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CCTA File 116028

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RECEIVED
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Town of Wasaga Beach

**Re: Wasaga Shores Subdivision, Town of Wasaga Beach
Traffic Brief**

Dear Ary:

As requested, we have reviewed the proposed Wasaga Shores residential development from a transportation perspective, addressing site access, site generated traffic volumes and the potential impacts to the adjacent road system.

Site Location

The development site is located at 2320 Shore Lane (legal description is Part of Lots 34 and 35, Concession 3) in the Town of Wasaga Beach (as illustrated in Figure 1). The site is bounded by Nottawasaga Bay to the north, the unopened right-of-way for Betty Boulevard to the south and residential lands to the east and west. The site has an overall area of approximately 3.62 hectares.

Existing Conditions

Road Network

The study area road network consists of Betty Boulevard, Constance Boulevard and Shore Lane. All three roads are local roads under the jurisdiction of the Town of Wasaga Beach. A brief description of each road is provided below.

Betty Boulevard is a two-lane road with a rural cross-section and a paved width of 5.7 metres. The road extends from Marilyn Avenue North to approximately 185 metres east of Thomas Street, where it terminates at a dead end. Beyond the current east limit of Betty Boulevard, there is an unopened right-of-way which connects Betty Boulevard to Shore Lane. The intent is to open this right-of-way as

part of the Wasaga Shores development. The speed limit for Betty Boulevard is unposted, thus a speed limit of 50 km/h has been assumed. As a local road, Betty Boulevard has an assumed planning capacity of 400 vehicles per hour per lane (vphpl).

Constance Boulevard has a two-lane rural cross-section with a paved width of 6.0 metres. The road extends from Beachwood Road to approximately 110 metres east of Thomas Street. The road has a speed limit of 50 km/h and an assumed planning capacity of 400 vphpl. In conjunction with the completion of the subject development, Constance Boulevard will be extended and connected to the proposed Betty Boulevard extension.

Shore Lane is a two-lane road with a rural cross-section and a paved width of 5.6 metres. The road extends east-west along the shoreline, terminating approximately 530 metres west of 74th Street North (or 230 metres west of the proposed connection with Betty Boulevard) in a paved cul-de-sac. Shore Lane has a speed limit of 50 km/h and an assumed planning capacity of 400 vphpl.

Photos of the area road network are provided in Figure 2.

Traffic Volumes

Given the dead-end nature of the subject road system, each road serves a limited volume of traffic and thus traffic counts specific to this study were not completed. As per the *Road Needs Study 2013, Town of Wasaga Beach*¹ report, the Annual Average Daily Traffic (AADT) volumes on the subject roads were estimated in the order of 90 to 150 vehicles per day. The study projected static growth through the 2032 horizon, which is not unreasonable given the local nature of the road network. Typically, the peak hour volumes represent 8 to 10% of the daily volumes, which translates to 7 to 15 vehicles per hour.

Traffic volumes have also been estimated in consideration of the number of dwellings on each road section. As discussed further in this review, a single family dwelling will generate 0.75 trips per unit during the AM peak hour and 1.0 trips during the PM peak hour. The resulting estimated volumes associated with the existing development levels are detailed in Table 1. As noted, the subject road sections are expected to serve 5 to 26 vehicles during the peak hours (total both directions).

Figure 3 illustrates the estimated volumes on the area road system, reflective of the existing development levels. Recall that the assumed planning capacity for each road is 400 vphpl, which equates to a total capacity of 800 vph per road, given that all of the subject roads have 2 lanes (1 per direction). In considering the estimated peak hour volumes, the area road network is operating at less than 5% capacity. Thus the local road network had excess reserve capacity and can readily accommodate additional traffic growth.

¹ *Road Need Study 2013, Town of Wasaga Beach*. C.C. Tatham & Associates Ltd. December 2013.

Table 1: Existing Traffic Volumes

Land Use	Units	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
Betty Blvd.	7	1	4	5	4	3	7
Constance Blvd.	6	1	3	5	4	2	6
Shore Lane	26	5	15	20	16	10	26

Proposed Development

Development Plan

The proposed residential development will consist of 22 single family detached units. As previously noted, access to the subdivision will be provided through the extensions of Betty Boulevard and Constance Boulevard. The extension of Betty Boulevard will also provide access to the wider road network via its connection to Shore Lane. The proposed residential lots will have private driveways with direct connection to the adjacent street.

