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March 25, 2024

Brock Zents Partnership
Attn: Mr. Jack Greenberg
181 Eglinton Avenue East, Suite #204
Toronto, Ontario M4P 1J4

Re: 2660 – 2680 Brock Road, City of Pickering, Ontario, Proposed Residential Development – Traffic Addendum

TRANS-PLAN has prepared this Traffic Addendum for the proposed residential development, at 2660 – 2680 Brock Road, in the southwest quadrant of Brock Road and Zents Drive in the City of Pickering, Ontario. This letter addresses the relevant traffic comments received from the City and Region and builds off of our 2022 Transportation Study. In addition to our response to comments, this addendum includes a review of the latest site plan revision, a Waste Management Plan, Pavement Marking and Signage Plan, and a Functional Design for the proposed right-in / right-out access at the north of the subject site.

1. RESPONSE TO COMMENTS

Trans-Plan previously submitted a Transportation Study, dated October 2022, which was reviewed and commented on by staff at the City of Pickering and Durham Region. The relevant traffic comments are shown below, along with our responses to each:

Engineering Services Department, May 26, 2023 – Capital Projects

"2. Provide a solution for the north driveway to enforce the right-in and right out turning movements, as noted on the Site Plan."

Response: A Functional Design drawing of the access has been provided, and discussed in Section 6.

"6. A proposed signage plan for the proposed site will be required at the detailed design stage."

Response: A Pavement Marking and Signage Plan has been provided, and discussed in Section 5.

"9. Traffic report section 4.1 - The traffic report says that Zents Drive and Rex Heath Drive are local roads. As per the City of Pickering Official Plan Edition 9, they are collector roads. Revise the report."

Response: Acknowledged. The paragraph describing these roadways has been corrected as follows:

Zents Drive / Rex Heath Drive are collector roads under the jurisdiction of the City of Pickering and connects with Brock Road. The roadway runs in an east-west direction with one lane per direction, with both roadways connecting residents from Brock Road to residential areas. Rex Heath Drive, the east leg, was recently completed to connect Brock Road to William Jackson Drive. The posted speed limit on Zents Drive within the study area is 40 km/h.

"10. Traffic report section 4.1 - The traffic report says that Dersan Street and William Jackson Drive are local roads. As per the City of Pickering Official Plan Edition 9, they are collector roads. Revise the report."

Response: Acknowledged. The paragraph describing these roadways has been corrected as follows:

Dersan Street / William Jackson Drive are collector roads under the jurisdiction of the City of Pickering and connects with Brock Road. Dersan Street (west leg) runs in an east-west direction and connects to other residential streets. William Jackson Drive (east leg) generally runs in a north-south direction, connecting riders from Brock Road to Taunton Road to the north, with connections to residential streets. The speed limit on Dersan Street within the study area is assumed to be 40 km/h.

"11. Traffic report table 6 – Table 6 shows that the existing level of service (for am peak hour) for EB left, EB through, EB right, WB left and WB through/right is D. The level of service for most of these movements has gone up to C for 2025 background and total traffic conditions. The delay has also improved for most of these movements instead of going down. Please confirm."

Response: This occurs for the signalized intersection of Brock Road at Zents Drive / Rex Heath Drive due to increase of eastbound and westbound vehicular traffic generated by the proposed developments in the surrounding area. As more green time is provided for the EB and WB movements, the vehicular delay is similar or slightly lower, while the NB and SB movements see slightly increased delays, when comparing the existing conditions to the future conditions.

<u>Region of Durham Works Department, June 29, 2023 – Waste Management</u>

"Please refer to www.durham.ca/wastebylaw for further information about municipal waste collection on private property. If the applicant is unable to meet the criteria of the municipal waste collection guidelines, private waste collection will be required. If this occurs, the Region will require that the developer inform purchasers of the fact through the declarations of the Condominium. The wording of the declaration will need to be reviewed and approved by the Region.

A Waste Management Plan outlining the designated areas for collection and storage of waste shall be submitted, demonstrating how waste collection will function for residents of the proposed townhouse site."

Response: A Waste Management Plan describing how the proposed residential development meets the criteria for municipal waste collection is provided in Section 4.

2. TRAFFIC ANALYSIS UPDATE

The latest site plan of the proposed residential development is provided in Attachment 1. The proposed development consists of 274 residential units, through 162 units of 4-storey townhomes, 82 units of 3-storey rear lane stacked townhomes and 30 units of 3-storey rear lane standard townhome units. Underground parking garages are provided for the 4-storey townhomes at a rate of 1 space per unit, or 162 parking spaces. The 3-storey units are each provided two surface parking spaces for 224 parking spaces. The overall parking spaces proposed is 452 parking spaces, through 386 resident spaces and 66

surface visitor parking spaces. Table 1 provides a summary of the site statistics for the proposed development.

Table 1 – Proposed Development's Site Statistics

Land Use	Number of Units	Proposed Residential Parking Supply	Proposed Visitor Parking Supply
4-Storey Stacked Towns	162	162 parking spaces	66 spaces
3-Storey Stacked Towns	82	164 spaces	
3-Storey Standard Towns	30	60 spaces	
Total	**274 units**	**386 spaces**	**66 spaces**

Site trips for the proposed residential components of the site were generated using the Institute of Transportation Engineers (ITE) Trip Generation manuals, 11th Edition. The ITE Land Use Code (LUC) 220 for Multifamily Housing (Low-Rise) was utilized for trip rates, since based on the ITE LUC description, the LUC includes the description for townhouses and stacked townhouses (source information provided in Attachment 2). Table 2 provides the site trip generation for the proposed development, included with a comparison to the statistics from our 2022 study.

Table 2 – Site Trip Generation

Dwelling Type	Size (Units)		AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Multifamily Housing (Low-Rise) 220	274	Distribution	24%	76%	100%	63%	37%	100%
		Equation	T= 0.31(X)+22.85			T= 0.43(X)+20.55		
		Rate	0.09	0.30	0.39	0.32	0.18	0.50
		Trips	**26**	**82**	**108**	**86**	**52**	**138**
2022 Study Site Trips (195 units)			**20**	**63**	**83**	**65**	**39**	**104**
Site Trip Increase			**+6**	**+19**	**+25**	**+21**	**+13**	**+34**

Compared to our previous study, the overall site trips increased by approximately 25 and 34 two-way trips during the weekday AM and PM peak hours, respectively. Revised figures for the weekday AM and PM site traffic assignment, and 2030 future total traffic volumes are provided in Attachment 2.

With the increase in units and site traffic, Synchro analysis software was utilized for a capacity analysis for the critical intersections and 2030 horizon year scenario. The methodology remains the same from the 2022 study, with the capacity analysis sheets provided in Attachment 2, along with the capacity tables from the 2022 study.

Table 3 provides the 2030 total capacity analysis results, comparing the previous submission and the latest development proposal for the two signalized intersections. No additional roadway improvements have been implemented into the roadway network.

The intersection of Brock Road and Zents Drive / Rex Heath Drive is expected to operate similarly with the increase in residential units, with all movements expected to operate at a good LOS of D or better. No roadway improvements or signal timing adjustments have been included for this analysis.

The intersection of Brock Road and Dersan Street / William Jackson Drive is also expected to operate similarly. During the PM peak hour, the overall intersection is expected to operate at a good LOS of C, with all movements expected to operate below capacity, other than the westbound left movement which remains unchanged from the previous analysis. The westbound left movement is an existing operational issue, and the proposed development is not expected to create further delays. Site traffic is expected to travel further north to Zents Drive due to longer delays at Dersan Street for the northbound left movement.

Table 3 – Future 2030 Capacity Analysis Results

Intersection	2022 Traffic Impact Study						2024 Traffic Addendum					
Movement	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
Brock Road & Zents Drive/Rex Heath Drive	**0.56**	**12**	**B**	**0.55**	**8**	**A**	**0.56**	**12**	**B**	**0.55**	**8**	**A**
Eastbound Left	0.33	33	C	0.25	35	D	0.35	33	C	0.28	36	D
Eastbound Through	0.00	30	C	0.02	34	C	0.00	30	C	0.02	34	C
Eastbound Right	0.03	30	C	0.02	34	C	0.03	30	C	0.02	34	C
Westbound Left	0.67	41	D	0.63	45	D	0.67	41	D	0.63	45	D
Westbound Through / Right	0.27	32	C	0.14	34	C	0.27	32	C	0.14	34	C
Northbound Left	0.04	5	A	0.06	4	A	0.07	6	A	0.11	4	A
Northbound Through	0.53	8	A	0.54	6	A	0.53	8	A	0.54	6	A
Northbound Right	0.04	5	A	0.11	4	A	0.04	5	A	0.11	4	A
Southbound Left	0.13	6	A	0.44	11	B	0.13	6	A	0.44	11	B
Southbound Through	0.50	8	A	0.51	6	A	0.50	8	A	0.51	6	A
Southbound Right	0.02	5	A	0.05	3	A	0.02	5	A	0.06	3	A
Brock Road & Dersan Street/William Jackson Drive	**0.99**	**32**	**C**	**0.93**	**22**	**C**	**1.00**	**32**	**C**	**0.94**	**22**	**C**
Eastbound Left	0.10	29	C	0.03	37	D	0.10	29	C	0.03	37	D
Eastbound Through	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Eastbound Right	0.60	36	D	0.08	38	D	0.62	37	D	0.08	38	D
Westbound Left	1.16	138	F	0.82	61	E	1.16	138	F	0.82	61	E
Westbound Through	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Westbound Right	0.03	29	C	0.02	37	D	0.03	29	C	0.02	37	D
Northbound Left	0.93	76	E	0.93	60	E	0.94	80	F	0.94	64	E
Northbound Through	0.61	13	B	0.64	11	B	0.61	13	B	0.65	11	B
Northbound Right	0.06	8	A	0.17	6	A	0.06	8	A	0.17	6	A
Southbound Left	0.14	10	A	0.26	17	B	0.14	10	A	0.27	17	B
Southbound Through	0.68	15	B	0.74	21	C	0.69	15	B	0.74	21	C
Southbound Right	0.00	7	A	0.01	11	B	0.00	7	A	0.01	11	B

3. PARKING REVIEW UPDATE

Based on the latest development proposal of 274 residential units and 450 parking spaces, Table 4 provides a breakdown of the proposed parking allocation.

Table 4 – Proposed Parking Supply

Land Use	Proposed Parking Supply	Proposed Parking Rate
4-Storey Stacked Towns 162 units	162 resident parking spaces	1.0 resident spaces per unit
3-Storey Stacked Towns 82 units	164 parking spaces	2.0 resident spaces per unit
3-Storey Standard Towns 30 units	60 parking spaces	2.0 resident spaces per unit
Visitors 274 units	66 visitor parking spaces	0.24 visitor spaces per unit

From the pre-consultation summary comments, dated January 25, 2022, it was recommended, for the 3-storey townhome units, that a parking rate of 2 resident spaces per unit, and 0.25 visitor spaces per unit, should be provided on-site. The parking requirements for the 3-storey stacked towns are met, while the 4-storey stacked towns are below by one space per unit. The proposed 66 visitor spaces are provided at a rate of 0.24 spaces per unit is just under the 0.25 rate requested by the City (96% compliance).

The first draft of the City of Pickering's Comprehensive Zoning By-law was released February 2024 and is currently in the process of reviewing feedback from the public/stakeholders. Although the By-law is not currently in effect, it provides a basis on the direction the City of Pickering is looking to achieve in regards to new developments and parking requirements.

Table 5 – Parking Requirements (Draft Comprehensive Zoning By-law)

Land Use	Site Stats	Parking Requirement		Proposed Parking Supply	
		Rate	Spaces	Rate	Spaces
Stacked Townhouse Dwelling	244 units	Residents: 1.25 spaces per unit	305	Resident: 1.41	386
		Visitors: 0.25 spaces per unit	61		
Dwelling, Block Townhouse	30 units	Residents: 2 spaces per unit	60	Visitor: 0.24	66
		Visitors: 0.25 spaces per unit	8		
		Total	426		452

Based on the draft By-law, an overall total of 426 parking spaces are required for the subject site, whereas 452 parking spaces are provided, meeting the overall requirements. Although the visitor parking space is just under the requirement, Trans-Plan believes that the surplus of resident parking spaces would allow visitors to utilize their visiting home parking spaces if all visitor parking spaces are occupied.

Although the overall parking requirement is met, the proposed parking spaces for the 4-storey stacked towns, provided at a rate of one space per unit, is below the requirements. Therefore, a review of nearby approved developments of similar land use and proposed parking supply was compared to our proposed development.

Through discussion with the client, there are three notable proposed developments that are approved within the vicinity of the site, with a minimum resident parking rate of one space per unit for the same type of land use, stacked townhouses. Table 6 provides a summary of the approved proxy sites in comparison to the proposed development.

Table 6 – Comparison of Proxy Sites to Proposed Development

Location	Land Use	Number of Units	Proposed Residential Parking Rate
2660 – 2680 Brock Road, Pickering	4- storey stacked townhouse	162	1 space per unit
*760 Kingston Road, Pickering	3- storey stacked townhouse	88	1 space per unit
*2540 Brock Road, Pickering	4- storey stacked townhouse	68	1 space per unit
1460 Whites Road North, Pickering	4- storey stacked townhouse	92	1 space per unit

(*) Note: Excerpts of Approved Corresponding Zoning provided in Attachment 3

Based on the similar usage and proximity of the proxy sites, it is expected that the proposed parking supply is sufficient in supporting the subject site.

4. WASTE MANAGEMENT PLAN

This Waste Management Plan has been prepared in accordance with the Region of Durham Zoning By-law 46-2011, To Regulate the Provision of the Waste Management Services Under the Jurisdiction of The Regional Municipality of Durham. All waste collection within the City of Pickering is under the responsibility of the Region.

