SLR Consulting (Canada) Ltd.
100 Stone Road West, Suite 201, Guelph, ON N1G 5L3

May 26, 2023

Attention: Melissa McKay
1 Rosetta Street Inc.
700 Lawrence Avenue West, Suite 375
West Office Tower
Toronto, ON M6A 3B4

SLR Project No.: 241.V20210.00001

Dear Melissa McKay,

RE: 1 Rosetta Street, Georgetown, Ontario (Town of Halton Hills)
Response to Comments from the Town of Halton Hills
Reflections of Rail Noise from Proposed Development to Surrounding Area

Project Background

SLR Consulting (Canada) Ltd. ("SLR"), was retained by 1 Rosetta Street Inc. to conduct an Environmental Noise and Vibration Study for the proposed development at 1 Rosetta Street located in Georgetown, Ontario ("the Project site"). The Environmental Noise and Vibration Study findings were documented in the following report submitted as part of a Zoning By-Law Amendment application:

- "1 Rosetta Street – Environmental Noise and Vibration Study – Georgetown, ON – SLR Project No. 241.20210.00000", dated April 25, 2022

Agency review comments on the study work have been received from the Town of Halton Hills, and the report has been updated in the following document:

- "1 Rosetta Street – Updated Environmental Noise and Vibration Study – Georgetown, ON – SLR Project No. 241.V20210.00001", dated May 26, 2023

As part of the Agency review comments, SLR received the following comment from the Town of Halton Hills Planning Manager regarding concerns about potential reflection of rail traffic noise off of the proposed development structure to the surrounding area:

> "I also wanted to flag for your attention that the Mayor has recently inquired about whether the noise and vibration study took into consideration whether the design of the buildings could cause noise from passing trains [to] bounce off the buildings and out into the surrounding neighbourhood. I expect that this question will be raised by the Mayor whenever this application proceeds to a Recommendations Report. So it would be useful if your resubmission could include an evaluation of this."

The purpose of this letter is to provide an evaluation of rail noise reflections to address the comment above.

Evaluation Methodology

Modelling Analysis

Assessing reflections from proposed development buildings to the surrounding neighbourhood is not commonly done as part of a standard environmental noise and vibration study, as historically this has not been an issue of concern; however, evaluation techniques are available using industry-standard modelling software.

To address the comment from the Planning Manager, SLR used forecasted rail traffic data obtained from Canadian National Railway (CN) and Metrolinx along the Halton Subdivision to predict daytime and night-time rail traffic sound levels in the neighbourhood surrounding the proposed development at 1 Rosetta Street. Future rail traffic sound levels were predicted for two scenarios:

- Scenario 1: Future Build – in this scenario, it was assumed that the proposed development would be constructed. This would involve demolishing the existing industrial building located on the Project site, along with two homes on the corner of St. Michaels Street and Caroline Street.
- Scenario 2: Future No-Building Scenario – in this scenario, it was assumed that the proposed development would not be constructed, and existing structures on the Project site would remain.

Daytime/night-time (16 hour/8 hour L_{eq}(dBA)) rail traffic sound levels at 83 surrounding residential dwellings were predicted using the U.S. Department of Transportation Federal Transit Administration ("FTA") and Federal Railway Administration ("FRA") rail noise modelling algorithms included in Cadna/A software. Two orders of reflection from all buildings in the neighbourhood were considered. Reflections from the proposed development considered an absorption coefficient of 0.37 (i.e., a "structured façade"). Rail traffic counts and other information regarding analysis methods can be referred to in the SLR study dated May 26, 2023.

Residential dwellings considered in the assessment are shown in Figure A1, Attachment A.

Comparison of Sound Levels

Differences in sound levels between Scenario 1 and Scenario 2 were calculated for the 83 residential dwellings in the area surrounding the Project site. The differences in sound levels were compared to literature sources where the relationship between changes in sound pressure level and approximate loudness/perceptibility are documented. An example comparison chart adapted from "Noise Control for Buildings and Manufacturing Plants" by Hoover and Keith Inc. and "Engineering Noise Control – Theory and Practice Fourth Edition" by Bies and Hansen, is shown below in Table 1.

