

February 6, 2019

2452595 Ontario Ltd.
220 Duncan Mill Road, Suite 401
Toronto, ON M3B 3J5

**Re: Transportation Impact Study – Reliance Letter
Plan of Subdivision/Common Element Condominium Applications
231-245 Reach Street, Township of Uxbridge
Our Project No. NT-17-215**

NexTrans Consulting has previously prepared a Transportation Impact Study (TIS), dated January 26, 2018 for the proposed residential development located at 231-245 Reach Street, in the Township of Uxbridge. We acknowledged the transportation comments provided by the Region of Durham and AECOM (on behalf of the Township of Uxbridge) regarding a sight line review in October 2018 which is also provided in **Appendix A** of this letter. Subsequently, this Reliance Letter is prepared to address the changes to the development plan in regard to the TIS. **Table 1** summarizes all submission documents.

Table 1 – Site Plan Comparisons

Submission	Date
Transportation Impact Study (TIS)	January 26, 2018
TIS – Addendum in Response to Comments	October 5, 2018
Reliance Letter	February 6, 2019

The original development plan from the first submission dated January 2018 included 61 townhouse units with 196 parking spaces and two full movement vehicular accesses located on the east and west ends of the site via Reach Street. Based on the revised plan dated February 5, 2019, the development now includes one (1) additional unit, totaling 62 townhouse units, and 278 parking spaces (including garage space). A comparison of the site plans is provided in **Table 1**.

Table 1 – Site Plan Comparisons

Site Plan Version	Site Statistics	
	Residential Units	Parking Supply
January 2018 TIS & October 2018 TIS Addendum	61 units	196 spaces (122 resident and 74 visitor)
February 2019 Reliance Letter	62 units	278 spaces (248 resident and 30 visitor)
Net Difference	+1 unit	+82 spaces

As shown above, the revised site plan will add one (1) residential unit and increase the parking supply by 82 spaces resulting in a total parking rate of 4.48 spaces per unit.

Traffic Assessment:

Trip generation for the updated site plan is based on the same methodology utilized in the January 2018 TIS, and it is summarized in **Table 2**.

Table 2 – Site Trip Generation Comparisons

Site Plan Version	Trip Generation					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
January 2018 TIS	6	29	35	27	13	40
February 2019 TIS Addendum	6	29	35	27	14	41
Net Difference	0	0	0	0	+1	+1

As summarized in the table above, it is our opinion that the conclusions and findings presented in our January 2018 TIS remains valid.

Parking Assessment:

Based on the revised site plan, the development provides a total of 278 parking spaces at a rate of 4.48 spaces per unit; two (2) spaces in the garage, two (2) spaces in the driveway and on-street parking. The updated parking requirement calculations are summarized in **Table 3**.

Table 1 – Site Plan Comparisons

Use	Number of Units	Rate	Parking Requirement	Parking Provided	Difference
Row House Dwelling (Townhouse)	62	2.0 spaces per unit (excluding garage spaces)	124	124	0
		0.5 visitor spaces per unit	31	30	-1
Total			155	154	-1

Based on the Township of Uxbridge Zoning By-law 2017-061, the residential parking spaces shall not be located in a private garage but shall be located in a driveway or other parking area on the same lot therefore, a total of 155 parking spaces (124 resident and 31 visitor) will be required for the proposed development. The revised plan provides for a total of 154 parking spaces (124 resident and 30 visitor) resulting in a shortfall of one (1) visitor space. However, it is NexTrans' opinion that the shortfall can be accommodated by driveway space as not every household will utilize the garage space as storage so, we believe a shortfall of one (1) visitor space is negligible.

Site Circulation:

Based on the revised plan, the signage and pavement marking plan was updated, see **Figure 1**, and AutoTURN software was used to confirm the maneuvering of a Garbage/Emergency vehicle (HSU TAC-2017) throughout the site, see **Figure 2**.

NexTrans concludes that based on the revised site plan, our findings and conclusions remain applicable as based on previous submission. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS ENGINEERING

Prepared by:



Madeleine Catz, EIT
Transportation Analyst

Reviewed by:



Richard Pernicky, CET, MITE
Principal

Appendix A - TIS Addendum (October 2018)

Transportation Impact Study Addendum

PROPOSED RESIDENTIAL DEVELOPMENT

231-245 Reach Street
Township of Uxbridge, Ontario

October 5, 2018
Project No: NT-17-215

520 Industrial Parkway South, Suite 201
Aurora, Ontario L4G 6W8

Phone: 905-503-2563
www.nexttrans.ca

nexttrans
CONSULTING ENGINEERS

NextEng Consulting Group Inc.

