June 14th, 2023 **JDE** Project 1302

City of Barrie
70 Collier Street,
Barrie, ON L4M 4T5

Attn: Justin MacDonald, Senior Transportation Operations Technologist

RE: Functional Design Review - Traffic Update
1004 Mapleview Drive East - Block 211, City of Barrie

This letter was prepared by **JD Northcote Engineering Inc.** [JD Engineering] for the account of **970 Mapleview Inc.** [Client].

1.0 BACKGROUND

LEA Consulting Ltd. prepared a functional design review for the proposed 970 Mapleview Drive residential subdivision located in the City of Barrie [City] (dated February 17, 2017) [FDR]. The above noted FDR assessed the traffic-related impact of the proposed development on the adjacent roadway and provided recommendations to accommodate this traffic in a safe and efficient manner. JD Engineering completed an update to the Functional Design Review [FDR Update] in November of 2020 to incorporate the adjacent 932 Mapleview Drive lands and to consider the latest development projections and access configurations, as Nottingham Road was restricted to a right-in right-out [RIRO] access only.

Since the 2020 FDR Update, the concept for 1004 Mapleview Drive East – Block 211 has been further refined (this block was previously referred to as Block 537 in the Redline Revised Draft Plan of Subdivision Overlay to Draft Approved Plan of Subdivision – provided in the **Appendix**). This traffic letter update has been prepared to incorporate the latest development projections for 1004 Mapleview Drive East – Block 211.

The proposed draft plan of subdivision and concept for Block 211 is provided in the **Appendix**.

2.0 CHANGE IN UNIT COUNT

The proposed 932 & 970 Mapleview Drive subdivision in the FDR Update includes 903[1] residential units with the following breakdown:

- 449 single-detached;
- 379 townhouse units;
- 67 mixed-use medium density units; and
- 8 future lots.

[1] Without a defined plan, all of the previously proposed mixed-use units were considered as residential units.

JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca

Blocks 536 & 537 were anticipated to include 67 mixed-use units. As illustrated in the **Appendix**, Block 211 has been refined to include the following:

Block 211

- 127 townhouse units.

As outlined in the Traffic Update for 1000 Mapleview Drive East - Block 210, a total of 39 townhouse units and 15 commercial units are proposed for Block 210.

As a result of the refined block plan, the overall 932 & 970 Mapleview Drive subdivision is proposed to include 1,017 total units (1,002 residential units), with the following breakdown:

- 449 single-detached;
- 545 townhouse units;
- 15 commercial units; and
- 8 future lots.

An increase in 99 residential units results from the refined Block Plans.

3.0 TRAFFIC GENERATION FOR PROPOSED DEVELOPMENT ADDITIONAL UNITS

The traffic generation for the additional units of the proposed development has been based on the unit rates provided in the FDR which are based on a proxy site survey of the residential development located along Prince William Way between Mapleview Drive and Big Bay Point Road.

Consistent with the FDR, only residential trips associated with the mixed-use buildings were included in our analysis due to the uncertainty of the type of land use contained within the mixed-use buildings. Furthermore, it is anticipated that the majority of the retail trips to be internal trips, with a minimal impact on the external road network.

The estimated trip generation of the additional units of proposed development is illustrated below in **Table 1**.

Table 1 – Estimated Traffic Generation of Proposed Development Additional Units

Land Use	Size	AM Peak Hour			PM Peak Hour		
		IN	OUT	TOTAL	IN	OUT	TOTAL
Residential	Unit Rate	0.14	0.34	0.48	0.41	0.25	0.66
	99 units	14	34	48	41	25	66

No transportation modal split has been applied to the above-noted traffic generation calculation.

4.0 TRAFFIC ASSIGNMENT FOR PROPOSED DEVELOPMENT ADDITIONAL UNITS

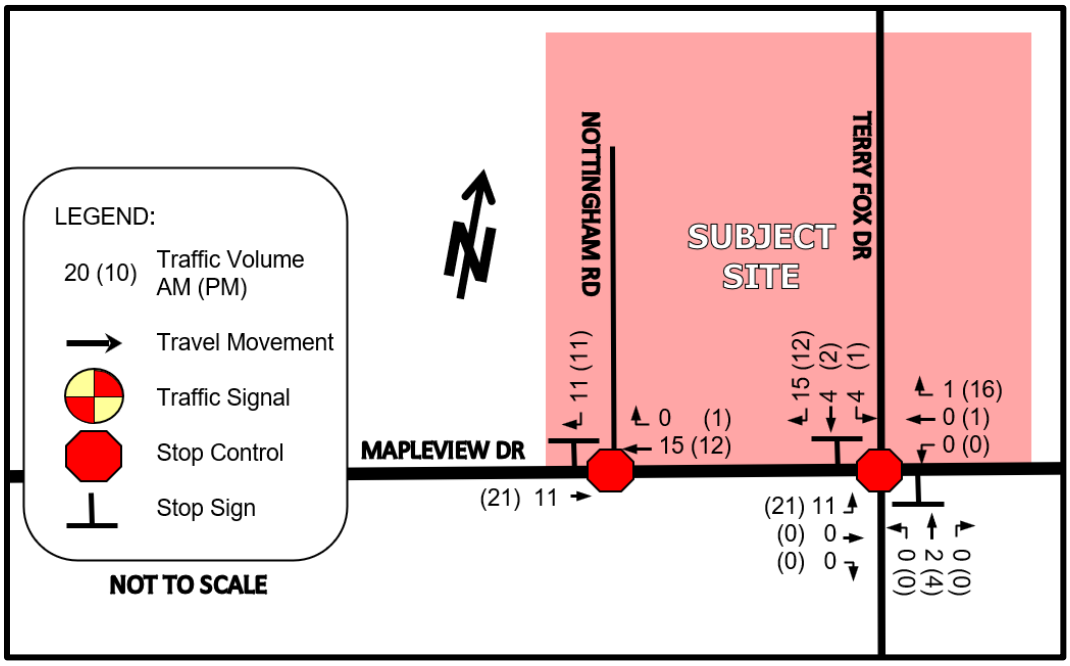
The distribution of traffic for the proposed development additional units is based on the proposed development traffic distribution calculated in the FDR. **Table 2** illustrates the calculation of the distribution of ingress and egress traffic for the proposed development.