Table 1: Sound Level Changes and Relative Loudness

Sound Level Change (Increase)	Relative Loudness/Perceptibility
0 dB	Reference
3 dB	Just Perceptible Change
5 to 6 dB	Clearly Noticeable change
10 dB +	Twice as Loud

Assessment Results

The calculated differences in sound levels are provided for all 83 residences in Table B1, Attachment B. Most residences will see no change in sound levels. Nineteen of the modelled residences will see slight decreases in sound levels, and 33 residences will see slight increases in sound levels. The maximum increase in daytime sound level is predicted to be +0.6 dB dB, and +0.5 dB for night-time. The majority of increases in sound levels are less than +0.2 dB.

Based on the results of the assessment, it was shown that where increases in sound level are predicted in a future Build scenario, the changes will be imperceptible.

Closing

An evaluation of changes in surrounding neighbourhood sound levels between a future "Build" and "No Build" scenario was completed, considering potential reflections of rail traffic noise from the proposed development at 1 Rosetta Street, Georgetown. It was determined that reflections from the proposed development would result in an imperceptible change in rail traffic sound levels in the surrounding area where increases were calculated.

Should you have any questions or comments, please feel free to contact the undersigned.

Yours sincerely,

SLR Consulting (Canada) Ltd.

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References

Hoover & Keith Inc. – Noise Control for Buildings, Manufacturing Plants, Equipment and Products, Houston, Texas, 1981.

Bies, David D. and Hansen, Colin H. Engineering Noise Control Theory and Practice – Fourth Edition, New York, NW, 2009.

Statement of Limitations

This report has been prepared and the work referred to in this report has been undertaken by SLR Consulting (Canada) Ltd. (SLR) for 1 Rosetta Street Inc., hereafter referred to as the "Client." It is intended for the sole and exclusive use of the Client. The report has been prepared in accordance with the Scope of Work and agreement between SLR and the Client. Other than by the Client, the Town of Halton Hills and Halton Region in their role as land use planning approval authorities, copying or distribution of this report or use of or reliance on the information contained herein, in whole or in part, is not permitted unless payment for the work has been made in full and express written permission has been obtained from SLR.

This report has been prepared in a manner generally accepted by professional consulting principles and practices for the same locality and under similar conditions. No other representations or warranties, expressed or implied, are made.

Opinions and recommendations contained in this report are based on conditions that existed at the time the services were performed and are intended only for the client, purposes, locations, time frames and project parameters as outlined in the Scope or Work and agreement between SLR and the Client. The data reported, findings, observations and conclusions expressed are limited by the Scope of Work. SLR is not responsible for the impacts of any changes in environmental standards, practices, or regulations subsequent to performance of services. SLR does not warranty the accuracy of information provided by third party sources.