A preliminary site plan is provided in Figure 4.

Site Generated Trips

The number of vehicle trips to be generated by the proposed residential development has been determined based on the development size, land use and trip generation rates provided in the *ITE Trip Generation Manual, 9th Edition*. Based on the proposed residential use, the *single family detached housing* (ITE code 210) land use has been applied to development.

The associated trip rates and trip estimates are provided Table 1. The rates represent the weekday AM and PM peak hour of the adjacent street.

Table 2: Trip Generation

Land Use	rate/ estimate	Weekday AM Peak Hour			Weekday PM Peak Hour		
		In	Out	Total	In	Out	Total
single family detached housing	units	0.19	0.56	0.75	0.63	0.37	1.00
(ITE code 210)	22	4	13	17	14	8	22

As indicated, the proposed development is expected to generate 17 trips during the weekday AM peak hour and 22 trips during the weekday PM peak hour.

The distribution of the new trips generated by the site has been developed based on the results of the *Transportation Tomorrow Survey (TTS)* completed in 2011. The TTS is a telephone interview of a random sampling of 5% of the households in the Greater Toronto Area and surrounding area of Central Ontario, including the Town of Wasaga Beach. Based on a review of the TTS data with respect to trips to/from Wasaga Beach, the following trip distribution was identified:

- to/from locations within Wasaga Beach – 60%;
- to/from locations east of Wasaga Beach – 2%;
- to/from locations west of Wasaga Beach – 15%;
- to/from locations north of Wasaga Beach – 3%; and
- to/from locations south of Wasaga Beach – 20%.

As indicated, 60% of the trips remain wholly within Wasaga Beach, whereas 40% originate from, or are destined to, areas outside of the Town. The trips that remain within the Town were distributed based on the location of the site with respect to the employment/commercial areas within the Town (primarily to the east of the site).

The assignment of the site generated trips to the area road network is based on the trip distribution noted above with consideration given to the expected travel routes. The resulting site generated traffic assignment to the road network is illustrated in Figure 5.

Traffic Operations Assessment

Road Section Operations

As previously noted, the area road network is operating at less than 5% capacity during the peak hour periods (based on the estimated 2017 volumes). The site generated volumes are not significant and, given the excess reserve capacity on the local road network, will be readily accommodated with no appreciable impacts.

Intersection Operations

The proposed development will result in the creation of two new 'T' intersections – Constance Boulevard with Betty Boulevard and Shore Lane with Betty Boulevard. It is anticipated that the intersection of Constance Boulevard with Betty Boulevard will operate with stop control on Constance Boulevard (considered the minor movement); similarly, the intersection of Shore Lane with Betty Boulevard will operate with stop control on Betty Boulevard. Given the anticipated traffic volumes through the area, single lane approaches will be sufficient with the intersections expected to provide excellent operations.

While it is acknowledged that the intersection of Constance Boulevard with Betty Boulevard will be on the inside of a horizontal curve, the proposed centreline radius (110 metres) will afford appropriate sight lines in context of the expected travel speeds (50 km/h posted speed limit) and the residential nature of the subdivision and area.

Travel Patterns

It is noted that the existing traffic patterns through the area will change with the extension of both Betty Boulevard and Constance Boulevard, as residents from the existing residential development to the west with trip origins/destinations to/from the east make use of the Betty Boulevard extension. Despite the altered travel patterns, the volumes will not be significant in terms of the capacity of the area road network and its intersections. No improvements are required to accommodate the site generated traffic and the additional volumes induced by the new road network.

Summary

Given the traffic volume to be generated by the site and in considering the excess reserve capacity available on the local area road network, the increase in traffic volumes associated with the proposed residential development will not have any appreciable impacts on the adjacent road system. Furthermore, the road network will readily accommodate the additional traffic anticipated through the area as a result of the Betty Boulevard extension.

Should you have any questions or comments regarding the findings above, please do not hesitate to contact us.

Yours truly,
C.C. Tatham & Associates Ltd.



