

# Environmental Noise Assessment

## Scope of Work Document

### Joshua Creek Lands – Phase 4

#### Proposed Residential Development Dundas Street East & Ninth Line Oakville

December 8, 2020  
Project: 112-242-100

Prepared for

### Mattamy (Joshua Creek) Limited

Prepared by



---

Michael Lightstone, B.Sc., MBA



**VALCOUSTICS**

*Canada Ltd.*

## Version History

Version #	Date	Comments
1.0	December 8, 2020	Final – Issued for Use

## TABLE OF CONTENTS

1.0	INTRODUCTION.....	1
1.1	THE SITE AND PROJECT .....	1
2.0	NOISE IMPACT ON THE PROJECT .....	1
2.1	NOISE SOURCES .....	1
2.2	ENVIRONMENTAL NOISE GUIDELINES.....	2
2.2.1	Road Traffic Noise Sources.....	2
2.3	NOISE IMPACT ASSESSMENT .....	2
2.4	NOISE CONTROL REQUIREMENTS.....	2
2.4.1	Transportation Noise Mitigation Requirements .....	2
3.0	CONCLUSIONS.....	3

### LIST OF FIGURES

FIGURE 1 DRAFT PLAN

### LIST OF APPENDICES

APPENDIX A ENVIRONMENTAL NOISE GUIDELINES

# Environmental Noise Assessment

## Scope of Work Document

### Joshua Creek Lands – Phase 4

#### Proposed Residential Development Dundas Street East & Ninth Line

Oakville

#### 1.0 INTRODUCTION

Valcoustics Canada Ltd. has been retained by Mattamy Homes to complete an Environmental Noise Study for the proposed Joshua Creek Lands development at the northwest corner of Dundas Street East and Ninth Line in the Town of Oakville. The Environmental Noise Study will investigate the potential sound exposures and noise mitigation measures needed for the proposed development to comply with the Ministry of the Environment, Conservation and Parks (MECP) noise guidelines and the Town of Oakville requirements.

#### 1.1 THE SITE AND PROJECT

The site is located near the northwest corner of Dundas Street East and Ninth Line. The site is currently vacant. The surrounding area is proposed to be a mix of residential and small retail/commercial uses.

The project consists of 118 residential detached homes and 36 rear lane townhouses.

The study will be based on the final Site Plan, to be completed. Figure 1 shows the draft Site Plan in reduced form.

#### 2.0 NOISE IMPACT ON THE PROJECT

#### 2.1 NOISE SOURCES

The environmental noise assessment will consider both transportation sources of noise as well as “stationary” sources of noise. Note that in MECP terms, a “stationary” source refers to all sound sources and operations on a site, even though individual components may move on the site.

The main anticipated transportation noise sources with potential for impact on the proposed development is road traffic on Dundas Street and internal roadways. There are no existing anticipated “stationary” sources of noise sources of concern (i.e. commercial/industrial sites) in the vicinity of the subject site.

## 2.2 ENVIRONMENTAL NOISE GUIDELINES

The applicable noise guidelines for new residential development are those in the MECP Publication NPC-300. See Appendix A.

### 2.2.1 Road Traffic Noise Sources

In accordance with the MECP practice, if the daytime sound level,  $L_{eq\ Day}^{(1)}$ , at the exterior face of living/dining rooms is greater than 65 dBA, or if the nighttime sound level,  $L_{eq\ Night}^{(2)}$ , at the exterior face of bedrooms is greater than 60 dBA, measures must be provided so that windows can be kept closed for noise control purposes and central air conditioning is required. For daytime sound levels between 56 and 65 dBA inclusive (living/dining room windows), or for nighttime sound levels between 51 and 60 dBA inclusive (bedroom windows), there need only be the provision for adding air conditioning at a later date, at the occupant’s discretion. A warning clause advising the occupants of the potential interference with some activities is also required.

