

NOISE IMPACT STUDY – Project: 20085.00

1518-1526 Stittsville Main Street
Stittsville, Ontario

Prepared for:

McIntosh Perry Consulting Engineers
115 Wallgreen Road, RR#3
Carp, ON
K0A 1L0

Prepared by:



Sam Zokay, M.Sc., MIOA



Kohl Clark, B.Eng



Derek Flake, M.Sc., P.Eng

November 26, 2020

Revision History

Version	Description	Author	Reviewed	Date
- -	Initial Report	SZ	KC	November 26, 2020

Important Notice and Disclaimer

This report was prepared by Aercoustics Engineering Limited (Aercoustics) solely for the client identified above and is to be used exclusively for the purposes set out in the report. The material in this report reflects the judgment of Aercoustics based on information available to them at the time of preparation. Unless manifestly incorrect, Aercoustics assumes information provided by others is accurate. Changed conditions or information occurring or becoming known after the date of this report could affect the results and conclusions presented. Unless otherwise required by law or regulation, this report shall not be shared with any Third Party without the express written consent of Aercoustics. Aercoustics accepts no responsibility for damages, if any, suffered by any Third Party which makes use of the results and conclusions presented in this report.

Executive Summary

Aeroustics Engineering Limited has been retained by McIntosh Perry Consulting Engineers to prepare a Noise Impact Study in support of an application for a Site Plan Control approval to permit a mixed-use development in the City of Ottawa, located at 1518-1526 Stittsville Main Street in the community of Stittsville.

The purpose of this study is to examine the existing and future noise environment in the development area and evaluate its impact potential on future receptors. This report also investigates the noise control features that are required to meet the noise guidelines of the Ontario Ministry of the Environment, Conservation and Parks and to satisfy the requirements of the City of Ottawa.

The proposed development consists of one (1) four-storey residential building and one (1) two-storey restaurant building with external patio. Figure 1 provides a key plan showing the proposed development location. Figure 2 shows the site plan of the proposed development, including critical noise sensitive receptors and calculation locations. The main environmental noise source in the subject study area is road traffic from Stittsville Main Street.

The subject site is not significantly impacted by rail traffic, aircraft, or stationary noise sources.

Road noise level calculations were performed in accordance with the MECP guidelines and by the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT). The City of Ottawa's document "Environmental Noise Control Guidelines" (ENCG) has also been considered in this study. The highest predicted road traffic noise level is 63 dBA during daytime and 56 dBA during nighttime hours at the northeast residential façade. Based on these levels, standard exterior window and wall components that meet the requirements of the Ontario Building Code (OBC) are expected to be sufficient for meeting the MECP indoor sound level guidelines.

Sample warning clause wording to address noise issues has been provided as required.

The development is expected to have minimal impact on the surrounding environment; this should be confirmed at the once details of proposed noise generating mechanical equipment becomes available. As the aforementioned details become available, further analysis should be conducted to assess the impact of noise sources associated with the development on noise-sensitive locations within the development itself.

Table of Contents

1	Introduction	1
2	Guidelines and Criteria	1
3	Noise Level Predictions	3
4	Transportation Noise Predictions	4
5	Noise Control Recommendations	5
6	Conclusions	6
7	Warning Clauses	7
8	References	8

Appendix A

Site Plan & Drawings

Appendix B

Road Traffic Data & Sample Calculations

1 Introduction

Aeroustics Engineering Limited (Aeroustics) has been retained by McIntosh Perry Consulting Engineers (McIntosh Perry) to prepare a Noise Impact Study (NIS) to support an application for Site Plan Approval (SPA) for a mixed-use development in the City of Ottawa, municipally located at 1518-1526 Stittsville Main Street in the community of Stittsville. This noise study is intended to support an application for a Site Plan Control approval.

The purpose of this study was to examine the existing and future noise environment in the development area and evaluate its impact potential on future receptors. This report also investigates the noise control features that are required for the development to meet the noise guidelines of the Ontario Ministry of the Environment, Conservation and Parks (MECP) and to satisfy the requirements of the City of Ottawa. This report considers the MECP guideline NPC-300 “Stationary and Transportation Sources – Approval and Planning” (August 2013) as well as the City of Ottawa guideline “Environmental Noise Control Guidelines” (“ENCG”) (September 2016).

The proposed development consists of one (1) four-storey residential building and one (1) two-storey building which includes a restaurant with associated patio space as well as an office space. The site is located on the southwest side of Stittsville Main Street and approximately 40 m southeast of the Abbott Street West intersection. Adjacent land uses include commercial and retail properties on Stittsville Main Street, a day care centre including a rear play area which backs on to the subject site, and residential properties on the surrounding local roads.

Figure 1 provides a key plan showing the proposed development location. Figure 2 shows the site plan of the proposed development, including critical noise sensitive receptors and calculation locations. The main environmental noise source in the subject study area is road traffic from Stittsville Main Street.

The subject site is not significantly impacted by rail traffic, aircraft, or stationary noise sources.

2 Guidelines and Criteria

2.1 Transportation Noise – Outdoor Living Area (OLA)

MECP Guidelines as well as the ENCG recommend that equivalent noise levels ($L_{eq-16hr}$) in outdoor living areas should not exceed 55 dBA. If it is not technically, economically, or administratively feasible to achieve a level of 55 dBA, predicted noise levels between 55 dBA and 60 dBA may be acceptable provided that the future occupants of the building are made aware of the potential noise problems through appropriate warning clauses. Noise levels above 60 dBA are generally not acceptable and will warrant noise control measures.

All unenclosed balconies that are less than 4 m in depth and outside the exterior of the building façade are exempt from meeting the MECP outdoor noise criteria with regards to transportation noise sources. Should the depth of the future balconies and terraces be greater than 4 m, they will be subject to the MECP noise level limit of 55 dBA.

2.2 Transportation Noise – Indoor Living Spaces

Bedrooms are required to meet an indoor noise level (L_{eq-8hr}) of 40 dBA from road traffic during nighttime hours. The indoor daytime noise level ($L_{eq-16hr}$) due to road traffic must not exceed 45 dBA for living or dining rooms. Lounges, lobbies, retail or general office spaces should meet a daytime indoor noise level of 50 dBA from road traffic. In order to achieve these levels, the MECP guidelines provide a basis for the types of windows, exterior walls, and doors that will be required based on projected outdoor noise levels.

The MECP also requires that a central air conditioning system be installed for dwellings when the daytime or nighttime outdoor transportation noise levels at the plane of window of bedrooms or living/dining rooms are above 65 dBA or 60 dBA, respectively. The provision for the future installation of central air conditioning must be made if:

- the nighttime sound level is greater than 50 dBA and less than or equal to 60 dBA on the outside face of a bedroom window; or
- the daytime sound level is greater than 55 dBA and less than or equal to 65 dBA on the outside face of a bedroom or living/dining room window.

The above provision usually involves a central air conditioning system or a ducted heating system sized to accommodate the addition of central air conditioning by the occupant. It is to be noted that the current design anticipates the installation of either a central air conditioning system or a ducted heating system to service each residential unit.

The required limits as per NPC-300 are summarized in Table 1.

Table 1: Indoor Sound Level Limits Due to Road Traffic

Type of Space	Time Period	L_{eq} (dBA) Road Traffic
Living/dining, den areas of residences, hospitals, nursing homes, schools, day-care centres (Indoor)	07:00 – 23:00	45 dBA
Living/dining, den areas of residences, hospitals, nursing homes (Indoor)	23:00 – 07:00	45 dBA
Sleeping quarters (Indoor)	07:00 – 23:00	45 dBA
	23:00 – 07:00	40 dBA
Outdoor Living Areas (OLA)	07:00 – 23:00	55 dBA

3 Noise Level Predictions

3.1 Road Traffic Noise Calculations Procedure

The dominant road traffic noise source in the subject study area is Stittsville Main Street. Abbott Street West, located northwest of the site, was considered acoustically insignificant due to the relatively low traffic volumes along this road segment.

Road traffic noise level calculations were performed in accordance with the MECP Guidelines and the Ontario Road Noise Analysis Method for Environment and Transportation (ORNAMENT), as well as the City of Ottawa's ENCG. Sample copies of the traffic noise predictions from MECP's Road and Rail Traffic Noise Prediction Model STAMSON (Version 5.04) are included in Appendix B.

The equivalent sound levels (L_{eq}) due to road traffic were calculated at the worst-case noise sensitive residential receptors on the northwest, northeast and southeast façades of the residential component of the proposed development. It is understood that all residential balconies are to be less than 4 m in depth and are therefore exempt from the transportation noise MECP criteria. Noise levels were also calculated for an at-grade OLA location at ground level to the north of the residential buildings.

3.2 Road Traffic Data

Per Appendix B of the ENCG, the implied roadway class for Stittsville Main Street is that of a 2-Lane Rural Arterial (2-RAU) roadway. For additional accuracy, traffic counts and heavy vehicle percentage information have been based on the road traffic data provided by the City of Ottawa as summarized in Table 2.

In accordance with MECP guidance, vehicle volumes were escalated by 2% per annum for a 10-year period following the estimated completion of the development to establish the Ultimate AADT. Copies of the received data are included in Appendix B.

Table 2: Road Traffic Volumes

	Stittsville Main Street (north of Abbott Street)	Stittsville Main Street (south of Abbott Street)
24-hour Volumes (Current AADT)	16,000	14,500
24-hour Volumes (Ultimate AADT)	20,750	18,750
Day/Night Split (%)	90/10*	90/10*
Percentage of Trucks (%)	4.3	4.1
Medium/Heavy Split (%)	1.7/2.6*	1.7/2.5*
Grade (%)	0	0
Posted Speed (km/hr)	50	50

*Assumed

4 Transportation Noise Predictions

Table 3 lists the predicted 16-hour daytime and 8-hour nighttime L_{eq} noise levels due to road traffic at noise sensitive locations within the development, labelled on the site plan in Figure 2. Sample calculations are provided in Appendix B.

