

Niagara Escarpment Plan

2435 NO 2 SIDE RD
CITY OF BURLINGTON

- Subject Property
- Plan Designations**
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Minor Urban Centre
- Niagara Escarpment Parks and Open Space System
- Roads
- Waterbodies
- Watercourse
- Upper Tier Municipality
- Lower/Single Tier Municipality
- Parcel Boundary
- Ownership Boundary

NOTE: The Niagara Escarpment Plan Designation boundaries shown on this map are approximate and subject to confirmation through site inspection and the application of the "Interpretation of Boundaries" section of the Niagara Escarpment Plan

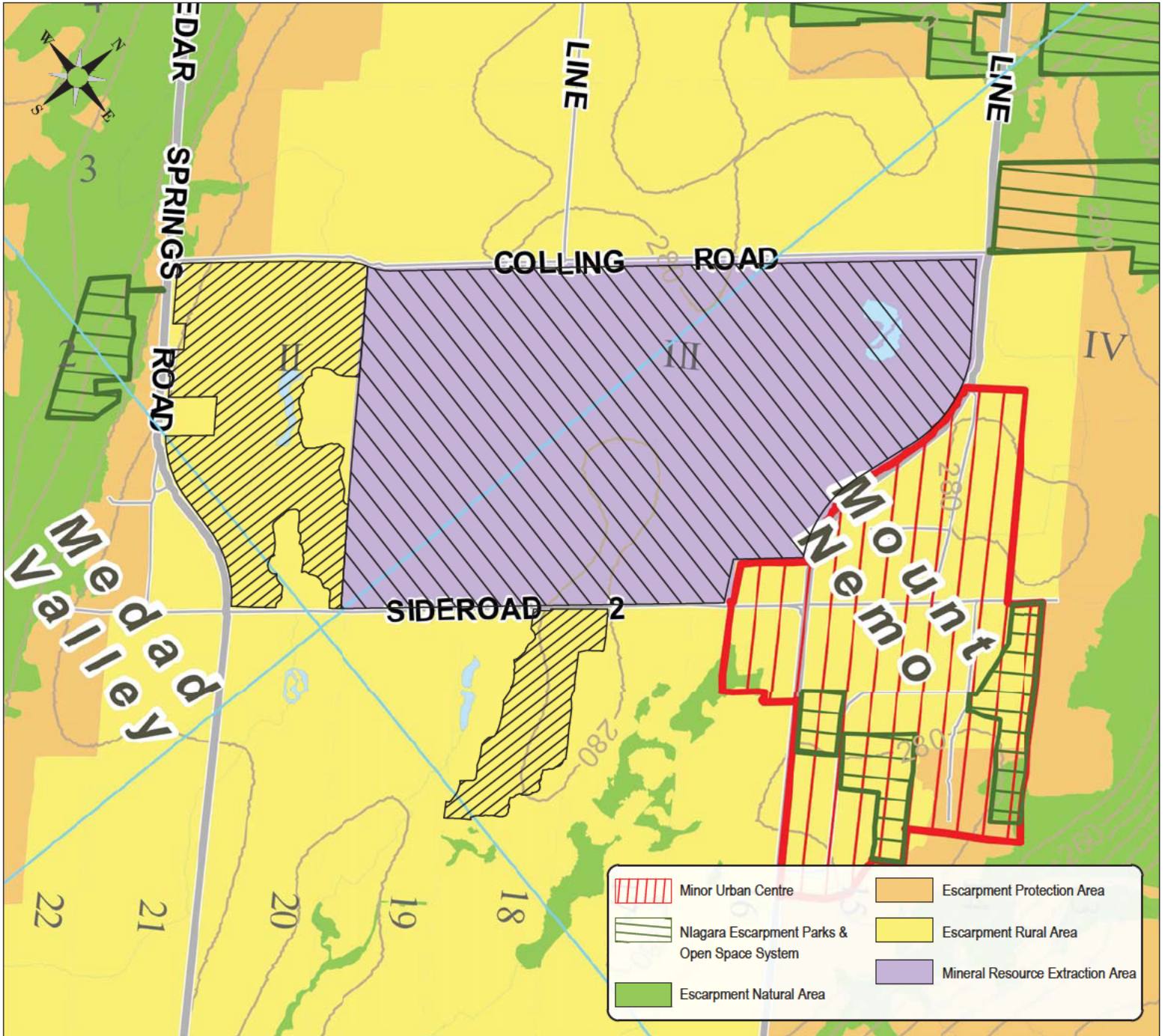
Scale 1:27,825
0 220 440 660 880

Metres

Printed on Aug 10, 2020

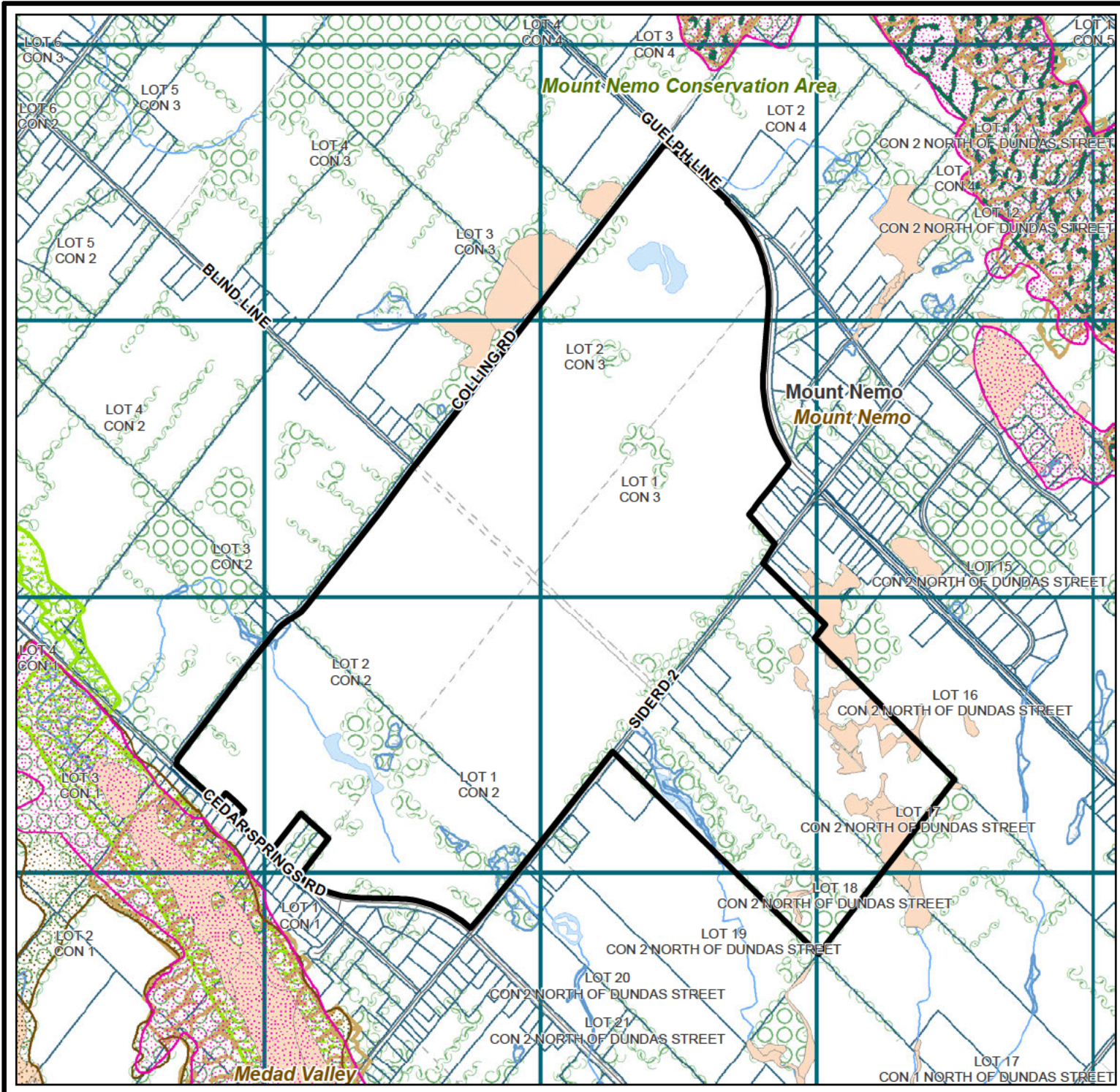
THIS IS NOT A PLAN OF SURVEY.
This map is illustrative only. Do not rely on it as being a precise indicator of routes, location of features, nor as a guide to navigation. Base derived from various sources.
Map compiled and produced by the Geographic Information Systems
(GIS) Department of the Niagara Escarpment Commission,
Ministry of Natural Resources

Part Lots 1 & 2, Concession 2 and Part Lots 17 & 18, Concession 2 NDS
 (former geographic Township of Nelson)
 City of Burlington
 Region of Halton



Land to be re-designated from Escarpment Rural Area to Mineral Resource Extraction Area

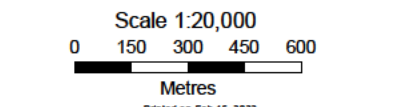
Land subject to site specific policy 1.9.3 xx



Map 3 Natural Heritage Features

- Nelson Aggregates Co.
 File: H/E/2020-2021/108
 Nelson_Owned_Area
- Roads
 - Unevaluated Wetlands
 - Waterbodies
 - Watercourse
 - Upper Tier Municipality
 - Lower/Single Tier Municipality
 - Lot and Concession Boundary
 - Parcel Boundary
 - Ownership Boundary
 - Wooded Area
 - ESA - Halton
 - ESA - Hamilton
 - Provincially tracked species (1km grid)
 - Evaluated Wetlands**
 - Evaluated Wetlands
 - ANSI - Life Science**
 - Life Science, Provincial
 - ANSI - Earth Science**
 - Earth Science, Provincial
 - Earth Science, Regional

Natural Heritage Features Data Source: Ontario's Ministry of Natural Resources - Natural Resource Values and Information System (NRVIS).



Printed on Feb 15, 2022

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DEVRY SMITH FRANK *LLP*
Lawyers & Mediators

david.white@devrylaw.ca
416.446.5811

BY E-MAIL

Our File No.: NELAG867