Waste collection for the subject site is to be served through individual curbside collection for the 3-storey stacked towns and rear lane townhomes, and each dwelling unit is to be provided adequate space to function as the waste storage area where blue boxes, green bins, garbage containers, and yard waste is stored in between collection days. For the 4-storey stacked towns, two garbage rooms are provided within the underground parking garage, with the bins to be jockeyed to the loading space and staging area to the south of the subject site for collection.

On the collection days, the appropriate bins would be placed onto each unit's frontage/driveway for the 3-storey townhomes units, allowing for the individual curbside collection to occur. Receptacles must be placed prior to 7:00am on a collection day, with recycling and green bins collected weekly, and garbage collected bi-weekly.

Schedule "P" within By-law 46-2011 is the Technical and Risk Management Guidelines for Waste Collection Services on Private Property. Attached within Schedule "P" is Appendix D – Application for Waste Collection Services on Private Property and Indemnification Form. The owner must submit this

form to the Region's Waste Management Division for their review, prior to any waste collection services are provided.

The development must be more than 75% occupied and construction completed. Once the Region approves the application, waste collection services would begin in approximately 4 to 6 weeks at the beginning of a new month. Prior to 75% occupancy, the owner is responsible to organize private waste collection for residents.

Durham Region provides a Waste app for mobile phone use, which provides schedules, reminders, and booking special pickups. It is recommended that new residents be made aware of the app to ensure waste pickup can be handled smoothly without any incidents.

Based on By-law 46-2011, an access route must have a minimum width of 6.5m, minimum turning radius of 13m, and an overhead clearance of 7m. The proposed private road meets both the minimum width of 6.5m, and turning radius of 13m requirements.

Our waste collection vehicle site circulation review, illustrated in Attachment 4, demonstrates that a 12m waste collection vehicle can properly enter, circulate, and exit the subject site along the proposed roadway. The diagram also illustrates that a waste collection vehicle can safely utilize the provided loading space without impeding the adjacent visitor parking spaces.

5. PAVEMENT MARKING AND SIGNAGE PLAN

A conceptual Pavement Marking and Signage Plan has been provided for the subject site, seen in Attachment 5. As details of the site progress, the location of the signs may change depending on the location of proposed street poles.

The following signs and pavement markings, as per Ontario Traffic Manual (OTM) Books 5 and 6 (where applicable), are proposed:

- **Stop Sign (Ra-1):** Signs are proposed at both the site access connections to the new public road and at three internal points along the private roadway.
- **Fire Route Sign:** Signs are proposed throughout the internal drive-aisles.
- **Visitor Parking Sign:** 9 signs are proposed at the visitor parking space locations.
- **No Left Turn Sign (Rb-12):** Signs are proposed at the right-in/right-out access for vehicles travelling south along the new public road, and for vehicles exiting the subject site.

The following pavement markings, as per OTM Book 11 (where applicable), are proposed:

- **Stop Bar:** 0.3m wide solid white lines are proposed at the two access connections to the new public road. Where the approach contains a pedestrian crossing, the bar should be a minimum 1.0m from the crossing.
- **Pedestrian Crossing Markings:** Visual aid to drivers to be careful of pedestrians crossing the internal driveway.

6. FUNCTIONAL DESIGN OF RIGHT-IN/RIGHT-OUT ACCESS

The proposed northerly access for the subject is to function as a right-in/right-out only access, connecting the internal roadway to the new public road. Attachment 6 contains the proposed grading plan for the roadway, prepared by TYLin, which notes a 20.0m right-of-way and 9.75m pavement width. A 1.5m concrete sidewalk is illustrated on the east side of the roadway, and a 3.0m multi-use pathway is illustrated on the west side of the roadway.

The grading plan indicates curb radii of 7.5m for both access connections to the subject site. While the 7.5m curb radii was continued to be utilized for the southerly full-moves access, an increased curb radii and concrete island were necessary for the northerly access to restrict left-turn movements of larger vehicles. A 9m curb radii and 4.5m lane widths are recommended for the northerly access, which allows the proper circulation of waste collection vehicles. The conceptual design is illustrated in Attachment 6, demonstrating the curb radii, lane widths, and traffic island to restrict left-turn movements.

I trust that this letter addresses the comments received from City of Pickering and Durham Region staff, should you have any questions, please feel free to contact me.

Respectfully submitted,

Anil Seegobin, P.Eng.
Partner, Engineer

Trans-Plan Transportation Inc.
Transportation Consultants

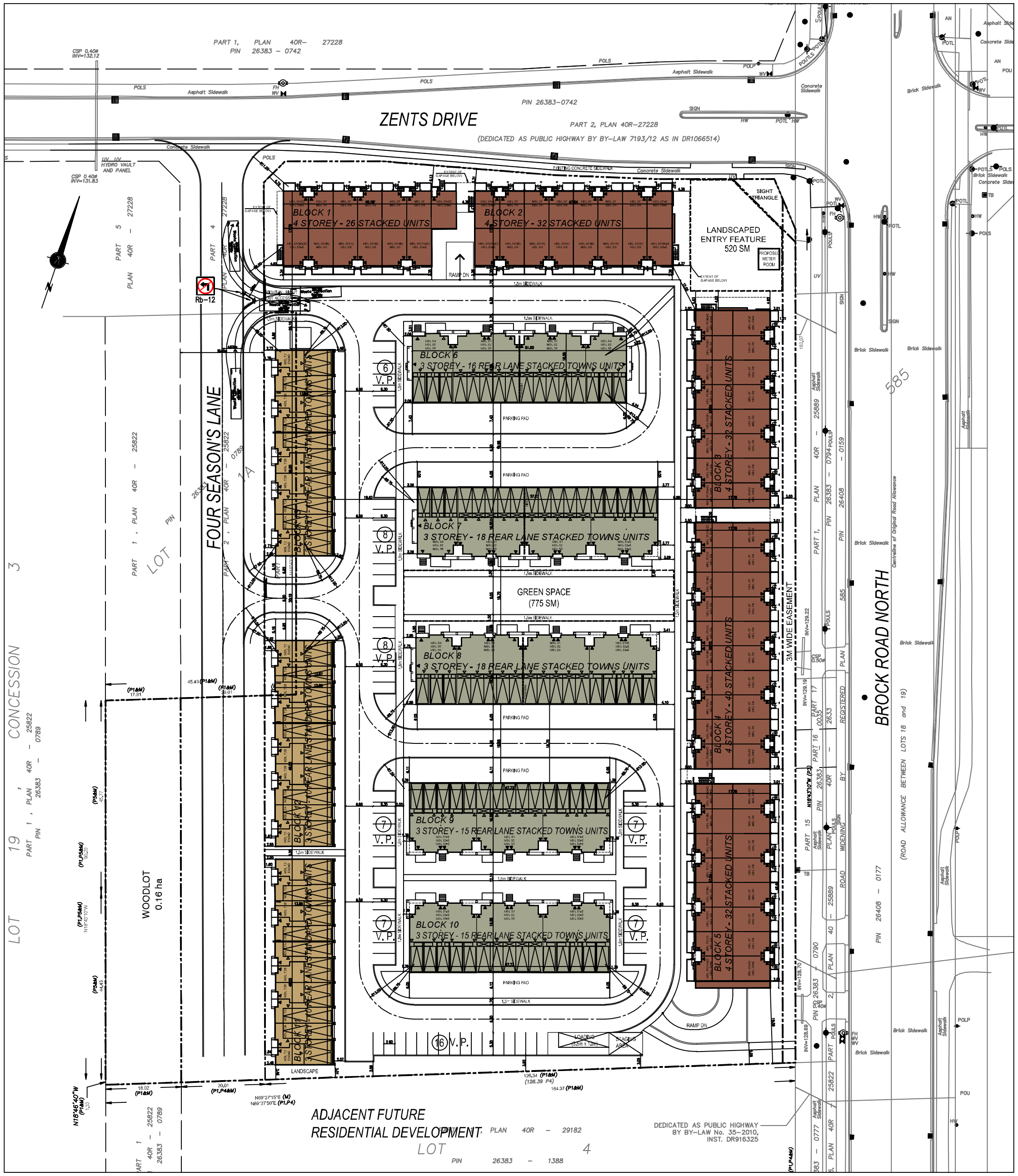
Vivian Leung
Traffic Analyst

ATTACHMENTS

Attachment 1 – Site Concept Plan
Attachment 2 – Traffic Analysis
Attachment 3 – Approved Parking for Adjacent Development
Attachment 4 – Waste Collection Vehicle Circulation
Attachment 5 – Pavement Marking & Signage Plan
Attachment 6 – Functional Design of Right-In / Right-Out Access

ATTACHMENT 1

Site Concept Plan



SITE STATS - ZENTS-BROCK TOWNHOUSES - 2680 BROCK ROAD, PICKERING, ONTARIO

22-Mar-24

LEGAL DESCRIPTION - PART OF LOTS 1, 2 AND 3 REGISTERED PLAN 585 CITY OF PICKERING, REGIONAL MUNICIPALITY OF DURHAM

SITE STATS	sm	sf	%	HA	Ac
NET SITE AREA (DEVELOPMENT BLOCK)*	26300.0	283091	100.0	2.63	6.499
1) - OPEN SPACE (PER DPOS)	1640.0				
2) - SIGHT TRIANGLE (PER DPOS)	80.0				
3) ROADS STREET 'A' (PER DPOS)	1820.0				
TOTAL BUILDING COVERAGE	11162.3	120,150	42.4		
TOTAL PAVED AREA	7474.5	80,455	28.4		
TOTAL LANDSCAPE AREA	7663.2	82,486	29.1		
TOTAL GROSS FLOOR AREA	31906.3	343,436			
NO. OF UNITS	274				
FSI	1.21				
DENSITY (UNITS/HECTARE)	104.18				

* SITE AREA NET OF ITEMS 1, 2 AND 3 AS SHOWN ON DPOS DATED JUNE 27, 2022

BLOCK/UNIT STATS

BLOCK 1 (4 STOREY -STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	SF	LOWER 2 STOREY UNIT	2 BED	5	970	90.1	4,850	450.6
& Mech. Room on	SF(W)	LOWER 2 STOREY UNIT	2 BED	4	987	91.7	3,948	366.8
roof)	SF-E2	LOWER 2 STOREY UNIT	2 BED	2	999	92.8	1,998	185.6
	SF(W)-E2	LOWER 2 STOREY UNIT	2 BED	2	1,067	99.1	2,134	198.3
	SF-E	LOWER 2 STOREY UNIT	2 BED	0	1,020	94.8	0	0.0
	2F(W)-E	LOWER 2 STOREY UNIT	2 BED	0	1,084	100.7	0	0.0
	SG	UPPER 2 STOREY UNIT	2 BED	9	1,371	127.4	12,339	1146.3
	SG-E	UPPER 2 STOREY UNIT	2 BED	4	1,398	129.9	5,592	519.5
Total				26			30,861	2867.1

BLOCK 2 (4 STOREY -STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	SF	LOWER 2 STOREY UNIT	2 BED	6	970	90.1	5,820	540.7
& Mech. Room on	SF(W)	LOWER 2 STOREY UNIT	2 BED	6	987	91.7	5,922	550.2
roof)	SF-E2	LOWER 2 STOREY UNIT	2 BED	1	999	92.8	999	92.8
	SF(W)-E2	LOWER 2 STOREY UNIT	2 BED	1	1,067	99.1	1,067	99.1
	SF-E	LOWER 2 STOREY UNIT	2 BED	1	1,020	94.8	1,020	94.8
	2F(W)-E	LOWER 2 STOREY UNIT	2 BED	1	1,084	100.7	1,084	100.7
	SG	UPPER 2 STOREY UNIT	2 BED	12	1,371	127.4	16,452	1528.4
	SG-E	UPPER 2 STOREY UNIT	2 BED	4	1,398	129.9	5,592	519.5
Total				32			37,956	3526.2

BLOCK 3 (4 STOREY -STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	SF	LOWER 2 STOREY UNIT	2 BED	6	970	90.1	5,820	540.7
& Mech. Room on	SF(W)	LOWER 2 STOREY UNIT	2 BED	6	987	91.7	5,922	550.2
roof)	SF-E2	LOWER 2 STOREY UNIT	2 BED	1	999	92.8	999	92.8
	SF(W)-E2	LOWER 2 STOREY UNIT	2 BED	1	1,067	99.1	1,067	99.1
	SF-E	LOWER 2 STOREY UNIT	2 BED	1	1,020	94.8	1,020	94.8
	2F(W)-E	LOWER 2 STOREY UNIT	2 BED	1	1,084	100.7	1,084	100.7
	SG	UPPER 2 STOREY UNIT	2 BED	12	1,371	127.4	16,452	1528.4
	SG-E	UPPER 2 STOREY UNIT	2 BED	4	1,398	129.9	5,592	519.5
Total				32			37,956	3526.2

BLOCK 4 (4 STOREY -STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	SF	LOWER 2 STOREY UNIT	2 BED	8	970	90.1	7,760	720.9
& Mech. Room on	SF(W)	LOWER 2 STOREY UNIT	2 BED	8	987	91.7	7,896	733.6
roof)	SF-E2	LOWER 2 STOREY UNIT	2 BED	2	999	92.8	1,998	185.6
	SF(W)-E2	LOWER 2 STOREY UNIT	2 BED	2	1,067	99.1	2,134	198.3
	SF-E	LOWER 2 STOREY UNIT	2 BED	0	1,020	94.8	0	0.0
	2F(W)-E	LOWER 2 STOREY UNIT	2 BED	0	1,084	100.7	0	0.0
	SG	UPPER 2 STOREY UNIT	2 BED	16	1,371	127.4	21,936	2037.9
	SG-E	UPPER 2 STOREY UNIT	2 BED	4	1,398	129.9	5,592	519.5
Total				40			47,316	4395.8