Table 3: Calculated Noise Levels Due to Road Traffic

Calculation Location (Figure 2)	Receptor Height (m)	Description	L_{eq} (dBA)	
			Day	Night
C01 - Northwest Façade	10.5	4 th floor residential unit facing northwest; partial exposure to Stittsville Main Street	60	53
C02 - Northeast Façade	10.5	4 th floor residential unit facing northeast; full exposure to Stittsville Main Street	63	56
C03 - Southeast Façade	10.5	4 th floor residential unit facing southeast; partial exposure to Stittsville Main Street	59	53
OLA1 - Northwest Amenity Area Patio	1.5	Ground level OLA	60	-

5 Noise Control Recommendations

5.1 Transportation Noise – Outdoor Living Areas

Outdoor locations used by the restaurant and at balconies less than 4 m in depth are not subject to the outdoor sound level limits for road traffic noise. Calculations for the amenity area patio located outside the northwest façade of the residential building have been included. Based on the predicted 16-hour daytime L_{eq} level of 60 dBA, no acoustic barriers would be required for an OLA at this location subject to Warning Clause A, as found in Section 7, being included in the purchase and sale/lease agreements of the affected suite(s).

Any other residential OLAs, including any terraces that are to be more than 4 m deep, should be analysed in further detail if introduced later in the design process.

5.2 Transportation Noise – Indoor Living Spaces

Indoor noise levels due to road traffic will depend on both the external road traffic noise level and the sound isolation performance of the building envelope. Based on the predicted noise levels shown in Table 3, standard exterior window and wall components that meet the requirements of the Ontario Building Code (OBC) should be sufficient for meeting the MECP indoor sound level guidelines.

The daytime and nighttime noise levels dictate that residential suites should be provided with a provision for adding air conditioning at the discretion of future occupants. In this case Warning Clause C, as found in Section 7, should be included in the purchase and sale/lease agreements of all suites.

5.3 Stationary Noise Sources

Based on the review of aerial imagery of the proposed site, as well as a site visit conducted by Aeroustics personnel on August 28, 2020, no significant sources of stationary noise have been observed which would be expected to generate a significant noise impact on the proposed development.

The current site plan and elevation drawings show an at-grade chiller on the southwest side of the site and a mechanical equipment location close to the centre of the residential building roof. As of the time of this report, detailed mechanical equipment specifications are unknown. Mechanical equipment which may be included in the design may include emergency generator(s), cooling tower(s), air handling equipment, restaurant exhaust equipment, or others. A detailed analysis should be conducted once equipment details become available and should include an assessment of the noise impact on the surrounding noise sensitive receptors, as well as on the residential development itself. This assessment should be performed in accordance with NPC-300 as well as the City of Ottawa By-law No.2017-255.

Similarly, the design and associated administrative controls of the restaurant patio should be considered to minimize the impact of noise from patrons on the surrounding area.

6 Conclusions

The results of this study indicate that standard exterior window and wall components that meet the requirements of the Ontario Building Code (OBC) should be sufficient for compliance with the MECP and ENCG criteria for indoor sound levels.

As indicated in the MECP implementation guidelines, where noise may be a concern, future occupants will be advised through warning clauses. Notes and sample wording for the warning clauses is provided in Section 7 of this report.

Further analysis should be conducted to confirm the noise impact of the development, including the restaurant area, both on itself and the surrounding environment when more detailed information is available for the proposed mechanical equipment and building construction.

7 Warning Clauses

Purchase, rental and lease agreements for all units in the proposed residential buildings are recommended to include the following warning clauses:

Warning Clause Type A:

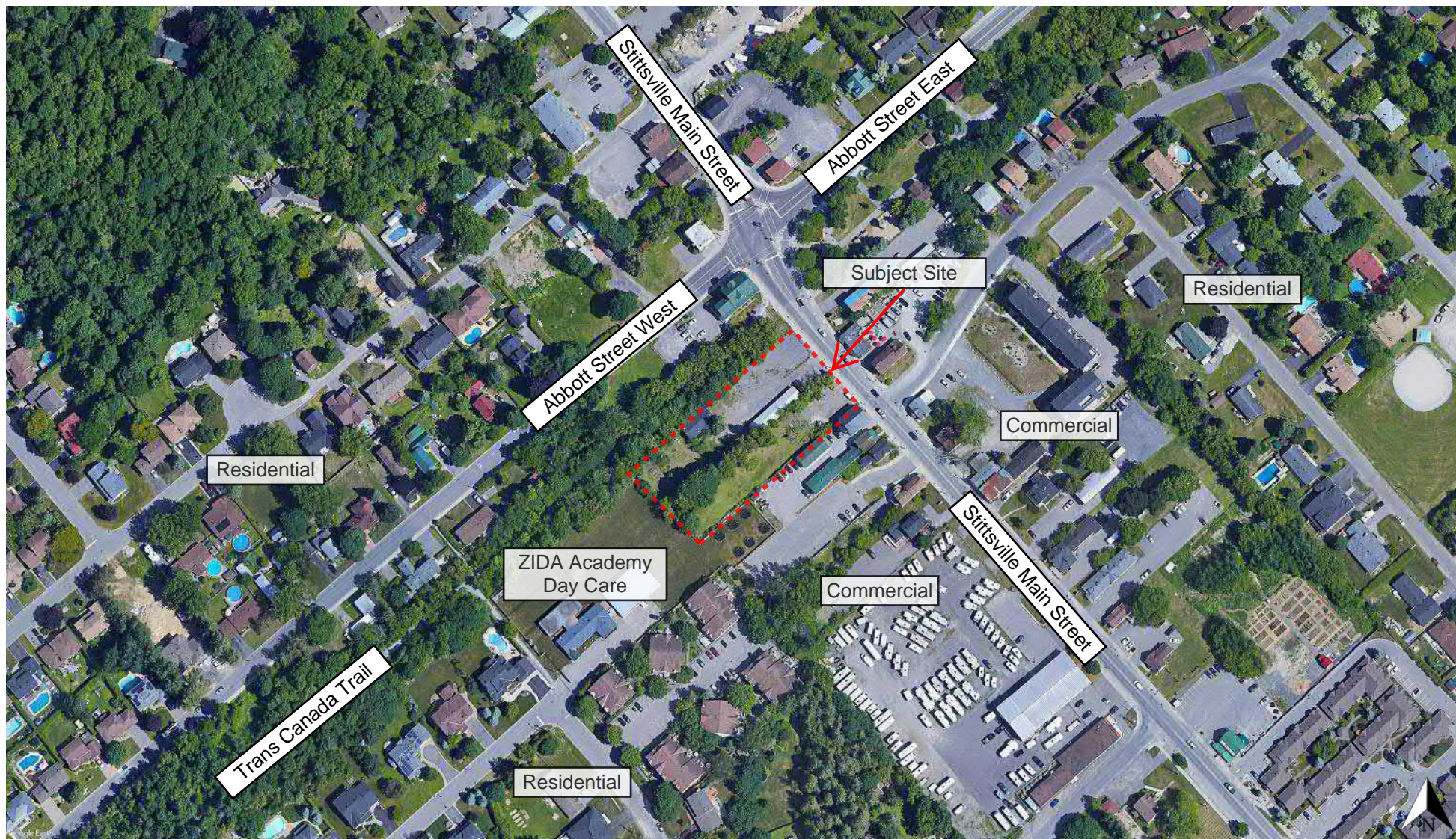
"Purchasers/tenants are advised that sound levels due to increasing road traffic on Stittsville Main Street may occasionally interfere with some activities of the dwelling occupants as the sound levels exceed the sound level limits of the City of Ottawa and the Ministry of the Environment, Conservation and Parks."

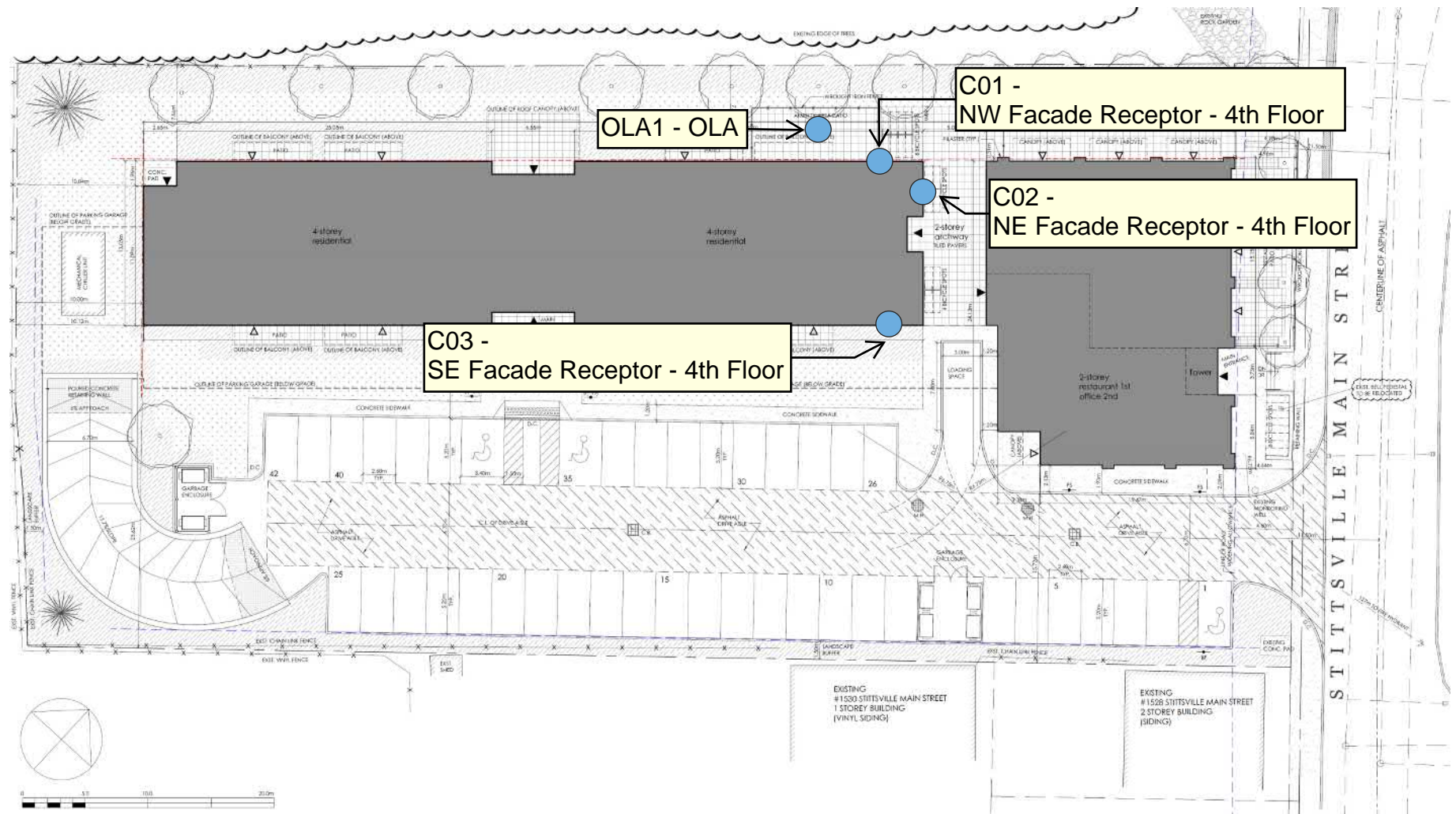
Warning Clause Type C:

