HGC
NOISE | VIBRATION | ACOUSTICS

HGC Noise Vibration Acoustics
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April 4, 2025

Mountainview Homes (Niagara) Ltd.
3340 Schmon Parkway, Unit 1
Thorold, ON L2V 4Y6

Email: Nicholas Godfrey nicholas@ucc.com

RE : Addendum No.1 – Noise Feasibility Study,
Alliston Woods Subdivision Phase 2, Fort Erie, Ontario
HGC Project #: 02400535

Introduction & Summary

As requested, HGC Noise Vibration Acoustics has prepared this addendum letter for the referenced development. Our latest noise report for the development is entitled, "Noise Feasibility Study, Alliston Woods Subdivision, Fort Erie, Ontario" dated September 30, 2015 ("Noise Study"). This addendum letter has been prepared based on a review of the latest Subdivision Plan dated March 13, 2025 as attached. Since the completion of the Noise Study, the size of the development has changed with reduced lots and the closest lots are further setback from Garrison Road. This addendum letter applies to Phase 2 lots only.

The criteria, description of neighbouring uses, analysis methodology and noise control recommendations contained in the Noise Study generally remain applicable. The recommendations have been updated to reflect the latest Subdivision Plan and updated traffic data. A site visit was conducted in August 2024 and it was observed the uses in the area have not significantly change since the completion of the Noise Study. The lots at the east end of the site will be subjected to high background sound levels due to traffic on QEW and there is a large distance separation of greater than 200 m to the commercial uses to the east, therefore, significant noise impact is not expected from the surrounding existing uses.

The residential development is considered feasible from a noise perspective. The updated analysis and recommendations are summarized in this letter. Central air conditioning will be required for first row of units closest to the QEW. A noise barrier is required for the closest unit with exposure to the QEW. Forced air ventilation with ducts sized to accommodate the future installation of central air conditioning by the occupant is required for the dwelling units with exposure to QEW. Upgraded building constructions and glazing constructions may be required for units adjacent to the QEW depending on room and window sizes. Associated acoustical requirements are specified below. Warning clauses are also recommended, to inform future residents of the traffic noise impacts and the presence of nearby commercial facilities.

Traffic Noise Predictions

Updated road traffic data for Queen Elizabeth Way (QEW) in the form of ultimate Summer Annual Average Daily Traffic (SADT) data for the year 2019 was obtained from the Ministry of Transportation website and the parameters as detailed in the Noise Study were used in the updated analysis. For Garrison Road, an AADT traffic volume of 19,100 for year 2019 was obtained from Niagara Region open data website. The volumes were projects to year 2045 using a conservative growth rate of 2.5%. The volumes used in the updated analysis is summarized in Table 1.

Table 1: Projected Road Traffic Data

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km/h]
			Medium	Heavy	
Garrison Road	37, 203	90 / 10	2.6	1.3	60
QEW	54, 348	67 / 33	5.0	15.0	100

The sound level predictions were conducted at the plane of the windows of the upper storey windows and at a typical rear yard OLA. Sample STAMSON calculations are attached.

Table 2: Traffic Sound Level Predictions [dBA]

Prediction Location	Location	Daytime L_{EQ} (16 hour) OLA	Daytime L_{EQ} (16 hour) Facade	Nighttime L_{EQ} (8 hour) Facade
Block 60	Flanking Block with some exposure to QEW	61	64	64
Block 62	Flanking Lot with some exposure to QEW	57	58	58
Block 64	Flanking Lot with some exposure to QEW	<55	56	56
Block 77	Interior Lot with some exposure to QEW	55	56	56
Block 86	Third row of units from the QEW	55	56	56
Block 87	Second row of units from the QEW	57	61	61
Block 111	Interior lot with some exposure to Garrison Road	<55	<55	<50
Block 113	Stacked Townhouses Block	<55	<55	<50

Note: *Assuming a standard minimum 1.07 m high solid parapet around the area.

Discussion & Recommendations

Outdoor Living Areas

The predicted daytime sound levels in the OLA of the north end unit Block 60 will be greater than 60 dBA. In accordance with MECP Guidelines, physical mitigation will be required. Calculations indicate that a 2.0 m high noise barrier will reduce the sound levels to 58 dBA. The noise barrier should be of a solid construction, free of gaps, with a surface density of no less than 20 kg/m2. The noise barrier location is shown on Figure 2.

The predicted daytime sound levels in the OLAs of Blocks 61 – 63 and 91 - 95 and remaining units of Block 60 are in the range of 56 – 60 dBA. In accordance with MECP Guidelines, physical mitigation is not required provided a noise warning clause is included in the Development Agreements and in purchase, sale and/or lease agreements.

The remaining OLAs of the lots within the subdivision have predicted daytime sound levels that are less than 55 dBA. The are no requirements for these units.

