

# NOISE IMPACT STUDY

4366 COLONEL TALBOT ROAD  
LOT 7, PART OF LOTS 1 & 6,  
SOUTH OF BROADWAY AVENUE  
REGISTERED PLAN No. 27(c)  
LOT 11 & 15 AND PART OF LOT 16,  
EAST OF THE NORTH BRANCH OF TALBOT ROAD  
REGISTERED PLAN No. 433(c)  
PART OF LOT 70,  
EAST OF THE NORTH BRANCH OF TALBOT ROAD  
GEOGRAPHIC TOWNSHIP OF MIDDLESEX  
LONDON, ON  
COUNTY OF MIDDLESEX

## Prepared for:

Kevlar Development Group  
P.O. Box 119  
Arva, ON  
N0M 1C0

## Prepared By:



Frank Westaway,  
Qualified Acoustical Consultant

Our File No: 23-4066  
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**dB A Acoustical Consultants Inc.**  
P.O. Box 32059  
1447 Upper Ottawa  
Hamilton, ON  
L8W 3K0

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## 1.0 INTRODUCTION

dBA Acoustical Consulting Inc. has been retained to conduct a noise impact study on behalf of Kevlar Development Group, for the proposed Commercial Development located at 4366 Colonel Talbot Road, London, ON, County OF Middlesex.

The purpose of the noise impact study is to determine, for site plan approval, the noise impact from the proposed Commercial Development rooftop HVAC units, drive-thru vehicles, and speaker boxes noise levels on neighbouring residential properties, as required by the City of London, County of Middlesex.

This noise impact study will assume and detail noise impact relative to the site plan and recommend minimum noise control measures necessary (if applicable) to meet MECP Publication NPC-300 entitled “Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the City of London, County of Middlesex.

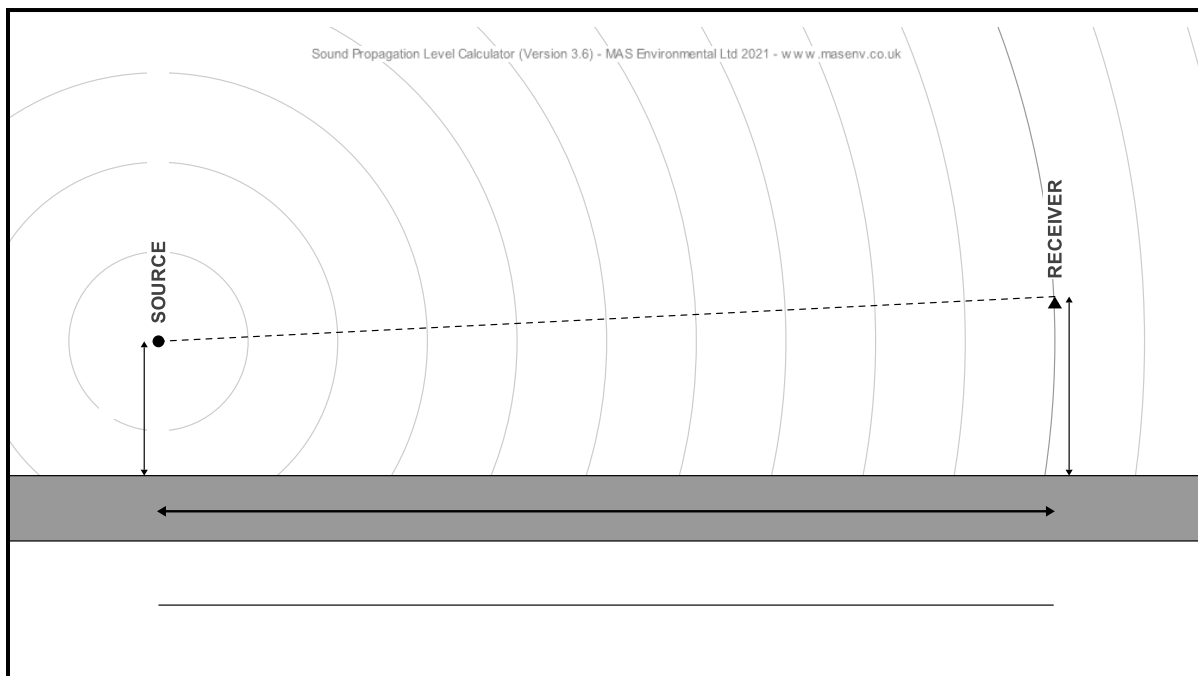
Vibration is not considered as there is no rail lines within 75m for vibration. Aircraft is not a concern as the development is located outside the NEF 25 contour of the area. See attached Key Plan Figure 1.

