

MEMORANDUM

Date: March 18, 2026
To: Michael Schmidt, VESTA Properties
From: Caytlin Kopeck, Transportation EIT
Nadine King, P.Eng., PTOE, Vice President – Transportation
Our File No: 4047.B01
Subject: Kingsview Development Analysis

1.0 INTRODUCTION

Watt Consulting Group (WATT) was retained by Vesta Properties to provide updated traffic analysis for the Kingsview Development and determine any potential impacts to existing intersections within Kingsview neighbourhood due to the development. This memo includes information regarding traffic impacts under post-development conditions for three representative intersections in the neighbourhood. A high-level analysis was also conducted to assess potential crosswalk locations and parking / no parking consideration as the development builds out.

2.0 PREVIOUS TIA

A Transportation Impact Assessment (TIA) was completed for the Kingsview Development by Boulevard Transportation (now part of Watt Consulting Group Ltd.) in 2015. This assessment included the following land use and analysis assumptions:

- 1280 units (401 single family, 879 townhouse / multi-family units amounting to 848 trips (553 in / 295 out) during the PM peak hour
- Suites were not considered within the trip generation as separate generators but part of the single-family trip generation rate
- The following major recommendations were made:
 - Installation of a single lane roundabout at Kingsview Road / Maple Bay Road at a trigger of 238 peak hour trips from the south side of the Kingsview Development, assuming the north side (Phases 1-3) has been built
 - Install a northbound right turn lane on Maple Bay Road / Highwood Drive

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Since the 2015 TIA was completed 136 single family homes and 219 multi-family doors have been built. All major recommendations including the roundabout and right turn lane have been built per the 2015 TIA recommendations.

The original trigger for the roundabout at Kingsview Road / Maple Bay Road, as specified in the 2015 TIA recommendations, was for 238 peak hour trips from the south side (either 308 south-side units for mixed initial development (81 single family and 227 multi-family units)), or 215 south-side single family units only or 366 south-side multi-family units only). The north side was assumed to be fully build out and part of the existing/background volumes for this trigger.

A review of the trigger point (238 peak hour trips) with new trip generation and land use statistics, the roundabout is triggered at either 165 single family units with suites on the south side which is 100% of Phase 4-7 and 10% of Phase 8, or for a mixed south side development of 78 single family units (inclusive of suites) and 236 multi-family units (100% of Phase 4-5 and 45% of Phase 6). If only the multi-family units are built (100% of Phase 4-8), the trigger will not be reached. Regardless of these updated trigger points, the roundabout has been constructed and is able to support the full build-out of the development.

Since 2015 the number of remaining lots/doors to be built has reduced and there is only 241 future single-family units and 381 multi-family doors remaining to be built. This amounts to a total of 977 units, including what has already been constructed. Overall, there will be less than what was originally proposed in 2015 by 24 single family homes and 279 multi-family doors. No further improvements are required due to the updated development land use statistics.

3.0 TRAFFIC COUNTS

Weekday traffic counts were undertaken on November 19th, 2025 at the following intersections:

- Kingsview Road / Belcarra Road
- Nevilane Drive / Osprey Drive
- Nevilane Drive / McKenzie Drive

These intersections were selected as they represented intersections typical intersections within the existing neighbourhood (along Kingsview Road and Nevilane Drive) and were not studied within the previous 2015 TIA. Further, the intersections of Osprey Drive / Nevilane Drive and McKenzie Drive / Nevilane Drive connect to Collector / Arterial Roads outside the neighbourhood. Kingsview Road / Belcarra Road was selected as it connects most of the roads on the south side of Kingsview Road and has the highest number of existing doors. It is expected to be similar to the volumes at Kingsview Road / Chippewa Road and Kingsview Road / Sansum Drive but would have higher volumes on Kingsview Road as closer to Maple Bay Road.

Municipalities typically do not utilize normalization factors within their communities since they typically do not have sufficient data to create these factors. In addition, limited change in traffic is seen within residential subdivisions since residents follow similar daily patterns through out the year. Since there is a school within the neighbourhood September to June would be the highest volumes in the neighbourhood. Therefore, the November 2025 represent typical peak hour traffic within Kingsview area.

