Stantec

Memo

To:	Greg Romanick Stantec	From:	Arash Mirhoseini Stantec
File:	161413217	Date:	June 7, 2024

Reference: Proposed Residential Development on Gerber Road, Wellesley | Transportation Impact Study Addendum
Review of Updated REVISED Draft Plan of Subdivision and Assessment of Sight Distance Requirements at the Proposed Access to Gerber Road

1 INTRODUCTION

Stantec Consulting Ltd. was retained by Strohvest Ontario Inc. to conduct a Transportation Impact Study ("TIS") for a proposed residential development located north of Gerber Road and west of Lawrence Street in the Township of Wellesley, Region of Waterloo, Ontario. The study aimed to support the approval of a Draft Plan of Subdivision application from both the Region of Waterloo and the Township of Wellesley. The Transportation Impact Study for this project was completed by Stantec and submitted on March 30, 2023.

During the assessment of the TIS, it was determined that the available sight distance along Gerber Road for the proposed site access would not meet the necessary requirements, thus raising safety concerns. To address this issue, a REVISED Draft Plan of Subdivision has been developed. In this memorandum, we will review the changes in land use statistics and sight distance for the revised access to Gerber Road in the updated REVISED Draft Plan of Subdivision to assess the impacts of the proposed modifications. The site location, and the original, and updated Draft Plan of Subdivision designs are depicted in **Figure 1**, **Figure 2**, and **Figure 3**, respectively.