For outdoor amenity areas ("Outdoor Living Areas" – OLA), the guideline is 55 dBA  $L_{eq\ Day}$ , with an excess not exceeding 5 dBA considered acceptable if it is technically not practicable to achieve the 55 dBA objective, providing warning clauses are registered on title. A sound barrier is considered mandatory if the unmitigated level exceeds 60 dBA at the OLA. (Note, the sound barrier requirements are geared to low density development with reverse frontage to the road source) for transportation sources a balcony is not considered an OLA, unless it is the only OLA for the occupant and it is:

- at least 4 m in depth;
- outside the building facade; and
- unenclosed.

For the indoor areas of the residential spaces, the road traffic source daytime guideline for living and dining rooms is  $L_{eq\ Day} = 45$  dBA. The nighttime guideline for bedrooms is  $L_{eq\ Night} = 40$  dBA.

## 2.3 NOISE IMPACT ASSESSMENT

Road traffic noise predictions will be done using STAMSON V5.04 – ORNAMENT, the MECP transportation noise prediction model.

## 2.4 NOISE CONTROL REQUIREMENTS

### 2.4.1 Transportation Noise Mitigation Requirements

The noise control measures can generally be classified into two categories which are interrelated, but which can be treated separately for the most part:

- (a) Architectural elements to achieve acceptable indoor noise guidelines;

(b) Design features to protect the OLA's.

Once the analysis is complete, the transportation noise mitigation requirements, if any, will be provided. Typical requirements include: sound barriers, upgraded exterior wall and window construction, mandatory air conditioning, warning clauses, etc. The Environmental Noise Study will outline the specific requirements to meet the City and MECP requirements.

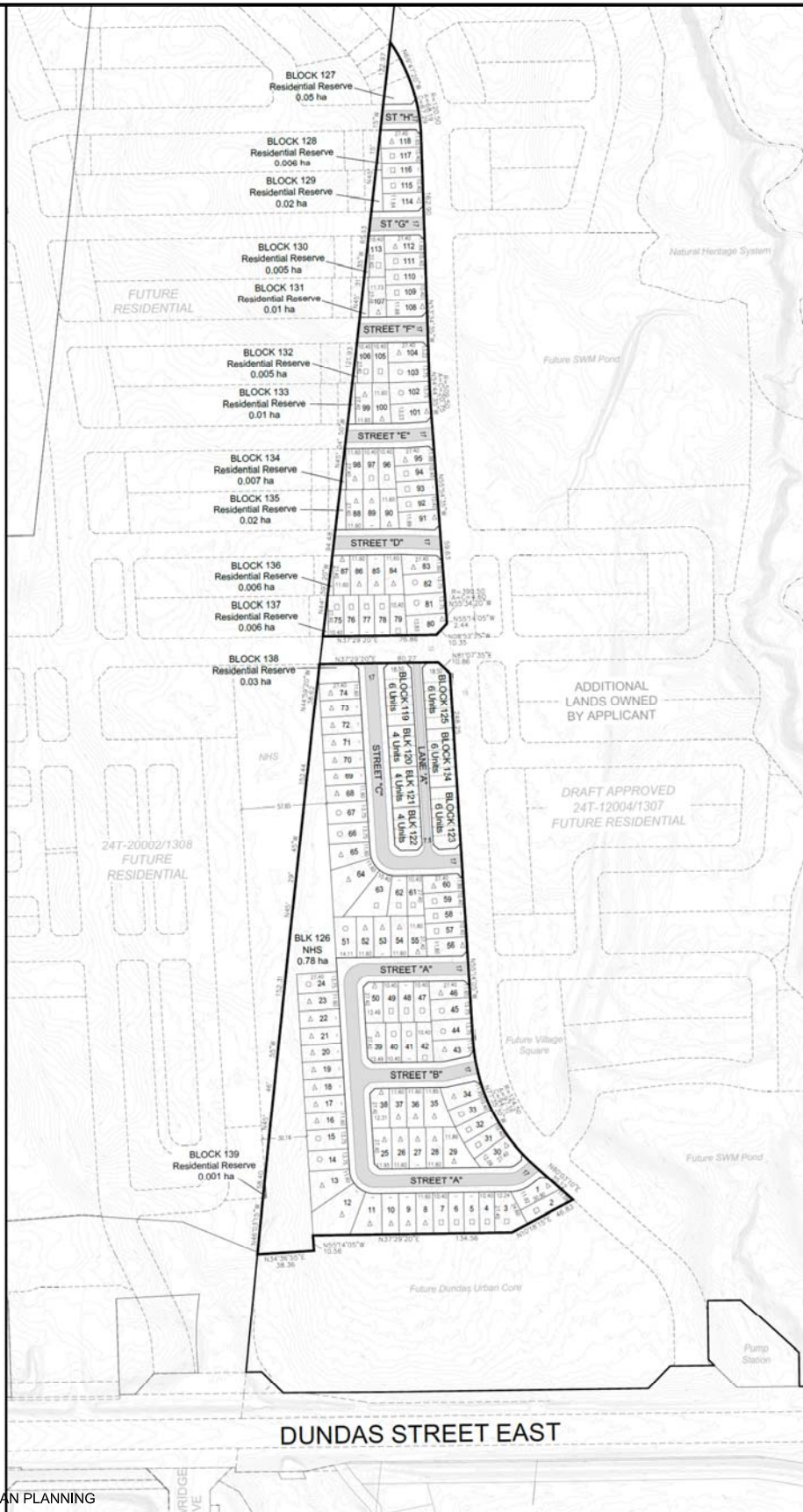
Considering the transportation noise sources noted above, it would be expected that upgraded wall/window elements would be required. This would be verified by the analysis.

