

10 August 2015

James Dick Construction Limited
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Attn: Greg Sweetnam

Re: Proposed Hidden Quarry
Noise Impact Study Report Addendum #1

1 Introduction

This letter serves as addendum #1 to the Noise Impact Study¹ for the proposed Hidden Quarry development to address the following:

1. Revised quarry floor elevation height for high spring water elevation level
The high spring water level was measured to range from 346 masl to 354 masl across the site as shown in Figure 1. In the vicinity of the process plant location the high spring water level elevation is around 350 masl.

A revision to the noise model was required to accommodate the quarry floor remaining above the high water table, specifically in the processing plant area where the quarry floor has increased from 349 masl to 351 masl. The noise model used conservative quarry floor levels of 355 masl in phases 1 and 3 and 354 masl in phase 2.
2. Changes to on-site truck haul routes for phases
On-site truck haul routes for Phases 1, 2 and 3 have been updated based on the latest site plan.
3. Updated location of processing plant and stockpile locations
A minor reposition of the processing plant and stockpiles was implemented in the model to reflect the location shown on the latest site plan.

¹ Aercoustics report entitled “Hidden Quarry Noise Impact Study”, dated November 19, 2012, updated May 24, 2013.

2 Changes In Noise Controls

To accommodate the above listed changes, the following general revisions to the noise controls were made:

- 1) Quarry floor in the vicinity of the processing plant was changed from 349 masl to 351 masl.
- 2) The east portion of the 12 m stockpile shown on the site plan adjacent to the processing plant was extended to provide screening for R7.
- 3) Removal of recommendation for direction of extraction. There is no requirement to use the working face as a noise control measure. Perimeter berming is will provide sufficient screening.

3 Recommended Noise Controls

With the above listed changes implemented, the following list presents the recommended noise control measures:

1. 12m and 10m high stockpiles should be maintained in certain locations around the processing plant for each phase and stage. The stockpile peaks should be located no further than 30m from the processing plant, and should be located such that, in plan, they block line-of-sight between processing plant equipment and sensitive receptors, as described in the table below:

Table 1 Recommended Stockpile Height and Position

Stockpiles Positioned To Shield Receptor IDs	Minimum Stockpile Height (m)
R1 and R15 to R18	10
R3 to R7, R11 and R19	12

This configuration is shown in Figure 2.

2. A quiet drill with a maximum sound power rating of 112dBA should be used. This corresponds to a maximum sound pressure level rating of 75dBA at 30 meters.
3. Earth berms should be constructed to the elevations shown and located as shown on Figure 2.
4. The processing plant area should be established at an elevation of 351m, and a haul route trench connecting the processing plant area to the Stage 1 Phase 1 extraction area should be excavated to the same 351m elevation.
5. All construction equipment used in site preparation/construction must meet the sound emission standards defined in MOE publication NPC-115 and

Guelph/Eramosa Bylaw 5001/05. The relevant background information on non-stationary noise sources as well as publication NPC-115 is given in MOE Model Municipal Noise Control Bylaw, 1978 as well as the sound source exclusions defined in MOE publications NPC 205/232, 1995.

4 Predicted Noise Levels

Table 2 presents the predictable worst case noise levels at the receptors.

Table 2 Predicted Worst-Case Noise Levels in dBA

Receptor	Daytime (07:00 – 19:00)		Early Morning (23:00 – 07:00)	
	Overall Worst Case Predicted Sound Levels	MOE or Calculated Sound Level Limit	Overall Worst Case Predicted Sound Levels	MOE or Calculated Sound Level Limit
R01	50	50	36	45
R02	49	51	33	45
R03	45	45	27	40
R04	41	45	25	40
R05	41	45	22	40
R06	39	45	21	40
R07	39	45	22	40
R08	41	45	22	40
R09	42	45	23	40
R10	48	53	32	45
R11	42	45	24	40
R12	49	50	33	45
R13	48	50	31	45
R14	48	53	32	45
R15	45	50	32	45
R16	49	57	35	45
R17	41	45	28	40
R18	43	45	32	40
R19	45	45	27	40


5 Closure

Please do not hesitate to contact the undersigned if you have any questions.