Indoor Living Areas & Ventilation Requirements

The predicted nighttime sound levels outside the second storey bedroom windows of the units near the QEW (Blocks 59 and 60 north end unit and Blocks 87 to 90) will be greater than 60 dBA during the nighttime hours. To address these excesses, the MECP guidelines recommend that these dwellings be equipped with central air conditioning systems, so that the windows can be closed. The lots requiring central air conditioning are indicated in Figure 2. Window or through-the-wall air conditioning units are not recommended because of the noise they produce and because the units penetrate through the exterior wall which degrades the overall sound insulating properties of the envelope.

For the lots with some exposure the QEW, the nighttime sound levels are in the range of 51 to 59 dBA or the daytime sound levels are in the range of 56 to 65 dBA. These dwellings will require forced air ventilation systems with ducts sized to accommodate the future installation of air conditioning by the occupant. The lots requiring forced air ventilation are indicated on Figure 2.

There are no ventilation requirements for the remaining lots.

Minimum Building Façade Constructions

The predicted sound levels for the dwellings closest to MECP will exceed the nighttime sound level of 60 dBA, MECP guidelines recommend that building components including windows and walls must be designed so that the indoor sound levels comply with MECP noise criteria.

The required building components are selected based on the overall AIF value. To do so, calculations were performed to determine the acoustical insulation factors to maintain indoor sound levels within MECP guidelines. The calculation methods were developed by the National Research Council (NRC). They are based on the predicted future sound levels at the building facades, and the area ratios of the facade components (walls and windows) and the floor area of the adjacent room.

Exterior Wall Construction

Any exterior wall construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for the dwelling units as long as the exterior wall area to total floor area of the room does not exceed 180%.

Acoustical Requirements for Glazing

Any double glazed window construction meeting the minimum requirements of the OBC will provide adequate sound insulation for the living rooms and as long as the window area to room floor area ratio does not exceed 25% for the bedrooms.

For all the remaining lots in the development will have nighttime sound levels that area less than 60 dBA and daytime sound levels will be less than 65 dBA. Any exterior wall and double glazed window construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide adequate sound insulation for all the dwelling units in the development.

Warning Clauses

The MECP guidelines recommend that appropriate warning clauses be used in the Development Agreements and in purchase, sale and lease agreements (typically by reference to the Development Agreements), to inform future owners and occupants about noise concerns from transportation sources in the area. The following clauses are recommended and are based on the Type numbers outlined in MECP NPC-300

Type A:

Purchasers/tenants are advised that sound levels due to increasing road and air traffic may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.

Type B:

Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may on occasions interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the Municipality and the Ministry of the Environment.

Type C:

This dwelling unit has been designed with the provision for adding central air conditioning at the occupant's discretion. Installation of central air conditioning by the occupant in low and medium density developments will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.

Type D:

This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the sound level limits of the Municipality and the Ministry of the Environment.

Type E:

Purchasers/tenants are advised that due to the proximity of the nearby commercial facilities and the Niagara Region Alliston Avenue Pumping Station, noise from these facilities may at times be audible.

These sample clauses are provided by the MECP as examples and can be modified by the Municipality as required.

Summary of Recommendations

The following list and table summarizes the recommendation for the proposed Phase 2 development.

1. Central air conditioning will be required for the dwellings units closest to the QEW. Forced air ventilation systems with ductwork sized for the future installation of central air conditioning by occupant are required for dwelling units with some exposure to Garrison Street.

2. A noise barrier is required for the closest unit to QEW.

3. For the majority of dwelling units in the development, building constructions meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation for the indoor spaces. When floor plans and building elevations are available for Blocks 59, 60 and 87 to 90, they shall be reviewed to confirm window requirements.

4. Warning clauses should be included in the property and tenancy agreements and offers of purchase and sale to inform future residents of the traffic noise issues and the presence of nearby commercial facilities and the Alliston Avenue Pumping Station.

Table 3: Summary of Noise Control Requirements and Noise Warning Clauses

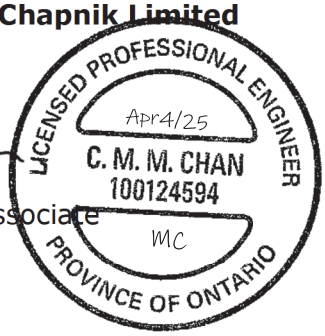
Block No.	Acoustic Barrier	Ventilation Requirements *	Warning Clause	Upgraded Building Constructions
57 – 58	--	Forced Air Ventilation	A, C	OBC
59 – Unit C	--	Central A/C	A, D	OBC[1]
59 – Remaining Units	--	Forced Air Ventilation	A, C	OBC
60 – Unit A	✓	Central A/C	A, B, D	OBC[1]
60 – Remaining Units	--	Forced Air Ventilation	A, C	OBC
61 – 64	--	Forced Air Ventilation	A, C	OBC
77 – 86	--	Forced Air Ventilation	A, C	OBC
87 – 90	--	Central A/C	A, D	OBC[1]
91 – 94	--	Forced Air Ventilation	A, C	OBC
95	--	Forced Air Ventilation	A, C, E	OBC
109 – 113	--	--	E	OBC
114 – 115	--	--	E	OBC

Note: 1 – Window area to room floor area is ratio is less than 25%. When floor plans and building elevations are available for Blocks 59, 60 and 87 to 90, they shall be reviewed to confirm window requirements.

