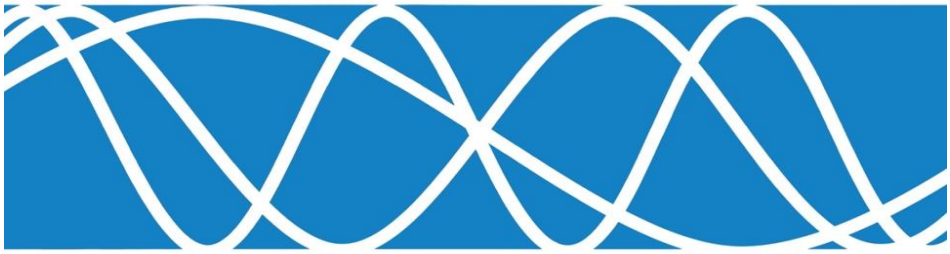
Noise Feasibility Study

Proposed Change of Use and Addition
7800 Lundy's Lane, Niagara Falls, Ontario

September 18, 2025
HGC Project #: 02500330



Prepared for:

1000706636 Ontario Inc.
PO Box 870,
Niagara-On-The-Lake, Ontario
L0S 1J0

HGC
NOISE | VIBRATION | ACOUSTICS

HGC Noise Vibration Acoustics
2000 Argentia Road, Plaza One, Suite 203
Mississauga, Ontario, L5N 1P7
t: 905.826.4044

Version Control
Noise Feasibility Study/7800 Lundy's Lane, Niagara Falls, Ontario

Ver.	Date	Version Description	Prepared By
1.0	September 18, 2025	Noise Feasibility Study in support of the approvals process.	E. Jaklic / S. Paul

Prepared by:

Elise Jaklic, BEng

Reviewed by:

Sheeba Paul, MEng, PEng

Howe Gastmeier Chapnik Limited

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.

Table of Contents

1 INTRODUCTION AND SUMMARY 1

2 SITE DESCRIPTION AND NOISE SOURCES 2

3 TRAFFIC NOISE ASSESSMENT 3

3.1 Road Traffic Noise Criteria 3

3.2 Traffic Sound Level Assessment 4

3.2.1 Road Traffic Data 4

3.2.2 Road Traffic Noise Predictions 5

3.3 Traffic Noise Discussion and Recommendations 6

3.3.1 Outdoor Living Areas 6

3.3.2 Indoor Living Areas and Ventilation Requirements 6

3.3.3 Building Façade Constructions 7

3.4 Warning Clauses 8

3.5 Impact of the Development on the Environment 9

3.6 Impact of the Development on Itself 10

4 SUMMARY OF RECOMMENDATIONS 11

4.1 Implementation 12

Figure 1 – Key Plan
Figure 2 – Proposed Site Plan Showing Prediction Locations
Figure 3 – Aerial Photo Showing Surrounding Land Uses
Figure 4 – Proposed Site Plan Showing Ventilation Requirements

APPENDIX A – Road Traffic Data
APPENDIX B – Sample STAMSON 5.04 Output

1 INTRODUCTION AND SUMMARY

HGC Noise Vibration Acoustics (HGC) was retained by 1000706636 Ontario Inc. to conduct a noise feasibility study for a proposed change of use and a proposed 6-storey mixed-use addition at the north portion of the site. Currently, the site consists of two, 2-storey motel buildings, located at 7800 Lundy's Lane in Niagara Falls, Regional Municipality of Niagara (RMON), Ontario. The study is required as part of the submission to the RMON to assess the impact of traffic noise from surrounding roads and stationary noise from existing commercial uses as part of a Zoning By-law Amendment and Site Plan Application.

The primary traffic noise sources impacting the site are road traffic on Montrose Road and Lundy's Lane. Secondary sources of noise include road traffic on the Queen Elizabeth Way (QEW). Road traffic was obtained from the relevant authorities. The data was used to predict future traffic sound levels at various locations around the subject buildings. The predicted sound levels were compared to the guidelines of the Ministry of the Environment, Conservation and Parks (MECP) and the RMON.

The sound level predictions indicate that the future road traffic sound levels will exceed MECP guidelines at the subject buildings. Central air conditioning systems and upgraded building constructions are required for the proposed mixed-use building, and the northernmost units of the existing 68-unit building, adjacent to Lundy's Lane. The provision for the future installation of air conditioning at the occupant's discretion is required for the remaining units of the subject site. Building constructions meeting the minimum requirements of the Ontario Building Code, will provide sufficient acoustic insulation for the remaining units. Warning clauses are also recommended to inform future owners of the buildings, and the occupants of the traffic noise impacts, to address sound level excesses and to indicate the presence of existing retail/commercial uses.

There are existing commercial uses at the east side of the site, including a Dulux Paint and Muller's Work Wear. The sound emissions from the rooftop

mechanical equipment associated with these uses have been evaluated. A computer model of the area was created using acoustic modelling software to predict the sound levels from the existing commercial uses at the sensitive receptors of the subject buildings. Results indicate that the potential sound impact of the existing commercial uses is expected to be within the applicable noise guideline limits of the MECP at the subject buildings; thus, noise mitigation is not required for stationary noise. A warning clause is required to inform future owners/tenants of the subject buildings of the proximity to existing commercial uses.

2 SITE DESCRIPTION AND NOISE SOURCES

A key plan showing the location of the proposed site is indicated in Figure 1. The site is located at 7800 Lundy's Lane in Niagara Falls, Ontario. A site plan, which shows the existing buildings and the proposed 6-storey mixed-use building, prepared by Upper Canada Consultants, last revised August 14, 2025, is attached as Figure 2. The existing two buildings are currently motels and will become residential apartments with a total of 146 dwelling units. No changes are proposed for these buildings. There is a 6-storey mixed-use building with commercial units located along the north façade of the ground floor, and residential units occupying the remainder of the building, proposed on the site. Prediction locations are also provided on Figure 2 for reference.

The acoustical environment was assessed during a site visit conducted by HGC personnel on May 15, 2025. The primary noise sources were identified to be road traffic on Montrose Road and Lundy's Lane, located to the east and north of the subject site, respectively. Road traffic from the QEW, located to the east of the site, is considered a secondary noise source.

There are existing motels to the north, east, and west and existing residential uses to the north and southwest. There are existing commercial/retail buildings located to the north, east, and west, including the Mulberry Centre commercial plaza, Cataract Bowl, and Pho Bowl Vietnamese. There are small rooftop units atop the existing commercial buildings. During the site visit, traffic sounds

dominated the site; nevertheless, a noise warning clause informing future owners and occupants of the subject buildings of the proximity to the existing commercial/retail uses is recommended as included in Section 3.4. An aerial photo showing surrounding land uses is included as Figure 3.

3 TRAFFIC NOISE ASSESSMENT

3.1 Road Traffic Noise Criteria

Guidelines for acceptable levels of road traffic noise impacting residential developments are given in the MECP publication NPC-300, "Environmental Noise Guideline Stationary and Transportation Sources – Approval and Planning", Part C release date October 21, 2013, and are listed in Table 1 below. The values in Table 1 are energy equivalent (average) sound levels [L_{EQ}] in units of A weighted decibels [dBA]. These criteria have generally been adopted by the Regional Municipality of Niagara.

Table 1: Road Traffic Noise Criteria (dBA)

Space	Daytime $L_{EQ\ (16\ hour)}$ Road	Nighttime $L_{EQ\ (8\ hour)}$ Road
Outdoor Living Areas	55 dBA	--
Inside Living/Dining Rooms	45 dBA	45 dBA
Inside Bedrooms	45 dBA	40 dBA

Daytime refers to the period between 07:00 and 23:00, while nighttime refers to the period between 23:00 and 07:00. The term "Outdoor Living Area" (OLA) is used in reference to an outdoor patio, a backyard, a terrace or other area where passive recreation is expected to occur. Balconies that are less than 4 m in depth are not considered to be outdoor living areas under MECP guidelines.

The guidelines in the MECP publication allow the sound level in an OLA to be exceeded by up to 5 dBA, without mitigation, if warning clauses are placed in the purchase and rental agreements and offers of purchase and sale for the property. When OLA sound levels exceed 60 dBA, physical mitigation is required to reduce

the OLA sound level to below 60 dBA and as close to 55 dBA as technically, economically and administratively feasible.

A central air conditioning system as an alternative means of ventilation to open windows is required for dwellings where nighttime sound levels at the façade exceed 60 dBA or daytime sound levels at the façade exceed 65 dBA. The provision for the future installation of air conditioning at the occupant's discretion is required when nighttime sound levels at the façade are in the range of 51 to 60 dBA or when daytime sound levels at the façade are in the range of 56 to 65 dBA.