March 27, 2023

Mr. Ken Hare

Senior Counsel

Ministry of the Attorney General

Civil Law Division, Legal Services Branch

Ministry of Natural Resources and Forestry

99 Wesley Street West, Room 3420, Whitney Block

Toronto, ON M7A 1W3

E-mail: Ken.Hare2@ontario.ca

Dear Ken:

Re: Nelson Aggregate Co. re NEC

Thank you for the meeting on Thursday, March 23rd. We now have a better understanding of the process being followed by the NEC in connection with the Nelson Plan Amendment and the Development Permit applications.

The Planning Act appeals and the Aggregate Resources Act referral are currently at the Ontario Land Tribunal (OLT) and the Tribunal is waiting for the Plan Amendment and the Development Permit from the NEC. The OLT will not set a hearing date until all relevant and associated matters are before it.

In view of the fact that there are many objections to the application for a Plan Amendment, Nelson is requesting that the Plan Amendment application be referred to the Ontario Land Tribunal in accordance with the provisions of the *NEPD Act*.

We are all aware that there are also many objections to the Development Permit and that it will ultimately be appealed to the OLT by someone. The NEC must make a decision on the Development Permit before it can be appealed. As a result, Nelson has no objection to the NEC denying the Development Permit so that the application can be appealed and forwarded to the OLT.

We trust that the Plan Amendment and the Development Permit will be considered by the Commission at the earliest possible date.

Yours truly,

DEVRY SMITH FRANK *LLP*



David S. White, Q.C.

DSW/jrg

c.c. Kathy Woeller, MNRF
kathy.woeller@ontario.ca



APPENDIX 1-2

May 14, 2021

Legislative and Planning Services
Planning Services
Halton Region
1151 Bronte Road
Oakville, ON, L6M 3L1

John Stuart, MCIP, RPP
Senior Strategic Advisor
Niagara Escarpment Commission
232 Guelph St.
Georgetown, ON L7G 4B1

(delivered by email)

Dear Mr. Stuart:

**RE: Proposed Niagara Escarpment Plan Amendment PH 219 20
Nelson Aggregates Co.
Regional File No. RQ61A**

Halton Region is in receipt of the request for comments regarding the proposed Niagara Escarpment Plan Amendment by Nelson Aggregates Co. The following comments were also submitted to the Environmental Registry of Ontario Posting #019-3215 on April 26, 2021.