We trust the above is sufficient for your current purposes. If we can be of further assistance, please call.

Best regards,

Howe Gastmeier Chapnik Limited



Mandy Chan, PEng
Senior Engineer, Associate

Attached: Figure 1 Subdivision Plan, Figure 2 Ventilation & Barrier Requirements , Traffic Data, Sample Stamson Output

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Limitations

This document was prepared solely for the addressed party and titled project or named part thereof and should not be relied upon or used for any other project without obtaining prior written authorization from HGC Noise Vibration Acoustics (HGC). Further, the input of content from any document produced by HGC or related HGC intellectual property into any Artificial Intelligence tool is expressly prohibited. HGC accepts no responsibility or liability for any consequence of this document being used for a purpose other than for which it was commissioned. Any person or party using or relying on the document for such other purpose agrees and will by such use or reliance be taken to confirm their agreement to indemnify HGC for all loss or damage resulting therefrom. HGC accepts no responsibility or liability for this document to any person or party other than the party by whom it was commissioned.

Any conclusions and/or recommendations herein reflect the judgment of HGC based on information available at the time of preparation and were developed in good faith on information provided by others, as noted in the report, which has been assumed to be factual and accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented.

ALLISTON WOODS SUBDIVISION - PHASE 2

TOWN OF FORT ERIE

ZONING MATRIX BY LAW No. 129-90

RESIDENTIAL MULTIPLE 1 HOLDING (RM1–465(H) & (RM1–505(H)

PERMITTED USES: SINGLE DETACHED DWELLINGS; SEMI–DETACHED DWELLINGS; DUPLEXES; TRIPLEXES; FOURPLEXES; STREET TOWNHOUSE DWELLINGS; BLOCK TOWNHOUSE DWELLINGS; RESIDENTIAL USES EXISTING AT DATE OF PASSING OF BY LAW; USES, BUILDINGS AND STRUCTURES ACCESSORY TO FOREGOING PERMITTED USES; ACCESSORY APARTMENT DWELLING

PROVISION	REQUIRED	PROVIDED
MINIMUM LOT FRONTAGE	40m (RM1–465(H))/50m (RM1–505(H)), EXCEPT 6m FOR STREET TOWNHOUSE LOTS AND 9m FOR STREET TOWNHOUSE CORNER LOTS	Internal 6.1m End 7.4m Corner 9.2m
MINIMUM LOT AREA	1400m² EXCEPT 200m² FOR STREET TOWNHOUSE LOTS AND 270m² FOR STREET TOWNHOUSE CORNER LOTS	184.68m² 226.11m²
MINIMUM FRONT YARD	6m TO GARAGE 4m TO FRONT FACE OF DWELLING	7.73m 4.17m
MINIMUM INTERIOR SIDE YARD	1.2m FOR END WALLS, EXCEPT THAT COMMON WALLS MAY BE CENTRED ON A SIDE LOT LINE	1.2m
MINIMUM EXTERIOR SIDE YARD	3m	3.02m
MINIMUM REAR YARD	6m	7.95m
MAXIMUM BUILDING HEIGHT	11m (RM1–465(H)); i) 3 STOREYS ii) 12m (RM1–505(H))	2 STOREYS 8m
MINIMUM LANDSCAPE AREA	50% INCLUDING PRIVACY AREAS, EXCEPT 25% FOR STREET TOWNHOUSE LOTS (RM1–465(H)); 25% FOR BLOCK AND STREET TOWNHOUSES (RM1–505(H))	37.29% (no covered deck); 33.32% (with covered deck)
MAXIMUM NUMBER OF UNITS IN ROW	8	6
MINIMUM DISTANCE BETWEEN BUILDINGS ON SAME LOT	15m BETWEEN TWO REAR WALLS 3m BETWEEN TWO END WALLS 9m BETWEEN AN END WALL AND A REAR WALL 6m BETWEEN TWO FRONT WALLS 6m BETWEEN A FRONT WALL AND AN END WALL	NA
MAXIMUM DENSITY	35 units/ha (RM1–465(H)); PROVISION DELETED (RM1–505(H))	26.83 units/ha.
MAXIMUM LOT COVERAGE	55% FOR BLOCK AND STREET TOWNHOUSE UNITS	49.87% (no covered deck); 53.84% (with covered deck)
PRIVACY AREA	NOTWITHSTANDING YARD REQUIREMENTS ABOVE, EVERY DWELLING UNIT SHALL HAVE AT LEAST ONE AREA WHICH SERVES AS A PRIVACY AREA ADJACENT TO DWELLING UNIT, HAVING A MINIMUM DEPTH OF 4.5m	YES
DISTANCE FROM BUILDING TO INTERNAL DRIVEWAYS, AND PARKING AREAS	ANY FRONT OR REAR FACE OF ANY TOWNHOUSE SHALL BE NO CLOSER THAN 3m TO AN INTERNAL DRIVEWAY OR PARKING AREA, AND ANY SIDE OF ANY TOWNHOUSE SHALL BE NO CLOSER THAN 1.5m TO AN INTERNAL DRIVEWAY OR PARKING AREA	NA
PLANTING STRIP	NOT REQUIRED WHERE THE BOUNDARY OF AN RM1 ZONE ABUTS AN R1, R2, R3 OR OS ZONE	NA
B) SINGLE DETACHED DWELLINGS NOT LOCATED ON THE SAME LOT AS TOWNHOUSE DEVELOPMENT SHALL BE SUBJECT TO THE FOLLOWING:		
MINIMUM LOT FRONTAGE	12m 15m ON A CORNER LOT	10.97m 15.72m
MINIMUM LOT AREA	300m² (RM1–465(H)); 375m² (RM1–505(H))	383.92m²
MINIMUM FRONT YARD	4m TO THE FRONT FACE OF THE DWELLING UNIT 6m TO THE GARAGE	4m 6m
MINIMUM INTERIOR SIDE YARD	1.2m FOR ANYTHING ABOVE A ONE–STOREY DWELLING (RM1–465(H)); 1.2m HOWEVER ON AN INTERIOR LOT WHERE NO ATTACHED GARAGE OR ATTACHED CARPORT IS PROVIDED, THE MINIMUM SIDE YARD ON ONE SIDE SHALL BE 3m (RM1–505(H))	1.5m
MINIMUM EXTERIOR SIDE YARD	3m, EXCEPT THAT AN ATTACHED GARAGE OR ATTACHED CARPORT WHICH FACES THE EXTERIOR SIDE LOT LINE SHALL BE LOCATED NO CLOSER THAN 6m TO THE EXTERIOR SIDE LOT LINE	3m
MINIMUM REAR YARD	7.5m	7.5m
MINIMUM LOT COVERAGE	55%	TBD