Table 2 – Proposed Development Traffic Distribution

Travel Direction (to / from)	AM Peak Hour		PM Peak Hour	
	Ingress	Egress	Ingress	Egress
East via Mapleview Drive	6%	11%	40%	3%
West via Mapleview Drive	79%	77%	51%	90%
South via Terry Fox Drive	15%	12%	9%	7%
TOTAL	**100%**	**100%**	**100%**	**100%**

Using the traffic distribution pattern noted above, the proposed development additional units traffic assignment was calculated for the AM and PM peak hour and is illustrated in **Figure 1**.

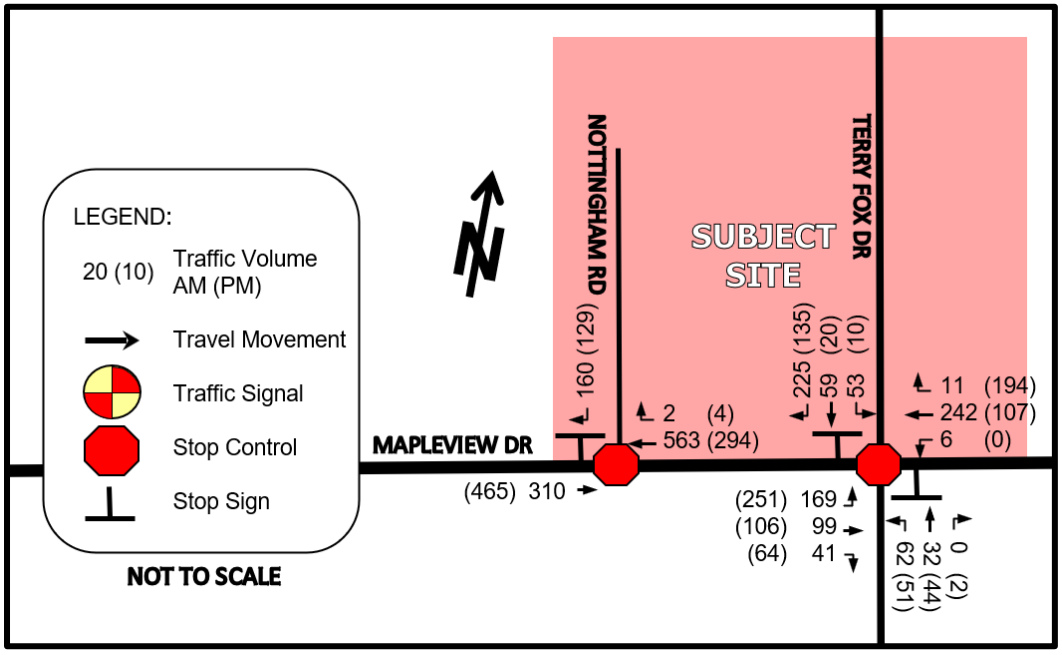
Figure 1 – Proposed Development Additional Units Traffic Assignment



5.0 UPDATED TOTAL (2031) TRAFFIC VOLUMES

For the updated total (2031) horizon year traffic volumes, the proposed development traffic from the additional units was added to the total (2031) traffic volumes within the study area illustrated in Figure 4, Section 6.0 of the FDR Update. The resulting updated total (2031) horizon year traffic volumes for the AM and PM peak hour are illustrated in **Figure 2**.

Figure 2 – Updated Total (2031) Traffic Volumes (1,002 Residential Units)



6.0 TOTAL (2031) INTERSECTION OPERATION

The results of the LOS analysis under the updated total (2031) traffic volumes during the AM and PM peak hour can be found below in **Table 3**. Detailed output of the Synchro analysis can be found in the **Appendix**.

Table 32 – Total (2031) LOS

Location (N-S Street / E-W Street)	Weekday AM Peak Hour					Weekday PM Peak Hour				
	V/C	Delay (s)	LOS	95th % Queue (m)		V/C	Delay (s)	LOS	95th % Queue (m)	
				Model	Storage				Model	Storage
Nottingham Road / Mapleview Drive (unsignalized)	-	2.5	A	-	-	-	1.6	A	-	-
SB	0.35	16.3	C	13	-	0.19	11.2	B	6	-
Terry Fox Drive / Mapleview Drive (unsignalized)	-	10.7	B	-	-	-	6.4	A	-	-
EBL	0.14	8.3	A	4	-	0.22	8.7	A	7	-
NBL	0.52	59.0	F	20	-	0.21	22.7	C	6	-
NBTR	0.09	14.9	B	2	-	0.17	19.3	C	5	-
SBL	0.14	15.3	C	4	-	0.04	18.4	C	1	-
SBTR	0.47	15.3	C	20	-	0.25	12.0	B	8	-

The results of the LOS analysis indicate all intersections are operating within the typical design limits noted in Section 4.1 of the FDR.

JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca

The exception occurs during the AM peak hour where the northbound left movement at the Terry Fox Drive / Mapleview Drive intersection is anticipated to operate with a delay of 59 seconds, corresponding to a LOS F. However, these operations are not considered a concern given that that the delay only occurs during the AM peak hour with the approach continuing to operate well below capacity (v/c = 0.52) and only minor queuing occurring (a queue length of 20 metres translates to approximately 3 vehicles). It is further noted that the intersection volumes do not warrant the implementation of traffic signals based on Ontario Traffic Manual Book 12 criteria. Notwithstanding, it is recommended that the need for traffic signal installation be reviewed through continued monitoring of traffic volumes at the intersection, as construction progresses within the Hewitt Secondary Plan Lands.

No infrastructure improvements are recommended within the study area.

7.0 ACCESS

7.1 SUBDIVISION ACCESS

The proposed lane configuration identified in the FDR Update at Nottingham Road / Mapleview Drive and Terry Fox Drive / Mapleview Drive will provide the necessary capacity to service the proposed development and no changes to the functional design are required to accommodate the additional traffic.

Nottingham Road at Mapleview Drive will operate efficiently as a RIRO access, with one-way stop control for the southbound movements. No lane improvements are recommended on Mapleview Drive at Nottingham Road. A single northbound and southbound lane on Nottingham Road at Mapleview Drive will provide the necessary capacity to service the proposed development.

