

MEMORANDUM

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To: John Gooding

Copy to: File

From: Adam Wilson

Date: January 20, 2022

Ref: Cressy Bayside Estates Draft Plan Application – Traffic Review **File:** 18538-1

Comments:

Peter Morkis in Trust is proposing a Plan of Condominium to the north of County Road 7, east of Picton. The development property is 13.24 hectares (ha) in size, and is located between existing residential properties (**Figure 1**). It is proposed to develop the land with eight (8) single detached lots and one (1) common element block for a proposed road and private amenities (**Figure 2**). The purpose of this memo is to provide a review of the proposed plan with regard to the road network and traffic flow.

Existing Conditions

The subject property fronts onto County Road 7, which is under the jurisdiction of the Municipality of Prince Edward County. Through the study area, County Road 7 is a two-lane road oriented east-west, providing one travel lane in each direction. The road has a rural cross-section with gravel shoulders. Upon approaching the site access, the alignment of County Road 7 has a slight curve when approaching from the west, and is relatively straight and flat from the east. Through the subject area, County Road 7 has a posted speed limit of 60 km/h. Thus, a design speed of 80 km/h applies (posted speed limit + 20 km/h for higher speed roads).

Proposed Road Network & Access

One (1) new private laneway is currently proposed on the plan and will connect to County Road 7. The plan shows one (1) 90° 'T' intersections for the proposed street with County Road 7. The proposed intersection is 300m east of Treasure Cove Lane, and 5.3km east of the Glenora Ferry. The proposed private laneway shows a 13.6m rural right-of-way outlined in **Figure 3**.

Site Generated Trips and Turning Lane Review

Trip generation rates have been determined from the Institute of Transportation Engineer's *Trip Generation Manual*. Based on the proposed land use (i.e. 8 single family units) the applicable ITE land use category for the site is 'single family detached' (ITE land use code 210). The applicable trip rates and corresponding trip estimates for the peak hours are

provided in **Table 1** and represent anticipated counts at the intersection.

Table 1: Trips Generated at each Proposed Intersection with Maitland Drive

Land Use	Rate / Estimate	Units	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Single		8						
Family	Rate		0.19	0.56	0.75	0.64	0.37	1.01
Detached	Estimate		1.52	4.48	6.00	5.12	2.96	8.08

Table 1 provides an estimate for peak hour traffic at County Road 7. The development is expected to generate 6 trips in the AM peak hour and 8 trips in the PM peak hour (both inbound and outbound trips). MTO design criteria indicate that right turn lanes should be considered when the turning volume is anticipated to exceed 60 vehicles per hour at an unsignalized intersection. Based on the projected traffic volumes, no right turn lane is required at the intersection with County Road 7. However one is recommended per OPSD 304.010.

The need for a left turn lane at the proposed intersections was also reviewed. **Figure 4** shows the MTO's Left Turn Warrant Chart for 80 km/h design speed. The anticipated number of trips generated at each intersection at peak hours from the development has been plotted on the MTO chart. The chart shows that, no matter the amount of vehicle per hour on County Road 7 to pass by the site would not warrant a left turn lane. As such, a left turn lane is not proposed at the intersection.