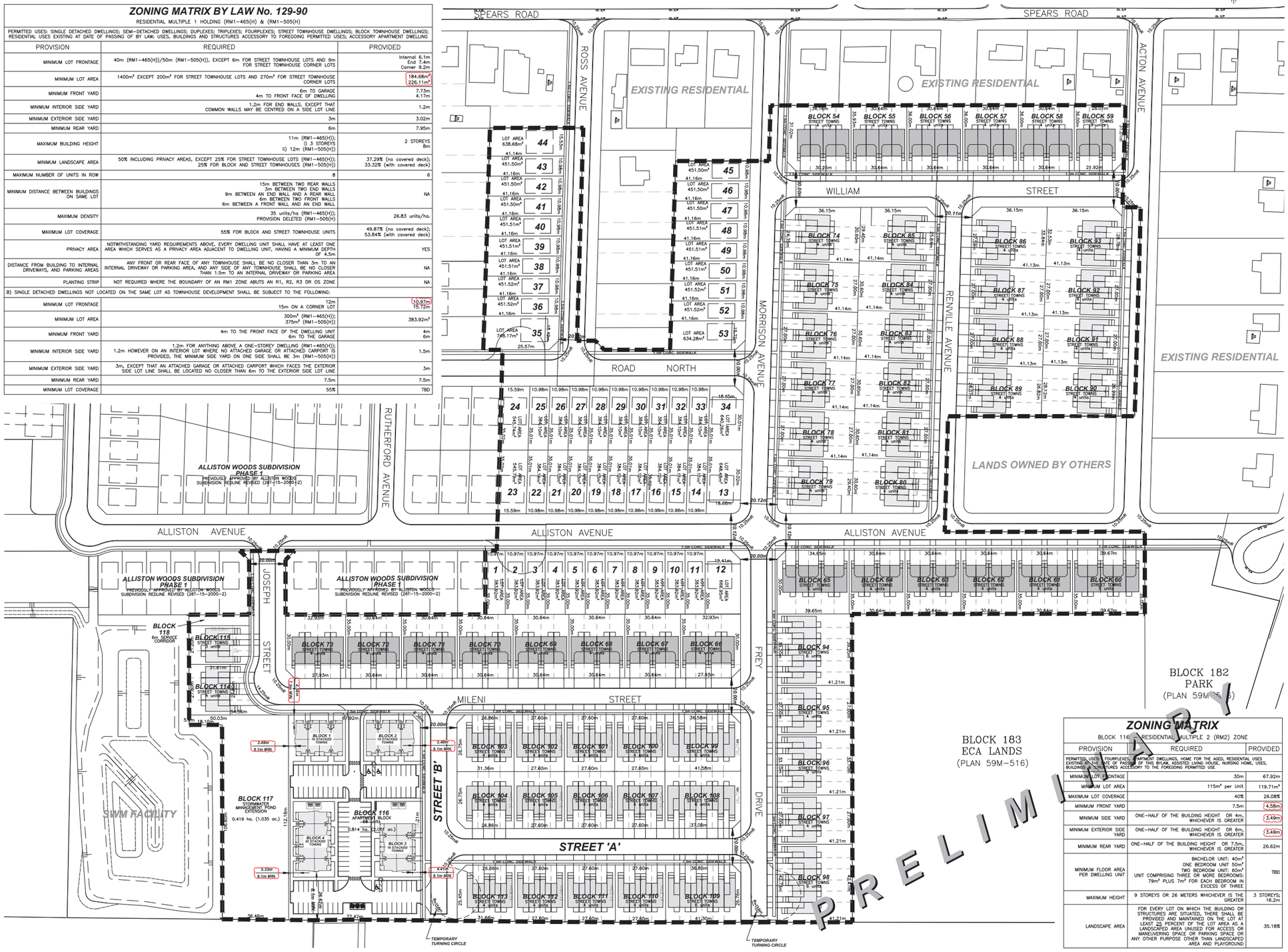
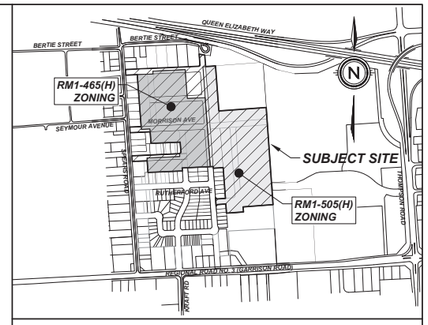
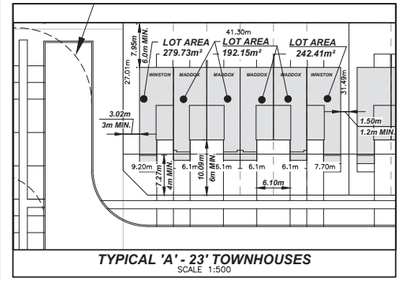


