

16 August 2022
Project: 220037

Candra Staffen
Staffen Family Holdings
St. Marys Golf Course
769 Queen Street East
St. Marys ON N4X1G2

RE: TRANSPORTATION STUDY – RESIDENTIAL DEVELOPMENT 769 QUEEN STREET EAST, ST. MARYS ON

Staffen Family Holdings retained Paradigm Transportation Solutions Limited (Paradigm) to conduct this Transportation Study for a proposed residential development located at 769 Queen Street East in St. Marys, ON. **Figure 1** illustrates the subject location.

Purpose and Scope

The purpose of this letter is to identify and assess the subject sites proposed driveway connection to Queen Street East to ensure compliance with review agency requirements and applicable industry guidelines. The scope included determining sight distance requirements based on field measurements for the following movements:

- ▶ Sight-stopping distance for eastbound traffic on Queen Street East; and
- ▶ Turning sight distance from traffic exiting proposed driveway.

Appendix A contains the pre-study consultation with the Town of St. Marys.

Existing Conditions

Queen Street East is an east-west two-lane arterial¹ roadway with a posted speed limit of 50 kilometres per hour. The roadway is relatively straight with a vertical gradient that slopes downwards from west to east at the proposed subject site location.

¹ Town of St. Marys Official Plan Schedule 'B' Road Classifications

Development Concept

Development Description

The property owner is proposing to construct two short-term rental buildings, totalling 21 units, in a currently vacant corner on the St. Marys Golf Course lands. Vehicle access is proposed via a new all-moves driveway connection to Queen Street East. The driveway will be located approximately 125 metres east of Cain Street (centre line to centre line) and 40 metres west of Birch Drive (centre line to centre line).

Figure 2 shows the proposed site plan.

Sight Distance

Queen Street East has a posted speed limit of 50 kilometres per hour. It is industry standard practice to design at 10 kilometres per hour over the posted speed limit. Using a design speed of 60km/h the following sight distance requirements are noted:

- ▶ Minimum stopping sight distance – 85 metres²; and
- ▶ Intersection sight distance:
 - Left-turn from stop – 130 metres³;
 - Right-turn from stop – 110 metres⁴.

Field measurements from the proposed driveway location used the object height domain of 0.38 metres (vehicle tail/brake lights), 1.05 metres (typical height of driver's eye), and 1.30 metres (typical top of passenger car).

Stopping Sight Distance

The minimum stopping sight distance from eastbound vehicles on Queen Street East is 85 metres. The field measurements indicate a stopping sight distance of 165 metres. The stopping sight distance for eastbound drivers meets the minimum requirement for a design speed of 60 kilometres per hour.

Figure 3 shows a field picture of the available sight distance.

Intersection Sight Distance – Left-Turn from Stop

The minimum distance for left turn from a stop condition is 130 metres. The field measurements indicate a left turn from stop distance of 183 metres. The available sight

² TAC Table 2.5.2. Stopping Sight Distance on level roadways for Automobiles

³ TAC Table 9.9.4. Design Intersection Sight Distance – Case B1, Left-Turn from Stop

⁴ TAC Table 9.9.6. Design Intersection Sight Distance – Case B2, Right-Turn from Stop



distance from a vehicle at a stop condition turning left from the proposed driveway meets the minimum requirement for a design speed of 60 kilometers per hour.

Figure 4 shows a field picture of the available sight distance.

Intersection Sight Distance – Right-Turn from Stop

The minimum distance for right-turns from is 110 metres. With the vertical gradient to the east dropping from the driveway location, the available sight distance (greater than 350 metres) exceeds the minimum requirement for a design speed of 60 kilometres per hour.

Figure 5 shows a field picture of the available sight distance.

Visibility Triangle

A visibility triangle is triangular-shaped area of land abutting a driveway that is required to be either kept free of obstructions or vegetation kept to a height below driver’s eye (approximately 0.5 metres) that could impede the vision of a pedestrian or the driver of a motor vehicle exiting or driving on the driveway. Visibility triangles for private driveways are typically 3 x 3 metres to 5 x 5 metres.

There is a large ornamental town sign located to the west of the proposed driveway. As shown in **Figure 4**, with a vehicle stopped 5 metres back from the edge of pavement, the town sign will not be obstructing sight distances from vehicles attempting to turn onto the roadway.

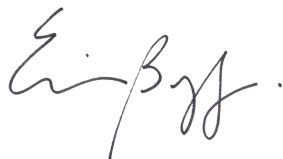
Conclusions

This study evaluates the impacts of available sight distance to/from the proposed subject site driveway to Queen Street East. Field measurements indicate that the Transportation Association of Canada (TAC) minimum stopping sight distance and intersection sight distances will be met. Sight distances should not be a concern for the proposed driveway location.

We trust that this letter sufficiently outlines the proposed development and its impacts on the surrounding road network.