Traffic from the phases of Kingsview that have already been constructed (136 single family homes and 219 multi-family doors) are included within the traffic counts. See **Figure 2** for existing 2025 AM and PM peak hour volumes.

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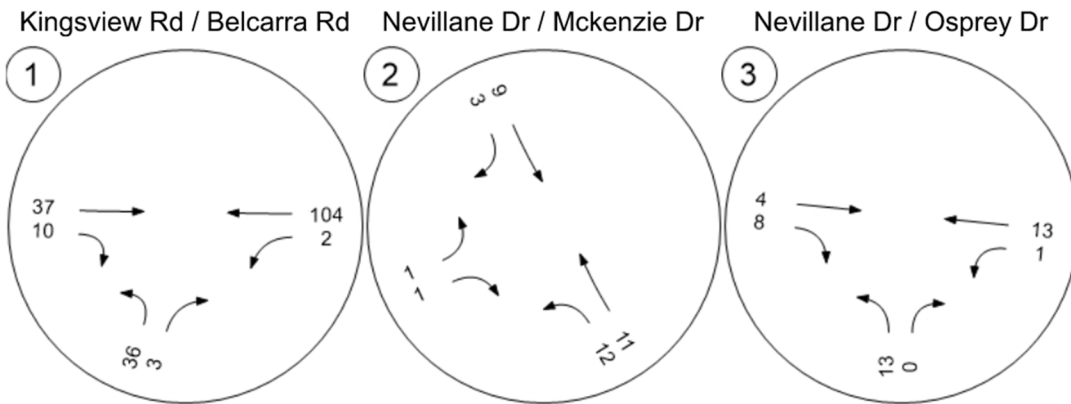
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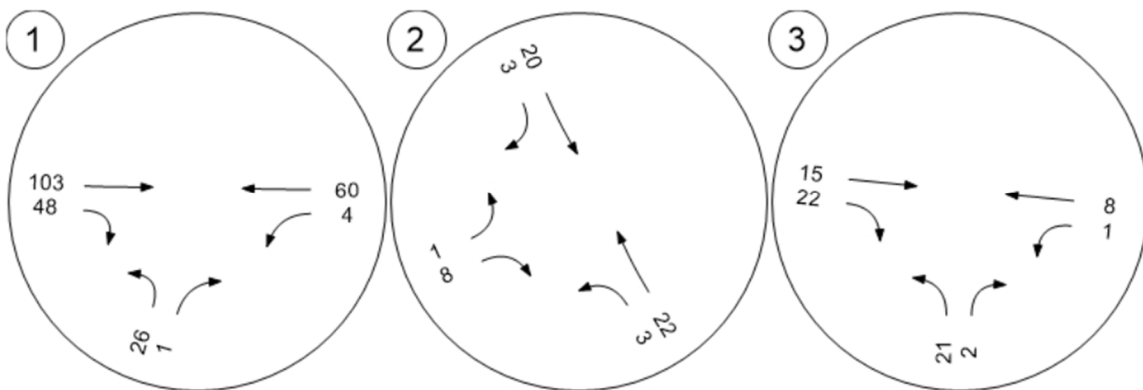
Figure 1 – Existing (2025) Traffic Volumes



AM Peak Hour



PM Peak Hour



4.0 TRAFFIC ANALYSIS

This traffic analysis focuses on the network within the Kingsview neighbourhood. For a review of the network outside of Kingsview area see Section 5.0.

4.1 Trip Generation

Vehicular trip generation rates for the remainder of the proposed development (241 single family homes and 381 multi-family doors) are based on the *ITE Trip Generation Manual (12th Edition)*. The trip generation forecast for the site is provided in **Table 1**. To account for Bill 44 (small-scale multi-unit housing), trip generation for suites were included for each of the single-family homes to provide a conservative trip generation. Due to topography, it is unlikely that all single-family lots will be able to accommodate a suite. It is assumed that the suites would have a trip generation similar to a single-family attached home while the single-family part of the lot will generate at the rate of a single-family detached home.