BLOCK 5 (4 STOREY -STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	SF	LOWER 2 STOREY UNIT	2 BED	6	970	90.1	5,820	540.7
& Mech. Room on	SF(W)	LOWER 2 STOREY UNIT	2 BED	6	987	91.7	5,922	550.2
roof)	SF-E2	LOWER 2 STOREY UNIT	2 BED	2	999	92.8	1,998	185.6
	SF(W)-E2	LOWER 2 STOREY UNIT	2 BED	2	1,067	99.1	2,134	198.3
	SF-E	LOWER 2 STOREY UNIT	2 BED	0	1,020	94.8	0	0.0
	2F(W)-E	LOWER 2 STOREY UNIT	2 BED	0	1,084	100.7	0	0.0
	SG	UPPER 2 STOREY UNIT	2 BED	12	1,371	127.4	16,452	1528.4
	SG-E	UPPER 2 STOREY UNIT	2 BED	4	1,398	129.9	5,592	519.5
Total				32			37,918	3522.7

BLOCK 6 (3 STOREY 5 PLEX AND 3 PLEX - REAR LANE STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	S1	LOWER 1 STOREY UNIT	2 BED	2	917	85.2	1,835	170.4
and open to below	S2	UPPER 2 STOREY UNIT	2 BED	4	1,307	121.4	5,226	485.5
on every floor)	S3	UPPER 2 STOREY UNIT	2 BED	4	1,340	124.5	5,359	497.8
	S4	UPPER 2 STOREY UNIT	2 BED	2	610	56.7	1,220	113.3
	S5	UPPER 2 STOREY UNIT	3 BED	2	1,585	147.3	3,170	294.5
	S6	UPPER 2 STOREY UNIT	3 BED	2	1,641	152.5	3,282	304.9
	S2E	UPPER 2 STOREY UNIT	2 BED	0	1,327	123.3	0	0.0
	S3E	UPPER 2 STOREY UNIT	2 BED	0	1,357	126.1	0	0.0
Total				16			20,092	1866.6

BLOCK 7 (3 STOREY 5 PLEX AND 3 PLEX - REAR LANE STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	S1	LOWER 1 STOREY UNIT	2 BED	3	917	85.2	2,752	255.7
and open to below	S2	UPPER 2 STOREY UNIT	2 BED	5	1,307	121.4	6,533	606.9
on every floor)	S3	UPPER 2 STOREY UNIT	2 BED	5	1,340	124.5	6,699	622.3
	S4	UPPER 2 STOREY UNIT	2 BED	1	610	56.7	610	56.7
	S5	UPPER 2 STOREY UNIT	3 BED	1	1,585	147.3	1,585	147.3
	S6	UPPER 2 STOREY UNIT	3 BED	1	1,641	152.5	1,641	152.5
	S2E	UPPER 2 STOREY UNIT	2 BED	1	1,327	123.3	1,327	123.3
	S3E	UPPER 2 STOREY UNIT	2 BED	1	1,357	126.1	1,357	126.1
Total				18			22,503	2090.6

BLOCK 8 (3 STOREY 5 PLEX AND 3 PLEX - REAR LANE STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	S1	LOWER 1 STOREY UNIT	2 BED	3	917	85.2	2,752	255.7
and open to below	S2	UPPER 2 STOREY UNIT	2 BED	5	1,307	121.4	6,533	606.9
on every floor)	S3	UPPER 2 STOREY UNIT	2 BED	5	1,340	124.5	6,699	622.3
	S4	UPPER 2 STOREY UNIT	2 BED	1	610	56.7	610	56.7
	S5	UPPER 2 STOREY UNIT	3 BED	1	1,585	147.3	1,585	147.3
	S6	UPPER 2 STOREY UNIT	3 BED	1	1,641	152.5	1,641	152.5
	S2E	UPPER 2 STOREY UNIT	2 BED	1	1,327	123.3	1,327	123.3
	S3E	UPPER 2 STOREY UNIT	2 BED	1	1,357	126.1	1,357	126.1
Total				18			22,503	2090.6

BLOCK 9 (3 STOREY 5 PLEX - REAR LANE STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	S1	LOWER 1 STOREY UNIT	2 BED	3	917	85.2	2,752	255.7
and open to below	S2	UPPER 2 STOREY UNIT	2 BED	4	1,307	121.4	5,226	485.5
on every floor)	S3	UPPER 2 STOREY UNIT	2 BED	4	1,340	124.5	5,359	497.8
	S4	UPPER 2 STOREY UNIT	2 BED	0	610	56.7	0	0.0
	S5	UPPER 2 STOREY UNIT	3 BED	0	1,585	147.3	0	0.0
	S6	UPPER 2 STOREY UNIT	3 BED	0	1,641	152.5	0	0.0
	S2E	UPPER 2 STOREY UNIT	2 BED	2	1,327	123.3	2,654	246.5
	S3E	UPPER 2 STOREY UNIT	2 BED	2	1,357	126.1	2,714	252.1
Total				15			18,705	1737.7

BLOCK 10 (3 STOREY 5 PLEX - REAR LANE STACKED TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total(sqft)	(sqm)
(includes staircase	S1	LOWER 1 STOREY UNIT	2 BED	3	917	85.2	2,752	255.7
and open to below	S2	UPPER 2 STOREY UNIT	2 BED	4	1,307	121.4	5,226	485.5
on every floor)	S3	UPPER 2 STOREY UNIT	2 BED	4	1,340	124.5	5,359	497.8
	S4	UPPER 2 STOREY UNIT	2 BED	0	610	56.7	0	0.0
	S5	UPPER 2 STOREY UNIT	3 BED	0	1,585	147.3	0	0.0
	S6	UPPER 2 STOREY UNIT	3 BED	0	1,641	152.5	0	0.0
	S2E	UPPER 2 STOREY UNIT	2 BED	2	1,327	123.3	2,654	246.5
	S3E	UPPER 2 STOREY UNIT	2 BED	2	1,357	126.1	2,714	252.1
Total				15			18,705	1737.7

BLOCK 11 (3 STOREY - REAR LANE STANDARD TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total (sqft)	(sqm)
includes	T2 A	STD. 3-STOREY	3-BED	5	1510.6	140.34	7553.0	701.70
staircase	T2 B	STD. 3-STOREY	3-BED	3	1729.8	160.70	5189.3	482.10
and open	T2 END-D	STD. 3-STOREY	3-BED	2	1782.4	165.59	3564.8	331.18
Total				10			15307.1	1514.98

BLOCK 12 (3 STOREY - REAR LANE STANDARD TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total (sqft)	(sqm)
includes	T2 A	STD. 3-STOREY	3-BED	5	1510.6	140.34	7553.0	701.70
staircase	T2 B	STD. 3-STOREY	3-BED	3	1729.8	160.70	5189.3	482.10
and open	T2 END-D	STD. 3-STOREY	3-BED	2	1782.4	165.59	3564.8	331.18
Total				10			15307.1	1514.98

BLOCK 13 (3 STOREY - REAR LANE STANDARD TOWNHOUSE)		Type	Bedrm	quantity	gfa(sqft)	(sqm)	total (sqft)	(sqm)
includes	T2 A	STD. 3-STOREY	3-BED	5	1510.6	140.34	7553.0	701.70
staircase	T2 B	STD. 3-STOREY	3-BED	3	1729.8	160.70	5189.3	482.10
and open	T2 END-D	STD. 3-STOREY	3-BED	2	1782.4	165.59	3564.8	331.18
Total				10			15307.1	1514.98

TOTALS	274	343,436	31,906
		total(sqft)	(sqm)

PARKING STATS

4 STOREY STACKED: 162 SPACES @ 1 SPACE / UNIT (WITHIN U/G GARAGE)
3 STOREY REAR LANE STACKED TOWNS: 164 SPACES @ 2 SPACES / UNIT
3 STOREY REAR LANE STANDARD TOWNS: 60 SPACES @ 2 SPACES / UNIT
TOTAL RESIDENT PARKING PROPOSED: 386 SPACES
TOTAL VISITOR PARKING PROPOSED: 66 SPACES @ 0.24 SPACES / UNIT
TOTAL PARKING PROPOSED: 452 SPACES

"MU-MD-Z" ZONES
TOTAL LENGTH OF BUILDINGS = 154.76 M
FRONTAGE = 210.49
73.5% OF THE FRONTAGE CONTAINS A BUILDING OR PART OF A BUILDING

Contractor shall check all dimensions and report any discrepancies to the Architect before proceeding with the work.

The contractor and/or engineer shall verify u/s footing elevations and soil bearing capacity prior to excavation and the commencement of work.

DO NOT SCALE DRAWINGS

no.	date	revision
2	MAR 22, 2024	ISSUED FOR REVIEW
1	FEB 26, 2024	ISSUED FOR REZONING APPLICATION

gmb ARCHITECTURE
770 BROWNS LINE, TORONTO, ON M8W 3W2 • TH(416) 252-6679 F(416) 252-6637

owner: BROCK-ZENTS PARTNERSHIP

project: ZENTS - BROCK TOWNS
2680 BROCK ROAD
PICKERING, ONTARIO

drawing: SITE PLAN
SITE/BLOCK/UNIT STATS

scale: 1:500
date: FEB 2024
drawn: BB
chk'd:

SP-1

project number: 22.185

ATTACHMENT 2

Traffic Analysis

Land Use: 220
Multifamily Housing (Low-Rise)

Description

Low-rise multifamily housing includes apartments, townhouses, and condominiums located within the same building with at least three other dwelling units and that have two or three floors (levels). Various configurations fit this description, including walkup apartment, mansion apartment, and stacked townhouse.

- A walkup apartment typically is two or three floors in height with dwelling units that are accessed by a single or multiple entrances with stairways and hallways.

- A mansion apartment is a single structure that contains several apartments within what appears to be a single-family dwelling unit.

- A fourplex is a single two-story structure with two matching dwelling units on the ground and second floors. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

- A stacked townhouse is designed to match the external appearance of a townhouse. But, unlike a townhouse dwelling unit that only shares walls with an adjoining unit, the stacked townhouse units share both floors and walls. Access to the individual units is typically internal to the structure and provided through a central entry and stairway.

Multifamily housing (mid-rise) (Land Use 221), multifamily housing (high-rise) (Land Use 222), affordable housing (Land Use 223), and off-campus student apartment (low-rise) (Land Use 225) are related land uses.

Land Use Subcategory

Data are presented for two subcategories for this land use: (1) not close to rail transit and (2) close to rail transit. A site is considered close to rail transit if the walking distance between the residential site entrance and the closest rail transit station entrance is ½ mile or less.

Additional Data

For the three sites for which both the number of residents and the number of occupied dwelling units were available, there were an average of 2.72 residents per occupied dwelling unit.

For the two sites for which the numbers of both total dwelling units and occupied dwelling units were available, an average of 96.2 percent of the total dwelling units were occupied.

The technical appendices provide supporting information on time-of-day distributions for this land use. The appendices can be accessed through either the ITETripGen web app or the trip

generation resource page on the ITE website (https://www.ite.org/technical-resources/topics/trip-and-parking-generation/).

For the three sites for which data were provided for both occupied dwelling units and residents, there was an average of 2.72 residents per occupied dwelling unit.

It is expected that the number of bedrooms and number of residents are likely correlated to the trips generated by a residential site. To assist in future analysis, trip generation studies of all multifamily housing should attempt to obtain information on occupancy rate and on the mix of residential unit sizes (i.e., number of units by number of bedrooms at the site complex).

The sites were surveyed in the 1980s, the 1990s, the 2000s, the 2010s, and the 2020s in British Columbia (CAN), California, Delaware, Florida, Georgia, Illinois, Indiana, Maine, Maryland, Massachusetts, Minnesota, New Jersey, Ontario (CAN), Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, and Washington.

Source Numbers

188, 204, 237, 300, 305, 306, 320, 321, 357, 390, 412, 525, 530, 579, 583, 638, 864, 866, 896, 901, 903, 904, 936, 939, 944, 946, 947, 948, 963, 964, 966, 967, 1012, 1013, 1014, 1036, 1047, 1056, 1071, 1076