Proposal

An application was submitted to amend the Niagara Escarpment Plan (2017) which proposes to redesignate 78.3 ha of lands legally described as Part of Lots 1 and 2, Concession 2 and Part of Lots 17 and 18, Concession 2 NDS (former geographic Township of Nelson), City of Burlington, Region of Halton, from "Escarpment Rural Area" to "Mineral Resource Extraction Area".

The application also seeks to add a policy under Part 1.9.3 of the Niagara Escarpment Plan that would allow the continued use of an office building, maintenance building, facilities for washing, processing and stockpiling of aggregate, truck washing facility, asphalt plant, recycling facilities, and the vehicular entrances to support the extraction of aggregate on the lands proposed to be redesignated. The policy would apply only while the two sites are actively operated by a single licensee, as an integrated operation.

Information about the Site

The subject lands are owned by Nelson Aggregate Co. and are designated partially as Regional Natural Heritage System and partially as Agricultural area on Map 1 of the Region of Halton's Official Plan (2009). Map 1F shows the lands as an Identified Mineral Resource Area. The lands are identified on Maps 1G and 1E of the Regional Official Plan as having the following features:

Regional Municipality of Halton

HEAD OFFICE: 1151 Bronte Rd, Oakville, ON L6M 3L1
905-825-6000 | Toll free: 1-866-442-5866

- Natural Heritage System Key Features
- Prime Agricultural Lands in Natural Heritage System Enhancements/ Buffers
- Prime Agricultural Areas

In addition to the Niagara Escarpment Plan Amendment, the proposed quarry expansion would require the approval of other applications under the *Planning Act* including a Regional Official Plan Amendment and Local Official Plan Amendment, which the applicant has also submitted and is under review.

Joint Agency Review Team Approach to Commenting

A Joint Agency Review Team (JART) approach is being used to review this proposal under the auspices of Halton Region's Halton Consolidated – Streamlined Mineral Aggregate Review Protocol. This Protocol was most recently updated by Halton Regional Council in February 2020. The function of JART is to review, analyze and comment on the completeness of the submissions in support of a proposal for new or expanded mineral aggregate extraction operations, and to comment on and analyze the proposal on its technical merits. The JART will provide coordinated technical comments to inform decision-making of the participating parties. Staff from the Region, City of Burlington, Conservation Halton, Niagara Escarpment Commission, and the Ministry of Natural Resources and Forestry all participate in the JART review.

Through the JART process, agency staff and consultants retained by Halton Region and the City of Burlington have to date identified numerous issues in 19 thematic areas. All JART members are working with Nelson Aggregate Co. to discuss these issues.

Objection Letter to the ARA Licence application

The Region of Halton submitted a letter to the applicant and the MNRF objecting to the ARA licence application on December 14, 2020. These comments were also submitted to ERO posting # 019-2698 on December 18, 2020.

The objections contained within that letter also apply to the subject Niagara Escarpment Plan Amendment application as the applicant has not yet addressed or resolved these objections.

Planning Analysis

Halton Region is responsible for implementing matters of Provincial and Regional interest, as expressed by the Provincial Policy Statement, the range of Provincial plans, and the Halton Region Official Plan.

Provincial Policy Statement (2020)

The Provincial Policy Statement (2020) provides a framework for managing and protecting natural resources including the following areas relevant to the subject application: natural heritage, water, agriculture, mineral aggregate resources, and cultural heritage and archaeology. Also, the Provincial Policy Statement requires rehabilitation of mineral aggregate operations. It also requires the rehabilitation of human-made hazards prior to permitting future development on these sites in order to protect public health and safety.

Given the breadth of issues identified through the JART process, the application in its current form has not demonstrated consistency with the Provincial Policy Statement. At a minimum, the applicant has not demonstrated that wetlands, woodlands, wildlife habitat, fish habitat, habitat of endangered species and threatened species, and identified natural heritage features and areas both on site and on adjacent lands will not be negatively impacted by the development. The applicant also has not demonstrated that extraction will be undertaken in a manner that minimizes social, economic, and environmental impacts.

Greenbelt Plan (2017)

The subject lands are within the Niagara Escarpment Plan Area under the Greenbelt Plan (2017) as the Greenbelt Plan Area includes the Niagara Escarpment Plan Area. Section 2.2 of the Greenbelt Plan states the policies of the Niagara Escarpment Plan apply within this area and the Protected Countryside polices of the Greenbelt Plan do not apply with the exception of the polices for Parkland, Open Space and Trails.

A Place to Grow: The Growth Plan for the Greater Golden Horseshoe (2019)

A Place to Grow: The Growth Plan for the Greater Golden Horseshoe (2019) provides policies for growth management and environmental protection. This Plan defers to either the Greenbelt Plan or the Niagara Escarpment Plan where similar or overlapping matters are addressed.

Regional Official Plan, 2009

The proposal includes an application for Regional Official Plan Amendment that involves re-designating lands from Agricultural and Natural Heritage designations to Mineral Resource Extraction Area. It must be demonstrated that the goals, objectives and policies of the Regional Official Plan can be met in order to support the re-designation of the lands.

Given the breadth and range of issues raised through the JART review process, the applicant has not demonstrated that the proposal conforms to the Halton Region Official Plan. The guidance provided by Halton Region's Aggregate Resources Reference Manual has not been adequately followed, leaving components of the Regional Official Plan unaddressed and others not adequately addressed. Halton Region's fulsome planning analysis will follow the completion of the technical review.

Part 2 of the Niagara Escarpment Plan (2017) – Technical Comments

The subject lands are located within the Escarpment Natural Area under the Niagara Escarpment Plan. As a Provincial land use plan, the Niagara Escarpment Plan guides land use planning decisions within the Plan area and takes precedence over the Provincial Policy Statement and the Greenbelt Plan to the extent of any conflict. Municipal Official Plan policy must conform with the Niagara Escarpment Plan and no development approvals can be given, including an aggregate license until the Niagara Escarpment Commission has issued a Development Permit.

For the purposes of this review, our comments have been organized under the Development Criteria identified in Part 2 of the Niagara Escarpment Plan. Please note these comments represent the results of initial review and that Halton Region reserves the right to identify further comments or concerns, to provide more detail and to provide additional recommendations for the resolution of any concerns identified as the review of this application continues.