Building components such as walls, windows and doors must be designed to achieve indoor sound level criteria when the façade sound level is greater than 60 dBA or the daytime sound level is greater than 65 dBA due to road traffic noise.

Warning clauses are required to notify future residents of possible excesses when nighttime sound levels exceed 50 dBA at the plane of the bedroom/living/dining room window and daytime sound levels exceed 55 dBA in the outdoor living area and at the façade due to road traffic.

3.2 Traffic Sound Level Assessment

3.2.1 Road Traffic Data

Road traffic data for Lundy's Lane (Regional Road 20) and Montrose Road (Regional Road 98) were obtained from HGC project files and confirmed to be valid. A commercial vehicle percentage of 1.4%, further split into 0.9% heavy trucks and 0.5% medium trucks was used for Lundy's Lane. A commercial vehicle percentage of 2.2%, further split into 1.4% for heavy trucks, and 0.8% for medium trucks was used for Montrose Road. The data was projected 20 years to the year 2045 as per RMON requirements using a 2.5% growth rate. The posted speed limit of 50 km/h was used for both roadways in the analysis along with a day/night traffic volume ratio of 90/10.

Road traffic data for the QEW was obtained from the Ministry of Transportation and projected to the year 2035 at a conservative growth rate of 2.5% per year. A commercial vehicle percentage of 20% was further split into 5% medium trucks and 15% heavy trucks. These vehicles were assumed to be travelling at the posted maximum speed limit of 100 km/h. A day/night traffic volume ratio of 67/33 was applied.

The projected road traffic volumes are shown in Table 2 below. Traffic data and correspondence with the RMON are included in Appendix A.

Table 2: Projected Road Traffic Data

Roadway	AADT	Day / Night Split [%]	Trucks Percentage (%)		Speed Limit [km/h]
			Medium	Heavy	
Lundy's Lane *(projected to 2045)*	31 126	90 / 10	0.5	0.9	50
Montrose Road *(projected to 2045)*	23 723	90 / 10	0.8	1.4	50
Queen Elizabeth Way *(projected to 2035)*	109 788	67 / 33	5.0	15.0	100

3.2.2 Road Traffic Noise Predictions

To assess the levels of road traffic noise which would impact the site in the future, predictions were made using STAMSON version 5.04, a computer algorithm developed by the MECP. Sample STAMSON output is included in Appendix B.

Prediction locations were chosen around the site to obtain a good representation of the future sound levels at the building façades with exposure to the surrounding roadways. Receptor heights of 4.5 m and 16.5 m were used at the top storeys of the existing 2-storey buildings, and proposed 6-storey building, respectively, to represent the top storey of the buildings. Predictions were performed for the daytime and nighttime hours to investigate ventilation requirements. The results of these predictions are summarized in Table 3. The

acoustic requirements may be subject to modifications if the site plan is changed significantly.

Table 3: Predicted Road Traffic Sound Levels [dBA], Without Mitigation

Prediction Location	Description	Daytime at Façade $L_{EQ-16\ hr}$	Nighttime at Façade $L_{EQ-8\ hr}$
[A]	North Façade of Existing 78-Unit Building	64	58
[B]	North Façade of Proposed 6-Storey Building	66	60
[C]	North Façade of Existing 68-Unit Building	67	61
[D]	North Façade of Southernmost end of Existing 78-Unit Building	60	54
[E]	East Façade of Southernmost end of Existing 68-Unit Building	59	54
[F]	East Façade of Northernmost end of Existing 68-Unit Building	65	59

3.3 Traffic Noise Discussion and Recommendations

The predictions indicate that the future sound levels will exceed MECP guidelines at the subject site. Recommendations to address these excesses are discussed below.

3.3.1 Outdoor Living Areas

There is no amenity area indicated on the concept sketch. Patios that are less than 4 m in depth are no considered OLAs by the MECP and do not require assessment.

3.3.2 Indoor Living Areas and Ventilation Requirements

Air Conditioning

The predicted sound levels at the north façades of the existing 68-unit building, and the proposed 6-storey building, will be greater than 65 dBA during the day and/or greater than 60 dBA during the night. To address these excesses, the MECP guidelines recommend that these dwellings and commercial spaces be

equipped with central air conditioning systems, so that the windows may remain closed.

Provision for the future installation of Air Conditioning

The predicted sound levels at remaining dwelling units will be between 56 and 65 dBA during the daytime hours and/or between 51 to 60 dBA during the nighttime hours. To address these excesses, the MECP guidelines require the provision for the future installation of air conditioning at the occupant's discretion for these dwelling units. Inclusion of air conditioning will meet and exceed the requirements.

As a general note, the location, installation and sound ratings of the outdoor air conditioning devices should minimize the noise impacts and comply with criteria of MECP publication NPC-216 and NPC-300, as applicable. Figure 4 indicates the ventilation requirements for the subject site.

3.3.3 Building Façade Constructions

Future sound level predictions on the north façades of the existing 68-unit building and the proposed 6-storey building adjacent to Lundy's Lane, will exceed 65 dBA during the daytime hours and/or exceed 60 dBA during the nighttime hours. MECP guidelines recommend that the windows, walls, and doors be designed so that the indoor sound levels comply with MECP noise criteria.

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 façades, and the anticipated area ratios of the façade components (windows and walls) and the floor area of the adjacent room.

Assuming a window-to-floor ratio of 50% for bedrooms/living/dining rooms, any double-glazed window construction with a sound transmission class (STC) rating of 30 will provide adequate sound insulation for the dwelling units adjacent to

Lundy's Lane of the existing 68-unit building and the proposed 6-storey building.

Further Analysis

When detailed floor plans and building elevations are available for the buildings, the glazing STC should be confirmed.

Remaining Dwellings

For the remaining units, any building construction meeting the minimum requirements of the Ontario Building Code (OBC) will provide sufficient acoustical insulation for the interior spaces.

3.4 Warning Clauses

The MECP guidelines recommend that warning clauses be included in the property and tenancy agreements for all dwelling units with anticipated traffic sound level excesses.

Suggested wording for future dwellings which have sound level excesses but do not require mitigation measures is given below.

Type A:

> Purchasers/tenants are advised that sound levels due to increasing road traffic may occasionally interfere with some activities of the dwelling unit occupants as the sound levels exceed the Municipality's and the Ministry of the Environment, Conservation and Parks' noise criteria.

A suggested wording for central air conditioning at the occupant's discretion is given below.

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.

A suggested wording for future dwellings requiring central air conditioning systems is given below.

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.

Suitable wording for future dwellings located near existing or future commercial land uses.

Type E:

> Purchasers are advised that due to the proximity of nearby commercial land uses, sound levels from these facilities may at times be audible.

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

3.5 Impact of the Development on the Environment

Sound levels from noise sources such as rooftop air-conditioners, cooling towers, exhaust fans, etc. should not exceed the minimum one-hour L_{EQ} ambient (background) sound level from road traffic, at any potentially impacted residential point of reception. Based on the levels observed during our site visit, the typical minimum ambient sound levels in the area are expected to be above the minimum exclusionary limits of 50 dBA or more during the day and 45 dBA or more at night. Thus, any electro-mechanical equipment associated with this development (e.g., emergency generator testing, fresh-air handling equipment, etc.) should be designed such that they do not result in noise impact beyond these ranges. At the time of this study, the design of the proposed mixed-

use/residential building was in its initial stages, and the mechanical systems had not yet been developed.

It is also HGC's experience with numerous developments, that typical HVAC equipment and parking garage exhaust fans can meet the applicable MECP noise criteria at neighbouring residential uses, either with low noise emission fans or relocation of the fans or through mitigation in the form of duct silencers or acoustic lining. Prior to building permit, an acoustical consultant should review the mechanical drawings and details of potential exhaust vents/fans, when available, to help ensure that the noise impact of the development on the environment, and of the development on itself, are maintained within acceptable levels. This is typically completed at the detailed noise study stage.

3.6 Impact of the Development on Itself

Section 5.8.1.1 of the Ontario Building Code (OBC), released on January 1, 2020, specifies the minimum required sound insulation characteristics for demising partitions, in terms of Sound Transmission Class (STC) or Apparent Sound Transmission Class (ASTC) values. In order to maintain adequate acoustical privacy between separate suites in a multi-tenant building, inter-suite walls must meet or exceed STC-50 or ASTC-47. Suite separation from a refuse chute or elevator shaft must meet or exceed STC-55. In addition, it is recommended that the floor/ceiling constructions separating suites from any amenity or commercial spaces also meet or exceed STC-55. Tables 1 and 2 in Section SB-3 of the Supplementary Guideline to the OBC provide a comprehensive list of constructions that will meet the above requirements.