Figure 1: Subdivision Plan

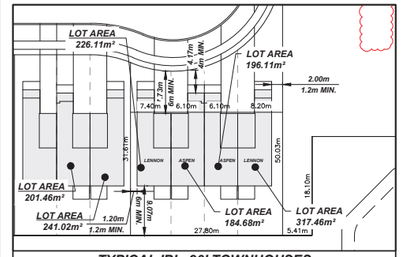


KEY PLAN
N.T.S.

SUBDIVISION PLAN



TYPICAL 'A' - 23' TOWNHOUSES
SCALE 1:500



TYPICAL 'B' - 20' TOWNHOUSES
SCALE 1:500

LAND USE SCHEDULE

LAND USE	LOT/BLOCK	# OF UNITS	AREA(ha)	AREA(%)
SINGLE DETACHED RESIDENTIAL	LOT 1–53	53	2.341	16.36
23' STREET TOWN RESIDENTIAL	BLOCK 54–73	81	2.238	15.64
20' STREET TOWN RESIDENTIAL	BLOCK 74–115	178	4.631	32.37
STACKED TOWN RESIDENTIAL	BLOCK 116	68	0.814	5.69
SWM POND EXTENSION	BLOCK 117		0.419	2.93
6.0m SERVICE CORRIDOR	BLOCK 118		0.020	0.14
ROADWAY			3.842	26.87
TOTAL		380	14.305	100.00

DEVELOPABLE AREA = 14.31 ha
DEVELOPABLE DENSITY = 26.55 units/ha

ZONING MATRIX

BLOCK 116 – RESIDENTIAL MULTIPLE 2 (RM2) ZONE

PROVISION	REQUIRED	PROVIDED
PERMITTED USES: FOURPLEXES; APARTMENT DWELLINGS, HOME FOR THE AGED, RESIDENTIAL USES EXISTING ON THE DATE OF PASSING OF THIS BYLAW, ASSISTED LIVING HOUSE, NURSING HOME, USES, BUILDINGS & STRUCTURES ACCESSORY TO THE FOREGOING PERMITTED USE		
MINIMUM LOT FRONTAGE	30m	67.92m
MINIMUM LOT AREA	115m² per Unit	119.71m²
MAXIMUM LOT COVERAGE	40%	26.08%
MINIMUM FRONT YARD	7.5m	4.58m
MINIMUM SIDE YARD	ONE–HALF OF THE BUILDING HEIGHT OR 4m, WHICHEVER IS GREATER	3.49m
MINIMUM EXTERIOR SIDE YARD	ONE–HALF OF THE BUILDING HEIGHT OR 6m, WHICHEVER IS GREATER	3.49m
MINIMUM REAR YARD	ONE–HALF OF THE BUILDING HEIGHT OR 7.5m, WHICHEVER IS GREATER	26.62m
MINIMUM FLOOR AREA PER DWELLING UNIT	BACHELOR UNIT: 40m² ONE BEDROOM UNIT 50m² TWO BEDROOM UNIT: 60m² UNIT COMPRISING THREE OR MORE BEDROOMS: 79m² PLUS 7m² FOR EACH BEDROOM IN EXCESS OF THREE	TBD
MAXIMUM HEIGHT	9 STOREYS OR 26 METERS WHICHEVER IS THE GREATER	3 STOREYS; 16.2m
LANDSCAPE AREA	FOR EVERY LOT ON WHICH THE BUILDING OR STRUCTURES ARE SITUATED, THERE SHALL BE PROVIDED AND MAINTAINED ON THE LOT AT LEAST 25 PERCENT OF THE LOT AREA AS A LANDSCAPED AREA UNUSED FOR ACCESS OR MANEUVERING SPACE OR PARKING SPACE OR ANY OTHER PURPOSE OTHER THAN LANDSCAPED AREA AND PLAYGROUND	35.18%