Terry Fox Drive at Mapleview Drive will operate efficiently as a full-movement access, with two-way stop control for the northbound and southbound movements. An eastbound left turn lane with a storage and taper length of 30 metres and 70 metres respectively is proposed on Mapleview Drive at Terry Fox Drive and a southbound left turn lane with a storage and taper length of 20 metres and 60 metres respectively is proposed on Terry Fox Drive at Mapleview Drive. A single northbound, a southbound through-right turn lane and a southbound auxiliary left turn lane on Terry Fox Drive at Mapleview Drive will provide the necessary capacity to service the proposed development.

7.2 BLOCK 211 ACCESS

The site plan concept for Block 211 includes two private lane connections to Terry Fox Drive.

Side street stop control should be provided at the proposed access connections to the adjacent public roadways, with free flow conditions on the public roadways. The proposed accesses will have a single ingress lane and a single egress lane. No lane improvements are required on the adjacent roadway (Terry Fox Drive).

The proposed spacing between the two Block 211 accesses onto Terry Fox Drive (107 metres, measured edge of driveway to edge of driveway) meets the suggested minimum corner clearance requirements for intersections as identified in the TAC Guidelines – Figure 8.8.2 (Suggested Minimum Corner Clearances to Accesses or Public Lanes at Major Intersections) – 35 metres for an unsignalized condition on an arterial road.

The proposed spacing between the Block 211 south access and Mapleview Drive to the south (approximately 85 metres, measured edge of driveway to edge of a road) meets the suggested minimum corner clearance requirements for intersections as identified in the TAC Guidelines – Figure 8.8.2 (Suggested Minimum Corner Clearances to Accesses or Public Lanes at Major Intersections) – 70 metres for a signalized condition on an arterial road.

The proposed centerline shift between Block 211 south access and Richmond Road (1.0 metres) falls within the acceptable range for the maximum centerline shift across an intersection as identified in the TAC Guidelines – Figure 9.7.11 (Shifts in Horizontal Alignment across Intersections) – 1.5 metres.

8.0 SUMMARY

This section summarizes the conclusions and recommendations from this letter.

1) The additional traffic generated by the additional proposed units in Block 211 is expected to have a negligible impact on the total (2031) traffic operations in the study area.
2) The proposed configuration of the Nottingham Road / Mapleview Drive and Terry Fox Drive / Mapleview Drive will be sufficient to accommodate traffic generated by the additional units.
3) The proposed location and spacing of the accesses to Block 211 meets all required guidelines.
4) There are no further changes to the conclusions and the recommendations in the FDR Update as a result of the refined concept for Block 211.

We trust you will find this submission acceptable. Should you have any questions or concerns or require any additional information in this regard, please contact the undersigned.

Yours truly,
JD Northcote Engineering Inc.

Rochelle Fortier, P.Eng.

Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. JD Engineering accept no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this project.

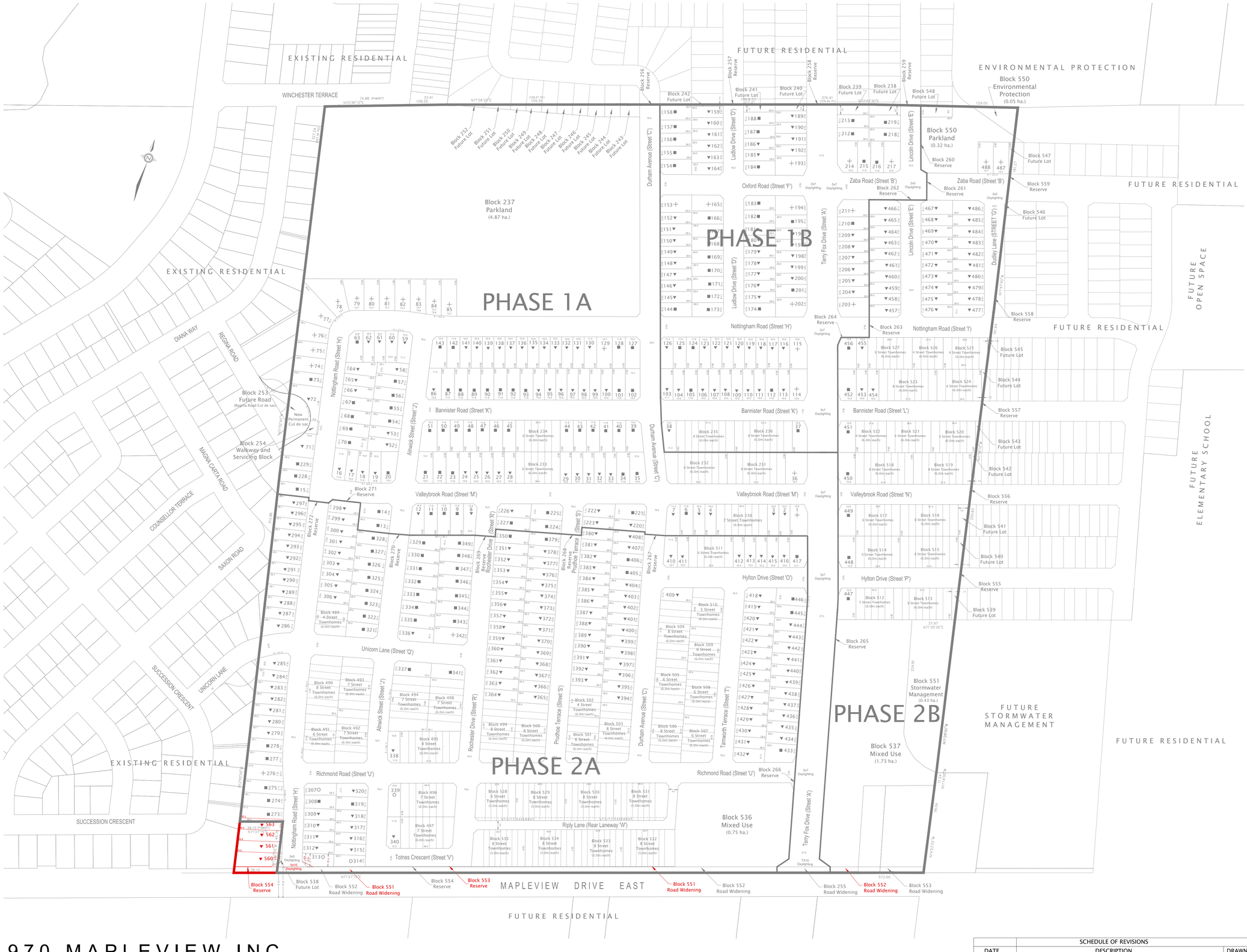
JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca

Appendix

JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca

Draft Plan of Subdivision and Conceptual Site Plans

JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca



KEY PLAN SCALE 1:25,000

Redline Revised Draft Plan of Subdivision Overlay to
Draft Approved Plan of Subdivision
Part of Lot 19, Concession 12, City of Barrie 2020

OWNER'S CERTIFICATE

I, THE UNDERSIGNED, BEING THE REGISTERED OWNER OF THE SUBJECT LANDS, HEREBY AUTHORIZE THE JONES CONSULTING GROUP LTD., AND 970 MAPLEVIEW INC. TO PREPARE THIS DRAFT PLAN OF SUBDIVISIONAND TO SUBMIT SAME TO THE CITY OF BARRIE FOR APPROVAL.