Figure 8: Site Traffic Assignment, Weekday AM and PM Peak Hours

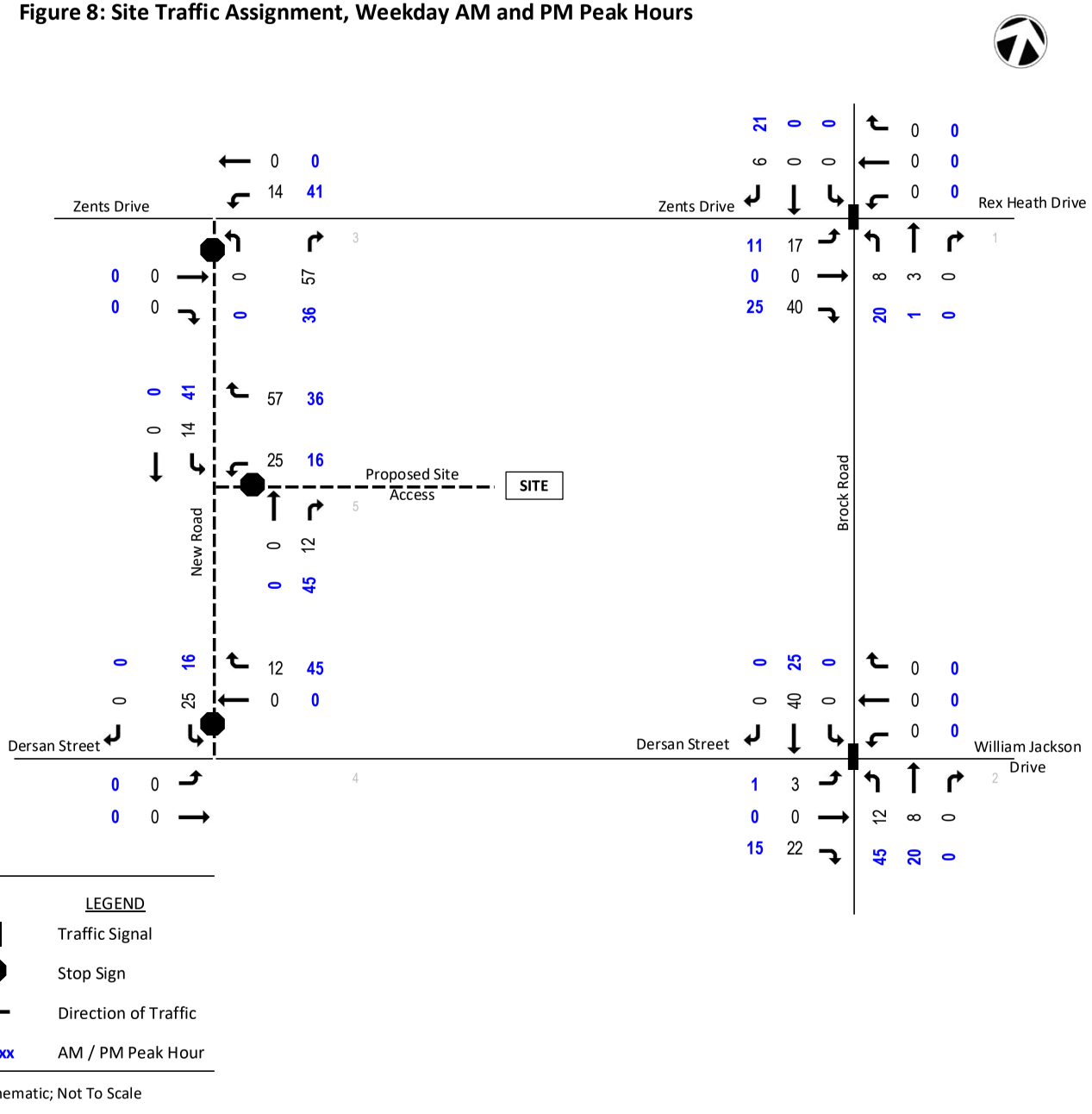
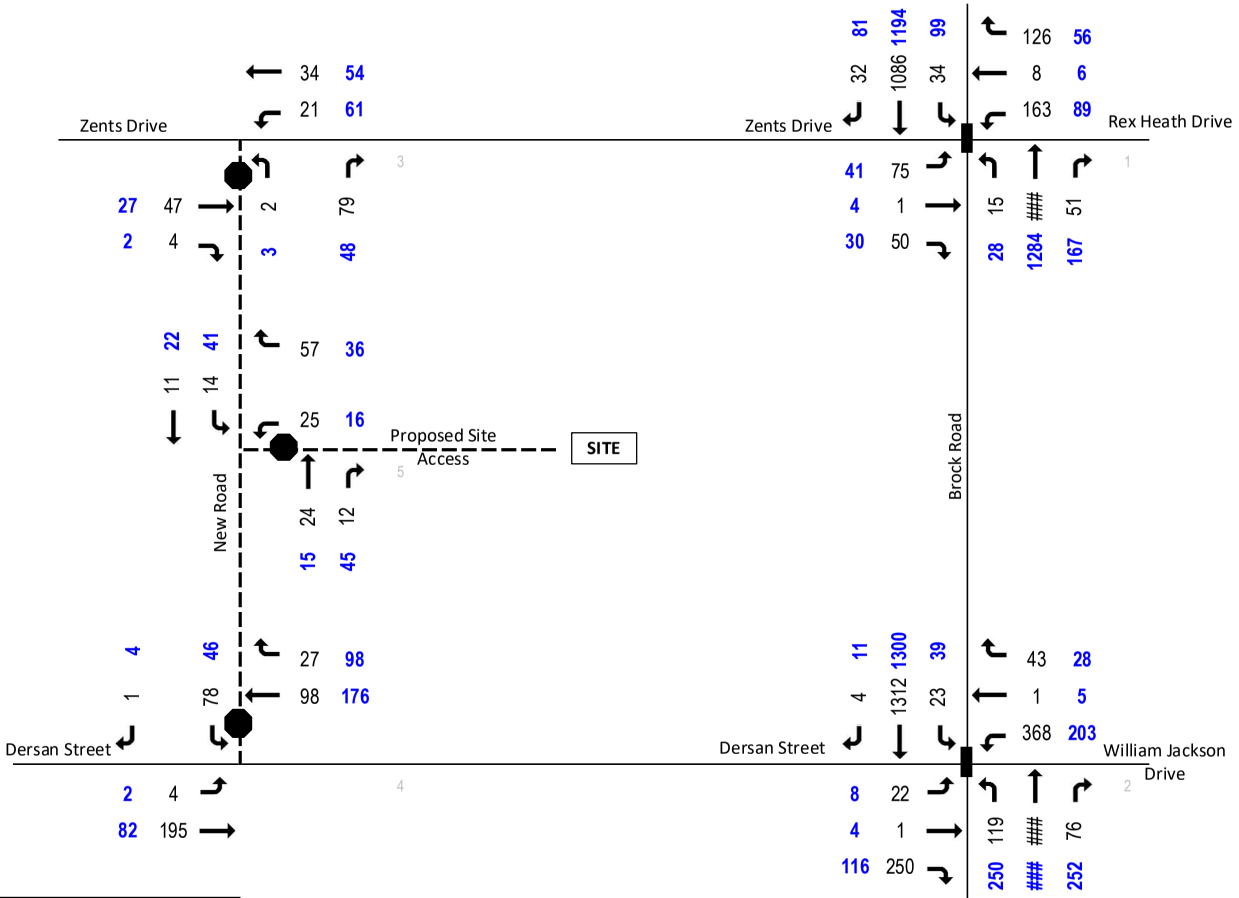


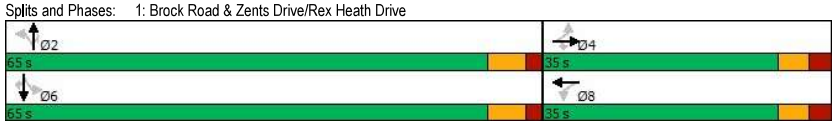
Figure 10: 2030 Total Traffic Volumes, Weekday AM and PM Peak Hours



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	75	1	50	163	8	15	1099	51	34	1086	32
Future Volume (vph)	75	1	50	163	8	15	1099	51	34	1086	32
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	58.3	58.3	58.3	58.3	58.3	58.3
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	65.0	65.0	65.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.7	6.7	6.7	6.7	6.7	6.7
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	15.6	15.6	15.6	15.6	15.6	59.9	59.9	59.9	59.9	59.9	59.9
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18	0.68	0.68	0.68	0.68	0.68	0.68
v/c Ratio	0.35	0.00	0.16	0.67	0.41	0.07	0.53	0.06	0.13	0.50	0.04
Control Delay	35.4	28.0	9.8	47.2	18.2	7.3	9.1	2.2	8.0	8.7	2.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	35.4	28.0	9.8	47.2	18.2	7.3	9.1	2.2	8.0	8.7	2.2
LOS	D	C	A	D	B	A	A	A	A	A	A
Approach Delay		25.2			34.1		8.8			8.5	
Approach LOS		C			C		A			A	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 88.7			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 122.0%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Brock Road & Zents Drive/Rex Heath Drive



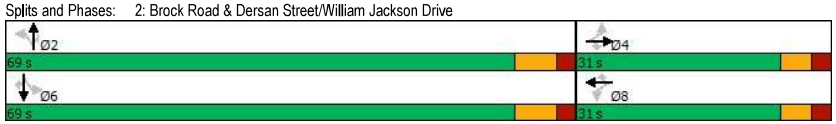
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	75	1	50	163	8	126	15	1099	51	34	1086	32
Future Volume (vph)	75	1	50	163	8	126	15	1099	51	34	1086	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5		6.7	6.7	6.7	6.7	6.7	6.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1805	1533		1480	3195	1335	1719	3343	1335
Flt Permitted	0.67	1.00	1.00	0.76	1.00		0.22	1.00	1.00	0.22	1.00	1.00
Satd. Flow (perm)	1270	1900	1615	1439	1533		342	3195	1335	390	3343	1335
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	78	1	52	170	8	131	16	1145	53	35	1131	33
RTOR Reduction (vph)	0	0	43	0	66	0	0	0	17	0	0	11
Lane Group Flow (vph)	78	1	9	170	73	0	16	1145	36	35	1131	22
Heavy Vehicles (%)	0%	0%	0%	0%	63%	3%	22%	13%	21%	5%	8%	21%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	15.6	15.6	15.6	15.6	15.6		59.9	59.9	59.9	59.9	59.9	59.9
Effective Green, g (s)	15.6	15.6	15.6	15.6	15.6		59.9	59.9	59.9	59.9	59.9	59.9
Actuated g/C Ratio	0.18	0.18	0.18	0.18	0.18		0.68	0.68	0.68	0.68	0.68	0.68
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5		6.7	6.7	6.7	6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	223	334	284	253	269		230	2157	901	263	2257	901
v/s Ratio Prot		0.00			0.05			c0.36			0.34	
v/s Ratio Perm	0.06		0.01	c0.12			0.05		0.03	0.09		0.02
v/c Ratio	0.35	0.00	0.03	0.67	0.27		0.07	0.53	0.04	0.13	0.50	0.02
Uniform Delay, d1	32.1	30.1	30.3	34.2	31.6		4.9	7.3	4.8	5.1	7.1	4.8
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.0	6.9	0.5		0.6	0.9	0.1	1.0	0.8	0.1
Delay (s)	33.0	30.1	30.3	41.0	32.2		5.5	8.2	4.9	6.2	7.9	4.8
Level of Service	C	C	C	D	C		A	A	A	A	A	A
Approach Delay (s)		32.0			37.0			8.0			7.7	
Approach LOS		C			D			A			A	

Intersection Summary					
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B		
HCM 2000 Volume to Capacity ratio	0.56				
Actuated Cycle Length (s)	88.7	Sum of lost time (s)	13.2		
Intersection Capacity Utilization	122.0%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	1	250	368	1	43	119	1113	76	23	1312	4
Future Volume (vph)	22	1	250	368	1	43	119	1113	76	23	1312	4
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	2	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	61.6	61.6	61.6	53.6	53.6	53.6
Minimum Split (s)	14.3	14.3	14.3	14.3	14.3	14.3	69.0	69.0	69.0	61.0	61.0	61.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	69.0	69.0	69.0	69.0	69.0	69.0
Total Split (%)	31.0%	31.0%	31.0%	31.0%	31.0%	31.0%	69.0%	69.0%	69.0%	69.0%	69.0%	69.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	2.4	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	7.4	7.4	7.4	7.4	7.4	7.4
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode	None	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	24.7	24.7	24.7	24.7	24.7	24.7	61.6	61.6	61.6	61.6	61.6	61.6
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
v/c Ratio	0.10	0.00	0.66	1.16	0.00	0.11	0.94	0.61	0.09	0.14	0.69	0.01
Control Delay	30.5	29.0	36.0	135.8	28.0	9.0	86.9	13.6	2.1	10.4	14.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	29.0	36.0	135.8	28.0	9.0	86.9	13.6	2.1	10.4	14.9	0.0
LOS	C	C	D	F	C	A	F	B	A	B	B	A
Approach Delay		35.5			122.4			19.6			14.8	
Approach LOS		D			F			B			B	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 100			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 1.16			
Intersection Signal Delay: 31.7		Intersection LOS: C	
Intersection Capacity Utilization 137.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Brock Road & Dersan Street/William Jackson Drive



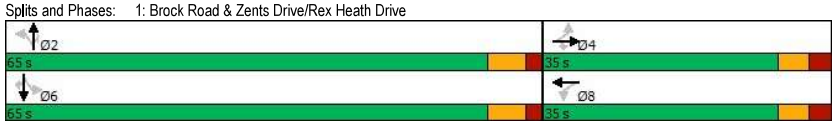
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	22	1	250	368	1	43	119	1113	76	23	1312	4
Future Volume (vph)	22	1	250	368	1	43	119	1113	76	23	1312	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3	6.3	7.4	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1271	950	1509	1736	1900	1615	1626	3167	1369	1504	3343	967
Flt Permitted	0.76	1.00	1.00	0.76	1.00	1.00	0.13	1.00	1.00	0.18	1.00	1.00
Satd. Flow (perm)	1013	950	1509	1383	1900	1615	222	3167	1369	292	3343	967
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	1	269	396	1	46	128	1197	82	25	1411	4
RTOR Reduction (vph)	0	0	38	0	0	35	0	0	31	0	0	2
Lane Group Flow (vph)	24	1	231	396	1	11	128	1197	51	25	1411	2
Heavy Vehicles (%)	42%	100%	7%	4%	0%	0%	11%	14%	18%	20%	8%	67%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	24.7	24.7	24.7	24.7	24.7	24.7	61.6	61.6	61.6	61.6	61.6	61.6
Effective Green, g (s)	24.7	24.7	24.7	24.7	24.7	24.7	61.6	61.6	61.6	61.6	61.6	61.6
Actuated g/C Ratio	0.25	0.25	0.25	0.25	0.25	0.25	0.62	0.62	0.62	0.62	0.62	0.62
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	7.4	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	250	234	372	341	469	398	136	1950	843	179	2059	595
v/s Ratio Prot		0.00			0.00			0.38			0.42	
v/s Ratio Perm	0.02		0.15	c0.29		0.01	c0.58		0.04	0.09		0.00
v/c Ratio	0.10	0.00	0.62	1.16	0.00	0.03	0.94	0.61	0.06	0.14	0.69	0.00
Uniform Delay, d1	29.0	28.4	33.5	37.6	28.4	28.6	17.5	11.9	7.7	8.1	12.8	7.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	3.2	100.1	0.0	0.0	62.8	1.5	0.1	1.6	1.9	0.0
Delay (s)	29.2	28.4	36.7	137.8	28.4	28.6	80.3	13.3	7.8	9.7	14.6	7.4
Level of Service	C	C	D	F	C	C	F	B	A	A	B	A
Approach Delay (s)		36.1			126.2			19.1			14.5	
Approach LOS		D			F			B			B	