Table 1 – Trip Generation

Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
ITE Trip Generation Manual 12th Edition Rates						
Residential – Single-Family (Detached) (ITE LU 210) ^[1]	27%	73%	0.70	62%	38%	0.93
Residential – Single-Family (Attached) (ITE LU 215) ^[1]	25%	75%	0.47	57%	43%	0.51
Residential – Multifamily (Low-Rise) (ITE LU 220) ^[1]	24%	76%	0.41	62%	38%	0.52
Vehicular Trip Generation						
Single-Family (Detached) – 241 doors	46	123	169	139	85	224
Single-Family (Attached) – 241 doors	28	85	113	70	53	123
Multi-Family (Low-Rise) – 381 units	37	119	156	123	75	198
Total	111	327	438	332	213	545

1. Trip rates are per dwelling unit

Trip Generation Summary

An additional 438 and 545 trips are expected at full-build out of the Kingsview Development, including suites for single family homes.

4.2 Trip Assignment

Two trip assignment options were analyzed. For the first option, trips were assigned based on the existing trip distribution and were in alignment with the 2015 TIA. The second option considered future changes to land use in the wider community, such as the new Hospital opening and Bell McKinnon area adding shopping / office space, which are likely to result in changes to existing travel patterns. For this option traffic patterns were conservatively shifted by 30% to the north.

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AM and PM Peak Hour

Option 1 (Existing Distribution):

- 95% of the trips to / from Maple Bay Road South (Duncan)
- 5% of the trips to / from Maple Bay Road North (Maple Bay)

Option 2 (Future Distribution with Bell McKinnon & Hospital):

- 65% of the trips to / from Maple Bay Road South (Duncan)
- 35% of the trips to / from Maple Bay Road North (Maple Bay)

4.3 Post-Development Volumes

Post-Development volumes for Option 1 and Option 2 trip assignments are shown in **Figure 2** and **Figure 3**, respectively. Since growth is applied to account for unknown future development and there are no other developments included in the OCP for the Maple Bay area, no growth factor has been included.

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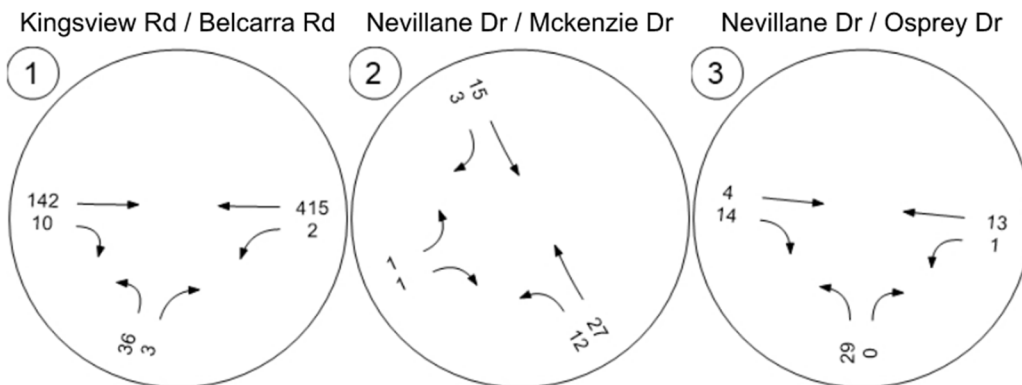
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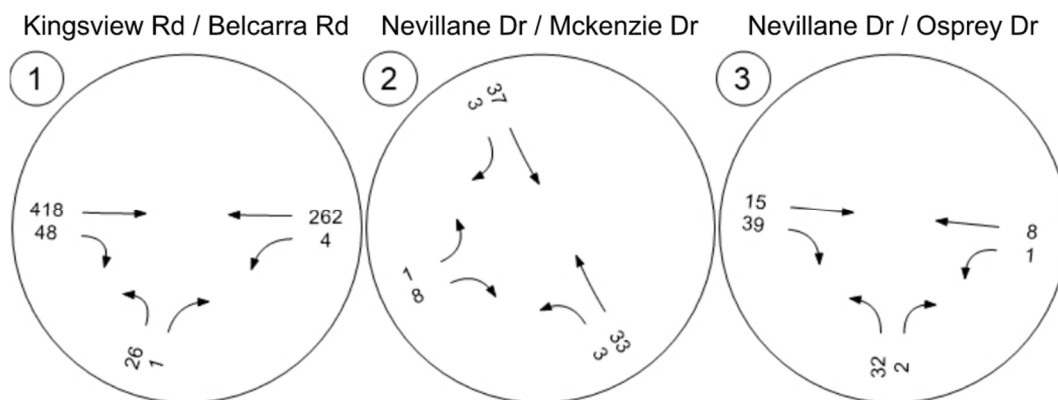
Figure 2 - Post Development Traffic Volumes (Option 1)