DATE — DANNY SALVATORE, 970 MAPLEVIEW INC.

DATE — SEYMOUR SAITOWITZ, 970 MAPLEVIEW INC.

DATE — PIER DE ROSA, OLS, OLIP, J.D. BARNES LIMITED, ONTARIO LAND SURVEYORS

SURVEYOR'S CERTIFICATE

I CERTIFY THAT THE BOUNDARIES OF THE LANDS TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO ADJACENT LANDS ARE ACCURATELY AND CORRECTLY SHOWN.

DATE — RUDY MAK, O.L.S., ONTARIO LAND SURVEYORS

ADDITIONAL INFORMATION REQUIRED UNDER SECTION 51(17) OF THE PLANNING ACT

a) SHOWN ON DRAFT PLAN
b) SHOWN ON DRAFT PLAN
c) SHOWN ON KEY PLAN
d) RESIDENTIAL, SWM, EP MIXED USE, OPEN SPACE
e) SHOWN ON DRAFT PLAN
f) SHOWN ON DRAFT PLAN
g) SHOWN ON DRAFT PLAN
h) MUNICIPAL PIPED WATER TO BE PROVIDED
i) SANDY CLAY LOAM
j) SHOWN ON DRAFT PLAN
k) ALL MUNICIPAL SERVICES TO BE PROVIDED
l) SHOWN ON DRAFT PLAN

STATISTICS

RESIDENTIAL LOT BREAKDOWN

		Redline #3 - Proposed Revised Draft Plan LAW-12157-TF-DP-3c.dwg (July 22, 2020)	Redline #2 - Proposed Revised Draft Plan LAW-12157-TF-DP-2.dwg (Nov. 26, 2019)	Redline #1 - Draft Approved Plan LAW-12157-TF-DP-1a.dwg (March 20, 2019)
13.7m Singles + +		30 units	30 units	47 units
11.6m Singles ■ ■		134 units	135 units	208 units
10.0m Singles ▼ ▼		281 units	276 units	244 units
9.6m Singles ○ ○		4 units	4 units	8 units
Semi Detached Units (LOTS 1 - 229, 273 - 488, & 560 - 563) (LOTS 1 - 229 & 273 - 488)		n/a	n/a	n/a
SUB TOTAL	14.30 ha.	449 units	445 units	507 units
Street Townhomes (6.0m) (BLOCKS 230 - 236 & 489 - 507) (BLOCKS 230 - 236 & 488 - 526)	5.74 ha.	317 units	317 units	184 units
Street Townhomes (5.0m) (BLOCKS 528 - 535) (BLOCKS 536 & 537)	1.15 ha.	62 units	62 units	62 units
Mixed Use (BLOCKS 536 & 537) (BLOCKS 537 & 538)	2.48 ha.	67 units	67 units	67 units
Future Lots and Road (BLOCKS 238 - 253 & 538 - 547) (BLOCKS 238 - 253 & 538 - 548)	0.38 ha.	8 units	8 units	8 units
Environmental Protection (BLOCK 548) (BLOCK 549)	0.05 ha.			
Open Space & Parkland (BLOCKS 237 & 549) (BLOCKS 237 & 550)	5.19 ha.			
Stormwater Management & Servicing Block (BLOCK 254 & 550) (BLOCK 254 & 551)	0.44 ha.			
Reserves & Widenings (BLOCKS 255 - 272 & 551 - 559) (BLOCKS 255 - 272 & 552 - 559)	0.34 ha.			
Roads	11.64 ha.			
TOTAL	41.71 ha.	903 units	899 units	828 units

0 10 50 100M

SCALE 1 : 1500 (A1)

970 MAPLEVIEW INC.

Redline Revised Draft Plan of Subdivision Overlay to
Draft Approved Plan of Subdivision

