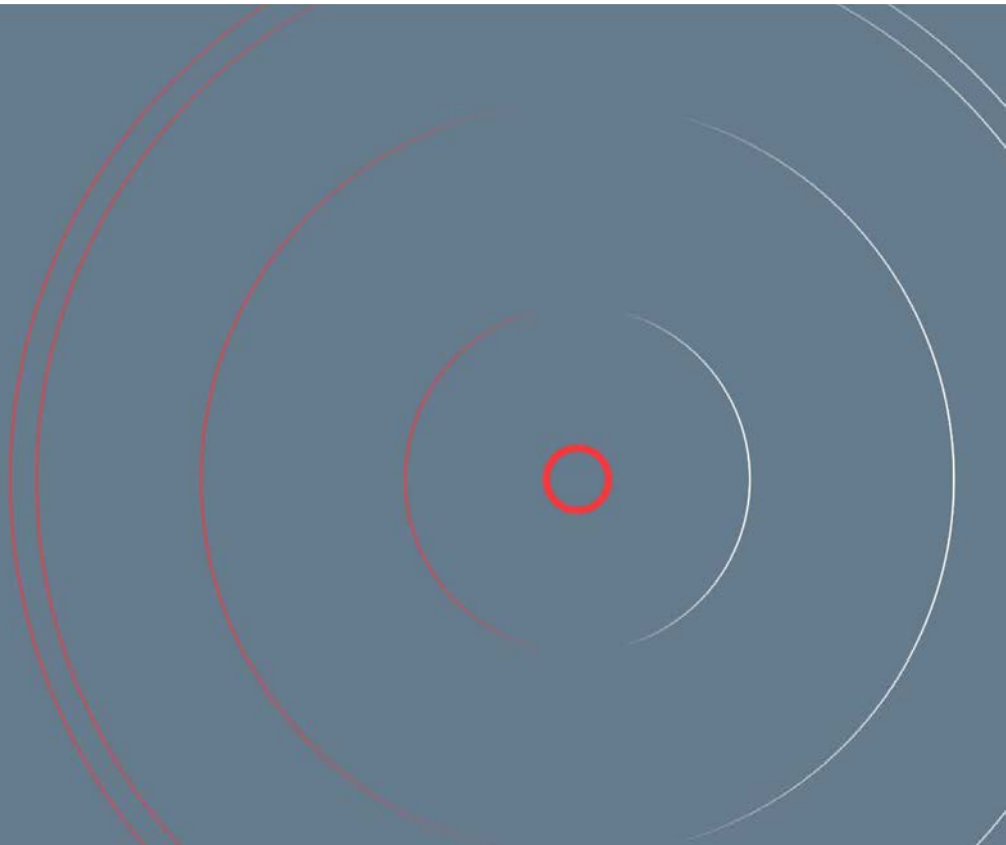
COUNTERPOINT LAND DEVELOPMENT BY | DILLON CONSULTING

LRU Leasing Inc.

NOISE IMPACT STUDY

0 Mercer Street, Windsor, Ontario

June 2025 – 24-8715



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1.0 INTRODUCTION

1.1 PURPOSE AND OBJECTIVES

Dillon Consulting Limited (Dillon) was retained by LRU Leasing Inc. (LRU) to complete a Noise Study for the Proposed Development located at 0 Mercer Street in Windsor, Ontario (Proposed Development). This study has been completed in support of an Official Plan Amendment (OPA) and Zoning By-Law Amendment (ZBA) application for the Proposed Development.

The noise assessment presented herein was prepared in accordance with the guidelines and requirements of the City of Windsor's By-law 6716, the Ontario Ministry of Environment, Conservation and Parks (MECP) noise publication NPC-300, and MECP's land-use compatibility guidelines (D-series). This assessment focuses on the noise impacts from nearby surface transportation sources and stationary sources (i.e., nearby industrial operations) on the Proposed Development.

1.2 THE PROJECT AND SURROUNDING AREAS

The Proposed Development is located on a vacant lot at 0 Mercer Street. The lands occupied by the lot are currently zoned as Manufacturing District (MD2.1), per the City of Windsor's Zoning Bylaw 8600. The development will consist of:

- Building 'A', a two-storey group home; and
- Building 'B', a five-storey residential building.

Per the City of Windsor's Zoning Bylaw, the area surrounding the Proposed Development includes:

- Manufacturing Districts (MD1.2, MD2.1) to the north;
- Residential (RD2.1), Commercial (CD3.3), and Manufacturing (1.2) Districts to the east;
- Residential (RD2.1) and Commercial (CD2.1) Districts to the south; and
- Commercial Districts (CD2.1) to the west.

The subject site and surrounding areas are shown on **Figure 1** and **Figure 2**. The conceptual development plan for the site and a copy of the City of Windsor's interactive zoning map of the surrounding area are provided in **Appendix A.**

2.0 TRANSPORTATION NOISE

The transportation sources of noise with the potential to impact the Proposed Development include road traffic along Tecumseh Road East and Howard Avenue. Road noise impacts were predicted and compared against the applicable criteria in the Ontario Ministry of Environment, Conservation and Parks (MECP) noise guideline publication, *NPC 300 – Environmental Noise Guideline – Stationary and Transportation Sources – Approvals and Planning* (2013). NPC-300 outlines noise level criteria for sensitive land uses, which assist in determining requirements for façade construction, ventilation requirements, warning clauses, and potential noise barriers for the Proposed Development.

2.1 NOISE CRITERIA

The applicable transportation noise criteria, as outlined in Part C of NPC-300, are presented in **Table 1** through **Table 4**. **Table 1** summarizes the indoor sound level limits from road noise based on the type of indoor space assessed and time of day. The indoor noise levels are based on the assumption of closed windows and doors.

Table 1: Indoor Sound Level Limits for Road Noise

TYPE OF SPACE	TIME PERIOD	EQUIVALENT SOUND LEVEL - L_{EQ} ROAD
General offices, reception areas, retail stores, etc.	Daytime (07:00 - 23:00)	50 dBA
Living/dining areas of residences, hospitals, nursing homes, schools, daycares, etc.	Daytime (07:00 - 23:00)	45 dBA
Living/dining areas of residences, hospitals, nursing homes, etc. (except schools and daycares)	Night-time (23:00 - 07:00)	45 dBA
Sleeping quarters of residences	Daytime (07:00 - 23:00)	45 dBA
	Night-time (23:00 - 07:00)	40 dBA
Sleeping quarters of hotels	Night-time (23:00 - 07:00)	45 dBA

Table 2 outlines the maximum equivalent plane-of-window sound levels for road noise where if exceeded, a detailed building component design assessment is required to ensure the indoor sound level limits (see **Table 1**) are achieved.

Table 2: Requirements for Building Component Assessment

ASSESSMENT LOCATION	TIME PERIOD	EQUIVALENT SOUND LEVEL - L_{EQ} ROAD
Plane of window for living area or sleeping quarters	Daytime (07:00 - 23:00)	65 dBA
	Night-time (23:00 - 07:00)	60 dBA

Table 3 summarizes potential noise warning clauses and ventilation requirements that should be used to warn of potential annoyance due to existing surface transportation noise sources.

Table 3: Ventilation and Warning Clause Requirements for Combined Road and Rail Noise

ASSESSMENT LOCATION	TIME PERIOD	EQUIVALENT SOUND LEVEL - L_{EQ} ROAD/RAIL	VENTILATION AND WARNING CLAUSE REQUIREMENTS [1]
Plane of window for living area or sleeping quarters	Daytime (07:00 - 23:00)	≤ 55 dBA	No Requirement
		> 55 dBA and ≤ 65 dBA	Provision for the installation of central air conditioning with a Type C warning clause
		> 65 dBA	Installation of central air conditioning with a Type D warning clause
Plane of window for living area or sleeping quarters	Nighttime (23:00 - 7:00)	≤ 50 dBA	No Requirement
		> 50 dBA and ≤ 60 dBA	Provision for the installation of central air conditioning with a Type C warning clause
		> 60 dBA	Installation of central air conditioning with a Type D warning clause

Note: [1] Warning clause types and requirements are provided in ***Appendix B***

The applicable noise criteria for Outdoor Living Areas (OLAs) specific to surface transportation are presented in Table 4. If the 16-Hour Equivalent Sound Level (Leq 16hr) at an OLA is greater than 55 dBA and less than or equal to 60 dBA, noise control measures may be applied to reduce the sound level to 55 dBA. Otherwise, prospective purchasers or tenants should be informed of potential elevated noise levels by way of a 'Type A' warning clause. For a Leq 16h of greater than 60 dBA, noise mitigation measures are required to reduce the noise levels to 55 dBA or less.

Table 4: OLA Level Limits for Combined Road and Rail Noise

ASSESSMENT LOCATION	EQUIVALENT SOUND LEVEL - L_{EQ} 16HR[1] ROAD/RAIL	NOISE CONTROL MEASURES AND WARNING CLAUSE REQUIREMENTS[2]
Outdoor Living Area	≤ 55 dBA	No requirement
	> 55 dBA and ≤ 60 dBA	Installation of noise control measure OR a Type A warning clause
	> 60 dBA	Installation of noise control measure with a Type B warning clause

Notes: [1] Daytime only (07:00 - 23:00)
*[2] Warning clause types and requirements are provided in **Appendix C***

2.2 TRANSPORTATION SOURCES

In assessing potential transportation noise impacts on the Proposed Development, Tecumseh Road East and Howard Avenue were analyzed as surface transportation sources. The Proposed Development is located north of Tecumseh Road East and west of Howard Avenue.

Traffic data from each road were collected in the form of turning movement counts provided by the City of Windsor. For each road, the maximum daily traffic volume was used to predict the future Average Annual Daily Traffic (AADT) count. A 90% and 10% split for daytime and nighttime traffic volumes, respectively, was used in the analysis. The future traffic volumes (for 2036) were determined assuming an annual compounded growth rate of 2%. The forecasted future (2036) road traffic data is presented in **Table 5**. All traffic data used in modelling road traffic noise is provided in **Appendix C**.

Table 5: Future (2036) Road Traffic Data

ROADWAY	2036 AADT	MEDIUM TRUCKS (%)	HEAVY TRUCKS (%)	SPEED (KM/H)
Tecumseh Road East	25,976	2.0	2.4	50
Howard Avenue	23,828	1.9	1.8	50

2.3 PREDICTED SOUND LEVEL

2.3.1 ROAD NOISE ASSESSMENT

The road noise impact assessment was conducted using the Transportation Noise Method (TNM) algorithm implemented through Cadna/A. The model's inputs are outlined in **Section 2.2**.

In order to confirm the modelling results of TNM protocol implemented through Cadna/A a comparative analysis was completed for road traffic noise modelling, in which the results from TNM in Cadna/A were compared against those of ORNAMENT implemented through STAMSON Version 5.04. This comparative analysis is discussed in **Section 2.4**.

2.3.2 SENSITIVE RECEPTOR LOCATIONS

Transportation noise impacts were assessed at the Buildings 'A' and 'B' using the Building Evaluation feature in Cadna/A, which calculates noise impacts at multiple locations along the building's façades. Outdoor areas intended for the quiet enjoyment of the outdoors were not identified in the Site Plan, and the buildings were assumed not to have balconies greater than 4 metres in depth. As such, Outdoor Living Areas (OLAs) were not assessed. Receptor identification is outlined on **Figure 1.**

2.3.3 TRANSPORTATION NOISE IMPACTS – PLANE OF WINDOW

Table 6 summarizes the predicted maximum building façade noise levels from road noise sources at the sensitive receptors within the Proposed Development.

Table 6: Road Noise Prediction Summary Table - Facade Impacts

BUILDING ID	FAÇADE	ROAD NOISE IMPACT - L_{EQ} (DBA)[1]	
		Daytime (07:00-23:00)	Nighttime (23:00-07:00)
Building 'A'	North Façade	48	41
	East Façade	51	44
	South Façade	49	43
	West Façade	48	42
Building 'B'	North Façade	53	46
	East Façade	**58**	**51**
	South Façade	**58**	**52**
	West Façade	54	48

Notes: [1] Predicted noise levels that exceed the applicable limits are presented in **bold**.

2.4 TNM MODEL CONFIRMATION

In order to demonstrate appropriate implementation of the TNM algorithm through Cadna/A, noise modelling results obtained through the TNM protocol were compared against traffic noise modelling using MECP's ORNAMENT implemented through STAMSON version 5.04. The comparison results are presented in **Table 7**.

Table 7: TNM Protocol in Cadna/A and ORNAMENT Comparison

ASSESSMENT LOCATION	TNM CADNA/A RESULT	ORNAMENT STAMSON RESULT	TNM CADNA/A MODELLING PARAMETERS	ORNAMENT STAMSON MODELLING PARAMETERS
Building 'B', Ground Floor, East Façade	51 dBA	51 dBA	Ground Absorption Coefficient = 0.3	Reflective Ground (GA = 0)

The results indicate that the predicted noise impacts obtained through TNM protocols in Cadna/A align with those from ORNAMENT. The protocol comparison site and results are shown on **Figure 3**. Calculations from the STAMSON modelling are attached in **Appendix D**.

2.5 NOISE CONTROL MEASURES

2.5.1 FAÇADE CONSTRUCTION RECOMMENDATIONS

Based on the predicted façade sound levels shown in **Table 6** and the applicable noise criteria outlined in **Table 2**, a detailed building component design analysis is not required for either building. The predicted façade sound levels at Buildings 'A' and 'B' are such that their indoor noise levels are predicted to comply with the applicable indoor noise level criteria (see **Table 1**).

2.5.2 VENTILATION REQUIREMENTS AND WARNING CLAUSES

Based on the predicted façade sound levels shown in **Table 6** and the threshold criteria outlined in Table 6, residences comprising the south and east façades of Building 'B' will require provisions for the installation of central air conditioning and a 'Type C' warning clause.

All warning clauses should be included in agreements that are registered on Title for all Offers of Purchase and Sale, lease/rental agreements, and condominium declarations. The list of applicable warning clauses required for the Proposed Development are provided in **Appendix B.**

3.0 STATIONARY NOISE ASSESSMENT

A review of the site and surrounding area has been conducted to identify potential stationary sources (i.e., industrial/commercial) that have the potential to impact the proposed sensitive use. A site visit was completed by Dillon staff on May 27th, 2025 for the purpose of classifying facilities in proximity to the Proposed Development, identifying potential sources of noise, and classifying the acoustic environment.

3.1 MECP GUIDELINE D-6 COMPATIBILITY BETWEEN INDUSTRIAL FACILITIES

The MECP's land-use compatibility guidelines (D-series) are intended to prevent or minimize the encroachment of sensitive land uses upon industrial/commercial land uses and vice versa, as these two types of land uses are normally incompatible, due to possible adverse effects (e.g., noise) on the sensitive land use. As per the guideline, potential noise impact from industrial or commercial establishments within the potential influence area or recommended minimum separation distance, as outlined in D-6 (see **Table 8**), should be assessed.

Table 8: Guideline D-6 Potential Influence Area and Recommended Minimum Separation Distance

INDUSTRIAL CLASSIFICATION [1]	AREA OF INFLUENCE	RECOMMENDED MINIMUM SEPARATION DISTANCE
Class I	70 m	20 m
Class II	300 m	70 m
Class III	1000 m	300 m

*Note: [1] Industrial classifications are outlined in Guideline D-6, and presented in **Appendix E**.*

3.2 FACILITIES

The land use planning guide, D-6 Compatibility between Industrial Facilities, was used for the classification of the surrounding industrial facilities and the applicable setback distances in relation to the proposed sensitive land use. The criteria for classification of industrial categories are presented in **Appendix E**.

