agricultural land directly across Victoria Road, a rural residential subdivision abutting to the south, and natural environment to the north and west of the site. The site envelops an existing single-family dwelling with separated garage with an entrance onto Victoria Road South.

## **2.3 Existing Property**

The existing property is an agricultural field surrounded by forest on the north and west sides. The existing field entrance is approximately 1.3km north of the intersection of Victoria Road South and Wellington Road 34.

## **3.0 PROPOSED DEVELOPMENT**

A preliminary concept location plan is enclosed in Appendix A.

The proposed development consists of 25 to 30 single-family dwellings. The concept plan has not been finalized, but the 30 houses represent the maximum number of units that is expected for this development. As such, this report will provide a conservative analysis of the impact this development will have on the adjacent road network. The entrance is proposed to access Victoria Road South approximately 1.2km north of the intersection with Wellington Road 34.

## **4.0 EXISTING TRAFFIC**

Existing 2019 traffic volumes were acquired from a County of Wellington counting station located on Victoria Road between Wellington Road 34 and Maltby Road. Intersection counts were not obtained for the purpose of this preliminary assessment, as traffic volumes have been impacted by the ongoing Covid-19 pandemic restrictions. A conservative growth rate of 2% was applied to the AADT to determine a theoretical 2021 traffic volume due to other developments in the area. To estimate the peak hour traffic volume, a factor of 0.1 was applied to the AADT. The traffic volumes are summarized in Table 1 below.

**Table 1: Existing Traffic Volumes**

2019 AADT	2021 AADT	Peak Hour Volume
5,666 veh/day	5,895 veh/day	590 veh/hour

## 5.0 SITE GENERATED TRAFFIC

### 5.1 General

Trip generation is forecast for future developments from studies of similar developments. The *Institute of Transportation Engineers (ITE) Trip Generation Manual, 8<sup>th</sup> Edition* was used in this analysis. Trips generated from residential single-family detaching housing land use are considered primary trips.

### 5.2 Trip Generation

The ITE Code and the calculated number of trips generated by the 30 single-family dwelling units are shown in Table 2 below.

**Table 2: Trip Generation Codes and Distribution**

Land Use	ITE Code	Description	Trips Generated per Unit					
			Weekday AM			Weekday PM		
			Total	Entering	Exiting	Total	Entering	Exiting
Residential	210	Single-Family Detached Housing	31	8	23	36	23	13

The 36 vehicles generated by this development during the PM Peak Hour represents a 6.1% increase in peak hour traffic volumes and would have a negligible impact on the adjacent road capacity or level of service.

The forecast site traffic is not sufficient to warrant intersection improvements, and an acceptable level of service is anticipated with stop control on the new entrance. A detailed Level of Service Calculation will be provided when traffic counts are obtained following the lifting of Covid 19 restrictions.

## 6.0 ENTRANCE LOCATION

Minimum stopping sight distances for various road grades and design speeds are provided in Table 2.5.3 in the TAC *Geometric Design Guide for Canadian Roads*. Victoria Road South's design speed is 90km/h, as the design speed is set as 20km/h above posted speed. The approximate sight distances at the entrance are compared to the minimum provided by TAC in Table 3 below.

**Table 3: Entrance Sight Distance Comparison**

Direction	Grade	Minimum Stopping Sight Distance (m)	Approximate Sight Distance at Entrance (m)
North	6%	174	215
South	3%	148	200

The sightlines in both directions at the proposed entrance location are greater than the minimum required.

The proposed development entrance offset distance of 200m to the existing adjacent residential subdivision to the south is acceptable. No improvements to the existing road network are required to accommodate the development.

## **7.0 CONCLUSIONS AND RECOMMENDATIONS**

- The proposed development is expected to be accommodated on the existing road network with no significant adverse effects on the existing or future operating conditions;
- Detailed Level of Service calculations will be provided once updated representative traffic counts can be obtained;
- Sightlines are acceptable for the proposed entrance location;
- No improvements are required on the existing road network to accommodate the development.

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## APPENDIX A – PRELIMINARY CONCEPT LOCATION PLAN

