

October 30, 2008

EBA File: V31201050.002

New Town Planning Services
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Email: keithf@newtownservices.net

Attention: Keith Funk

Dear Keith:

Subject: Updated Traffic Impact Assessment for Pincussion/Ponderosa Development, Peachland, BC

This letter summarizes our response to the District of Peachland's comments on our October 2007 traffic study for the above project as noted in your October 28, 2008 e-mail. Based on our understanding, there are three traffic related issues to be addressed:

- Re-alignment of Ponderosa Drive to 13th Street at Highway 97;
- Allocation of site traffic between Somerset Road and Ponderosa Drive; and
- Road classification for the proposed major site access, i.e. collector road versus arterial road.

The following provides our response to each of these issues.

1.0 NEW HIGHWAY 97 / PONDEROSA DRIVE / 13TH STREET INTERSECTION

The Final Report of the Roadway Network Plan for the District of Peachland (dated May 2004), indicated that three existing three-legged intersections on Highway 97 (at Ponderosa Drive, 13th Street and Clements Crescent) would ultimately be consolidated into a single four-legged intersection at 13th Street. To achieve this consolidation requires construction of a frontage road along the north side of Highway 97. This would provide access to both Ponderosa Drive and Clements Crescent. The Roadway Network Plan indicated that the new intersection will be signalized.

In our October, 2007 traffic impact assessment for the Pincussion/Ponderosa Development, we acknowledged that ultimately there would be a re-alignment of Ponderosa Drive to 13th Street at Highway 97 as described above. However, at the time of our study it was uncertain as to when this realignment would occur. Consequently, the proposed new intersection configuration was not assumed in the analysis.

The District has indicated that for the purpose of the analysis it should be assumed that the new intersection configuration would be completed by the time the Pincussion development is built-out

(2017). We have therefore revised our analysis to reflect this. The results of the revised analysis are shown in Section 2.0.

2.0 TRAFFIC IMPACT ASSESSMENT WITH SOMERSET AVENUE AS MAJOR DEVELOPMENT ACCESS

In preparing our traffic impact assessment report, the developer provided input on the anticipated access routes expected to be used by each component of the development. In Table 3.1 of our report, we indicated that almost 70% of the proposed development was expected to use Ponderosa Drive as the primary access route. The traffic analysis for combined traffic conditions was therefore based on this assumption.

Since completing our study, the developer has indicated there will now be a greater emphasis on the use of Somerset Avenue as the primary access road such that two-thirds of the proposed development will now access the site via Somerset Avenue and only one-third via Ponderosa Drive. A revised traffic analysis was therefore completed with this arrangement. This analysis was based on the same traffic generation, and overall orientation of site traffic as used in the previous report. The revised access volumes are shown in Table A.

TABLE A: REVISED ACCESS VOLUMES AT BUILD-OUT						
Access	AM Peak			PM Peak		
	Total	In	Out	Total	In	Out
Somerset	477	101	376	625	424	201
Ponderosa	214	88	127	263	164	100
Total	691	189	502	888	587	301

Based on the revised assignment of site traffic, it is estimated that in the a.m. peak hour, 477 vehicles per hour will access the site via Somerset Avenue, and 214 via Ponderosa Drive. In the p.m. peak, these volumes are 625 and 363 vehicles per hour for Somerset Avenue and Ponderosa Drive respectively.

For the purpose of this analysis, it was assumed that the Highway 97/Ponderosa Drive/13th Street intersection would be realigned as discussed in Section 1.0. To reflect this, the existing turning movements at the three existing T-intersections were adjusted to generate an updated future background traffic condition.

The three intersections covered in the October, 2007 traffic study were re-analyzed with the revised distribution of the development traffic as shown in Table A. A summary of the intersection performance with these volumes is presented in Table B. It was initially assumed that the new intersection would be unsignalized with separate left turn lanes on all four legs.

Based on the updated volumes and revised network assumptions, the analysis concluded that the intersections at Highway 97/Princeton Avenue and Somerset Avenue/Princeton Avenue will operate adequately through to 2017 in both peak hours under both the background and combined traffic conditions. No further improvements will be required.