Tarion's Builder Bulletin B19R requires the internal design of condominium projects to integrate suitable acoustic features to insulate the suites from noise from each other and amenities in accordance with the OBC, and limit the potential intrusions of mechanical and electrical services of the buildings on its residents. If B19R certification is needed, an acoustical consultant is required to review the mechanical and electrical drawings and details of demising construction and mechanical/electrical equipment, when available, to help

ensure that the noise impact of the development on itself is maintained within acceptable levels.

4 SUMMARY OF RECOMMENDATIONS

The following list summarizes the recommendations made in this report.

1. Central air conditioning will be required for the proposed 6-storey building and the northernmost units of the existing 68-unit building. The location, installation and sound rating of the outdoor condensing units must be compliant with NPC-216 and NPC-300 as required.

2. The provision for the future installation of air conditioning at the occupant's discretion is required for the 78-unit building and the remaining units of the existing 68-unit building. Inclusion of air conditioning will meet and exceed the requirements.

3. Upgraded glazing constructions are required for the dwelling units adjacent to Lundy's Lane for the existing 68-Storey building and the proposed 6-storey building. When detailed floor plans and building elevations are available for these units, an acoustical consultant should provide revised glazing constructions based on actual window to floor area ratios. For all other units in the proposed building, any building constructions meeting the minimum requirements of the Ontario Building Code will provide sufficient acoustical insulation.

4. Noise warning clauses to inform the occupants of the sound level excesses should be placed in the property and tenancy agreements, and offers of purchase and sale.

4.1 Implementation

To ensure that the noise recommendations outlined above are fully implemented, it is recommended that:

1. When detailed floor plans and building elevations are available, the exterior glazing constructions should be verified and refined based on actual window to floor area ratios.

2. Prior to the issuance of occupancy permits for this development, the City's building inspector or a Professional Engineer qualified to perform acoustical engineer services in the province of Ontario should certify that the noise control measures have been properly incorporated, installed, and constructed.

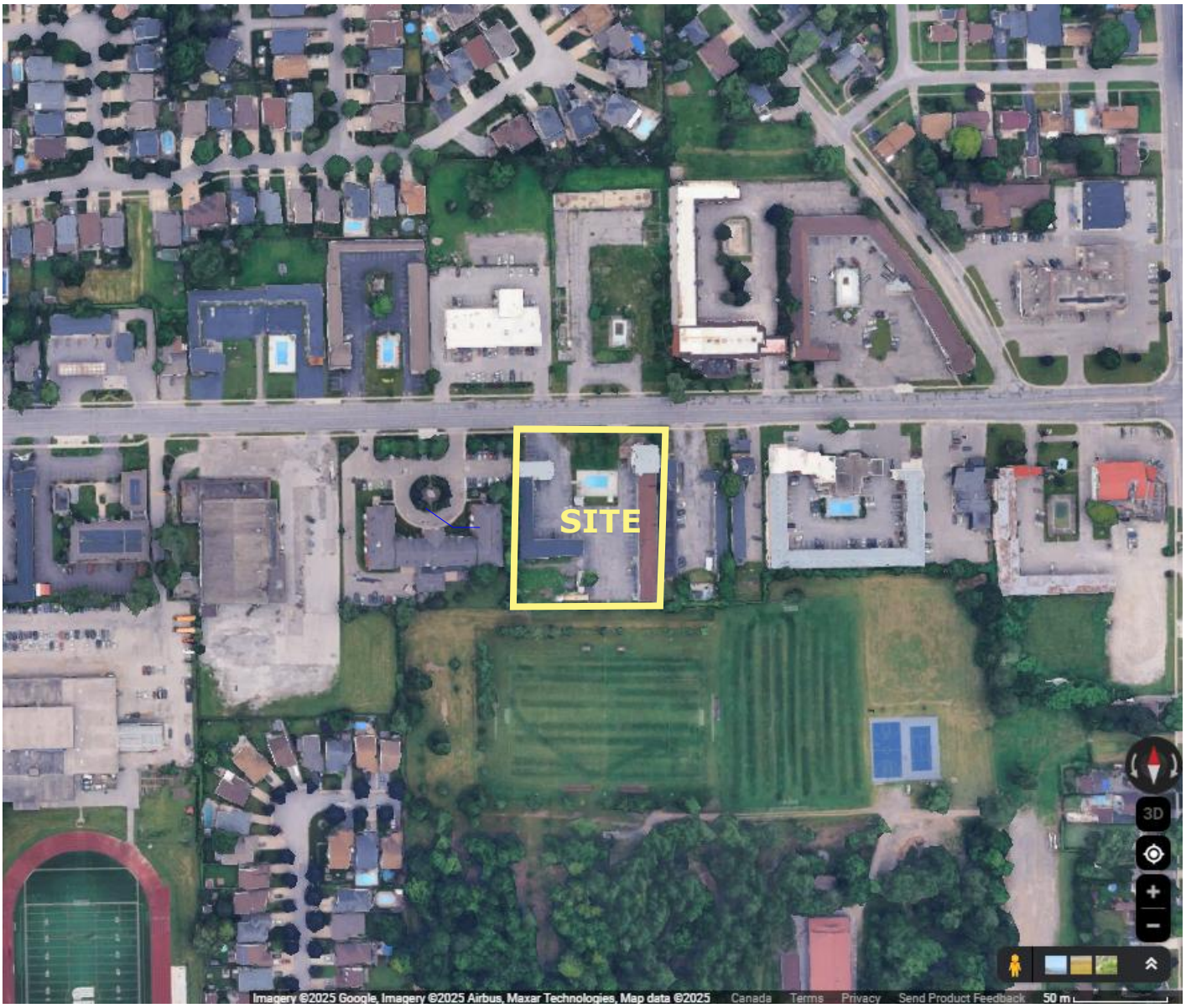
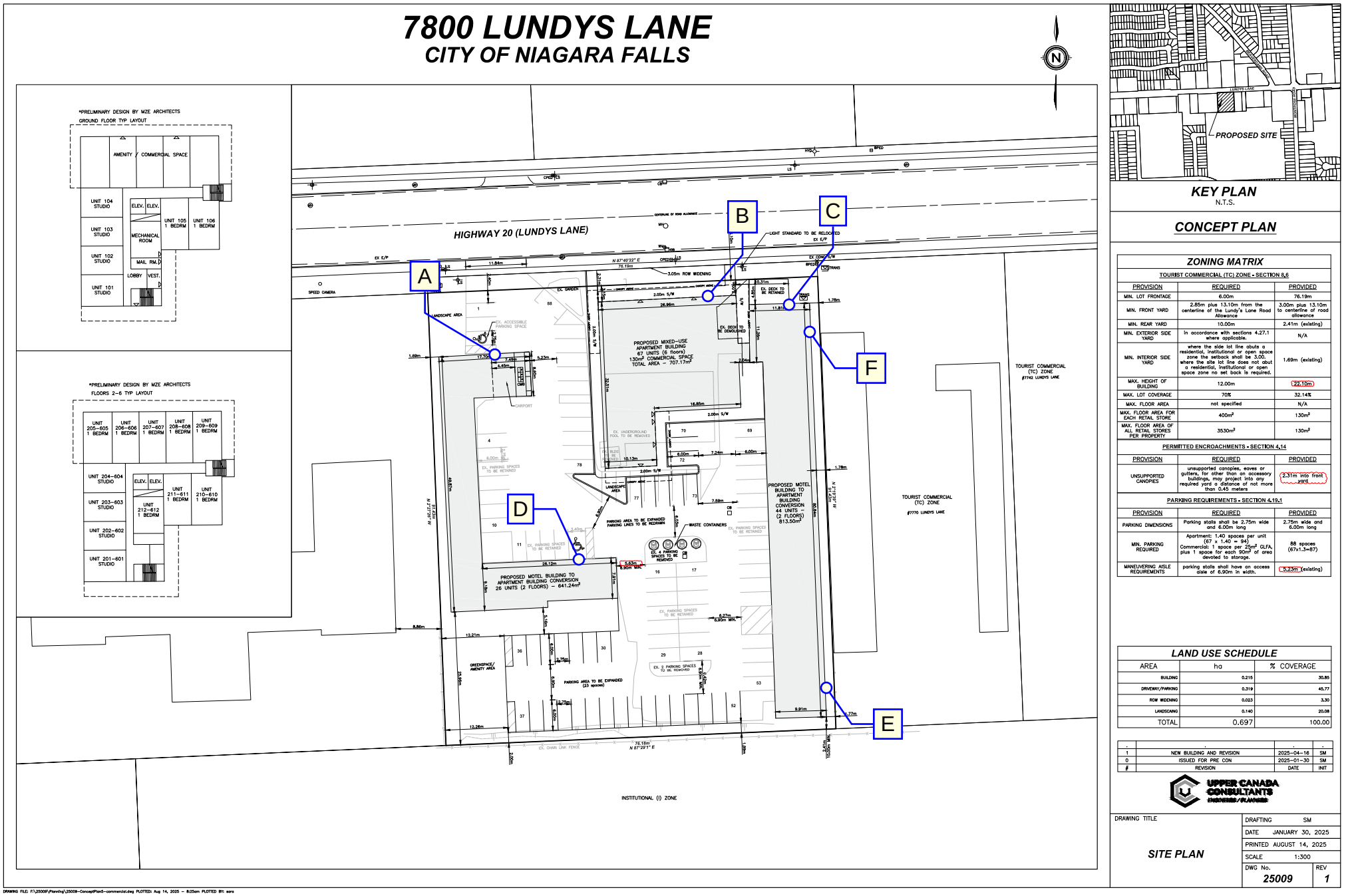


Figure 1: Key Plan



KEY PLAN
N.T.S.

