

October 4, 2021

Project No. 21457143

Mr. Shawn Tylee, C.E.T., Manager of Procurement and Corporate Affairs

Rankin Construction Inc.
222 Martindale Road
PO Box 1116
St. Catharines, ON L2R 7A3

**RESPONSE TO COMMENT LETTER FROM JOINT AGENCY REVIEW TEAM (JART)
REGIONAL OFFICIAL PLAN AMENDMENT 20
LOCAL OFFICIAL PLAN AMENDMENT D09-02-21
ZONING BY-LAW AMENDMENT D14-09-21
OWNER/APPLICANT: PORT COLBORNE QUARRIES INC.**

Dear Mr. Tylee:

The Port Colborne Quarries Inc. (PCQ) is proposing to establish an extension to Pit 3 of their existing aggregate quarry in the Port Colborne, Ontario. Blasting is part of the routine operations of a quarry in order to extract the limestone bedrock. Golder Associates Limited (Golder) was retained to provide an assessment of the potential effects of the ground and air vibrations that will be produced by the proposed quarry's blasting operations on adjacent receptors such as residences, structures, bedrock strata, water wells and fish spawning depressions. The Blast Impact Assessment (BIA) report, dated July 21, 2020, also reviewed the provincial and federal guidelines for the assessment of environmental impacts from blasting and provided recommendations for blasting design and monitoring. The BIA concluded that it is our opinion that the proposed PCQ Pit 3 Extension can readily be operated within the current quarry blasting guidelines published by the Ontario Ministry of Environment, Conservation and Parks and the Department of Fisheries and Oceans. The BIA noted that all blasting and monitoring would occur in accordance with the Aggregate Resources Act prescribed conditions so as to comply with the provincial guidelines.

Members of the Joint Agency Review Team (JART) and the peer review consultant retained by the JART, DST Consulting Engineers Inc. (DST), reviewed the information submitted within the BIA. As part of their peer review, DST attended the quarry site to obtain additional information regarding the proposed extension. On July 28, 2021, the JART provided a comment letter that summarized DST's review and listed a number of items that DST requested. The comment letter stated that DST is in conditional agreement with Golder's conclusions, provided the BIA report is revised to address and clarify a number of items listed in the JART's comment letter and Golder's response to those items.

Comments and Responses

Comment i) “In assessing the ground borne and airborne vibration impact on adjacent third-party sensitive receptors, Golder has used vibration and overpressure prediction models based on Golder’s in-house vibration and overpressure data collected from monitoring similar limestone quarry operations in Southern Ontario, in the absence of reliable site-specific data. Although DST is not questioning the authenticity of Golder’s in-house data, it is prudent to use available published vibration and overpressure prediction models, so that its applicability can be easily verified by reviewers.”

Answer: Golder’s vibration and overpressure prediction models presented within the BIA have been developed over a number of years specifically at limestone quarries in Southern Ontario. Generic published prediction models do not consider data specifically for Southern Ontario limestone quarries. They typically consider more general blasting operations (e.g., bench blasting to a free face or general quarry blasts) or case study models from one of operations. While published, such models rarely provide data that can be easily verified by reviewers.

Comment ii) “Since Golder’s assessment is based on the existing blast design parameters presently being employed at the existing Pit 3 quarrying operations, the BIA report must clearly state that same blast design parameters will be employed in the proposed Pit/Quarry 3 Extension quarrying operations.”

Answer: PCQ has stated that the same blast design parameters that are presently being employed at the existing Pit 3 quarrying operations will be employed in the proposed Pit/Quarry 3 Extension quarrying operations.

Comment iii) “Since as of January 1, 2022, the Aggregate Resources Act will require: “A licensee or permittee shall take all reasonable measures to prevent fly rock from leaving the site during blasting if a sensitive receptor is located within 500 metres of the boundary of the site”, flyrock range assessment should be included the revised Golder’s BIA report.”

Answer: PCQ may provide a flyrock range assessment in the future.

Comment iv) “Golder has used aerial maps to illustrate the Quarry boundaries, and existing features which is useful. However, DST recommends inclusion of proper Site Plan Drawing sheets, including existing features and operation plans for verification of setback distances, existing rock elevations, final quarry floor elevation(s), cut sections, and other pertinent information.”

Answer: Site Plan Drawing sheets are attached to this response letter.

Comments v) “DST recommends development of a site-specific vibration prediction model based on data collected specifically for the purpose developing such model during the first 12 months of proposed quarry operations.”

Answer: The recommendations within Golder’s BIA included the development of a site-specific vibration model occurring with approximately one month of the commencement of blasting shall be monitored at a minimum of five locations at varying distances from each blast to refine the ground and air vibration attenuation characteristics and confirm that MECP - NPC 119 of the Model Municipal Noise Control By-Law is being met. DST recommended the development of a site-specific vibration prediction model, based on data collected specifically for the purpose developing such a model during the first 12 months of proposed quarry operations. If the model is developed early

on, then it doesn't need to be extended to 12 months. This is not standard compliance monitoring but monitored at a range of distances from the blasts.

Closure

We trust that this comment response letter provides sufficient information to meet your immediate requirements. Should any questions arise or should any point require additional clarification, please do not hesitate to contact the undersigned.

Yours truly,

Golder Associates Ltd.

Daniel Corkery
Associate, Senior Blasting Consultant

Sean McFarland, Ph.D., P.Geo.
Principal

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Attachments: Site Plan Drawing sheets

https://golderassociates-my.sharepoint.com/personal/dcorkery_golder_com/documents/projects/1771656_rankin_port_colborne_impact_assessment/21457143_2021_peer_review_comments_and_response/jart_comments/21457143_ltr_2021-10-04_pcq_reponse_to_jart_comments_blast_impact.docx