

November 13, 2015

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Attention: Daniel Grenzowski  
[daniel.grenzowski@esso.ca](mailto:daniel.grenzowski@esso.ca)

**VIA E-MAIL**

**Re: Environmental Noise Impact Study – Addendum #1  
Proposed Gas Bar, Car Wash and Drive-Thru  
Woodroffe Avenue and Medhurst Drive  
City of Ottawa  
VCL File: 114-456**

## 1. INTRODUCTION

Valcoustics Canada Ltd. completed an Environmental Noise Impact Study dated May 4, 2015 (herein referred as Noise Report) for the proposed Esso Gas Bar, Car Wash and Drive-Thru facility on the northeast corner of Woodroffe Avenue and Medhurst Drive in the City of Ottawa. After submission of the Noise Report, the development plans were revised slightly. The revisions include:

- ▶ The C-store was shifted slightly to the north;
- ▶ The number of cars in the drive-thru queue was increased from 13 cars to 15 cars;
- ▶ Sound barriers have been added in the site plan. These include a 3.0 m high, 1.5 m long wing wall on the car wash exit, a 2.3 m high property line sound barrier on the east portion of the site, and a 3.0 m high property line acoustic fence on top of a 0.25 m high berm on the southeast portion of the site.
- ▶ The drive-thru will operate between 0600-2300 hours.

Figure 1-1 shows the revised Site Plan, dated November 12, 2015, prepared by Amec Foster Wheeler.

We have updated the analysis to reflect the above revisions. As a result of the reduced hours of operation for the drive thru, the Nighttime 1 operating scenario was revised.

Nighttime 1 (0400-0500 hours):

- ▶ The car wash facility was assumed to operate at 10% capacity with 1.33 car washes per hour and no cars in the queue.

- ▶ Two rooftop HVAC units operating at 50% duty cycle (i.e., each unit operates for 30 minutes per hour).
- ▶ Two condensing units and one compressor unit operating at 100% duty cycle (ie., each unit operates for the full hour).
- ▶ One air pump operating 10% of the time.
- ▶ 30 customer vehicles arriving at and departing from the subject site.

All other analysis parameters and scenarios used in this addendum are the same as those from the Noise Report.

## 2.0 NOISE IMPACT ASSESSMENT UPDATE

Table 1-1 summarizes the predicted site-generated sound levels at the assessment receptors based on the updated assessment described above. Figures 1-2 to 1-5 show the predicted sound levels for the four scenarios.

As shown in Table 1-1 and Figures 1-2 to 1-5, the MOE noise guideline limits are met at all receptors for the four operating scenarios. Therefore, no additional noise mitigation other than those shown on the Site Plan is required.

## 3.0 CONCLUSIONS


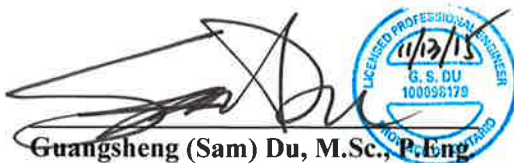
The resulting sound exposures from the proposed development are expected to comply with the MOE noise guidelines and the potential for adverse noise impact from the proposed commercial/retail development will be negligible.

If you have any questions, please do not hesitate to call.

Yours truly,

**VALCOUSTICS CANADA LTD.**

Per:



**Guangsheng (Sam) Du, M.Sc., P.Eng.**

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Enclosures

**TABLE 1-1**

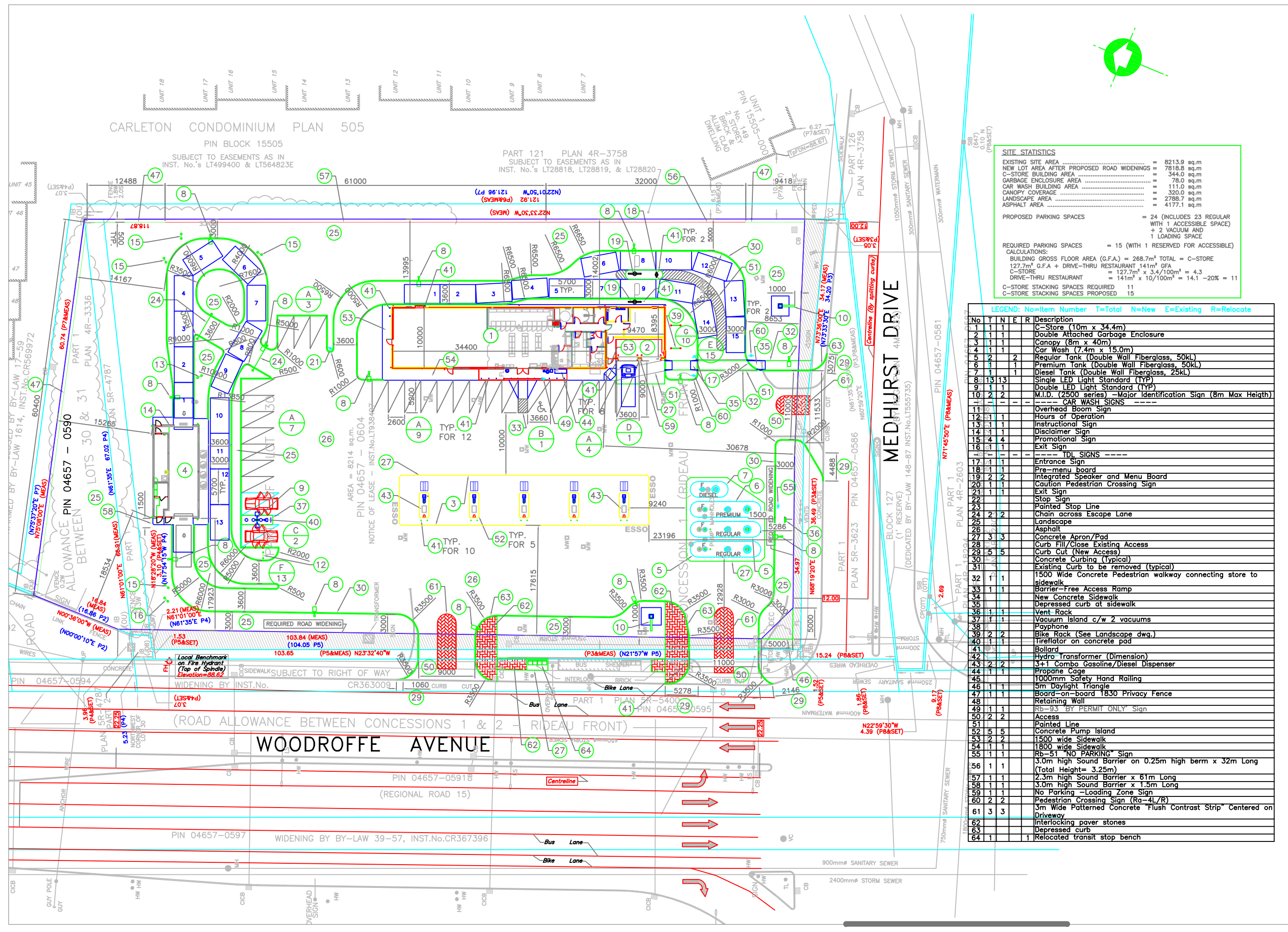
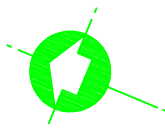
**SITE GENERATED SOUND LEVELS – UPDATED SITE PLAN**

Receptor <sup>(1)</sup>	<b>L<sub>eq</sub>(1 hour) (dBA) for Indicated Hour<sup>(2)</sup></b>			
	<b>Peak Daytime Hour (0700-0800)</b>	<b>Peak Evening Hour (2200-2300)</b>	<b>Nighttime 1 (0400-0500)</b>	<b>Nighttime 2 (0600-0700)</b>
R01	55 (58)	50 (53)	43 (45)	50 (54)
R02	52 (55)	44 (50)	37 (45)	46 (50)
R03	52 (53)	42 (50)	36 (45)	46 (49)
R04	50 (52)	41 (50)	34 (45)	43 (48)
R05	52 (53)	43 (50)	36 (45)	45 (48)
R06	51 (52)	42 (50)	36 (45)	46 (48)
R07	50 (51)	42 (50)	36 (45)	47 (47)
R08	42 (50)	36 (50)	33 (45)	41 (45)
R09	48 (51)	40 (50)	36 (45)	47 (47)
R10	55 (65)	51 (60)	44 (49)	51 (60)

Notes:

- (1) See Figures 1-2 to 1-5.
- (2) Due to rooftop mechanical equipment, gas bar/car wash and drive-thru operations, as well as customer vehicle movements. Applicable MOE guideline limits are shown in brackets.