AM Peak Hour



PM Peak Hour



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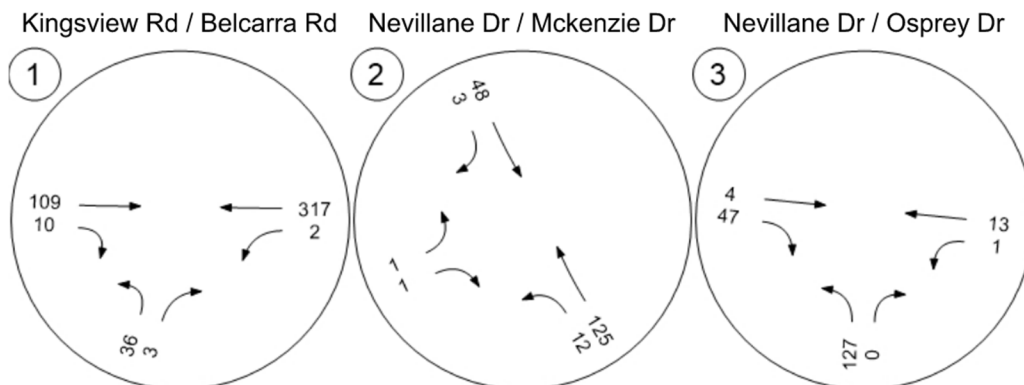
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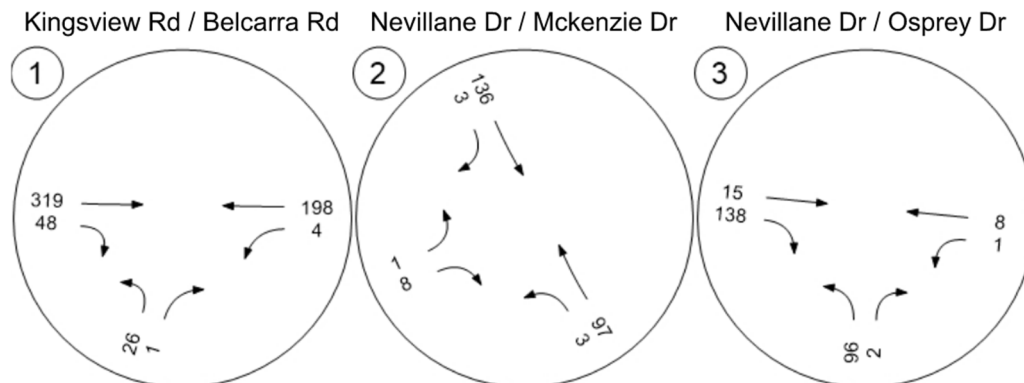
Figure 3 - Post Development Traffic Volumes (Option 2)



AM Peak Hour



PM Peak Hour



4.4 Traffic Operations

For both trip assignment options, the addition of full-build out of the Kingsview Development results in all intersections operating at a LOS C or better and less than one vehicle queues on the side streets with the existing traffic control and laning.

Intersection analysis results for the post-development Option 1 and Option 2 are summarized in **Table 2** and **Table 3**.

Table 2 - Post Development Conditions (Option 1)

Movement		v/c	LOS	Delay (s)	95 th Percentile Queue (m)
Kingsview Road / Belcarra Road					
NB	AM	0.12	B	14.8	5
	PM	0.16	C	18.1	5
EB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.01	A	7.6	0
	PM	0.01	A	8.6	0
Nevilane Drive / McKenzie Drive					
NB	AM	0.01	A	7.3	0
	PM	0.00	A	7.3	0
SB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.00	A	9.0	0
	PM	0.00	A	9.0	0
Nevilane Drive / Osprey Drive					
NB	AM	0.05	A	8.9	0
	PM	0.05	A	9.0	0
EB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.00	A	7.3	0
	PM	0.00	A	7.4	0

Table 3 - Post Development Conditions (Option 2)