### **3.0 CONCLUSIONS**

The Environmental Noise study to be provided will include the noise mitigation measures required such that the resultant sound exposures both indoors and outdoors will be within the acceptable limits established by the MECP.

The approvals and administrative procedures are available to ensure that the noise requirements are implemented.

MSL\BL\tk  
J:\2012\112242\100\Reports\Scope of work document\JoshuaCreek Lands, Phase 4 - Environmental Noise Scope V1\_0 Fnl.docx



BASE DRAWING BY KORSIK URBAN PLANNING

		<p>30 Wertheim Court, Unit 25 Richmond Hill, Ontario Canada L4B 1B9 Tel: 905-764-5223 Fax: 905-764-6813 solutions@valcoustics.com</p>	<p><b>Title</b> Draft Plan</p>	<p><b>Project No.</b> 112-0242-100</p>	<p><b>Date</b> Dec. 4, 2020</p>
<p><b>No.</b></p>	<p><b>Revision/Issue</b></p>		<p><b>Project Name</b> Joshua Creek Phase 4, Oakville</p>	<p><b>Scale</b> N.T.S.</p>	<p><b>Figure</b> <b>1</b></p>

# **APPENDIX A**

## **ENVIRONMENTAL NOISE GUIDELINES**



**APPENDIX A**

**ENVIRONMENTAL NOISE GUIDELINES**

**MINISTRY OF THE ENVIRONMENT, CONSERVATION AND PARKS (MECP)**

Reference: MECP Publication NPC-300, October 2013: “*Environmental Noise Guideline, Stationary and Transportation Source – Approval and Planning*”.