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Transportation Planner
DP:dp



Michael Cullip, P.Eng
Director, Manager – Transportation & Municipal Engineering



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Figure 1

**Wasaga Shores Subdivision, Traffic Brief
Site Location**



Looking east along Betty Boulevard towards existing dead end



Looking east along Constance Boulevard towards existing dead end



Looking west along Shore Lane from 74th Street North



Looking south at unopened Betty Boulevard ROW from Shore Lane
source: Google Streetview



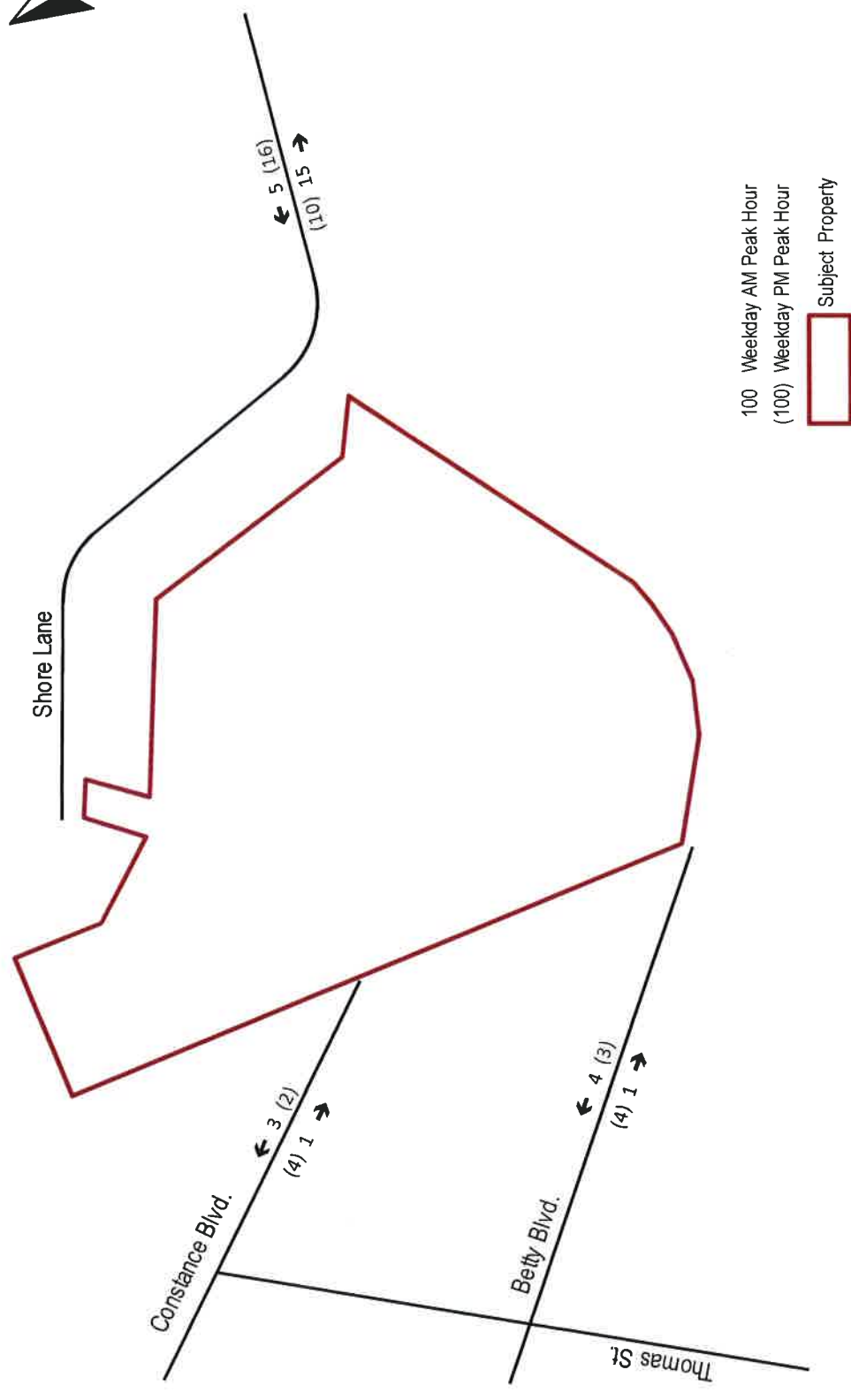
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Wasaga Shores Subdivision, Traffic Brief