Figure 1: Site Location

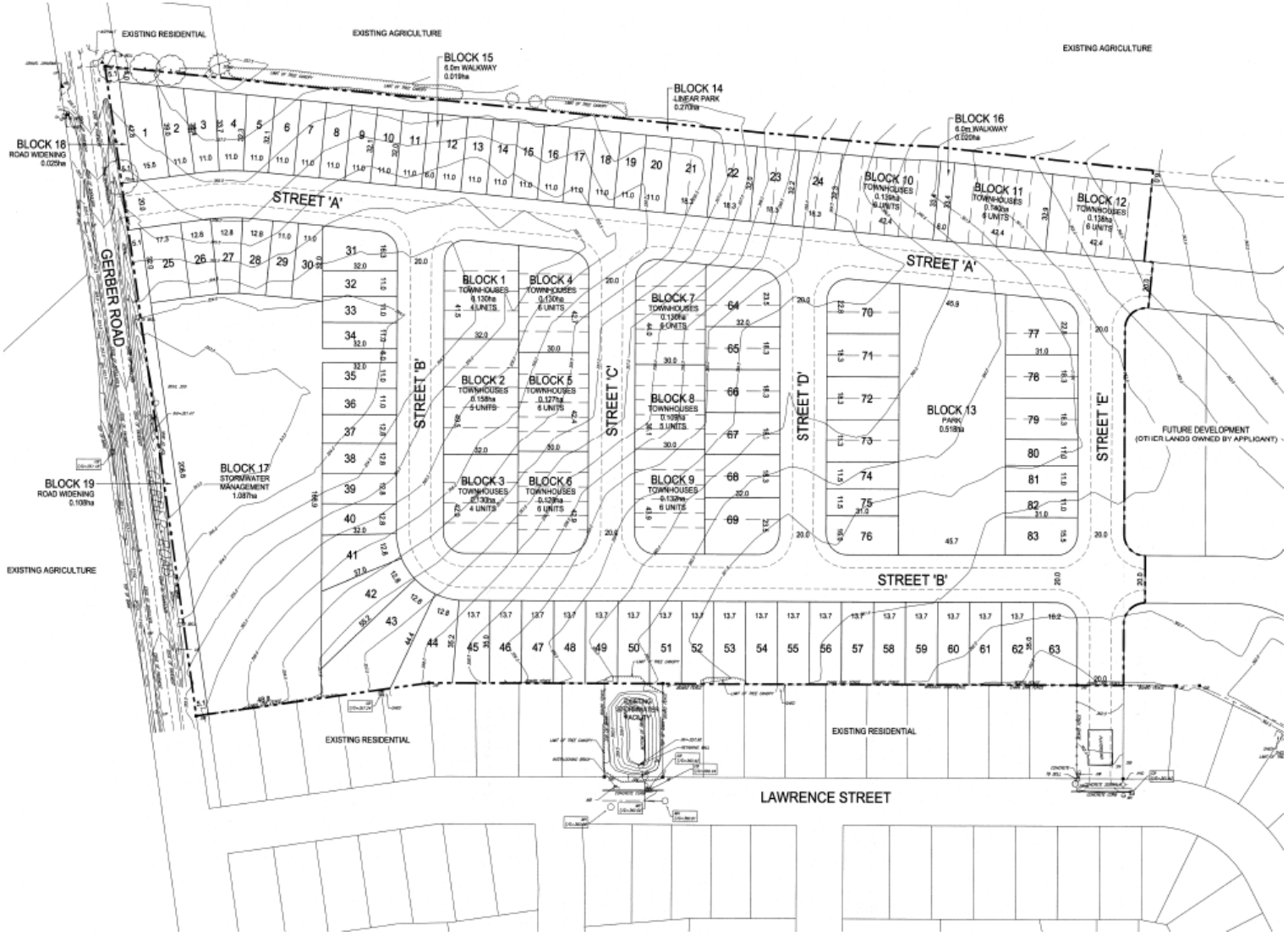

Figure 2: Original Proposed Draft Plan of Subdivision

Reference: **Proposed Residential Development on Gerber Road, Wellesley | Transportation Impact Study Addendum**