October 5, 2018

2452595 Ontario Ltd.
220 Duncan Mill Road, Suite 401
Toronto, ON M3B 3J5

**Re: Transportation Impact Study
 Plan of Subdivision/Common Element Condominium Applications
 231-245 Reach Street, Township of Uxbridge
 Our Project No. NT-17-215**

On behalf of our client, 2452595 Ontario Ltd, we acknowledge the Region of Durham and AECOM (on behalf of the Township of Uxbridge) transportation comments dated June 13, 2018 and September 27, 2018, respectively, provided in **Appendix A** with respect to our Transportation Study, dated January 26, 2018.

The subject site is currently occupied by five (5) residential dwellings and is located north of Reach Street and east of Coral Creek Crescent in the Town of Uxbridge. The development plan is to provide 61 townhouse units with two full movement vehicular accesses located on the east and west ends of the site via Reach Street.

Based on the comments received, our responses in the context of the revised site plan are addressed as follows:

TRANSPORTATION STUDY COMMENTS

NexTrans has reviewed the Region of Durham comments and recognized the traffic data is out-of-date in accordance to the Region's TIS guidelines. However, given the comments, new counts and a resubmission of the transportation impact study are not required. The Region as well as AECOM, have concluded that only a sight line review at the proposed site accesses is required in addition to the study submitted.

For the purpose of verifying that minimum sightline requirements are met, a design speed of 70 km/hr (posted speed limit plus 20 km/hr) will be utilized for vehicles maneuvering turns from the stop bar onto the major road. Sight distance requirements will be considered for passenger vehicles departing the stopped position at the proposed site accesses on Reach Street.

Under the stopping sight distance assessment, the target height applied is 0.38m for vehicle tail lights, and for intersection movements a top of car height of 1.30m is applied. A driver eye height of 1.08m is applied for all scenarios. Lastly, a deceleration rate of 3.4m/s² is applied; which is a comfortable deceleration rate for most drivers.

The intersection sight distance (ISD) along the major road is determined by the formula below:

$$ISD = 0.278 (V_{\text{major}})(t_g) \quad \text{Where:}$$

V_{major} = design speed of the major road (km/h)
 t_g = time gap for minor road vehicle to enter major road (s)

$$\begin{aligned} \text{Minimum ISD for left turn onto major road from stop} &= 0.278 (70) (7.5) \\ &= 145.95 \text{ m} \\ &= 150 \text{ m} \\ \text{Minimum ISD for right turn onto major road from stop} &= 0.278 (70) (6.5) \\ &= 126.49 \text{ m} \\ &= 130 \text{ m} \end{aligned}$$

The required stopping distance, adjusted for effect of grade, is determined using the following formula:

$$SSD = 0.278Vt + 0.039 \left(\frac{V^2}{a} \right) \quad \text{Where:}$$

SSD = Stopping sight distance (m)
t = Brake reaction time, 2.5s
V = Design speed (km/h)
a = Deceleration rate (m/s²)

$$\begin{aligned} \text{Minimum SSD from stop} &= 0.278 (70) (2.5) + 0.039 \left(\frac{70^2}{3.4} \right) \\ &= 104.86 \text{ m} \\ &= 105 \text{ m} \end{aligned}$$

Based on the TAC Manual (2017) Figure 9.10.1, the corresponding minimum decision sight distance is 200 meters.

The sightline distances at the proposed site accesses on Reach Street were measured in-field and are illustrated in **Figure 1** and the results are summarized in **Table 1** and **Table 2**.

Table 1 – Sightline Assessment at West Site Access

Approach @ Reach Street and West Site Access	Decision Sight Distance			Departure Sight Distance		
	Required	Achieved	Difference	Required	Achieved	Difference
Eastbound Approach	200m	300m +	+ 100m	150m	295m	+ 145m
Westbound Approach	200m	300m +	+ 100m	130m	300m+	+ 170m

Table 2 – Sightline Assessment at East Site Access

Approach @ Reach Street and East Site Access	Decision Sight Distance			Departure Sight Distance		
	Required	Achieved	Difference	Required	Achieved	Difference
Eastbound Approach	200m	201m	+ 1m	150m	220m	+ 70m
Westbound Approach	200m	300m +	+ 100m	130m	300m+	+ 170m

As summarized in **Table 1** and **Table 2**, the sightline analysis concludes that the decision and departure sight distances measured in-field at the proposed site accesses meet the required distance for both the eastbound and westbound approaches.