Base Drawing by:  
IMPERIAL OIL



**SITE STATISTICS**

EXISTING SITE AREA	= 8213.9 sq.m
NEW LOT AREA AFTER PROPOSED ROAD WIDENINGS	= 7818.8 sq.m
C-STORE BUILDING AREA	= 344.0 sq.m
GARBAGE ENCLOSURE AREA	= 78.0 sq.m
CAR WASH BUILDING AREA	= 111.0 sq.m
CANOPY COVERAGE	= 320.0 sq.m
LANDSCAPE AREA	= 2788.7 sq.m
ASPHALT AREA	= 4177.1 sq.m

PROPOSED PARKING SPACES = 24 (INCLUDES 23 REGULAR WITH 1 ACCESSIBLE SPACE)  
+ 2 VACUUM AND 1 LOADING SPACE

REQUIRED PARKING SPACES = 15 (WITH 1 RESERVED FOR ACCESSIBLE)

CALCULATIONS:  
BUILDING GROSS FLOOR AREA (G.F.A.) = 268.7m<sup>2</sup> TOTAL = C-STORE  
127.7m<sup>2</sup> G.F.A + DRIVE-THRU RESTAURANT 141m<sup>2</sup> G.F.A  
C-STORE = 127.7m<sup>2</sup> x 3.4/100m<sup>2</sup> = 4.3  
DRIVE-THRU RESTAURANT = 141m<sup>2</sup> x 10/100m<sup>2</sup> = 14.1 -20% = 11  
C-STORE STACKING SPACES REQUIRED 11  
C-STORE STACKING SPACES PROPOSED 15

**LEGEND: No=Item Number T=Total N=New E=Existing R=Relocate**

No	T	N	E	R	Description
1	1	1			C-Store (10m x 34.4m)
2	1	1			Double Attached Garbage Enclosure
3	1	1			Canopy (8m x 40m)
4	1	1			Car Wash (7.4m x 15.0m)
6	2	2			Regular Tank (Double Wall Fiberglass, 50kL)
7	1	1			Premium Tank (Double Wall Fiberglass, 50kL)
8	13	13			Diesel Tank (Double Wall Fiberglass, 25kL)
9	1	1			Single LED Light Standard (TYP)
10	2	2			Double LED Light Standard (TYP)
11					M.I.D. (2500 series) -Major Identification Sign (8m Max Height)
11					CAR WASH SIGNS
11					Overhead Boom Sign
12	1	1			Hours of Operation
13	1	1			Instructional Sign
14	1	1			Disclaimer Sign
15	4	4			Promotional Sign
16	1	1			Exit Sign
16					TDL SIGNS
17	1	1			Entrance Sign
18	1	1			Pre-menu board
19	2	2			Integrated Speaker and Menu Board
20	1	1			Caution Pedestrian Crossing Sign
21	1	1			Exit Sign
22					Stop Sign
23					Painted Stop Line
24	2	2			Chain across Escape Lane
25					Landscape
26					Asphalt
27	5	3			Concrete Apron/Pad
28					Curb Fill/Close Existing Access
29	5	5			Curb Cut (New Access)
30					Concrete Curbing (Typical)
31					Existing Curb to be removed (typical)
32	1	1			1500 Wide Concrete Pedestrian walkway connecting store to sidewalk
33	1	1			Barrier-Free Access Ramp
34					New Concrete Sidewalk
35					Depressed curb at sidewalk
36	1	1			Vent Rack
37	1	1			Vacuum Island c/w 2 vacuums
38					Payphone
39	2	2			Bike Rack (See Landscape dwg.)
40	1	1			Firehydrant on concrete pad
41					Bollard
42					Hydro Transformer (Dimension)
43	2	2			3+1 Combo Gasoline/Diesel Dispenser
44	1	1			Propane Cage
45					1000mm Safety Hand Railing
46	1	1			5m Daylight Triangle
47	1	1			Board-on-board 1830 Privacy Fence
48					Retaining Wall
49	1	1			Rb-93 "BY PERMIT ONLY" Sign
50	2	2			Access
51					Painted Line
52	5	5			Concrete Pump Island
53	2	2			1500 wide Sidewalk
54	1	1			1800 wide Sidewalk
55	1	1			Rb-51 "NO PARKING" Sign
56	1	1			3.0m high Sound Barrier on 0.25m high berm x 32m Long (Total Height= 3.25m)
57	1	1			2.3m high Sound Barrier x 61m Long
58	1	1			3.0m high Sound Barrier x 1.5m Long
59	1	1			No Parking -Loading Zone Sign
60	2	2			Pedestrian Crossing Sign (Ra-4L/R)
61	3	3			3m Wide Patterned Concrete "Flush Contrast Strip" Centered on Driveway
62					Interlocking paver stones
63					Depressed curb
64	1	1			Relocated transit stop bench