Intersection Summary					
HCM 2000 Control Delay	31.9	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	1.00				
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	13.7		
Intersection Capacity Utilization	137.4%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	41	4	30	89	6	28	1284	167	99	1194	81
Future Volume (vph)	41	4	30	89	6	28	1284	167	99	1194	81
Turn Type	Perm	NA	Perm	Perm	NA	Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		2			6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	2	2	2	6	6	6
Switch Phase											
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	58.3	58.3	58.3	58.3	58.3	58.3
Minimum Split (s)	14.5	14.5	14.5	14.5	14.5	65.0	65.0	65.0	65.0	65.0	65.0
Total Split (s)	35.0	35.0	35.0	35.0	35.0	65.0	65.0	65.0	65.0	65.0	65.0
Total Split (%)	35.0%	35.0%	35.0%	35.0%	35.0%	65.0%	65.0%	65.0%	65.0%	65.0%	65.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	4.6	4.6	4.6	4.6	4.6	4.6
All-Red Time (s)	2.8	2.8	2.8	2.8	2.8	2.1	2.1	2.1	2.1	2.1	2.1
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.5	6.5	6.5	6.5	6.5	6.7	6.7	6.7	6.7	6.7	6.7
Lead/Lag											
Lead-Lag Optimize?											
Recall Mode	None	None	None	None	None	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	11.8	11.8	11.8	11.8	11.8	64.1	64.1	64.1	64.1	64.1	64.1
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.76	0.76	0.76	0.76	0.76	0.76
v/c Ratio	0.23	0.02	0.12	0.53	0.26	0.11	0.52	0.14	0.43	0.49	0.07
Control Delay	34.7	30.0	9.4	44.7	16.6	6.0	6.8	1.1	13.4	6.5	2.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.7	30.0	9.4	44.7	16.6	6.0	6.8	1.1	13.4	6.5	2.0
LOS	C	C	A	D	B	A	A	A	B	A	A
Approach Delay		24.3			33.2		6.1			6.7	
Approach LOS		C			C		A			A	

Intersection Summary			
Cycle Length: 100			
Actuated Cycle Length: 84.6			
Natural Cycle: 80			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 8.2		Intersection LOS: A	
Intersection Capacity Utilization 120.4%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 1: Brock Road & Zents Drive/Rex Heath Drive



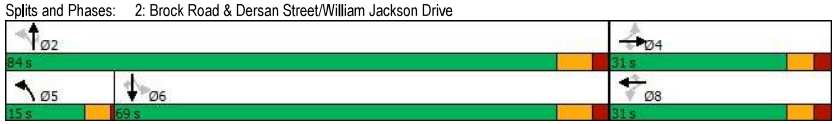
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	41	4	30	89	6	56	28	1284	167	99	1194	81
Future Volume (vph)	41	4	30	89	6	56	28	1284	167	99	1194	81
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	6.5	6.5	6.5		6.7	6.7	6.7	6.7	6.7	6.7
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00		1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.86		1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1615	1612	1547		1805	3471	1615	1805	3438	1615
Flt Permitted	0.71	1.00	1.00	0.76	1.00		0.19	1.00	1.00	0.17	1.00	1.00
Satd. Flow (perm)	1357	1900	1615	1281	1547		369	3471	1615	324	3438	1615
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	44	4	32	95	6	60	30	1366	178	105	1270	86
RTOR Reduction (vph)	0	0	28	0	41	0	0	0	48	0	0	18
Lane Group Flow (vph)	44	4	4	95	25	0	30	1366	130	105	1270	68
Heavy Vehicles (%)	0%	0%	0%	12%	67%	0%	0%	4%	0%	0%	5%	0%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	Perm
Protected Phases		4			8			2			6	
Permitted Phases	4		4	8			2		2	6		6
Actuated Green, G (s)	10.1	10.1	10.1	10.1	10.1		62.7	62.7	62.7	62.7	62.7	62.7
Effective Green, g (s)	10.1	10.1	10.1	10.1	10.1		62.7	62.7	62.7	62.7	62.7	62.7
Actuated g/C Ratio	0.12	0.12	0.12	0.12	0.12		0.73	0.73	0.73	0.73	0.73	0.73
Clearance Time (s)	6.5	6.5	6.5	6.5	6.5		6.7	6.7	6.7	6.7	6.7	6.7
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	159	223	189	150	181		269	2530	1177	236	2506	1177
v/s Ratio Prot		0.00			0.02			c0.39			0.37	
v/s Ratio Perm	0.03		0.00	c0.07			0.08		0.08	0.32		0.04
v/c Ratio	0.28	0.02	0.02	0.63	0.14		0.11	0.54	0.11	0.44	0.51	0.06
Uniform Delay, d1	34.6	33.6	33.6	36.2	34.0		3.4	5.2	3.4	4.7	5.0	3.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.0	0.0	0.0	8.4	0.3		0.8	0.8	0.2	6.0	0.7	0.1
Delay (s)	35.6	33.6	33.6	44.6	34.4		4.3	6.0	3.6	10.6	5.7	3.4
Level of Service	D	C	C	D	C		A	A	A	B	A	A
Approach Delay (s)		34.7			40.4			5.7			6.0	
Approach LOS		C			D			A			A	

Intersection Summary					
HCM 2000 Control Delay	8.2	HCM 2000 Level of Service	A		
HCM 2000 Volume to Capacity ratio	0.55				
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	13.2		
Intersection Capacity Utilization	120.4%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	4	116	203	5	28	250	1441	252	39	1300	11
Future Volume (vph)	8	4	116	203	5	28	250	1441	252	39	1300	11
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	6	6	6
Switch Phase												
Minimum Initial (s)	8.0	8.0	8.0	8.0	8.0	8.0	4.0	61.6	61.6	61.6	61.6	61.6
Minimum Split (s)	14.3	14.3	14.3	14.3	14.3	14.3	8.0	69.0	69.0	69.0	69.0	69.0
Total Split (s)	31.0	31.0	31.0	31.0	31.0	31.0	15.0	84.0	84.0	69.0	69.0	69.0
Total Split (%)	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	13.0%	73.0%	73.0%	60.0%	60.0%	60.0%
Yellow Time (s)	3.7	3.7	3.7	3.7	3.7	3.7	3.5	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.6	2.6	2.6	2.6	2.6	2.6	0.5	2.4	2.4	2.4	2.4	2.4
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	4.0	7.4	7.4	7.4	7.4	7.4
Lead/Lag							Lead			Lag	Lag	Lag
Lead-Lag Optimize?							Yes			Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	Max	Max	Max
Act Effct Green (s)	20.7	20.7	20.7	20.7	20.7	20.7	80.1	76.7	76.7	61.7	61.7	61.7
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.72	0.69	0.69	0.55	0.55	0.55
v/c Ratio	0.03	0.01	0.33	0.82	0.01	0.08	0.93	0.65	0.23	0.27	0.74	0.01
Control Delay	36.4	35.8	9.1	67.2	36.0	0.4	58.7	11.8	1.3	19.9	22.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.4	35.8	9.1	67.2	36.0	0.4	58.7	11.8	1.3	19.9	22.3	0.0
LOS	D	D	A	E	D	A	E	B	A	B	C	A
Approach Delay		11.6			58.6			16.4			22.1	
Approach LOS		B			E			B			C	

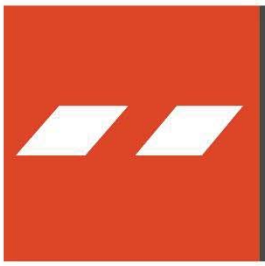
Intersection Summary			
Cycle Length: 115			
Actuated Cycle Length: 111.2			
Natural Cycle: 105			
Control Type: Semi Act-Uncoord			
Maximum v/c Ratio: 0.93			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 138.2%		ICU Level of Service H	
Analysis Period (min) 15			

Splits and Phases: 2: Brock Road & Dersan Street/William Jackson Drive



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	8	4	116	203	5	28	250	1441	252	39	1300	11
Future Volume (vph)	8	4	116	203	5	28	250	1441	252	39	1300	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.3	6.3	6.3	6.3	6.3	6.3	4.0	7.4	7.4	7.4	7.4	7.4
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1805	1900	1495	1805	1900	1615	1752	3471	1615	1805	3406	1615
Flt Permitted	0.75	1.00	1.00	0.76	1.00	1.00	0.10	1.00	1.00	0.15	1.00	1.00
Satd. Flow (perm)	1434	1900	1495	1435	1900	1615	189	3471	1615	283	3406	1615
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	9	4	125	218	5	30	269	1549	271	42	1398	12
RTOR Reduction (vph)	0	0	102	0	0	24	0	0	84	0	0	5
Lane Group Flow (vph)	9	4	23	218	5	6	269	1549	187	42	1398	7
Heavy Vehicles (%)	0%	0%	8%	0%	0%	0%	3%	4%	0%	0%	6%	0%
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	Perm	NA	Perm
Protected Phases		4			8		5	2			6	
Permitted Phases	4		4	8		8	2		2	6		6
Actuated Green, G (s)	20.7	20.7	20.7	20.7	20.7	20.7	76.7	76.7	76.7	61.7	61.7	61.7
Effective Green, g (s)	20.7	20.7	20.7	20.7	20.7	20.7	76.7	76.7	76.7	61.7	61.7	61.7
Actuated g/C Ratio	0.19	0.19	0.19	0.19	0.19	0.19	0.69	0.69	0.69	0.56	0.56	0.56
Clearance Time (s)	6.3	6.3	6.3	6.3	6.3	6.3	4.0	7.4	7.4	7.4	7.4	7.4
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	267	354	278	267	354	300	285	2396	1114	157	1891	896
v/s Ratio Prot		0.00			0.00		c0.09	0.45			0.41	
v/s Ratio Perm	0.01		0.02	c0.15		0.00	c0.56		0.12	0.15		0.00
v/c Ratio	0.03	0.01	0.08	0.82	0.01	0.02	0.94	0.65	0.17	0.27	0.74	0.01
Uniform Delay, d1	37.0	36.9	37.4	43.4	36.9	36.9	26.0	9.6	6.0	12.9	18.6	11.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.1	17.3	0.0	0.0	38.2	1.4	0.3	4.1	2.6	0.0
Delay (s)	37.1	36.9	37.5	60.6	36.9	36.9	64.2	11.0	6.3	17.0	21.3	11.0
Level of Service	D	D	D	E	D	D	E	B	A	B	C	B
Approach Delay (s)		37.4			57.4			17.2			21.1	
Approach LOS		D			E			B			C	

Intersection Summary					
HCM 2000 Control Delay	21.9	HCM 2000 Level of Service	C		
HCM 2000 Volume to Capacity ratio	0.94				
Actuated Cycle Length (s)	111.1	Sum of lost time (s)	17.7		
Intersection Capacity Utilization	138.2%	ICU Level of Service	H		
Analysis Period (min)	15				
c Critical Lane Group					



Capacity Analysis Tables
2022 Study

Table 6 - Capacity Analysis Results, Existing and 2025 Conditions

Intersection	Existing Traffic Conditions						2025 Background Traffic Conditions						2025 Total Traffic Conditions					
Movement	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
Brock Road & Zents Drive/Rex Heath Drive	**0.37**	**6**	**A**	**0.38**	**4**	**A**	**0.52**	**12**	**B**	**0.51**	**8**	**A**	**0.53**	**12**	**B**	**0.51**	**8**	**A**
Eastbound Left	0.35	39	D	0.22	41	D	0.27	32	C	0.20	35	D	0.33	33	C	0.25	35	D
Eastbound Through	0.01	36	D	0.04	39	D	0.00	30	C	0.02	34	C	0.00	30	C	0.02	34	C
Eastbound Right	0.01	36	D	0.00	39	D	0.01	30	C	0.00	34	C	0.03	30	C	0.02	34	C
Westbound Left	0.21	38	D	0.23	41	D	0.67	41	D	0.63	45	D	0.67	41	D	0.63	45	D
Westbound Through / Right	0.11	37	D	0.09	40	D	0.21	32	C	0.07	34	C	0.21	32	C	0.07	34	C
Northbound Left	0.03	3	A	0.03	2	A	0.03	5	A	0.03	3	A	0.03	5	A	0.05	4	A
Northbound Through	0.34	4	A	0.39	3	A	0.48	8	A	0.49	6	A	0.49	8	A	0.49	6	A
Northbound Right	0.01	2	A	0.03	2	A	0.04	5	A	0.11	4	A	0.04	5	A	0.11	4	A
Southbound Left	0.04	3	A	0.09	3	A	0.12	6	A	0.38	8	A	0.12	6	A	0.38	8	A
Southbound Through	0.37	4	A	0.35	3	A	0.46	7	A	0.46	5	A	0.46	7	A	0.46	5	A
Southbound Right	0.01	2	A	0.03	2	A	0.02	5	A	0.04	3	A	0.02	5	A	0.05	3	A
Brock Road & Dersan Street/William Jackson Drive	**0.55**	**15**	**B**	**0.50**	**9**	**A**	**0.79**	**30**	**C**	**0.75**	**18**	**B**	**0.88**	**31**	**C**	**0.87**	**19**	**B**
Eastbound Left	0.06	31	C	0.01	34	C	0.08	29	C	0.03	37	D	0.10	29	C	0.03	37	D
Eastbound Through	0.01	30	C	0.01	34	C	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Eastbound Right	0.30	33	C	0.05	34	C	0.51	34	C	0.07	37	D	0.57	35	C	0.08	38	D
Westbound Left	0.79	49	D	0.61	42	D	1.16	138	F	0.82	61	E	1.16	138	F	0.82	61	E
Westbound Through	0.00	30	C	0.02	34	C	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Westbound Right	0.01	30	C	0.01	34	C	0.03	29	C	0.02	37	D	0.03	29	C	0.02	37	D
Northbound Left	0.36	11	B	0.48	11	B	0.65	29	C	0.71	19	B	0.77	42	D	0.85	37	D
Northbound Through	0.42	9	A	0.45	6	A	0.56	12	B	0.59	10	B	0.56	12	B	0.59	10	B
Northbound Right	0.03	6	A	0.06	4	A	0.06	8	A	0.17	6	A	0.06	8	A	0.17	6	A
Southbound Left	0.05	6	A	0.04	4	A	0.12	9	A	0.21	15	B	0.12	9	A	0.22	15	B
Southbound Through	0.47	9	A	0.42	6	A	0.61	13	B	0.66	19	B	0.63	13	B	0.67	19	B
Southbound Right	0.00	6	A	0.00	4	A	0.00	7	A	0.01	11	B	0.00	7	A	0.01	11	B
New Road & Zents Drive																		
Eastbound Through / Right								0	A		0	A		0	A		0	A
Westbound Through / Left								1	A		2	A		2	A		3	A
Northbound Left / Right								9	A		9	A		9	A		9	A
Dersan Street & New Road																		
Eastbound Through / Left								0	A		0	A		0	A		0	A
Westbound Through / Right								0	A		0	A		0	A		0	A
Southbound Left / Right								11	B		10	B		11	B		11	B
New Road & Site Access																		
Westbound Left / Right														9	A		9	A
Northbound Through / Right														0	A		0	A
Southbound Through / Left														3	A		4	A