Part 2.6: Development Affecting Water Resources

The objective of Part 2.6 is to ensure that hydrologic features and functions including the quality, quantity and character of groundwater and surface water, at the local and watershed level, are protected and where possible enhanced. Based on the information provided, Halton Region is not satisfied the objective has been met. Among other matters:

1. There is insufficient integration among the reports submitted by the applicant, and as a result, the assessment of impacts on water resources is incomplete. The reports should be revised to address the inter-related impacts linking ground water and surface water to natural heritage. It is not possible to determine the potential impacts on the surrounding and nearby natural features without a full assessment of the surface water and groundwater impacts on ponds and other features that are outside of the area of study but likely to be within the area of influence. An integrated and cumulative assessment needs to be submitted in order to determine and analyze the extent of the potential impacts.
2. The Level 1 and Level 2 Hydrogeological and Hydrological Impact Assessment Report does not address groundwater quality. Both groundwater quality and drinking water standards will need to be addressed in order to adequately assess the potential impacts on drinking water sources and private wells.
3. The proposed mitigation measures lack adequate detail and justification. It has not been demonstrated that the proposed mitigation measures would be successful.
4. The analysis contained within the water resources reports is largely model driven. It has not been adequately established that the model used provides an adequate representation of either existing or future conditions. Further, there has been insufficient work done to ensure that the model results correlate with observed data. Confirmation is needed that model results are consistent with data and long term water levels.

Part 2.7: Development Affecting Natural Heritage

The objective of Part 2.7 is to protect and where possible enhance natural heritage features and functions, in order to maintain the diversity and connectivity of the continuous natural environment. Based on the information provided, Halton Region is not satisfied the objective has been met. Among other matters:

1. The proposed extension lands include and are surrounded by natural features. The impacts of the proposed extension on the natural heritage system, features and functions have not been fully or adequately evaluated.
2. The reports submitted analyze the impact of the proposed extension against existing conditions and without reference to pre-quarry conditions. Cumulative impacts on the natural environment should be assessed.
3. The potential of the proposed extension to fragment the natural heritage system has not been adequately addressed. The quarry is surrounded by natural features that include woodlands and wetlands. The proposed westerly extension has the potential to fragment an existing woodlot, removing connectivity and linkages with other natural areas.
4. The potential impacts of the proposal on fish habitat have not been adequately assessed. The lack of integration between the supporting reports contributes to this lack of assessment. The applicant's hydrogeology and surface water reports identify potential impacts on water resources beyond 120m from the proposed expansion. However, the Natural Environment Report has restricted its assessment to 120m. Further, the Blast Impact Assessment needs to address potential impacts on fish habitat. Therefore there are potential ecological impacts that have not been assessed.

5. Insufficient detail and justification have been provided regarding the proposed Adaptive Management Plan.

Part 2.8: Development Affecting Agriculture

The objective of Part 2.8 is to encourage agricultural uses in agricultural areas, especially in prime agricultural areas, to permit uses that are compatible with farming and to encourage accessory uses that directly support continued agricultural uses. Based on the information provided, Halton Region is not satisfied the objective has been met. Among other matters:

1. A portion of the subject lands are designated Prime Agricultural Area under the Regional Official Plan. The removal of agricultural lands isn't supported by the Regional Official Plan as its objectives include preserving prime agricultural lands and maintaining as much land as possible for existing and future farm use. Based on the wording of the Provincial Policy Statement, the agricultural lands still need to be, "*promoted and protected.*"
2. The ability of the lands to be rehabilitated to accommodate agricultural uses has not been assessed. It is worth noting that agriculture is not just soil based and that the agricultural system includes rural lands for the other aspects of agriculture beyond growing crops and therefore having lands for other agricultural related uses and linkages are integral to the agricultural system.

Part 2.9: Development Affecting Mineral Aggregate Resources

The objective of Part 2.9 is to ensure that mineral aggregate operations and their accessory uses are compatible with the Escarpment environment and to support a variety of approaches to rehabilitation of the natural environment and provide for re-designation to land use designations compatible with the adjacent land uses. Based on the information provided, Halton Region is not satisfied the objective has been met. Among other matters:

1. The subject lands contain Key Features and include Prime Agricultural Areas as well as NHS Enhancements/ Linkages/ Buffers. The Progressive and Final Rehabilitation and Monitoring Study focuses heavily on the proposed after use of parklands and fails to adequately consider the potential to rehabilitate the subject lands to accommodate natural features or agricultural uses.
2. Insufficient detail has been provided on long term and post-rehabilitation mitigation and any management measures that may be required. More detail is required on how any such measures will be secured and funded over the long term.
3. The proposed rehabilitation plan indicates an overall plan to create a park on the entire quarry site (including the current and proposed expansion lands). Questions remain as to how the applicant is proposing to accommodate this plan within the context and confines of the current rehabilitation plan (natural filling of the excavated lands as a groundwater-fed lake). The necessary amendments to the rehabilitation plan for the existing quarry should be provided so that the rehabilitation plan and after use can be evaluated in a comprehensive manner.

Other matters that are appropriate to address

1. A safety analysis has not been undertaken to assess whether there will be any effect on traffic safety. Analysis is required to demonstrate that the proposal is not going to be detrimental to safety, both entering and leaving the site and on the haul route.
2. The truck routes to and from the quarry have not been detailed in the noise assessment, and acoustical mapping for those routes has not been completed.
3. Information on traffic volumes is required. Also, there is little discussion of mitigation strategies related to increased traffic along Regional roads likely to serve as haul routes.
4. The air quality study assesses too small an area, and only assesses individual extraction phases. Potential overlap of phases has not been assessed. The study also makes assumptions about emission rates when the actual emissions from the operating quarry would provide a more accurate basis for assessment.
5. The proposed blasting impacts have not been adequately assessed. Data and formulas used in the report require clarification as well as consistent application throughout the report. Critical conditions for blasting and proximity to infrastructure and sensitive receptors need to be recognized in the study and associated documents.
6. The broader potential effects of the quarry on human health have not been addressed.
7. The financial impacts of the proposal on the City of Burlington and Halton Region have not been adequately assessed. The net financial impact to each municipality cannot be estimated based on the information provided.
8. The *Aggregate Resources Act* Site Plan and notes require revisions to address the above issues.
9. All commitments made during the consultation process by the applicant need to be fully detailed and properly secured through site plan conditions or through appropriate agreements.