"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 City of Ottawa and the Ministry of the Environment, Conservation and Parks."

8 References

1. ORNAMENT – “Ontario Road Noise Analysis Method for Environmental and Transportation”, Ontario Ministry of the Environment, October, 1989.
2. “Building Practice Note No. 56: Controlling Sound Transmission into Buildings”, by J.D. Quirt, Division of Building Research, National Research Council of Canada, September, 1995.
3. “Stationary and Transportation Sources – Approval and Planning”, Ontario Ministry of the Environment, Publication NPC-300, August, 2013.
4. “Environmental Noise Control Guidelines”, City of Ottawa, September 2016
5. “By-law No. 2017-255”, City of Ottawa, May, 2017.





Appendix A

Site Plan & Drawings



Zoning Regulations

Site Zoning: TM9(2272) H(15), consolidation date: August 26, 2015
Proposed Use: Apartment dwelling, Restaurant and Office.

	REQUIRED	PROVIDED
Minimum Lot Area (m ²)	No minimum	4,759
Minimum Lot Width (m)	No minimum	47.93
Front Yard Setback (m)		
i) minimum	No minimum	4.6
ii) maximum	3	
Interior Side Yard Setback (m)		
i) minimum	1.2	3
ii) maximum	6	
Rear Yard Setback (m)		
2) at other cases	10	10
Building Height (m)		
i) minimum	6.7	15.0
ii) maximum	20m / 4 storeys	4 storeys
Minimum width of landscape (m)	No minimum	1.5

Site Statistics

Building Area/Footprint	1,235 m ²
Gross Floor Area (G.F.A.)	
G.F.A. - Restaurant Only	256 m ²
G.F.A. - Kitchen Only	55 m ²
G.F.A. - Office Only	170 m ²
Dwelling Units	33

Parking Requirements

Table 101 - Min. Parking Space Rates
Area C (on Schedule 1A)

Restaurant and Kitchen (Ground Floor)	10 per 100 m ² of G.F.A.
Parking - required(*)	16.1 spaces
Office (Second Floor)	2.4 per 100 m ² of G.F.A.
Parking - required	4.1 spaces
Dwelling, Low-Rise or Mid-Rise	1.2 per dwelling
Parking - required	39.6 spaces

Visitor Parking Requirements

Table 102 - Minimum Visitor Parking

Dwelling, Low-Rise and Mid-Rise	0.2 per dwelling
Parking - required	6.6 spaces

(*) per Zoning By-Law Provision 197(14).

Total Parking(**)	Required	Provided
...underground	63 spaces	77 spaces
...at grade		35 spaces
Min. Number of Spaces for Persons with Disabilities	4 (for 20-99)	4 spaces
...underground		1 space
...at grade		3 spaces
Required Type A (Van)	2 spaces	2 spaces
Required Type B	2 spaces	2 spaces

(**) per Zoning By-Law Provisions 100(b) and 104(1).

Bicycle Parking Requirements

Table 111A - Bicycle Parking Space Rates

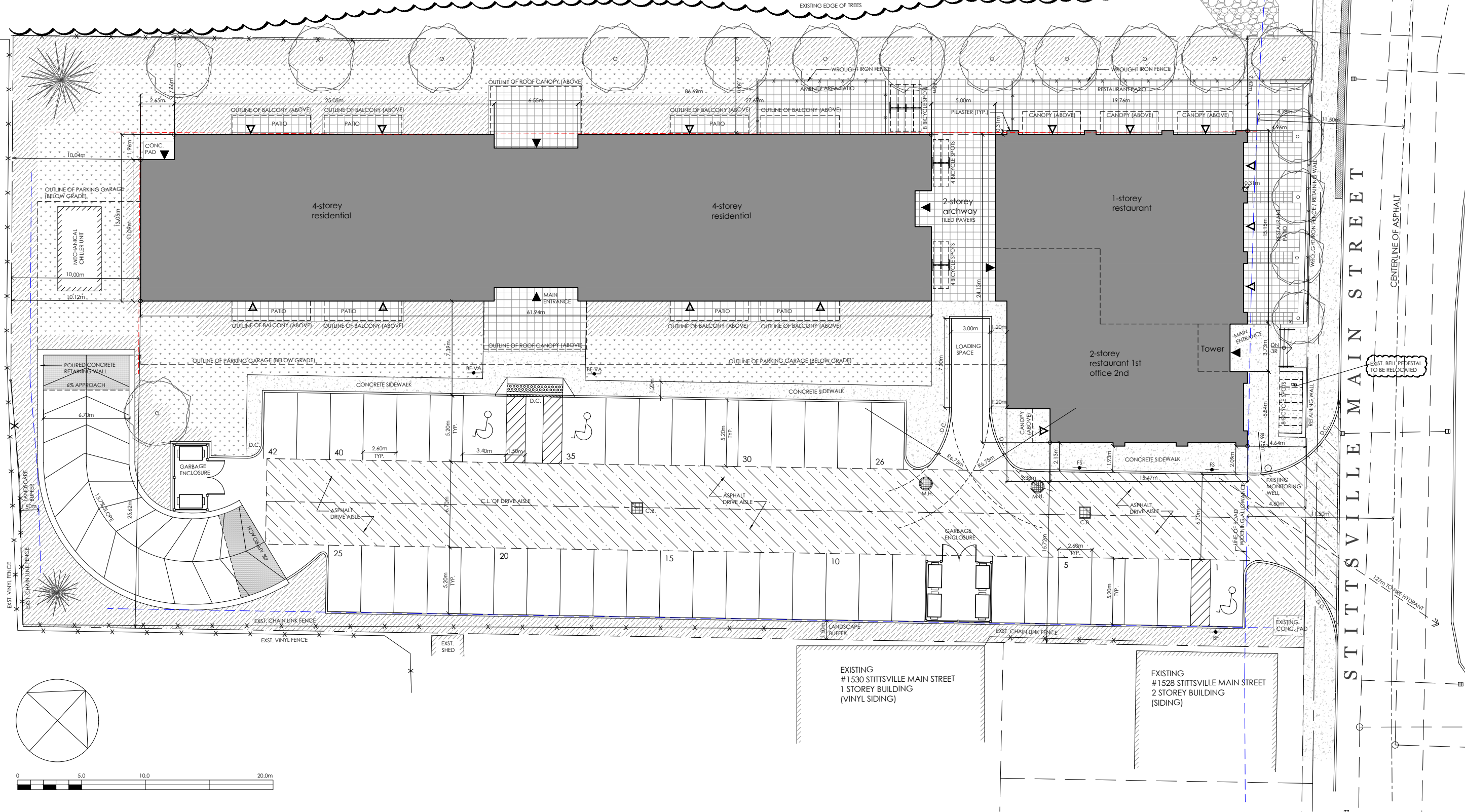
Dwelling, Low-Rise or Mid-Rise	0.5 per dwelling
Parking - required	16.5 spaces
Restaurant and Kitchen (Ground Floor)	1 per 250 m ² of G.F.A.
Parking - required	1.2 spaces
Office (Second Floor)	1 per 250 m ² of G.F.A.
Parking - required	0.7 spaces

Total Bicycle Parking	Required	Provided
...underground	18.4 spaces	24 spaces
...at grade		0 spaces
		24 spaces

Loading Space Requirements

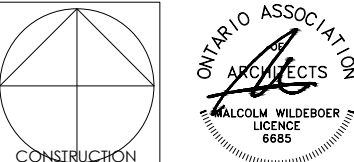
Table 113A - Minimum Loading Spaces

Non-Residential Uses (Ground Floor)	0, less than 350 m ²
Office (Second Floor)	0, less than 350 m ²



- General Notes**
1. Site plan is based on the plan of survey (REF. No. 326-10-GOULBORNE, JOB No. AAI5600) prepared by Fairhall, Moffatt & Woodland Limited dated April 16, 2020. Refer to legal survey for site specific legal information.
 2. Refer to civil and landscape drawings for all services and landscape related items.
 3. Refer to civil for complete grade information.
 4. Garbage and recycling will be handled and stored in dedicated garbage enclosure areas (2 total). It will be collected by a private waste & recycling operations facility.
 5. Snow storage: accumulated snow will be trucked off-site.