#	REVISION	DATE	INIT
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0	ISSUED FOR REVIEW	2024–07–12	M.K

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

DRAWING TITLE
SUBDIVISION PLAN

DRAFTING	MK
DATE	AUGUST 4, 2023
PRINTED	JULY 12, 2024
SCALE	1:1000
DWG No.	REV
22221-SUB	0

DRAWING FILE: F:\22221\Planning\22221 – PH 2 – REDLINE – PRELIM5.dwg PLOTTED: Jul 12, 2024 – 10:09am PLOTTED BY: mark

ALLISTON WOODS SUBDIVISION - PHASE 2

TOWN OF FORT ERIE

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PLANTING STRIP	NOT REQUIRED WHERE THE BOUNDARY OF AN RM1 ZONE ABUTS AN R1, R2, R3 OR OS ZONE	NA
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MINIMUM EXTERIOR SIDE YARD	3m, EXCEPT THAT AN ATTACHED GARAGE OR ATTACHED CARPORT WHICH FACES THE EXTERIOR SIDE LOT LINE SHALL BE LOCATED NO CLOSER THAN 6m TO THE EXTERIOR SIDE LOT LINE	3m
MINIMUM REAR YARD	7.5m	7.5m
MINIMUM LOT COVERAGE	55%	TBD

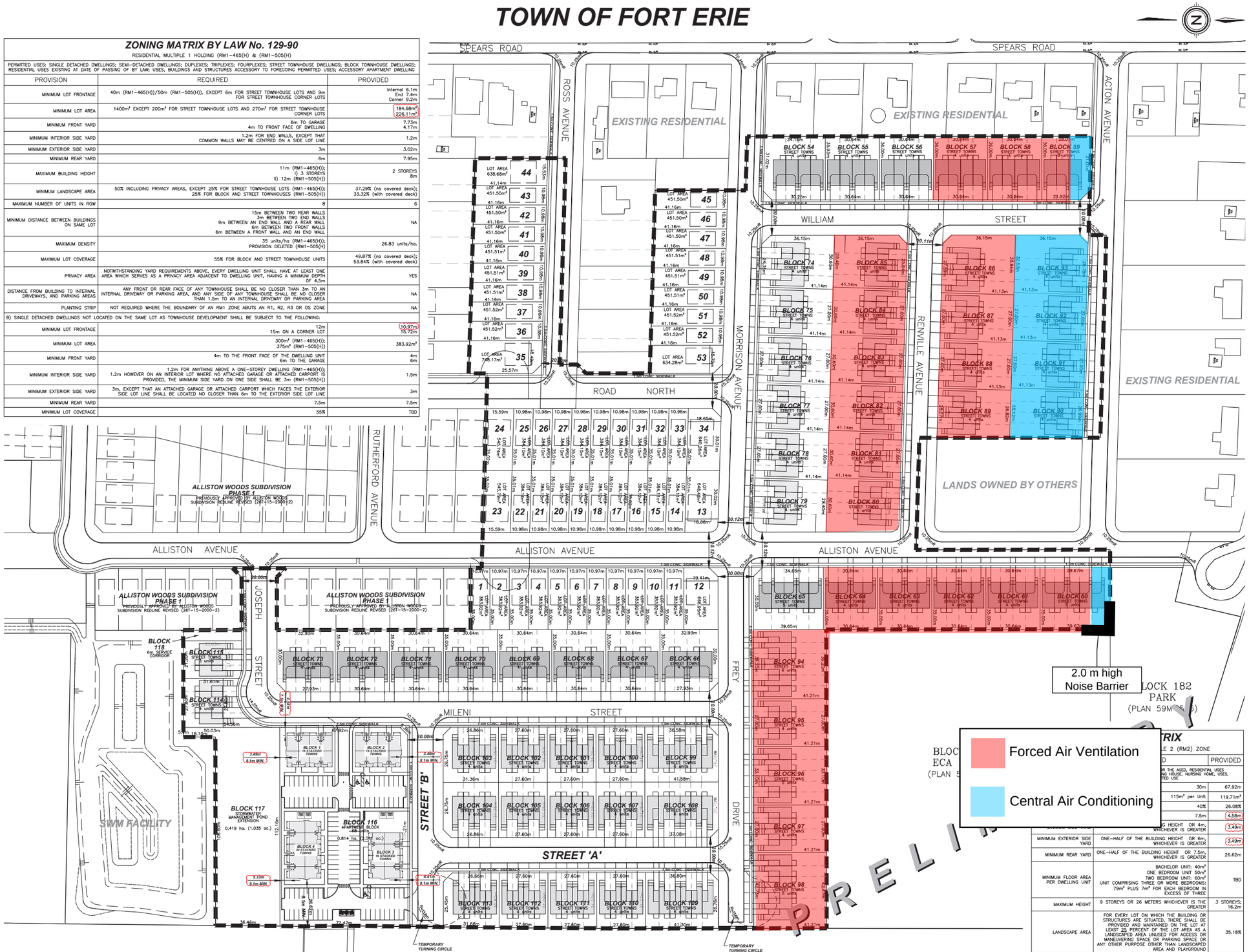
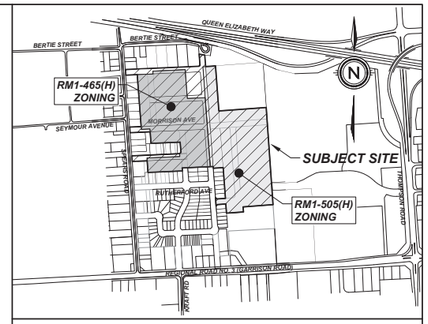