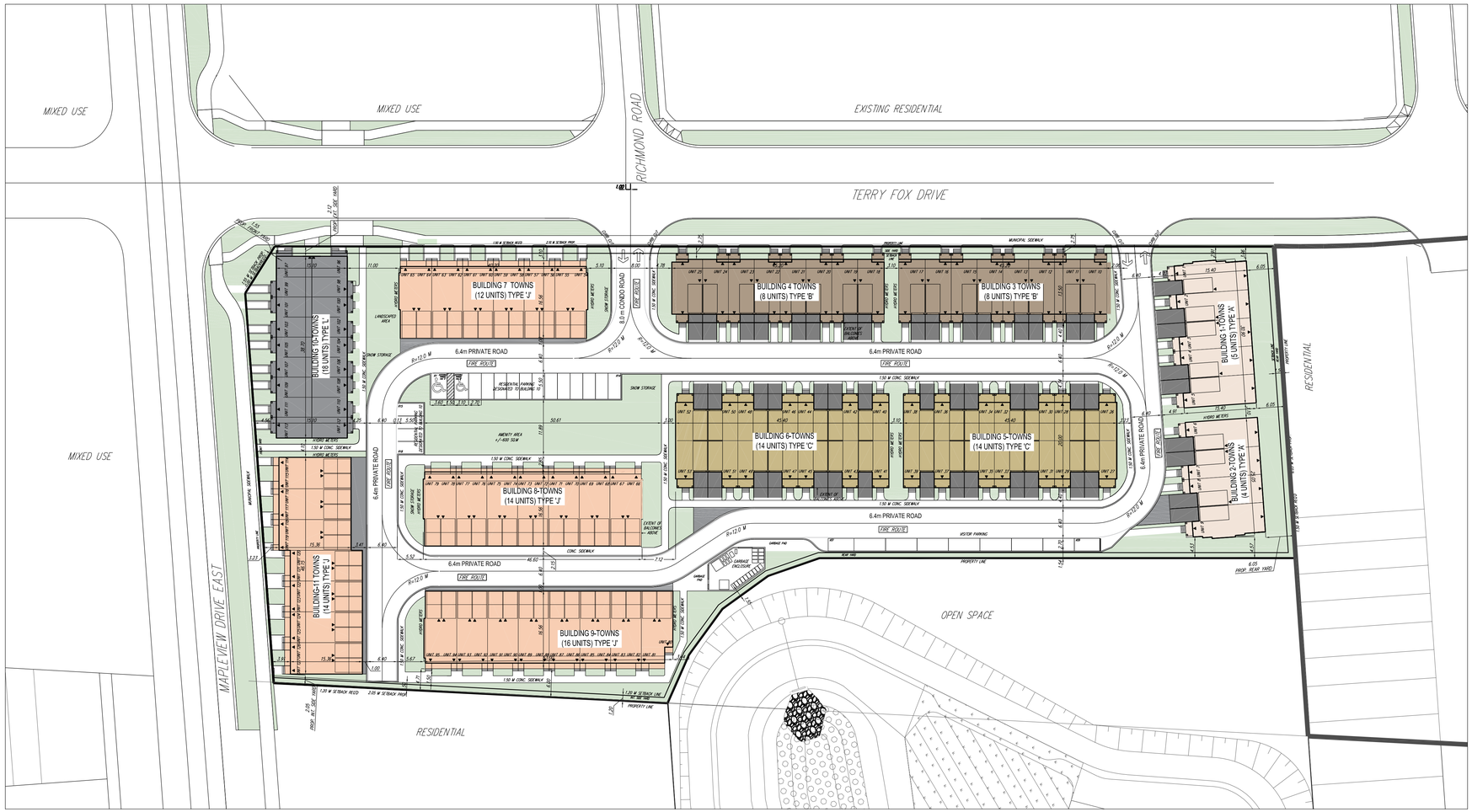
Raymond J. Duhamel — REGISTERED PROFESSIONAL PLANNER — R.P.P.

Date Issued:	MARCH. 20, 2019
Checked By:	RD
Project No.:	LAW-12157
Drawn By:	m.c.r.
Drawing Name:	LAW-12157-TF-RR-DP-3b.dwg

JONES CONSULTING GROUP LTD.
PLANNERS & ENGINEERS
229 Mapleview Drive East, Unit 1, Barrie, Ontario, L4N 0W5
Phone: 705-734-2538 Fax: 705-734-1056
www.jonesconsulting.com

SCHEDULE OF REVISIONS		
DATE	DESCRIPTION	DRAWN
19.03.20	LOTTING CHANGES	m.c.r.
19.11.28	LOTTING CHANGES AND PHASE LIMIT REVISION	m.c.r.
19.12.19	REVISE LOCAL TO MAJ. COLLECTOR DAYLIGHTING	m.c.r.
20.05.14	REVISE LOCAL TO ARTERIAL DAYLIGHTING	m.c.r.
20.07.22	ADDITION OF 932 MAPLEVIEW DRIVE EAST/RELOTTING/UPDATE STATS	m.c.r.

970 MAPLEVIEW INC.
CITY OF BARRIE



1 SITE PLAN
SCALE: 1:500

SITE STATISTICS

STANDARDS REFLECT PARENT BYLAW REQUIREMENTS UNLESS STATED OTHERWISE.
NUMBERS IN SQUARE BRACKETS INDICATES ZONING BYLAW ASSOCIATED WITH SPECIFIED STANDARD.

BYLAW NUMBER: 2009-141
ZONING DESIGNATION: NMU (NEIGHBOURHOOD MIXED USE)
SECTION 14 - SALEM AND HEWITTS COMMUNITIES PROVISIONS

1.0 SITE STANDARDS

SITE AREA	17,309 sq.m (4.28 ac) [1.73 ha]		
PROPOSED USES	RESIDENTIAL		
PROPOSED DENSITY	127 units / 1.73 ha = 73.41 units per hectare (ha)		
PROPOSED FAR	+/-16,787 sq.m. / 17,309 sq.m. = +/-0.97		
GROSS FLOOR AREA (GFA)	PROPOSED		
	BUILDING 1	TYPE A X 5	+/-12,485 sq.ft.
	BUILDING 2	TYPE A X 4	+/-10,020 sq.ft.
	BUILDING 3	TYPE B X 8	+/-16,185 sq.ft.
	BUILDING 4	TYPE B X 8	+/-16,185 sq.ft.
	BUILDING 5	TYPE C X 14	+/-25,490 sq.ft.
	BUILDING 6	TYPE C X 14	+/-25,490 sq.ft.
	BUILDING 7	TYPE J X 12	+/-14,400 sq.ft.
	BUILDING 8	TYPE J X 14	+/-16,800 sq.ft.
	BUILDING 9	TYPE J X 16	+/-19,200 sq.ft.
	BUILDING 10	TYPE L X 18	+/-17,640 sq.ft.
	BUILDING 11	TYPE J X 14	+/-16,800 sq.ft.
	TOTAL	+/-180,700 sq.ft.	+/-16,787 sq.m.