CONCEPT PLAN

ZONING MATRIX

TOURIST COMMERCIAL (TC) ZONE - SECTION 8.6

PROVISION	REQUIRED	PROVIDED
MIN. LOT FRONTAGE	6.00m	76.19m
MIN. FRONT YARD	2.85m plus 13.10m from the centerline of the Lundy's Lane Road Allowance	3.00m plus 13.10m to centerline of road allowance
MIN. REAR YARD	10.00m	2.41m (existing)
MIN. EXTERIOR SIDE YARD	In accordance with sections 4.27.1 where applicable.	N/A
MIN. INTERIOR SIDE YARD	where the side lot line abuts a residential, institutional or open space zone the setback shall be 3.00, where the site lot line does not abut a residential, institutional or open space zone no set back is required.	1.69m (existing)
MAX. HEIGHT OF BUILDING	12.00m	22.10m
MAX. LOT COVERAGE	70%	32.14%
MAX. FLOOR AREA	not specified	N/A
MAX. FLOOR AREA FOR EACH RETAIL STORE	400m²	130m²
MAX. FLOOR AREA OF ALL RETAIL STORES PER PROPERTY	3530m²	130m²

PERMITTED ENCROACHMENTS - SECTION 4.14

PROVISION	REQUIRED	PROVIDED
UNSUPPORTED CANOPIES	unsupported canopies, eaves or gutters, for other than an accessory buildings, may project into any required yard a distance of not more than 0.45 meters	2.31m into front yard

PARKING REQUIREMENTS - SECTION 4.19.1

PROVISION	REQUIRED	PROVIDED
PARKING DIMENSIONS	Parking stalls shall be 2.75m wide and 6.00m long	2.75m wide and 6.00m long
MIN. PARKING REQUIRED	Apartment: 1.40 spaces per unit (67 x 1.40 = 94) Commercial: 1 space per 25m² GLFA, plus 1 space for each 90m² of area devoted to storage.	88 spaces (67x1.3=87)
MANEUVERING AISLE REQUIREMENTS	parking stalls shall have an access aisle of 6.90m in width.	5.23m (existing)

LAND USE SCHEDULE

AREA	ha	% COVERAGE
BUILDING	0.215	30.85
DRIVEWAY/PARKING	0.319	45.77
ROW WIDENING	0.023	3.30
LANDSCAING	0.140	20.08
TOTAL	0.697	100.00

#	REVISION	DATE	INIT
1	NEW BUILDING AND REVISION	2025-04-16	SM
0	ISSUED FOR PRE CON	2025-01-30	SM

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

DRAWING TITLE	SITE PLAN
DRAFTING	SM
DATE	JANUARY 30, 2025
PRINTED	AUGUST 14, 2025
SCALE	1:300
DWG No.	25009
REV	1

DRAWING FILE: F:\25009\Planning\25009-Concept Plan-commercial.dwg PLOTTED: Aug 14, 2025 - 8:25am PLOTTED BY: sara

Figure 2: Proposed Site Plan Showing Prediction Locations

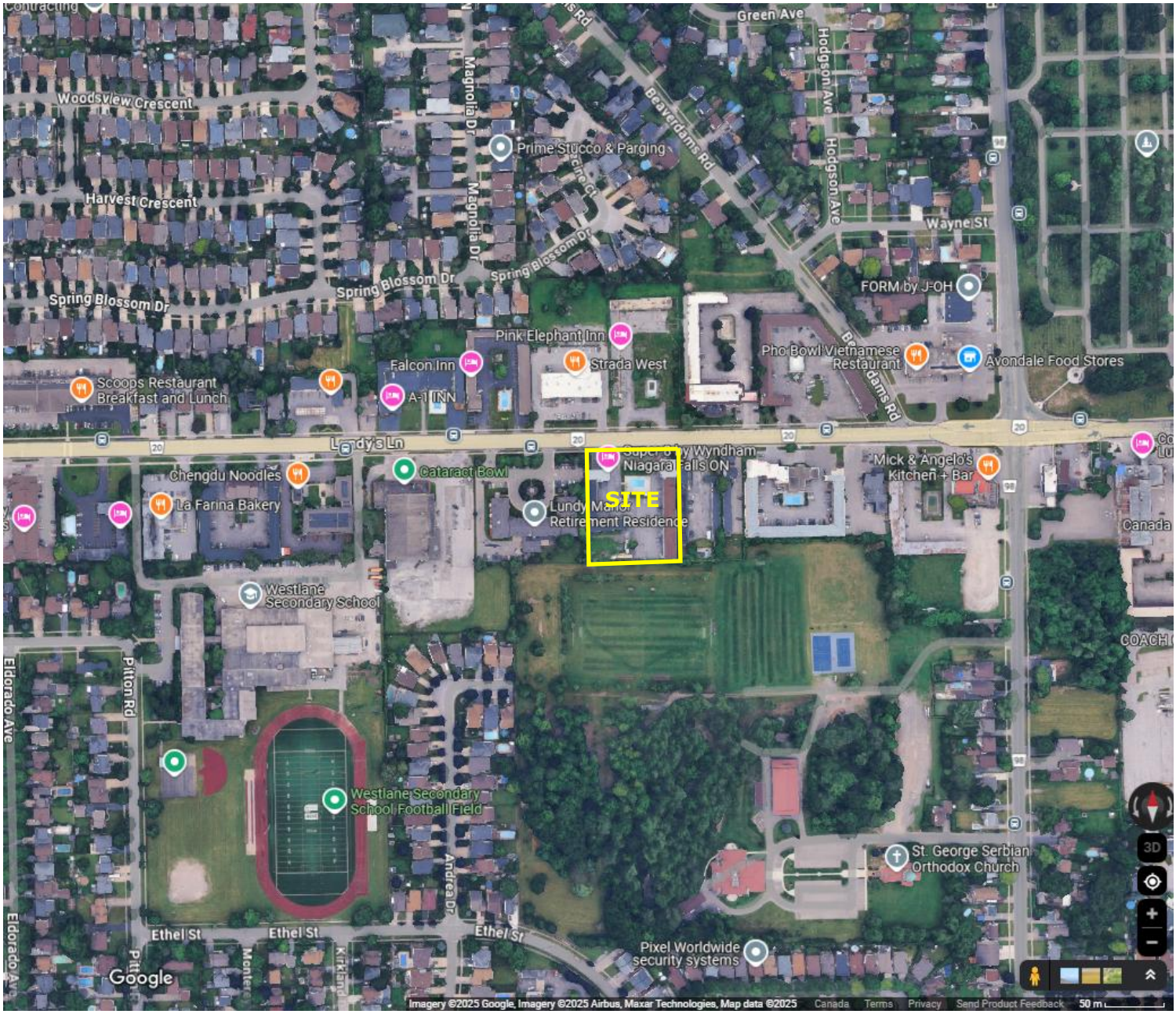
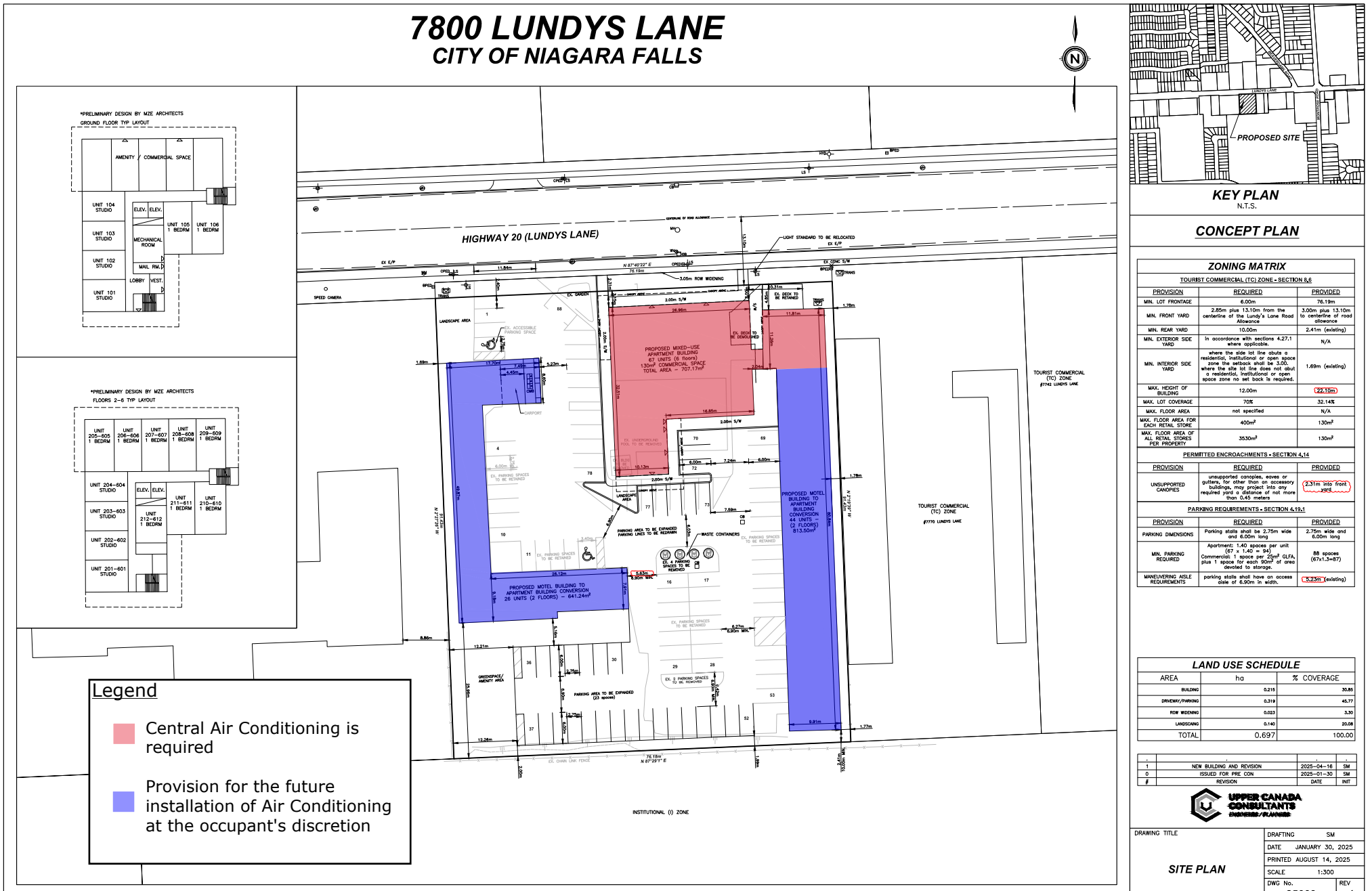