We trust the enclosed sufficiently addresses your needs. Should you have any questions, please do not hesitate to contact the undersigned.

Yours truly,

NEXTRANS ENGINEERING

Prepared by:



Madeleine Catz, EIT
Transportation Analyst

Reviewed by:



Richard Pernicky, CET, MITE
Principal

**Appendix A – Region of Durham and AECOM
Comments**



Works
Department

Interoffice Memorandum

DATE: June 13, 2018

TO: Lori Riviere-Doersam, MCIP, RPP
Planning Department

FROM: Jeff Almeida
Development Approvals

RE: Applications for Approval of a Plan of Subdivision and
Approval of a Plan of Condominium
File Numbers: S-U-2015-001 & C-U-2015-01
Applicant: 2452595 Ontario Limited
Location: Part Lot 28, Concession 7
Municipality: Township of Uxbridge

FILE: 2015-U-003

The Regional Works Department has reviewed the above noted applications and provide the following comments.

Municipal Servicing

Municipal water supply is available to the subject site from the existing 200mm watermain on Village Green Lane. The proposed development will require a separate fireline connection in addition to the domestic water supply connection to provide sufficient fire protection internally. These water services must be 2 separate connections at the watermain and they must enter into a dedicated water meter / backflow preventer room before being connected to any private service connections and/or private hydrants on-site.

Sanitary sewer servicing is available from the existing 200mm sanitary sewer on Village Green Lane.

Functional Servicing Report

We have reviewed the Functional Servicing Report (FSR) and find the proposed design acceptable. We do not require any revisions to the FSR as it pertains to Regional services.

Transportation

Reach Street (Regional Road 8) is a 2 lane Type 'B' Arterial Road as per the Durham Regional Official Plan, with an existing 30m Right-of-Way

width. There are currently no future plans to widen Reach Street and therefore there is sufficient Right-of-Way across the Reach Street frontage.

As per our previous comments, a development of this size can be adequately served by a single entrance. However, as the site frontage is now 245 m, we are willing to accept 2 full moves entrances to serve the development. The location and spacing of these entrances are acceptable.

Transportation Study

We provide the following comments on the Transportation Study:

1. The site description is 231-245 Reach Street, however the proposed site plan (Figure 1-2) appears to include 249 Reach Street. This should be confirmed.
2. The proposed development borders on 227 Reach Street, which currently shares an access with 231 Reach Street. The developer should reach an agreement with the owner of 227 Reach Street to relocate a new driveway westerly.
3. The site plan shows a sidewalk along the site frontage. The sidewalk is shown too close to Reach Street and would impact the existing drainage ditches. TAC guidelines call for a minimum 4.5m clear zone for this classification of roadway. The Region recommends that the Township of Uxbridge consider extending the sidewalk from east of Testa Road to connect with the proposed residential development. This would provide a safe connection for pedestrians to the amenities and commercial establishments discussed in Section 2.3.
4. Reach Street has been identified as both a cycling route and transit corridor in the Region's TMP. The Region's Cycling Plan shows Reach Street as operating with paved shoulders to accommodate cyclists. Proposed driveways accesses should protect for paved shoulders on Reach Street.
5. The existing traffic volumes are based on surveys taken in September 2015 and May 2017. As per the Region's TIS guidelines, surveys should be taken no more than 1 year before the TIS is submitted, so that any traffic assessments are based on up-to-date baseline information.
6. We agree with the trip generation rates, trip distribution, traffic growth assumption and the full build out and horizon years used for the purposes of this study.
7. As per the Region's response to the Terms of Reference (Appendix A) we specifically requested that the TIS includes a review of the available sight lines at the proposed site accesses as per the TAC Manual (June 2017) based on a 70km/hr design speed. The required Minimum Decision Sight Distance is 200m, and although it appears to be achieved at each site access, this should be confirmed in the field.
8. The right-turn lane warrant should be based on the Region's Right Turn Lane

Guidelines. For a 2-lane Type B arterial road, the threshold would be 20 vehs / hr. Based on this, we agree that a right-turn lane is not required at either site access. We agree that left-turn lanes are not required.

