

February 28, 2020

Gold Park Group
55 Siltan Road, Unit 2
Vaughan, Ontario
L4L 8G6

Attention: Graziano Stefani
gstefani@goldparkgroup.com

VIA E-MAIL

**Re: Updated Sound Barrier Requirements
Block 40/47 – Prima Vista – Phases 1 and 4
Teston Road and Pine Valley Drive
Vaughan, Ontario
VCL File: 116-0467**

Dear Mr. Stefani:

1.0 INTRODUCTION

Valcoustics Canada Ltd. (VCL) previously prepared Environmental Noise Assessment reports for Phases 1 and 4 of the Prima Vista development within the larger Block 40/47 area, dated April 24, 2018 and October 5, 2018, respectively (herein referred to as the "Noise Reports").

The north side of the Phase 1 is adjacent to the south side of Phase 4, as shown in Figure 1 below.

As part of the Noise Report for Phase 1, the following acoustic fences were recommended:

- a 2.5 m high acoustic fence at Lot 116 (siding toward Pine Valley Drive); and
- 1.8 m high acoustic fences at Lots 113 to 115.

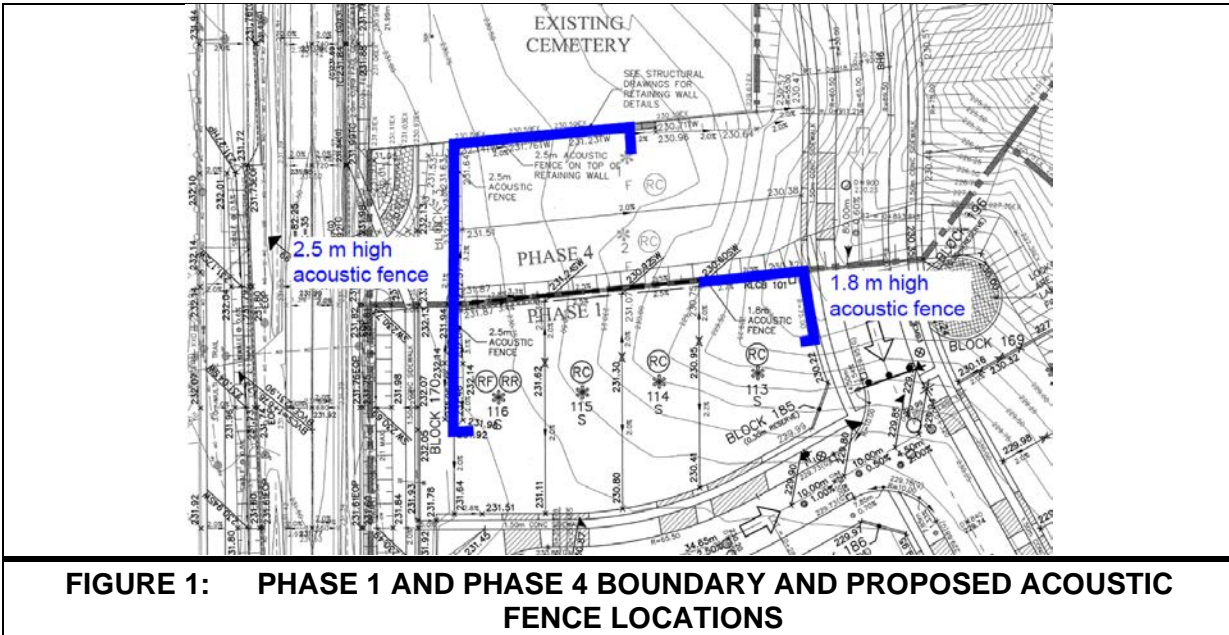
As part of the Noise Report for Phase 4, the following acoustic fence was recommended:

- a 2.5 m high acoustic fence along the rear property lines of Lots 1 and 2, with a return toward Lot 1 along the north property line. The acoustic fence was intended to tie-in to the fence at Lot 116 in Phase 1.

It is now understood that the dwellings in Phases 1 and 4 will be put on the market at the same time, and that the 2.5 m high acoustic fence at Lot 116 in Phase 1 will be built at the same time as the 2.5 m high acoustic fence at Lots 1 and 2 in Phase 4.

This Addendum has been prepared to determine if a continuous 2.5 m high acoustic fence across the west property lines of Lot 116 (Phase 1) and Lots 1 and 2 (Phase 4) will provide sufficient screening to allow the elimination of the acoustic fences along the rear property lines of Lots 114

to 116. The proposed (new) acoustic fence locations are shown on Figure 1.



The assessment is based on the Grading Plan, prepared by SCS Consulting Group, with a date revised October 17, 2018. The Grading Plan is attached as Appendix A.

2.0 ASSESSMENT

2.1 NOISE SOURCES

The main noise source with potential for impact at the subject site is road traffic on Pine Valley Drive and Purple Creek Road. Ultimate traffic data for both roadways were used in the Noise Reports for Phases 1 and 4 and are still considered valid.

2.2 SOUND BARRIER ASSESSMENT

The unmitigated daytime sound levels at the rear yards of Lots 113 to 116 (Phase 1) and Lots 1 and 2 (Phase 2) exceed the 60 dBA maximum permitted under the Ministry of the Environment, Conservation and Parks (MECP) noise guideline. Thus, noise mitigation measures are required.

It is understood that the City of Vaughan has specified a maximum 2.5 m acoustic fence height for dwellings adjacent to Pine Valley Drive for this development. As part of the previously completed site design, the grading was adjusted to achieve further mitigation where needed. The adjusted grading was accounted for in the analysis in the Noise Reports.