Conclusion

Through initial review of the information contained in the applicant's technical studies, Halton Region has identified a number of concerns with the application. Halton Region, therefore, objects to the Niagara Escarpment Plan Amendment application. Furthermore, consistency with the Provincial Policy Statement and conformity with the Regional Official Plan have not yet been demonstrated. The application in its current form does not have appropriate regard for the development criteria listed in Part 2 of the Niagara Escarpment Plan. The application does not support the objectives listed in Policy 1.9.1 of the NEP; in particular, objectives #2 and 4. Finally, the Application in its current form does not represent good planning and is not in the public interest—consequently, it should not be approved in its present form.

Halton Region looks forward to engaging with the proponent through this process alongside our agency partners, and involving Provincial staff at key intervals. As mentioned, Halton Region is engaged with Nelson Aggregate Co. through the JART process to discuss the issues raised. This includes the production and provision of detailed comments to support discipline-to-discipline conversations on issues with the proposal. Halton Region reserves the right to raise further issues and make further recommendations as its review progresses.

Halton Region requests notification of any future meetings or updates on the review of this file.

For further questions and correspondence on this file, please do not hesitate to contact me (joe.nethery@halton.ca, 905-825-6000, ext.3035) by using the mailing address on page 1 of our submission.

Sincerely,



Joe Nethery, MCIP, RPP
Manager, Priority Development Projects

cc: Gordon Dickson, City of Burlington (by email)
Jessica Bester, Conservation Halton (by email)
Quinn Moyer, Nelson Aggregates Co. (by email)
Brian Zeman, MHBC (by email)



☎ 289-983-0648

✉ mark.simeoni@burlington.ca

April 6, 2021

BY COURIER AND EMAIL

Niagara Escarpment Commission
Attn: John Stuart, MCIP, RPP
(A) Senior Strategic Advisor
232 Guelph Street, 3rd Floor
Georgetown, ON L7G 4B1
john.stuart@ontario.ca

RE: Response Letter to the Environmental Registry of Ontario (ERO) (ERO No. 019-3215) and Niagara Escarpment Plan Amendment (NEPA) Application for the proposed Burlington Nelson Quarry Extension

A Niagara Escarpment Plan Amendment (NEPA) Application (PH 219 20) was received by the Niagara Escarpment Commission (NEC) in May 2020 as it relates to the proposed expansion of the existing Burlington Nelson Quarry.

On February 24, 2021, a request for comments related to the application was posted to the Environmental Registry of Ontario (ERO), pursuant to the *Niagara Escarpment Planning and Development Act*, which initiates a 60-day period within which comments on the NEPA Application are to be received. The deadline for the receipt of comments is April 26, 2021.

The Community Planning Department is actively engaged in the review of applicable land use development applications, including amendments to the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan as well as an application for Aggregate Resources Act (ARA) License, as it relates to the proposed extension.

A coordinated review through a Joint Agency Review Team (JART)(established in 2020) involves cross-consultation with agency partners (including, NEC, MNRF, Halton Region and Conservation Halton). The JART is in the process of reviewing the technical specializations presented by the applications and providing responses to the applicant on several topic areas. As the review progresses, it is anticipated that additional evaluation and assessment regarding land use impact, compatibility and appropriateness will, in part, be informed by the responses to these technical considerations, as well as by the established policy basis in the provincial, regional and local land use planning context.

In its initial review of the applications, City of Burlington staff and peer review consultants have identified several areas concerning the proposal where either there has not been sufficient information or data provided; where analyses are not sufficiently coordinated with other key areas of review; or, where methodological bases of the information presented in the submitted plans, studies/reports remains undetermined or is inconsistent. Five (5) general theme areas related to this information have been identified, as follows:

Effects on Surface Water Quantity and Quality

- Improved coordination and cross-referencing between the applicant's various disciplines is needed to perform a holistic review and analysis of issues related to groundwater, hydrology (quality and quantity) and impacts on surface water. This includes, but is not limited to, assessment and reporting on any/all water quality issues;
- Confirmation of the suitability of the analytical tools selected by the applicant to simulate the existing and proposed drainage conditions and the accuracy of modeling techniques, assumptions and interpretation of results. This may include additional QA/QC of the monitoring data collected from gauging stations and clarity on the selection of locations for the gauging stations, as the data collected at these stations is applicable to the overall study;
- Further assessment by the applicant of potential impacts to the municipal infrastructure and mitigative measures (roadside ditches along Colling Road) and predicted impacts to the surface water features resulting from the proposed quarry extension is needed;
- A number of hydrologic features will essentially be lost, including an existing pond within the west expansion, as a result of the proposal and additional assessment is required by the applicant to demonstrate that the lost functions are appropriately replicated in the post-development conditions;
- Further review is needed by the applicant of the potential impacts to the Willoughby Creek flow regime and the effects on Medad Valley, as well as new surface water conveyance features proposed within the subject lands and their impact on municipal infrastructure as a result of the expansion of quarry operations; and,
- A mutually agreed upon Adaptive Management Plan is needed that addresses the technical comments of the Joint Agency Review Team (JART)(including a schedule for updating the plan), as are details also needed about the long-term rehabilitation plan and potential financial liabilities related to ongoing and future operations.

Natural Heritage Effects

- There have been several natural heritage features with potential for impacts noted in the proponent's submission that have been identified for further scoping within the study area. These include provincially significant wetlands (outside of the 120 metre buffer for adjacent lands); significant wildlife habitat; significant woodlands; fish habitat (zone of influence to be confirmed); and landscape connectivity. Additional need for the evaluation of Species at Risk was also identified.

The further consideration and analyses of these matters may involve the coordination and review of other technical studies and reports in the context of natural heritage, including potential and/or indirect impacts that may result from the proposed development (i.e. connections and linkages between natural heritage features, surface water features and groundwater).

- Additional information is required to ensure the protection and reduced impacts of the proposed development on significant natural heritage resource areas, features and functions; particularly as it relates to mitigation and monitoring.
- The assessment of long-term, cumulative impacts of future uses and long-term rehabilitation (after-use) plans may require additional clarification and data support.