Figure 2: Plan Showing Ventilation Requirements



KEY PLAN
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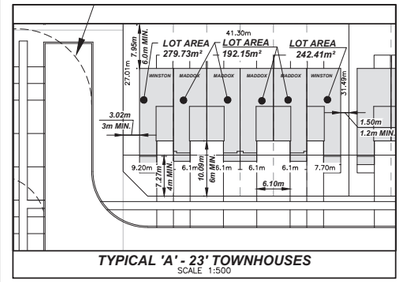
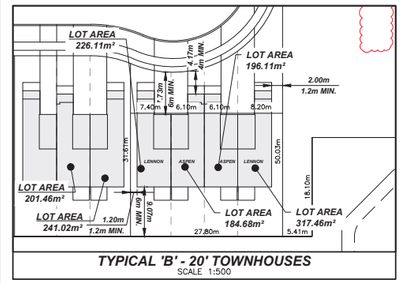


TYPICAL 'A' - 23' TOWNHOUSES
SCALE 1:500



TYPICAL 'B' - 20' TOWNHOUSES
SCALE 1:500

LAND USE SCHEDULE

LAND USE	LOT/BLOCK	# OF UNITS	AREA(ha)	AREA(%)
SINGLE DETACHED RESIDENTIAL	LOT 1–53	53	2.341	16.36
23' STREET TOWN RESIDENTIAL	BLOCK 54–73	81	2.238	15.64
20' STREET TOWN RESIDENTIAL	BLOCK 74–115	178	4.631	32.37
STACKED TOWN RESIDENTIAL	BLOCK 116	68	0.814	5.69
SWM POND EXTENSION	BLOCK 117		0.419	2.93
6.0m SERVICE CORRIDOR	BLOCK 118		0.020	0.14
ROADWAY			3.842	26.87
TOTAL		380	14.305	100.00

DEVELOPABLE AREA = 14.31 ha
DEVELOPABLE DENSITY = 26.55 units/ha

#	REVISION	DATE	INIT
.	.	.	.
.	.	.	.
0	ISSUED FOR REVIEW	2024–07–12	M.K

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

DRAWING TITLE
SUBDIVISION PLAN

DRAFTING	MK
DATE	AUGUST 4, 2023
PRINTED	JULY 12, 2024
SCALE	1:1000
DWG No.	22221-SUB
REV	0

DRAWING FILE: F:\22221\Planning\22221 – PH 2 – REDLINE – PRELIM5.dwg PLOTTED: Jul 12, 2024 – 10:09am PLOTTED BY: mark