Attachment A – Figures

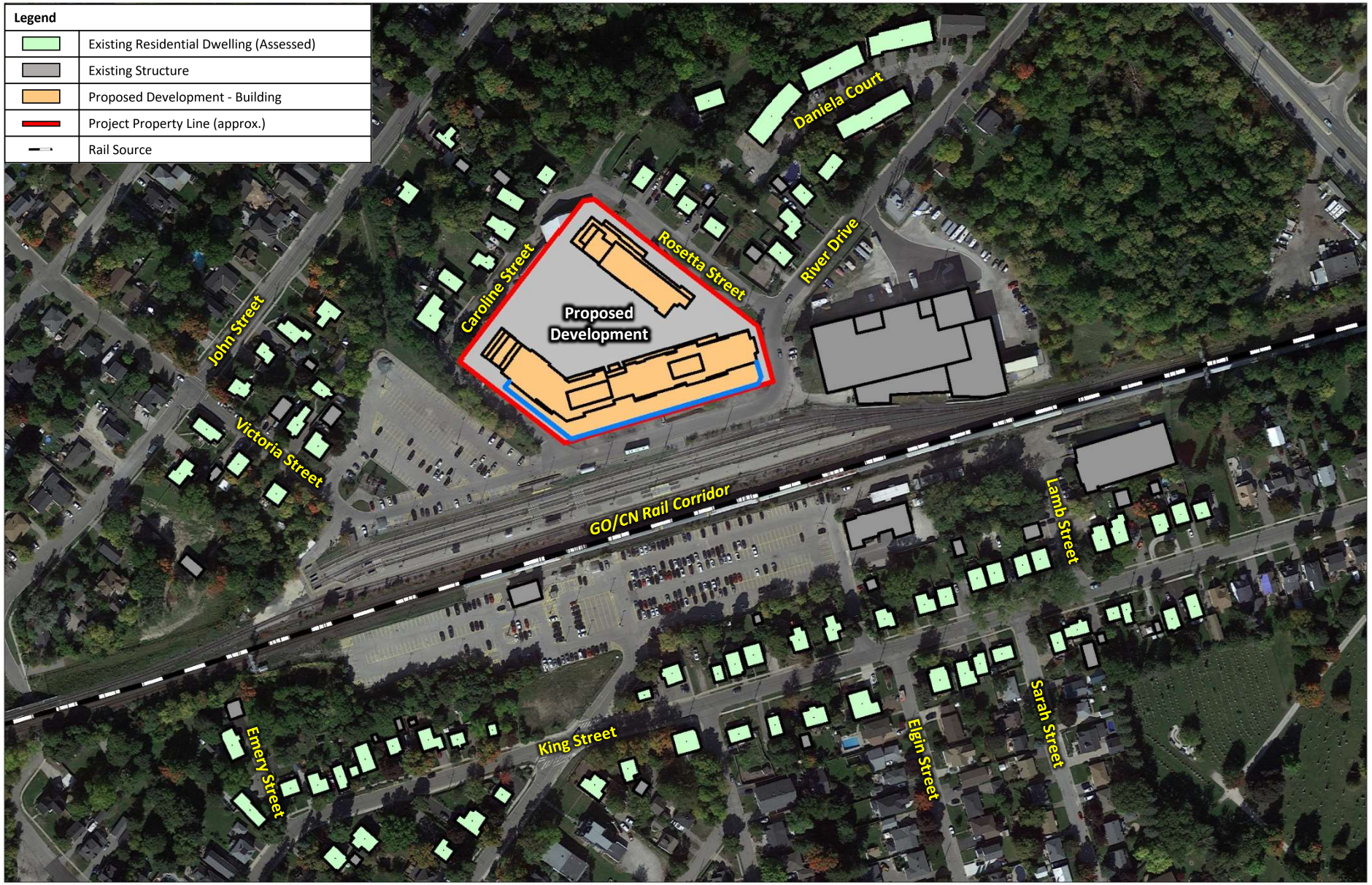
Response to Comment from Town of Halton Hills – Evaluation of Rail Noise Reflections

1 Rosetta Street, Georgetown

1 Rosetta Street Inc.

SLR Project No. 241.V20210.00001

May 26, 2023



1 ROSETTA STREET INC.	True North	Scale: 1:3000		METRES
1 ROSETTA STREET, GEORGETOWN		Date: May 26, 2023	Rev 1.0	Figure No. **A1**
RESIDENTIAL DWELLINGS IN AREA SURROUNDING PROPOSED DEVELOPMENT CONSIDERED IN REFLECTIONS ASSESSMENT		Project No. 241.V20210.00001		

SLR global environmental solutions

Attachment B – Tables

Response to Comment from Town of Halton Hills – Evaluation of Rail Noise Reflections

1 Rosetta Street, Georgetown

1 Rosetta Street Inc.

SLR Project No. 241.V20210.00001

May 26, 2023

Table B1: Predicted Rail Traffic Sound Levels – Future Build and No-Build Scenarios – Reflections, Rail