Agricultural Effects and Existing Farming Practices

- The Agricultural Impact Assessment (AIA) submitted by the applicant concludes that the permanent loss of the subject agricultural lands is inconsequential, yet the analysis is not systematic and does not examine impacts relative to pressures on the agricultural system at a broader scale (i.e. climate change, demand for settlement area boundary expansions, aggregate extraction, cemetery lands etc.), nor does it address the cumulative effect of the incremental loss of a finite resource over time;
- The agricultural lands within the southern study area have been characterized in the AIA as fragmented, implying lower value/viability. However, the overlapping natural features, limited rural residential uses, and passive recreational uses within the area are generally considered compatible and complementary uses in relation to agriculture. Further, in terms of land use designation, the area is contiguously mapped as prime agricultural lands. Therefore, a comprehensive AIA is required for these lands;
- The AIA notes that the average parcel sizes are indicative of smaller, 'hobby-sized' farms, implying lower value/viability. The PPS, 2020 does not make a distinction for 'hobby' farms and section 2.3.3.2 notes that "In prime agricultural areas, all types, sizes and intensities of agricultural uses and normal farm practices shall be promoted and protected in accordance with provincial standards";

- The extent of soil disturbance within the western study area is presumed as beyond rehabilitation, according to the study. Insufficient information has been provided to validate this claim;
- The AIA speaks to the consideration of “another property located farther away” but does not provide any detail with respect to the evaluation of this alternative site in relation to the proposal;
- The AIA notes that an expansion to an existing site is less detrimental to agriculture than a new site, based on the use of existing haul routes. Yet it does not assess the impacts associated with an intensification of the existing aggregate use, i.e. increased quarry traffic on existing haul routes, as well as the extension of the life of the quarry and the long-term disturbance to agricultural operations within the area;
- The AIA notes that an open-water feature can provide benefits to the agricultural area by providing flood attenuation and fresh water for irrigation purposes, yet does not present supporting evidence identifying a need/demand for flood attenuation or irrigation within the subject lands.

Human Health (Air Quality)

A technical peer review of the applicant’s Air Quality Study, as included with the application submission is ongoing, with particular focus on matters related to methodology, findings and conclusions associated with any potential air quality impacts of the proposed quarry extension.

Operational/Coordination

The City of Burlington expresses concern with the planned future for existing industrial land uses (i.e. processing facility) on the quarry lands and the prospect of the continuation of those activities in the context of an expanded quarry operation.

There has not been consistent or adequate detail pertaining to the use of the existing quarry lands for an industrial use in the event that aggregate resource extraction ceases (or is substantially reduced) on that portion of the quarry operation and its resultant conformity with applicable legislation and policy related to the Niagara Escarpment Area.

The City of Burlington Community Planning Department appreciates the opportunity to provide comments in response to the circulation of the Niagara Escarpment Plan Amendment (NEPA) Application, and requests notification of any future meetings or updates on the review of this file.



☎ 289-983-0648

✉ mark.simeoni@burlington.ca

The City of Burlington reserves the right to raise further issues as the review of these applications progresses.

Sincerely,

Mark Simeoni, MCIP, RPP
Director of Community Planning
Community Planning Department
City of Burlington



Planning & Watershed Management

905.336.1158 | Fax: 905.336.6684

2596 Britannia Road West

Burlington, Ontario L7P 0G3

conservationhalton.ca

April 22, 2021

BY EMAIL

John Stuart, MCIP, RPP
Senior Strategic Advisor
Niagara Escarpment Commission
232 Guelph Street
Georgetown, ON L7G 4B1
John.Stuart@ontario.ca

Dear John Stuart:

**Re: Proposed Niagara Escarpment Plan Amendment PH 219 20
Environmental Registry of Ontario Proposal #019-3215
Nelson Aggregates Co.
Part Lots 1 & 2, Concession 1 NS, Part Lots 2, 3 & 4 RP20R7439, Part Lots 1 & 2,
Concessions 2 NS, Part Lots 1 & 2, Concession 3 NS, Part Lots 17 & 18, Concession
2, NDS
City of Burlington, Region of Halton
Conservation Halton File PQ 20**

Related Files:

- Application under the Aggregate Resources Act for a Category 2, Class A Quarry
- Regional Official Plan Amendment RQ61A
- Burlington Official Plan Amendment 505-04/20 for Burlington Quarry Extension - Part Lot 17 & 18, Concession 2 NDS and Part Lot 1 & 2, Concession 2, Burlington

Conservation Halton (CH) has reviewed the above referenced Niagara Escarpment Plan Amendment (NEPA) application including the following studies and drawings referenced in conjunction with the above noted application:

- Level 1 and 2 Hydrogeologic and Hydrologic Impact Assessment, April 2020, prepared by Earthfx et al.
- Level 1 and 2 Natural Environment Technical Report, April 2020, prepared by Savanta
- Adaptive Management Plan, April 2020, prepared by Nelson Aggregates
- Burlington Quarry Extension Planning Report, April 2020, prepared by MHBC
- Financial Impact Study, April 2020, prepared by Nelson Aggregates
- Progressive & Final Rehabilitation/Monitoring Study, April 2020, prepared by MHBC
- Burlington Quarry Extension Surface Water Assessment, April 2020, prepared by Tatham Engineering
- Site drawings and notes package, April 2020, prepared by MHBC

Proposal

The application proposes to change the land use designation of approximately 78.3 ha (193.5 ac.) of lands from the Escarpment Rural Area designation to the Mineral Resource Extraction Area designation to facilitate an expansion to an existing aggregate extraction operation.

Nelson Aggregate Co. application also proposes to apply a site specific special policy to the existing extraction site to allow for the continuation of aggregate processing operations in conjunction with the proposed expansion.

The amendment would facilitate a below-water aggregate extraction operation that will extract approximately 50.2 ha (124.0 ac.) of the 78.3 ha (193.5 ac.) of land proposed to be redesignated to Mineral Resource Extraction Area. The proposed expansion lands are estimated to contain ±30 million tonnes of mineral aggregate resource.

The amendment would also facilitate the continued use of the existing aggregate processing and maintenance facilities on the current Nelson Aggregate Co. site in the processing of material extracted from the proposed expansion lands.

Summary

Conservation Halton is currently participating in the review of the proposed quarry expansion through the Region of Halton's JART process. The JART includes agency representation from the Region of Halton, City of Burlington, Niagara Escarpment Commission and Conservation Halton.

