

APPENDIX A



ACOUSTICAL REPORT CAR WASH 281 MAIN STREET EAST KINGSVILLE, ONTARIO

PROJECT NO. 19-019

DATED: FEBRUARY 25, 2019



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APPENDICES

- Appendix A Noise Information Plan
- Appendix B Background Information and Other Relevant Information
- Appendix C iNoise Output

1. INTRODUCTION

1.1 *Background*

BairdAE was retained to conduct a stationary noise assessment of a existing commercial development (Carwash) at 281 Main Street East, Kingsville to address concerns by neighboring residents and recommend any mitigation, if required, based on criteria set by the Town of Kingsville.

The existing development is located in the Town of Kingsville and is bounded by Main Street to the north, Wigle Avenue to the west, and commercial developments i.e. TD Bank and Pharmacy to the east and south.

Based on the site plan, the site consists of a new building (4470 ft²), asphalt area, landscape and sidewalk. The existing building rise is approximately 5.1m above grade. The closest point of reception is a residential property along Wigle Avenue and Main Street. Refer to Figure 1 (Appendix A) for the development location and layout.

1.2 *Description*

Preliminary information for the development has been obtained from site visits and discussion with client. The following assumptions have been included in the analysis:

- The two accesses, one from Wigle Avene and other from Main Street, are provided;
- The development provides car wash and oil change service. Two separate entrances are provided for both services;
- The car wash section has six (6) Belanger Inc. blower system at 10hp 575v 3 phase at the exit of car wash. Blowers face into the car wash away from the exit door and blowers are installed with optional silencer package;
- Oil change and auto car repair service section with one bay area;
- The operation of development is from 6:00am to 23:00pm.

Mechanical equipment details and background information are provided in Appendix B.

1.3 Objectives

The main goal of this assessment is to assess the anticipate noise impacts from blowers, mechanical equipment and lift bay.

2. NOISE PREDICTION METHOD

2.1 Noise Criteria

The Town site plan agreement states that “noise level generated by the carwash dryer and vacuum systems located on the property shall maintain an upper limit of 60dBs maximum measured to the closet existing residential property line”.

2.2 Stationary Noise Source Power Levels

Noise level monitoring was conducted on July 13, 2018 and July 17, 2018 (weekday) and was taken approximately 10 feet from the exit doors of the car wash and then proceed in increment of 30 ft, 50 ft and 80 ft. Measurements were taken using a REED ST-805 noise monitoring device. Table 1 summarizes the power levels of each interval. Noise reading locations are illustrated in Figure 1 (Appendix A).

Table 1: Sound Power Levels (dBA)

Source ID	Desc	Ambient Noise Level (Traffic) (dBA)			Combine (Traffic and Running Dryer) Noise Level (dBA)		
		9AM	12PM	3PM	9AM	12PM	3PM
S1	10ft	75.8	72.4	70.3	85.2	93.1	89.8
S2	30ft	73.9	75.0	72.1	80.1	81.6	78.0
S3	50ft	71.4	74.3	68.7	77.2	77.5	79.0
S4	80ft	73.2	74.0	69.1	75.8	74.5	73.8

**Note: Highest monitoring reading used in the model*

It was observed that the combined noise level was nearly equal to the amount of noise produced by traffic therefore is negligible, hence no further reading was taken beyond 80 ft i.e. the traffic noise is higher than the noise emitting from the car wash dryers. *The results*

also show that the ambient noise level at 10 feet is equivalent to the combined noise (with dryer in operation) at 80 feet during 9am (daytime).

This further illustrates that the noise from the car wash dryer becomes a smaller component of the combined noise and the traffic noise becomes a larger component as distance increases.

2.3 Receiver Locations

For the purpose of this study, representative sample receiver locations were identified and are shown in Figure 1 (Appendix A). These receiver locations are located at the worst-case locations (most exposed) for day time noise.

For Outdoor Living Area (OLA), the receivers are located at the property line and 1.5 meters above the ground.

Table 2 identifies the various receiver heights chosen as the “worst case” locations within the existing development.