2.0 LOT STANDARDS

LOT FRONTAGE			+/- 93.8 M
NUMBER OF DWELLING UNITS	BUILDING 1	5 UNITS	TOTAL
	BUILDING 2	4 UNITS	
	BUILDING 3	8 UNITS	
	BUILDING 4	8 UNITS	
	BUILDING 5	14 UNITS	
	BUILDING 6	14 UNITS	
	BUILDING 7	12 UNITS	
	BUILDING 8	14 UNITS	
	BUILDING 9	14 UNITS	
	BUILDING 10	18 UNITS	
	BUILDING 11	14 UNITS	127 UNITS
COVERAGE			
BUILDING COVERAGE	BUILDING 1	+/- 475 sq.m	TOTAL
	BUILDING 2	+/- 385 sq.m	
	BUILDING 3	+/- 655 sq.m	
	BUILDING 4	+/- 655 sq.m	
	BUILDING 5	+/- 925 sq.m	
	BUILDING 6	+/- 925 sq.m	
	BUILDING 7	+/- 530 sq.m	
	BUILDING 8	+/- 730 sq.m	
	BUILDING 9	+/- 530 sq.m	
	BUILDING 10	+/- 665 sq.m	
	BUILDING 11	+/- 730 sq.m	+/-7,770 sq.m
	GARAGE ENCLOSURE	+/- 90 sq.m	(+/-40 %)
LANDSCAPE COVERAGE INCLUDING SOFTSCAPE AND HARDSCAPE		+/-5200 SQ. M. (+/-30 %)	
HARD SURFACE COVERAGE INCLUDING ROADS, PARKING SPACES AND DRIVEWAYS		+/-4340 SQ. M. (+/-25 %)	
	REQUIRED (UNMARKED AREAS BEDS/ LANDSCAPING SETBAC AS REQUIRED)		PROPOSED
BUILDING HEIGHT	12 STOREYS MAXIMUM		3 STOREYS
SETBACKS TOWNHOUSES — FRONT YARD	0.00 m		1.55 m
EAST INTERIOR SIDE YARD	1.20 m		2.05 m
WEST EXTERIOR SIDE YARD	1.50 m		2.12 m
REAR YARD	1.50 m		6.65 m
BUILDING SEPARATION	3.10 m		3.10 m

3.0 AMENITY AREAS

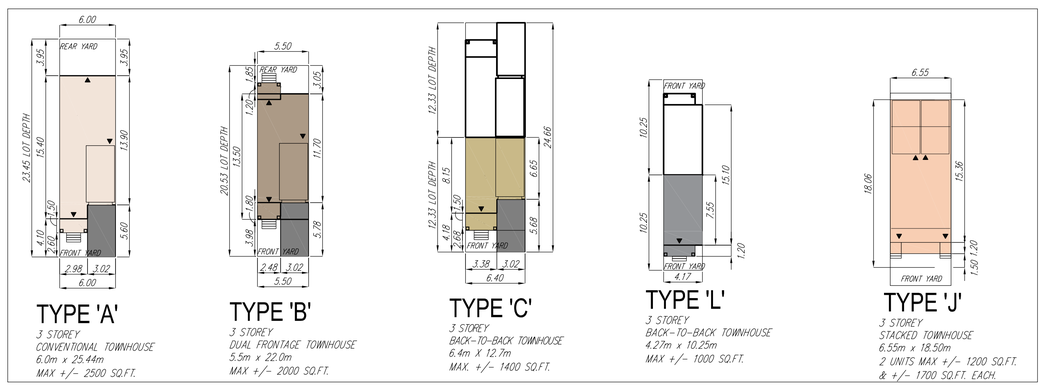
	REQUIRED 12 SQ.M/ UNIT	PROPOSED	TOTAL
AMENITY AREAS (5.4.2) RESIDENTIAL USES			
TYPE A = +/- 35 SQ.M PER UNIT		35 x 9 = +/- 315 SQ.M.	
TYPE B = +/- 12 SQ.M PER UNIT		12 x 16 = +/- 192 SQ.M.	
TYPE C = +/- 12 SQ.M PER UNIT		12 x 28 = +/- 336 SQ.M.	
TYPE J = +/- 7 SQ.M PER UNIT		7 x 56 = +/- 392 SQ.M.	
TYPE L = +/- 3 SQ.M PER UNIT		3 x 18 = +/- 54 SQ.M.	
AMENITY AREA		+/- 600 SQ.M.	
	1,524 SQ.M		+/-1,890 SQ.M COMPLIANCE

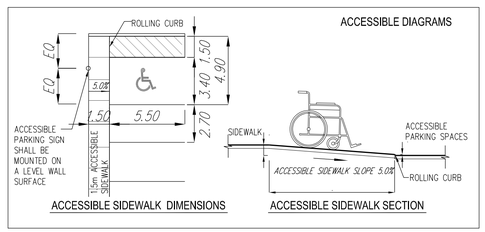
4.0 VEHICULAR PARKING REQUIREMENT

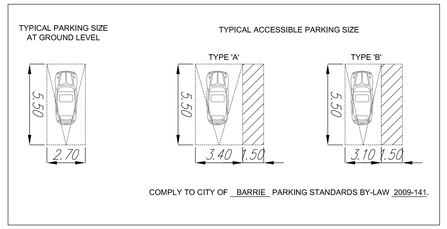
ZONING STANDARD	REQUIRED	AT GRADE	PROPOSED UNDERGROUND	TOTAL
VEHICULAR PARKING REQUIREMENTS				
RESIDENT PARKING	1 / UNIT 127	127	0	127 RESIDENT
VISITOR PARKING	0 / UNIT 0	9	0	9 VISITOR
				136
PARKING SPACE WIDTH	2.70 m		2.70 m	
PARKING SPACE LENGTH	5.50 m		5.50 m	
ACCESSIBLE PARKING				
NUMBER OF ACCESSIBLE PARKING SPACES	2 SPACES TYPE A (1) TYPE B	2	0	2 ACCESSIBLE
ACCESSIBLE PARKING SIZE	3.40m TYPE A	COMPLIANCE		
ACCESSIBLE PARKING	3.10m TYPE B	COMPLIANCE		
BICYCLE PARKING REQUIREMENTS				
RESIDENT PARKING RANGE	0 / UNIT 0			