Area Road Network

Figure

2



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Wasaga Shores Subdivision, Traffic Brief 2017 Traffic Volumes

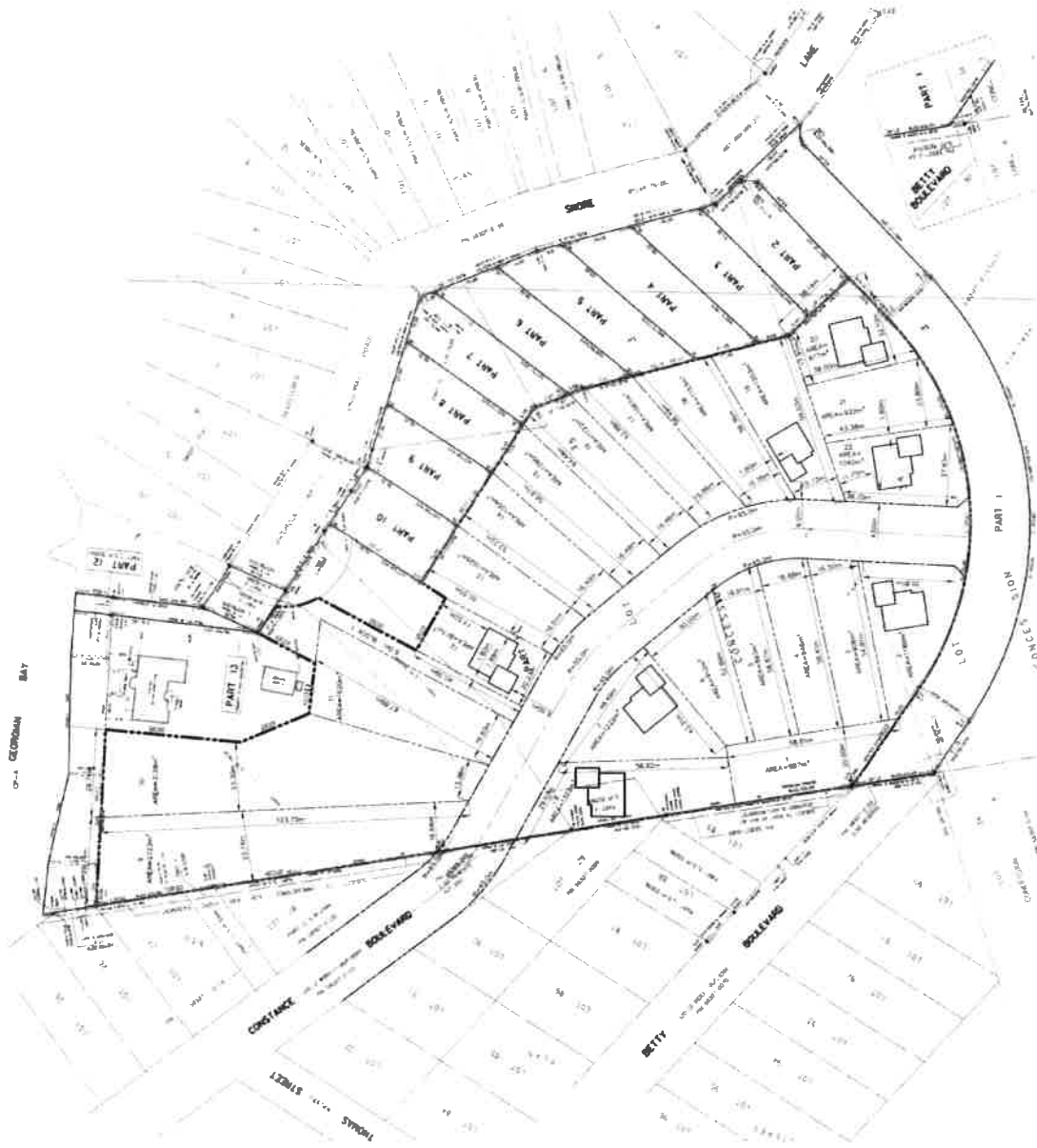
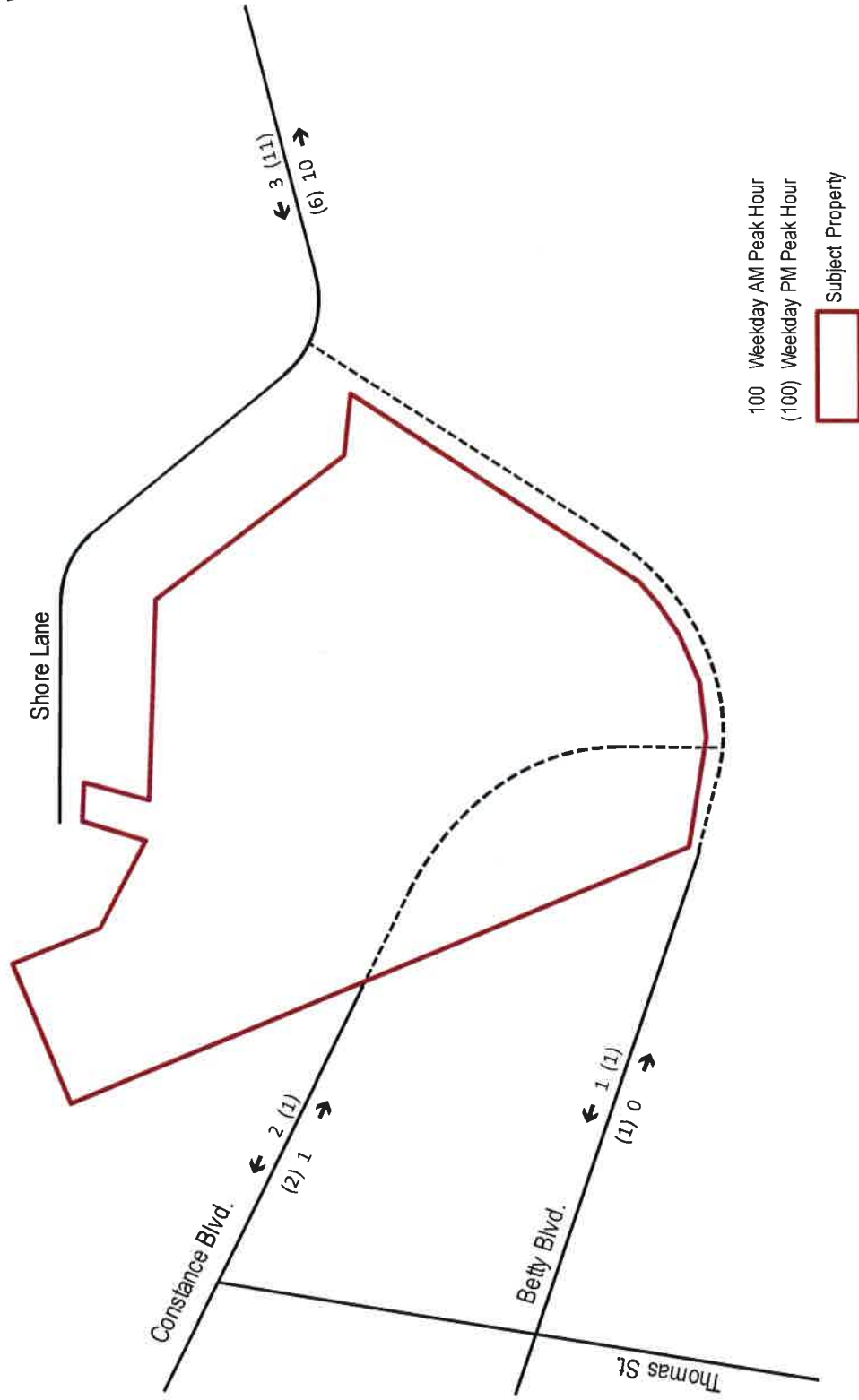


Figure 4

**Wasaga Shores Subdivision, Traffic Brief
Site Plan**



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Wasaga Shores Subdivision, Traffic Brief Site Generated Traffic

Figure
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