Sight Line Analysis

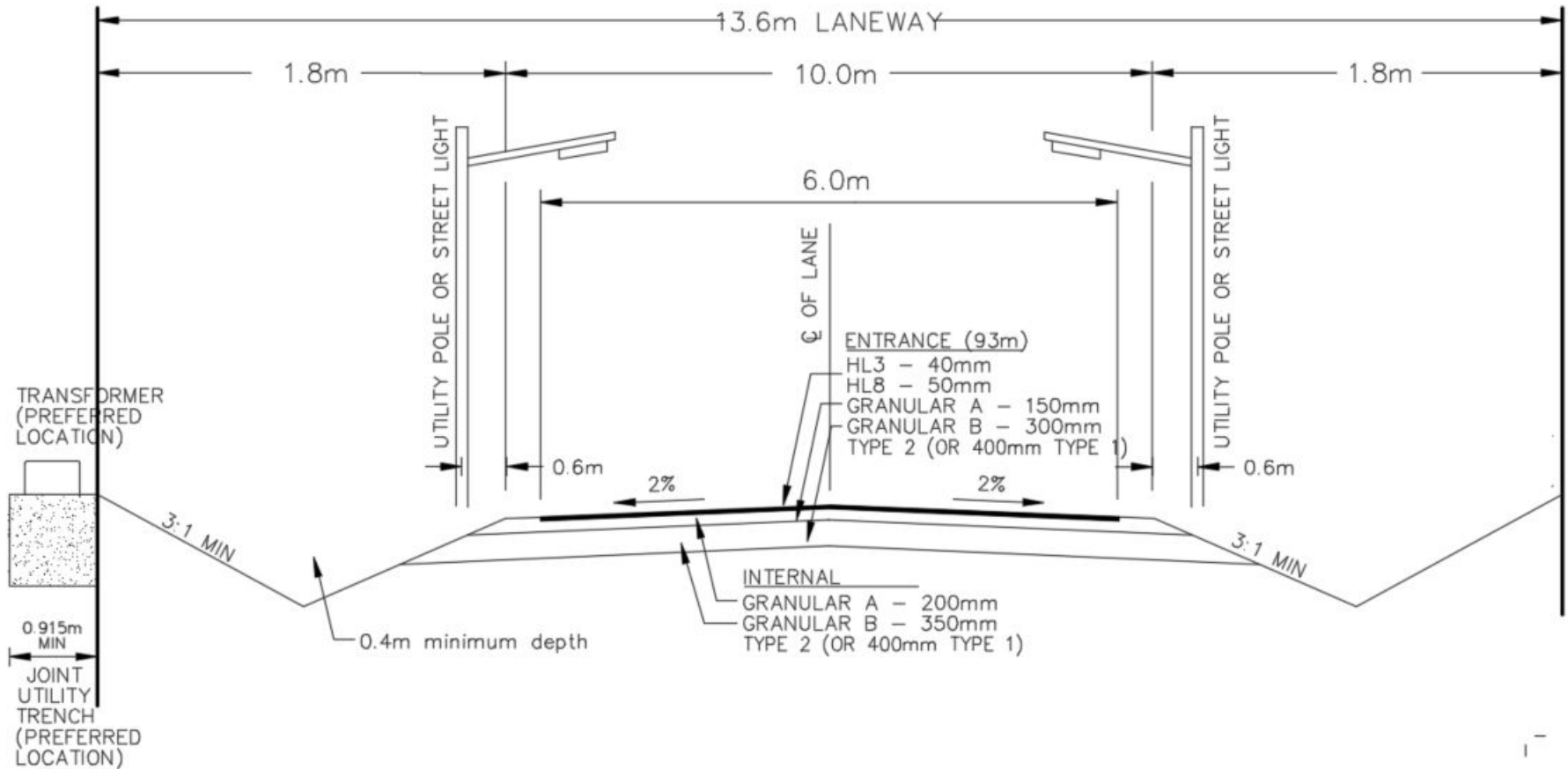
Based on MTO geometric design standards, the minimum stopping distance for design speeds of 80 km/h is 135 meters. This requirement provides sufficient distance for an approaching vehicle to observe a stationary hazard in the road (such as a vehicle stopped at an intersection waiting to complete a turn) and bring their vehicle to a complete stop prior to the hazard. The available sight lines along County Road 7 for the intersection as determined at the site accesses are more than 175m to the west and more than 300m to the east. Thus, all sight lines are in excess of the minimum 135 meters. As such, adequate sight lines are provided in both directions to ensure safe operations for vehicles turning to County Road 7 from the site access.





COUNTY ROAD 7

Maxar Technologies



TYPICAL LANE CROSS SECTION

N.T.S.

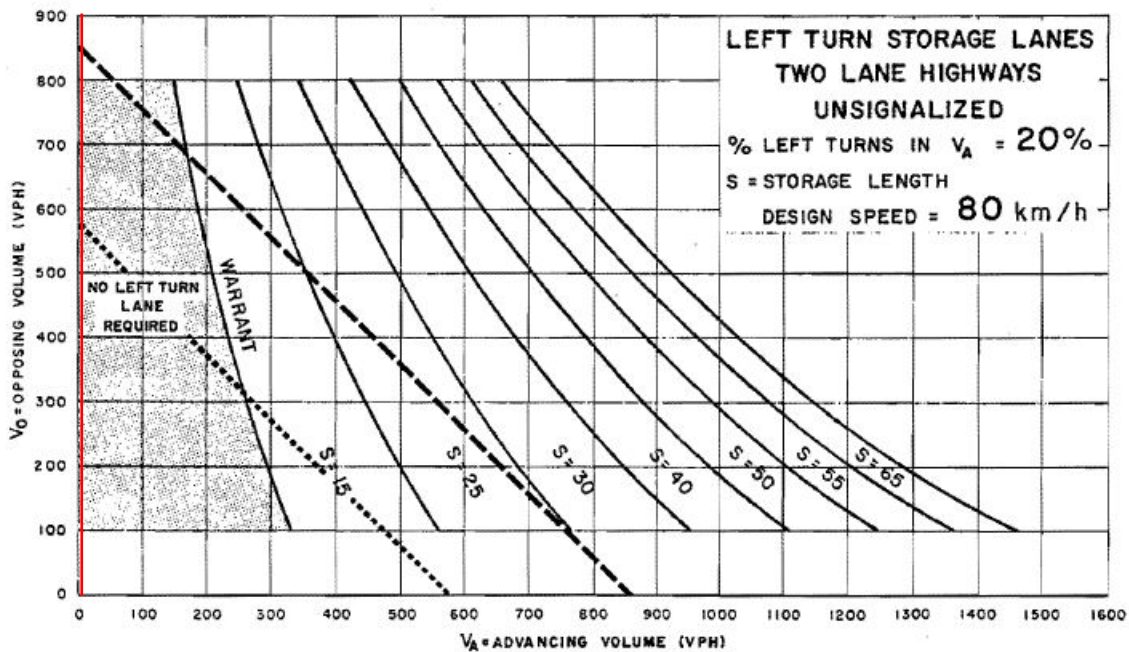


Figure EA-15