The surrounding commercial and industrial properties that were identified with the potential to have noise impacts on the Proposed Development are summarized in **Table 9** and shown on **Figure 2**. Setback distances from the industry's property line to both the Proposed Development's property line and nearest sensitive point of reception (POR) are included.

Table 9: Facilities with Proximity to Proposed Development

FACILITY AND ADDRESS	SETBACK FROM PROPOSED DEVELOPMENT		INDUSTRIAL CLASSIFICATION	DESCRIPTION OF OPERATIONS/EQUIPMENT	ENVIRONMENTAL COMPLIANCE APPROVAL[2]
	Property Line	Nearest POR			
Donato Auto Collision Ltd. 435 Hanna St East	5 m[1]	25 m	II	Auto body and collision repair shop, one (1) paint spray booth (0-2 L/h) exhausting outdoors	R-001-8110379285
300 Tecumseh Rd East	22 m	28 m	I	Commercial plaza, rooftop HVAC units and air-cooled condensers	N/A
Ontario Truck Driving School 310 Hanna St East	30 m	40 m	I	Food product storage and logistics, diesel generators for peak period power generation	N/A
Belwood Poultry Ltd. / Windsor Freezer Services 1518 Mercer St[3]	64 m	71 m	II	Poultry processing plant, cold storage warehouse one (1) makeup air unit and two (2) cooling towers	N/A
Advanced Auto Services 1577 Howard Ave	80 m	97 m	II	Auto body and collision repair shop, one (1) paint spray booth exhausting outdoors	N/A

Notes: [1] Property is adjacent to Proposed Development
[2] "N/A": Environmental Permissions not available / were not identified
[3] Shared facility

Industries were classified based on site visit observations from publicly accessible areas, consultation with industry staff, review of existing MECP approvals documents, and through publicly available information.

The vacant lands at 1587 and 1573 McDougall Street, located northwest of the Proposed Development, are classified as a Manufacturing District (MD1.2) per the City of Windsor's Zoning By-law 8600. For the purposes of this assessment, an automobile collision shop with an ancillary automatic car wash was assessed as the worst-case allowable land use for this location.

The lands located at 1636 Howard Avenue are currently being developed for commercial space as the Howard Business Park. As these lands are located outside the D-6 Area of Influence for Class I facilities, and there are currently sensitive uses (residential) located in close proximity to the vacant lands, noise impacts at the Proposed Development are not anticipated.

The business located at 408 Hanna Street East appears to no longer be in operation. The use of these lands / building is unclear. In the event that an industrial or significant commercial use is intended for these lands, this assessment should be updated to consider the potential noise impacts at the Proposed Development.

3.3 STATIONARY NOISE CRITERIA AND AREA CLASSIFICATION

MECP Publication NPC-300 outlines applicable noise criteria for the Proposed Development associated with surrounding industrial and commercial stationary noise sources. The noise criteria are defined using area classifications (not to be confused with the D-6 industrial classifications), which are based on the receptor's existing acoustical environment. NPC-300 classification are as follows:

- Class 1 – Urban Area;
- Class 2 – Semi-Urban / Semi-Rural;
- Class 3 – Rural Area; and
- Class 4 – Areas of Redevelopment and Infill (typically in proximity of lawfully operating industrial / commercial facilities).

Different noise guideline limits for stationary noise sources apply to each area classification, as presented in **Table 10**.

Table 10: Exclusionary Limits for Stationary Sources

ASSESSMENT LOCATION	TIME PERIOD	EXCLUSIONARY SOUND LEVEL LIMIT – L_{EQ} 1HR			
		Class 1	Class 2	Class 3	Class 4
Plane of window for living area or sleeping quarters	Daytime (07:00 - 19:00)	50 dBA	50 dBA	45 dBA	60 dBA
	Evening (19:00 - 23:00)	50 dBA	50 dBA	40 dBA	60 dBA
	Nighttime (23:00 - 07:00)	45 dBA	45 dBA	40 dBA	55 dBA
Outdoor points of reception	Daytime (07:00 - 19:00)	50 dBA	50 dBA	45 dBA	55 dBA
	Evening (19:00 - 23:00)	50 dBA	45 dBA	40 dBA	55 dBA

During the site visit conducted on May 27th, 2025, it was observed that the acoustic environment surrounding the Proposed Development is dominated by transportation noise and general urban hum from nearby industries during the daytime. Based on the nature of the area, the Class 1 (urban) sound level limits would apply.

3.4 STATIONARY SOURCES

The noise sources associated with the industries identified in **Section 3.2** are outlined below in **Table 11**. Relevant noise source information was gathered from previous environmental approvals. The facilities' locations compared against the D-6 areas of influence (see **Table 9**) are presented on **Figure 2**.

Table 11: Stationary Noise Sources

FACILITY	NOISE SOURCE[1]	SOURCE TYPE
Donato Auto Collision	Paint Spray Exhaust	Point Source
	Pneumatic Tools	Point Source
300 Tecumseh Rd E	5-Ton HVAC Unit	Point Source
	10-ton HVAC Unit	Point Source
	Air-Cooled Condenser	Point Source
	Air Handling Unit Inlet	Point Source
	Air Handling Unit Discharge	Point Source
Ontario Truck Driving School	Truck Movements	Moving Point Source
	Idling Truck	Point Source
Belwood Poultry	Air Handling Unit	Point Source
	Cooling Tower	Point Source
	Truck Movements	Moving Point Source
Advanced Auto Services	Paint Spray Exhaust	Point Source
	Pneumatic Tools	Point Source
1587 Hanna Street East	Paint Spray Exhaust	Point Source
	Pneumatic Tools	Point Source

*Note: [1] Sound power levels of noise sources are provided in **Appendix F**.*

3.5 NOISE-SENSITIVE POINTS OF RECEPTION

As per the MECP noise guidelines NPC-300, a point of reception (POR), as it applies to impact assessments of stationary sources, means any location on a noise sensitive land use where noise from a stationary source is received. Noise sensitive land uses include the following lands:

- Permanent, seasonal, or rental residences;
- Hotels, motels, and campgrounds;
- Schools, universities, libraries, and daycare centres;
- Hospitals and clinics, nursing / retirement homes; and
- Places of worship.

POR identification followed the convention from the Transportation Noise Assessment outlined in **Section 2.3**. All buildings within the site plan were assessed as noise-sensitive receptors.

The most recent site plan for the Proposed Development is attached in **Appendix A**, while POR identifications are shown on **Figure 1**.

3.6 PREDICTED SOUND LEVELS – STATIONARY

Impacts from the stationary noise sources were predicted through noise propagation modelling. The predicted receptor noise levels (at the Proposed Development site) were compared against the applicable criteria, as specified in NPC-300 (see **Table 10**). No outdoor PORs were identified within the Proposed Development at the time of this assessment.

Potential noise impacts from the industrial lands identified in **Section 3.2** were assessed for compatibility with the applicable MECP noise guidelines. Assessment of potential noise impacts from stationary sources within the Proposed Development on itself and its surroundings are not included in this scope of work.

3.6.1 NOISE MODELLING METHODOLOGY

The noise analysis was completed using CADNA/A, an outdoor noise propagation model, based on ISO Standard 9613, Part 1: Calculation of the absorption of sound by the atmosphere, 1993 and Part 2: General method of calculation (ISO-9613-2:1996). The model is capable of incorporating various site-specific features, such as elevation, berms, absorptive grounds, and barriers to accurately predict noise levels at specific receptors, pertaining to noise emissions from a particular source / sources. The ISO based model accounts for reduction in sound level due to increased distance and geometrical spreading, air absorption, ground attenuation, and acoustical shielding by intervening structures and topography. The model is considered conservative as it represents atmospheric conditions that promote propagation of sound from the source to the receiver. For the purposes of the stationary assessment, the Building Evaluation feature in Cadna/A was used to determine building facades noise impacts (worst-case).

The stationary noise model incorporated the following assumptions:

- A global ground absorption coefficient of 0.3 was applied to reflect the mostly paved surroundings;
- A second-order reflection was assumed; and,
- The site and surrounding area were assumed to be generally flat.

3.6.2 PLANE-OF-WINDOW SOUND LEVELS

Table 12 summarizes the predicted building façade noise levels from stationary noise sources from the surrounding industries at the Proposed Development. The worst-case noise impacts for Buildings ‘A’ and ‘B’ are shown for each industrial facility assessed.

Table 12: Stationary Noise Impact Summary Table – Surrounding Industries on Proposed Development

INDUSTRY	BUILDING ID	MAXIMUM DAYTIME FAÇADE LEQ (1 HOUR) (DBA)[1]	MAXIMUM EVENING FAÇADE LEQ (1 HOUR) (DBA)[1]	MAXIMUM NIGHTTIME FAÇADE LEQ (1 HOUR) (DBA)[1]	MECP COMPLIANCE?	
					Class 1 Criteria[2]	Class 4 Criteria[2]
Donato Auto Collision Ltd.	Building 'A'	**57**	—	—	No	Yes
	Building 'B'	**56**	—	—	No	Yes
300 Tecumseh Rd	Building 'A'	**55**	**55**	**52**	No	Yes
	Building 'B'	**57**	**57**	**54**	No	Yes
Ontario Truck Driving School	Building 'A'	**52**	—	—	No	Yes
	Building 'B'	47	—	—	Yes	Yes
Belwood Poultry	Building 'A'	**56**	**56**	**53**	No	Yes
	Building 'B'	**56**	**56**	**53**	No	Yes
Advanced Auto Services	Building 'A'	**51**	—	—	No	Yes
	Building 'B'	49	—	—	Yes	Yes
1587 Hanna	Building 'A'	**52**	50	44	No	Yes
	Building 'B'	**51**	49	43	No	Yes

*Notes: [1] Predicted noise levels that exceed the Class 1 limits are presented in **bold**.*
*[2] See **Table 10.***

The predicted worst-case stationary noise impacts from the surrounding industries listed in **Table 9** at the façade of the Proposed Development are presented in **Figures 4** through **9**.

Based on the predicted plane of window and outdoor noise levels listed in **Table 12**, the Proposed Development is expected to experience noise impacts from the surrounding industries that exceed the Class 1 stationary sound level limits.

However, the predicted stationary noise levels from all surrounding industries comply with all NPC-300 stationary façade and outdoor noise criteria for a Class 4 area. As such, it is recommended that the Proposed Development apply for Class 4 designation in order to comply with MECP regulations on stationary noise.

3.7 CLASS 4 DESIGNATION

As shown in **Table 12**, multiple locations within the Proposed Development are predicted to exceed the Class 1 exclusionary sound level limits. Source-based mitigation measures are likely not feasible due to the number of sources, the number of commercial and industrial properties, as well as the types of sources. Similarly, based on the locations of the sources relative to elevated receptors within the Proposed Development (up to five storeys in height), acoustic barriers are likely not feasible to control the predicted

noise impacts. It is recommended that the Proposed Development seek a Class 4 designation approval from the land use planning authority.

Class 4 Justification

As outlined in NPC-300, a Class 4 area can be applied to proposed site under the following conditions:

- The site would otherwise be defined as a Class 1 or Class 2 area;
- The proposed site is an area intended for development with new noise sensitive land uses that are not yet built;
- The site is in proximity to existing, lawfully established stationary sources; and
- The site has formal confirmation from the land use planning authority (City of Windsor) with the Class 4 area designation.

The Proposed Development meets all of the above conditions, with the exception of the confirmation from the land use planning authority. As such, a Class 4 designation is considered reasonable for this Proposed Development.

In addition to the Class 4 designation for the Proposed Development, a Type F warning clause and supplied ventilation/air conditioning system would be required. Furthermore, a Type E warning clause is recommended for all sensitive uses as industrial operations may be audible at times. Warning clauses should be included in agreements that are registered on title for all Offers of Purchase and Sale, lease/rental agreements, and condominium declarations. All warning clauses recommended for the Proposed Development are attached in **Appendix B**.

4.0 CONCLUSIONS

Dillon Consulting Limited (Dillon) was retained by LRU Leasing Inc. (LRU) to complete a Noise Study for a proposed multi residential development located at 0 Mercer Street in Windsor, Ontario (Proposed Development). This study has been completed in support of Official Plan Amendment and Zoning By-law Amendment applications for the Proposed Development.

The Noise Study focuses on the noise impacts from nearby transportation sources and stationary sources (i.e., nearby commercial and industrial operations) on the Proposed Development.

Transportation Noise Assessment

As outlined in **Section 2.5**, the results of the transportation noise assessment confirm that the noise impacts on the proposed development can be sufficiently controlled by requiring that residences comprising the south and east façades of Building 'B' include a Type C warning clause and be constructed with provisions for the installation of central air conditioning.

Warning clauses shall be included in agreements that are registered on Title for all Offers of Purchase and Sale, lease/rental agreements, and condominium declarations.

Stationary Noise Assessment

The noise impacts from surrounding commercial and industrial properties on the Proposed Development were assessed through modelling of stationary and impulsive noise sources in Cadna/A using ISO:9613 standards.

It was predicted that the noise impacts from the surrounding commercial and industrial properties will exceed the Class 1 noise level limits set by the MECP for stationary noise at Buildings 'A' and 'B'. Source-based mitigation measures are likely not feasible due to the number of sources, as well as the types of sources (shipping/receiving operations). Similarly, based on the locations of the sources relative the Proposed Development (up to five storeys in height), acoustic barriers are likely not feasible to control the predicted noise impacts. Thus, it is recommended that the Proposed Development seek a Class 4 designation approval from the land use planning authority.

If Class 4 designation is obtained, the Proposed Development is predicted to comply with all applicable MECP stationary and impulsive noise level limits. Prospective purchasers of any property within the Proposed Development shall be informed of its Class 4 designation through a Type F warning clause. Furthermore, a Type E warning clause is recommended for all sensitive uses as industrial operations may be audible at times.

As the design progresses, and the built form and ground elevations are finalized, this assessment should be updated by an Acoustical Consultant to confirm that compliance with the transportation and stationary sound level limits is achievable at the Proposed Development.

5.0 CLOSURE

This Detailed Noise Study assessment has been prepared based on the information provided and/or approved by LRU Leasing Inc. (LRU). This report was prepared by Dillon for the sole benefit of LRU. The material in the report reflects Dillon's judgement in light of the information available to Dillon at the time of this report preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Dillon accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

We trust that the report is to your satisfaction. Please do not hesitate to contact the undersigned if you have any further questions on this report.