5.0 SNOW STORAGE

AREA OF PARKING LOT	AS SHOWN
AREA OF SNOW STORAGE	AS SHOWN







NOTES:
- SIGNS TO BE SET AT AN ANGLE OF NOT LESS THAN 30 DEGREES AND NOT MORE THAN 45 DEGREES TO A LINE PARALLEL TO THE FLOW OF TRAFFIC AND SHOULD FACE THE FLOW OF APPROACHING TRAFFIC.
- SIGNS TO BE PLACED ON EITHER SITE STANDARDS OF THE FIRE ACCESS ROUTE AT INTERVALS OF NOT MORE THAN 30.0 METRES (100 FEET) APART.
- SIGNS SHALL NOT EXCEED 2.0 METRES (7 FEET) AND NOT LESS THAN 1.5 METRES (5 FEET) IN HEIGHT MEASURED FROM THE BOTTOM OF THE SIGN TO THE FINISHED PAVEMENT/GRADE.
- SIGNS SHALL BE INSTALLED AT MAXIMUM OF 5 METRES (16 FEET) AND A MINIMUM OF 2.5 METRES (8 FEET) FROM THE EDGE OF THE FIRE ACCESS ROUTE.
- SIGNS SHALL BE INSTALLED SO THAT THERE ARE NO OBSTRUCTIONS WITHIN 6.0 METRES (20 FEET) OF THE SIGN AND BE VISIBLE TO APPROACHING TRAFFIC.
- SIGNS SHALL DISPLAY SMALL HEADED ARROWS POINTING IN THE DIRECTION WHICH THE REGULATION IS IN EFFECT. AT INTERMEDIATE POINTS THROUGHOUT THE FIRE ACCESS ROUTE, THE ARROWS ON SIGNS SHALL INDICATE THAT THE PROHIBITION OR RESTRICTION EXISTS IN EACH DIRECTION.
- ALL SIGNAGE AND INSTALLATION OF THE FIRE ACCESS ROUTE SIGNES MUST ALSO CONFORM TO THE REQUIREMENTS AS OUTLINED IN THE CITY OF BARRIE BY-LAW 2005-158 AS AMENDED (PARKING BY-LAW)

*** REFER TO CITY OF BARRIE FIRE ROUTE SIGNAGE AND INSTALLATION SPECIFICATIONS (CURRENT VERSION) FOR A COMPLETE LIST OF REQUIREMENTS ***

VAN ACCESSIBLE PARKING SIGN N.T.S.

NOTES:
SIGNS TO BE PLACED TO BE VISIBLE AND CLEARLY DIRECT USERS TO ACCESSIBLE PARKING AREAS (VAN ACCESSIBLE) THROUGHOUT THE SITE

ACCESSIBLE PARKING SIGN N.T.S.

NOTES:
SIGNS TO BE PLACED TO BE VISIBLE AND CLEARLY DIRECT USERS TO ACCESSIBLE PARKING AREAS THROUGHOUT THE SITE

APPLICATION NUMBER:

APPLICATION NUMBER:

DRAWINGS ARE NOT TO BE SCALED.

OWNER INFORMATION

KEY PLAN N.T.S

LEGAL DESCRIPTION OF PROPERTY:
BLOCK 211 51M-1221-1004 MAPLEVIEW DRIVE.
TOWN OF BARRIE, ONTARIO

SITE LEGEND

- ENGINEERED FILL (LOT)
- STREET TREE
- RETAINING WALL
- CATCH BASIN
- DOUBLE / SINGLE HYDRO CONNECTION
- HYDRO TRANSFORMER
- PINMOUNTED MOTOR
- 190.10 EXISTING GRADES
- 190.10 PROPOSED GRADES
- 2.0% SWALE DIRECTION
- EMBANKMENT / BERM MAX 3:1 SLOPE
- BELL PEDESTAL
- CABLE PEDESTAL
- HYDRO POLE
- HYDRO POLE GUY
- STREET SIGN
- COMMUNITY MAILBOX
- WATER SERVICE
- HYDRO SERVICE
- SWEET DRAINAGE
- STREET LIGHT PEDESTAL
- STREET LIGHT (L.S.)
- BUILDING LIGHT WALL
- TRAFFIC SIGNAL POWER PEDESTAL
- DOWNSPOUTS
- WINDOWS PERMITTED
- FIRE WALL - (NO WINDOWS PERMITTED)
- EXTERIOR DOOR LOCATION
- EXTERIOR DOOR LOCATION IF GRADE PERMITS
- SANITARY LINE
- STORM WATER LINE
- WATERLINE
- HYDRO LINE
- GAS LINE
- CABLE LINE
- BELL
- HYDRO, GAS, BELL, CABLE LINE
- HYDRO METER LOCATION
- PROPOSED GAS METER LOCATION (TO BE CONFIRMED BY ENBRIDGE)
- DOWNSPOUTS
- SUMP PUMP (TO BE DISCHARGE AT GRADE)
- RAIN WATER LEADER -CONNECTED TO STORM SYSTEM (REFER TO SITE & SERVICING DRAWINGS)
- RAIN WATER LEADER DISCHARGE AT GRADE (REFER TO SITE & SERVICING DRAWINGS)
- TACTILE SURFACE INDICATOR
- SANITARY MANHOLE
- STORM MANHOLE
- VALVE & CHAMBER
- VALVE & BOX
- FIRE HYDRANT
- SUMP PUMP AND SURFACE DISCHARGE LOCATION
- UPGRADE ELEVATION
- CHAIN LINK FENCE
- FENCE AND GATE
- PRIVACY FENCE (REFER TO LANDSCAPE DWGS)
- ACOUSTIC FENCE
- TF THIRD FLOOR
- SF SECOND FLOOR
- FF FINISHED FLOOR
- BF BASEMENT FLOOR
- AVG AVERAGE GRADE
- WOO WALKOUT DECK
- WOB WALKOUT BASEMENT
- WOB WALKOUT BASEMENT
- MOD MODIFIED
- REV REVERSED
- HIGHLIGHTED GRADE
- DIRECTIONAL TRAFFIC ARROW
- SITE SIGNAGE
- BARRIER FREE PARKING STALL
- TRANSFORMER
- REFUSE (BIN)
- CONDENSING UNIT (REFER TO MECHANICAL)
- SIAMESE CONNECTION
- PEDESTRIAN ACCESS
- MECHANICAL GRATE
- SPLASH PAD
- FIRE ROUTE SIGN
- FIRE EXIT ONLY
- FIRE ROUTE SIGN (NO PARKING)
- BOLLARD c/w LIGHT
- TRAVEL DISTANCE (METERS)
- FIRE ROUTE
- PROPERTY LINE
- 3m or 6m LANDSCAPE BUFFER
- SOFT LANDSCAPE
- SIDEWALK (MUNICIPAL)
- BUILDING FOOTPRINT
- S.P. SUNKEN PATIO (+/-1.5m BELOW GRADE)
- W.W. WINDOW WELL
- DENOTES EXTENT OF LAND DEEDED TO CITY
- DENOTES EXTENT OF LANDS TO BE ACQUIRED BY OWNER

REVISIONS			
10.	-	-	-
9.	-	-	-
8.	-	-	-
7.	-	-	-
6.	-	-	-
5.	-	-	-
4.	-	-	-
3.	-	-	-
2.	-	-	-
1.	REVISED AS PER -	-	-

SUBMITTALS			
10.	-	-	-
9.	-	-	-
8.	-	-	-
7.	-	-	-
6.	-	-	-
5.	-	-	-
4.	-	-	-
3.	-	-	-
2.	-	-	-
1.	ISSUED FOR SPA SUBMISSION	2023.06.15	SS
No.	Description	YYYY.MM.DD	By

NORTH: PROJECT NORTH / TRUE NORTH

STAMP:

4 ARCHITECTURE INC
WWW.4ARCHITECTURE.CA
8968 Woodbine Avenue, Suite 300, Markham, ON L3R 0J7
T. (905) 470 7212 | F. (905) 737 7326 email: mail@4architecture.ca

970 MAPLEVIEW INC.
220087

BARRIE, ONTARIO — 1004 MAPLEVIEW DRIVE.