## 2.0 SITE DESCRIPTION

Proposed for this site is a drive-thru restaurant (proposed Wendy’s). To the immediate north, south, east, and west are 1-2 storey residential dwellings. To the northwest is a retail building. To the west is Colonel Talbot Road and to the north is Broadway Avenue. The residential property to the west of the proposed development is owned by the same applicant and is slated for future development.

Receptor 1 is the residential property to the south of the proposed development and the following Sound Propagation Level Calculator for a single vehicle pass shows that a noise barrier is not required as the overall level is below the MECP noise guidelines for day and night as shown in Table 1.

### Sound Propagation Level Calculator Results



### 3.0 REGULATORY CONTEXT

The MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines defines a point of reception/receptor as *“any point on the premises of a person where the sound or vibration originating from other than those premises are received.”*

The point of reception may be located on any of the following, or zoned for future use, premises including but not limited to the following: residential homes, retirement homes, etc.

The areas surrounding the proposed Commercial Development is indicative of a “Class 1 Area” as defined in MECP Publication NPC-300, Stationary & Transportation Sources-Approval & Planning guidelines.

The applicable sound limits are the higher of:

- The existing ambient sound level; or
- The minimum values of Table 1.

Traffic background noise levels may result in higher noise levels than the following Table 1, Minimum Sound Level Limits.

TABLE 1 Minimum Sound Level Limits (Class 1 Area)	
Time Period	L <sub>eq</sub> (dBA)
07:00 - 19:00	50
19:00 - 23:00	50
23:00 – 07:00	45

### 4.0 STATIONARY NOISE

#### 4.1 DRIVE-THRU RESTAURANT

The proposed tenant for this restaurant is Wendy’s. The drive-thru restaurant will have one drive-thru lane along the north and west side of the property.

Preliminary stationary noise source for the drive-thru restaurant is as follows.

1. 11 vehicles (total) drive-thru queue.
2. One menu board with speaker box – directed northwest.

#### 4.2 VEHICLE NOISE CALCULATIONS (Example)

An example of noise calculations for 11 standard vehicles in the queue while idling and moving is as follows.

# Vehicles	Sound Pressure Level (dBA)		
1	70	10000000	
2	70	10000000	
3	70	10000000	
4	70	10000000	
5	70	10000000	
6	70	10000000	
7	70	10000000	
8	70	10000000	
9	70	10000000	
10	70	10000000	
11	70	10000000	<b>L<sub>PR</sub>= 79.0 dBA</b>

