**PROJECT NO: 332-4581**
**NOVEMBER 1, 2019**

**SENT VIA: EMAIL:**
**C/O MAXHAHNE@ME.COM**

Planning and Development Services
Town of the Blue Mountains

**Attention:** **Ms. Denise Whaley, MSc MCIP RPP**
**Planner**

**RE:** **TRAFFIC OPINION LETTER**
**ABBOTT'S RESIDENTAL DEVELOPMENT**
**LANSDOWNE STREET NORTH & HURON STREET WEST**
**TOWN OF THE BLUE MOUNTAINS**

Dear Ms. Whaley,

C.F. Crozier & Associates Inc. (Crozier) was retained by Engel & Völkers Collingwood to prepare a traffic analysis in support of the Site Plan Application for the proposed residential development located at the northeast corner of Lansdowne Street North and Huron Street West in the Town of the Blue Mountains. This Traffic Opinion Letter contains analysis of the following components:

- Forecasted trip generation and distribution of the proposed development;
- Qualitative assessment of traffic operations on the boundary road network;
- Sight distance requirements at the site accesses;
- Qualitative assessment of other traffic safety components associated with the proposed development, including access alignment and the one-way operation of the proposed laneway; and
- Impacts to active transportation within the site and on the boundary road network.

It is understood that the primary focus of the traffic study is traffic safety, given the residential nature of the surrounding area and the development proposal. Thus, it was assumed that a scoped Traffic Opinion Letter would be sufficient in lieu of a comprehensive Traffic Impact Study.

## 1.0 DEVELOPMENT PROPOSAL

The development proposes the construction of 22 residential condominium dwellings fronting a 6.0 metre wide public laneway spanning from Bay Street West to Huron Street West. The right-of-way (ROW) for the laneway is 20 metres and will include a 1.5 metre concrete sidewalk, streetlighting, a drainage buffer and a landscape buffer on the north side. The proposed laneway cross-section is attached to this letter.

The westerly terminus of the laneway will form the fourth leg of the existing intersection of Lansdowne Street North and Bay Street West, span east-west and then curve north-south to connect to Huron Street West opposite the unopened Victoria Street ROW.

A one-way eastbound/southbound operation is proposed for the laneway. This one-way operation is discussed further in Section 4.0.

The Draft Plan of Subdivision prepared by Van Harten Surveying Inc. is attached to this letter.

## 2.0 EXISTING CONDITIONS

### 2.1 Subject Property

The subject property is located in a residential neighbourhood fronting Georgian Bay. The subject property wraps around the existing residential dwellings at the northeast corner of Lansdowne Street North and Huron Street West. The subject property is zoned as R1-1 "Residential" per the Town of the Blue Mountains Zoning By-Law 2018-65.

### 2.2 Boundary Road Network

The boundary road network is described in **Table 1.**

**Table 1: Boundary Road Network**

| Feature | Roadway | | |
|---|---|---|---|
| | **Lansdowne Street North** | **Huron Street West** | **Bay Street West** |
| Direction | Two-way (North-South) | Two-way (East-West) | Two-way (East-West) |
| Jurisdiction | Town of the Blue Mountains | Town of the Blue Mountains | Town of the Blue Mountains |
| Classification | Local | Local | Local |
| Surrounding Uses | Residential | | |
| Speed Limit | 50 km/h assumed [1] | 50 km/h assumed [1] | 50 km/h assumed [1] |
| Span | Highway 26 to Lakeshore Drive | Westerly Terminus to Bruce Street North | Westerly Terminus to Lansdowne Street North |
| Number of lanes | Two | Two | Two |
| Pedestrian Facilities | None | Concrete sidewalk (south side – east of unopened Victoria Street ROW)<br><br>Multi-use path (connecting to concrete sidewalk spanning through the unopened Victoria Street ROW) | Concrete sidewalk (north side) |
| Cross-Section | Rural | Rural | Rural (south side)<br>Urban (north side) |
| Stop Control | None | Lansdowne Street North | Lansdowne Street North |

*Note 1: Speed limit of 50 km/h assumed per municipal regulation.*

## 3.0 TRIP GENERATION

The proposed development will result in additional vehicles on the boundary road network that previously did not exist. The proposed development will also result in turning movements on the boundary road network.

Trip generation during the weekday a.m. and p.m. peak hour was forecasted for the proposed development using published data from the Institute of Transportation Engineers (ITE) Trip Generation

Manual, 10th Edition. The ITE Trip Generation Manual is a compendium of industry collected trip generation data across North America for a variety of land use and is used industry-wide as a source for trip generation forecasts.

The fitted curve equations for Land Use Category (LUC) 220 "Multifamily Housing (Low-Rise)" were applied to the proposed 22 units.