Table 2: Receiver Location

Receiver	Location	Height Above Grade (m)	Type	Represents
Receiver 1	259 Main Street	1.5m	Property Line	East Property Line
Receiver 2			Bedroom POW	East Façade
Receiver 3	24 Wigle Avenue	1.5m	Bedroom POW	North Façade
Receiver 4			Property Line	Northeast Property Line

3. RESULTS

The noise modelling program “iNoise”, produced by DGMR Software, was used to predict the noise levels produced by the noise sources. Computer modelling follows International Standards Organization (ISO) standards 9613 parts 1 and 2.

Table 3 summarizes the iNoise results and noise contours at 1.5m above grade can be seen in figures provided in Appendix C.

The results show that the noise level falls below the Town’s criteria of 60dBA; hence, no mitigation measures are required and noise contours on adjacent land are favorable.

Table 3: Current Noise Levels

Location	Noise Level (dBA)				Town Criteria (dBA)	Meets
	Daytime/Evening				Daytime/Evening	
	S1	S2	S3	S4		
Receiver - 259 Main						
R1 – East	57.9	47.5	47.5	51.4	60	Yes
R2 – East Facade	55.4	44.4	43.1	42.4	60	Yes
Receiver – 24 Wigle						
R3 – North Facade	57.3	46.8	46.2	46.9	60	Yes
R4 – Northeast	54.8	42.4	41.1	39.6	60	Yes

4. RECOMMENDATIONS

Our stationary noise assessment for the development indicates that noise levels at nearby points of reception (259 Main Street and 24 Wigle Avenue) are below the Town’s noise limits, hence, no further mitigation measures are required.

If you have any questions or wish to discuss our findings, please advise us.

Yours truly,

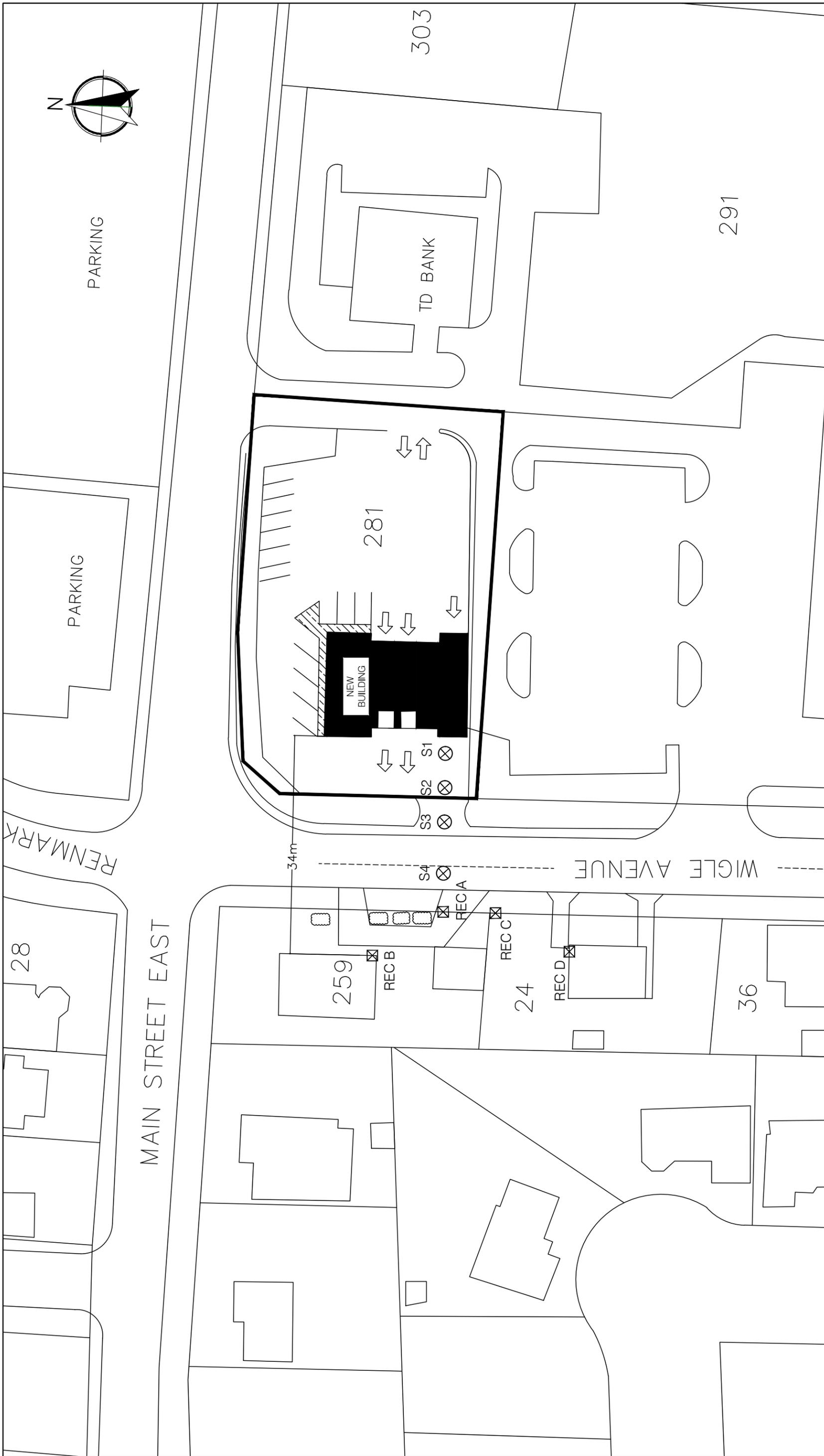
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Shurjeel Tunio, P.Eng.
 Senior Project Manager
Baird AE