Respectfully Submitted:

DILLON CONSULTING LIMITED

Lucas Arnold, P.Eng.
Associate

Thom Wright, EIT
Environmental EIT

FIGURES

Scale 1:1,000

Figure 1

Development Site Plan

0 Mercer St, Windsor, Ontario

Project # 24-8715

June 2025

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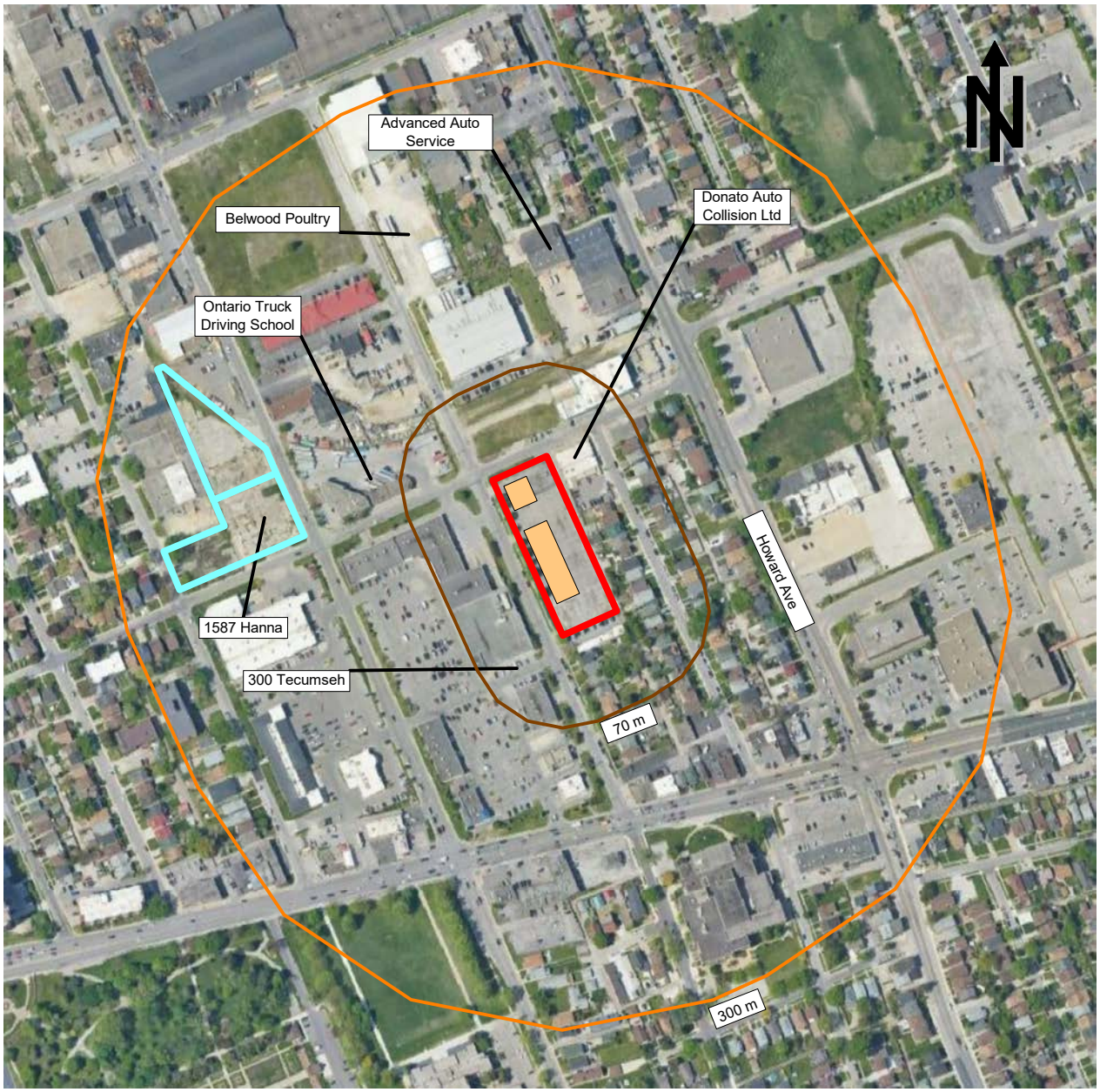

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Figure 2

Surrounding Area with MECP D-6 Setbacks

0 Mercer St, Windsor, Ontario

Project # 24-8715

June 2025

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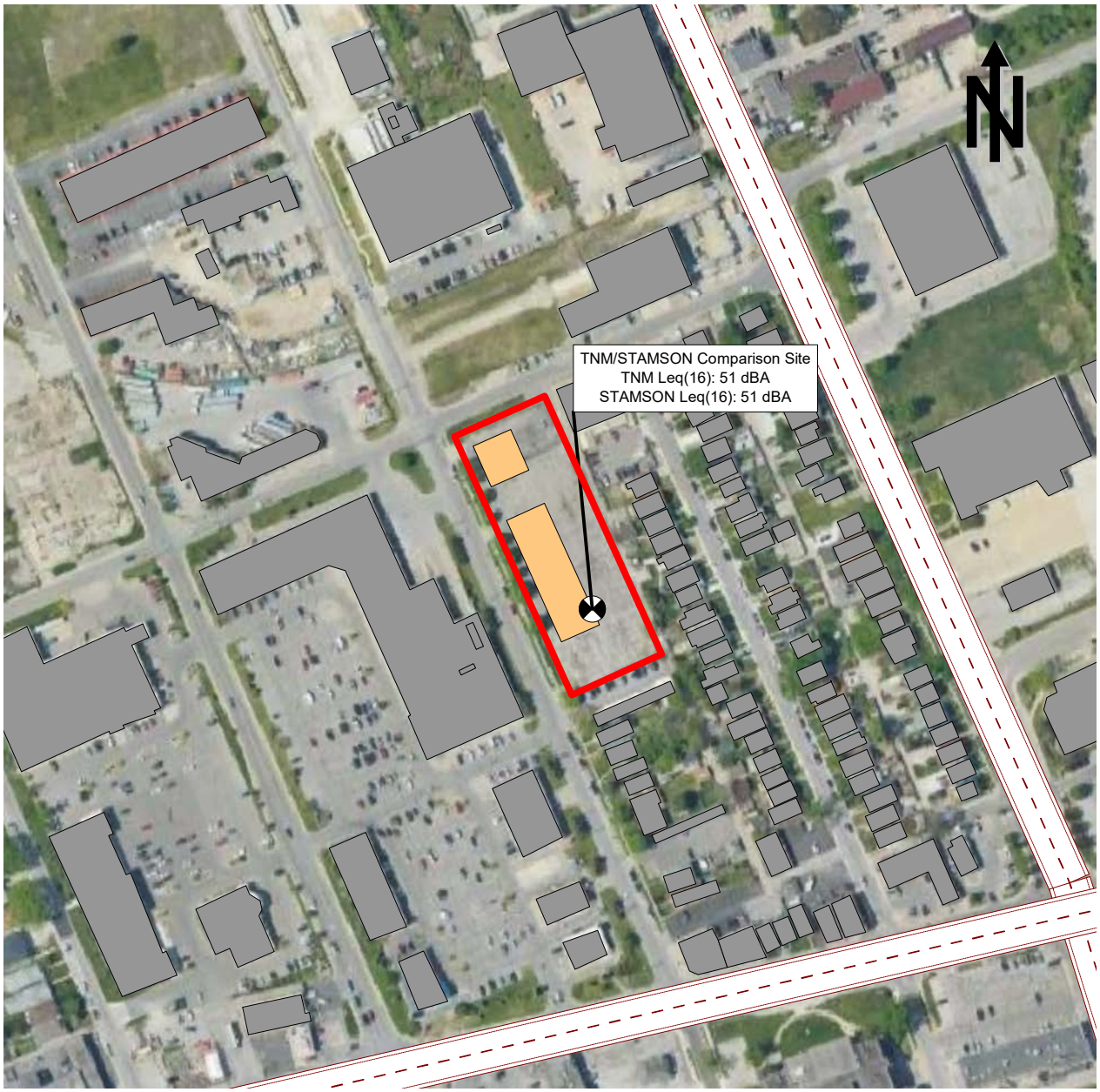

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Figure 3

TNM Protocol Confirmation

Project # 24-8715

0 Mercer St, Windsor, Ontario

June 2025

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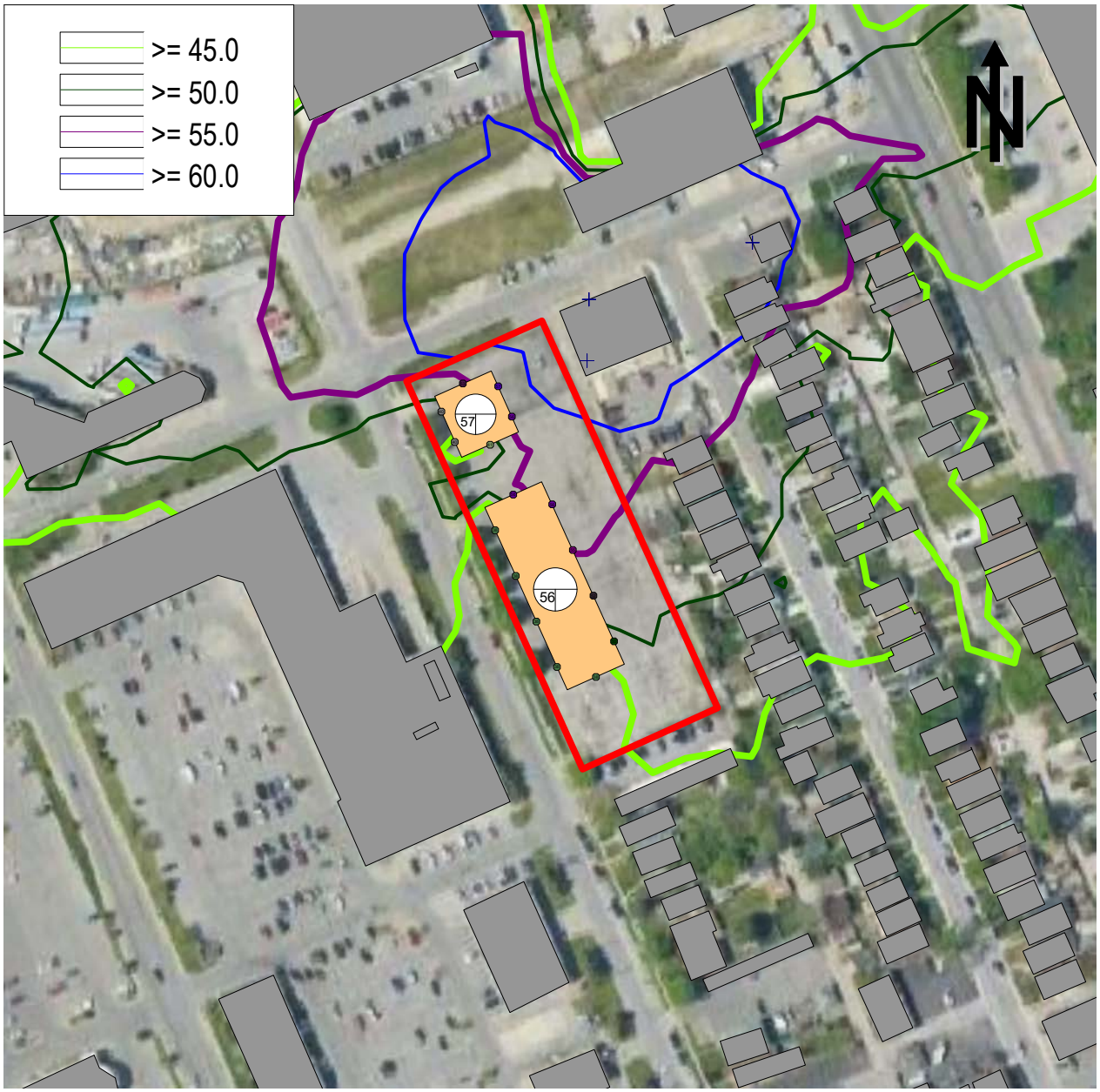

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Figure 4

Stationary Noise Impacts - Day
Donato Auto Collision (h=4.5 m)