- LEGEND**
- PROPERTY LINE
 - SETBACK / LANDSCAPE BUFFER (AS NOTED)
 - CURB (REFER: CITY OF OTTAWA STANDARDS, CITY SPECIFICATION: SC 1.4)
 - DEPRESSED CURB (PEDESTRIAN CURB RAMP) (REFER: CITY OF OTTAWA STANDARDS, CITY SPECIFICATION: SC 1.4 AND SC6)
 - TYPICAL CURB RAMP SEE SECTION 3.4 OF THE CITY OF OTTAWA ACCESSIBILITY DESIGN STANDARDS FOR ADDITIONAL INFORMATION
 - DESIGNATED BARRIER FREE PARKING SPACE
 - BARRIER FREE PARKING SIGN
 - BARRIER FREE PARKING - VAN ACCESSIBLE
 - FIRE ROUTE SIGN
 - BOLLARD
 - DENOTES BUILDING EXIT
 - DENOTES BUILDING ENTRY (NON DESIGNATED EXIT)
 - FIRE HYDRANT
 - UTILITY POLE
 - PROPOSED DOWNSPOUT LOCATION
 - PROPOSED GAP AND GRATE IN CONCRETE SIDEWALK AT DOWNSPOUT LOCATION (REFER TO CIVIL)
 - CATCH BASIN (C.B.) (REFER TO CIVIL)
 - STORM (STM) / MAIN HOLE (M.H.) COVER (REFER TO CIVIL)
 - LIGHT STANDARD W/POLE BASE
 - LIGHT FIXTURE
 - TURF
 - SOFT LANDSCAPING
 - CONCRETE
 - DENOTES FIRE ROUTE
 - LANDSCAPE PAVERS



Vandenberg & Wildeboer
A.R.C.H.I.T.E.C.T.S.

PROJECT TITLE
THE STATION
1518-1524-1526 STITTVILLE MAIN STREET

DRAWING TITLE
OVERALL SITE PLAN

DESIGNED BY: MW
DRAWN BY: SC
START DATE: JULY 2020
SCALE: AS SHOWN
PROJECT NO. 1932

DRAWING NO. **A001**



1 NORTH ELEVATION
A200
SCALE: 1:125

NO.	REVISION	DATE
1	ISSUED FOR SITE PLAN APPROVAL	NOV. 18/2020

LEGEND	
1	MASONRY VENEER HANSEN WILLIAMSBURG MK2 MAX SIZE OR APPROVED EQ.
2A	PREFINISHED FIBER CEMENT SHAKE & SHINGLE SIDING JAMES HARDIE OR APPROVED EQ.
2B	PREFINISHED VERTICAL SIDING JAMES HARDIE OR APPROVED EQ.
2C	PREFINISHED TRIM BOARD JAMES HARDIE OR APPROVED EQ.
3	PREFINISHED HERITAGE RIB METAL ROOFING 20" SPACING, MARITIME GREY BY IDEAL ROOFING OR EQ.
4	RIDGE VENT
5A	PREFINISHED METAL FASCIA
5B	PREFINISHED ALUMINUM EAVESTROUGH COLOUR TO MATCH STEPPED FASCIA
6	PVC TRIM BOARD (SMOOTH FINISH) AZEK OR APPROVED EQ.
7	ALUMINUM CLAD WINDOW
8	CEMENTITIOUS PAVING ON CONCRETE FOUNDATION
9	MECHANICAL EQUIPMENT
10	SCREEN WALL SYSTEM AZEK OR APPROVED EQ.
11	ROOF BRACKET
12	ROOF CANOPY
13	PREFINISHED METAL RAILING
14	PVC PARAPET MOULDING (SMOOTH FINISH) AZEK OR APPROVED EQ.



2 SOUTH ELEVATION: PARKING DRIVE AISLE
A200
SCALE: 1:125



3 EAST ELEVATION: STITTSVILLE MAIN STREET
A200
SCALE: 1:125



4 WEST ELEVATION
A200
SCALE: 1:125

ONTARIO ASSOCIATION
OF
ARCHITECTS
MALCOLM WILDEBOER
LICENCE
6685

CONSTRUCTION

Vandenberg & Wildeboer
A • R • C • H • I • T • E • C • T • S

www.vandenberg-wildeboer.com Telephone: (416) 307-6144 Fax: (416) 307-6145 Email: info@vandenberg-wildeboer.com
VINE CDD STONE SCULPTURE © 1997 WILDEBOER INC. • CROWN (CROWN) • CROWN (CROWN) • CROWN (CROWN)

PROJECT TITLE

THE STATION
1518-1524-1526 STITTSVILLE MAIN STREET

DRAWING TITLE

BUILDING ELEVATIONS

DESIGNED BY: MW
DRAWN BY: SC
START DATE: JULY 2020
SCALE: AS SHOWN
PROJECT NO. 1932

DRAWN BY:
A200

Appendix B

Road Traffic Data & Sample Calculations

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

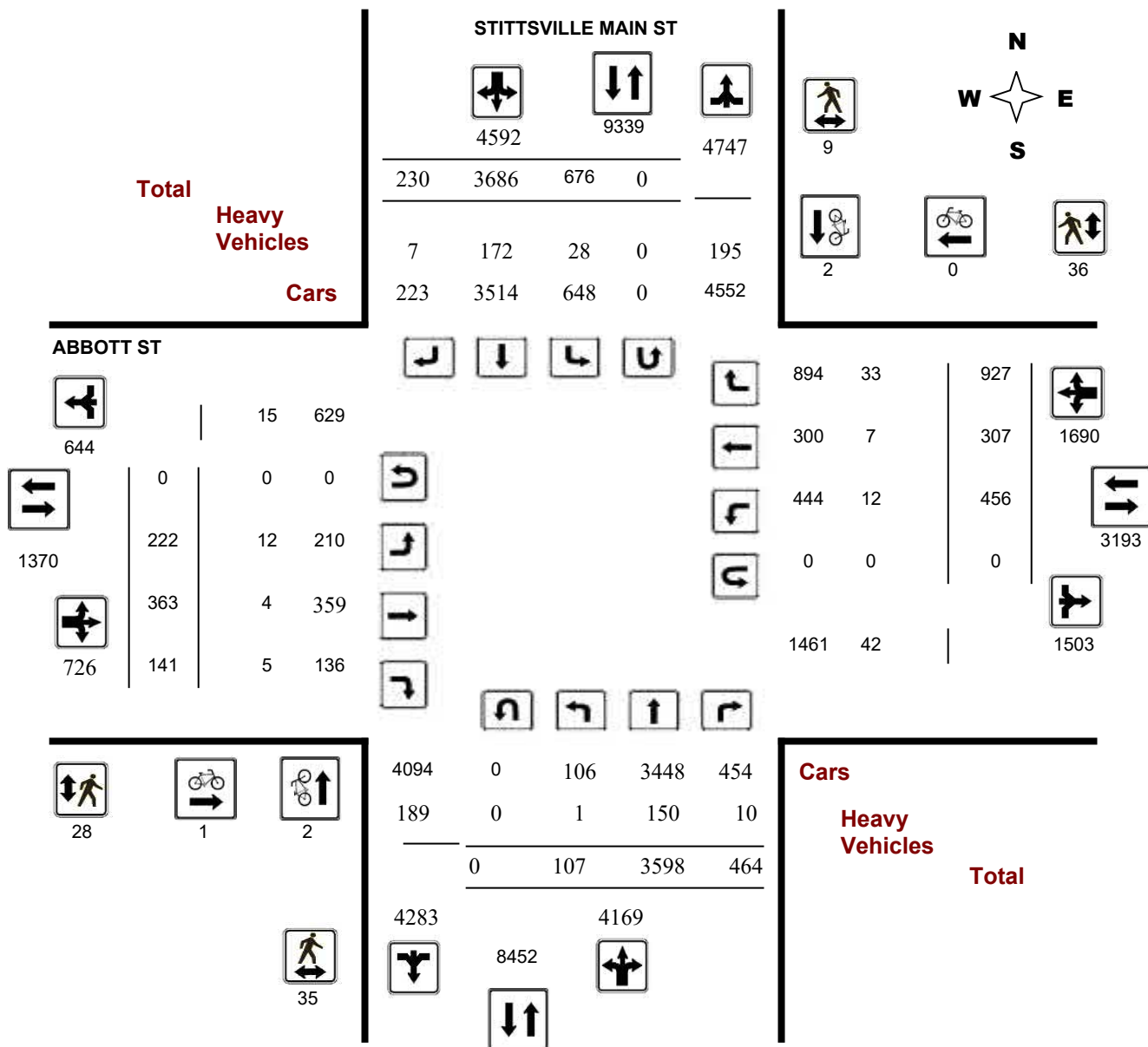
WO No:

38197

Device:

Miovision

Full Study Diagram



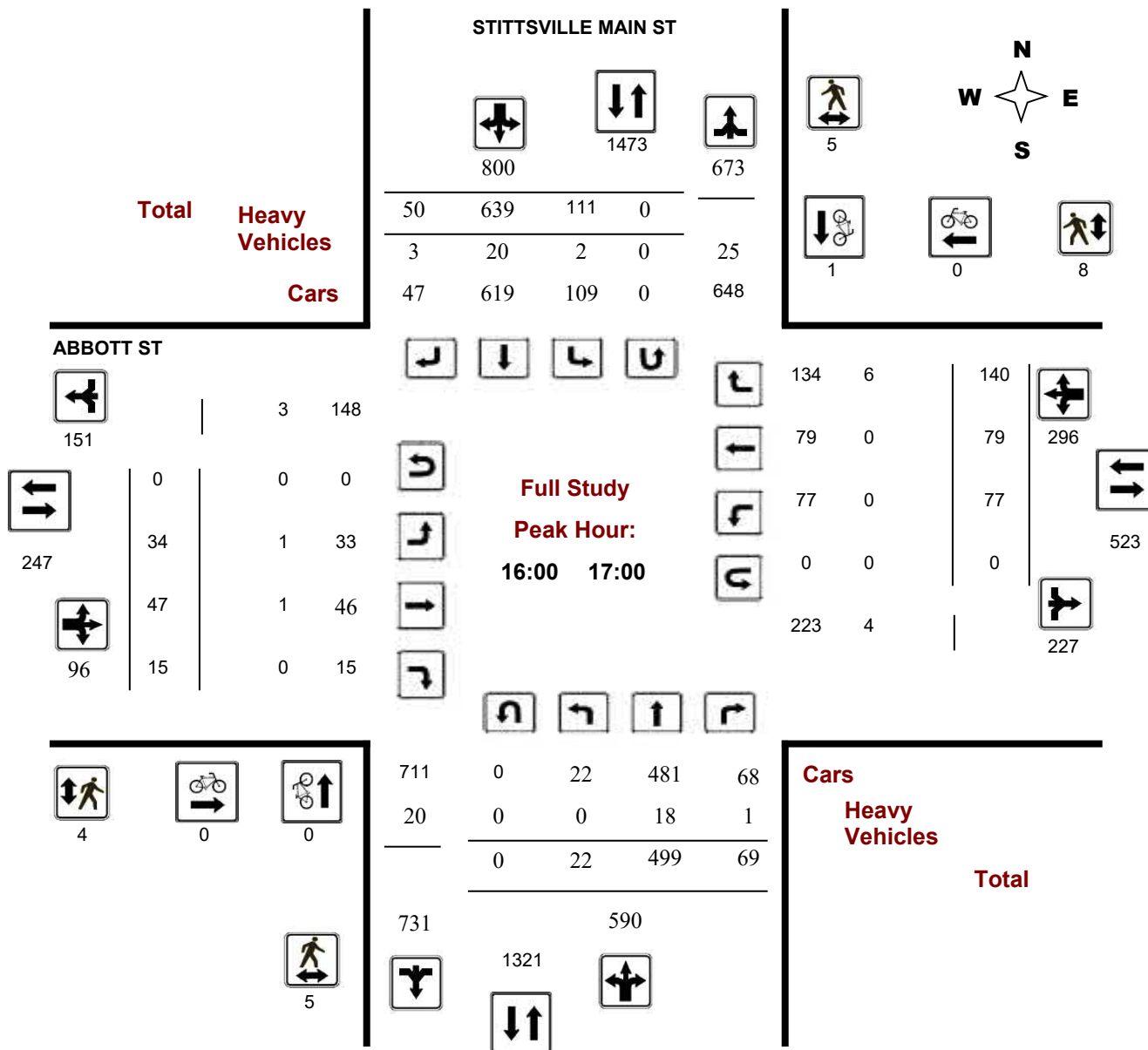
Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study Peak Hour Diagram



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

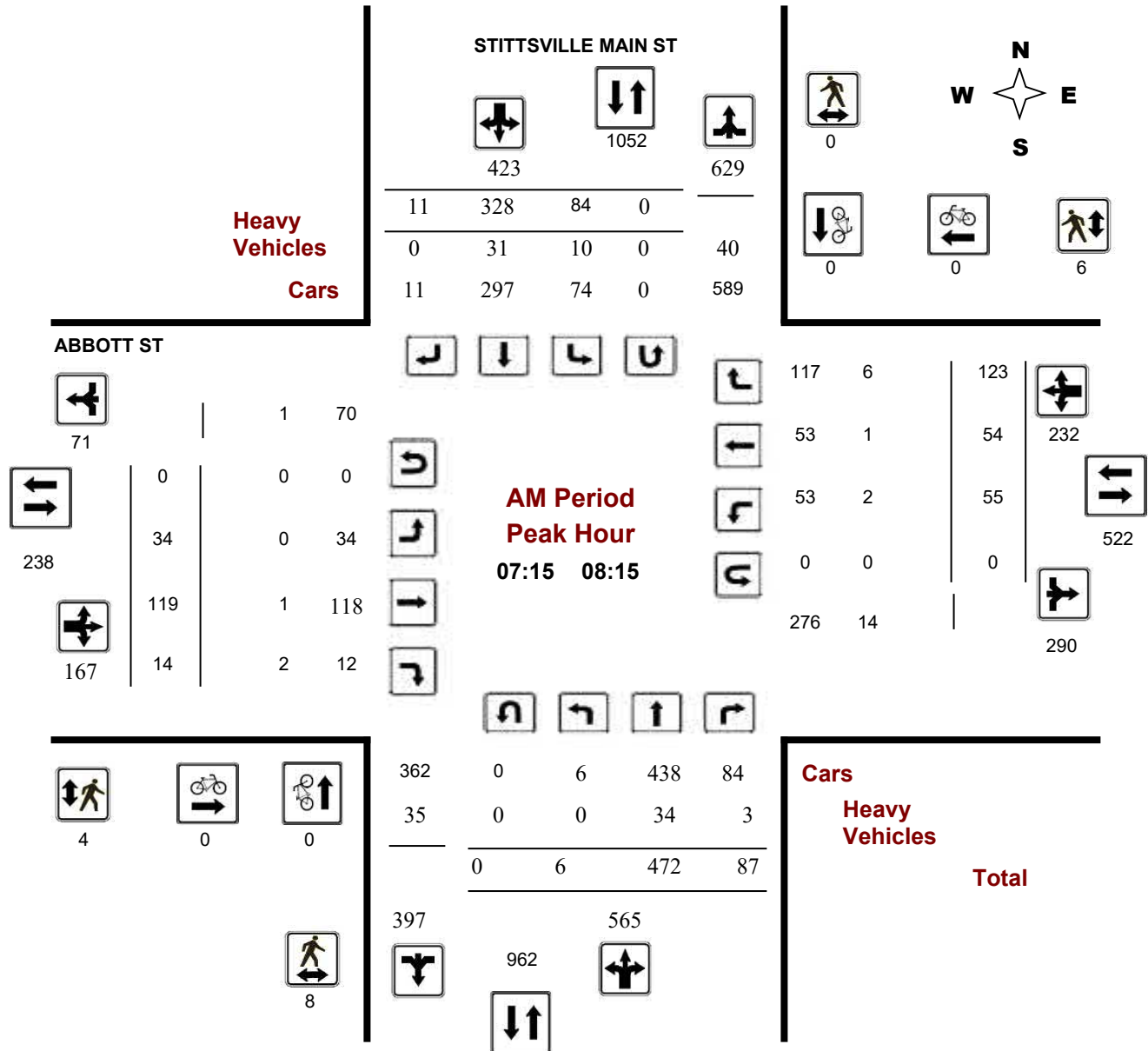
ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38197

Device: Miovision



Comments



Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

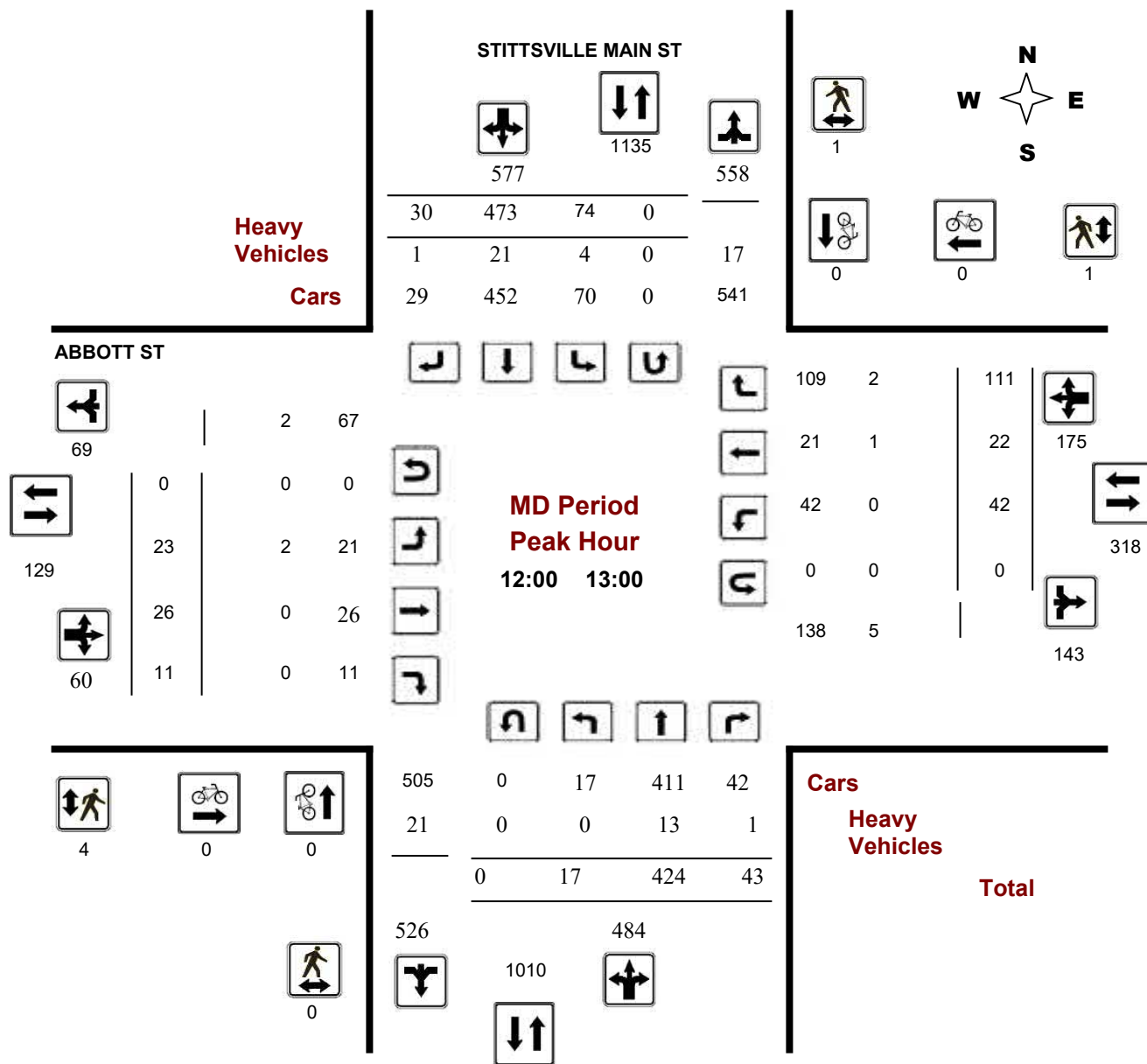
ABBOTT ST @ STITTSTVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38197