Appendix A

NOISE INFORMATION PLAN



LEGEND

- RECEIVER LOCATION
- PROPOSED DEVELOPMENT
- NOISE SOURCES

BAIRD|AE
architecture + engineering

281 MAIN STREET EAST
MUNICIPALITY OF KINGSVILLE
KINGSVILLE, ON

FIGURE 1 - NOISE INFORMATION PLAN

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Appendix B

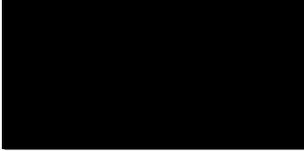
BACKGROUND INFORMATION AND OTHER RELEVANT INFORMATION



2021 Division Road North
Kingsville, Ontario N9Y 2Y9
Phone: (519) 733-2305
www.kingsville.ca

August 10, 2018

2569299 Ontario Incorporated



RE: 281 Main St. W – Noise Levels

Dear 

This letter is being sent to provide you with the details of the investigation of the ongoing noise concern related to your automated carwash. After additional noise level measurements were taken, including that of the dryer units and the ambient noise levels, it has been determined that the general increase between the pre-development level and post-development level is negligible. This change should not be impacting on the residential area to the immediate west of your property.

However, this is limited to a period between approximately 8 am and 6 pm when the surrounding average ambient noise levels are higher or approximately 75 decibels. After 6pm the ambient noise levels decrease as a result of less activity and traffic in the area and drop back into the 60 decibel range.

What this means is you can maintain compliance with Section 22. v) of the site plan agreement but only if the hours of operation are limited to 8am to 6pm. If the hours of operation remain as they are at present then there is additional corrective action necessary to meet the requirements of the agreement.

As this is an outstanding requirement of the site plan agreement it is important to resolve the issue in short order. If there are any questions, regarding the next steps please contact me as soon as possible.

Regards,

A handwritten signature in black ink, appearing to read "Robert Brown".

Robert Brown, H. Ba., MCIP, RPP,
Manager, Planning Services
Development Service Department
rbrown@kingsville.ca
519-733-2305 (ext. 250)



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Prepared for: 2569299 Ontario Limited
C/O Firehall Car Wash
281 Main Street East
Kingsville, Ontario N9Y 1A7

Date: June 11, 2018

This letter is to confirm that the drying system as manufactured by Belanger Inc. consists of (6) 10 hp 575v 3 phase motors. The dryer configuration in the wash bay has been repositioned and re-installed so that the air intakes now face into the car wash and away from the exit door at the request of the owners.

Furthermore, the dryers as installed feature an optional silencer package designed to provide a quieter experience.