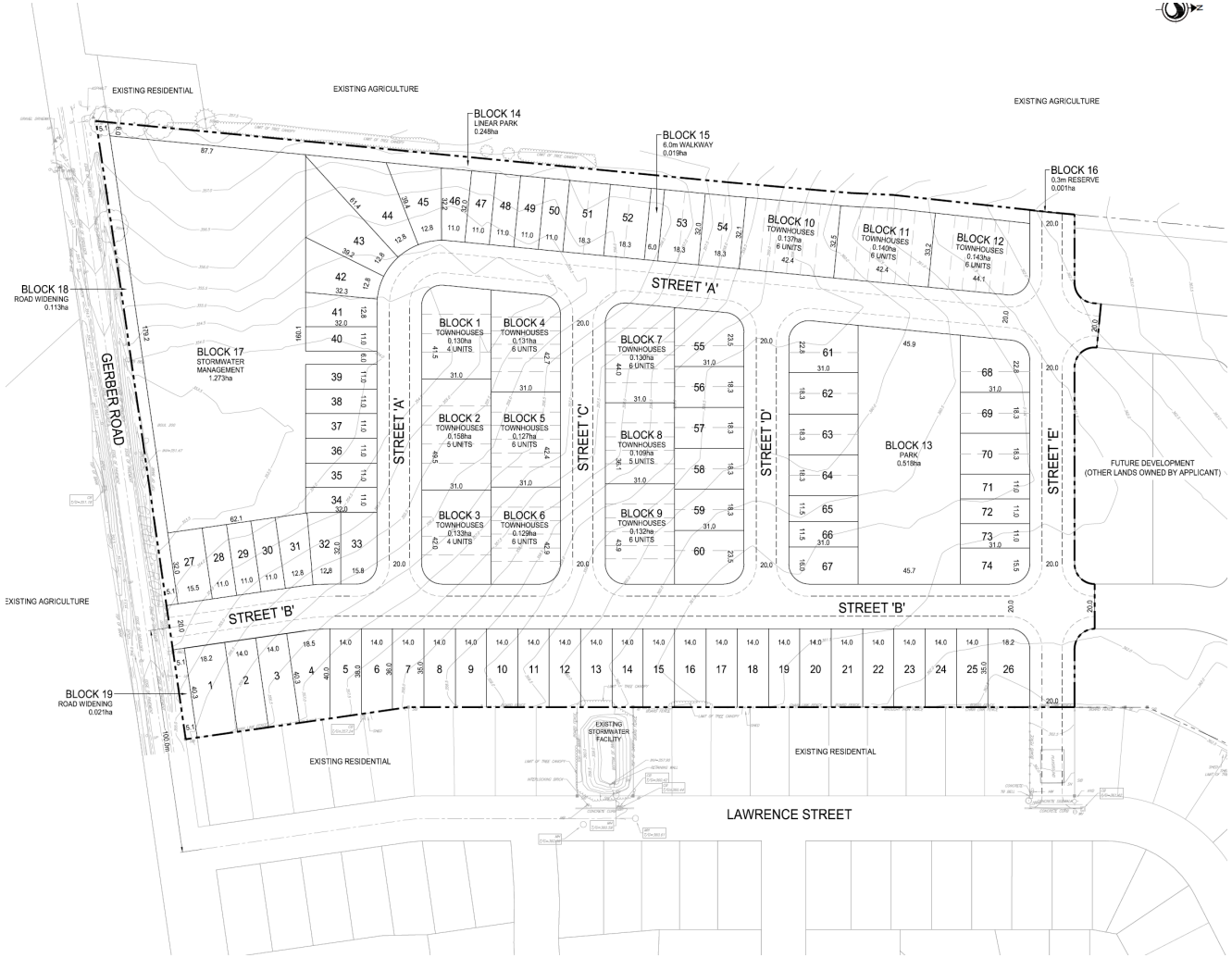

Figure 3: Updated REVISED Draft Plan of Subdivision

2 PROPOSED DEVELOPMENT

The proposed development consists of 157-169 residential units, comprising 57 single detached, 34 semi-detached, and either 66 townhouses, or, 54 townhouses and 24 apartment units. The proposed accesses onto Gerber Road and Lawrence Street will serve as both ingress and egress points for the development. A comparison of the latest plan's proposed land use to the land use data used in the submitted TIS report is presented in **Table 1**. As indicated in this table, the number of proposed residential dwelling units has remained the almost the same as it changed from 166 units in the previous Draft Plan of Subdivision to between 157 and 169 units in the updated REVISED Draft Plan of Subdivision. The changes in the trip generation are expected to be minor and will not impact the results presented in the TIS.

Table 1: REVISED Draft Plan of Subdivision Land Use Statistics Comparison

Land Use Quantity	Residential			
	single detached	semi detached	Townhouses/apartments	Total
Submitted TIS	66	34	66	166
Revised Plan	57	34	66 – 78	157 or 169
Difference	**-9**	**0**	**0 - +12**	**-9 or +3**

3 REVIEW OF PROPOSED ACCESS TO GERBER ROAD

In response to the concerns regarding the available sight distance for the proposed site access on Gerber Road, the REVISED Draft Plan of Subdivision has relocated the access from Street A in the previous plan to Street B in the REVISED Draft Plan of Subdivision. **Figure 4** illustrates the modifications made to this access point. The Street B access to Gerber Road is located 100 meters west of Lawrence Street and approximately 170 meters east of the previously proposed access of Street A with Gerber Road.

Figure 4: Comparison of Site Access to Gerber Road

Based on TAC Geometric Design Guide for Canadian Roads (TAC) Section 9.9.2.3, the applicable cases are as follow:

• Case B1 – Left turn from the minor road

• Case B2 – Right turn from the minor road

• Case F – Left turns from the major road

Intersection sight distance is calculated using equation 9.9.1 from the TAC Geometric Design Guide for Canadian Roads as outlined below:

*ISD = 0.278 * V major * tg*

Where:
ISD = Intersection Sight Distance
V major = design speed of roadway (km/h)
tg = assumed time gap for vehicles to turn from stop onto roadway (s)

The calculated and design sight distances are further summarized in Tables 9.9.4 and 9.9.12 of the TAC for vehicles turning left from a stop or turning left from the major road, respectively.

Table 2 provides a summary of the intersection sight distance requirements for each applicable case. It is important to highlight that, as per Township recommendation, a design speed of 80 km/h was used for evaluating sight distance at the intersection of proposed site access and Gerber Road.

Table 2: Intersection Sight Distance Summary

Intersection	Case	Design Speed (km/h)	Stopping Sight Distance (m)	Required Intersection Sight Distance (m)	TAC Reference
proposed site access (Street B) and Gerber Road Intersection	B1	80	130	170	Table 9.9.4
	B2	80	130	145	Table 9.9.6
	F	80	130	125	Table 9.9.12

The Street View imagery from these perspectives is shown in **Figure 5** and **Figure 6**. Due to concerns about available sight distance for left-turning vehicles (Case B1), a sight distance survey was conducted on May 31st, 2024. The results showed that the available sight distance is 290 meters, which is considerably longer than the required distance. The survey results and selected photos are attached to this document.

Reference: **Proposed Residential Development on Gerber Road, Wellesley | Transportation Impact Study Addendum**

Figure 5: Street View along Gerber Road Looking West from Proposed Street B Location

Figure 6:Street View along Gerber Road Looking East from Proposed Street B Location

Reference: **Proposed Residential Development on Gerber Road, Wellesley | Transportation Impact Study Addendum**

4 CONCLUSIONS

Based on the discussions above, it can be concluded that the sight distance concerns have been addressed and mitigated in the updated REVISED Draft Plan of Subdivision. Additionally, due to the slight change in the number of residential units in the updated REVISED Draft Plan of Subdivision, the traffic results submitted in the TIS remain valid. Therefore, the impacts presented in that TIS are not subject to any changes.

Stantec Consulting Ltd.