Figure 3: Aerial Photo Showing Surrounding Land Uses



ZONING MATRIX

TOURIST COMMERCIAL (TC) ZONE - SECTION 8.6

PROVISION	REQUIRED	PROVIDED
MIN. LOT FRONTAGE	6.00m	76.19m
MIN. FRONT YARD	2.85m plus 13.10m from the centerline of the Lundy's Lane Road Allowance	3.00m plus 13.10m to centerline of road allowance
MIN. REAR YARD	10.00m	2.41m (existing)
MIN. EXTERIOR SIDE YARD	In accordance with sections 4.27.1 where applicable.	N/A
MIN. INTERIOR SIDE YARD	where the side lot line abuts a residential, institutional or open space zone the setback shall be 3.00, where the site lot line does not abut a residential, institutional or open space zone no set back is required.	1.69m (existing)
MAX. HEIGHT OF BUILDING	12.00m	22.10m
MAX. LOT COVERAGE	70%	32.14%
MAX. FLOOR AREA	not specified	N/A
MAX. FLOOR AREA FOR EACH RETAIL STORE	400m²	130m²
MAX. FLOOR AREA OF ALL RETAIL STORES PER PROPERTY	3530m²	130m²

PERMITTED ENCROACHMENTS - SECTION 4.14

PROVISION	REQUIRED	PROVIDED
UNSUPPORTED CANOPIES	unsupported canopies, eaves or gutters, for other than an accessory buildings, may project into any required yard a distance of not more than 0.45 meters	2.31m into front yard

PARKING REQUIREMENTS - SECTION 4.19.1

PROVISION	REQUIRED	PROVIDED
PARKING DIMENSIONS	Parking stalls shall be 2.75m wide and 6.00m long	2.75m wide and 6.00m long
MIN. PARKING REQUIRED	Apartment: 1.40 spaces per unit (67 x 1.40 = 94) Commercial: 1 space per 25m² GLFA, plus 1 space for each 90m² of area devoted to storage.	88 spaces (67x1.3=87)
MANEUVERING AISLE REQUIREMENTS	parking stalls shall have an access aisle of 6.90m in width.	5.23m (existing)

LAND USE SCHEDULE

AREA	ha	% COVERAGE
BUILDING	0.215	30.85
DRIVEWAY/PARKING	0.319	45.77
ROW WIDENING	0.023	3.30
LANDSCAING	0.140	20.08
TOTAL	0.697	100.00

#	REVISION	DATE	INIT
1	NEW BUILDING AND REVISION	2025-04-16	SM
0	ISSUED FOR PRE CON	2025-01-30	SM

UPPER CANADA CONSULTANTS
ENGINEERS / PLANNERS

DRAWING TITLE: SITE PLAN

DRAFTING: SM
DATE: JANUARY 30, 2025
PRINTED: AUGUST 14, 2025
SCALE: 1:300
DWG No.: 25009
REV: 1

DRAWING FILE: F:\25009\Planning\25009-ConceptPland-commercial.dwg PLOTTED: Aug 14, 2025 - 8:25am PLOTTED BY: sara

Figure 4: Proposed Site Plan Showing Ventilation Requirements

Appendix A
Road Traffic Data

Outlook

RE: Traffic Data Request

From Awil, Montaha <Montaha.Awil@niagararegion.ca>
Date Wed 2025-05-07 9:30 AM
To Elise Jaklic <ejaklic@hgcacoustics.com>

Hello Elise

Yes they are the latest we have currently.

Kind regards

Montaha Awil
Road Safety Technician
Transportation Planning - Public Works
1815 Sir Isaac Brock Way. Thorold
Montaha.Awil@niagararegion.ca
Phone: (905) 980-6000 Ext 3712
Niagara Region

From: Elise Jaklic <ejaklic@hgcacoustics.com>
Sent: Wednesday, May 7, 2025 9:02 AM
To: Awil, Montaha <Montaha.Awil@niagararegion.ca>
Subject: Traffic Data Request

Good morning Montaha,

Can you please confirm if the attached traffic data is still valid?