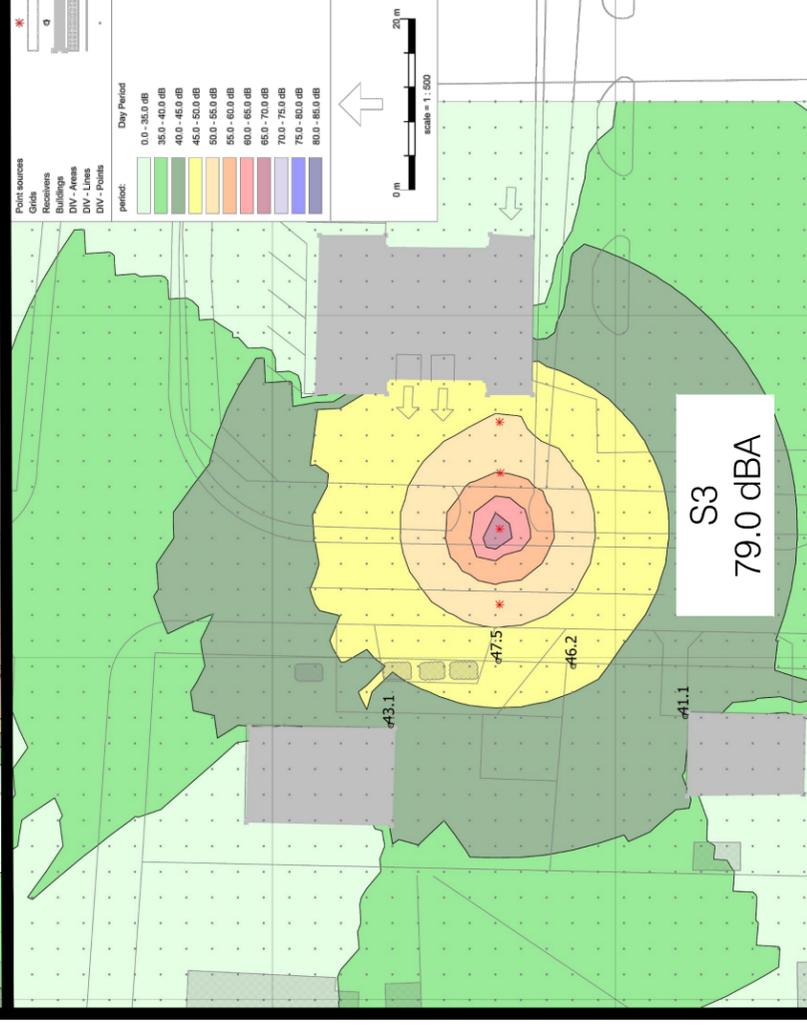
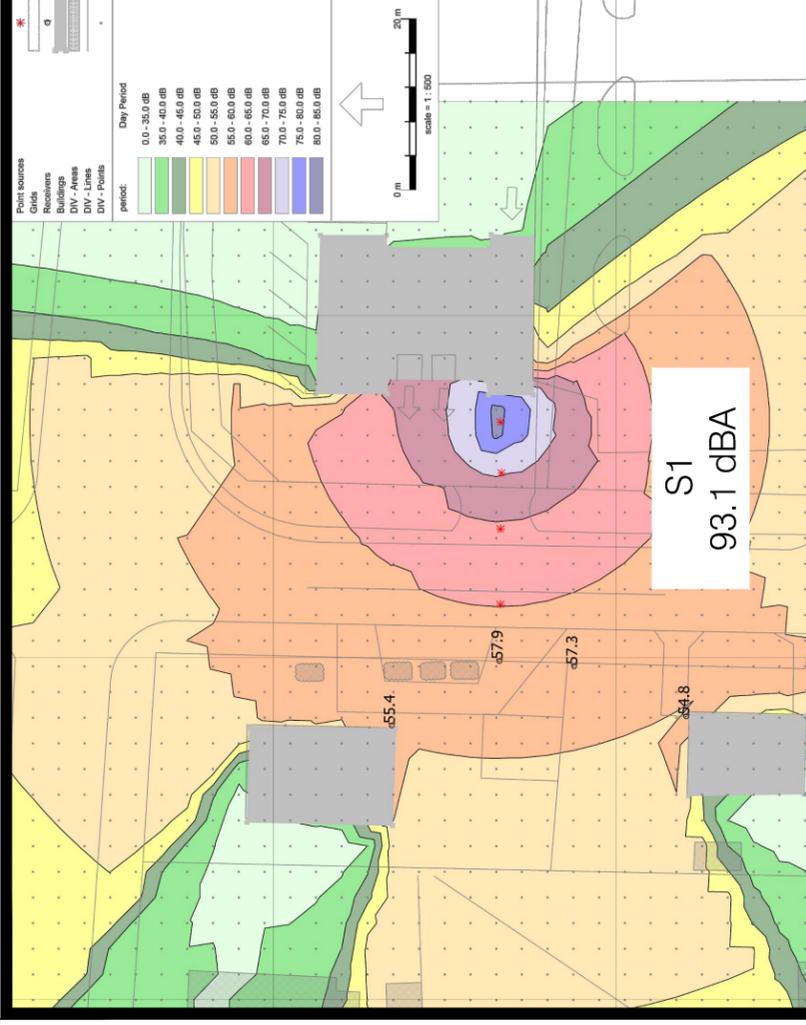
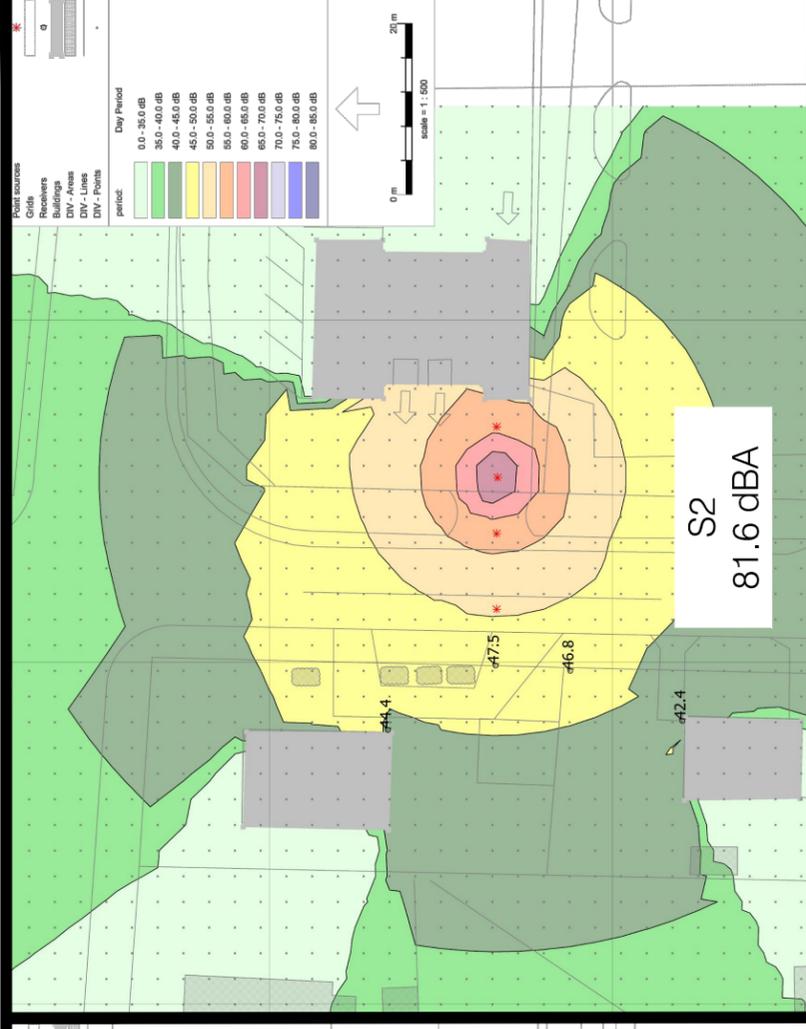
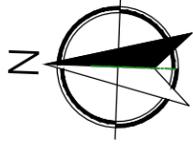
There are no further adjustments that can be implemented to the existing dryer system to lower the noise levels.

