



Ref. No. 171-00927 Task 21

February 14, 2020

Mr. Cesar Saleh, P. Eng.
 VP Planning and Design
 W.M. Fares Architects
 3480 Joseph Howe Drive, 5th Floor
 HALIFAX NS B3L 4H7

Sent via Email to cesar.saleh@wmfares.com

RE: Revised Addendum Traffic Impact Statement, Proposed Residential Development, Walker Service Road, Lower Sackville, NS

Dear Mr. Saleh:

This is the Revised Addendum that you have requested for the Addendum Traffic Impact Statement (TIS) for the proposed residential development on Walker Service Road. The Revised Addendum is required to address land use changes in the proposed development since the original Addendum (copy attached) was prepared by WSP Canada Inc. during July 2014.

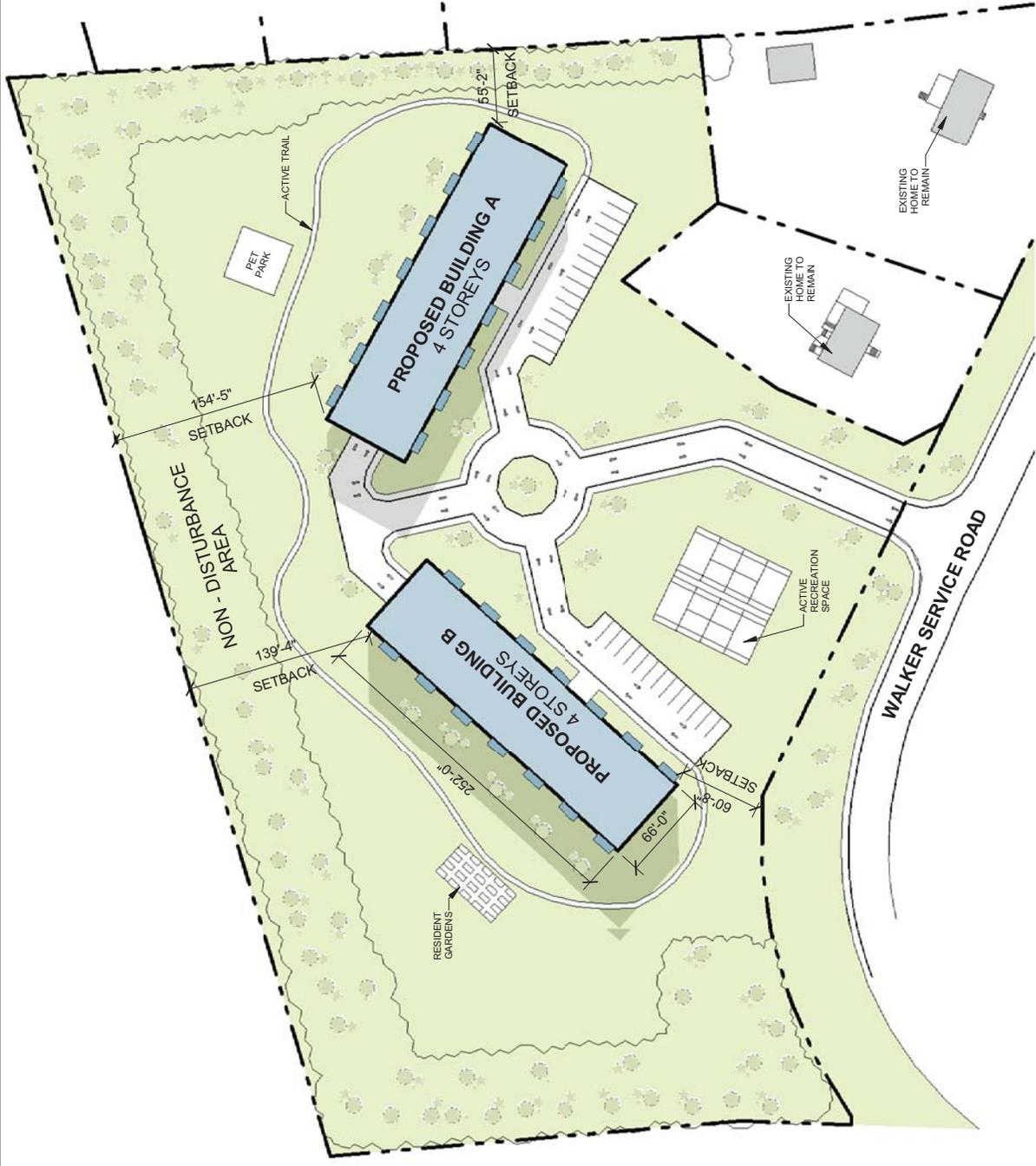
Description of Land Use Changes - Changes for the proposed development between the proposed 2014 development and the current 2020 development include:

- The 2014 development was proposed to include 33 single family townhouse units and a single multi-residential building with 63 units. The 2020 development is proposed to include two buildings with 56 residential units per building.
- While the proposed 2014 development was to be served by a new public street on Walker Service Road, the current development will be accessed by a private driveway.