CH has reviewed the first submission of the above-referenced *Aggregate Resources Act* and *Planning Act* applications through the JART process. The technical studies reviewed as part of those applications are the same as those circulated as part of this NEPA application. As such, CH's feedback that was provided on the *Aggregate Resources Act* and *Planning Act* applications also applies to the proposed Niagara Escarpment Plan Amendment.

CH feedback on the technical studies is found in the attached Appendix A. This feedback has also been included within the consolidated JART Comment Summary Tables that have been provided to the applicant.

The feedback in Appendix A will need to be addressed before staff can provide a recommendation on the proposed NEPA. Please note that should further issues arise through the technical review, Conservation Halton reserves the right to provide additional comments.

Please note that CH has not circulated these comments to the applicant, and we trust that the Niagara Escarpment Commission will include them as part of your report.

We trust that these comments are of assistance. Should you have any questions, please contact the undersigned via email jbester@hrca.on.ca or phone 905-336-1158 ext. 2317.

Yours truly,



Jessica Bester, BES, MCIP, RPP
Senior Environmental Planner

Encl. Appendix A: Conservation Halton's JART Feedback on First Submission

Cc (by email): Joe Nethery & Janice Hogg, Region of Halton
Gordon Dixon, City of Burlington
Steven Strong, MNR Aurora District
Calinda Manning, MNR
Christopher Martin, MECP



May 27, 2020

JART Members,

My name is Roger Goulet, executive director with Protecting Escarpment Rural Land (PERL).

<https://www.facebook.com/Perlburlington/>

In the recent City of Burlington media release below states that the JART Members will review the Nelson Aggregate application for two new quarries and city park for **completeness**.

It is very important that a completeness assessment be done. To uncover data gaps mid-way through the review process causes problems, delays, compromises the processes, increases costs, and is unfair for all stakeholders.

We assume you have already reviewed the 2009 JART report. It highlighted a number of shortcomings with the 2004 Nelson Aggregate application.

Last time, it was obvious that there were critical gaps in the Nelson Aggregate technical information.

As a result, PERL took it upon itself to try to fill some of those gaps.

1. We hired a wetlands biologist to conduct a Ontario Wetland Evaluation System (OWES). This study identified the significant wetland complex, which was later designated by the MNR as the *Grindstone Creek Headwaters Wetland Complex PSW*. During the Joint Board Hearings, expert testimony confirmed that the West Arm of the Mount Nemo Tributary was excluded from being designated as a PSW, stating that MNR policy excludes watercourses that are fed, in part, by quarry pumping. The cross-examination of the expert revealed that

there is no such MNR policy. To this day, the West Arm of the Mount Nemo Tributary has not been designated as PSW.

2. We advocated to the MNR for a salamander field study. This MNR study identified and confirmed the existence of the endangered Jefferson Salamander and breeding areas, which later caused the MNR to designate the area as protected Jefferson Salamander habitats and breeding areas. The Joint Board later in their Ruling added to the size of that Jefferson Salamander habitat.
3. PERL advocated to the Halton Region and Conservation Halton that the woodlands on the subject property needed to be assessed as significant. Halton Region and Conservation Halton expert staff performed a woodlands assessment, based on established woodlands criteria. This resulted in much of the woodlands being designated Regionally Significant under ROPA38.

It is incumbent on Nelson / Lafarge to provide the most complete, comprehensive, state of the art technical studies possible, including the cumulative negative impacts of operating three quarries in an ecologically sensitive area, within the Niagara Escarpment Plan, a UNESCO World Biosphere Reserve. Nelson / Lafarge have had more than eight years to conduct studies on the lands proposed for two new quarries.

PERL and others will be carefully reviewing the Nelson /Lafarge technical studies and information for assessment thoroughness, completeness and methodology.

We respectfully suggest that the JART should include the following in their own completeness assessment:

- Have Nelson / Lafarge experts conducted additional Jefferson Salamander studies in the last eight years to identify the full range of the Jefferson Salamander habitats and breeding areas, including the West Arm of the Mount Nemo Tributary wetlands on the proposed south quarry, and the Burlington Springs Golf Course ponds and nearby woodlands? It stands to reason that salamanders would inhabit those habitats.

- Per the 2009 JART, the Nelson Aggregate expert species assessment / inventories was not comprehensive, rather cursory. We expect that a full inventory of living species has been identified, including any species at risk.
- Have Nelson / Lafarge experts conducted an Ontario Wetland Evaluation System (OWES) on the West Arm of the Mount Nemo Tributary, and also the ponds and watercourses on the Burlington Springs Golf Course, the proposed west quarry? The West Arm of the Mount Nemo Tributary should be designated as part of the *Grindstone Creek Headwaters Wetland Complex PSW*, per Joint Board Hearing testimony, with appropriate PSW setbacks. The golf course wetlands also need to be assessed under OWES.
- Have Nelson / Lafarge hydrogeology experts done a thorough assessment of the highly fractured geology of the area, including Karst features? In the last 2004 application, Nelson Aggregate was reluctant to undertake such objective hydrogeological investigation, and had to be pressured by the JART to do field work. The hydrogeological work must be comprehensive due to the very significant consequences to area groundwaters. Is a 'groundwater recharge system' contemplated in the AMP? There are serious concerns with such recharge systems, requiring in-depth technical peer review.
- Do the Nelson / Lafarge expert hydrogeology and hydrology studies determine the future impacts of three simultaneously operational open-pit mines on the water supply / water budget supplying the wells on the Mount Nemo Plateau?
- Have Nelson / Lafarge obtained adjacent property owners' permission to access their properties for conducting the field studies? The whole of the Mount Nemo Plateau is a complex interdependent network of natural heritage systems. The studies can not be narrowly scoped to the immediate areas in and around the proposed extraction zones.
- Have the Nelson / Lafarge experts determined the potential impacts on groundwater qualityⁱ from thousands of truckloads of excess construction waste soils / fills being deposited inside these below-the-water-table quarries? The vast majority of these imported fill truckloads are not quality tested for contamination, nor certified as compliant to clean fill standards, this according to their consultant, Brian Zeman. If groundwater, the source of area drinking water, free of

chemical contamination, can not be **guaranteed**, the importation of waste soils must be prohibited in below-the-water-table quarries. Further, Nelson / Lafarge must provide all the test data and soil certifications on imported soil quality since the start of importation of excess waste fill for rehabilitation, at least 15 years.