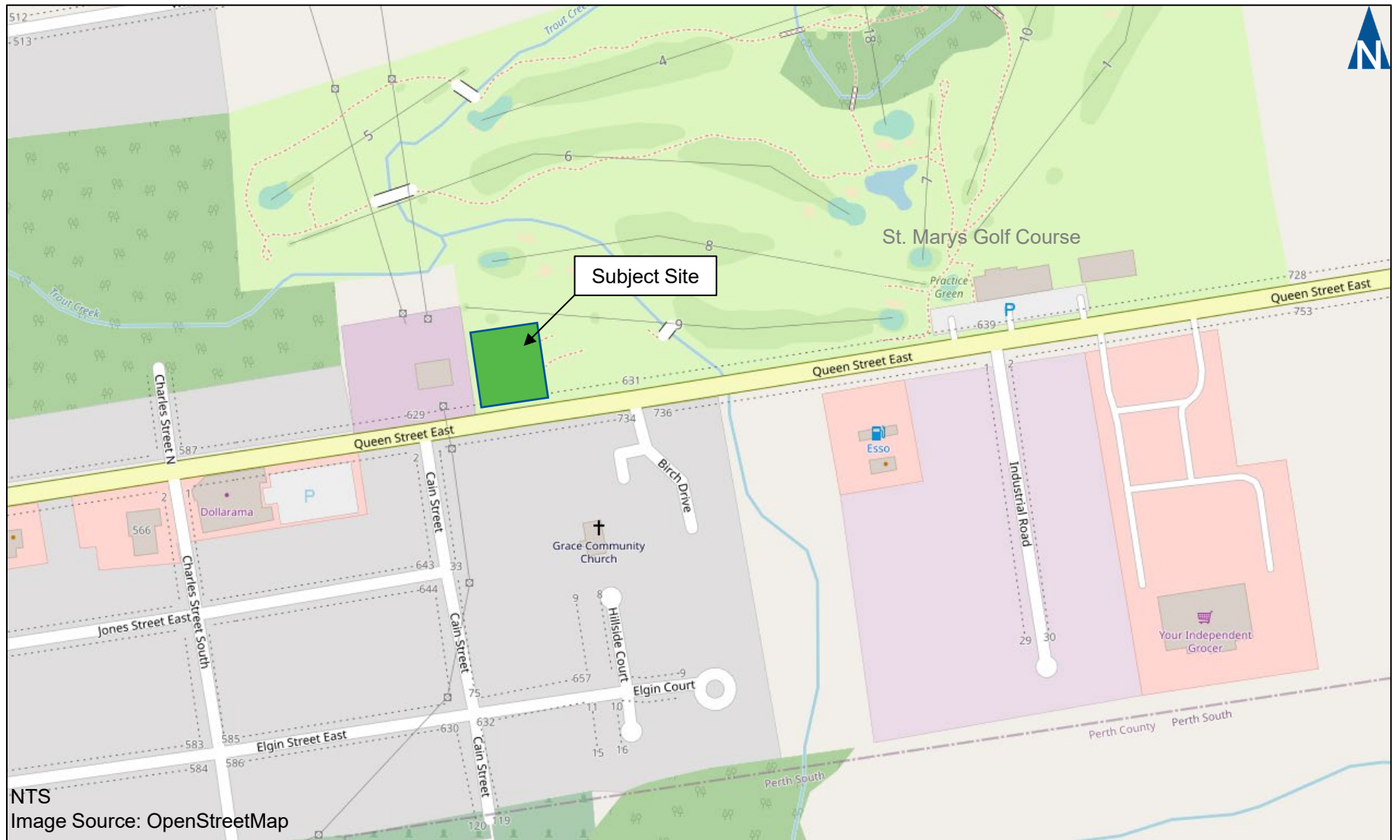
Yours very truly,

PARADIGM TRANSPORTATION SOLUTIONS LIMITED



Erica Bayley
P.Eng.
Senior Project Manager, Associate





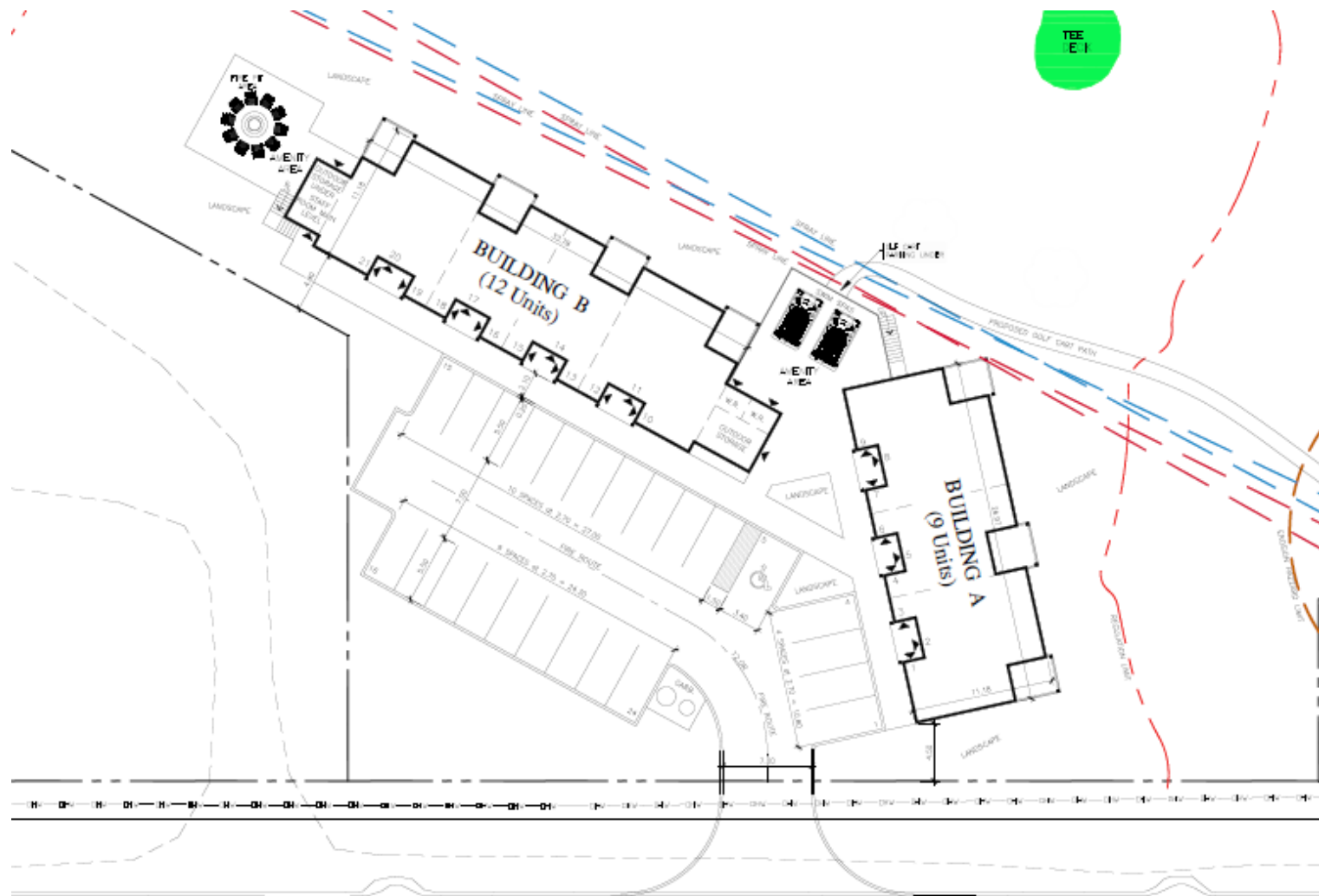
NTS
Image Source: OpenStreetMap



Site Location

769 Queen Street East, St. Mary's ACR
220037

Figure 1







**Intersection Sight Distance
Left-Turn From Stop
(Looking West)**



**Intersection Sight Distance
Right-Turn from Stop
(Looking East)**

ATTACHMENT A

Pre-Study Consultation



From: [Grant Brouwer](#)
To: [Andrew Evans](#)
Cc: [Erica Bayley](#); [Morgan Dykstra](#)
Subject: RE: (220037) 769 Queen Street, St. Mary's - Scope of Work
Date: May 5, 2022 1:15:52 PM
Attachments: [image001.png](#)
[image002.png](#)

Hi Andrew,

Thank you for touching base with us. The work that you identified is consistent with what we asked the applicant for.

Tks gb

Grant Brouwer, CBCO
Director of Building and Development (CBO)
Building and Development
Town of St. Marys – Municipal Operation Centre
408 James St, South. P.O. Box 998, St. Marys, ON
Phone: 519-284-2340, ext. 215
Cell: 519-521-0577



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From: Andrew Evans <aevans@ptsl.com>
Sent: May 5, 2022 10:08 AM
To: Grant Brouwer <gbrouwer@town.stmarys.on.ca>
Cc: Erica Bayley <ebayley@ptsl.com>
Subject: (220037) 769 Queen Street, St. Mary's - Scope of Work

Caution: This is an external email. Please take care when clicking links or opening attachments.
When in doubt, contact your IT Department

Greetings,

Paradigm has been retained to undertake transportation engineering services for a

residential development located at 769 Queen Street East in the Town of St Mary's. Below is our scope of work for your review and comments.

The property owner is proposing to construct two short-term rental buildings, totaling 18 units, in a currently vacant parcel on the St. Mary's Golf Course lands. Vehicle access is proposed via a new all-moves driveway connection to Queen Street.

We will prepare an Access and Circulation Review (ACR) to ensure compliance of the proposed development plan with the Town's requirements and applicable industry guidelines. Our scope of work will consist of:

1. Determine sight distance requirements following applicable review agency and industry guidelines and assess compliance based on field measurements, specific to:
 - a. Sight-stopping distance for traffic in the eastbound lane on Queen Street; and
 - b. Turning sight distance from vehicles exiting site driveway with special concern noted for the existing Town sign.

If the available sight distance does not meet the minimum requirement, mitigating measures will be identified.

Please let us know if you have any questions or concerns.

Thank you and regards.

Andrew Evans, M.Sc.

Transportation Planner



Paradigm Transportation Solutions Limited

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