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Peak Hour Diagram

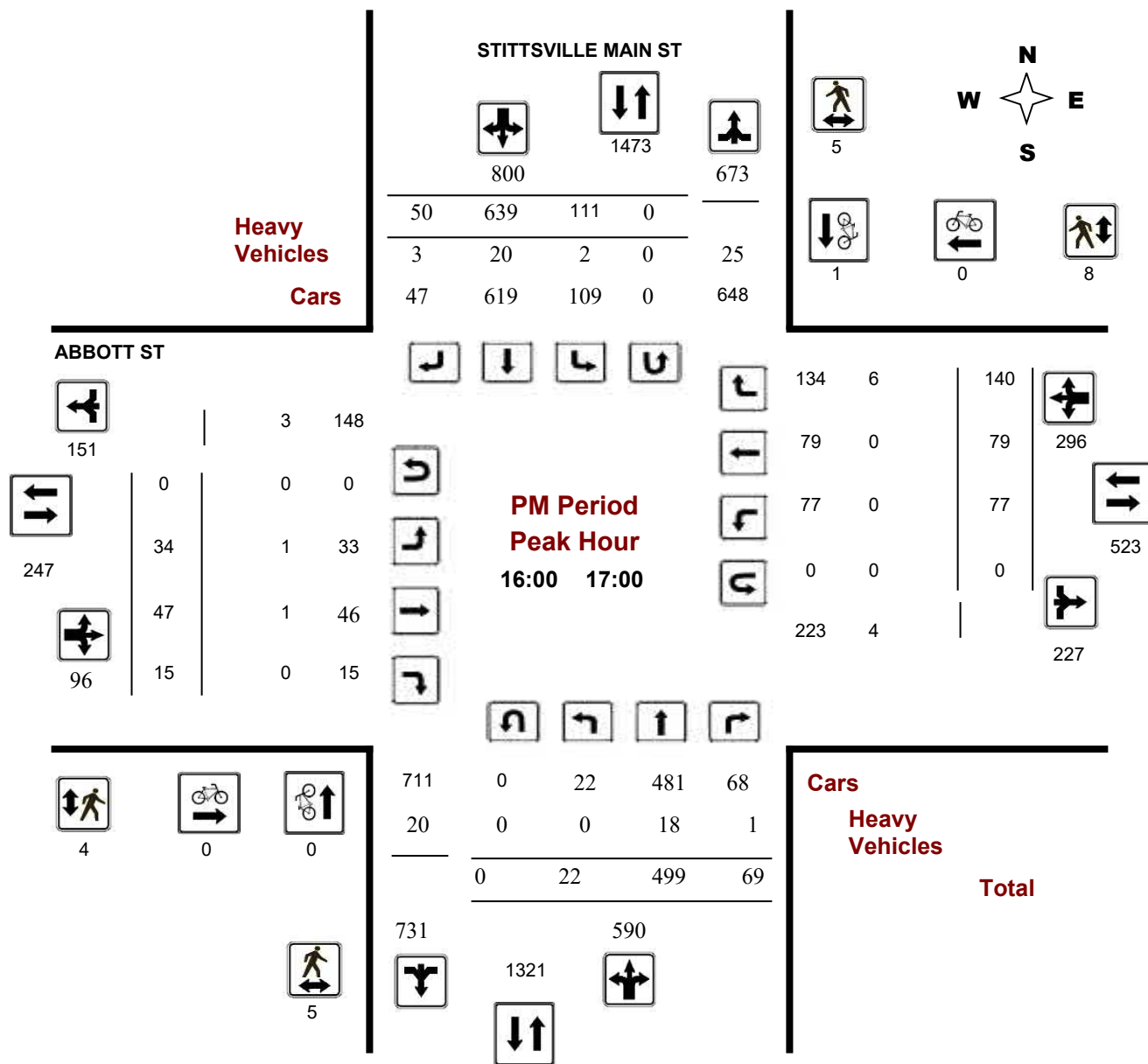
ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

Start Time: 07:00

WO No: 38197

Device: Miovision





Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study Summary (8 HR Standard)

Survey Date: Wednesday, December 05, 2018

Total Observed U-Turns

Northbound: 0 Southbound: 0
Eastbound: 0 Westbound: 0

AADT Factor

1.00

STITTSVILLE MAIN ST

ABBOTT ST

		Northbound				Southbound				Eastbound				Westbound						
Period		LT	ST	RT	NB TOT	LT	ST	RT	SB TOT	STR TOT	LT	ST	RT	EB TOT	LT	ST	RT	WB TOT	STR TOT	Grand Total
07:00	08:00	8	444	81	533	92	301	12	405	938	31	117	11	159	44	38	90	172	331	1269
08:00	09:00	9	485	53	547	54	326	13	393	940	41	53	25	119	60	32	134	226	345	1285
09:00	10:00	12	471	57	540	75	358	17	450	990	18	28	23	69	35	14	117	166	235	1225
11:30	12:30	8	442	42	492	81	447	26	554	1046	24	17	14	55	46	21	108	175	230	1276
12:30	13:30	20	394	47	461	83	459	41	583	1044	20	26	18	64	47	17	107	171	235	1279
15:00	16:00	15	422	63	500	76	551	27	654	1154	23	28	21	72	77	44	125	246	318	1472
16:00	17:00	22	499	69	590	111	639	50	800	1390	34	47	15	96	77	79	140	296	392	1782
17:00	18:00	13	441	52	506	104	605	44	753	1259	31	47	14	92	70	62	106	238	330	1589
Sub Total		107	3598	464	4169	676	3686	230	4592	8761	222	363	141	726	456	307	927	1690	2416	11177
U Turns		0				0				0	0				0				0	0
Total		107	3598	464	4169	676	3686	230	4592	8761	222	363	141	726	456	307	927	1690	2416	11177
EQ 12Hr		149	5001	645	5795	940	5124	320	6383	12178	309	505	196	1009	634	427	1289	2349	3358	15536
Note: These values are calculated by multiplying the totals by the appropriate expansion factor.														1.39						
AVG 12Hr		140	4713	608	5461	886	4829	301	6016	12178	291	476	185	951	597	402	1214	2214	3358	15536
Note: These volumes are calculated by multiplying the Equivalent 12 hr. totals by the AADT factor.														1						
AVG 24Hr		184	6175	796	7154	1160	6326	395	7880	15034	381	623	242	1246	783	527	1591	2900	4146	19180

Note: These volumes are calculated by multiplying the Average Daily 12 hr. totals by 12 to 24 expansion factor.

1.31

Note: U-Turns provided for approach totals. Refer to 'U-Turn' Report for specific breakdown.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No:

38197

Start Time: 07:00

Device:

Miovision

Full Study 15 Minute Increments

STITTSVILLE MAIN ST

ABBOTT ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	2	92	11	105	19	59	3	81	16	9	11	2	22	7	4	18	29	16	237
07:15 07:30	2	115	17	134	22	77	3	102	20	10	25	3	38	9	5	15	29	20	303
07:30 07:45	3	130	29	162	28	88	1	117	27	9	45	4	58	7	9	23	39	27	376
07:45 08:00	1	107	24	132	23	77	5	105	19	3	36	2	41	21	20	34	75	19	353
08:00 08:15	0	120	17	137	11	86	2	99	12	12	13	5	30	18	20	51	89	12	355
08:15 08:30	3	113	12	128	8	79	3	90	8	5	6	4	15	12	6	18	36	8	269
08:30 08:45	5	127	12	144	18	81	7	106	8	7	20	9	36	12	1	28	41	8	327
08:45 09:00	1	125	12	138	17	80	1	98	8	17	14	7	38	18	5	37	60	8	334
09:00 09:15	6	137	27	170	22	97	3	122	17	9	7	4	20	7	7	41	55	17	367
09:15 09:30	2	114	11	127	26	100	5	131	14	1	8	9	18	8	2	26	36	14	312
09:30 09:45	0	123	11	134	13	82	2	97	8	2	9	6	17	5	4	31	40	8	288
09:45 10:00	4	97	8	109	14	79	7	100	8	6	4	4	14	15	1	19	35	8	258
11:30 11:45	1	119	15	135	24	102	8	134	5	5	1	7	13	10	4	27	41	5	323
11:45 12:00	2	97	9	108	18	112	6	136	16	7	7	2	16	15	4	36	55	16	315
12:00 12:15	2	112	9	123	18	124	7	149	10	7	3	1	11	9	6	23	38	10	321
12:15 12:30	3	114	9	126	21	109	5	135	11	5	6	4	15	12	7	22	41	11	317
12:30 12:45	6	85	12	103	19	112	10	141	7	5	8	3	16	8	4	34	46	7	306
12:45 13:00	6	113	13	132	16	128	8	152	12	6	9	3	18	13	5	32	50	12	352
13:00 13:15	3	99	11	113	24	112	9	145	10	5	4	6	15	12	5	18	35	10	308
13:15 13:30	5	97	11	113	24	107	14	145	15	4	5	6	15	14	3	23	40	15	313
15:00 15:15	4	115	17	136	17	132	5	154	7	5	6	3	14	17	9	26	52	7	356
15:15 15:30	6	98	18	122	19	124	6	149	14	6	5	7	18	19	6	36	61	14	350
15:30 15:45	2	106	14	122	17	152	10	179	15	5	5	8	18	21	13	22	56	15	375
15:45 16:00	3	103	14	120	23	143	6	172	14	7	12	3	22	20	16	41	77	14	391
16:00 16:15	4	119	14	137	26	182	9	217	11	10	14	3	27	23	20	27	70	11	451
16:15 16:30	11	125	13	149	33	152	15	200	11	7	9	4	20	15	20	40	75	11	444
16:30 16:45	3	128	28	159	28	154	11	193	13	6	14	5	25	16	17	35	68	13	445
16:45 17:00	4	127	14	145	24	151	15	190	9	11	10	3	24	23	22	38	83	9	442
17:00 17:15	6	113	18	137	24	172	13	209	8	12	10	3	25	17	22	21	60	8	431
17:15 17:30	2	100	12	114	23	140	13	176	5	9	13	3	25	11	14	25	50	5	365
17:30 17:45	2	116	12	130	28	144	10	182	6	4	15	3	22	22	15	25	62	6	396
17:45 18:00	3	112	10	125	29	149	8	186	4	6	9	5	20	20	11	35	66	4	397
Total:	107	3598	464	4169	676	3686	230	4592	368	222	363	141	726	456	307	927	1690	368	11,177

Note: U-Turns are included in Totals.