Thank you,

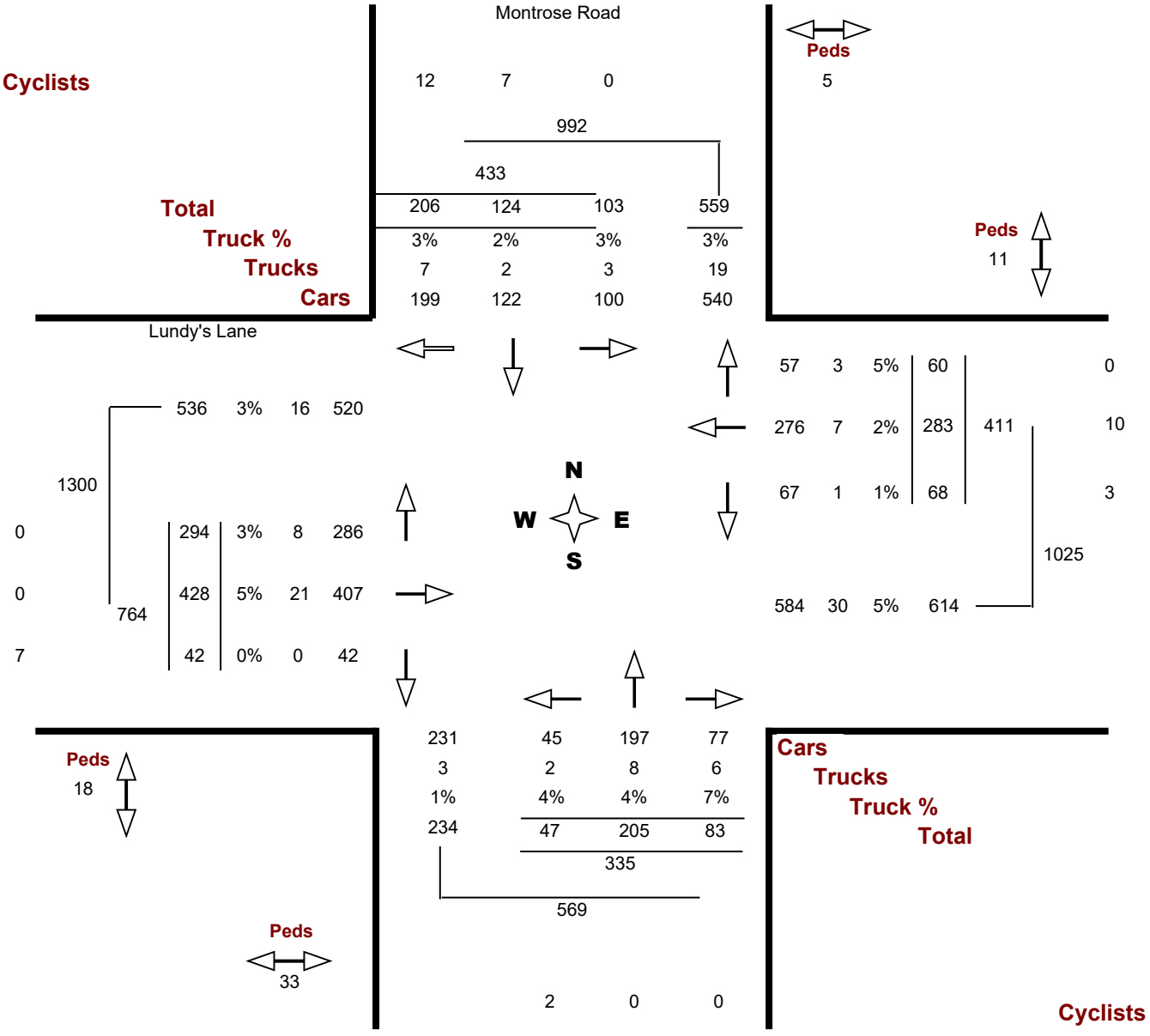
Elise

Elise Jaklic, BEng
Project Consultant
HGC NOISE VIBRATION ACOUSTICS
2000 Argentia Road, Plaza One, Suite 203, Mississauga, Ontario, Canada L5N 1P7
t: 905-826-4044 x271 **e**: ejaklic@hgcacoustics.com
Visit our website – www.hgcacoustics.com **Follow Us** – LinkedIn | X | YouTube

Turning Movements Report - AM Period

Location..... Lundy's Lane @ Montrose Road
Municipality. NIAGARA FALLS
Traffic Cont.
Major Dir..... East west

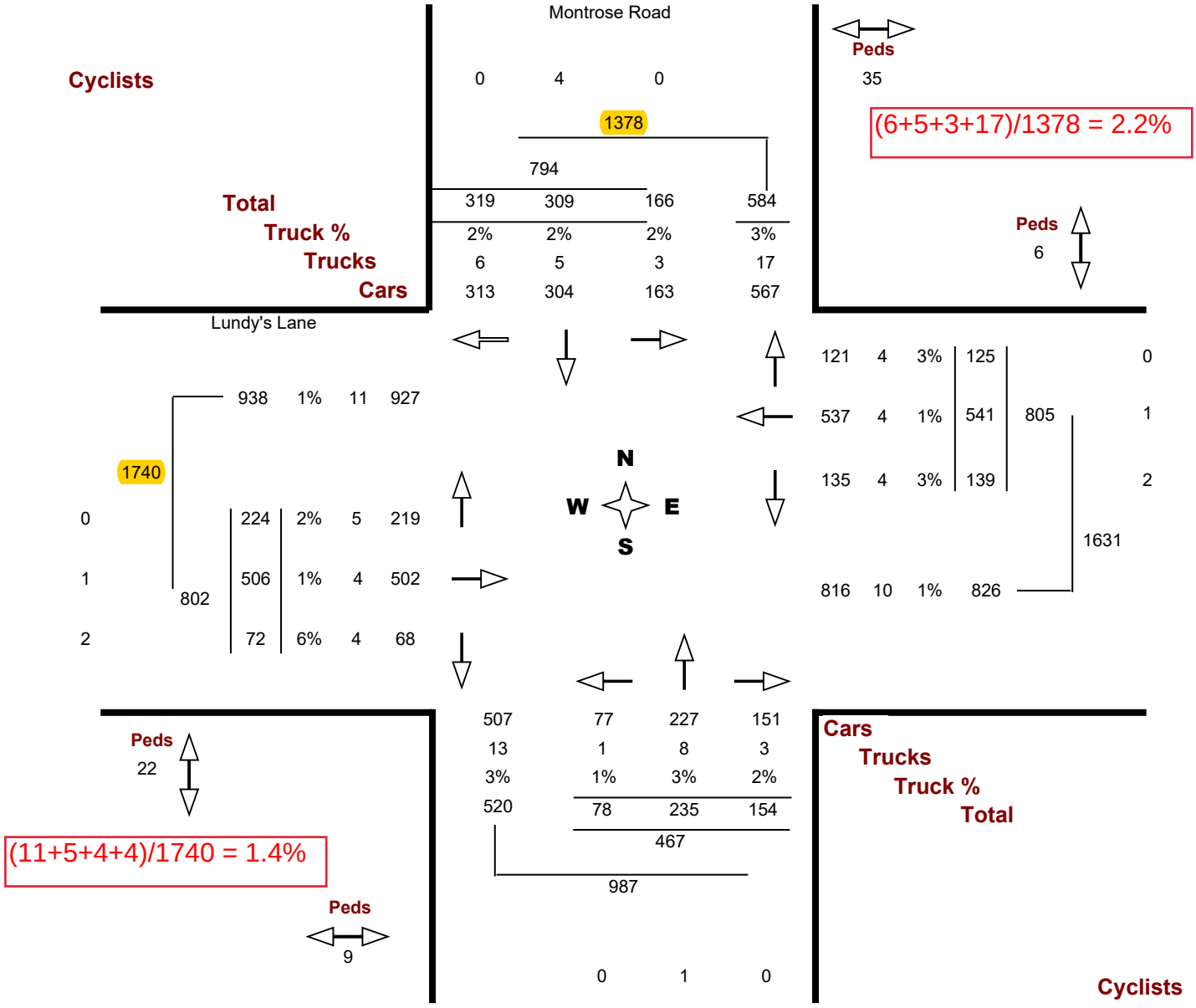
GeoID..... 01594
Count Date. Wednesday, 18 January, 2023
Count Time. 07:00 AM — 09:00 AM
Peak Hour.. 08:00 AM — 09:00 AM