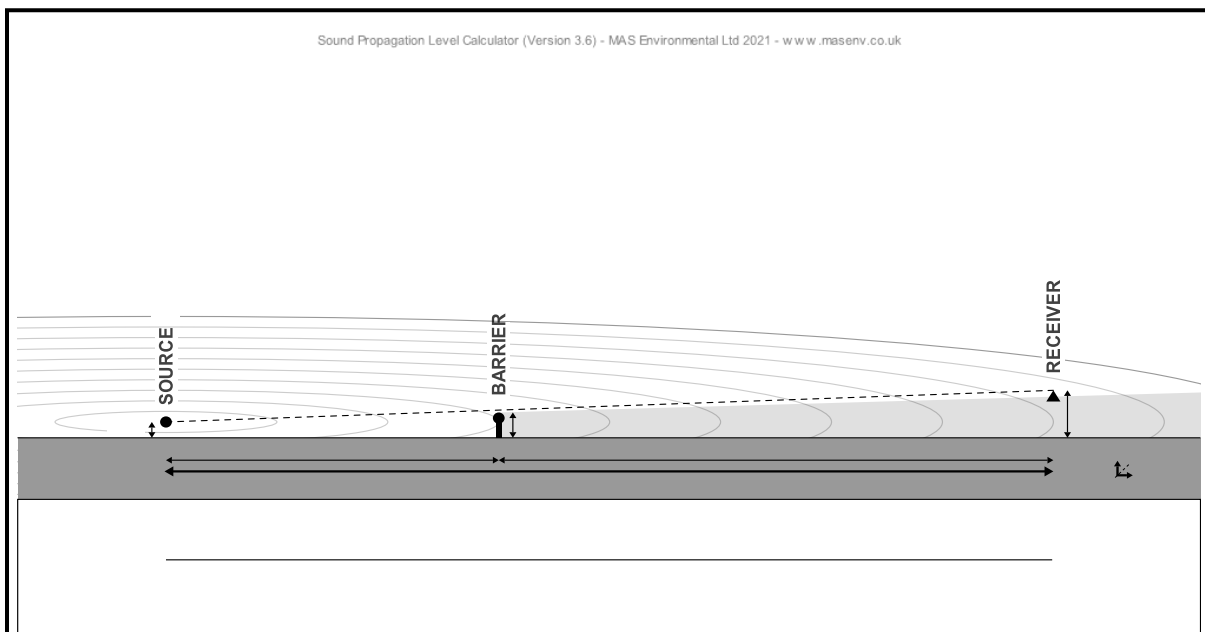
Vehicle noise exceeds the MECP noise criteria and requires a 2.43m noise barrier along the side yard of the existing residential property to the north. (See Figure 4)

For reference, the MECP requirements for an acoustical barrier are:

- Minimum surface density (Face Weight) of 20 kg/m<sup>2</sup>.
- Structurally sound.
- Appropriately designed to withstand wind and snow load and constructed without cracks or surface gaps.

Receptor 2 is the residential property to the east of the proposed development and the following Sound Propagation Level Calculator for eleven vehicles in the queue and shows that a 2.43m noise barrier is required to reach the MECP noise guidelines for both day and night as shown in Table 1.

### Sound Propagation Level Calculator Results



## **5.0 NOISE CALCULATIONS (WENDY'S)**

### **5.1 HVAC UNITS**

HVAC unit details and locations have not been supplied, once the type, number and location(s) of the HVAC unit(s) are made available new noise calculations will be required to confirm noise impact on the area residential properties.

### **5.2 DRIVE-THRU SPEAKER BOXES**

Proposed for the restaurant drive-thru is one speaker box. For these calculations we have used one ground menu speaker box, located on the northwest side of the proposed restaurant drive-thru. This speaker box has a volume control limiter which is located inside the restaurant and the control is adjusted by the restaurant Management. This speaker is partially shielded by vehicles utilizing the menu board and will further reduce the noise levels at the nearest receptor location.

The speaker box noise level is calculated by converting the hourly Leq (dBA) sound levels. The Leq is then calculated for distance separation from the speaker box and the side yard of the residential home to the north which is represented in Figure 3 Receptor & Noise Barrier Locations.

## **6.0 SUMMARY OF RECOMMENDATIONS**

- A 2.43m noise barrier is required at the east portion of the property as shown in Figure 3.
- Once any HVAC unit has been determined dBA Acoustical Consultants Inc. will require location, number of units, manufacturers specifications for sound pressure levels, sound power levels and model number to provide an update to the noise impact study.

## **7CONCLUSIONS**

dBA Acoustical Consulting Inc. has conducted a noise impact study on behalf of Kevlar Development Group, for the proposed Commercial Development located at 4366 Colonel Talbot Road, London, ON, County of Middlesex.

The noise impact study determined, for site plan approval, the noise impact from the proposed Commercial Development rooftop HVAC units, drive-thru vehicles, and speaker boxes noise levels on neighbouring residential properties, as required by the City of London, County of Middlesex.

This noise impact study detailed noise impact relative to the site plan and recommended noise control measures necessary to meet MECP Publication NPC-300 entitled "Stationary & Transportation Sources-Approval & Planning guidelines while satisfying the planning requirements of the City of London, County of Middlesex.