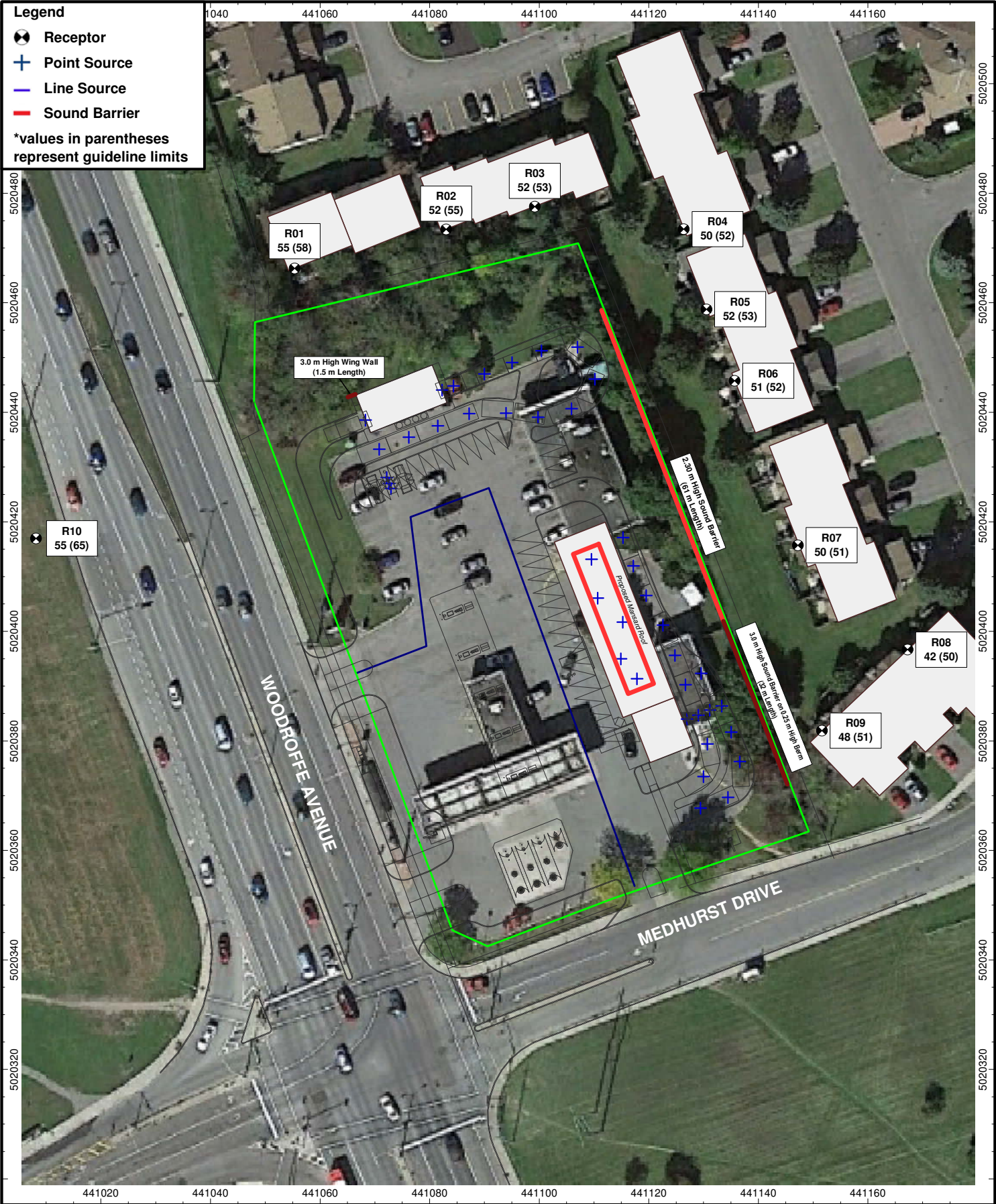
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Project Name  
**Esso GBCW-DT/  
Woodroffe Ave &  
Medhurst Dr**