Table 7 - Capacity Analysis Results, 2030 Conditions

Intersection	2030 Background Traffic Conditions						2030 Total Traffic Conditions					
Movement	AM Peak Hour			PM Peak Hour			AM Peak Hour			PM Peak Hour		
	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS	V/C	Delay	LOS
Brock Road & Zents Drive/Rex Heath Drive	**0.56**	**12**	**B**	**0.55**	**8**	**A**	**0.56**	**12**	**B**	**0.55**	**8**	**A**
Eastbound Left	0.27	32	C	0.20	35	D	0.33	33	C	0.25	35	D
Eastbound Through	0.00	30	C	0.02	34	C	0.00	30	C	0.02	34	C
Eastbound Right	0.01	30	C	0.00	34	C	0.03	30	C	0.02	34	C
Westbound Left	0.67	41	D	0.63	45	D	0.67	41	D	0.63	45	D
Westbound Through / Right	0.27	32	C	0.14	35	C	0.27	32	C	0.14	34	C
Northbound Left	0.03	5	A	0.03	4	A	0.04	5	A	0.06	4	A
Northbound Through	0.53	8	A	0.54	6	A	0.53	8	A	0.54	6	A
Northbound Right	0.04	5	A	0.11	4	A	0.04	5	A	0.11	4	A
Southbound Left	0.13	6	A	0.44	11	B	0.13	6	A	0.44	11	B
Southbound Through	0.50	8	A	0.51	6	A	0.50	8	A	0.51	6	A
Southbound Right	0.02	5	A	0.04	3	A	0.02	5	A	0.05	3	A
Brock Road & Dersan Street/William Jackson Drive	**0.89**	**31**	**C**	**0.81**	**19**	**B**	**0.99**	**32**	**C**	**0.93**	**22**	**C**
Eastbound Left	0.08	29	C	0.03	37	D	0.10	29	C	0.03	37	D
Eastbound Through	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Eastbound Right	0.55	34	C	0.07	37	D	0.60	36	D	0.08	38	D
Westbound Left	1.16	138	F	0.82	61	E	1.16	138	F	0.82	61	E
Westbound Through	0.00	28	C	0.01	37	D	0.00	28	C	0.01	37	D
Westbound Right	0.03	29	C	0.02	37	D	0.03	29	C	0.02	37	D
Northbound Left	0.78	47	D	0.78	30	C	0.93	76	E	0.93	60	E
Northbound Through	0.61	13	B	0.64	11	B	0.61	13	B	0.64	11	B
Northbound Right	0.06	8	A	0.17	6	A	0.06	8	A	0.17	6	A
Southbound Left	0.14	10	A	0.26	16	B	0.14	10	A	0.26	17	B
Southbound Through	0.66	14	B	0.72	20	C	0.68	15	B	0.74	21	C
Southbound Right	0.00	7	A	0.01	11	B	0.00	7	A	0.01	11	B
New Road & Zents Drive												
Eastbound Through / Right		0	A		0	A		0	A		0	A
Westbound Through / Left		1	A		2	A		2	A		3	A
Northbound Left / Right		9	A		9	A		9	A		9	A
Dersan Street & New Road												
Eastbound Through / Left		0	A		0	A		0	A		0	A
Westbound Through / Right		0	A		0	A		0	A		0	A
Southbound Left / Right		11	B		10	B		11	B		11	B
New Road & Site Access												
Westbound Left / Right								9	A		9	A
Northbound Through / Right								0	A		0	A
Southbound Through / Left								3	A		4	A

ATTACHMENT 3

Approved Parking for Adjacent Development

IN THE MATTER OF
Section 34 (22)
Of the Planning Act, R.S.O. 1990, c. P.13, as amended

and

IN THE MATTER OF
Zoning By-law No. 7930/22

AFFIDAVIT

I, Susan Cassel, City Clerk for The Corporation of the City of Pickering in the Regional Municipality of Durham, make oath and say as follows:

1. I am the duly appointed Clerk of The Corporation of the City of Pickering, and, as such, have knowledge of the facts herein deposed to:

2. Notice of the passing of Zoning By-law No. 7930/22 passed by the Council of The Corporation of the City of Pickering on the 25th day of April, 2022 was given in accordance with Section 34(18) of the *Planning Act*, *R.S.O. c. P.13,* as amended, and in the manner and form and to the persons prescribed by the regulations made by the Lieutenant Governor-in-Council under the said *Act*;

3. No notice of appeal to Zoning By-law No. 7930/22 was filed with me within the time allowed for appeal under the provisions of Section 34(19) of the *Planning Act*, *R.S.O. 1990, c. P.13,* as amended; and,

4. By-law No. 7930/22 is therefore deemed to be in full force and effect in accordance with the provisions of Section 34(21) of the *Planning Act*, *R.S.O. c. P.13,* as amended.

AND I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

SWORN before me at the City of Pickering In the Regional Municipality of Durham, this 3rd day of June, 2022

Susan Cassel

A Commissioner, etc.

Andrew MacGillivray, a Commissioner, etc.,
Province of Ontario, for The Corporation
of the City of Pickering.
Expires January 27, 2025.

(b) Building Location and Setbacks:

(i) No building or part of a building, or structure shall be erected outside of the building envelope as illustrated on Schedule II attached hereto;

(ii) No building or portion of a building or structure shall be erected within the building envelope, unless a minimum of 60 percent of the entire length of the build-to-zone, as illustrated on Schedule II attached hereto, contains a continuous portion of the exterior wall of a building;

(iii) A minimum separation between buildings of 12.0 metres, excluding any parking garage stair access and parking garage structure.

(iv) A below grade parking structure shall be permitted beyond the limits of the building envelope as identified on Schedule II attached hereto, but no closer than 15.0 metres from the north lot line and no closer than 4.5 metres from all other lot lines.

(c) Building Height:

(i) Maximum Building Height: 13.0 metres (4 storeys)

(d) Private Outdoor Amenity Area:

(i) Minimum: 4.5 square metres per dwelling unit

(e) Private Park Area:

(i) Minimum: 540 square metres

(f) Parking Requirements:

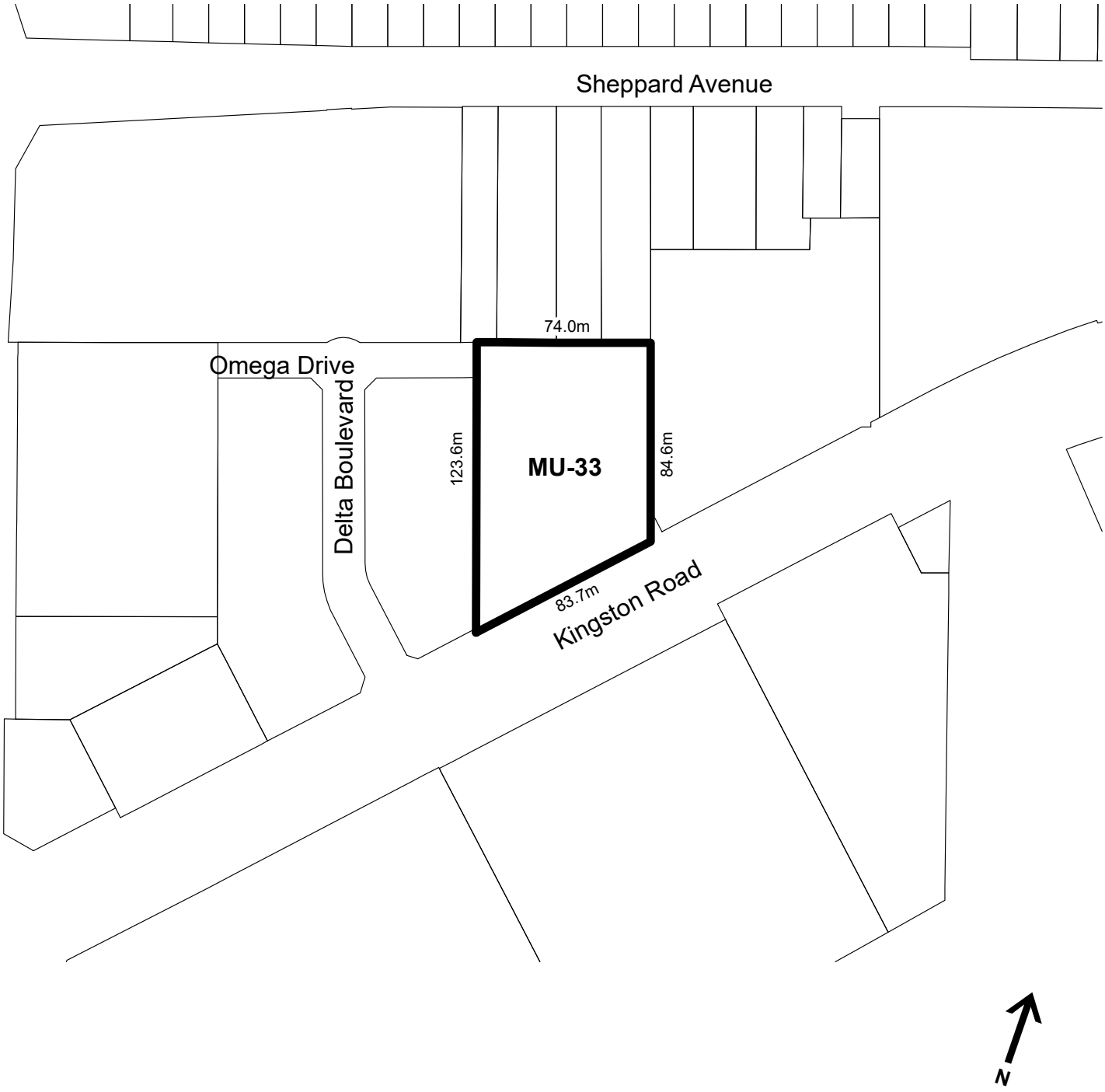
(i) Minimum 1.0 parking space per dwelling unit plus 0.2 of a parking space per dwelling unit for visitors.

(ii) Surface parking spaces shall not be permitted within 15.0 metres of the north property line.

(iii) Air vents constructed in association with a below grade parking structure are permitted to project to a maximum of 1.2 metres above established grade, but no closer than 4.0 metres to a street line.

(g) Bicycle Parking Requirements

(i) Minimum 1.0 bicycle parking space per dwelling unit.



Schedule I to By-Law 7930/22
Passed This 25th Day
of April 2022

Original Signed By

Mayor

Original Signed By

Clerk

IN THE MATTER OF
Section 34 (22)
Of the Planning Act, R.S.O. 1990, c. P.13, as amended

and

IN THE MATTER OF
Zoning By-law No. 7969/22

A F F I D A V I T

I, Susan Cassel, City Clerk for The Corporation of the City of Pickering in the Regional Municipality of Durham, make oath and say as follows:

1. I am the duly appointed Clerk of The Corporation of the City of Pickering, and, as such, have knowledge of the facts herein deposed to:

2. Notice of the passing of Zoning By-law No. 7969/22 passed by the Council of The Corporation of the City of Pickering on the 20th day of September, 2022 was given in accordance with Section 34(18) of the *Planning Act*, *R.S.O. c. P.13,* as amended, and in the manner and form and to the persons prescribed by the regulations made by the Lieutenant Governor-in-Council under the said *Act*;

3. No notice of appeal to Zoning By-law No. 7969/22 was filed with me within the time allowed for appeal under the provisions of Section 34(19) of the *Planning Act*, *R.S.O. 1990, c. P.13,* as amended; and,

4. By-law No. 7969/22 is therefore deemed to be in full force and effect in accordance with the provisions of Section 34(21) of the *Planning Act*, *R.S.O. c. P.13,* as amended.

AND I make this solemn Declaration conscientiously believing it to be true, and knowing that it is of the same force and effect as if made under oath.

