

November 14, 2018

Mr. Andrew Connors
Director, Operations & Design
Shaw Living

[Via Email: aconnors@shawgrouppltd.com]

**RE: Traffic Impact Statement
Charleswood Development, Windsor Junction, NS**

Dear Mr. Connors:

Plans are being prepared for a 177-unit residential development at Charleswood Drive in Windsor Junction (PID # 00510560 and 40699837). This is the Traffic Impact Statement (TIS) required to accompany the development application.

SITE DESCRIPTION AND PLANNED DEVELOPMENT

The site is currently undeveloped, is located north of Windgate Drive and west of Windsor Junction Road and is bounded by existing residential development (See Figure 1).

The proposed development consists of up to 177 residential units and will be a mixture of single family and adult housing. The adult housing is expected to be accessed via Cumberland Way while single family units will be via both Cumberland Way and Charleswood Drive. There is no planned onsite connection between the Cumberland Way and Charleswood Drive portions of the development. Traffic generated by the 177 units will access Windgate Drive via the existing Cumberland Way and Charleswood Drive intersections.

DESCRIPTION OF EXISTING STREETS AND INTERSECTIONS

Windgate Drive (See Photos 1 to 4) is a 2-lane major collector street that runs east-west and connects Windsor Junction Road with Beaver Bank Road. Traffic volume data collected by HRM Traffic Management in June 2017 indicate the two-way annual average weekday traffic (AAWT) volume on Windgate Drive between Cumberland Way and Windsor Junction Road is approximately 3,650 daily vehicles and about 250 vehicles in one direction during the associated peak hour. The posted speed limit is 70km/h.

Cumberland Way (See Photo 5) and **Charleswood Drive** (See Photo 6) are both 2-lane local streets with 50 km/h posted speed limits that provide access to low density residential development.

The **Windgate Drive intersections** with **Cumberland Way** and **Charleswood Drive** are both T-intersections with STOP control on Cumberland Way / Charleswood Drive and free flow on Windgate Drive. All approaches at both intersections are a single lane.

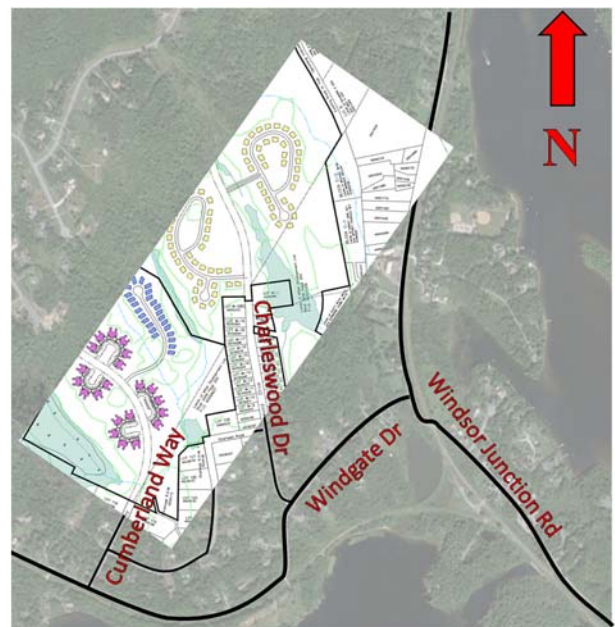


Figure 1 – Site Plan



Photo 1 – Looking left (to the east) on
Windgate Drive from Charleswood Drive



Photo 2 – Looking right (to the west) on
Windgate Drive from Charleswood Drive



Photo 3 – Looking left (to the east) on
Windgate Drive from Cumberland Way



Photo 4 – Looking right (to the west) on
Windgate Drive from Cumberland Way



Photo 5 – Looking north on
Cumberland Way



Photo 6 – Looking north on
Charleswood Drive

SITE ACCESS

Vehicular access to the developed site will be via extensions to Charleswood Drive and Cumberland Way. There is no onsite connection planned between these two streets. Site observations indicate that there is sufficient sight distance at both intersections, see Photos 1 to 4.