Title  
**Proposed  
Site Plan**

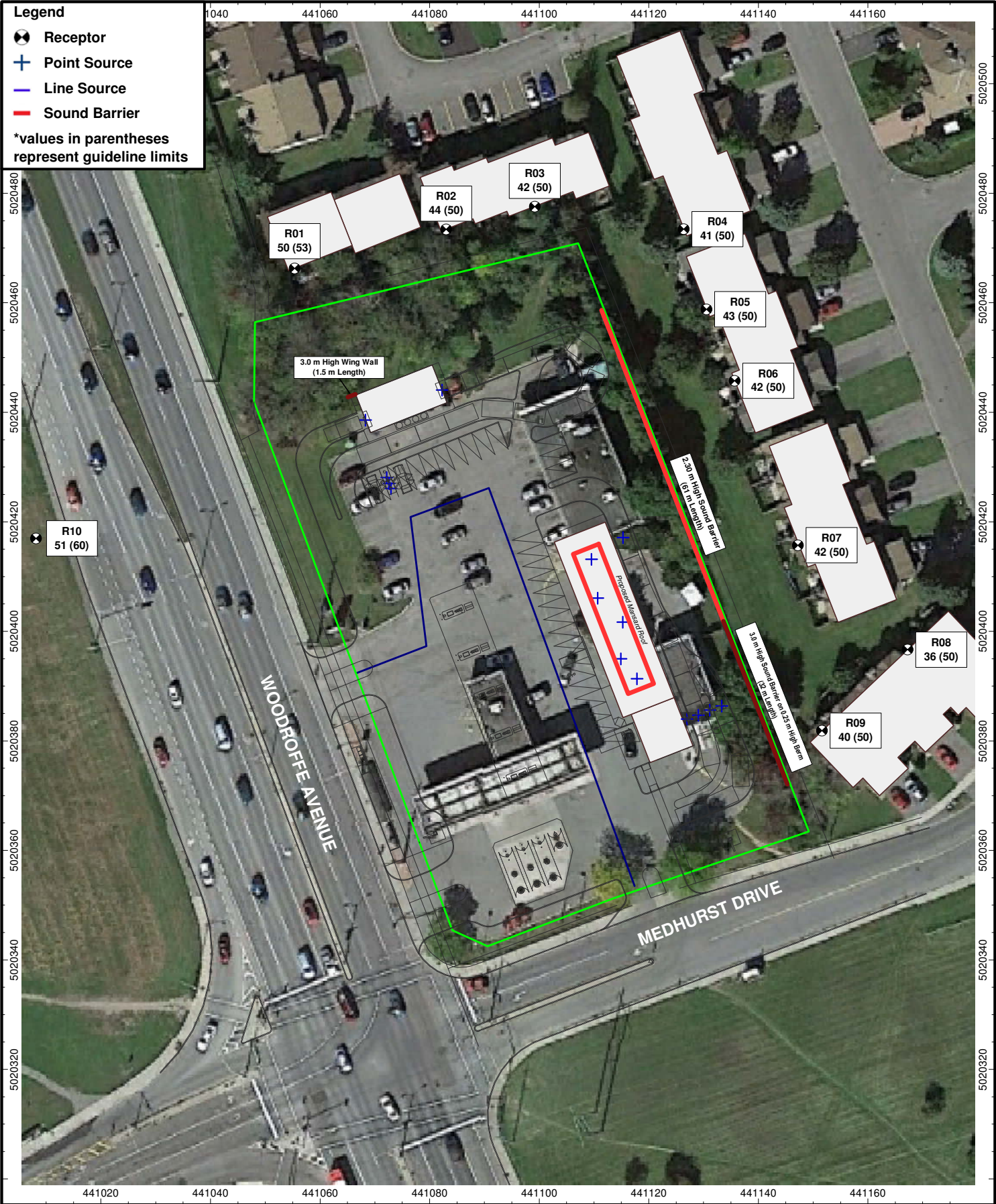
Project	114-456	Figure	<b>1-1</b>
Date	2015-11-12	Scale	
Scale	N.T.S.		



Title	<b>Predicted Sound Levels (dBA) - 0700-0800 Hours</b>
Project Name	<b>Esso GBCW-DT/Woodroffe Ave &amp; Medhurst Dr</b>