9. As per Schedule A of the Township of Uxbridge Official Plan, future residential development is planned on the south side of Reach Street, which is to be accessed via a future collector road. The future collector road will need to connect to Reach Street at the same location as one of these proposed site accesses to form a future 4-way intersection.

Notwithstanding the above comments, in particular the out-of-date traffic survey, we do agree with the conclusions reached, in that the study intersections and site accesses will operate in the horizon year at an acceptable level of service. We therefore will not require a resubmission of the TIS. We do however require a letter addressing the sight line review at the proposed site accesses.

Waste Management

The submitted draft plan qualifies for municipal waste collection service on private property. An application for service must be completed once construction reaches 50% occupancy. A final review will occur at that time to confirm that no changes occurred during construction that may change this decision.

The applicant can refer to the Region's Waste By-Law for clarification on the technical requirements and standards that must be met in order to provide curbside municipal waste collection (www.durham.ca/wastebylaw).

Draft Conditions

The following Regional Municipality of Durham Works Department conditions shall be complied with prior to consent by the Department for registration of the plan of subdivision and said conditions shall form part of the Subdivision Agreement:

1. The Owner shall submit plans showing any proposed phasing to the Region for review and approval, if this subdivision is to be developed by more than one registration.
2. The Owner shall grant to the Region any easements required to provide Regional services for this development and these easements shall be in locations and of such widths as determined by the Region.
3. The Owner shall provide for the extension of such sanitary sewer and water supply facilities which are external to, as well as within, the limits of this plan that are required to service this plan. In addition, the Owner shall provide for the extension of sanitary sewer and water supply facilities within the limits of the plan which are required to service other developments external to this subdivision. Such sanitary sewer and water supply facilities are to be designed and constructed according to the standards and requirements of the Regional

9 Details – Drawing LD1

9.1 No Comments.

10 Functional Servicing and Stormwater Management Report, prepared by Sabourin Kimble & Associates Ltd., Dated April, 2018

10.1 A maintenance and operation guide shall be provided for the infiltration facilities, oil grit separators. Please indicate how the proposed infiltration galleries will be accessed for cleanout purposes.

10.2 The report shall provide calculations confirming the inlet capacity for r/cb's 1,2 and 3.

10.3 The use of perforated pipe systems in the center of the roadway has the potential for settlements and future maintenance concerns. Additional details will be required during detailed design to mitigate risk (e.g. connection of trenches to manholes, construction inspection requirements etc.

10.4 The report identifies that the rear half of the roofs on Blocks 1 and 2 will outlet to the storm sewer system. The Applicant shall confirm that this is feasible with the houses proposed to be constructed on the Blocks.

11 Phase I Environmental Site Assessment, prepared by Sirati & Partners Consultants Ltd., dated February 20, 2018

11.1 No Comments.

12 Noise Feasibility Study, prepared by HGC Engineering, dated February 22, 2018

12.1 The recommendations for noise fence shall be included in the final engineering drawings.

12.2 Forced air ventilation systems with ductwork sized for future installation of central air conditioning units by the occupant will be required for units flanking Reach Street.

12.3 All recommended warning clauses will require to be inserted into the Plan of Condominium Agreement.

12.4 An updated report will require to be submitted based on the final grading plans.

13 Report on Preliminary Geotechnical Investigation, prepared by Sirati & Partners Consultants Ltd., dated April 27, 2018

13.1 AECOM has no comments on the report.

14 Hydrogeological Assessment to Support Townhome Development at 231, 235, 237, 241, 245 and 249 Durham Road No. 8 (formerly Reach Street), Uxbridge, ON, prepared by Palmer Environmental Consulting Group Inc., dated April 18, 2018

14.1 The report identifies that no construction is anticipated below the water table. The final detailed drawings shall specify that if the contractor encounters the water table during construction, the hydrogeologist must be contacted prior to continuing the excavation.

14.2 The report should identify any recommended adjacent wells for monitoring due to vibrations etc which will be anticipated during construction.

15 Transportation Study – Proposed Residential Development, prepared by NexTrans Consulting Engineers, dated January 2018

15.1 The terms of reference indicate that sight lines will be reviewed east and west along Reach Street; however no discussions or calculations confirming the sight lines are included in the report. The sight lines shall be reviewed based on a 70 km/hr design speed.