If you have any questions regarding the above proposal please do not hesitate to call me directly at (519) 640-8838.

Sincerely,
Mondo Products Company Limited

Appendix C

iNOISE OUTPUT



281 MAIN STREET EAST
MUNICIPALITY OF KINGSVILLE
KINGSVILLE, ON

FIGURE 2 - NOISE LEVELS



FEB 22 2019

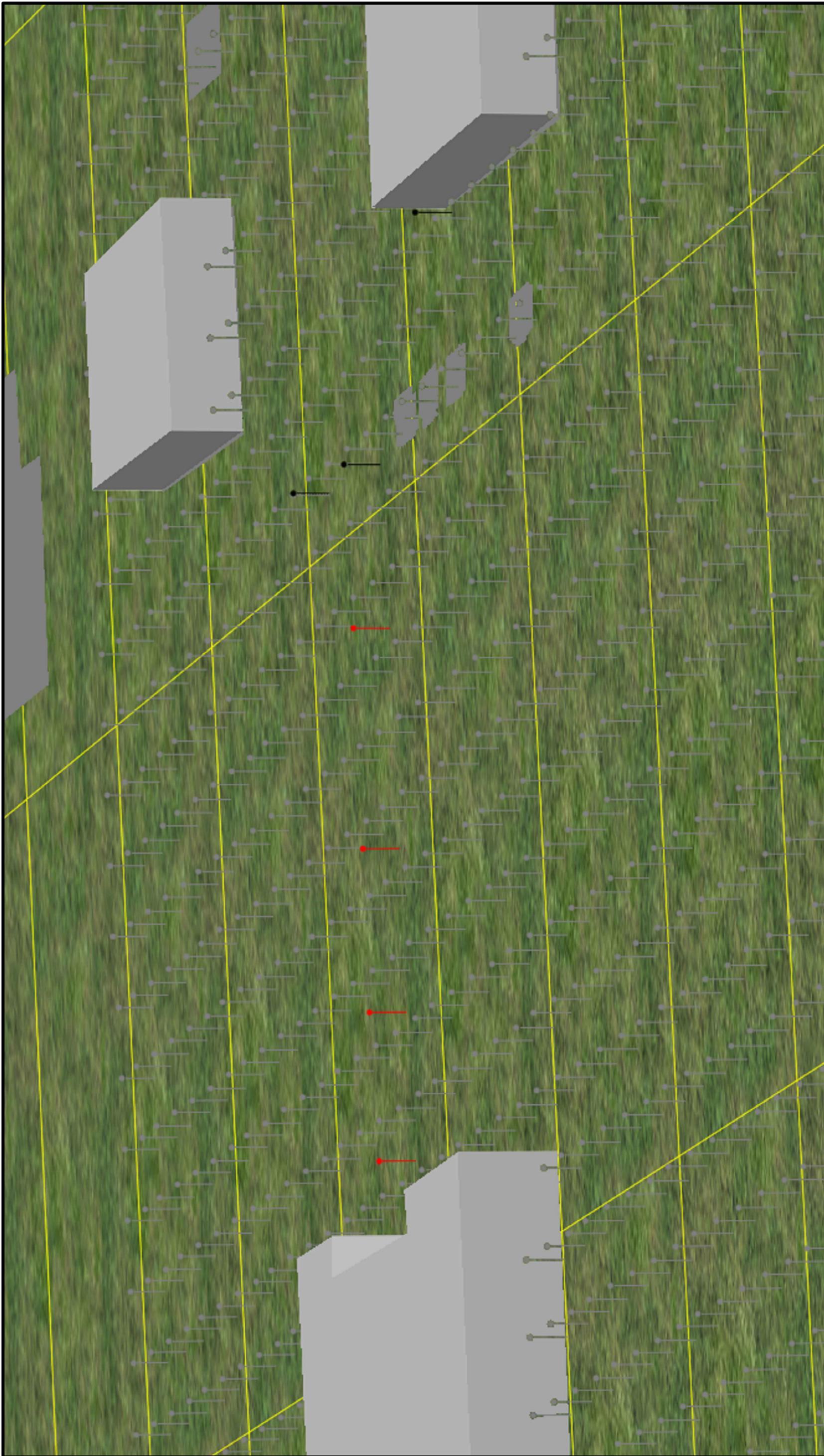
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2 OF 3

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FIGURE 3 - 3D VIEW

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