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Attachment: Sight Distance Survey results and Selected Photographs

c. NA

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PAGE: 1 OF 1
PARTY CHIEF: SS
CREW: RB
WEATHER: +24 CLEAR

PROJECT #: 161413217 TASK: 801 DATE: MAY 31/24

LOT: _____ CONCESSION: _____ TOWNSHIP: _____ ADDRESS: _____

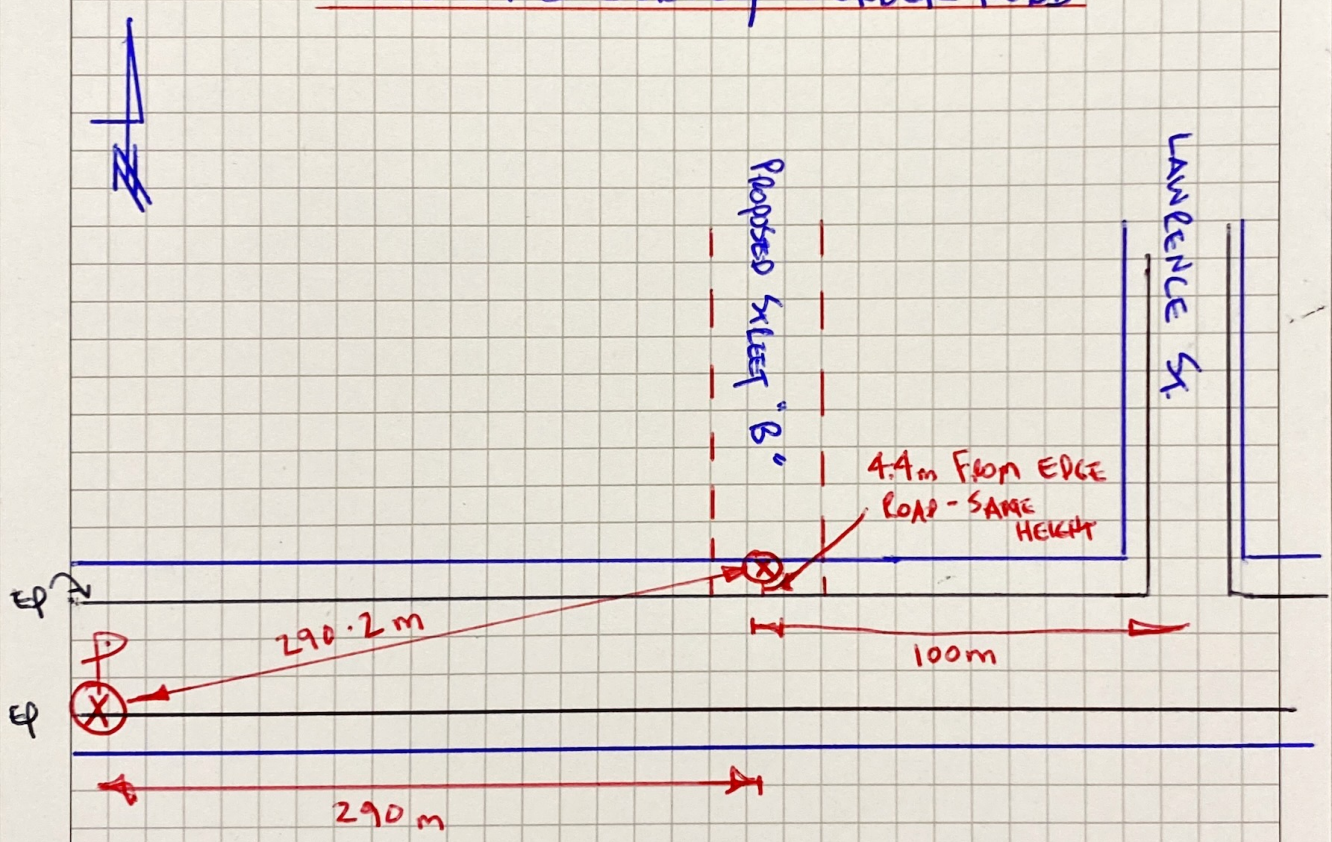
LOT/BLOCK: _____ REG PLAN: _____ PART: _____ REF. PLAN: _____ PIN: _____

FILE NAME: _____ EQUIPMENT: MANUAL
(DATA COLLECTOR)

REF. FRAME: LOCAL / NAD83 ORIG / NAD83 CSRS UTM / MTM 1997.0 / 2010.0 SCALE FACTOR: _____

STATION	B.S.	H.I.	I.S.	F.S.	ELEV	CUT	REMARKS

SITE LINE SURVEY GERBER ROAD



TASK WAS COMPLETED FOLLOWING TAC 2017 GUIDELINES

PPP POINT #	H.I.	NORTH	EAST	ELEV	START	END
PPP POINT #	H.I.	NORTH	EAST	ELEV	START	END

NOTE: REWARD IF RETURNED TO STANTEC GEOMATICS