**Table 2** outlines the trip generation for the site.

**Table 2: Trip Generation**

| Land Use | GFA | Peak Hour | Trips Generated | | |
|---|---|---|---|---|---|
| | | | Inbound | Outbound | Total |
| LUC 220 "Multifamily Housing (Low-Rise)" | 22 units | A.M. | 2 | 9 | 11 |
| | | P.M. | 9 | 6 | 15 |

## 4.0 IMPACTS TO TRAFFIC OPERATIONS

The proposed development is expected to generate 11 and 15 total two-way trips during the weekday a.m. and p.m. peak period, respectively. These trip generation forecasts are low and are typically not associated with traffic operational issues nor external roadway improvements.

## 5.0 ONE-WAY OPERATION

A one-way eastbound/southbound operation is proposed for the 6.0 metre public laneway spanning from Lansdowne Street North to Huron Street West. The proposed site access to Lansdowne Street North will operate as an inbound only access with entry via a southbound left-turn, northbound right-turn, or eastbound through movement. The proposed site access to Huron Street West will operate as an outbound only access with exit via a left-turn or right-turn movement (or through movement if Victoria Street North is extended to Huron Street West).

A one-way system is proposed to increase the distance between the roaday and the existing residential properties north of the ROW.

The one-way operation will result in predictable travel patterns to and from the site and within the site; thus reducing the potential for vehicle-vehicle conflicts and increasing traffic safety. Additionally, the proposed alignment of the site accesses (opposite Bay Street West and the unopened Victoria Street North ROW) will mitigate vehicle-vehicle conflicts that would arise from an offset access alignment.

## 6.0 SIGHT DISTANCE ANALYSIS

The available sightlines at the proposed site access to Huron Street West were measured and compared to the standards set out in the Transportation Association of Canada (TAC) Geometric Design Guide for Canadian Roads (GDGCR). Sight distance was measured from the proposed site accesses using the following assumptions:

- A standard driver eye height of 1.08 metres for a passenger car, and
- A 4.4 metre setback from the approximate extension of the outer curb to represent a vehicle waiting to exit the site.

Intersection sight distance is calculated using equation 9.9.1 from the GDGCR 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 design speed of a local roadway in an urban environment is typically equal to or 10 km/h greater than the posted speed limit. As the assumed speed limit on Lansdowne Street North and Huron Street West is 50 km/h, a design speed of 60 km/h was assumed.

The proposed one-way operation of the internal laneway will result in only one outbound site access (the access to Huron Street West) at which minimum sight distance must be satisfied for outbound turning vehicles. Thus, sight distance requirements were assessed for the Huron Street West site access.

**Table 3** outlines the sight distance analysis for the proposed site access.

**Table 3: Sight Distance Analysis**

| Feature | Huron Street West Site Access |
|---|---|
| **Access Type** | Outbound only |
| **Posted Speed Limit of Roadway** | 50 km/h |
| **Assumed Design Speed** | 60 km/h |
| **Base Time Gap** | 7.5 s (for left-turn) [1] |
| **Additional Time Gap** | None |
| **Vertical Alignment of Roadway** | Less than 3% grade |
| **Horizontal Alignment of Roadway** | Straight |
| **Sight Distance Required** | 130 metres [2] |
| **Measured Sight Distance** | > 210 metres (both directions) |
| **Minimum Sight Distance Satisfied?** | Yes |

*Note 1: Time gap for left-turning vehicles from a stop onto a two-lane highway with no median and with a grade less than 3%. Value from Table 9.9.3 in the GDGCR.*
*Note 2: Sight distance values calculated from Intersection Sight Distance equation 9.9.1 in the GDGCR.*

As outlined in **Table 3**, minimum sight distance requirements are satisfied at the proposed outbound site access to Huron Street West.

Therefore, the proposed development is supportable from a sight distance perspective.

## 7.0 ACTIVE TRANSPORTATION

The proposed laneway cross-section consists of a 1.5 metre concrete sidewalk on the south and west sides of the laneway (south for the east-west segment and west for the north-south segment). The provision of a pedestrian sidewalk will provide separation between pedestrian and vehicular traffic on the laneway and thus increase safety for pedestrians within the site.

Additionally, the provision of a pedestrian sidewalk within the site will provide continuous pedestrian connectivity between the existing sidewalk on Bay Street West and the existing sidewalk on Huron Street West (east of the unopened Victoria Street ROW).