FIGURE 1  
KEY PLAN



FIGURE 2  
SITE PLAN

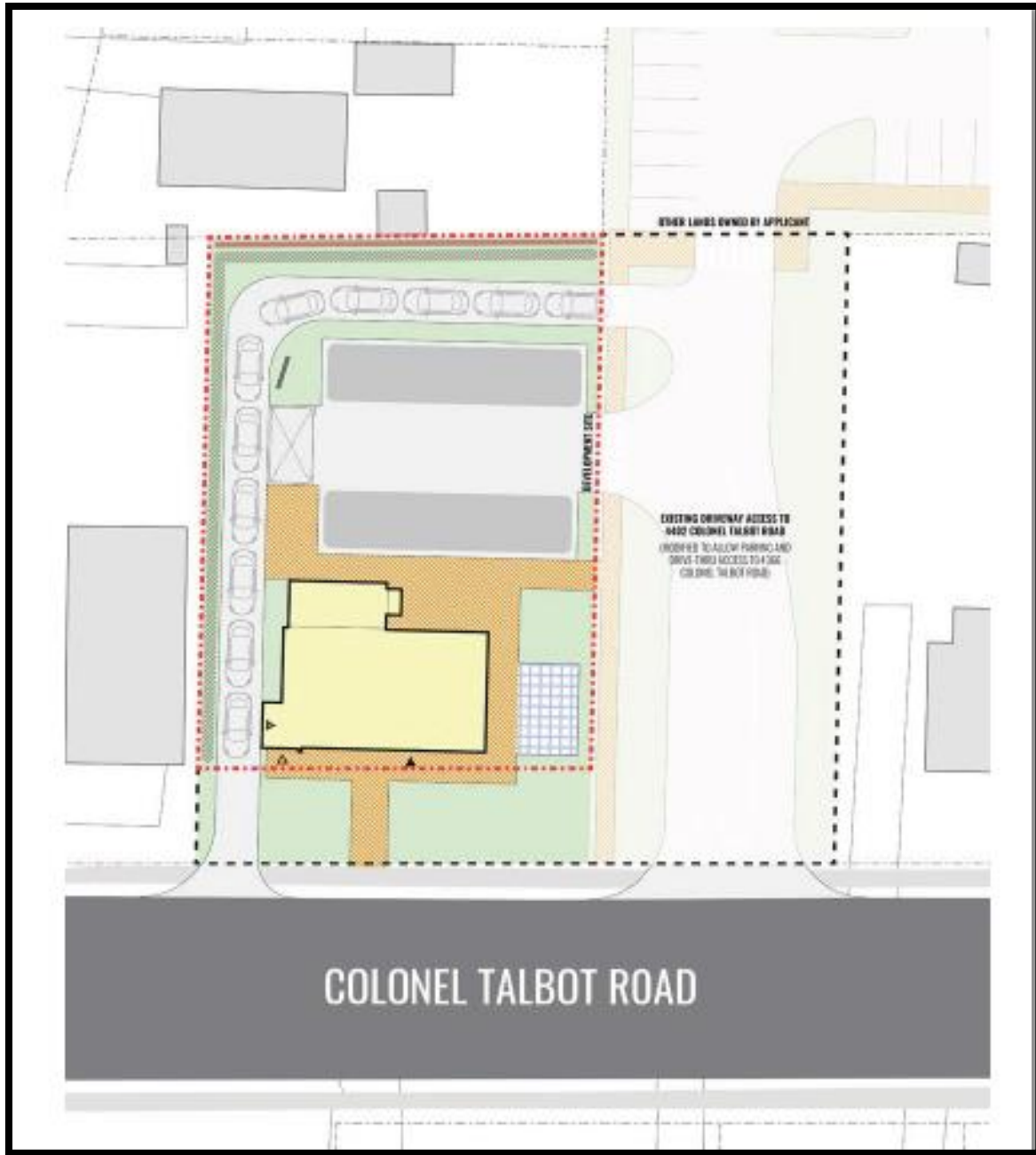




FIGURE 3  
2.43m NOISE BARRIER & RECEPTOR LOCATIONS