SITE PLAN

(REV.YYYY.MM.DD)

Scale	Drawn By	Checked By
1:500	DS	SS

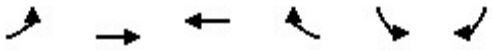
File Number: -

A001

S:\BRAMM\1 Toronto_Jobs\06_2003-3107 (MU)\KRO\PROJECTS\2020\220087 REINA\4.0 SITE (DRAWINGS)\5.4 CURRENT SITE PLAN\220087-4-ARCH-BLOCK 211 51M-1221-1004 MAPLEVIEW DRIVE EAST SPA.DWG
Tuesday, June 06, 2023 3:07 PM | DS

Synchro Analysis Output – Total (2031) Traffic Volumes

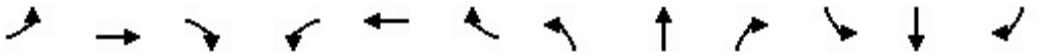
JD Engineering
Phone: 705.725.4035
Email:Admin@JDEngineering.ca



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	310	563	2	0	160
Future Volume (Veh/h)	0	310	563	2	0	160
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	337	612	2	0	174
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	614				950	613
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	614				950	613
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	65
cM capacity (veh/h)	965				289	492

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	337	614	174
Volume Left	0	0	0
Volume Right	0	2	174
cSH	1700	1700	492
Volume to Capacity	0.20	0.36	0.35
Queue Length 95th (m)	0.0	0.0	12.6
Control Delay (s)	0.0	0.0	16.3
Lane LOS			C
Approach Delay (s)	0.0	0.0	16.3
Approach LOS			C

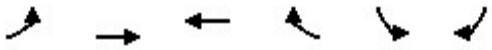
Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	169	99	41	6	242	11	62	32	0	53	59	225
Future Volume (Veh/h)	169	99	41	6	242	11	62	32	0	53	59	225
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	184	108	45	7	263	12	67	35	0	58	64	245
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	275			153			1052	788	130	776	804	269
vC1, stage 1 conf vol							498	498		283	283	
vC2, stage 2 conf vol							554	289		494	521	
vCu, unblocked vol	275			153			1052	788	130	776	804	269
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	86			100			48	91	100	86	85	68
cM capacity (veh/h)	1288			1428			130	399	919	409	417	770

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	184	153	7	275	67	35	58	309
Volume Left	184	0	7	0	67	0	58	0
Volume Right	0	45	0	12	0	0	0	245
cSH	1288	1700	1428	1700	130	399	409	655
Volume to Capacity	0.14	0.09	0.00	0.16	0.52	0.09	0.14	0.47
Queue Length 95th (m)	4.0	0.0	0.1	0.0	19.5	2.3	3.9	20.2
Control Delay (s)	8.3	0.0	7.5	0.0	59.0	14.9	15.3	15.3
Lane LOS	A		A		F	B	C	C
Approach Delay (s)	4.5		0.2		43.9		15.3	
Approach LOS					E		C	

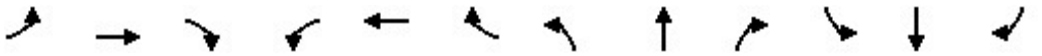
Intersection Summary				
Average Delay	10.7			
Intersection Capacity Utilization	56.5%	ICU Level of Service		B
Analysis Period (min)	15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	465	294	4	0	129
Future Volume (Veh/h)	0	465	294	4	0	129
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	505	320	4	0	140
Pedestrians						
Lane Width (m)						
Walking Speed (m/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (m)						
pX, platoon unblocked						
vC, conflicting volume	324				827	322
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	324				827	322
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	81
cM capacity (veh/h)	1236				341	719

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	505	324	140
Volume Left	0	0	0
Volume Right	0	4	140
cSH	1700	1700	719
Volume to Capacity	0.30	0.19	0.19
Queue Length 95th (m)	0.0	0.0	5.7
Control Delay (s)	0.0	0.0	11.2
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.2
Approach LOS			B

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	30.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	251	106	64	0	107	194	51	44	2	10	20	135
Future Volume (Veh/h)	251	106	64	0	107	194	51	44	2	10	20	135
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	273	115	70	0	116	211	55	48	2	11	22	147
Pedestrians												
Lane Width (m)												
Walking Speed (m/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		TWLTL			TWLTL							
Median storage veh)		2			2							
Upstream signal (m)												
pX, platoon unblocked												
vC, conflicting volume	327			185			970	1023	150	908	952	222
vC1, stage 1 conf vol							696	696		222	222	
vC2, stage 2 conf vol							274	327		687	731	
vCu, unblocked vol	327			185			970	1023	150	908	952	222
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	78			100			79	84	100	96	93	82
cM capacity (veh/h)	1233			1390			258	293	896	283	319	818

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	273	185	0	327	55	50	11	169
Volume Left	273	0	0	0	55	0	11	0
Volume Right	0	70	0	211	0	2	0	147
cSH	1233	1700	1700	1700	258	301	283	679
Volume to Capacity	0.22	0.11	0.00	0.19	0.21	0.17	0.04	0.25
Queue Length 95th (m)	6.8	0.0	0.0	0.0	6.3	4.7	1.0	7.8
Control Delay (s)	8.7	0.0	0.0	0.0	22.7	19.3	18.3	12.0
Lane LOS	A				C	C	C	B
Approach Delay (s)	5.2		0.0		21.1		12.4	
Approach LOS					C		B	

Intersection Summary				
Average Delay	6.4			
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			