Trip Generation Estimates - Trip generation estimates for the proposed 2014 and 2020 developments are compared in Table A-1.

Table A-1 - Comparison of Trip Estimates for Proposed Development - 2014 and 2020											
Land Use	Number Units ²	Trip Generation Rates				Trips Generated ³					
		AM Peak		PM Peak		AM Peak		PM Peak			
		In	Out	In	Out	In	Out	In	Out		
Trip Generation Estimates for Proposed Development - 2014											
Estimated Total Vehicle Trips for Proposed Development - 2014 (Table A-1, Addendum Traffic Impact Statement - Proposed Residential Development, Walker Service Road - WSP Canada Inc., July 10, 2014)					12	31	35	22			
Trip Generation Estimates for Proposed Development - 2020											
Mid-Rise Apartment ¹ (Land Use 221)	112 units	AM Peak Hour $\text{Ln}(T) = 0.98 \text{Ln}(x) - 0.98$ PM Peak Hour $\text{Ln}(T) = 0.96 \text{Ln}(x) - 0.63$				10	28	30	19		
Comparison of Trip Generation Estimates - Proposed 90 Unit Building to Existing Residential Land Uses											
Reduction in Trip Estimates for Proposed 2020 Development					2	3	5	3			
NOTES: 1. Equations for Mid-Rise Apartment, Land Use Code 221, <i>Trip Generation, 10th Edition</i> , Institute of Transportation Engineers, 2017, have been used. 2. Units are 'Number of Apartments'. 3. Trips generated are 'vehicles per hour for peak hours'.											

PROJECT DATA
LOT AREA: 9.7 ACRES
BUILDING A: • 56 UNITS • 63 PARKING SPOTS
BUILDING B: • 56 UNITS • 63 PARKING SPOTS



Project No: 2019-13
Scale: As indicated
Date: NOVEMBER 2019

SITE DEVELOPMENT PLAN **Figure A-1**

Summary Trip Generation Comparison - Trip generation estimates for the 2014 and 2020 proposed land uses (Table A-1) indicate the following:

1. The proposed 2014 land use composed of single family and multi-unit residences was estimated to generate 43 two-way vehicle trips (12 entering and 31 exiting) during the AM peak hour and 57 two-way vehicle trips (35 entering and 22 exiting) during the PM peak hour.
2. The proposed 2020 land use composed of multi-unit residences is estimated to generate 38 two-way vehicle trips (10 entering and 28 exiting) during the AM peak hour and 49 two-way vehicle trips (30 entering and 19 exiting) during the PM peak hour.

Traffic Volumes - Since there has not been any noticeable development changes on Walker Service Road since the original Addendum TIS was prepared in 2014, the volume on that road is expected to be unchanged with a two-way volume of approximately 1700 vehicles per day (vpd). Available HRM traffic data for Old Sackville Road includes estimated weekday volumes of 4600 vpd about 500 meters north of Walker Service Road (August 2014) and 3900 vpd about 750 meters south of Walker Service Road (August 2017).

Conclusions -

1. The proposed 2020 land use is estimated to reduce the number of peak hour trips by 5 two-way trips during the AM peak hour and 8 two-way vehicle tops during the PM peak hour, compared to the 2014 land use.
2. The numbers of site generated trips have been reduced slightly from the land use proposed in 2014, and road volumes have not experienced any significant changes since 2014, therefore, the conclusion included in the 2014 Addendum is still considered to be appropriate
"Since volumes on adjacent roads are low to moderate, and site generated trips are low, vehicle trips generated by the proposed development are not expected to have any significant impact to the performance of adjacent roads, intersections, or the regional road network."

If you have any questions, please contact me by Email to ken.obrien@wsp.com or telephone 902-452-7747.

Sincerely:



- Original Signed -

Ken O'Brien, P. Eng.
Senior Traffic Engineer
WSP Canada Inc.



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Ref. No. 121-12667-2

July 10, 2014

Mr. Cesar Saleh, P. Eng.
W.M. Fares Group
480 Parkland Drive, Suite 205
HALIFAX NS B3S 1P6

Sent via Email to cesar.saleh@wmfares.com

**RE: Addendum Traffic Impact Statement - Proposed Residential Development,
Walker Service Road, Lower Sackville, NS (WSP Canada Inc., June 4, 2012)**

Dear Mr. Saleh:

This is the Addendum requested by HRM for the Traffic Impact Statement (TIS) for the proposed residential development on Walker Service Road. The Addendum is required to address site entrance and land use changes that have occurred since the TIS was prepared during June, 2012.