Movement		v/c	LOS	Delay (s)	95 th Percentile Queue (m)
Kingsview Road / Belcarra Road					
NB	AM	0.09	B	12.9	0
	PM	0.12	B	14.6	5
EB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.01	A	7.5	0
	PM	0.01	A	8.2	0
Nevilane Drive / McKenzie Drive					
NB	AM	0.01	A	7.4	0
	PM	0.00	A	7.6	0
SB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.01	A	9.9	0
	PM	0.02	B	10.2	0
Nevilane Drive / Osprey Drive					
NB	AM	0.21	A	9.9	5
	PM	0.15	A	9.9	5
EB	AM	0.00	A	0.0	0
	PM	0.00	A	0.0	0
WB	AM	0.00	A	7.4	0
	PM	0.00	A	7.6	0

Traffic Operation Summary

In summary, all intersections along Kingsview Road and Nevilane Drive are expected to operate well with the addition of the development and there are no anticipated delay or queuing issues expected that would require a change in laning or traffic control within the Kingsview neighbourhood.

For Option 1 most of the traffic is expected to utilize Kingsview Road and even with the development traffic the volumes on Kingsview Road remain between 265vph and 450vph per direction. This level of volume is a moderate amount of traffic for a collector

road and can be easily handled by the current laning and traffic control. Side street volumes remain less than 50 vph per direction which is well below the threshold for a change in traffic control. The only “side street” that exceeds 100 vph (to 130 vph) is Nevilane Drive at Osprey Drive in Option 2 (higher volumes heading towards Bell McKinnon area); however, the volume of traffic on Osprey Drive is low and provides lots of gaps for side street traffic to turn.

5.0 OUTSIDE KINGSVIEW AREA NETWORK

For the major intersections more than 1km from the development a high-level review was undertaken to determine if improvements are required due to this development. These intersections include Herd Road / Lakes Road, Herd Road / Maple Bay Road, and Tzouhalem Road / Maple Bay Road. The Master Transportation Plan (MTP) identified improvements for Herd Road / Lakes Road and Herd Road / Maple Bay Road due to MNC wide development. The (Kingsview) development volume does not trigger or require these improvements as these improvements are due to development in the Bell McKinnon area that will change the travel patterns of Maple Bay residents. Currently hospital staff utilize Maple Bay Road to the west (towards Tzouhalem Road) to access the current hospital. However, once the new hospital opens (expected in 2027) hospital staff will utilize Maple Bay Road to the east (towards Herd Road). The change in volume at the two Herd Road intersections the triggers the change in traffic will be due to the hospital opening and other developments being completed in the Bell McKinnon area. Therefore, the improvement at these two intersections is not due to this development.

The intersection of Maple Bay Road / Tzouhalem Road was not identified as requiring improvement long term in the MTP. This is due to the change in traffic patterns expected after 2027 and as the Bell McKinnon Road area grows and provides alternative amenities and employment. This intersection does not require improvements due to this development.

6.0 MULTI-MODAL TRANSPORTATION

An analysis was conducted to determine if the full-build out of the Kingsview development will necessitate additional crosswalks along Kingsview Road or Nevilane Drive. The expected two-way traffic amounts to 490-625 vehicles per hour (vph) during peak hours on Kingsview Road and 35 vph to 240 vph on Nevilane Drive.

There are existing crosswalks at the following locations across Kingsview Road / Nevilane Drive:

- Both legs of Kingsview Road at Donnay Drive (roundabout)
- West leg (side) of Kingsview Road at Algonkin Road
- 130m east of Sansum Drive (trail crossing)
- Both legs of Kingsview Road / Nevilane Drive (roundabout)
- 30m north of Viewtop Road (trail crossing)

Currently there are no sidewalks or shoulders on Nevilane Drive from Osprey Drive to approximately 110m south of Nevilane Place/Pacific Drive which limits the volume of pedestrians in this area. This section of corridor would not meet the threshold of 15 pedestrians (equivalent adult units) now or in the future and therefore wouldn't meet the criteria for a formalized (signed and marked) crosswalk.

From south of Nevilane Place/Pacific Drive to the Nevilane Drive / Kingsview Road roundabout there is a sidewalk on one side (north/west side) only single-family lots. The volume of pedestrians needing to cross in this section would be well below the threshold signed and marked crosswalks. Also, this section would have limited ability to place a crosswalk due to the high number of driveways.