0 Mercer St, Windsor, Ontario

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June 2025

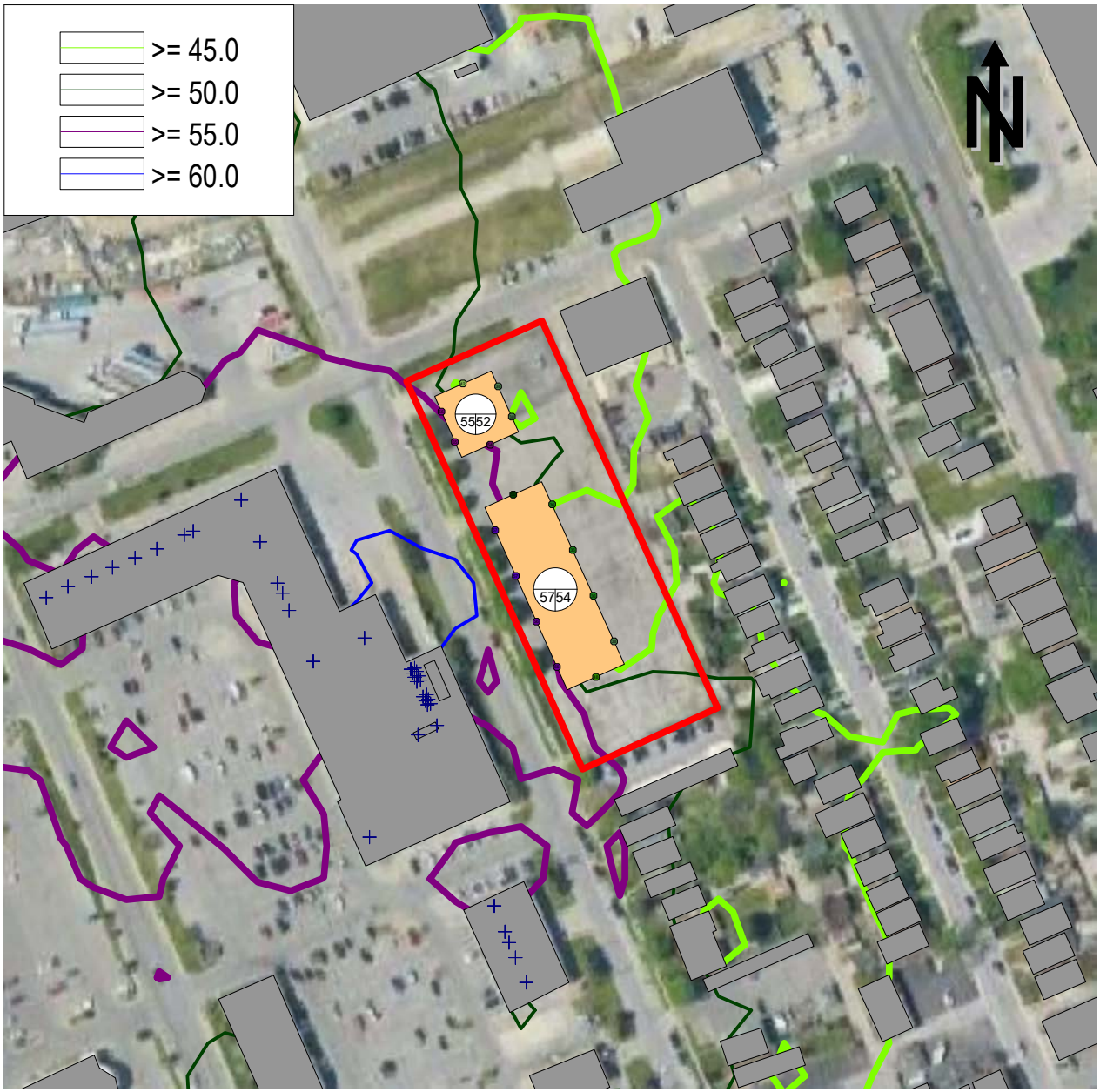

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Figure 5

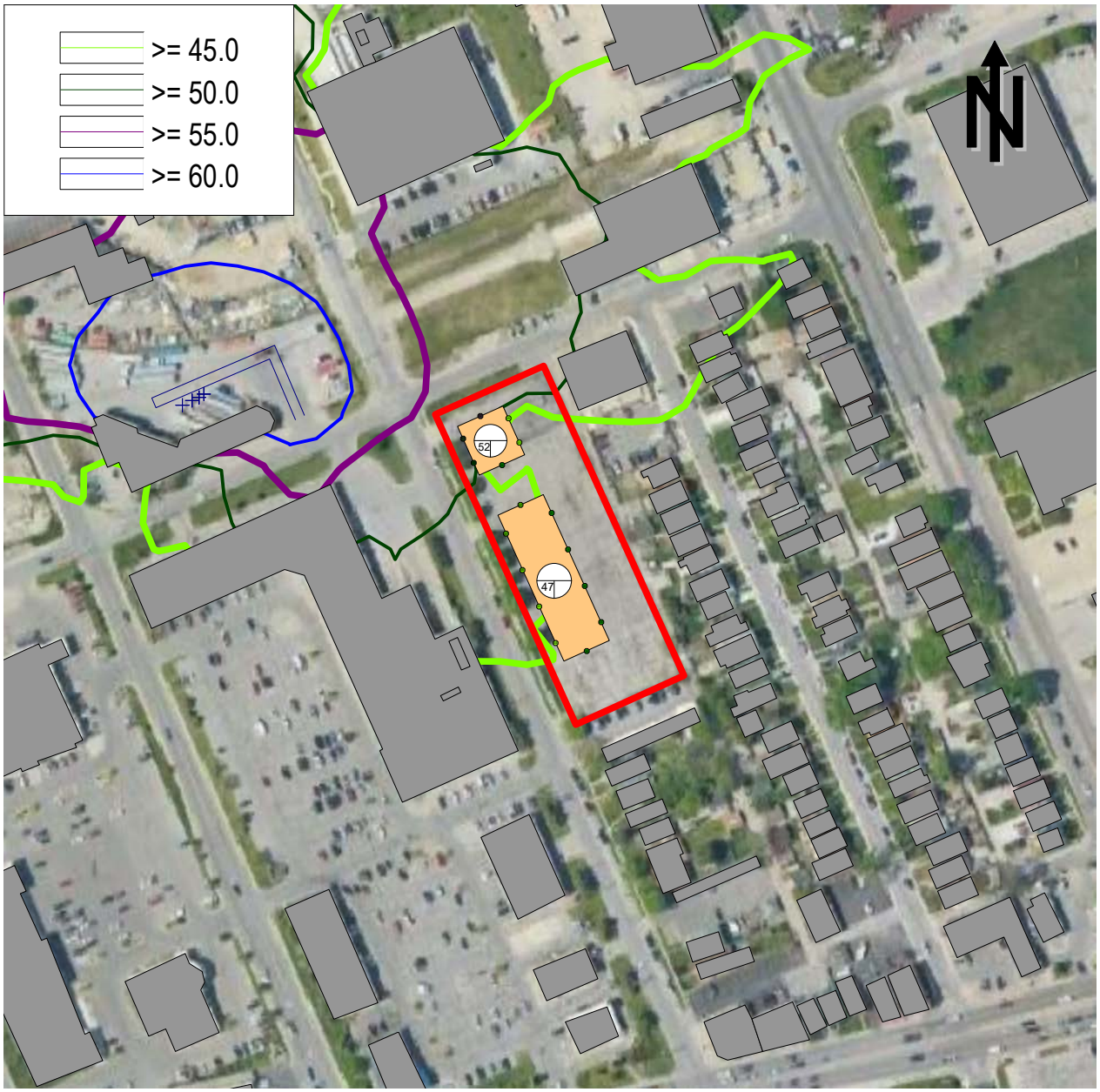
Stationary Noise Impacts - Day
300 Tecumseh (h=4.5m)

0 Mercer St, Windsor, Ontario

Project # 24-8715

June 2025

DILLON CONSULTING



Scale 1:2,500

Figure 6

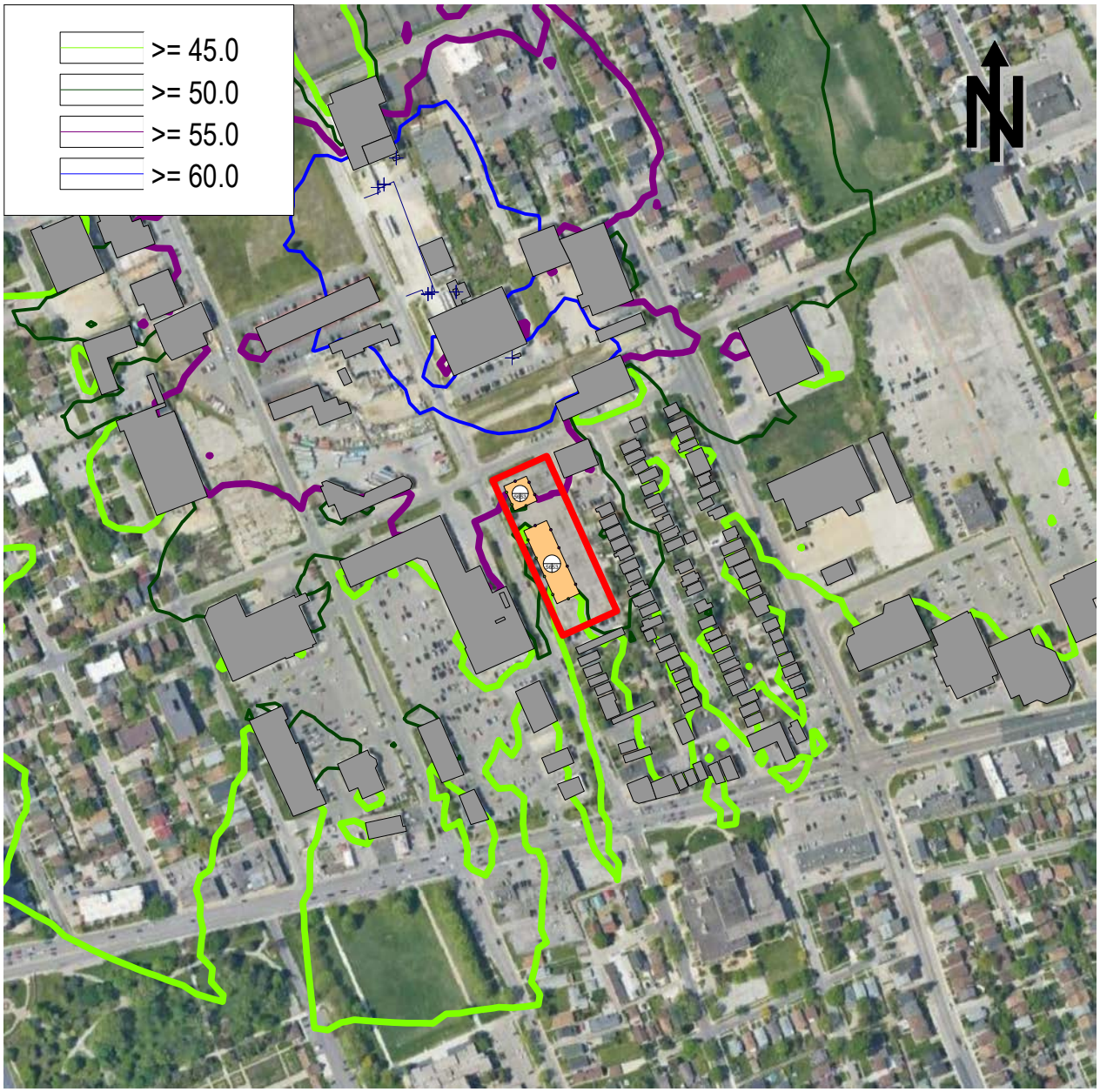
Stationary Noise Impacts - Day
Ontario Truck Driving School
(h=4.5m)

0 Mercer St, Windsor, Ontario

DILLON CONSULTING

Project # 24-8715

June 2025



Scale 1:5,000

Figure 7

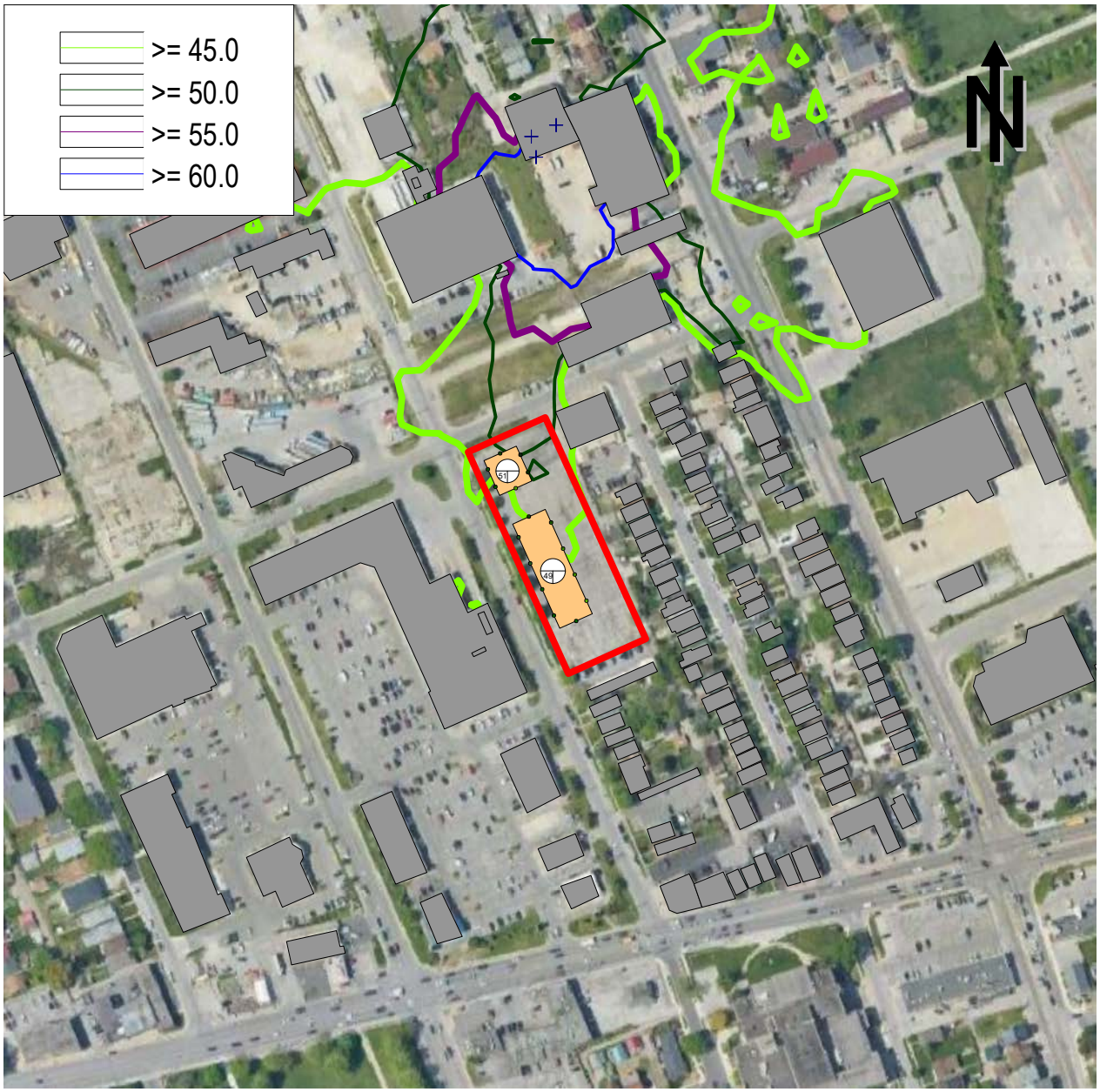
Stationary Noise Impacts - Day
Belwood Poultry (h=4.5m)

0 Mercer St, Windsor, Ontario

DILLON CONSULTING

Project # 24-8715

June 2025



Scale 1:3,500

Figure 8

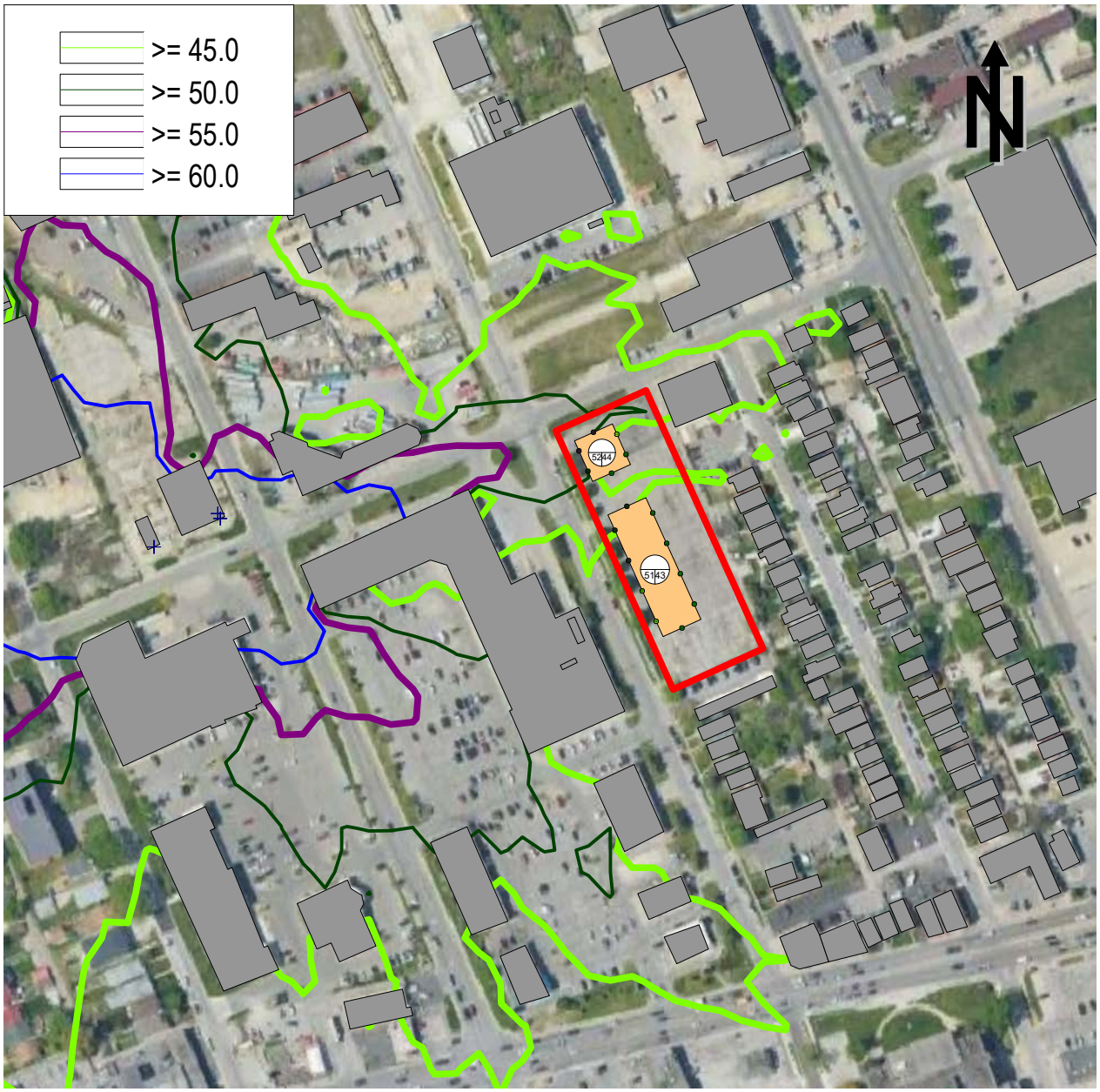
Stationary Noise Impacts - Day
Advanced Auto Service (h=4.5 m)