## 8.0 CONCLUSIONS

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

- The proposed development is expected to generate 11 and 15 total two-way trips during the weekday a.m. and p.m. peak period, respectively.
- These trip generation forecasts are low and are typically not associated with traffic operational issues nor external roadway improvements.
- The one-way operation of the public laneway will result in predictable travel patterns to and from the site and within the site; thus, reducing the potential for vehicle-vehicle conflicts and increasing traffic safety.
- The proposed alignment of the site accesses (opposite Bay Street West and the unopened Victoria Street North ROW) will mitigate vehicle-vehicle conflicts that would arise from an offset access alignment.
- The proposed pedestrian sidewalk within the site will:
    - provide separation between pedestrian and vehicular traffic on the laneway and thus increase safety for pedestrians within the site; and
    - provide continuous pedestrian connectivity between the existing sidewalk on Bay Street West and the existing sidewalk on Huron Street West (east of the unopened Victoria Street ROW).

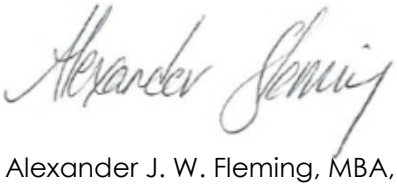
Therefore, the proposed development is supportable from a transportation operations and safety perspective.

The analysis contained within this report was completed using the Draft Plan of Subdivision prepared by Van Harten Surveying Inc. Any minor updates to the development proposal are not expected to materially change the conclusions contained within this report.

We trust that this letter addresses any traffic you may have. Should you have any questions or require any further information, please do not hesitate to contact the undersigned.

Yours truly,

**C.F. CROZIER & ASSOCIATES INC.**



Alexander J. W. Fleming, MBA, P.Eng.
Associate

**C.F. CROZIER & ASSOCIATES INC.**

Darren J. Loro, C.E.T.
Transportation Technologist

/dl

Encl.

Draft Plan of Subdivision
Proposed Road Section

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## SCHEDULE: RE: SECTION 51 - THE PLANNING ACT.

(a) BOUNDARIES AS SHOWN
(b) WIDTHS OF ROADS AS SHOWN
(c) KEY PLAN AS SHOWN
(d) RESIDENTIAL SEMI-DETACHED LOTS
(e) RESIDENTIAL
(f) DIMENSIONS OF UNITS AS SHOWN
(g) NATURAL FEATURES N/A
(h) MUNICIPAL WATER AVAILABLE
(i) GRAVEL AND LOAM
(j) CONTOURS AS SHOWN
(k) ALL MUNICIPAL SERVICES AVAILABLE
(l) NIL

## LAND USE SCHEDULE

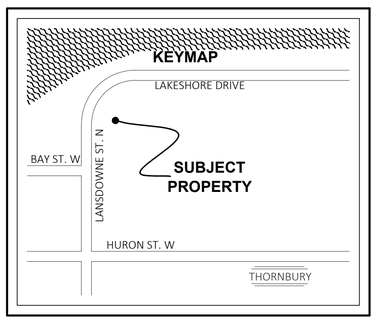
| DESCRIPTION | UNITS | LOTS/BLOCKS | AREA (ha.) |
|---|---|---|---|
| Semi-Detached Residential | 22 | LOTS 1-11 | 1.01 |

**LEGAL DESCRIPTION**

# ALL OF LOTS 35, 36, 37, 38, AND 39
# SOUTHWEST SIDE OF BAY STREET
# TOWN OF THORNBURY
# COUNTY OF GREY

SCALE 1 : 300
0 5 10 15 meters

VAN HARTEN SURVEYING INC.





## OWNER'S CERTIFICATE

TAMMY ABBOTTS AUTHORIZES THE SUBMISSION OF THIS DRAFT PLAN OF SUBDIVISION TO THE TOWN OF THORNBURY PLANNING DEPARTMENT.

TAMMY ABBOTTS — DATE

## SURVEYOR'S CERTIFICATE

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

JAMES M. LAWS, O.L.S.
Van Harten Surveying Inc.

SEPTEMBER 5, 2019
DATE

METRIC:

DISTANCES AND COORDINATES SHOWN ON THIS PLAN ARE IN METRES AND CAN BE CONVERTED TO FEET BY DIVIDING BY 0.3048.


Van Harten SURVEYING INC.
LAND SURVEYORS and ENGINEERS

| Elmira | Guelph | Orangeville |
|---|---|---|
| Ph: 519-669-5070 | Ph: 519-821-2763 | Ph: 519-940-4110 |

