

Memorandum

To: Kirk Densmore, MOTI December 14, 2023

From: Gary Mak Page 1 of 3

cc: File: 0489-19B-R0

Re: Highway 1 Chase West to Jade Mountain - 2023 Noise Monitoring

On December 6-7, 2023, BKL Consultants Ltd. (BKL) performed 24-hour unattended noise monitoring in Chase, BC, for the Highway 1 – Chase West to Jade Mountain Project (the Project). The purpose of the measurement was to quantify current traffic noise levels and compare them to pre-project baseline noise levels using data from BKL’s 2020 traffic noise impact assessment for the Project.

The microphone was located on the rooftop near the south façade of the residential building at #15 - 161 Shuswap Avenue facing Highway 1. A detailed site description of the monitoring location is attached.

Since baseline measurements were not performed at #15 – 161 Shuswap Avenue in 2016, the baseline noise level was predicted at this location using our calibrated noise model. The noise model was calibrated using four measurements taken in 2016 at other locations along Highway 1 (see Project traffic noise impact assessment for more details). The table below compares the measured 2023 noise levels with the predicted 2016 baseline noise levels at the measurement location.

Table 1: Noise Level Comparison

2023 Measured Ldn	2016 Modelled Ldn	Difference
71.2 dBA	71.7 dBA	-0.5 dBA

The recently measured noise level shows a slight decrease compared to the predicted 2016 noise level.

We note that concrete roadside barriers have not yet been installed along the westbound lanes at the time of the measurement. Roadside barriers are expected to slightly reduce highway noise levels at the fronting residences.

Enclosure: Measurement Site Description

Highway 1 Chase West to Jade Mountain – 2023 Noise Monitoring

Project ID: 0489-19B

Address: #15 - 161 Shuswap Avenue, Chase BC

Start Date: December 6, 2023

Instrument: 01dB DUO

Start Time: 13:30

Serial No: 161868

Duration: 24 hours

Measured by: ML

Location Description

The microphone was located 5.3 m above the ground. The microphone was atop the roof of Unit #15 at 161 Shuswap Avenue, 1.8 m from the south façade of the house. The microphone position is approximately 39 m from the centreline of Highway 1.

Ambient Noise Description

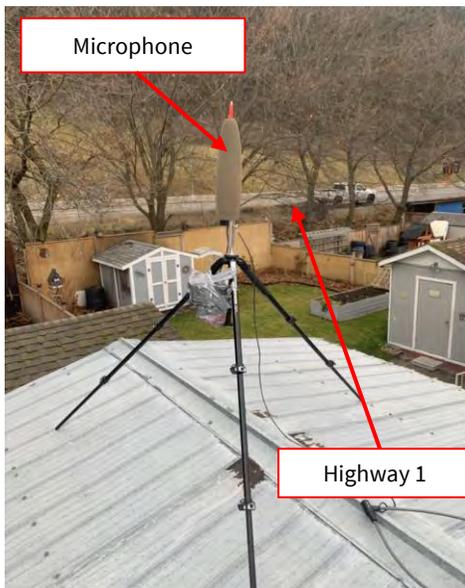
The dominant noise source was Highway 1 directly south of the monitor location.

Environmental Conditions

The weather was overcast throughout the measurement period.