At the roundabout the side switches to the south side until Algonkin Road. Since the section from east of Sansum Drive to Algonkin Road only has sidewalk on one side (south side) there is limited reason for pedestrians to have to cross Kingsview Drive and therefore would not meet the criteria for a signed and marked crosswalk.

Sidewalks are then provided on both sides until Selkirk Terrace, where the sidewalk is only on the north side for 70m. Around the roundabout at Donnay Drive there is sidewalk on both sides and then there is only a sidewalk on the south side until 70m from Maple Bay Road and there is sidewalk on both sides again. There is a potential desire line at Selkirk Terrace, today, due to the stairs on the north side of Kingsview Road that provides access to the tennis courts and Maple Bay Elementary School. Adding a crosswalk at Selkirk Terrace would create a second formalized crosswalk within 115m of the signed and marked crosswalk at the roundabout. Crosswalks spaced at less than 100m to 200m can increase driver non-compliance especially in a suburban area on a steep grade. This desire line is an existing condition and not due to the Kingsview Development. The Municipality should review this location for either a signed and marked crosswalk or provide a connection to the crosswalk at the roundabout by filling the gap in the sidewalk.

Overall, the Kingsview Development does not create the need for additional signed and marked crosswalks on Kingsview Road and Nevilane Drive in the long term.

For the new roads that will be constructed within the development sidewalks will be provided and crosswalks will be implemented at trail crossings.

There are existing painted shoulders and bicycle lanes on Kingsview Road with the MTP identifying a protected bicycle facility on Kingsview Road. The proposed Kingsview Road bicycle facility connects to proposed bicycle boulevard on Nevilane Road. No additional bicycle facilities are required to be constructed within the new development to connect to Kingsview Road. The roads within the new development are expected to be low volume residential roads where cyclists share the road with vehicles without any additional features. The developer is not required to incorporate bicycle facilities within the new roads in their development.

Route 4 – Maple Bay, which goes between Maple Bay and Duncan, is the only bus route within Kingsview. Route 4 mainly stays on Maple Bay Road with only three trips onto Kingsview Road per day (four on Fridays) and once per day on weekends. The bus enters from Maple Bay Road and travels along Kingsview Drive to Chippewa Road, Haida Road, and exits back to Kingsview Drive via Belcarra Road. There are a total of three bus stops, per direction on Kingsview Drive. All of the stops are adjacent to a sidewalk and only have a sign to delineate the stop. The Selkirk stops have a painted curb, while the other four do not. Generally there is no bus bay/pull-out for transit, but the can utilize the shoulders / parking lane / painted bicycle lanes to pull out of traffic. However, the volume of traffic, number of buses per day per stop and transit users does not require bus bays. The Algonkin Road stop has a wooden shelter (over the post boxes) and pedestrians can cross at the signed and marked crosswalk at Algonkin Road. At the other locations pedestrians either can cross at unmarked crosswalks (legal right-of-way for pedestrians) or when there is no traffic cross mid-block (where vehicles have the right-of-way). The development traffic does not require any changes to the bus stops on Kingsview Road.

7.0 CROSS SECTIONS

Along Kingsview Road there are three different built cross sections, which is to be expected for a neighbourhood that has been building out for over 50 years and cross section standards evolve. The section of Kingsview Road between Maple Bay Road and Donnay Drive has a sidewalk on the south side (2m), painted shoulders (2-2.5m) that could be for bicycles or parking, and two 3.3m lanes. The section between Selkirk

Terrace and Sansum Drive generally has sidewalks on one side, on-street parking on both sides and a painted bicycle lane on the south (up hill side) with a curb-to-curb distance of 12m. The section from Sansum Drive to the new roundabout includes a 1.8m sidewalk, 2m parking and a 1.5m painted bike lane on the south side, two 3.3m travel lanes, and a 1.8m shoulder on the north side for a curb-to-curb distance of 13.7m. The north side shoulder was previously painted as a bicycle lane; however, vehicles are observed parking in the shoulder and the bicycle stencils painted over.

The new cross sections in the MTP, for an urban collector, identifies 3.5m travel lanes (bus route), a 3.0m bi-directional protected bicycle facility, 2.4m parking, 1.8m sidewalks, and 2.0m buffer between vehicles and bicycle lanes within a 25-30m right-of-way.

