

March 3, 2020

Mr. Andrew Rodgers, STN
 Allterrain Contracting Inc.
 Civil Construction Contractors
 Dartmouth, Nova Scotia

[via email: arodgers@allterraincontracting.ca]

**RE: Sightline Review – Road A, Windgate Drive Access
 Beaver Bank, Nova Scotia**

Dear Mr. Rodgers:

As per your request, WSP has reviewed the provided topographic survey data along Windgate Drive and the surrounding area within the vicinity of the proposed access road to Windgate Village. This memo outlines our review of topographic survey data with respect to the minimum stopping sight distances required along Windgate Drive to the proposed development access.

Plans are being prepared for a residential development along Windgate Drive in Beaver Bank, NS. The proposed access road to Windgate Village (Road A) is expected to be along Windgate Drive, approximately 390 m west of Terry Road (See Figure 1).

STOPPING SIGHTLINE REVIEW

In 2017, WSP conducted an investigation into the required stopping sight distances (SSDs) along the Windgate Drive approaches. SSD reflects the distance required for an approaching vehicle to make a complete stop the instant that an object comes into view. The stopping sight distances (SSDs) were measured from a driver eye height of 1.05 m to a 150 mm object on the eastbound and westbound approaches. Using this information, it was determined that adequate SSDs were not available due to the presence of trees/vegetation (See Photo 1 and Photo 2).



Figure 1 - Study Area



Photo 1 - Eastbound approach to proposed site access location. Note the trees obstructing sightlines on the right side of the photo.



Photo 2 - Westbound approach to proposed site access location. Note the trees obstructing sightlines on the right side of the photo.

The approaches along Windgate Drive require the following stopping sight distances:

- The eastbound approach will require 140 m of unobstructed sightlines in order for a vehicle to make a controlled stop travelling 80 km/h on a -1% (downhill) grade; and,
- The westbound approach will require 142 m of unobstructed sightlines in order for a vehicle to make a controlled stop travelling 80 km/h on a -2% (downhill) grade.

Upon review of the recently acquired topographic survey data, it was determined that adequate stopping sight distances will be available for the eastbound and westbound approaches along Windgate Drive with some tree clearing and regular maintenance (See Figure 2). The obstruction-free zone for the eastbound sightline is expected to be 9.1 m offset from the edge of asphalt near the midpoint, as shown in Figure 2. It should be noted that the outlined obstruction-free zone encroaches beyond the existing right-of-way. The obstruction-free zone for the westbound sightline is expected to be 5.8 m offset from the edge of asphalt near the midpoint, as shown in Figure 2. The driver eye and object heights were plotted and compared to the elevation profile from the topographic survey data. Based on the surface review, it was determined that the existing roadway profile will not impede driver sightlines. In addition, sightline clearance beyond removal of vegetation is not expected to be required.

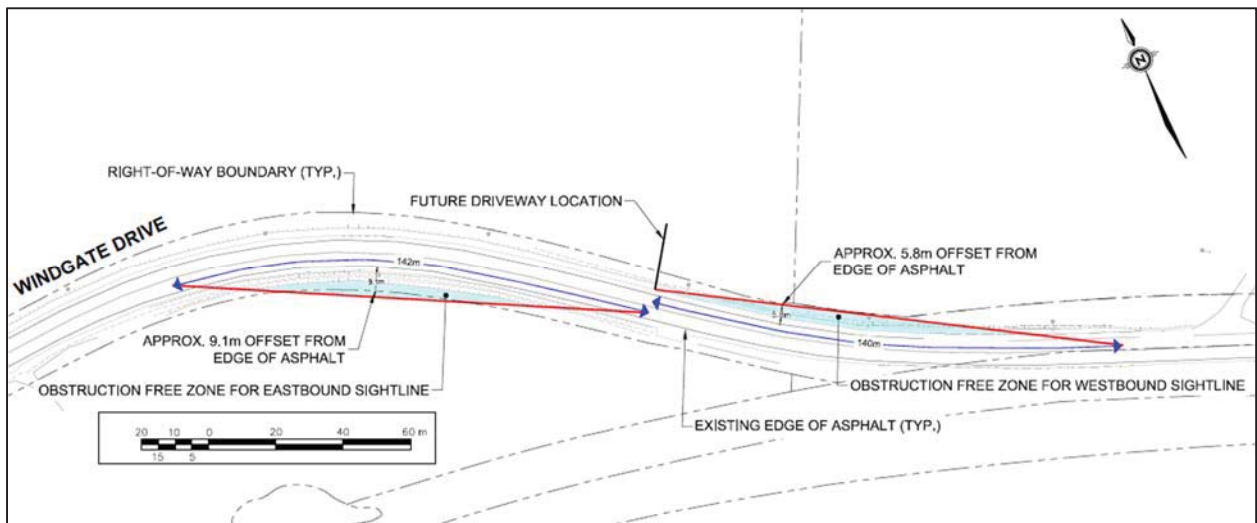


Figure 2 – Sightline Review

In conclusion, adequate stopping sight distance is expected to be available on Windgate Drive towards Road A with the recommended tree clearing west and east of the propose site access road.

Sincerely,

Original Signed

Greg O’Brien, P.Eng.
 Atlantic Practice Manager, Traffic Engineering and Transportation Planning
 WSP Canada Inc.