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study Cyclist Volume

STITTSTVILLE MAIN ST

ABBOTT ST

Time Period	Northbound	Southbound	Street Total	Eastbound	Westbound	Street Total	Grand Total
07:00 07:15	1	0	1	1	0	1	2
07:15 07:30	0	0	0	0	0	0	0
07:30 07:45	0	0	0	0	0	0	0
07:45 08:00	0	0	0	0	0	0	0
08:00 08:15	0	0	0	0	0	0	0
08:15 08:30	0	0	0	0	0	0	0
08:30 08:45	0	0	0	0	0	0	0
08:45 09:00	0	0	0	0	0	0	0
09:00 09:15	0	0	0	0	0	0	0
09:15 09:30	0	1	1	0	0	0	1
09:30 09:45	0	0	0	0	0	0	0
09:45 10:00	0	0	0	0	0	0	0
11:30 11:45	0	0	0	0	0	0	0
11:45 12:00	0	0	0	0	0	0	0
12:00 12:15	0	0	0	0	0	0	0
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	0	0	0	0
12:45 13:00	0	0	0	0	0	0	0
13:00 13:15	0	0	0	0	0	0	0
13:15 13:30	0	0	0	0	0	0	0
15:00 15:15	1	0	1	0	0	0	1
15:15 15:30	0	0	0	0	0	0	0
15:30 15:45	0	0	0	0	0	0	0
15:45 16:00	0	0	0	0	0	0	0
16:00 16:15	0	1	1	0	0	0	1
16:15 16:30	0	0	0	0	0	0	0
16:30 16:45	0	0	0	0	0	0	0
16:45 17:00	0	0	0	0	0	0	0
17:00 17:15	0	0	0	0	0	0	0
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	0	0	0	0	0	0	0
17:45 18:00	0	0	0	0	0	0	0
Total	2	2	4	1	0	1	5



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study Pedestrian Volume

STITTSVILLE MAIN ST

ABBOTT ST

Time Period	NB Approach (E or W Crossing)	SB Approach (E or W Crossing)	Total	EB Approach (N or S Crossing)	WB Approach (N or S Crossing)	Total	Grand Total
07:00 07:15	0	0	0	0	0	0	0
07:15 07:30	1	0	1	2	3	5	6
07:30 07:45	4	0	4	1	0	1	5
07:45 08:00	2	0	2	0	1	1	3
08:00 08:15	1	0	1	1	2	3	4
08:15 08:30	1	0	1	2	0	2	3
08:30 08:45	2	0	2	1	1	2	4
08:45 09:00	1	0	1	0	1	1	2
09:00 09:15	1	0	1	1	1	2	3
09:15 09:30	1	0	1	1	2	3	4
09:30 09:45	1	0	1	1	2	3	4
09:45 10:00	1	0	1	0	0	0	1
11:30 11:45	0	0	0	0	1	1	1
11:45 12:00	2	1	3	0	1	1	4
12:00 12:15	0	0	0	3	0	3	3
12:15 12:30	0	0	0	0	0	0	0
12:30 12:45	0	0	0	1	0	1	1
12:45 13:00	0	1	1	0	1	1	2
13:00 13:15	2	0	2	2	0	2	4
13:15 13:30	1	0	1	1	0	1	2
15:00 15:15	1	2	3	1	1	2	5
15:15 15:30	3	0	3	0	3	3	6
15:30 15:45	2	0	2	3	2	5	7
15:45 16:00	1	0	1	3	2	5	6
16:00 16:15	2	4	6	1	2	3	9
16:15 16:30	0	0	0	1	4	5	5
16:30 16:45	2	0	2	1	0	1	3
16:45 17:00	1	1	2	1	2	3	5
17:00 17:15	2	0	2	0	1	1	3
17:15 17:30	0	0	0	0	0	0	0
17:30 17:45	0	0	0	0	2	2	2
17:45 18:00	0	0	0	0	1	1	1
Total	35	9	44	28	36	64	108



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study Heavy Vehicles

STITTSVILLE MAIN ST

ABBOTT ST

Northbound

Southbound

Eastbound

Westbound

Time Period	LT	ST	RT	N TOT	LT	ST	RT	S TOT	STR TOT	LT	ST	RT	E TOT	LT	ST	RT	W TOT	STR TOT	Grand Total
07:00 07:15	0	5	0	5	2	9	0	11	16	1	0	0	1	0	1	2	3	4	20
07:15 07:30	0	7	0	7	3	10	0	13	20	0	0	1	1	0	0	0	0	1	21
07:30 07:45	0	10	2	12	6	9	0	15	27	0	1	0	1	0	0	3	3	4	31
07:45 08:00	0	10	1	11	1	7	0	8	19	0	0	0	0	1	1	3	5	5	24
08:00 08:15	0	7	0	7	0	5	0	5	12	0	0	1	1	1	0	0	1	2	14
08:15 08:30	0	3	0	3	0	5	0	5	8	1	0	0	1	3	2	0	5	6	14
08:30 08:45	0	5	0	5	0	3	0	3	8	0	0	1	1	1	0	0	1	2	10
08:45 09:00	0	5	1	6	0	2	0	2	8	2	1	0	3	0	0	1	1	4	12
09:00 09:15	0	12	0	12	0	5	0	5	17	1	0	0	1	0	0	0	0	1	18
09:15 09:30	0	2	1	3	0	10	1	11	14	0	0	0	0	0	0	0	0	0	14
09:30 09:45	0	4	0	4	0	4	0	4	8	0	0	0	0	0	0	1	1	1	9
09:45 10:00	0	4	0	4	0	4	0	4	8	0	0	0	0	0	0	0	0	0	8
11:30 11:45	0	3	0	3	0	2	0	2	5	0	0	0	0	1	0	2	3	3	8
11:45 12:00	0	9	0	9	0	6	1	7	16	1	1	1	3	0	0	3	3	6	22
12:00 12:15	0	2	0	2	3	5	0	8	10	0	0	0	0	0	0	0	0	0	10
12:15 12:30	0	5	0	5	0	6	0	6	11	2	0	0	2	0	0	1	1	3	14
12:30 12:45	0	2	1	3	1	3	0	4	7	0	0	0	0	0	0	0	0	0	7
12:45 13:00	0	4	0	4	0	7	1	8	12	0	0	0	0	0	1	1	2	2	14
13:00 13:15	1	3	0	4	3	3	0	6	10	0	0	0	0	2	0	2	4	4	14
13:15 13:30	0	5	0	5	3	6	1	10	15	0	0	0	0	1	0	1	2	2	17
15:00 15:15	0	4	1	5	0	2	0	2	7	0	0	1	1	0	0	1	1	2	9
15:15 15:30	0	7	1	8	1	5	0	6	14	1	0	0	1	0	0	1	1	2	16
15:30 15:45	0	5	0	5	2	8	0	10	15	0	0	0	0	1	0	0	1	1	16
15:45 16:00	0	5	1	6	1	7	0	8	14	1	0	0	1	1	1	4	6	7	21
16:00 16:15	0	3	0	3	2	4	2	8	11	1	1	0	2	0	0	2	2	4	15
16:15 16:30	0	7	1	8	0	2	1	3	11	0	0	0	0	0	0	2	2	2	13
16:30 16:45	0	5	0	5	0	8	0	8	13	0	0	0	0	0	0	0	0	0	13
16:45 17:00	0	3	0	3	0	6	0	6	9	0	0	0	0	0	0	2	2	2	11
17:00 17:15	0	2	0	2	0	6	0	6	8	1	0	0	1	0	1	0	1	2	10
17:15 17:30	0	1	0	1	0	4	0	4	5	0	0	0	0	0	0	0	0	0	5
17:30 17:45	0	0	0	0	0	6	0	6	6	0	0	0	0	0	0	1	1	1	7
17:45 18:00	0	1	0	1	0	3	0	3	4	0	0	0	0	0	0	0	0	0	4
Total: None	1	150	10	161	28	172	7	207	368	12	4	5	21	12	7	33	52	73	441



Transportation Services - Traffic Services

Turning Movement Count - Study Results

ABBOTT ST @ STITTSVILLE MAIN ST

Survey Date: Wednesday, December 05, 2018

WO No: 38197

Start Time: 07:00

Device: Miovision

Full Study 15 Minute U-Turn Total

STITTSVILLE MAIN ST

ABBOTT ST

Time Period		Northbound U-Turn Total	Southbound U-Turn Total	Eastbound U-Turn Total	Westbound U-Turn Total	Total
07:00	07:15	0	0	0	0	0
07:15	07:30	0	0	0	0	0
07:30	07:45	0	0	0	0	0
07:45	08:00	0	0	0	0	0
08:00	08:15	0	0	0	0	0
08:15	08:30	0	0	0	0	0
08:30	08:45	0	0	0	0	0
08:45	09:00	0	0	0	0	0
09:00	09:15	0	0	0	0	0
09:15	09:30	0	0	0	0	0
09:30	09:45	0	0	0	0	0
09:45	10:00	0	0	0	0	0
11:30	11:45	0	0	0	0	0
11:45	12:00	0	0	0	0	0
12:00	12:15	0	0	0	0	0
12:15	12:30	0	0	0	0	0
12:30	12:45	0	0	0	0	0
12:45	13:00	0	0	0	0	0
13:00	13:15	0	0	0	0	0
13:15	13:30	0	0	0	0	0
15:00	15:15	0	0	0	0	0
15:15	15:30	0	0	0	0	0
15:30	15:45	0	0	0	0	0
15:45	16:00	0	0	0	0	0
16:00	16:15	0	0	0	0	0
16:15	16:30	0	0	0	0	0
16:30	16:45	0	0	0	0	0
16:45	17:00	0	0	0	0	0
17:00	17:15	0	0	0	0	0
17:15	17:30	0	0	0	0	0
17:30	17:45	0	0	0	0	0
17:45	18:00	0	0	0	0	0
Total		0	0	0	0	0