TRIP GENERATION – CHARLESWOOD DRIVE

The units proposed for Charleswood Drive are expected to include 68 single family residential units. Trip generation estimates (Top Section, Table 1) were prepared using published trip generation rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, Washington, 2017). It is estimated that the new development along Charleswood Drive will generate:

- 51 two-way trips (13 entering and 38 exiting) during the AM peak hour; and,
- 67 two-way trips (42 entering and 25 exiting) during the PM peak hour.

TRIP GENERATION – CUMBERLAND WAY

The units proposed for Cumberland Way are expected to include 25 single family residential units and 84 senior adult housing (attached townhouses). Trip generation estimates (Bottom Section, Table 1) were prepared using published trip generation rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, Washington, 2017). It is estimated that the new development along Cumberland Way will generate:

- 36 two-way trips (11 entering and 25 exiting) during the AM peak hour; and,
- 47 two-way trips (28 entering and 19 exiting) during the PM peak hour.

“Senior adult housing consists of attached independent living developments, including retirement communities, age-restricted housing, and active adult communities.... Residents in these communities live independently, are typically active, and may or may not be retired.

~ Land Use 252, *Trip Generation 10th Edition*,

Table 1 – Trip Generation Estimates

Table 1 - Trip Generation Estimates

Land Use		Units ²	Trip Generation Rates ³				Trips Generated ³			
			AM Peak		PM Peak		AM Peak		PM Peak	
			In	Out	In	Out	In	Out	In	Out
Charleswood Drive	Single Family Residential ¹ (Land Use 210)	68	0.19	0.56	0.62	0.37	13	38	42	25
	Charleswood Drive Total						13	38	42	25
Cumberland Way	Single Family Residential ¹ (Land Use 210)	25	0.19	0.56	0.62	0.37	5	14	16	9
	Senior Adult Housing - Attached ¹ (Land Use 252)	84	0.07	0.13	0.14	0.12	6	11	12	10
	Cumberland Way Total						11	25	28	19

Notes:

1. Trip generation rates use the fitted curve equations for indicated Land Use from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, Washington, 2017).

2. Units are 'number of units'.

3. Vehicles per hour per unit for rates; vehicles per hour for peak hours.

SUMMARY

- Plans are being prepared for a 177-unit residential development at Charleswood Drive in Windsor Junction (PID # 00510560 and 40699837).
- Vehicular access to the developed site will be via extensions to Charleswood Drive and Cumberland Way. There is no onsite connection planned between these two streets.
- Traffic volumes collected in June 2017 by HRM Traffic Management indicate the two-way annual average weekday traffic (AAWT) volume on Windgate Drive in this area is approximately 3,650 daily vehicles.
- Using published rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, Washington, 2017), it is estimated that the (up to) 68 additional single-family units on Charleswood Drive will generate about 51 two-way trips (13 entering and 38 exiting) during the AM peak hour and 67 two-way trips (42 entering and 25 exiting) during the PM peak hour.
- Using published rates from *Trip Generation, 10th Edition* (Institute of Transportation Engineers, Washington, 2017), it is estimated that the (up to) 25 additional single-family units and (up to) 84 adult townhouse units on Cumberland Way will generate about 36 two-way trips (11 entering and 25 exiting) during the AM peak hour and 47 two-way trips (28 entering and 19 exiting) during the PM peak hour.

CONCLUSION

- HRM data from 2017 indicates that the directional volumes on Windgate Drive are under 250 vehicles per hour in each direction at both Charleswood Drive and Cumberland Way. Considering these low volumes, left turn lanes are not expected to be warranted for traffic turning at either intersection.
- Considering the HRM data indicates relatively low background traffic volumes on Windgate Drive, additional volumes that will be generated by the added development on Charleswood Drive and Cumberland Way are not expected to have any noticeable impact on the level of performance of existing roads and intersections.

If you have any questions or comments, please contact me by email at patrick.hatton@wsp.com or by telephone at 902-536-0954.

Sincerely,

Original Signed

Patrick Hatton, P.Eng.
Traffic & Transportation Engineer
WSP Canada Inc.