The current right-of-way along the corridor is generally 24-25m, which would allow for implementation of the new cross section. However, implementing the MTP cross section along the entire existing Kingsview Road corridor would require removal of significant vegetation / trees, relocation of curbs and sidewalks, re-grading of driveways in a steep environment, and potentially new retaining walls. Retrofitting Kingsview Road between the existing curbs could provide the protected bicycle lanes identified in the MTP; however, it would require removal of the on-street parking on both sides of the road. The protected bicycle lanes could be uni-directional (1.8m plus buffer) on each side or bi-directional (3.0m plus buffer) on one-side. The protection could be in the form of 'cur-plunks' with painted buffer or concrete island with landscaping / hardscaping. It is not the responsibility of the developer to retrofit over 1.7km of existing road to meet a new standard.

The implementation of active transportation improvements on Kingsview Road, as identified in the MTP, should be considered for inclusion in the future DCC program and will require public consultation prior to implementation. This developer is not responsible for the implementation of the active transportation improvements on Kingsview Road.

8.0 ON-STREET PARKING

The entire length of Kingsview Road and Nevilane Drive was assessed for a change in on-street parking.

Nevilane Drive north of McKenzie Avenue is the only location that should be considered for no parking signage. This is due to a combination of factors including narrow roadway, no shoulders, vertical crests curves (hills), and horizontal curvature.

No other segments of Kingsview Road or Nevilane Drive will require no parking signage due to the wide availability of shoulders and overall road width (curb to curb) that accommodates on-street parking. Kingsview Road and Nevilane Drive from the roundabout to Pacific Drive is over 11m and therefore parked vehicles do not impact the width of the road for two way traffic. Between Pacific Drive and McKenzie Avenue the width reduces to 9m which can allow for parking on both sides of the road; however, if vehicles parked on both sides two way traffic would be limited and vehicles may have to stop and let a vehicle through before proceeding. This is typical in suburban neighbourhoods. The volume of traffic, in the section of road, is expected to remain low enough that these conflicts will occur relatively infrequently.

While Kingsview Road and Nevilane Drive are collector roads they are within a suburban neighbourhood where on-street parking is common and expected by drivers. Therefore, there is no need to restrict parking within the neighbourhood or along Nevilane Drive south of McKenzie Avenue nor on Kingsview Road unless MNC implements protected bicycle lanes.

Implementation of no parking can impact adjacent property owners who should be consulted prior to installation of no parking signage.

9.0 CONCLUSIONS

At full build-out of the Kingsview Development all intersections along Kingsview Road and Nevilane Road will operate at a LOS C or better and have less than 20 seconds of delay to turn onto the major road and less than one vehicle queue on the side street on average during the peak hours. No changes to laning or traffic control is required due to the addition of the development traffic, even with the worst case scenario of all single family lots having suites. The intersections along Herd Road, identified in the MTP for improvement, are not triggered by this development and therefore are not required to be improved due to this development.

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An assessment of existing pedestrian desire lines, existing crosswalk placement, and expected pedestrian volumes at full build-out indicates that there is only one location, Selkirk Terrace, for a potential signed and marked crosswalk. This location is an existing desire line to the tennis courts and elementary school. This location should be reviewed and addressed by the Municipality and not the developer. The challenge with implementing a signed and marked crosswalk is the location is within 115m of the roundabout crosswalks; however, pedestrians from Selkirk Terrace do not have a sidewalk connection on the south side to the roundabout crosswalk. Due to the grades on Kingsview Road walking 250m out of the way is less than ideal.

There is no expectation that the existing on-street parking on Kingsview Road and Nevilane Drive to McKenzie Avenue will be required to be restricted in the long term as there is separate space provided for on-street parking from the travel lanes. For the section of Nevilane Drive between McKenzie Avenue and Osprey Drive no parking signs maybe required in the future as any on-street parking could block the road due to the lack of road width and shoulders.

Retrofits to the existing cross-section of Kingsview Road is outside of the scope for this development and should be added to the Municipality of North Cowichan's DCC program. Any changes to Kingsview Road cross-section would require public consultation prior to any changes. In addition, no changes to the existing transit stops are required along Kingsview Road due to the development.

Sincerely,

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