SWORN before me at the City of Pickering In the Regional Municipality of Durham, this 27th day of October, 2022

Susan Cassel

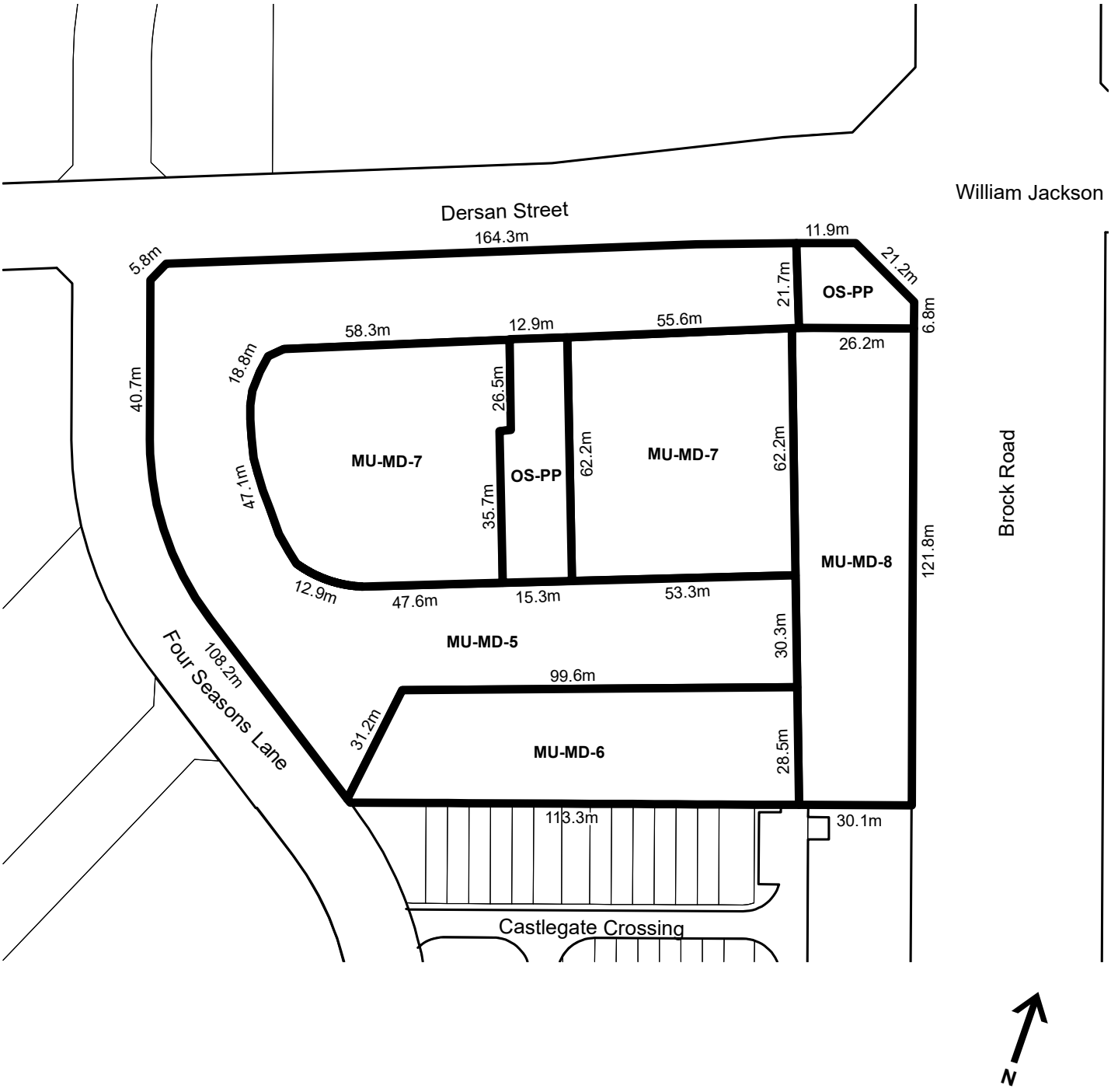
A Commissioner, etc.

Andrew MacGillivray, a Commissioner, etc.,
Province of Ontario, for The Corporation
of the City of Pickering.
Expires January 27, 2025.

(2) Zone Requirements (“MU-MD-7” & “MU-MD-8” Zone)

No person shall within the lands zoned “MU-MD-7” & “MU-MD-8” on Schedule I to this By-law, use any lot or erect, alter, or use any building except in accordance with the following provisions:

		MU-MD-7	MU-MD-8
(a)	Building Location	No building or part of a building or structure shall be erected outside of the building envelope as illustrated on the Schedule II attached hereto.	
(b)	Setback between building blocks (minimum)	10.5 metres between Front Walls	3.0 metres between Side Walls
(c)	Building Height (maximum)	12.0 metres	17.5 metres
(d)	Parking Requirements (minimum)	2.0 parking spaces per dwelling unit	1.0 parking space per dwelling unit
(e)	Visitor Parking Requirements (minimum)	0.25 of a parking space per dwelling unit, which may be provided on a separate lot.	
(f)	Garage Requirements	Minimum one private garage per dwelling, the vehicular entrance of which shall be located not less than 6.0 metres from a private street.	Nil
(g)	Interior Garage Dimensions (minimum)	(i) A private garage shall have a minimum width of 3.0 metres and a minimum depth of 6.0 metres provided, however, the width may include one interior step and the depth may include two interior steps.	Nil
(h)	Driveway Width (maximum)	A driveway shall not exceed the width of the building or structure to which it provides access.	Nil



Schedule I to By-Law 7969/22
Passed This 20th
Day of September 2022

Original Signed By

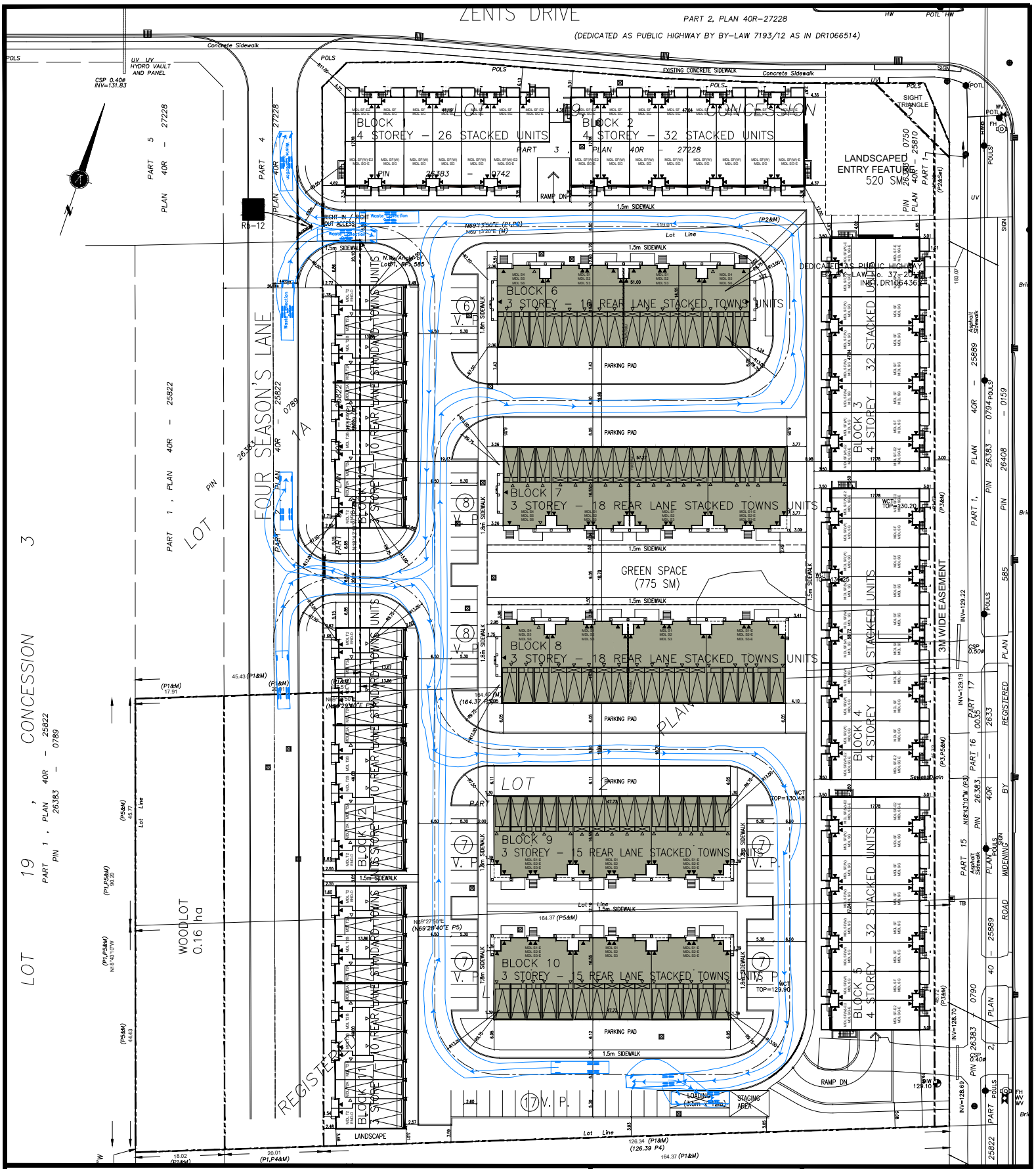
Mayor

Original Signed By

Clerk

ATTACHMENT 4

Waste Collection Vehicle Circulation



Waste Collection Vehicle Site Circulation

Proposed Residential Development
2660 - 2680 Brock Road
City of Pickering, ON

Source: Site Plan by Guthrie Muscovitch Architects, March 2024

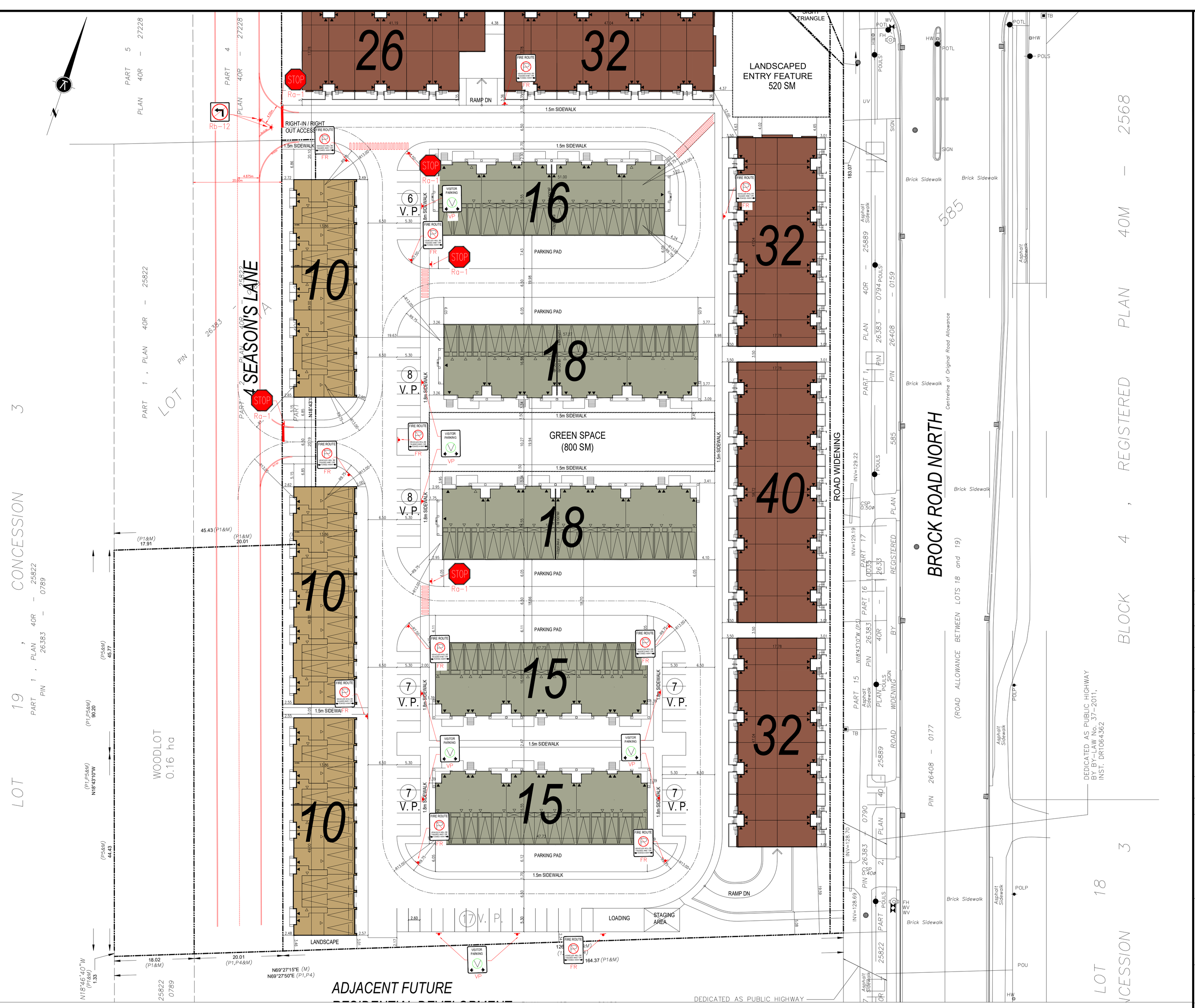
CONSTRUCTION NORTH

SCALE: NTS UNITS: m

TRANS-PLAN
transportation engineering consultants
67 Mowat Avenue, Suite 331
Toronto, Ontario, M6K 3E3
tel: (647) 931-7383
website: www.trans-plan.com

ATTACHMENT 5

Pavement Marking & Signage Plan



SIGN LEGEND :

ONTARIO TRAFFIC MANUAL (OTM) SIGNS

STOP	Ra-1	STOP SIGN (OTM)
NO PARKING FIRE ROUTE	FR	FIRE ROUTE SIGN - NO PARKING
VISITOR PARKING	VP	VISITOR PARKING SIGN
	Rb-12	NO LEFT TURN SIGN (OTM)

MARKINGS & SYMBOLS LEGEND:

	NEW SIGN
	STOP BAR, SOLID WHITE LINE, 0.5m WIDTH
	PEDESTRIAN CROSSWALK

REVISIONS

No.	DESCRIPTION	DATE	BY	APROV.
1				
2				
3				
4				
5				
6				
7				
8				
9				

NOTES:

1. ALL SIGNAGE AND PAVEMENT MARKINGS SHOULD BE INSTALLED IN ACCORDANCE WITH THE ONTARIO TRAFFIC MANUAL (OTM) BOOK 5 (REGULATORY SIGNS), BOOK 6 (WARNING SIGNS), BOOK 11 (PAVEMENT, HAZARD AND DELINEATION MARKINGS), BOOK 15 (PEDESTRIAN CROSS FACILITIES)
2. TRAFFIC SIGNS TO BE PLACED AS CLOSE TO THE EDGE OF THE SIDEWALK AS POSSIBLE
3. SIGNS SHOULD BE INSTALLED ON PROPOSED UTILITY/STREET LIGHT POLES WHENEVER POSSIBLE IN ORDER TO MINIMIZE THE NUMBER OF NEW U-CHANNELS

TRANS-PLAN transportation engineering
67 Mowat Avenue, Suite 331
Toronto, Ontario, M6K 3E3
tel: 1-877-668-8784
website: www.trans-plan.com

CONCEPTUAL SIGNAGE AND PAVEMENT MARKING LOCATIONS

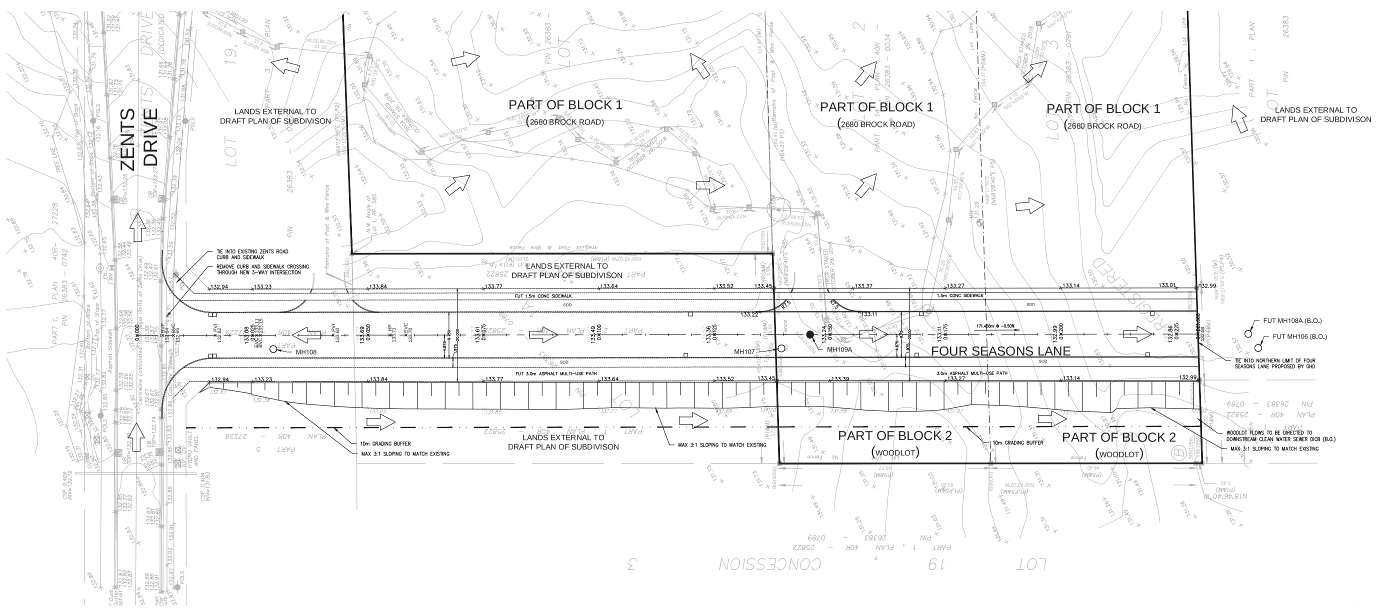
PROPOSED RESIDENTIAL DEVELOPMENT

2660 - 2680 BROCK ROAD
CITY OF PICKERING, DURHAM REGION, ONTARIO

DESIGN BY:	C.C.	CHECKED BY:	A.S.	PROJECT No.:	2023P156
DRAWN BY:	C.C.	CHECKED BY:	A.S.	DRAWING No.:	1
SCALE:	1:400 (PAPER SIZE 24x36)	DATE:	FEBRUARY 21, 2024		

ATTACHMENT 6

Functional Design of Right-In / Right-Out Access



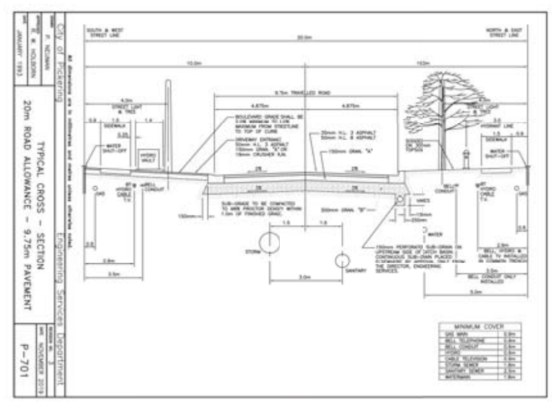
VERTICAL CURVE DATA

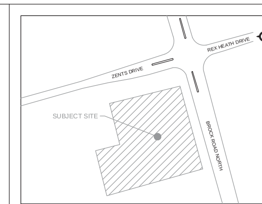
FOUR SEASONS LANE – HIGH POINT

LVC: 31.53
K: 7.00
PVI STA: 0+042.44
PVI ELEV: 133.778
HI POINT STA: 0+054.70
HI POINT ELEV: 133.71
BVCS: 0+026.68
BVCE: 133.15
EVCS: 0+058.21
EVCE: 135.70

FOUR SEASONS LANE – LOW POINT

LVC: 18.00
K: 6.00
PVI STA: 0+016.88
PVI ELEV: 132.75
LOW POINT STA: 0+007.88
LOW POINT ELEV: 132.66
BVCS: 0+007.88
BVCE: 132.66
EVCS: 0+025.86
EVCE: 133.11





KEY PLAN N.T.S.

ADDRESS:
2680 BROCK ROAD
PICKERING, ONTARIO

LEGEND

SEE ABBREVIATIONS BELOW

Symbol	Description
● × 200.00 0.5% MH 1A	PROPOSED ITEMS
× 200.00	PROP ELEVATION TO MATCH EXISTING
⇨	EMERGENCY OVERLAND FLOW ROUTE
●	SANITARY MH
○	STM MH
▫ ▭	CB / DCB
	3:1 SLOPING
	LIMIT OF SUBDIVISION

BENCHMARK:	ELEVATIONS ARE GEODETIC AND ARE RELATED TO TOWN OF AJAX BENCH MARK No. 437, HAVING AN ELEVATION OF 90.79 METRES.
BEARING:	BEARINGS ARE GRID BEARINGS DERIVED FROM GPS OBSERVATIONS OF OBSERVED REFERENCE POINTS 'A' AND 'B', USING THE LEICA SMARTNET RTK NETWORK, AND ARE REFERRED TO THE 6° UTM COORDINATE SYSTEM, ZONE 17, CENTRAL MERIDIAN 81°00' WEST LONGITUDE. (NAD 83 (CSRS)(2010)).
SITE PLAN:	GUTHRIE MUSCOVITCH ARCHITECTS, 220725
SURVEY:	KRCMAR SURVEYORS ITD., 181112

NO.	ISSUE	DATE	BY
1	ISSUED FOR 1ST ZBA	2022-09-29	M.R.

DRAWING NOTES — **NOT FOR CONSTRUCTION**

1. THIS DRAWING IS THE EXCLUSIVE PROPERTY OF TYLIN. THE REPRODUCTION OF ANY PART WITHOUT PRIOR WRITTEN CONSENT FROM TYLIN IS STRICTLY PROHIBITED.
2. THIS DRAWING IS TO BE READ AND UNDERSTOOD IN CONJUNCTION WITH ALL OTHER DRAWINGS AND DOCUMENTS APPLICABLE TO THIS PROJECT.
3. THIS DRAWING IS NOT TO BE ISSUED FOR CONSTRUCTION UNTIL ALL REQUIRED PERMITS HAVE BEEN ISSUED.
4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, INVERTS AND DATA ON SITE AND REPORT ANY DISCREPANCIES OR OMISSIONS TO TYLIN 48 HOURS PRIOR TO ANY CONSTRUCTION.

ABBREVIATIONS

GENERAL:
PROP = PROPOSED
EX = EXISTING

ELEVATIONS:
TC = TOP OF CURB
BC = BOTTOM OF CURB

TW = TOP OF WALL
BW = BOTTOM OF WALL

SERVICING:
STM = STORM
SAN = SANITARY
WAT = WATER
PVC = POLYVINYL CHLORIDE

HDPE = HIGH DENSITY POLYETHYLENE
CONC = CONCRETE
MH = MAINTENANCE HOLE
CB = CATCH BASIN
DCB = DOUBLE CATCH BASIN
AD = AREA DRAIN
TD = TRENCH DRAIN

LICENSED PROFESSIONAL ENGINEER
M. P. RUIZ
100144960
October 07, 2022
PROVINCE OF ONTARIO

TYLin

8800 DUFFERIN STREET,
SUITE 200
VAUGHAN, ON
L4K 0C5

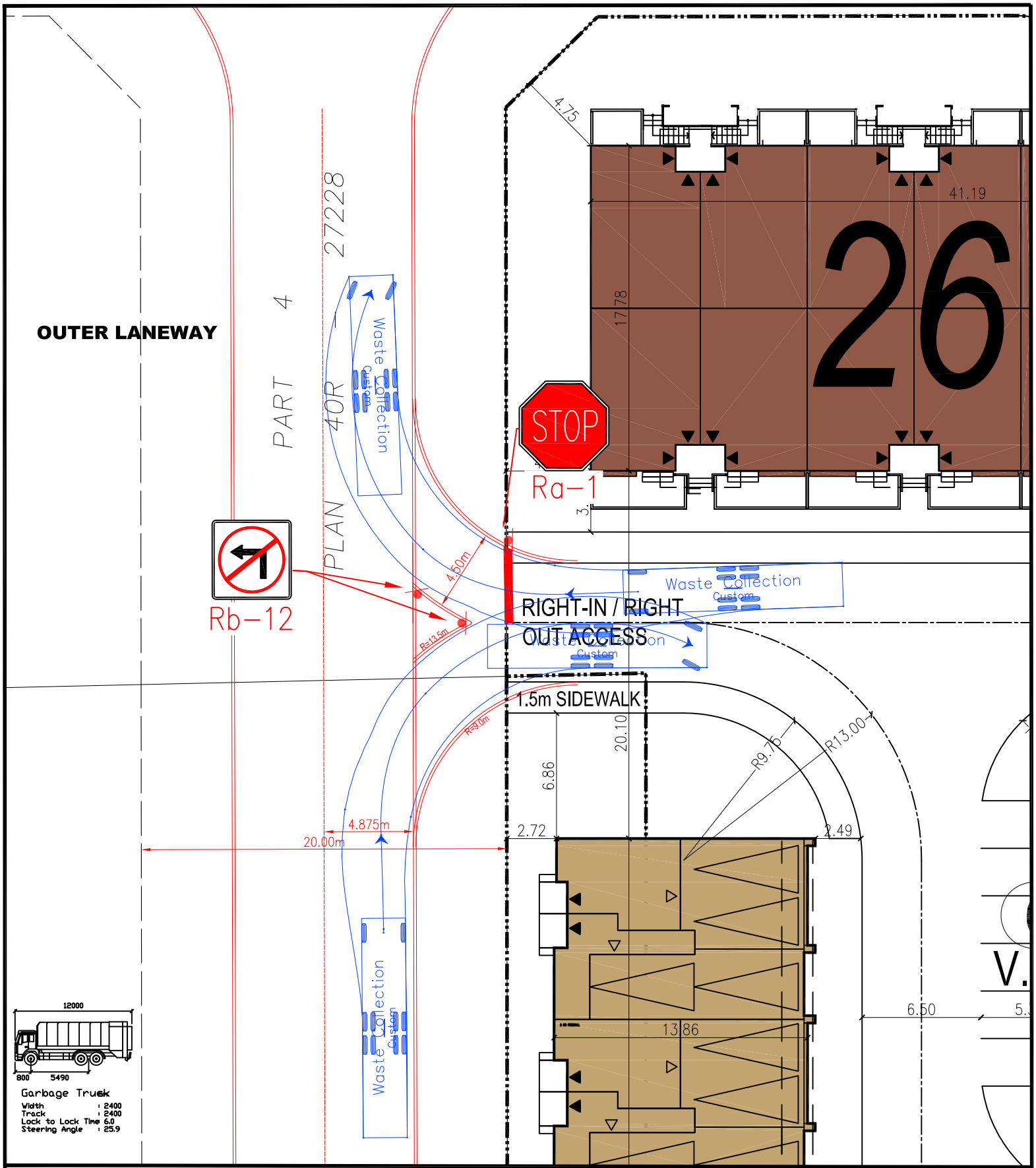
p: 905.738.5700
f: 905.738.0065

THE BROCK ZENTS PARTNERSHIP
2680 BROCK ROAD

FOUR SEASONS LANE
GRADING PLAN

SCALE:	1:500	PROJECT #	18138
DATE:	JULY 2022		
DRAWN BY:	C.D.	DRAWING #	GR1
DESIGNED BY:	C.D.		
CHECKED BY:	M.R.		

File : G:\Projects\2018\18138 - Complex - Brock Zents\3. Drawings\1. Design Drawings\Four Seasons Lane\18138 - Four Seasons Lane - GRADING.dwg Layout : G1 Date: Oct 07, 2022 - 2:27pm. Edit By : caleb.donald



Functional Design of Right-In/Right-Out Access

Proposed Residential Development
2660 - 2680 Brock Road
City of Pickering, ON

CONSTRUCTION NORTH

TRUE NORTH

Source: Site Concept Plan by Guthrie Muscovitch Architects, December 2023

SCALE: NTS UNITS: m

TRANS-PLAN
transportation engineering consultants
67 Mowat Avenue, Suite 331
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website: www.trans-plan.com