STAMSON 5.0 NORMAL REPORT Date: 09-10-2020 11:10:18
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: R_Nth.te Time Period: Day/Night 16/8 hours
 Description: C01 - Northwest facade receptor

Road data, segment # 1: Main St Nth (day/night)

```
-----
Car traffic volume : 17857/1984 veh/TimePeriod *
Medium truck volume : 321/36 veh/TimePeriod *
Heavy truck volume : 481/53 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): 16027
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.72
Heavy Truck % of Total Volume : 2.58
Day (16 hrs) % of Total Volume : 90.00
```

Data for Segment # 1: Main St Nth (day/night)

```
-----
Angle1 Angle2 : -90.00 deg -60.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00
```

Road data, segment # 2: Main St Sth (day/night)

```
-----
Car traffic volume : 16188/1799 veh/TimePeriod *
Medium truck volume : 280/31 veh/TimePeriod *
Heavy truck volume : 419/47 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): 14505
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.66
Heavy Truck % of Total Volume : 2.48
Day (16 hrs) % of Total Volume : 90.00
```

Data for Segment # 2: Main St Sth (day/night)

```

-----
Angle1   Angle2       : -60.00 deg   0.00 deg
Wood depth      :      0           (No woods.)
No of house rows :      0 / 0
Surface         :      2           (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height  : 10.50 / 10.50 m
Topography      :      1           (Flat/gentle slope; no barrier)
Reference angle  :      0.00
  
```

Results segment # 1: Main St Nth (day)

Source height = 1.27 m

ROAD (0.00 + 55.23 + 0.00) = 55.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.00	67.28	0.00	-4.26	-7.78	0.00	0.00	0.00	55.23

Segment Leq : 55.23 dBA

Results segment # 2: Main St Sth (day)

Source height = 1.26 m

ROAD (0.00 + 57.71 + 0.00) = 57.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	0	0.00	66.74	0.00	-4.26	-4.77	0.00	0.00	0.00	57.71

Segment Leq : 57.71 dBA

Total Leq All Segments: 59.65 dBA

Results segment # 1: Main St Nth (night)

Source height = 1.26 m

ROAD (0.00 + 48.69 + 0.00) = 48.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.00	60.73	0.00	-4.26	-7.78	0.00	0.00	0.00	48.69

Segment Leq : 48.69 dBA

Results segment # 2: Main St Sth (night)

Source height = 1.26 m

ROAD (0.00 + 51.20 + 0.00) = 51.20 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	0	0.00	60.23	0.00	-4.26	-4.77	0.00	0.00	0.00	51.20

Segment Leq : 51.20 dBA

Total Leq All Segments: 53.13 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.65

(NIGHT): 53.13

STAMSON 5.0 NORMAL REPORT Date: 11-10-2020 18:33:43
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r_east.te Time Period: Day/Night 16/8 hours
Description: C02 - Northeast facade receptor

Road data, segment # 1: Main St Nth (day/night)

Car traffic volume : 17857/1984 veh/TimePeriod *
Medium truck volume : 321/36 veh/TimePeriod *
Heavy truck volume : 481/53 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): 16027
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.72
Heavy Truck % of Total Volume : 2.58
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Main St Nth (day/night)

Angle1 Angle2 : -90.00 deg -60.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height : 10.50 / 10.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Main St Sth (day/night)

Car traffic volume : 16188/1799 veh/TimePeriod *
Medium truck volume : 280/31 veh/TimePeriod *
Heavy truck volume : 419/47 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): 14505
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.66
Heavy Truck % of Total Volume : 2.48
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Main St Sth (day/night)

```

-----
Angle1   Angle2           : -60.00 deg    90.00 deg
Wood depth      :          0          (No woods.)
No of house rows :          0 / 0
Surface         :          2          (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height  : 10.50 / 10.50 m
Topography      :          1          (Flat/gentle slope; no barrier)
Reference angle  :          0.00
  
```

Results segment # 1: Main St Nth (day)

Source height = 1.27 m

ROAD (0.00 + 55.23 + 0.00) = 55.23 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.00	67.28	0.00	-4.26	-7.78	0.00	0.00	0.00	55.23

Segment Leq : 55.23 dBA

Results segment # 2: Main St Sth (day)

Source height = 1.26 m

ROAD (0.00 + 61.69 + 0.00) = 61.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	90	0.00	66.74	0.00	-4.26	-0.79	0.00	0.00	0.00	61.69

Segment Leq : 61.69 dBA

Total Leq All Segments: 62.57 dBA

Results segment # 1: Main St Nth (night)

Source height = 1.26 m

ROAD (0.00 + 48.69 + 0.00) = 48.69 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-60	0.00	60.73	0.00	-4.26	-7.78	0.00	0.00	0.00	48.69

Segment Leq : 48.69 dBA

Results segment # 2: Main St Sth (night)

Source height = 1.26 m

ROAD (0.00 + 55.18 + 0.00) = 55.18 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-60	90	0.00	60.23	0.00	-4.26	-0.79	0.00	0.00	0.00	55.18

Segment Leq : 55.18 dBA

Total Leq All Segments: 56.06 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 62.57
(NIGHT): 56.06

STAMSON 5.0 NORMAL REPORT Date: 09-10-2020 11:50:32
 MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: r_sth.te Time Period: Day/Night 16/8 hours
 Description: C03 - Southeast facade receptor

Road data, segment # 1: Main St Sth (day/night)

```
-----
Car traffic volume   : 16188/1799   veh/TimePeriod  *
Medium truck volume :   280/31     veh/TimePeriod  *
Heavy truck volume  :   419/47     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): 14505
Percentage of Annual Growth       :   2.00
Number of Years of Growth         :  13.00
Medium Truck % of Total Volume    :   1.66
Heavy Truck % of Total Volume     :   2.48
Day (16 hrs) % of Total Volume    :  90.00
```

Data for Segment # 1: Main St Sth (day/night)

```
-----
Angle1  Angle2      :   0.00 deg   90.00 deg
Wood depth          :     0         (No woods.)
No of house rows    :     0 / 0
Surface             :     2         (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height     :  10.50 / 10.50 m
Topography          :     1         (Flat/gentle slope; no barrier)
Reference angle     :     0.00
```

Results segment # 1: Main St Sth (day)

Source height = 1.26 m

ROAD (0.00 + 59.47 + 0.00) = 59.47 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
0	90	0.00	66.74	0.00	-4.26	-3.01	0.00	0.00	0.00	59.47

Segment Leq : 59.47 dBA

Total Leq All Segments: 59.47 dBA

Results segment # 1: Main St Sth (night)

Source height = 1.26 m

ROAD (0.00 + 52.96 + 0.00) = 52.96 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
--------	--------	-------	--------	-------	-------	-------	-------	-------	-------	--------

0	90	0.00	60.23	0.00	-4.26	-3.01	0.00	0.00	0.00	52.96
---	----	------	-------	------	-------	-------	------	------	------	-------

Segment Leq : 52.96 dBA

Total Leq All Segments: 52.96 dBA

TOTAL Leq FROM ALL SOURCES (DAY): 59.47

(NIGHT): 52.96

STAMSON 5.0 NORMAL REPORT Date: 09-10-2020 14:48:05
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: OLA.te Time Period: Day/Night 16/8 hours
Description: OLA1 - OLA receptor

Road data, segment # 1: Main St Nth (day/night)

Car traffic volume : 17857/1984 veh/TimePeriod *
Medium truck volume : 321/36 veh/TimePeriod *
Heavy truck volume : 481/53 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): 16027
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.72
Heavy Truck % of Total Volume : 2.58
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 1: Main St Nth (day/night)

Angle1 Angle2 : -90.00 deg -55.00 deg
Wood depth : 0 (No woods.)
No of house rows : 0 / 0
Surface : 2 (Reflective ground surface)
Receiver source distance : 45.00 / 45.00 m
Receiver height : 1.50 / 1.50 m
Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Main St Sth (day/night)

Car traffic volume : 16188/1799 veh/TimePeriod *
Medium truck volume : 280/31 veh/TimePeriod *
Heavy truck volume : 419/47 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): 14505
Percentage of Annual Growth : 2.00
Number of Years of Growth : 13.00
Medium Truck % of Total Volume : 1.66
Heavy Truck % of Total Volume : 2.48
Day (16 hrs) % of Total Volume : 90.00

Data for Segment # 2: Main St Sth (day/night)

```

-----
Angle1   Angle2           : -55.00 deg    5.00 deg
Wood depth      :          0          (No woods.)
No of house rows :          0 / 0
Surface         :          2          (Reflective ground surface)
Receiver source distance : 40.00 / 40.00 m
Receiver height  :  1.50 / 1.50 m
Topography      :          1          (Flat/gentle slope; no barrier)
Reference angle  :          0.00
  
```

Results segment # 1: Main St Nth (day)

Source height = 1.27 m

ROAD (0.00 + 55.39 + 0.00) = 55.39 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-90	-55	0.00	67.28	0.00	-4.77	-7.11	0.00	0.00	0.00	55.39

Segment Leq : 55.39 dBA

Results segment # 2: Main St Sth (day)

Source height = 1.26 m

ROAD (0.00 + 57.71 + 0.00) = 57.71 dBA

Angle1	Angle2	Alpha	RefLeq	P.Adj	D.Adj	F.Adj	W.Adj	H.Adj	B.Adj	SubLeq
-55	5	0.00	66.74	0.00	-4.26	-4.77	0.00	0.00	0.00	57.71

Segment Leq : 57.71 dBA

Total Leq All Segments: 59.71 dBA

End of Report