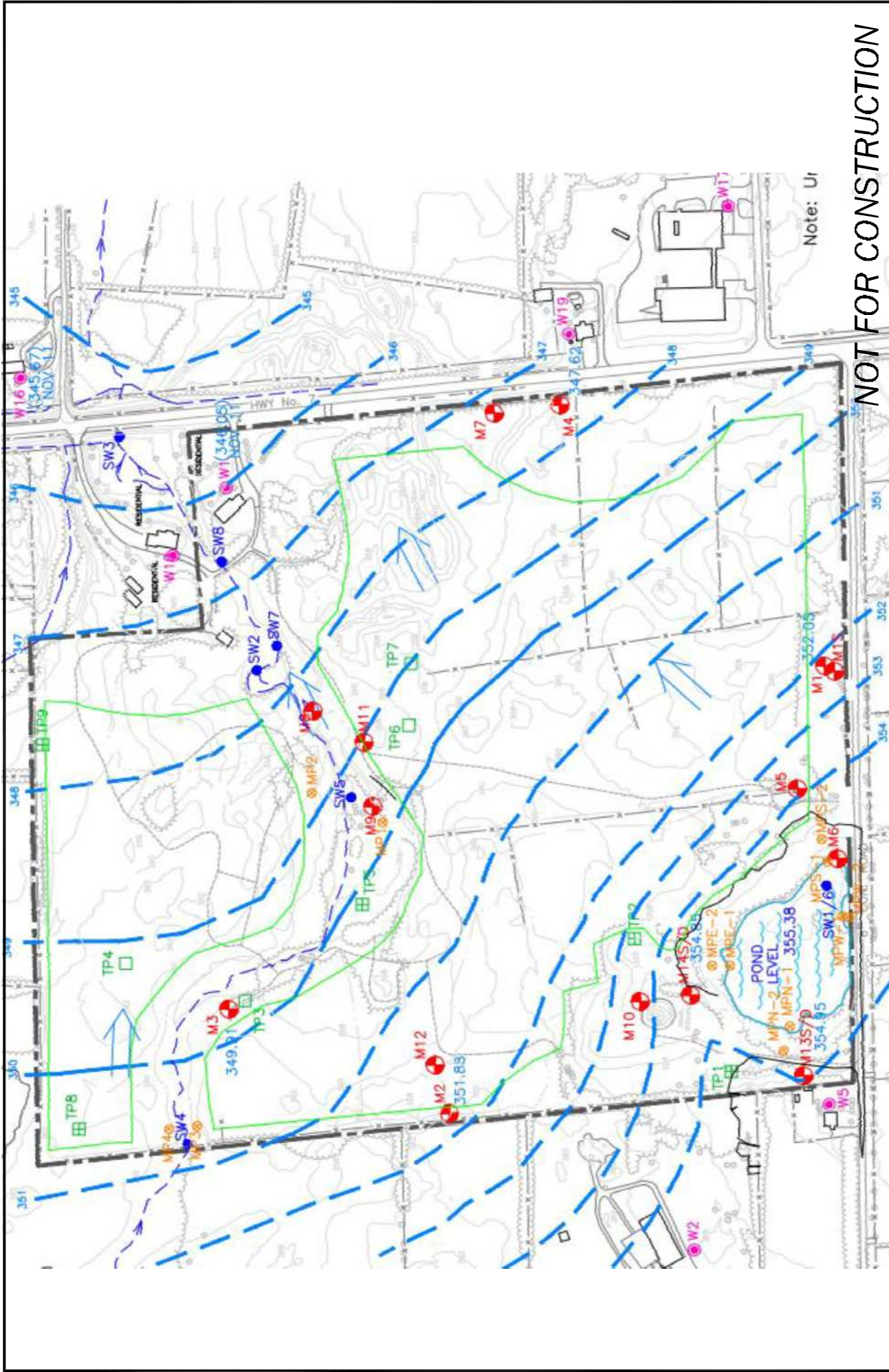
Yours Truly,




Adam Collins, B.Eng., E.I.T.
Aercoustics Engineering Limited

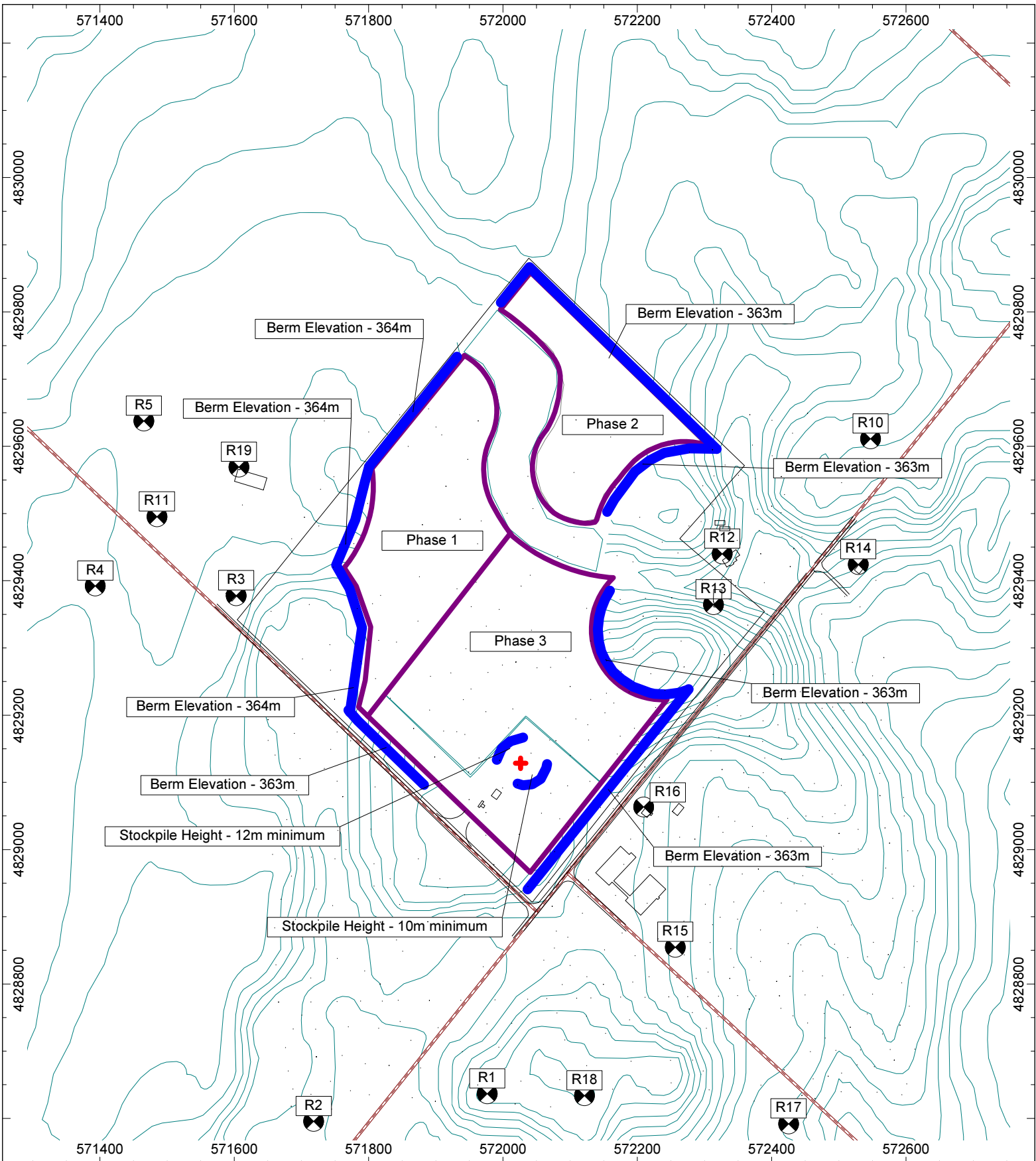



Bob Rimrott, M.A.Sc., P.Eng.
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NOT FOR CONSTRUCTION

	<p>Scale: NTS Drawn: AC Eng: BR Date: 05.08.2015</p>	<p>Project Name: Hidden Quarry</p>	<p>Drawing Title: Site Plan With High Water Level</p>	<p>AEL No: 11007</p>	
<p>50 Ranson Drive, Suite 165, Toronto, ON P: 416.248.3861 F: 416.248.3813</p>	<p>The scope of the work outlined in this document is limited to the acoustic, noise and vibration control aspects of the design. Contractor to verify all dimensions.</p>				<p>Dwg No. 1</p>



 <p>50 Ronson Dr, Suite 165, Toronto ON P: 416 249 3361 F: 416 249 9813</p>	<p>Scale: NTS Drawn: AC Eng: BR Date: Aug 5, 2015</p>	<p>Project: Hidden Quarry</p>	<p>Project Number: 11007</p>
	<p>The scope of the work outlined in this document is limited to the acoustic, noise, and/or vibration control aspects of the design. Contractors to verify all dimensions</p>	<p>Drawing Title: Recommended Noise Controls</p>	<p>Figure: 2</p>