0 Mercer St, Windsor, Ontario

DILLON CONSULTING

Project # 24-8715

June 2025



Scale 1:3,000

Figure 9

Stationary Noise Impacts - Day
1587 Hanna St E (h=4.5m)

0 Mercer St, Windsor, Ontario

Project # 24-8715

June 2025

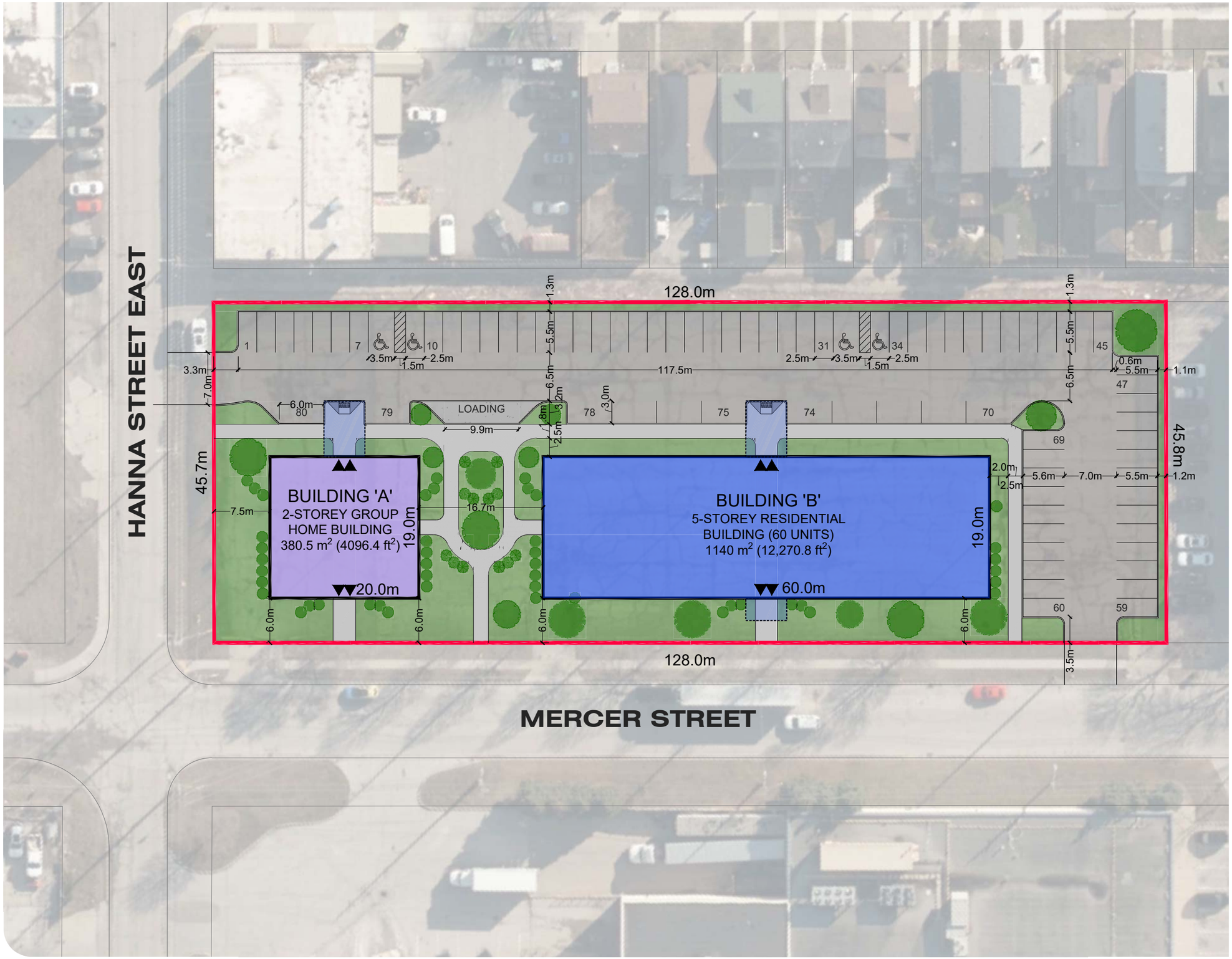
DILLON CONSULTING

APPENDIX A

DEVELOPMENT SITE PLAN AND ZONING MAP

LRU LEASING INC.
MERCER STREET AT HANNA STREET EAST

CONCEPT PLAN
OPTION 5



- SUBJECT AREA (±0.59ha / 1.45ac)
- PROPOSED 5-STOREY MULTIPLE RESIDENTIAL BUILDING (60 UNITS)
- PROPOSED 2-STOREY GROUP HOME BUILDING
- PROPOSED SIDEWALK
- PROPOSED LANDSCAPE

SITE MATRIX

PROPOSED ZONE	- RD3 WITH SITE-SPECIFIC
FRONT YARD DEPTH	- 7.5m
BACK YARD DEPTH	- 23.0m
SIDE YARD DEPTH	- 6.0m
BUILDING HEIGHT RESIDENTIAL	- 5-STOREYS (±15m)
RESIDENTIAL UNIT COUNT	- 60 UNITS
AVERAGE UNIT SIZE	- ±80m² (861ft²)
PARKING SIZE	- 2.5m x 5.5m
REQUIRED PARKING	- 75 spaces (1.25 spaces per unit)
REQUIRED PARKING	- 1 spaces (1 per group home)
TOTAL REQUIRED PARKING	- 76 spaces
PROVIDED PARKING	- 80 spaces
LANDSCAPED AREA	- 35%

SCALE: 1:500 (11x17)

MAP/DRAWING INFORMATION:
THIS DRAWING IS FOR INFORMATION PURPOSES ONLY. ALL DIMENSIONS AND BOUNDARY INFORMATION SHOULD BE VERIFIED BY AN O.L.S PRIOR TO CONSTRUCTION.

CREATED BY: ESB
CHECKED BY: KDT
DESIGNED BY: MRU

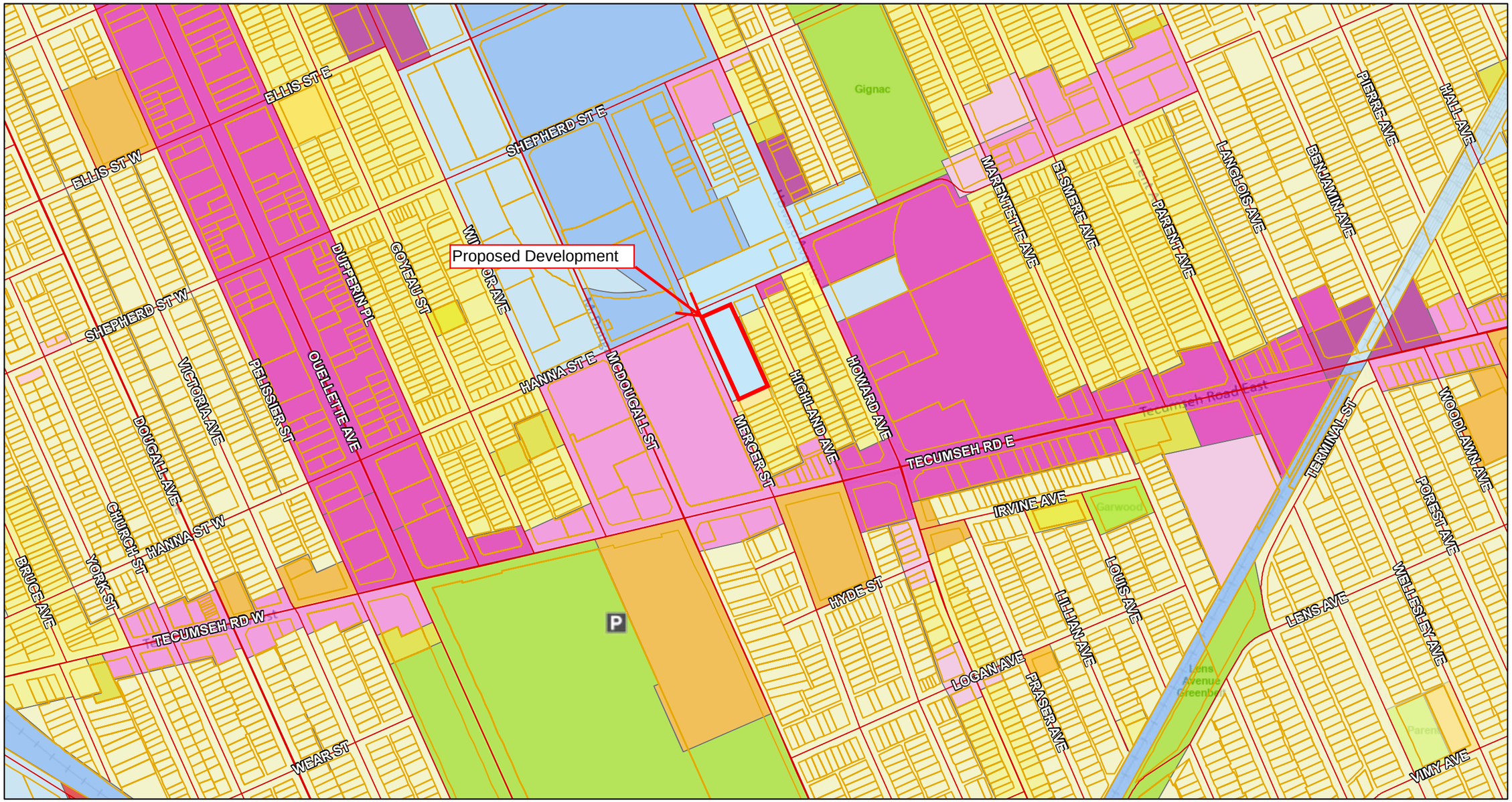
SOURCE: COUNTY OF ESSEX AERIAL PHOTOGRAPHY (2023)

File Location:
c:\pw working directory\projects 2024\dillon_32mru\dms61558\24-8715 - mercer st & hanna st e - concept plan - option 5.dwg
November, 05, 2024 4:29 PM

DILLON CONSULTING

PROJECT: 24-8715
STATUS: DRAFT
DATE: 11/05/2024

ArcGIS Web Map



6/3/2025, 9:57:00 AM

1:5,366

- P Municipal Parking Lots
- Major Roads
- Street Centreline
- Address Parcels

Zoning Classifications (By-Law 8600)

- Commercial Districts 1
- Commercial Districts 2
- Commercial Districts 3
- Commercial Districts 4
- Manufacturing Districts 1
- Manufacturing Districts 2
- Development Reserve Districts
- Green Districts
- Institutional Districts
- Residential Districts 1
- Residential Districts 2
- Residential Districts 3
- CityBoundary
- MajorRoads
- StreetCentreline
- Parks_sortName_Join_2016
- RailwayLines
- CityBoundary
- CityBoundary

0 360 720 1,440 ft

0 110 220 440 m

APPENDIX B

WARNING CLAUSES

Warning Clauses

Warning clauses should be included in agreements of Offers of Purchase and Sale, lease/rental agreements and condominium declarations.

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 E: “Purchasers/tenants are advised that due to the proximity of the adjacent commercial and industrial properties, noise from said properties may at times be audible”.

Type F: “Purchasers/tenants are advised that sound levels due to the adjacent commercial and industrial properties are required to comply with sound level limits that are protective of indoor areas and are based on the assumption that windows and exterior doors are closed. This dwelling unit has been supplied with a ventilation / air conditioning system which will allow windows and exterior doors to remain closed.”

APPENDIX C

ROAD TRAFFIC DATA

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Project #24-119 - City of Windsor

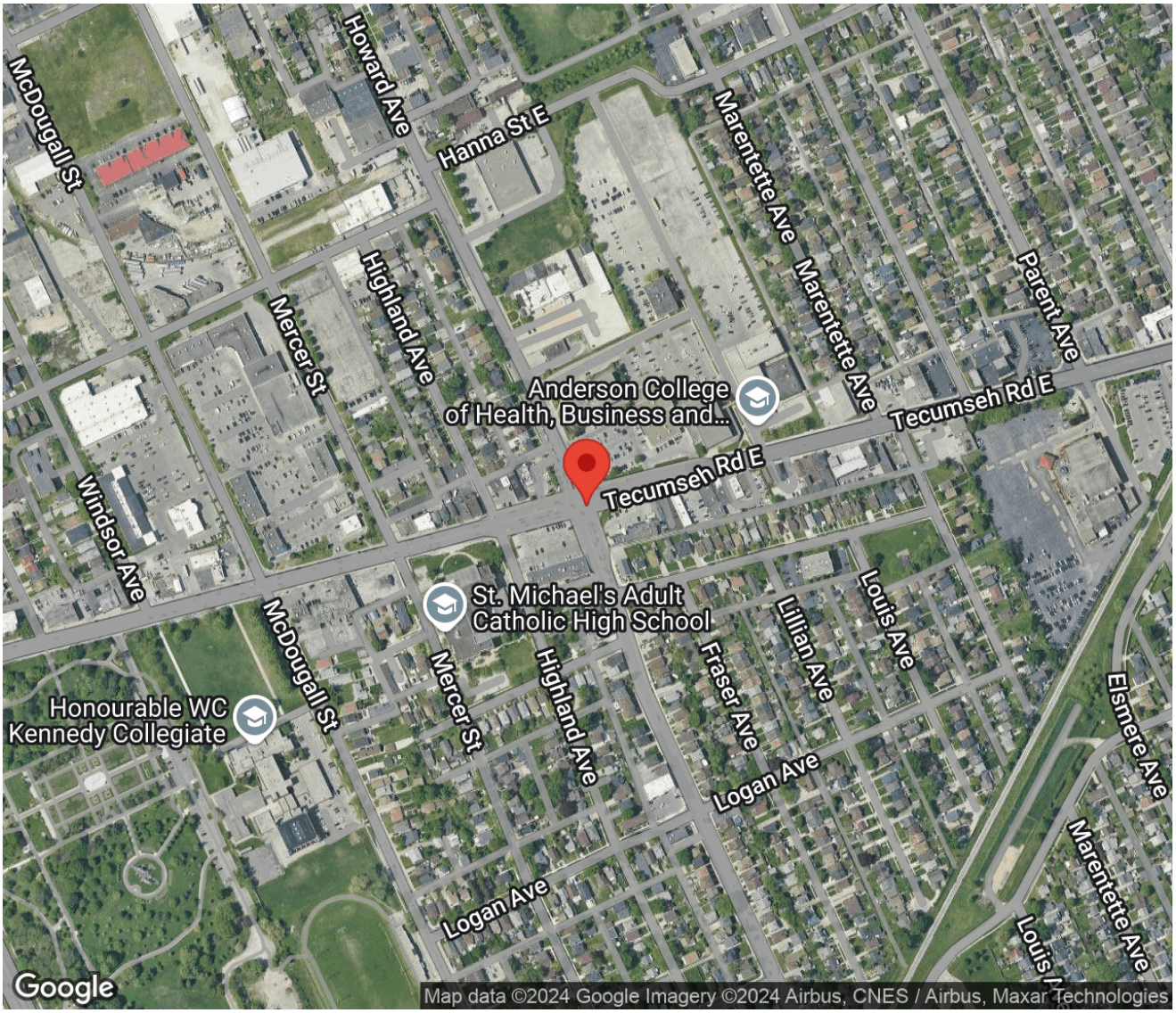
Intersection Count Report

Intersection:	TECUMSEH RD E & HOWARD AVE
Municipality:	Windsor
Count Date:	Tuesday, Oct 01, 2024
Site Code:	2411900043
Count Categories:	Cars, Light Trucks, Medium Trucks, Heavy Trucks, Bicycles, Peds
Count Period:	07:00-10:00, 11:00-14:00, 15:00-18:00
Weather:	Clear
Comments:	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Map