Date	<b>2015-11-12</b>
Project No.	<b>114-456</b>

Figure  
**1-2**



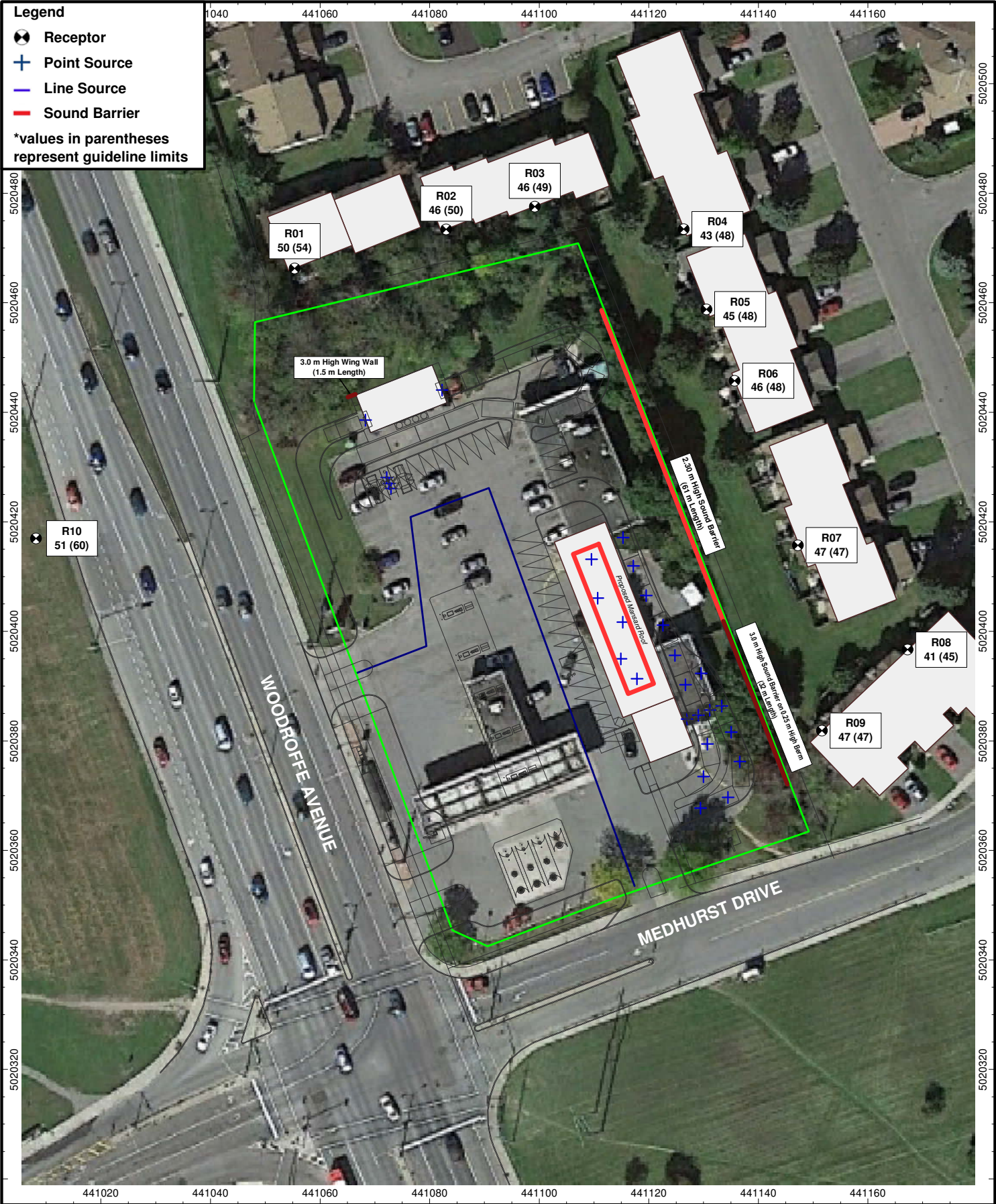
	<b>Title</b> <b>Predicted Sound Levels (dBA) - 2200-2300 Hours</b>	<b>Date</b> <b>2015-11-12</b>	<b>Figure</b> <b>1-3</b>
	<b>Project Name</b> <b>Esso GBCW-DT/Woodroffe Ave &amp; Medhurst Dr</b>	<b>Project No.</b> <b>114-456</b>	



Title	<b>Predicted Sound Levels (dBA) - 0400-0500 Hours</b>
Project Name	<b>Esso GBCW-DT/Woodroffe Ave &amp; Medhurst Dr</b>

Date	<b>2015-11-12</b>
Project No.	<b>114-456</b>

Figure  
**1-4**



	<b>Title</b> <b>Predicted Sound Levels (dBA) - 0600-0700 Hours</b>	<b>Date</b> <b>2015-11-12</b>	<b>Figure</b> <b>1-5</b>
	<b>Project Name</b> <b>Esso GBCW-DT/Woodroffe Ave &amp; Medhurst Dr</b>	<b>Project No.</b> <b>114-456</b>	