Turning Movements Report - PM Period

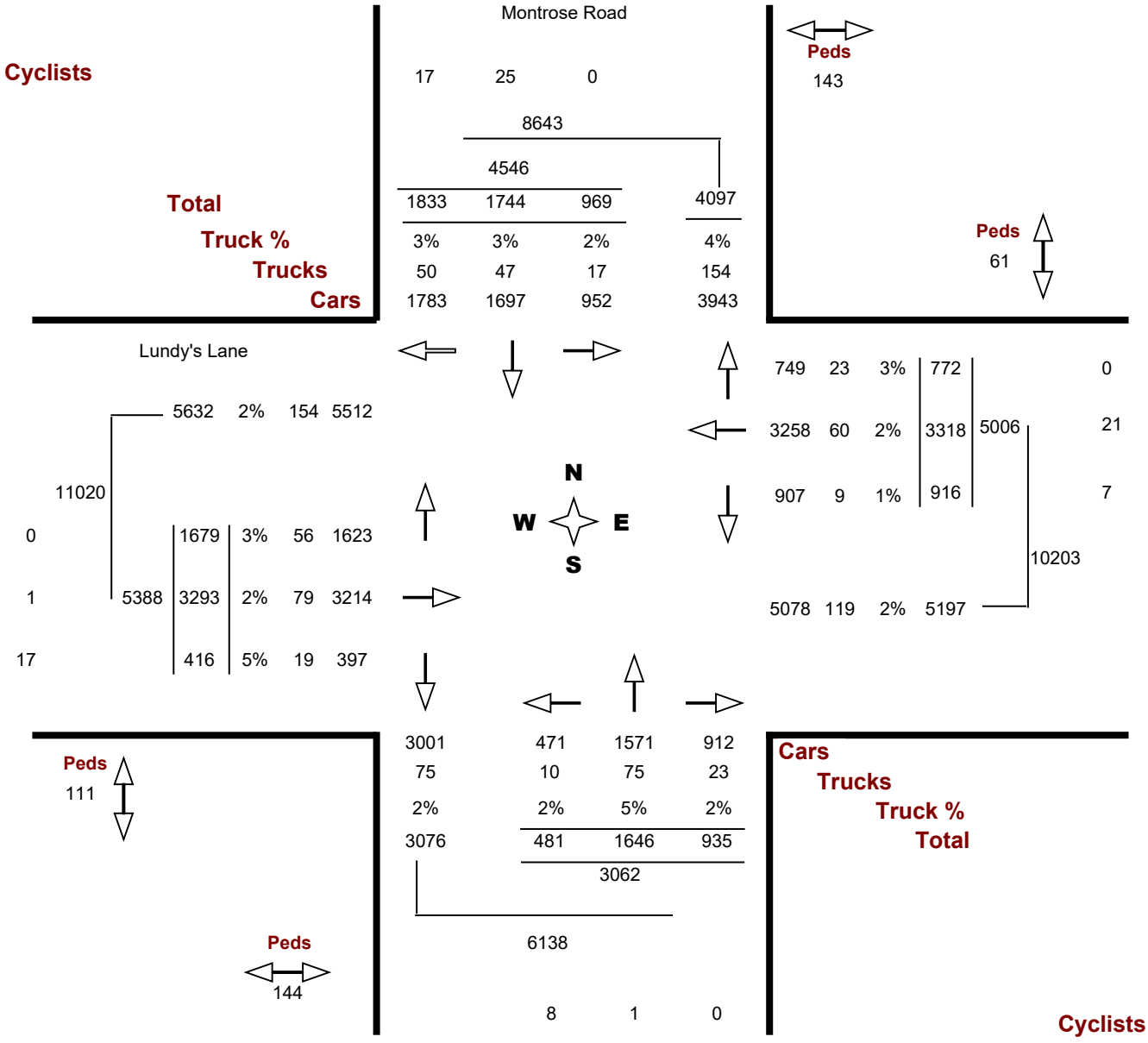
Location..... Lundy's Lane @ Montrose Road
Municipality. NIAGARA FALLS
Traffic Cont.
Major Dir..... East west

GeoID..... 01594
Count Date. Wednesday, 18 January, 2023
Count Time. 03:00 PM — 06:00 PM
Peak Hour.. 03:45 PM — 04:45 PM



Turning Movement Count Report
Full Study

Location..... Lundy's Lane @ Montrose Road
Municipality..... NIAGARA FALLS
GeoID..... 01594
Count Date..... Wednesday, 18 January, 2023



Turning Movement Count - Details Report (15 min)

Location..... Lundy's Lane @ Montrose Road

Municipality..... NIAGARA FALLS

Count Date..... Wednesday, January 18, 2023

		Montrose Road										Lundy's Lane									
		North Approach					South Approach					East Approach					West Approach				
Time Period		LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
07:00	07:15	7	5	13	0	25	6	22	11	0	39	5	48	5	0	58	30	49	4	0	83
07:15	07:30	8	20	31	0	59	10	47	14	0	71	6	62	3	0	71	31	48	9	0	88
07:30	07:45	9	26	33	0	68	14	44	10	0	68	13	50	8	0	71	60	56	4	0	120
07:45	08:00	14	31	41	0	86	11	58	15	0	84	10	67	9	0	86	60	66	7	0	133
Hourly Total		38	82	118	0	238	41	171	50	0	262	34	227	25	0	286	181	219	24	0	424
08:00	08:15	30	28	50	0	108	11	49	16	0	76	13	67	19	0	99	72	87	5	0	164
08:15	08:30	16	38	65	0	119	8	64	18	0	90	18	72	9	0	99	89	109	15	0	213
08:30	08:45	19	27	48	0	94	15	43	26	0	84	20	75	16	0	111	70	115	9	0	194
08:45	09:00	38	31	43	0	112	13	49	23	0	85	17	69	16	0	102	63	117	13	0	193
Hourly Total		103	124	206	0	433	47	205	83	0	335	68	283	60	0	411	294	428	42	0	764
11:00	11:15	27	59	39	0	125	14	40	23	0	77	25	99	19	0	143	43	96	12	0	151
11:15	11:30	20	60	47	0	127	20	49	27	0	96	23	83	36	0	142	37	82	14	0	133
11:30	11:45	21	45	44	0	110	9	52	22	0	83	24	125	24	0	173	49	108	13	0	170
11:45	12:00	34	52	56	0	142	15	49	31	0	95	23	94	25	0	142	43	91	15	0	149
Hourly Total		102	216	186	0	504	58	190	103	0	351	95	401	104	0	600	172	377	54	0	603
12:00	12:15	29	44	56	0	129	15	68	48	0	131	20	125	27	0	172	53	109	11	0	173
12:15	12:30	29	60	72	0	161	15	64	36	0	115	38	106	26	0	170	45	83	11	0	139
12:30	12:45	22	50	41	0	113	19	51	21	0	91	44	119	25	0	188	50	113	8	0	171
12:45	13:00	38	73	50	0	161	19	42	27	0	88	39	109	34	0	182	52	106	20	0	178
Hourly Total		118	227	219	0	564	68	225	132	0	425	141	459	112	0	712	200	411	50	0	661
13:00	13:15	37	54	48	0	139	16	52	24	0	92	35	115	31	0	181	47	97	19	0	163
13:15	13:30	25	65	47	0	137	17	50	33	0	100	24	105	27	0	156	42	111	15	0	168
13:30	13:45	38	70	58	0	166	15	46	37	0	98	37	93	29	0	159	45	103	15	0	163
13:45	14:00	28	61	65	0	154	16	52	35	0	103	26	99	34	0	159	52	109	8	0	169
Hourly Total		128	250	218	0	596	64	200	129	0	393	122	412	121	0	655	186	420	57	0	663
15:00	15:15	37	59	85	0	181	16	48	35	0	99	35	130	23	0	188	58	141	24	0	223
15:15	15:30	46	51	72	0	169	21	62	32	0	115	48	106	30	0	184	56	111	16	0	183
15:30	15:45	37	76	69	0	182	9	52	43	0	104	38	146	33	0	217	57	130	14	0	201
15:45	16:00	47	93	65	0	205	17	50	39	0	106	41	134	30	0	205	57	127	14	0	198
Hourly Total		167	279	291	0	737	63	212	149	0	424	162	516	116	0	794	228	509	68	0	805
16:00	16:15	41	69	94	0	204	23	62	43	0	128	37	154	37	0	228	46	107	12	0	165

		Montrose Road										Lundy's Lane									
		North Approach					South Approach					East Approach					West Approach				
Time Period		LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT	LT	TH	RT	U-Turn	TOT
16:15	16:30	34	77	77	0	188	15	55	36	0	106	42	144	34	0	220	58	128	16	0	202
16:30	16:45	44	70	83	0	197	23	68	36	0	127	19	109	24	0	152	63	144	30	0	237
16:45	17:00	43	79	66	0	188	18	50	28	0	96	48	125	20	0	193	48	137	20	0	205
Hourly Total		162	295	320	0	777	79	235	143	0	457	146	532	115	0	793	215	516	78	0	809
17:00	17:15	41	61	81	0	183	15	62	33	0	110	42	121	35	0	198	63	99	10	0	172
17:15	17:30	55	75	74	0	204	11	65	32	0	108	31	148	29	0	208	46	104	7	0	157
17:30	17:45	23	70	67	0	160	18	44	39	0	101	46	112	30	0	188	46	99	10	0	155
17:45	18:00	32	65	53	0	150	17	37	42	0	96	29	107	25	0	161	48	111	16	0	175
Hourly Total		151	271	275	0	697	61	208	146	0	415	148	488	119	0	755	203	413	43	0	659
Grand Total		969	1744	1833	0	4546	481	1646	935	0	3062	916	3318	772	0	5006	1679	3293	416	0	5388
Truck %		2%	3%	3%	0%	3%	2%	5%	2%	0%	4%	1%	2%	3%	0%	2%	3%	2%	5%	0%	3%