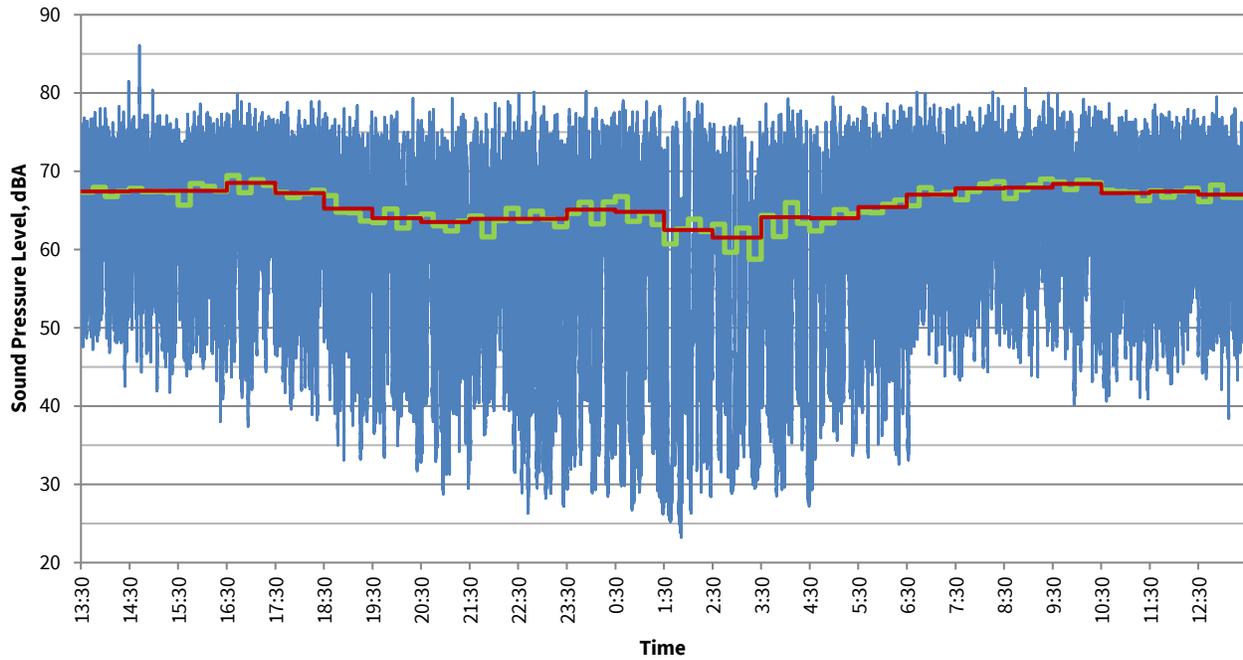
Purpose of Monitoring Location

This monitoring location is representative of the current environmental noise condition of the homes fronting this section of Highway 1.



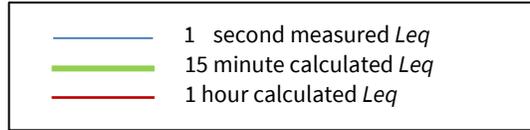
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The graph below shows the measured, and calculated time histories beginning on December 6, 2023.



Hourly Interval Report starting December 6, 2023
All Sound Pressure Levels presented in dBA

Ldn **71**
Ld **67**
Ln **64**



Date	Time	Duration	Leq	Lmax	Lmin	L1	L5	L10	L50	L90	L99
Total	-	24:00:00	66	86	23	76	73	71	58	40	29
Dec 6	13:30:00	1:00:00	67	82	43	76	74	72	63	51	47
Dec 6	14:30:00	1:00:00	68	86	42	76	73	72	63	51	45
Dec 6	15:30:00	1:00:00	68	79	38	76	73	72	63	50	43
Dec 6	16:30:00	1:00:00	69	80	37	76	74	73	65	50	42
Dec 6	17:30:00	1:00:00	67	79	38	76	74	72	60	47	40
Dec 6	18:30:00	1:00:00	65	78	33	75	72	70	56	43	35
Dec 6	19:30:00	1:00:00	64	79	32	75	71	69	53	40	34
Dec 6	20:30:00	1:00:00	64	79	29	75	71	68	50	37	30
Dec 6	21:30:00	1:00:00	64	79	32	75	72	68	53	41	34
Dec 6	22:30:00	1:00:00	64	80	26	75	72	68	47	32	28
Dec 6	23:30:00	1:00:00	65	80	28	76	73	70	53	34	30
Dec 7	0:30:00	1:00:00	65	79	26	76	73	70	50	31	27
Dec 7	1:30:00	1:00:00	63	79	23	75	71	65	44	29	25
Dec 7	2:30:00	1:00:00	62	77	29	74	69	64	44	31	29
Dec 7	3:30:00	1:00:00	64	79	27	75	72	69	51	33	28
Dec 7	4:30:00	1:00:00	64	80	29	75	72	68	54	38	30
Dec 7	5:30:00	1:00:00	65	79	33	76	73	70	54	41	34
Dec 7	6:30:00	1:00:00	67	80	33	77	73	71	61	51	35
Dec 7	7:30:00	1:00:00	68	80	43	76	74	73	63	51	45
Dec 7	8:30:00	1:00:00	68	81	44	76	74	72	64	52	46
Dec 7	9:30:00	1:00:00	68	80	40	77	74	73	65	51	43
Dec 7	10:30:00	1:00:00	67	79	41	76	74	72	61	48	42
Dec 7	11:30:00	1:00:00	67	79	43	76	74	72	63	51	45
Dec 7	12:30:00	1:00:00	67	80	38	76	73	72	62	49	43