Assessment Location	Maximum Predicted Rail Sound Level BUILD SCENARIO		Maximum Predicted Rail Sound Level NO BUILD SCENARIO		Difference in Maximum Predicted Rail Sound Level BUILD – NO BUILD	
	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)
3 Caroline Street – Dwelling	63.4	66.6	64.1	67.4	-0.7	-0.8
7 Caroline Street – Dwelling	60.9	64.2	62.5	65.8	-1.6	-1.6
9 Caroline Street – Dwelling	59.8	63.1	62.6	65.9	-2.8	-2.8
11 Caroline Street – Dwelling	56.3	59.6	60.0	63.4	-3.7	-3.8
15 Caroline Street – Dwelling	53.5	56.8	53.6	56.9	-0.1	-0.1
17 Caroline Street – Dwelling	56.7	59.9	57.2	60.5	-0.5	-0.6
8 Rosetta Street – Dwelling	58.7	62.0	59.7	63.0	-1.0	-1.0
10 Rosetta Street – Dwelling	57.3	60.6	58.7	62.0	-1.4	-1.4
12 Rosetta Street – Dwelling	58.3	61.6	59.5	62.8	-1.2	-1.2
16 Rosetta Street – Dwelling	56.9	60.2	58.2	61.5	-1.3	-1.3
25/26 Rosetta Street – Dwelling	54.0	57.3	54.3	57.7	-0.3	-0.4
4 River Drive – Dwelling	59.7	63.0	59.7	62.9	0.0	0.1
6 River Drive – Dwelling	59.6	62.9	59.6	62.9	0.0	0.0
10 River Drive – Dwelling	60.8	64.0	60.2	63.5	0.6	0.5
2 River Drive – Dwelling	63.1	66.3	63.0	66.2	0.1	0.1
42-50 Daniela Court – Dwellings	59.1	62.4	59.7	63.0	-0.6	-0.6
28-38 Daniela Court – Dwellings	54.3	57.6	54.3	57.6	0.0	0.0
14-24 Daniela Court – Dwellings	59.5	62.8	59.5	62.8	0.0	0.0
23-35 Daniela Court – Dwellings	60.9	64.2	60.7	64.0	0.2	0.2
20 John Street – Dwelling	65.9	69.1	65.8	69.1	0.1	0.0
24 John Street – Dwelling	63.8	67.1	63.8	67.1	0.0	0.0
26 John Street – Dwelling	62.5	65.8	62.6	65.9	-0.1	-0.1
30 John Street – Dwelling	61.9	65.2	62.3	65.6	-0.4	-0.4
32 John Street – Dwelling	62.0	65.3	62.5	65.7	-0.5	-0.4
34 John Street – Dwelling	63.5	66.8	63.6	66.9	-0.1	-0.1
38 John Street – Dwelling	57.8	61.1	58.9	62.2	-1.1	-1.1
44 John Street – Dwelling	52.6	55.9	52.7	56.0	-0.1	-0.1
1 Victoria Street – Dwelling	66.8	70.1	66.6	69.8	0.2	0.3
2 Victoria Street – Dwelling	67.5	70.8	67.3	70.6	0.2	0.2
3 Victoria Street – Dwelling	64.6	67.9	64.7	68.0	-0.1	-0.1
5 Victoria Street – Dwelling	63.9	67.2	64.0	67.2	-0.1	0.0
6 Victoria Street – Dwelling	65.4	68.7	65.4	68.7	0.0	0.0
11 Emery Street – Dwelling	67.0	70.3	67.0	70.2	0.0	0.1
15 Emery Street – Dwelling	68.9	72.2	68.9	72.2	0.0	0.0
19 Emery Street – Dwelling	67.4	70.6	67.3	70.6	0.1	0.0
8 King Street – Dwelling	64.8	68.1	64.8	68.1	0.0	0.0
12 King Street – Dwelling	65.1	68.4	65.1	68.4	0.0	0.0
21 King Street – Dwelling	67.3	70.6	67.3	70.6	0.0	0.0
23 King Street – Dwelling	67.3	70.6	67.3	70.6	0.0	0.0
25 King Street – Dwelling	67.6	70.9	67.6	70.9	0.0	0.0
27 King Street – Dwelling	67.4	70.7	67.4	70.6	0.0	0.1
29 King Street – Dwelling	67.4	70.7	67.4	70.7	0.0	0.0
31 King Street – Dwelling	67.2	70.4	67.1	70.4	0.1	0.0
33 King Street – Dwelling	67.4	70.7	67.4	70.6	0.0	0.1
36 King Street – Dwelling	65.1	68.4	65.0	68.3	0.1	0.1
39 King Street – Dwelling	67.2	70.5	67.2	70.5	0.0	0.0
40 King Street – Dwelling	64.5	67.8	64.5	67.8	0.0	0.0
41 King Street – Dwelling	68.2	71.4	68.0	71.2	0.2	0.2
45 King Street – Dwelling	67.1	70.4	67.1	70.3	0.0	0.1