www.vanharten.com info@vanharten.com


| DRAWN BY: S. J. | CHECKED BY: JML | PROJECT No. 25655-18 |
|---|---|---|

Sep 12,2019-9:38am
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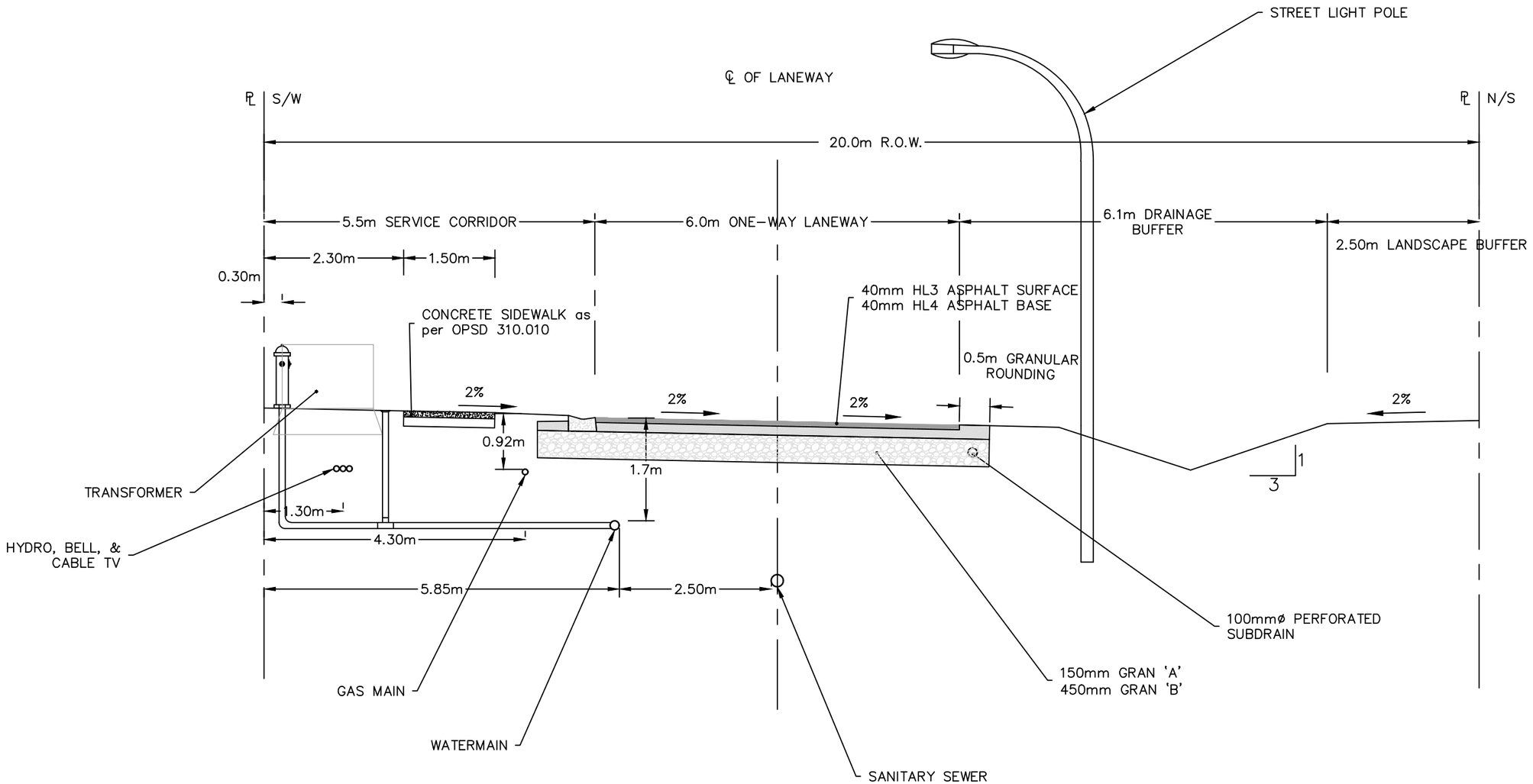


NOTES:

REFER TO TOWN OF THE BLUE MOUNTAINS ENGINEERING STANDARDS FOR "URBAN" ROAD SECTIONS FOR 20M RIGHT OF WAY



**TEMPORARY BENCHMARKS**

TBM#1–
TBM#2–
TBM#3–

Town

| No. | ISSUE | DATE: MM/DD/YYYY |
|---|---|---|
| 1 | ISSUED FOR DRAFT PLAN APPROVAL | 10/04/2019 |

Engineer

Engineer

**DRAFT**
FOR DISCUSSION PURPOSES ONLY

Project
ABBOTTS RESIDENTIAL DEVELOPMENT
TOWN OF THE BLUE MOUNTAINS

Drawing
PROPOSED ROAD SECTION


CROZIER CONSULTING ENGINEERS
THE HARBOUREDGE BUILDING, 40 HURON STREET, SUITE 301, COLLINGWOOD, ON L9Y 4R3
705 446-3510 T
705 446-3520 F
WWW.CFCROZIER.CA
INFO@CFCROZIER.CA


| Drawn By | Design By | Project | |
|---|---|---|---|
| N.L. | J.P. | | 332-4581 |
| Check By | Check By | Scale | Drawing |
| K.M. | G.C. | 1:750 | FIG. 2 |