Intersection:	TECUMSEH RD E & HOWARD AVE
Site Code:	2411900043
Municipality:	Windsor
Count Date:	Oct 01, 2024



Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

HOWARD AVE - Traffic Summary

	North Approach Totals						South Approach Totals						
	Includes Cars, Light Trucks, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Light Trucks, Medium Trucks, Heavy Trucks, Bicycles						
Hour	Left	Thru	Right	U-Turn	Total	Peds	Left	Thru	Right	U-Turn	Total	Peds	Total
07:00 - 08:00	37	275	56	0	368	23	96	354	79	0	529	11	897
08:00 - 09:00	79	312	81	0	472	59	191	625	150	0	966	38	1438
09:00 - 10:00	83	319	82	0	484	43	129	429	146	0	704	26	1188
BREAK													
11:00 - 12:00	107	377	98	0	582	30	149	439	181	0	769	19	1351
12:00 - 13:00	99	413	93	0	605	51	154	474	141	0	769	18	1374
13:00 - 14:00	98	391	100	0	589	61	129	462	166	2	759	36	1348
BREAK													
15:00 - 16:00	87	496	79	0	662	81	156	513	180	0	849	60	1511
16:00 - 17:00	105	541	102	0	748	38	143	472	196	0	811	19	1559
17:00 - 18:00	100	459	105	0	664	20	125	516	198	0	839	16	1503
GRAND TOTAL	**795**	**3583**	**796**	**0**	**5174**	**406**	**1272**	**4284**	**1437**	**2**	**6995**	**243**	**12169**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Summary

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

TECUMSEH RD E - Traffic Summary

	East Approach Totals						West Approach Totals						
	Includes Cars, Light Trucks, Medium Trucks, Heavy Trucks, Bicycles						Includes Cars, Light Trucks, Medium Trucks, Heavy Trucks, Bicycles						
Hour	**Left**	**Thru**	**Right**	**U-Turn**	**Total**	**Peds**	**Left**	**Thru**	**Right**	**U-Turn**	**Total**	**Peds**	**Total**
07:00 - 08:00	89	451	32	0	572	8	20	384	45	0	449	28	1021
08:00 - 09:00	110	577	47	0	734	6	76	422	60	2	560	35	1294
09:00 - 10:00	133	549	55	0	737	0	72	492	81	1	646	33	1383
BREAK													
11:00 - 12:00	163	577	62	0	802	6	86	488	93	1	668	31	1470
12:00 - 13:00	194	598	61	0	853	9	92	557	109	0	758	35	1611
13:00 - 14:00	190	585	56	0	831	29	90	623	114	3	830	40	1661
BREAK													
15:00 - 16:00	228	660	56	0	944	21	100	624	133	1	858	48	1802
16:00 - 17:00	205	608	58	0	871	14	71	661	142	1	875	27	1746
17:00 - 18:00	220	593	48	0	861	7	102	644	119	0	865	20	1726
GRAND TOTAL	**1532**	**5198**	**475**	**0**	**7205**	**100**	**709**	**4895**	**896**	**9**	**6509**	**297**	**13714**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

North Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
07:00	6	36	9	0	51	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
07:15	2	36	5	0	43	1	7	2	0	10	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	10
07:30	4	75	11	0	90	0	10	2	0	12	1	1	0	0	2	1	3	0	0	4	0	0	0	0	0	8
07:45	18	91	21	0	130	3	9	4	0	16	1	0	1	0	2	0	0	0	0	0	0	1	0	0	1	4
08:00	16	71	15	0	102	2	14	2	0	18	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	8
08:15	13	54	14	0	81	1	8	3	0	12	2	0	1	0	3	0	1	0	0	1	0	1	0	0	1	13
08:30	13	63	19	0	95	1	14	3	0	18	1	2	1	0	4	1	1	0	0	2	0	0	0	0	0	14
08:45	24	65	21	0	110	3	11	2	0	16	1	2	0	0	3	0	3	0	0	3	0	0	0	0	0	24
09:00	20	71	23	0	114	5	13	1	0	19	1	1	1	0	3	0	1	1	0	2	0	0	0	0	0	19
09:15	24	60	13	0	97	4	9	4	0	17	1	2	0	0	3	0	0	0	0	0	0	0	0	0	0	11
09:30	17	67	18	0	102	0	7	0	0	7	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	7
09:45	8	67	15	0	90	2	16	3	0	21	0	2	1	0	3	1	1	0	0	2	0	0	0	0	0	6
SUBTOTAL	165	756	184	0	1105	22	121	27	0	170	9	11	6	0	26	3	16	2	0	21	0	2	0	0	2	125

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

North Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
11:00	22	71	13	0	106	2	7	2	0	11	2	0	0	0	2	1	0	1	0	2	0	0	0	0	0	4
11:15	20	91	21	0	132	2	14	3	0	19	0	3	1	0	4	0	0	0	0	0	0	0	0	0	0	6
11:30	24	74	25	0	123	1	15	3	0	19	1	2	1	0	4	1	1	2	0	4	0	0	0	0	0	7
11:45	28	84	23	0	135	2	10	3	0	15	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	13
12:00	23	87	22	0	132	5	11	3	0	19	1	3	0	0	4	0	0	0	0	0	0	0	0	0	0	14
12:15	19	93	18	0	130	1	11	2	0	14	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	18
12:30	22	90	17	0	129	6	16	4	0	26	0	3	0	0	3	2	2	0	0	4	0	1	0	0	1	9
12:45	18	77	23	0	118	2	15	2	0	19	0	1	1	0	2	0	1	1	0	2	0	0	0	0	0	10
13:00	17	83	20	0	120	4	10	2	0	16	1	2	0	0	3	0	2	0	0	2	0	0	0	0	0	18
13:15	23	81	21	0	125	2	12	6	0	20	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	21
13:30	23	76	24	0	123	4	18	1	0	23	1	1	3	0	5	0	2	0	0	2	0	0	0	0	0	15
13:45	18	82	21	0	121	4	18	2	0	24	1	1	0	0	2	0	0	0	0	0	0	0	0	0	0	7
SUBTOTAL	257	989	248	0	1494	35	157	33	0	225	7	21	6	0	34	5	12	4	0	21	0	2	0	0	2	142

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

North Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
15:00	27	123	20	0	170	2	13	2	0	17	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	29
15:15	15	98	20	0	133	2	14	0	0	16	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	24
15:30	18	89	13	0	120	1	17	2	0	20	1	0	0	0	1	0	4	0	0	4	0	0	0	0	0	17
15:45	14	114	21	0	149	6	14	0	0	20	0	1	0	0	1	1	3	0	0	4	0	0	0	0	0	11
16:00	24	110	24	0	158	1	11	1	0	13	1	2	0	0	3	1	3	1	0	5	0	0	0	0	0	3
16:15	25	120	23	0	168	3	17	1	0	21	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	9
16:30	21	128	25	0	174	5	17	3	0	25	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	13
16:45	22	121	21	0	164	2	8	3	0	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	13
17:00	21	112	26	0	159	1	16	2	0	19	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	11
17:15	24	116	21	0	161	3	14	3	0	20	0	3	2	0	5	1	1	0	0	2	0	0	0	0	0	4
17:30	24	90	25	0	139	1	17	2	0	20	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1
17:45	22	79	23	0	124	1	10	0	0	11	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	4
SUBTOTAL	257	1300	262	0	1819	28	168	19	0	215	3	12	3	0	18	4	16	2	0	22	0	0	0	0	0	139
GRAND TOTAL	679	3045	694	0	4418	85	446	79	0	610	19	44	15	0	78	12	44	8	0	64	0	4	0	0	4	406

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

South Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
07:00	21	49	7	0	77	3	7	0	0	10	0	2	0	0	2	2	1	1	0	4	0	0	0	0	0	3
07:15	15	71	19	0	105	2	6	1	0	9	1	2	2	0	5	0	3	0	0	3	0	0	0	0	0	1
07:30	13	70	17	0	100	4	16	3	0	23	2	2	1	0	5	1	0	2	0	3	0	0	0	0	0	4
07:45	26	104	20	0	150	5	16	4	0	25	0	2	1	0	3	1	3	1	0	5	0	0	0	0	0	3
08:00	42	104	37	0	183	4	21	3	0	28	1	2	1	0	4	1	1	3	0	5	0	0	0	0	0	6
08:15	30	154	29	0	213	12	20	5	0	37	0	1	1	0	2	1	3	0	0	4	0	0	0	0	0	10
08:30	45	143	25	0	213	6	21	6	0	33	1	2	3	0	6	1	2	1	0	4	0	0	0	0	0	15
08:45	38	115	33	0	186	8	29	1	0	38	0	4	0	0	4	1	3	2	0	6	0	0	0	0	0	7
09:00	27	96	30	0	153	4	21	7	0	32	0	2	2	0	4	1	0	0	0	1	0	0	0	0	0	2
09:15	23	75	24	0	122	6	20	5	0	31	0	3	4	0	7	2	0	1	0	3	0	0	0	0	0	12
09:30	24	85	27	0	136	6	20	8	0	34	0	4	0	0	4	2	2	0	0	4	0	0	0	0	0	5
09:45	29	76	27	0	132	4	22	9	0	35	0	1	1	0	2	1	2	1	0	4	0	0	0	0	0	7
SUBTOTAL	333	1142	295	0	1770	64	219	52	0	335	5	27	16	0	48	14	20	12	0	46	0	0	0	0	0	75

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

South Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
11:00	35	81	33	0	149	5	21	12	0	38	0	4	2	0	6	2	0	0	0	2	0	0	0	0	0	1
11:15	28	102	42	0	172	5	14	4	0	23	0	1	7	0	8	2	0	0	0	2	0	0	0	0	0	7
11:30	25	81	36	0	142	2	10	4	0	16	0	2	1	0	3	0	3	1	0	4	0	0	0	0	0	4
11:45	36	102	36	0	174	7	15	1	0	23	1	1	1	0	3	1	2	1	0	4	0	0	0	0	0	7
12:00	31	112	27	0	170	4	15	3	0	22	1	2	2	0	5	1	1	0	0	2	0	0	0	0	0	8
12:15	25	76	28	0	129	2	20	6	0	28	0	5	2	0	7	1	1	0	0	2	0	0	0	0	0	3
12:30	37	104	30	0	171	8	11	3	0	22	0	1	3	0	4	1	1	0	0	2	0	0	0	0	0	0
12:45	38	112	29	0	179	2	11	7	0	20	2	0	0	0	2	1	2	1	0	4	0	0	0	0	0	7
13:00	27	97	34	0	158	2	16	5	0	23	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	17
13:15	28	88	40	0	156	1	16	4	0	21	0	1	2	0	3	1	0	0	0	1	0	0	0	0	0	4
13:30	29	94	30	0	153	3	23	3	0	29	0	2	1	1	4	0	2	0	0	2	0	0	0	0	0	10
13:45	31	98	37	1	167	4	23	7	0	34	0	1	2	0	3	2	1	1	0	4	0	0	0	0	0	5
SUBTOTAL	370	1147	402	1	1920	45	195	59	0	299	4	20	23	1	48	13	13	4	0	30	0	0	0	0	0	73

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

South Approach - HOWARD AVE

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
15:00	29	123	32	0	184	5	19	3	0	27	1	0	0	0	1	1	3	2	0	6	0	0	0	0	0	35
15:15	31	104	25	0	160	4	11	12	0	27	0	1	0	0	1	2	1	1	0	4	0	0	0	0	0	12
15:30	34	98	40	0	172	7	15	5	0	27	1	1	1	0	3	0	0	0	0	0	0	0	0	0	0	8
15:45	31	122	52	0	205	7	11	6	0	24	1	2	0	0	3	2	2	1	0	5	0	0	0	0	0	5
16:00	31	88	33	0	152	3	17	7	0	27	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0	6
16:15	31	113	53	0	197	6	23	5	0	34	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	0
16:30	38	80	38	0	156	1	10	5	0	16	1	1	1	0	3	0	2	0	0	2	0	0	0	0	0	4
16:45	26	120	44	0	190	3	15	7	0	25	0	1	2	0	3	1	1	0	0	2	0	0	0	0	0	9
17:00	19	102	35	0	156	3	16	4	0	23	0	0	0	0	0	1	0	1	0	2	0	0	0	0	0	10
17:15	34	117	49	0	200	3	18	9	0	30	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
17:30	24	109	54	0	187	5	21	6	0	32	1	0	0	0	1	1	0	1	0	2	0	0	0	0	0	4
17:45	30	116	34	0	180	3	15	5	0	23	0	1	0	0	1	1	0	0	0	1	0	0	0	0	0	1
SUBTOTAL	358	1292	489	0	2139	50	191	74	0	315	5	8	4	0	17	11	10	7	0	28	0	0	0	0	0	95
GRAND TOTAL	**1061**	**3581**	**1186**	**1**	**5829**	**159**	**605**	**185**	**0**	**949**	**14**	**55**	**43**	**1**	**113**	**38**	**43**	**23**	**0**	**104**	**0**	**0**	**0**	**0**	**0**	**243**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

East Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
07:00	11	66	3	0	80	4	12	3	0	19	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2
07:15	16	90	4	0	110	2	11	2	0	15	2	1	0	0	3	1	1	0	0	2	0	0	0	0	0	4
07:30	24	106	8	0	138	1	10	1	0	12	0	2	0	0	2	2	2	0	0	4	0	0	0	0	0	2
07:45	21	123	9	0	153	4	21	2	0	27	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	0
08:00	15	116	9	0	140	4	23	2	0	29	0	1	0	0	1	2	2	0	0	4	0	0	0	0	0	6
08:15	21	125	6	0	152	3	16	2	0	21	0	5	1	0	6	1	5	0	0	6	0	0	0	0	0	0
08:30	30	127	10	0	167	3	14	1	0	18	1	0	0	0	1	2	0	0	0	2	0	0	0	0	0	0
08:45	24	128	12	0	164	4	10	3	0	17	0	1	1	0	2	0	4	0	0	4	0	0	0	0	0	0
09:00	31	137	10	0	178	5	15	0	0	20	0	4	1	0	5	1	1	0	0	2	0	0	0	0	0	0
09:15	30	120	15	0	165	2	13	2	0	17	0	4	0	0	4	1	4	0	0	5	0	0	0	0	0	0
09:30	24	89	10	0	123	0	10	1	0	11	0	0	1	0	1	0	2	0	0	2	0	0	0	0	0	0
09:45	32	129	12	0	173	5	19	2	0	26	2	0	1	0	3	0	2	0	0	2	0	0	0	0	0	0
SUBTOTAL	279	1356	108	0	1743	37	174	21	0	232	5	20	5	0	30	11	27	0	0	38	0	0	0	0	0	14