TABLE B: SUMMARY OF INTERSECTION PERFORMANCE - REVISED							
	2017 Peak Hour						
	Background			Combined			Remark
	LoS	v/c	Crit. Mvmt.	LoS	v/c	Crit. Mvmt.	
AM Peak Hour							
Hwy 97/ Princeton	B	0.54	--	C	0.79	--	
Hwy 97 / Ponderosa #	F	1.13	NBL,SBL	F	2.59	NBL,SBL	4 - legged
(2 lanes on Hwy 97)	B	0.78	--	B	0.87	--	Signal
(4 lanes on Hwy 97)				B	0.72	--	Signal
Somerset / Princeton #	B	0.09	--	C	0.66	--	
PM Peak Hour							
Hwy 97/ Princeton	A	0.54	--	B	0.69	--	
Hwy 97 / Ponderosa #	F	7.13	NBL,SBL	F	**	NB,SB	4 - legged
(2 lanes on Hwy 97)	C	0.87	--	C	0.97	WBL	Signal
(4 lanes on Hwy 97)				C	0.69	--	Signal
Somerset / Princeton #	B	0.11	--	C	0.48	--	

Note: # = unsignalized intersection, LoS = overall level of service; v/c= maximum v/c ratio for individual movements or the highest v/c ratio at the minor legs at unsignalized intersection; crit. Mvmt. = LoS of the movement is E or F

At the intersection of Highway 97/Ponderosa Drive/13th Street (new intersection), with the intersection remaining un-signalized, under the future background traffic condition, left turn traffic from both northbound and southbound approaches will suffer considerable delays. A preliminary signal warrant assessment indicates that a traffic signal will be warranted under the future background traffic condition. With the intersection signalized, the intersection will operate satisfactorily with the future background traffic volumes.

Under the future combined traffic conditions with the updated site traffic distribution, the signalized intersection will operate within the desirable threshold during the morning peak hour, but not in the afternoon peak hour. With Highway 97 widened to a 4-lane facility, this intersection will operate with acceptable Level of Service under the combined traffic conditions. This is consistent with both the District's Network Plan Study and the conclusions from our previous study.

From this analysis, it is concluded that the signalization of the new Highway 97/13th Street intersection will be required under the background traffic conditions. To accommodate potential

future developments in the District, widening Highway 97 to a 4-lane facility should be considered in order to ensure the signal operates satisfactorily during the afternoon peak hour.

3.0 ROAD CLASSIFICATION OF INTERNAL ROADS

Based on the proposed site concept plan as included in our previous traffic report (Exhibit 3.1), an internal road network is proposed to provide access to the new development site. This plan indicates there will be a main road connecting the existing Ponderosa Drive in the north to Somerset Avenue in the south. Secondary roads will be provided to serve other developments on north and south sides of this main road. No additional direct access to Highway 97 was proposed.

The Final Report of the Roadway Network Plan for the District of Peachland (dated May 2004), proposed a hierarchical road classification system for the District's road network. This comprises of four road types ranging from local streets to collector and arterial roads and Provincial highways. The report defines the primary function of an arterial road as providing mobility within the District, whereas collector roads serve the dual functions of facilitating mobility within a local area and providing access to adjacent properties.

In Figure 3 of this report, Highway 97 is classified as the Provincial highway. There are only three recommended arterial roads in the whole district, i.e. Beach Avenue south and west of 13th Street, 13th Street from Beach Avenue to Highway 97 and Princeton Avenue. The recommended roadway classification identifies both Ponderosa Drive and Somerset Avenue, which are directly relevant to this study area, as collector roads.

The proposed major access road through the site will connect with two collector roads, i.e. Ponderosa Drive and Somerset Avenue. As such, this road will fulfill a collector road function as opposed to that of an arterial road. This is consistent with the overall road network plan.

It is therefore concluded that designating the major road through the Pincussion development site as an arterial road would not be consistent with either the intended function of this road or with the classification of the roads to which it connects.

I trust this provides a satisfactory response to the questions raised by the District. Please call if you have any questions.

Yours truly,

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