Development Changes from 2012 to 2014 - The Addendum has been prepared to address the following changes in the proposed development:

- While the 2012 site was served by a driveway and a New Street, the current site is proposed to be served only by a New Street (Figure A-1). Located approximately 270 meters west of Old Sackville Road, it is at the same location as was previously proposed.
- While the 2012 development proposal included four duplex units, 37 townhouses, and a 65 unit apartment building, the current proposal (Figure A-1) includes 33 townhouse units and a 63 unit apartment building.



Photo 1 - Looking west on Walker Service Road from the proposed New Street intersection.



Photo 2 - Looking east on Walker Service Road towards Old Sackville Road from the proposed New Street intersection.



WALKER SERVICE ROAD
PROJECT ADDRESS

SITEPLAN
Figure A-1

SCALE: 1" = 90'-0"
DATE: 10 July 2014

WM FARES
GROUP

A1

Trip Generation - Comparison of trip generation estimates (Table A-1) for the land uses included in the 2012 and 2014 development proposals include the following:

- It is estimated that the proposed 2012 land use would generate a total of 50 two-way vehicle trips (14 entering and 36 exiting) during the AM peak hour and 67 two-way vehicle trips (41 entering and 26 exiting) during the PM peak hour.
- It is estimated that the proposed 2014 land use will generate a total of 43 two-way vehicle trips (12 entering and 31 exiting) during the AM peak hour and 57 two-way vehicle trips (35 entering and 22 exiting) during the PM peak hour.
- The trip reduction from 2012 to 2014 land uses is estimated to include a total of 7 fewer two-way vehicle trips (2 entering and 5 exiting) during the AM peak hour and 10 fewer two-way vehicle trips (6 entering and 4 exiting) during the PM peak hour

Table A-1 - Trip Generation Estimate Comparisons 2012 and 2014 Development Proposals									
Land Use ¹	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
Trip Generation Estimates for Proposed 2012 Development									
Single Family (Land Use 210)	41	0.19	0.56	0.64	0.37	8	23	26	15
Mid-Rise Apartment (Land Use 223)	65 Units	0.093	0.207	0.226	0.164	6	13	15	11
Trip Generation Estimates for Proposed 2012 Development						14	36	41	26
Trip Generation Estimates for Proposed 2014 Development									
Single Family (Land Use 210)	33	0.19	0.56	0.64	0.37	6	18	21	12
Mid-Rise Apartment (Land Use 223)	63 Units	0.093	0.207	0.226	0.164	6	13	14	10
Trip Generation Estimates for Proposed 2014 Development						12	31	35	22
Reduction in Site Generated Trips from 2012 to 2014						2	5	6	4
NOTES: 1. Trip generation rates are 'vehicles per hour per unit'. Rates are for the indicated Land Use Code, <i>Trip Generation, 8th Edition</i> , Institute of Transportation Engineers, 2008. Land Use 210 rates have been used for duplex and townhouse units. 2. Units are 'number of single family units' and 'number of apartment units'. 3. Rates are 'vehicles per hour per unit'; Trips generated are 'vehicles per hour for peak hours'.									

Traffic Volumes - Walker Service Road- A recent site visit determined that there have not been any noticeable changes in development on Walker Service Road during the past two years. Therefore, the estimated volumes of 170 vehicles per hour (vph) during the PM peak hour and 1700 vehicles per day (vpd) for an average weekday two-way volume on Old Sackville Road are still considered to be appropriate.

Traffic Volumes - Old Sackville Road - While there have not been any additional machine traffic counts on Old Sackville Road near Walker Service Road since the 2012 Traffic Impact Statement (TIS) was prepared, a manual turning movement count at Sackville Cross Road in November, 2012, indicated a PM peak hour two-way volume of 455 vph on Old Sackville Road east of the intersection. Assuming that the PM peak hour represents about 10% of the daily volume (considered typical of this type of road), and traffic volumes have increased by 2% per year since

2012, the 2014 average weekday two-way volume on Old Sackville Road between Sackville Cross Road and Walker Service Road is estimated to be approximately 4750 vpd. Therefore, the estimated two-way weekday volume of 4800 vpd included in the 2012 TIS is still considered to be representative of volumes on the road near the Walker Service Road intersection.

Conclusions -

1. Since the the proposed 33 townhouse units and a 63 apartment units are estimated to generate only 43 two-way vehicle trips (12 entering and 31 exiting) during the AM peak hour and 57 two-way vehicle trips (35 entering and 22 exiting) during the PM peak hour, the site should be adequately served by a single street connection to Walker Service Road.
2. The conclusion reached by the 2012 Traffic Impact Statement is still considered to be appropriate - *"Since volumes on adjacent roads are low to moderate, and site generated trips are low, vehicle trips generated by the proposed development are not expected to have any significant impact to the performance of adjacent roads, intersections, or the regional road network."*

If you have any questions or comments, please contact me by Email to ken.obrien@wspgroup.com or telephone 443-7747.

Sincerely;



- Original Signed -

Ken O'Brien, P. Eng.
Senior Traffic Engineer
WSP Canada Inc.