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

East Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
11:00	37	126	11	0	174	4	26	1	0	31	0	2	1	0	3	1	2	0	0	3	0	0	0	0	0	0
11:15	39	120	10	0	169	3	17	1	0	21	0	6	1	0	7	1	2	0	0	3	0	0	0	0	0	6
11:30	38	127	19	0	184	9	18	3	0	30	1	2	1	0	4	0	2	0	0	2	0	0	0	0	0	0
11:45	26	109	13	0	148	3	15	1	0	19	1	0	0	0	1	0	3	0	0	3	0	0	0	0	0	0
12:00	53	120	15	0	188	8	15	1	0	24	0	5	0	0	5	0	2	0	0	2	0	0	0	0	0	0
12:15	37	153	11	0	201	8	14	1	0	23	0	4	0	0	4	2	2	1	0	5	0	0	0	0	0	6
12:30	31	114	16	0	161	6	14	1	0	21	0	4	1	0	5	2	2	0	0	4	0	0	0	0	0	0
12:45	37	123	13	0	173	8	24	1	0	33	1	1	0	0	2	1	1	0	0	2	0	0	0	0	0	3
13:00	46	131	11	0	188	5	21	2	0	28	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	13
13:15	41	112	10	0	163	3	18	1	0	22	1	2	0	0	3	1	4	0	0	5	0	0	0	0	0	6
13:30	33	132	16	0	181	9	13	2	0	24	0	1	0	0	1	1	4	0	0	5	0	0	0	0	0	4
13:45	46	128	13	0	187	3	12	1	0	16	1	4	0	0	5	0	1	0	0	1	0	0	0	0	0	6
SUBTOTAL	464	1495	158	0	2117	69	207	16	0	292	5	32	4	0	41	9	26	1	0	36	0	0	0	0	0	44

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

East Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
15:00	56	162	11	0	229	4	19	0	0	23	0	2	0	0	2	1	2	1	0	4	0	0	0	0	0	7
15:15	55	139	10	0	204	8	21	1	0	30	1	1	0	0	2	0	3	0	0	3	0	0	0	0	0	0
15:30	42	146	16	0	204	7	13	2	0	22	1	0	0	0	1	0	1	0	0	1	0	0	0	0	0	9
15:45	46	130	14	0	190	6	16	1	0	23	0	2	0	0	2	1	3	0	0	4	0	0	0	0	0	5
16:00	48	143	13	0	204	6	13	1	0	20	1	2	0	0	3	0	3	1	0	4	0	0	0	0	0	5
16:15	51	132	10	0	193	2	16	0	0	18	0	1	0	0	1	3	3	0	0	6	0	0	0	0	0	0
16:30	39	131	11	0	181	8	14	1	0	23	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	6
16:45	41	130	19	0	190	5	16	1	0	22	1	1	0	0	2	0	1	1	0	2	0	0	0	0	0	3
17:00	57	141	11	0	209	9	18	0	0	27	0	3	0	0	3	1	2	0	0	3	0	0	0	0	0	3
17:15	55	134	12	0	201	8	15	1	0	24	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0
17:30	34	120	10	0	164	7	9	0	0	16	1	2	0	0	3	0	1	0	0	1	0	0	0	0	0	4
17:45	41	126	14	0	181	5	17	0	0	22	1	0	0	0	1	1	3	0	0	4	0	0	0	0	0	0
SUBTOTAL	565	1634	151	0	2350	75	187	8	0	270	6	14	0	0	20	7	26	3	0	36	0	0	0	0	0	42
GRAND TOTAL	**1308**	**4485**	**417**	**0**	**6210**	**181**	**568**	**45**	**0**	**794**	**16**	**66**	**9**	**0**	**91**	**27**	**79**	**4**	**0**	**110**	**0**	**0**	**0**	**0**	**0**	**100**

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

West Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
07:00	1	52	5	0	58	0	3	4	0	7	0	1	0	0	1	0	2	1	0	3	0	0	0	0	0	3
07:15	3	62	10	0	75	0	8	0	0	8	0	2	0	0	2	0	4	1	0	5	0	0	0	0	0	9
07:30	4	90	4	0	98	0	21	3	0	24	0	6	2	0	8	0	4	2	0	6	0	0	0	0	0	9
07:45	11	110	9	0	130	0	17	3	0	20	1	1	0	0	2	0	1	1	0	2	0	0	0	0	0	7
08:00	16	92	8	0	116	1	12	3	0	16	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	6
08:15	11	96	15	0	122	2	18	0	0	20	1	0	1	0	2	0	2	1	0	3	0	0	0	0	0	6
08:30	17	72	13	2	104	2	14	1	0	17	0	5	0	0	5	1	4	2	0	7	0	0	0	0	0	11
08:45	21	91	14	0	126	3	11	1	0	15	0	2	0	0	2	1	1	1	0	3	0	0	0	0	0	12
09:00	26	101	12	1	140	1	16	3	0	20	0	1	2	0	3	0	7	1	0	8	0	0	0	0	0	19
09:15	14	99	14	0	127	3	11	6	0	20	0	5	0	0	5	0	4	3	0	7	0	0	0	0	0	9
09:30	13	87	18	0	118	1	20	1	0	22	0	4	0	0	4	0	4	1	0	5	0	0	0	0	0	2
09:45	13	112	14	0	139	0	12	4	0	16	0	3	1	0	4	1	6	1	0	8	0	0	0	0	0	3
SUBTOTAL	150	1064	136	3	1353	13	163	29	0	205	2	31	6	0	39	3	40	15	0	58	0	0	0	0	0	96

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

West Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
11:00	17	103	19	0	139	1	16	3	0	20	0	5	0	0	5	0	6	3	0	9	0	0	0	0	0	7
11:15	15	89	17	0	121	1	17	2	0	20	0	1	1	0	2	0	2	1	0	3	0	0	0	0	0	10
11:30	23	111	23	1	158	1	13	2	0	16	0	3	0	0	3	0	5	1	0	6	0	0	0	0	0	4
11:45	25	98	15	0	138	3	13	5	0	21	0	1	1	0	2	0	4	0	0	4	0	1	0	0	1	10
12:00	33	104	17	0	154	1	11	1	0	13	0	6	0	0	6	0	4	1	0	5	0	1	0	0	1	8
12:15	16	129	24	0	169	2	18	5	0	25	0	1	1	0	2	0	3	1	0	4	0	1	0	0	1	8
12:30	19	110	27	0	156	4	25	1	0	30	0	4	1	0	5	0	6	0	0	6	0	0	0	0	0	8
12:45	15	119	25	0	159	1	10	3	0	14	0	3	1	0	4	1	2	1	0	4	0	0	0	0	0	11
13:00	11	126	21	1	159	6	21	6	0	33	0	5	0	0	5	0	4	1	0	5	0	0	0	0	0	14
13:15	16	139	30	2	187	2	23	2	0	27	0	2	0	0	2	0	2	1	0	3	0	0	0	0	0	15
13:30	26	123	23	0	172	2	17	7	0	26	1	3	1	0	5	0	4	1	0	5	0	0	0	0	0	6
13:45	22	124	17	0	163	3	21	3	0	27	0	6	0	0	6	1	3	1	0	5	0	0	0	0	0	5
SUBTOTAL	238	1375	258	4	1875	27	205	40	0	272	1	40	6	0	47	2	45	12	0	59	0	3	0	0	3	106

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Traffic Count Data

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Municipality: Windsor
Count Date: Oct 01, 2024

West Approach - TECUMSEH RD E

Start Time	Cars					Light Trucks					Medium Trucks					Heavy Trucks					Bicycles					Total Peds
					Total					Total					Total					Total					Total	
15:00	16	124	25	0	165	1	17	3	0	21	0	3	1	0	4	0	3	2	0	5	0	0	0	0	0	10
15:15	27	147	26	1	201	1	18	4	0	23	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	14
15:30	19	134	29	0	182	3	18	6	0	27	2	3	0	0	5	1	2	2	0	5	0	0	0	0	0	17
15:45	29	129	30	0	188	1	18	4	0	23	0	1	0	0	1	0	3	1	0	4	0	0	0	0	0	7
16:00	18	130	23	0	171	4	17	4	0	25	0	1	2	0	3	0	1	1	0	2	0	0	0	0	0	7
16:15	12	128	30	1	171	1	18	2	0	21	0	1	1	0	2	2	3	1	0	6	0	0	0	0	0	3
16:30	18	153	34	0	205	1	28	6	0	35	0	1	3	0	4	0	3	0	0	3	0	0	0	0	0	4
16:45	12	148	30	0	190	3	27	4	0	34	0	0	0	0	0	0	2	1	0	3	0	0	0	0	0	13
17:00	20	139	24	0	183	3	15	6	0	24	0	2	1	0	3	0	4	1	0	5	0	0	0	0	0	12
17:15	19	132	21	0	172	2	17	5	0	24	0	2	0	0	2	0	2	0	0	2	0	0	0	0	0	3
17:30	26	149	26	0	201	2	16	3	0	21	0	3	1	0	4	0	3	2	0	5	0	0	0	0	0	4
17:45	26	145	25	0	196	3	12	4	0	19	0	0	0	0	0	1	3	0	0	4	0	0	0	0	0	1
SUBTOTAL	242	1658	323	2	2225	25	221	51	0	297	2	19	9	0	30	4	31	11	0	46	0	0	0	0	0	95
GRAND TOTAL	630	4097	717	9	5453	65	589	120	0	774	5	90	21	0	116	9	116	38	0	163	0	3	0	0	3	297

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	07:00:00	From:	08:15:00
To:	10:00:00	To:	09:15:00

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: TECUMSEH RD E runs E/W

North Approach

	Out	In	Total
Cars	400	621	1021
LT	65	105	170
MT	13	13	26
HT	8	10	18
Bicycles	1	0	1
	487	**749**	**1236**

HOWARD AVE

Bicycles	0	1	0	0
HT	1	6	1	0
MT	3	5	5	0
LT	9	46	10	0
Cars	77	253	70	0
Totals	**90**	**311**	**86**	**0**

Peds: 70

East Approach

	Out	In	Total
Cars	661	547	1208
LT	76	88	164
MT	14	19	33
HT	14	18	32
Bicycles	0	0	0
	765	**672**	**1437**

TECUMSEH RD E

Bicycles	HT	MT	LT	Cars	Totals
0	0	0	0	3	**3**
0	2	1	8	75	**86**
0	14	8	59	360	**441**
0	5	3	5	54	**67**

Peds: 48

Peds: 0

TECUMSEH RD E

Totals	Cars	LT	MT	HT	Bicycles
0	0	0	0	0	0
47	38	6	3	0	0
592	517	55	10	10	0
126	106	15	1	4	0

Peds: 34

West Approach

	Out	In	Total
Cars	492	737	1229
LT	72	94	166
MT	12	14	26
HT	21	15	36
Bicycles	0	0	0
	597	**860**	**1457**

Totals	**175**	**616**	**145**	**0**
Cars	140	508	117	0
LT	30	91	19	0
MT	1	9	6	0
HT	4	8	3	0
Bicycles	0	0	0	0

HOWARD AVE

South Approach

	Out	In	Total
Cars	765	413	1178
LT	140	66	206
MT	16	9	25
HT	15	15	30
Bicycles	0	1	1
	936	**504**	**1440**

Cars - Cars LT - Light Trucks MT - Medium Trucks HT - Heavy Trucks Bicycles - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024
Period: 07:00 - 10:00

Peak Hour Data (08:15 - 09:15)

Start Time	North Approach HOWARD AVE						South Approach HOWARD AVE						East Approach TECUMSEH RD E						West Approach TECUMSEH RD E						Total Vehicles
					Peds	Total					Peds	Total					Peds	Total					Peds	Total	
08:15	16	64	18	0	13	98	43	178	35	0	10	256	25	151	9	0	0	185	14	116	17	0	6	147	686
08:30	16	80	23	0	14	119	53	168	35	0	15	256	36	141	11	0	0	188	20	95	16	2	11	133	696
08:45	28	81	23	0	24	132	47	151	36	0	7	234	28	143	16	0	0	187	25	105	16	0	12	146	699
09:00	26	86	26	0	19	138	32	119	39	0	2	190	37	157	11	0	0	205	27	125	18	1	19	171	704
Grand Total	**86**	**311**	**90**	**0**	**70**	**487**	**175**	**616**	**145**	**0**	**34**	**936**	**126**	**592**	**47**	**0**	**0**	**765**	**86**	**441**	**67**	**3**	**48**	**597**	**2785**
Approach %	17.7	63.9	18.5	0		-	18.7	65.8	15.5	0		-	16.5	77.4	6.1	0		-	14.4	73.9	11.2	0.5		-	
Totals %	3.1	11.2	3.2	0		17.5	6.3	22.1	5.2	0		33.6	4.5	21.3	1.7	0		27.5	3.1	15.8	2.4	0.1		21.4	
PHF	**0.77**	**0.9**	**0.87**	**0**		**0.88**	**0.83**	**0.87**	**0.93**	**0**		**0.91**	**0.85**	**0.94**	**0.73**	**0**		**0.93**	**0.8**	**0.88**	**0.93**	**0.38**		**0.87**	**0.99**
Cars	70	253	77	0		400	140	508	117	0		765	106	517	38	0		661	75	360	54	3		492	2318
% Cars	81.4	81.4	85.6	0		82.1	80	82.5	80.7	0		81.7	84.1	87.3	80.9	0		86.4	87.2	81.6	80.6	100		82.4	83.2
Light Trucks	10	46	9	0		65	30	91	19	0		140	15	55	6	0		76	8	59	5	0		72	353
% Light Trucks	11.6	14.8	10	0		13.3	17.1	14.8	13.1	0		15	11.9	9.3	12.8	0		9.9	9.3	13.4	7.5	0		12.1	12.7
Medium Trucks	5	5	3	0		13	1	9	6	0		16	1	10	3	0		14	1	8	3	0		12	55
% Medium Trucks	5.8	1.6	3.3	0		2.7	0.6	1.5	4.1	0		1.7	0.8	1.7	6.4	0		1.8	1.2	1.8	4.5	0		2	2
Heavy Trucks	1	6	1	0		8	4	8	3	0		15	4	10	0	0		14	2	14	5	0		21	58
% Heavy Trucks	1.2	1.9	1.1	0		1.6	2.3	1.3	2.1	0		1.6	3.2	1.7	0	0		1.8	2.3	3.2	7.5	0		3.5	2.1
Bicycles	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1
% Bicycles	0	0.3	0	0		0.2	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					70	-					34	-					0	-					48	-	152
% Peds					46.1	-					22.4	-					0	-					31.6	-	

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Diagram

Specified Period		One Hour Peak	
From:	11:00:00	From:	13:00:00
To:	14:00:00	To:	14:00:00