The current grading plan shows that there are no significant changes to the proposed grading at Lots 113 to 116 (Phase 1) and Lots 1 and 2 (Phase 4) compared to the Noise Reports. The analysis in this addendum therefore differs from the analysis in the Noise Reports only in terms of the sound barrier geometry.

With the proposed acoustic fences shown on Figure 1, the mitigated daytime sound levels at Lots 113 to 116 (Phase 1) and Lots 1 and 2 (Phase 2) are between 55 dBA and 60 dBA. This is within the maximum permitted under the MECP guidelines, provided warning clauses are registered on title.

The unmitigated and mitigated sound levels are shown below in Table 1.

Sound barriers must be of solid construction with no holes, gaps or cracks and must have a minimum face density of 20 kg/m².

TABLE 1: PREDICTED OUTDOOR SOUND LEVELS AT REAR YARD OLAs

Location ⁽¹⁾	Source	Distance (m) ⁽²⁾	Unmitigated Leq Day (dBA)	Mitigated Leq Night (dBA) ⁽³⁾
Phase 1 – Lot 113 (OLA)	Pine Valley Drive	72	57	50
	Purple Creek Road	20	58	53
	TOTAL	-	61	55
Phase 1 – Lot 114 (OLA)	Pine Valley Drive	57	63	57
Phase 1 – Lot 115 (OLA)	Pine Valley Drive	44	65	58
Phase 1 – Lot 116 (OLA)	Pine Valley Drive	33	69	60
Phase 4 – Lots 1 and 2 (OLA)	Pine Valley Drive	51	66	59

Notes:

1. See Figure 1. Daytime sound levels were calculated at a height of 1.5 m above grade.
2. Distance indicated is taken from the centreline of the noise source to the point of reception.
3. Mitigated sound level accounts for screening from a 2.5 m high acoustic fence (relative to the proposed grading) at Lot 116 (Phase 1) continuing to Lots 1 and 2 (Phase 4), as well as a 1.8 m high acoustic fence (relative to the proposed grading) at Lot 113 (Phase 1). The acoustic fence locations are shown on Figure 1.

The noise mitigation requirements for the affected lots are summarized in Table 2 below.

TABLE 2: NOISE ABATEMENT REQUIREMENTS

Location	Air Conditioning ⁽¹⁾	Exterior Wall ⁽²⁾	Exterior Window ^(2,3)	Acoustic Fence ⁽⁴⁾	Warning Clauses ⁽⁵⁾
<i>Phase 1</i>					
Lot 113	Provision for adding	STC 37	STC 28	1.8 m high	A + C
Lots 114 and 115	Provision for adding	STC 37	STC 28	Screening provided by 2.5m high acoustic fence at Lot 116 (Phase 1) and Lots 1 and 2 (Phase 4)	A + C
Lot 116	Mandatory	STC 37	STC 28	2.5 m high (continuous with Phase 4)	A + B
<i>Phase 4</i>					
Lots 1 and 2	Mandatory	STC 37	STC 26	2.5 m high (continuous with Phase 1)	A + B

Notes:

- Provision for adding air conditioning typically takes the form of a ducted ventilation system sized to accommodate the addition of central air conditioning by the occupant.
- STC – Sound Transmission Class Rating (Reference ASTM E-413).
- A sliding glass walkout door should be considered as a window and be included in the percentage of glazing. Window and exterior wall requirements were based on standard assumptions and should be reviewed once floor plans are finalized. The window STC rating applies to the entire window assembly and not just the glazing. The window supplier should provide acoustical laboratory test data (following a recognized test standard) for the intended windows indicated the STC ratings can be met.
- Sound barriers must be of solid construction with no gaps or cracks and must meet a minimum surface density of 20kg/m². Earthen berms, solid fences or combinations of berms/fences are acceptable. The acoustic fence height is relative to grade, as shown on the Grading Plan prepared by SCS Consulting Group with a date revised October 17, 2018. The sound barrier analysis should be reviewed if the grading plan changes.
- Standard example warning clauses to be registered on title and be included in Offers of Purchase and Sale and Leases on designated units:
 - “Purchasers/tenants are advised that despite the inclusion of noise control features in the development and within the building units, sound levels due to increasing road traffic may on occasions interfere with some activities of the dwelling occupants as the sound level exceed the Municipality’s and the Ministry of the Environment’s noise criteria.”
 - “This dwelling unit has been supplied with a central air conditioning system which will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality’s and the Ministry of the Environment’s noise criteria.”
 - This dwelling unit has been fitted with a forced air heating system and the ducting, etc. was sized to accommodate central air conditioning. Installation of central air conditioning will allow windows and exterior doors to remain closed, thereby ensuring that the indoor sound levels are within the Municipality’s and the Ministry of the Environment’s noise criteria. (Note: The location and installation of the outdoor air conditioning device should be done so as to minimize the noise impacts. Air conditioners of 38,900 BTU/hour or less should have a maximum sound power emission rating of 7.6 bels as per ARI Standard 270.)”
- Conventional roof construction meeting Ontario Building Code requirements is satisfactory in all cases.
- All exterior doors shall be fully weatherstripped

3.0 CONCLUSION

The assessment was updated to determine whether an alternate sound barrier configuration could be considered for Lots 113 to 116 (Phase 1) and Lots 1 and 2 (Phase 4).

The assessment concludes that the new proposed sound barrier alignment, as shown in Figure 1, will result in compliance with upper allowable daytime sound level limits in the OLAs of Lots 113 to 116 (Phase 1) and Lots 1 and 2 (Phase 4).

Yours truly,

VALCOUSTICS CANADA LTD.

Per: **DRAFT**
Seema Nagaraj, Ph.D., P.Eng.

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Enclosures