Highway	Location Description	Dist (KM)	Year	Pattern Type	AADT	SADT	SAWDT	WADT
QEW			2014	CTR	19400	23700	23900	16500
QEW			2015	IC	17100	18900	18800	15200
QEW			2016	IC	15500	17200	17100	13700
QEW			2017	IC	18800	20600	20700	17100
QEW			2018	IC	19000	20900	21000	17200
QEW			2019	IC	19100	21000	21100	17200
QEW	THOMPSON RD IC-2	2.5	1988	CTR	11900	15500	14500	10000
QEW			1989	CTR	12300	15600	14900	10600
QEW			1990	CTR	12900	16100	15200	11200
QEW			1991	CTR	13100	16500	16400	11400
QEW			1992	CTR	13000	16000	15500	11300
QEW			1993	CTR	13200	16600	16000	11200
QEW			1994	IR	13300	16400	14600	11100
QEW			1995	IR	14600	18000	16100	12400
QEW			1996	IR	16500	20500	18400	14100
QEW			1997	CTR	17100	21900	21000	14400
QEW			1998	CTR	17300	22000	21100	14500
QEW			1999	CTR	16700	21000	20200	14000
QEW			2000	CTR	17100	21500	20700	14400
QEW			2001	CTR	18000	22700	21800	15200
QEW			2002	CTR	17800	22500	21500	15000
QEW			2003	CTR	18100	22500	21600	15300
QEW			2004	CTR	18800	23700	22700	15900
QEW			2005	CTR	18600	23000	22100	15800
QEW			2006	CTR	18900	23400	22400	16000
QEW			2007	CTR	19200	23800	23600	16300
QEW			2008	CTR	19900	24600	24100	16900
QEW			2009	IC	18200	20200	20400	16200
QEW			2010	IC	20100	22200	22400	17800
QEW			2011	IC	20400	22400	23300	18300
QEW			2012	IC	20700	22900	22200	18400
QEW			2013	CTR	21100	25700	26500	17900
QEW			2014	CTR	21400	26100	26300	18200
QEW			2015	CTR	18300	22300	22500	15600
QEW			2016	CTR	17700	21600	21800	15000
QEW			2017	CTR	21000	28100	27900	17100
QEW			2018	CTR	21200	28300	28200	17300
QEW			2019	CTR	21500	28600	28500	17500
QEW	GILMORE RD IC-5	2.1	1988	CTR	13400	17400	16300	11300
QEW			1989	CTR	13900	17700	16800	12000
QEW			1990	CTR	14500	18100	17100	12600
QEW			1991	CTR	15300	19300	19100	13300
QEW			1992	CTR	15100	18600	18000	13100
QEW			1993	CTR	15300	19300	18500	13000
QEW			1994	CTR	15400	19700	18800	12900

```
STAMSON 5.0        NORMAL REPORT        Date: 03-04-2025 21:42:47
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: blk60.te             Time Period: Day/Night 16/8 hours
Description: Predicted Daytime and Nighttime Sound Level at the upper storey windows of the
unit closest unit with exposure to QEW, Block 60.

Road data, segment # 1: EB (day/night)
---------------------------------------
Car traffic volume  : 14494/7246  veh/TimePeriod  *
Medium truck volume :   906/453   veh/TimePeriod  *
Heavy truck volume  :  2718/1359  veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  26.00
    Medium Truck % of Total Volume     :   5.00
    Heavy Truck  % of Total Volume     :  15.00
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 1: EB (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 130.00 / 130.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 2: WB (day/night)
---------------------------------------
Car traffic volume  : 14494/7246  veh/TimePeriod  *
Medium truck volume :   906/453   veh/TimePeriod  *
Heavy truck volume  :  2718/1359  veh/TimePeriod  *
Posted speed limit  :   100 km/h
Road gradient       :     0 %
Road pavement       :     1 (Typical asphalt or concrete)

* Refers to calculated road volumes based on the following input:

    24 hr Traffic Volume (AADT or SADT):  14300
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  26.00
    Medium Truck % of Total Volume     :   5.00
    Heavy Truck  % of Total Volume     :  15.00
    Day (16 hrs) % of Total Volume     :  66.67

Data for Segment # 2: WB (day/night)
-------------------------------------
Angle1   Angle2           : -90.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      1 / 1
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 150.00 / 150.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00
```

Results segment # 1: EB (day)

Source height = 1.97 m

ROAD (0.00 + 61.36 + 0.00) = 61.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	78.12	0.00	-14.59	-1.28	0.00	-0.89	0.00	61.36

Segment Leq : 61.36 dBA

Results segment # 2: WB (day)

Source height = 1.97 m

ROAD (0.00 + 60.41 + 0.00) = 60.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	78.12	0.00	-15.56	-1.28	0.00	-0.88	0.00	60.41

Segment Leq : 60.41 dBA

Total Leq All Segments: 63.92 dBA

Results segment # 1: EB (night)

Source height = 1.97 m

ROAD (0.00 + 61.36 + 0.00) = 61.36 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	78.12	0.00	-14.59	-1.28	0.00	-0.89	0.00	61.36

Segment Leq : 61.36 dBA

Results segment # 2: WB (night)

Source height = 1.97 m

ROAD (0.00 + 60.41 + 0.00) = 60.41 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.56	78.12	0.00	-15.56	-1.28	0.00	-0.88	0.00	60.41

Segment Leq : 60.41 dBA

Total Leq All Segments: 63.92 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 63.92
(NIGHT): 63.92