Year	Highway	Location Description	Dist (KM)	Pattern Type	AADT	SADT	SWADT	WADT	Truck AADT	Total Collisions	Total CR	Trucks Collisions	Truck CR
2019	QEW			IC	47,500	52,200	52,400	42,900	5,100	10	0.2	1	0.0
2021	QEW			IC	49,200	53,400	53,700	44,500	5,400	14	0.3	5	0.1
1988	QEW	HWY 420 IC-30	2.0	CTR	40,000	52,000	48,800	33,600	6,000	5	0.2	1	0.0
1989	QEW			CTR	41,500	52,700	50,200	35,700	6,200	10	0.3	0	0.0
1990	QEW			CTR	43,400	54,200	51,200	37,800	6,500	16	0.5	1	0.0
1991	QEW			CTR	42,200	53,200	52,800	36,700	6,350	8	0.3	2	0.1
1992	QEW			CTR	42,200	51,900	50,200	36,700	6,350	9	0.3	3	0.1
1993	QEW			CTR	42,600	53,700	51,500	36,200	6,400	11	0.3	1	0.0
1994	QEW			C	41,700	45,700	46,500	37,700	6,250	16	0.5	0	0.0
1995	QEW			C	43,800	47,800	49,100	40,100	6,550	10	0.3	0	0.0
1996	QEW			C	46,100	52,300	52,400	41,600	6,900	21	0.6	3	0.1
1997	QEW			CTR	48,200	61,700	59,300	40,500	7,250	9	0.3	3	0.1
1998	QEW			CTR	51,200	65,000	62,500	43,000	7,700	7	0.2	3	0.1
1999	QEW			CTR	50,200	63,300	60,700	42,200	7,550	12	0.3	0	0.0
2000	QEW			CTR	51,600	65,000	62,400	43,300	7,750	19	0.5	8	0.2
2001	QEW			C	51,300	57,800	57,900	46,200	7,700	13	0.3	0	0.0
2002	QEW			C	54,500	61,000	61,500	49,000	8,200	9	0.2	1	0.0
2003	QEW			C	56,000	62,600	63,000	50,500	8,400	13	0.3	1	0.0
2004	QEW			C	57,400	64,600	64,800	51,700	8,600	12	0.3	2	0.0
2005	QEW			C	56,200	62,600	63,100	50,500	8,450	11	0.3	2	0.0
2006	QEW			C	57,500	63,900	64,400	51,700	8,600	7	0.2	1	0.0
2007	QEW			C	58,800	65,300	66,200	52,800	8,800	19	0.4	6	0.1
2008	QEW			C	60,200	66,400	65,500	54,000	9,050	17	0.4	0	0.0
2009	QEW			C	61,500	67,600	68,300	55,400	9,200	7	0.2	0	0.0
2010	QEW			C	62,800	69,200	69,800	56,500	9,400	11	0.2	1	0.0
2011	QEW			C	64,300	70,900	71,500	57,900	9,650	18	0.4	2	0.0
2012	QEW			C	66,000	72,700	71,200	59,400	9,900	13	0.3	2	0.0
2013	QEW			C	66,800	73,600	72,700	60,100	10,000	21	0.4	2	0.0
2014	QEW			UC	68,100	68,300	65,500	64,600	10,200	14	0.3	1	0.0
2015	QEW			UC	69,200	69,400	66,600	65,700	10,400	27	0.5	2	0.0
2016	QEW			UC	70,400	70,600	67,700	66,800	10,600	14	0.3	1	0.0
2017	QEW			UC	71,600	71,100	71,800	68,600	5,750	22	0.4	5	0.1
2018	QEW			UC	72,800	72,200	73,400	69,900	5,800	30	0.6	3	0.1
2019	QEW			UC	74,000	72,900	74,000	71,300	5,900	24	0.4	2	0.0
2021	QEW			UC	76,500	76,700	77,700	73,700	6,100	20	0.4	1	0.0
1988	QEW	THOROLD STONE RD IC-32	2.5	CTR	39,200	51,000	47,800	32,900	3,900	21	0.6	2	0.1
1989	QEW			CTR	41,100	52,200	49,700	35,300	4,100	33	0.9	3	0.1
1990	QEW			CTR	43,000	53,800	50,700	37,400	4,300	32	0.8	3	0.1
1991	QEW			CTR	40,400	50,900	50,500	35,100	4,050	44	1.2	7	0.2
1992	QEW			CTR	40,300	49,600	48,000	35,100	4,050	26	0.7	1	0.0
1993	QEW			CTR	40,800	51,400	49,400	34,700	4,100	41	1.1	6	0.2

Appendix B
Sample STAMSON 5.04 Output

STAMSON 5.0 NORMAL REPORT Date: 18-09-2025 07:22:17
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: a.te Time Period: Day/Night 16/8 hours
Description: Prediction Location A

Road data, segment # 1: Lundys Lane (day/night)

Car traffic volume : 26734/2970 veh/TimePeriod *
Medium truck volume : 136/15 veh/TimePeriod *
Heavy truck volume : 244/27 veh/TimePeriod *
Posted speed limit : 50 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): 17499
Percentage of Annual Growth : 2.50
Number of Years of Growth : 22.00
Medium Truck % of Total Volume : 0.50
Heavy Truck % of Total Volume : 0.90
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Lundys Lane (day/night)

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 25.00 / 25.00 m
Receiver height : 4.50 / 4.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
Road data, segment # 2: Montrose (day/night)

Car traffic volume : 20881/2320 veh/TimePeriod *
Medium truck volume : 171/19 veh/TimePeriod *
Heavy truck volume : 299/33 veh/TimePeriod *
Posted speed limit : 50 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): 13780
Percentage of Annual Growth : 2.50
Number of Years of Growth : 22.00
Medium Truck % of Total Volume : 0.80
Heavy Truck % of Total Volume : 1.40

```
    Day (16 hrs) % of Total Volume     :  90.00

Data for Segment # 2: Montrose (day/night)
-----------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      5 / 5
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 325.00 / 325.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Road data, segment # 3: QEW (day/night)
---------------------------------------
Car traffic volume  : 58548/29283 veh/TimePeriod  *
Medium truck volume :  3659/1830  veh/TimePeriod  *
Heavy truck volume  : 10978/5491  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):  77700
    Percentage of Annual Growth        :   2.50
    Number of Years of Growth          :  14.00
    Medium Truck % of Total Volume     :   5.00
    Heavy Truck  % of Total Volume     :  15.00
    Day (16 hrs) % of Total Volume     :  66.66

Data for Segment # 3: QEW (day/night)
-------------------------------------
Angle1   Angle2           :   0.00 deg   90.00 deg
Wood depth                :      0       (No woods.)
No of house rows          :      7 / 7
House density             :     20 %
Surface                   :      1       (Absorptive ground surface)
Receiver source distance  : 500.00 / 500.00 m
Receiver height           :   4.50 / 4.50   m
Topography                :      1       (Flat/gentle slope; no barrier)
Reference angle           :   0.00

Results segment # 1: Lundys Lane (day)
--------------------------------------

Source height = 0.97 m

ROAD (0.00 + 64.28 + 0.00) = 64.28 dBA
```

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	66.50	0.00	-2.22	0.00	0.00	0.00	0.00	64.28

Segment Leq : 64.28 dBA

Results segment # 2: Montrose (day)

Source height = 1.09 m

ROAD (0.00 + 34.03 + 0.00) = 34.03 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.58	66.30	0.00	-21.14	-4.33	0.00	-6.80	0.00	34.03

Segment Leq : 34.03 dBA

Results segment # 3: QEW (day)

Source height = 1.97 m

ROAD (0.00 + 46.40 + 0.00) = 46.40 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	84.18	0.00	-23.70	-4.29	0.00	-9.80	0.00	46.40

Segment Leq : 46.40 dBA

Total Leq All Segments: 64.35 dBA

Results segment # 1: Lundys Lane (night)

Source height = 0.97 m

ROAD (0.00 + 57.74 + 0.00) = 57.74 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	90	0.00	59.95	0.00	-2.22	0.00	0.00	0.00	0.00	57.74

Segment Leq : 57.74 dBA

Results segment # 2: Montrose (night)

Source height = 1.09 m

ROAD (0.00 + 27.49 + 0.00) = 27.49 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.58	59.76	0.00	-21.14	-4.34	0.00	-6.80	0.00	27.49

Segment Leq : 27.49 dBA

Results segment # 3: QEW (night)

Source height = 1.97 m

ROAD (0.00 + 46.40 + 0.00) = 46.40 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.56	84.18	0.00	-23.70	-4.29	0.00	-9.80	0.00	46.40

Segment Leq : 46.40 dBA

Total Leq All Segments: 58.05 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 64.35
(NIGHT): 58.05