SPACE	SOURCE	TIME PERIOD	CRITERION
Living/dining, den areas of residences, hospitals, nursing homes, schools, daycare centres, etc.	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Living/dining, den areas of residences, hospitals, nursing homes, etc. (except schools or daycare centres)	Road	23:00 to 07:00	45 dBA
	Rail	23:00 to 07:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 5
Sleeping quarters	Road	07:00 to 23:00	45 dBA
	Rail	07:00 to 23:00	40 dBA
	Aircraft	24-hour period	NEF/NEP 0
Sleeping quarters	Road	23:00 to 07:00	40 dBA
	Rail	23:00 to 07:00	35 dBA
	Aircraft	24-hour period	NEF/NEP 0
Outdoor Living Areas	Road and Rail	07:00 to 23:00	55 dBA
Outdoor Point of Reception	Aircraft	24-hour period	NEF/NEP 30#
	Stationary Source		
	Class 1 Area	07:00 to 19:00 <sup>(1)</sup> 19:00 to 23:00 <sup>(1)</sup>	50 <sup>+</sup> dBA 50 <sup>+</sup> dBA
	Class 2 Area	07:00 to 19:00 <sup>(2)</sup> 19:00 to 23:00 <sup>(2)</sup>	50 <sup>+</sup> dBA 45 <sup>+</sup> dBA
	Class 3 Area	07:00 to 19:00 <sup>(3)</sup> 19:00 to 23:00 <sup>(3)</sup>	45 <sup>+</sup> dBA 40 <sup>+</sup> dBA
	Class 4 Area	07:00 to 19:00 <sup>(4)</sup> 19:00 to 23:00 <sup>(4)</sup>	55 <sup>+</sup> dBA 55 <sup>+</sup> dBA

.../cont'd

SPACE	SOURCE	TIME PERIOD	CRITERION
Plane of a Window of Noise Sensitive Spaces	Stationary Source Class 1 Area	07:00 to 19:00 <sup>(1)</sup>	50 <sup>+</sup> dBA
		19:00 to 23:00 <sup>(1)</sup>	50 <sup>+</sup> dBA
		23:00 to 07:00 <sup>(1)</sup>	45 <sup>+</sup> dBA
	Class 2 Area	07:00 to 19:00 <sup>(2)</sup>	50 <sup>+</sup> dBA
		19:00 to 23:00 <sup>(2)</sup>	50 <sup>+</sup> dBA
		23:00 to 07:00 <sup>(2)</sup>	45 <sup>+</sup> dBA
	Class 3 Area	07:00 to 19:00 <sup>(3)</sup>	45 <sup>+</sup> dBA
		19:00 to 23:00 <sup>(3)</sup>	45 <sup>+</sup> dBA
		23:00 to 07:00 <sup>(3)</sup>	40 <sup>+</sup> dBA
	Class 4 Area	07:00 to 19:00 <sup>(4)</sup>	60 <sup>+</sup> dBA
		19:00 to 23:00 <sup>(4)</sup>	60 <sup>+</sup> dBA
		23:00 to 07:00 <sup>(4)</sup>	55 <sup>+</sup> dBA

- # may not apply to in-fill or re-development.  
 \* or the minimum hourly background sound exposure  $L_{eq(1)}$ , due to road traffic, if higher.  
 (1) Class 1 Area: Urban.  
 (2) Class 2 Area: Urban during day; rural-like evening and night.  
 (3) Class 3 Area: Rural.  
 (4) Class 4 Area: Subject to land use planning authority's approval.

Reference: MECP Publication ISBN 0-7729-2804-5, 1987: "Environmental Noise Assessment in Land-Use Planning".

EXCESS ABOVE RECOMMENDED SOUND LEVEL LIMITS (dBA)	CHANGE IN SUBJECTIVE LOUDNESS ABOVE	MAGNITUDE OF THE NOISE PROBLEM	NOISE CONTROL MEASURES (OR ACTION TO BE TAKEN)
No excess (<55 dBA)	—	No expected noise problem	None
1 to 5 inclusive (56 to 60 dBA)	Noticeably louder	Slight noise impact	If no physical measures are taken, then prospective purchasers or tenants should be made aware by suitable warning clauses.
6 to 10 inclusive (61 - 65 dBA)	Almost twice as loud	Definite noise impact	Recommended.
11 to 15 inclusive (66 - 70 dBA)	Almost three times as loud	Serious noise impact	Strongly Recommended.
16 and over (>70 dBA)	Almost four times as loud	Very serious noise impact	Strongly Recommended (may be mandatory).