Table B1 (continued):Predicted Rail Traffic Sound Levels – Future Build and No-Build Scenarios – Reflections, Rail

Assessment Location	Maximum Predicted Rail Sound Level BUILD SCENARIO		Maximum Predicted Rail Sound Level NO BUILD SCENARIO		Difference in Maximum Predicted Rail Sound Level BUILD – NO BUILD	
	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)	Day (dBA)	Night (dBA)
46 King Street – Dwelling	62.4	65.7	62.4	65.7	0.0	0.0
47 King Street – Dwelling	68.0	71.2	67.9	71.1	0.1	0.1
48 King Street – Dwelling	62.1	65.4	62.0	65.3	0.1	0.1
49 King Street – Dwelling	67.9	71.2	67.9	71.1	0.0	0.1
50 King Street – Dwelling	63.0	66.2	63.0	66.3	0.0	-0.1
53 King Street – Dwelling	67.8	71.1	67.9	71.2	-0.1	-0.1
54 King Street – Dwelling	62.4	65.7	62.4	65.7	0.0	0.0
55 King Street – Dwelling	67.5	70.8	67.5	70.7	0.0	0.1
59 King Street – Dwelling	66.5	69.8	66.4	69.7	0.1	0.1
60 King Street – Dwelling	63.5	66.8	63.4	66.7	0.1	0.1
61 King Street – Dwelling	66.7	70.0	66.7	69.9	0.0	0.1
62 King Street – Dwelling	62.8	66.1	62.7	66.1	0.1	0.0
63 King Street – Dwelling	67.0	70.2	66.9	70.2	0.1	0.0
64 King Street – Dwelling	63.2	66.5	63.1	66.4	0.1	0.1
65 King Street – Dwelling	66.6	69.9	66.6	69.9	0.0	0.0
1 Sarah Street – Dwelling	65.0	68.3	64.8	68.1	0.2	0.2
66 King Street – Dwelling	63.0	66.3	62.9	66.2	0.1	0.1
67 King Street – Dwelling	67.9	71.1	67.8	71.0	0.1	0.1
69 King Street – Dwelling	67.4	70.7	67.3	70.6	0.1	0.1
70 King Street – Dwelling	65.2	68.5	65.0	68.3	0.2	0.2
72 King Street – Dwelling	64.7	68.1	64.6	67.9	0.1	0.2
74 King Street – Dwelling	64.5	67.8	64.3	67.7	0.2	0.1
75 King Street – Dwelling	67.8	71.2	67.8	71.1	0.0	0.1
2 Lamb Street – Dwelling	65.7	69.0	65.5	68.8	0.2	0.2
77 King Street – Dwelling	68.1	71.4	68.0	71.4	0.1	0.0
78 King Street – Dwelling	63.1	66.4	62.9	66.2	0.2	0.2
80 King Street – Dwelling	61.5	64.8	61.5	64.8	0.0	0.0
81 King Street – Dwelling	67.4	70.8	67.4	70.7	0.0	0.1
83 King Street – Dwelling	65.1	68.4	65.0	68.4	0.1	0.0
85 King Street – Dwelling	67.4	70.8	67.4	70.7	0.0	0.1
41 Queen Street – Dwelling	63.5	66.8	63.5	66.8	0.0	0.0
43 Queen Street – Dwelling	64.3	67.6	64.2	67.5	0.1	0.1
45 Queen Street – Dwelling	64.8	68.1	64.8	68.1	0.0	0.0
60 Queen Street – Dwelling	65.6	68.9	65.6	68.9	0.0	0.0