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: TECUMSEH RD E runs E/W

North Approach

	Out	In	Total
Cars	489	502	991
LT	83	97	180
MT	12	5	17
HT	4	4	8
Bicycles	1	0	1
	589	**608**	**1197**

HOWARD AVE

Bicycles	0	1	0	0
HT	0	4	0	0
MT	3	6	3	0
LT	11	58	14	0
Cars	86	322	81	0
Totals	**100**	**391**	**98**	**0**

Peds: 61

East Approach

	Out	In	Total
Cars	719	734	1453
LT	90	115	205
MT	10	24	34
HT	12	14	26
Bicycles	0	0	0
	831	**887**	**1718**

TECUMSEH RD E

Bicycles	HT	MT	LT	Cars	Totals
0	0	0	0	3	**3**
0	1	1	13	75	**90**
0	13	16	82	512	**623**
0	4	1	18	91	**114**

Peds: 40

Peds: 29

TECUMSEH RD E

Totals	Cars	LT	MT	HT	Bicycles
0	0	0	0	0	0
56	50	6	0	0	0
585	503	64	8	10	0
190	166	20	2	2	0

Peds: 36

West Approach

	Out	In	Total
Cars	681	707	1388
LT	113	85	198
MT	18	11	29
HT	18	14	32
Bicycles	0	0	0
	830	**817**	**1647**

HOWARD AVE

Totals	**129**	**462**	**166**	**2**
Cars	115	377	141	1
LT	10	78	19	0
MT	0	4	5	1
HT	4	3	1	0
Bicycles	0	0	0	0

South Approach

	Out	In	Total
Cars	634	580	1214
LT	107	96	203
MT	10	10	20
HT	8	10	18
Bicycles	0	1	1
	759	**697**	**1456**

Cars - Cars LT - Light Trucks MT - Medium Trucks HT - Heavy Trucks Bicycles - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024
Period: 11:00 - 14:00

Peak Hour Data (13:00 - 14:00)

Start Time	North Approach HOWARD AVE						South Approach HOWARD AVE						East Approach TECUMSEH RD E						West Approach TECUMSEH RD E						Total Vehicles
	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	
13:00	22	97	22	0	18	141	30	113	39	0	17	182	51	154	13	0	13	218	17	156	28	1	14	202	743
13:15	25	96	27	0	21	148	30	105	46	0	4	181	46	136	11	0	6	193	18	166	33	2	15	219	741
13:30	28	97	28	0	15	153	32	121	34	1	10	188	43	150	18	0	4	211	29	147	32	0	6	208	760
13:45	23	101	23	0	7	147	37	123	47	1	5	208	50	145	14	0	6	209	26	154	21	0	5	201	765
Grand Total	**98**	**391**	**100**	**0**	**61**	**589**	**129**	**462**	**166**	**2**	**36**	**759**	**190**	**585**	**56**	**0**	**29**	**831**	**90**	**623**	**114**	**3**	**40**	**830**	**3009**
Approach %	16.6	66.4	17	0		-	17	60.9	21.9	0.3		-	22.9	70.4	6.7	0		-	10.8	75.1	13.7	0.4		-	
Totals %	3.3	13	3.3	0		19.6	4.3	15.4	5.5	0.1		25.2	6.3	19.4	1.9	0		27.6	3	20.7	3.8	0.1		27.6	
PHF	**0.88**	**0.97**	**0.89**	**0**		**0.96**	**0.87**	**0.94**	**0.88**	**0.5**		**0.91**	**0.93**	**0.95**	**0.78**	**0**		**0.95**	**0.78**	**0.94**	**0.86**	**0.38**		**0.95**	**0.98**
Cars	81	322	86	0		489	115	377	141	1		634	166	503	50	0		719	75	512	91	3		681	2523
% Cars	82.7	82.4	86	0		83	89.1	81.6	84.9	50		83.5	87.4	86	89.3	0		86.5	83.3	82.2	79.8	100		82	83.8
Light Trucks	14	58	11	0		83	10	78	19	0		107	20	64	6	0		90	13	82	18	0		113	393
% Light Trucks	14.3	14.8	11	0		14.1	7.8	16.9	11.4	0		14.1	10.5	10.9	10.7	0		10.8	14.4	13.2	15.8	0		13.6	13.1
Medium Trucks	3	6	3	0		12	0	4	5	1		10	2	8	0	0		10	1	16	1	0		18	50
% Medium Trucks	3.1	1.5	3	0		2	0	0.9	3	50		1.3	1.1	1.4	0	0		1.2	1.1	2.6	0.9	0		2.2	1.7
Heavy Trucks	0	4	0	0		4	4	3	1	0		8	2	10	0	0		12	1	13	4	0		18	42
% Heavy Trucks	0	1	0	0		0.7	3.1	0.6	0.6	0		1.1	1.1	1.7	0	0		1.4	1.1	2.1	3.5	0		2.2	1.4
Bicycles	0	1	0	0		1	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	1
% Bicycles	0	0.3	0	0		0.2	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					61	-					36	-					29	-					40	-	166
% Peds					36.7	-					21.7	-					17.5	-					24.1	-	

Peak Hour Diagram

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Specified Period		One Hour Peak	
From:	15:00:00	From:	16:30:00
To:	18:00:00	To:	17:30:00

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024

Weather conditions: Clear

**** Signalized Intersection ****

Major Road: TECUMSEH RD E runs E/W

North Approach

	Out	In	Total
Cars	658	541	1199
LT	77	71	148
MT	6	3	9
HT	5	4	9
Bicycles	0	0	0
	746	**619**	**1365**

HOWARD AVE

Bicycles	0	0	0	0
HT	0	3	2	0
MT	2	4	0	0
LT	11	55	11	0
Cars	93	477	88	0
Totals	**106**	**539**	**101**	**0**

Peds: 41

East Approach

	Out	In	Total
Cars	781	826	1607
LT	96	123	219
MT	5	8	13
HT	9	14	23
Bicycles	0	0	0
	891	**971**	**1862**

TECUMSEH RD E

Bicycles	HT	MT	LT	Cars	Totals
0	0	0	0	0	**0**
0	0	0	9	69	**78**
0	11	5	87	572	**675**
0	2	4	21	109	**136**

Peds: 32

Peds: 12

TECUMSEH RD E

Totals	Cars	LT	MT	HT	Bicycles
0	0	0	0	0	0
57	53	3	0	1	0
610	536	63	4	7	0
224	192	30	1	1	0

Peds: 24

West Approach

	Out	In	Total
Cars	750	746	1496
LT	117	84	201
MT	9	7	16
HT	13	9	22
Bicycles	0	0	0
	889	**846**	**1735**

Totals	**130**	**484**	**195**	**0**
Cars	117	419	166	0
LT	10	59	25	0
MT	1	3	3	0
HT	2	3	1	0
Bicycles	0	0	0	0

HOWARD AVE

South Approach

	Out	In	Total
Cars	702	778	1480
LT	94	106	200
MT	7	9	16
HT	6	6	12
Bicycles	0	0	0
	809	**899**	**1708**

Cars - Cars LT - Light Trucks MT - Medium Trucks HT - Heavy Trucks Bicycles - Bicycles

Comments

Ontario Traffic Inc.
Traffic Monitoring • Services & Products

Peak Hour Summary

Intersection: TECUMSEH RD E & HOWARD AVE
Site Code: 2411900043
Count Date: Oct 01, 2024
Period: 15:00 - 18:00

Peak Hour Data (16:30 - 17:30)

Start Time	North Approach HOWARD AVE						South Approach HOWARD AVE						East Approach TECUMSEH RD E						West Approach TECUMSEH RD E						Total Vehicles
	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	↰	↑	↱	↶	Peds	Total	
16:30	26	147	28	0	13	201	40	93	44	0	4	177	47	147	12	0	6	206	19	185	43	0	4	247	831
16:45	24	129	24	0	13	177	30	137	53	0	9	220	47	148	21	0	3	216	15	177	35	0	13	227	840
17:00	23	129	28	0	11	180	23	118	40	0	10	181	67	164	11	0	3	242	23	160	32	0	12	215	818
17:15	28	134	26	0	4	188	37	136	58	0	1	231	63	151	13	0	0	227	21	153	26	0	3	200	846
Grand Total	**101**	**539**	**106**	**0**	**41**	**746**	**130**	**484**	**195**	**0**	**24**	**809**	**224**	**610**	**57**	**0**	**12**	**891**	**78**	**675**	**136**	**0**	**32**	**889**	**3335**
Approach %	13.5	72.3	14.2	0		-	16.1	59.8	24.1	0		-	25.1	68.5	6.4	0		-	8.8	75.9	15.3	0		-	
Totals %	3	16.2	3.2	0		22.4	3.9	14.5	5.8	0		24.3	6.7	18.3	1.7	0		26.7	2.3	20.2	4.1	0		26.7	
PHF	**0.9**	**0.92**	**0.95**	**0**		**0.93**	**0.81**	**0.88**	**0.84**	**0**		**0.88**	**0.84**	**0.93**	**0.68**	**0**		**0.92**	**0.85**	**0.91**	**0.79**	**0**		**0.9**	**0.99**
Cars	88	477	93	0		658	117	419	166	0		702	192	536	53	0		781	69	572	109	0		750	2891
% Cars	87.1	88.5	87.7	0		88.2	90	86.6	85.1	0		86.8	85.7	87.9	93	0		87.7	88.5	84.7	80.1	0		84.4	86.7
Light Trucks	11	55	11	0		77	10	59	25	0		94	30	63	3	0		96	9	87	21	0		117	384
% Light Trucks	10.9	10.2	10.4	0		10.3	7.7	12.2	12.8	0		11.6	13.4	10.3	5.3	0		10.8	11.5	12.9	15.4	0		13.2	11.5
Medium Trucks	0	4	2	0		6	1	3	3	0		7	1	4	0	0		5	0	5	4	0		9	27
% Medium Trucks	0	0.7	1.9	0		0.8	0.8	0.6	1.5	0		0.9	0.4	0.7	0	0		0.6	0	0.7	2.9	0		1	0.8
Heavy Trucks	2	3	0	0		5	2	3	1	0		6	1	7	1	0		9	0	11	2	0		13	33
% Heavy Trucks	2	0.6	0	0		0.7	1.5	0.6	0.5	0		0.7	0.4	1.1	1.8	0		1	0	1.6	1.5	0		1.5	1
Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
% Bicycles	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0	0	0	0		0	0
Peds					41	-					24	-					12	-					32	-	109
% Peds					37.6	-					22	-					11	-					29.4	-	

APPENDIX D

STAMSON MODELLING

STAMSON 5.0 NORMAL REPORT Date: 24-04-2025 12:06:04
MINISTRY OF ENVIRONMENT AND ENERGY / NOISE ASSESSMENT

Filename: merhan.te Time Period: 16 hours
Description:

Road data, segment # 1: Howard

Car traffic volume : 20653 veh/TimePeriod
Medium truck volume : 407 veh/TimePeriod
Heavy truck volume : 386 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 1: Howard

Angle1 Angle2 : -90.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 3
House density : 80 %
Surface : 2 (Reflective ground surface) Receiver source distance : 147.00 m
Receiver height : 1.50 m Topography : 1 (Flat/gentle slope; no barrier)
Reference angle : 0.00

Road data, segment # 2: Tecumseh

Car traffic volume : 22350 veh/TimePeriod
Medium truck volume : 468 veh/TimePeriod
Heavy truck volume : 561 veh/TimePeriod
Posted speed limit : 50 km/h
Road gradient : 0 %
Road pavement : 1 (Typical asphalt or concrete)

Data for Segment # 2: Tecumseh

Angle1 Angle2 : 18.00 deg 90.00 deg
Wood depth : 0 (No woods.)
No of house rows : 1
House density : 80 %
Surface : 2 (Reflective ground surface) Receiver source distance : 185.00 m
Receiver height : 1.50 m
Topography : 1 (Flat/gentle slope; no barrier) Reference angle : 0.00

Results segment # 1: Howard

 Source height = 1.16 m

ROAD (0.00 + 48.67 + 0.00) = 48.67 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -------
--- -90 90

0.00 67.12 0.00 -9.91 0.00 0.00 -8.53 0.00 48.67 ----------

Segment Leq : 48.67 dBA

Results segment # 2: Tecumseh

Source height = 1.24 m

ROAD (0.00 + 47.82 + 0.00) = 47.82 dBA
Angle1 Angle2 Alpha RefLeq P.Adj D.Adj F.Adj W.Adj H.Adj B.Adj SubLeq -------
--- 18 90
0.00 68.14 0.00 -10.91 -3.98 0.00 -5.44 0.00 47.82 ----------
---

Segment Leq : 47.82 dBA

Total Leq All Segments: 51.28 dBA

TOTAL Leq FROM ALL SOURCES: 51.28

APPENDIX E

D-6 CLASSIFICATION CRITERIA

Category	Outputs	Scale	Process	Operations/Intensity	Possible Examples
Class I	• Noise: Sound not audible off property • Dust and/or Odour: Infrequent and not intense • Vibration: No ground borne vibration on plant property	• No outside storage • Small scale plant or scale is irrelevant in relation to all other criteria for this Class	• Self-contained plant or building which produces/stores a packaged product. Low probability of fugitive emissions	• Daytime operations only • Infrequent movement of products and/or heavy trucks	• Electronics manufacturing and repair • Furniture repair and refinishing • Beverages bottling • Auto parts supply • Packaging and crafting services • Distribution of dairy products • Laundry and linen supply
Class II	• Noise: Sound occasionally audible off property • Dust and/or Odour: Frequent and occasionally intense • Vibration: Possible groundborne vibration, but cannot be perceived off property	• Outside storage permitted • Medium level of production allowed	• Open process • Periodic outputs of minor annoyance • Low probability of fugitive emissions	• Shift operations permitted • Frequent movement of products and/or heavy trucks with the majority of movements during daytime hours	• Magazine printing • Paint spray booths • Metal command • Electrical production manufacturing • Manufacturing of dairy products • Dry cleaning services • Feed packing plant
Class III	• Noise: sound frequently audible off property • Dust and/or Odour: Persistent and/or intense • Vibration: Ground-borne vibration can frequently be perceived off property	• Outside storage of raw and finished products • Large production levels	• Open process • Frequent outputs of major annoyances • High probability of fugitive emissions	• Continuous movement of products and employees • Daily shift operations permitted	• Manufacturing of paint and varnish • Organic chemicals manufacturing • Breweries • Solvent recovery plants • Soaps and detergent manufacturing • Manufacturing of resins and costing • Metal manufacturing

APPENDIX F

STATIONARY SOURCE DATA

Stationary Noise Source	Sound Power Level (dBA)	Source
10-ton HVAC unit	86.2	Dillon Sound Library
5-ton HVAC unit	83.2	Dillon Sound Library
Car Wash Blowers (exit)	106.7	Dillon Sound Library
Truck Passby	110.6	DEFRA
Truck Idling	99.3	Dillon Sound Library
Reefer Truck	99.8	Dillon Sound Library
Pneumatic Tools	102	Dillon Sound Library
Paint Spray Booth Exhaust	94.4	Dillon Sound Library
Cooling Tower	106.5	Dillon Sound Library
Air Cooled Condensor	89.9	Dillon Sound Library
Makeup Air Unit	99.5	Dillon Sound Library
Air Handling Unit Inlet	87.3	Dillon Sound Library
Air Handling Unit Discharge	81.3	Dillon Sound Library