- What is the purpose for importing thousands of truckloads of fill? Are Nelson Aggregate using the imported fill for sidewall rehabilitation per the Site Plan, or are they building up the quarry bottom for the yet “unapproved” city park? This would be presumptive on their part, would not be in accordance with the Site Plan, contravene the NEPDA policies, and not be in compliance with City of Burlington bylaw on “Site Alteration and Fill”. The authority of the City fill bylaw was confirmed by the Ontario Superior Court, in the Burlington Airpark case.
- The City of Burlington and the Halton Region have passed Council Resolutions calling for the re-designation of the Mount Nemo Plateau to Escarpment Protection and Escarpment Natural. The NEC passed a Resolution calling for the elimination of ‘new’ quarry licenses within the NEP; and the NEC recommended in the Consolidated Plans Review that the Mount Nemo Plateau should be re-designated to Escarpment Protection and Escarpment Natural.
- What basises does Nelson / Lafarge offer for the proposed removal of Natural Heritage Systems on the golf course, including the golf course ponds? What protections are afforded for ROPA38 Regional Natural Heritage Systems?
- Were comprehensive and cumulative impact expert studies on the negative effects of three quarries operating simultaneously on the natural heritage features and functions of the area? Nelson Aggregate have stated that the existing quarry could operate another **50 years!** Also, that Nelson / Lafarge are investigating underground mining which would extend extraction for “xx” years? This makes a mockery of “interim use” policies in the ARA. After over 100 years of quarrying, including even old quarries, on the Mount Nemo Plateau, it is time to terminate extraction operations.
- Nelson / Lafarge must include the total cumulative impacts on... groundwater, quarry sump-water discharge, species’ extended disturbances, dust, air emissions, noise, blasting, etc. of operating

three quarries at the same time. Nelson / Lafarge have said that the existing 70 year old quarry will continue to extract aggregate, and process the mineral aggregate and recycled concrete and asphalt, and operate the asphalt plant. If the recently published Nelson /Lafarge studies only address the two new proposed quarries, excluding the existing and operating quarry, that is patently unacceptable.

- What will happen to the 25,000 trees sponsored under the *Managed Forest Incentive Program*, to which the Burlington Springs Golf Course owner contracted to taking care of for a minimum of 15 years? <https://www.forestsontario.ca/> Will the “Green Leader” property owner reimburse the taxpayers the cost of the trees and the property tax reductions? These trees were clearly intended to become a new managed forest, and grow to become Halton Regionally Significant Woodlands. Do we now allow their destruction? <https://www.insidehalton.com/news-story/6412237-burlington-springs-golf-country-club-s-brad-bunkowsky-new-green-leader/>
- Have historical buildings experts provided guidance on the 19th C. Ontario Cottage, Gothic Revival, centre gable style stone house, now the Burlington Springs Golf Course’s clubhouse; and the 19thC. Old Regency Style stone house at 2280 #2 Sideroad. What will be done to preserve these significant locally quarried stone houses?
- Have Nelson /Lafarge conducted blasting studies “off-site” of their current quarry, on area properties, using MNRF standard NPC-103 and NPC-119 for off-site monitoring, which are securely affixed to the bedrock? The reported experiences of area residents with blasting effects are inconsistent with Nelson Aggregate’s stated blasting data and records. Blasting records need to be provided to the public.
- Have Nelson / Lafarge conducted real life studies, versus modelling, on the fine particulate dust of <0.5 micron actually being generated from drilling, blasting, crushing, screening, transportation, and stockpiling of silica containing mineral aggregates?
- What are Nelson / Lafarge experts saying will be the quality and quantity of the water proposed to be discharged from the two new quarries? Have Nelson/ Lafarge provided water quality data or studies on the two sump pump water discharges, detailing over the seasons the chemical composition of the water discharged to the two open

watercourses? The area residents report that the water is often cloudy, discoloured, and oft-time has an odour. Are they in compliance with their permit-to-take-water standards pertaining to water quality?

- Have Nelson / Lafarge conducted actual real-life data monitoring for their experts' studies? In the last 2004 application, they too often relied on "modelling", when actual operational data was readily available from existing operations.
- Are Nelson /Lafarge experts using "rural" noise standards and are they including all sources of noise generation in their noise studies? Nelson have chosen to quarry on Escarpment Rural lands, yet in the 2004 application, they compared noise levels to urban standards. Further, the models did not include all noise generators, and the cumulative noise from the existing quarry, which will continue to operate, from which actual data must be included.
- Have Nelson /Lafarge experts included all sources of emission to the air? In the 2004 application, not all air emission generators were included, such as...the asphalt plant, heavy rock trucks, hundreds of entered and exiting laden trucks, machinery and equipment, etc. Furthermore, are the "Certificates of Approval" for the limestone processes and the asphalt plant up to date? All industrial facilities in Ontario must have a current certificate of approval.
- What exactly is the ownership structure for the Burlington Springs Golf Course, proposed west quarry? Nelson Aggregate **Application Booklet, tab 6** and **Tab 7**, and **tab 16**, and **Schedule B** are not clear. Per tab 6, the golf course is owned by **Byway TV and Appliances Ltd.**, not Nelson Aggregate or its numbered companies. Yet... In the **Title Deeds** in **Tab 16**, shows the land deed transfer to Larry Bunkowski, but no document showing deed transfer to Byway TV and Appliances, or 546958 Ontario Ltd (Nelson numbered company), yet Byway TV and Appliances Ltd is listed as registered owner of the golf course lands.?
Schedule B gives Nelson Aggregate the right to quarry. What are the liability implications of such an undertaking? If something were to go really wrong, are the deep pockets of Nelson / Lafarge(a large multinational) liable?

<https://www.burlington.ca/en/Modules/News/index.aspx?feedId=0b11ae3a-b049-4262-8ca4-762062555538&newsId=482f5de3-7592-4fb4-9d4b-50767cdbc42>

*”At this time, the Nelson Aggregate Co. application for their proposed expansion has **not yet been deemed complete**. An internal technical meeting has been scheduled for later this month to begin the review process. JART members will review the application for completeness and determine if it can be accepted for processing.”*

PERL, the residents and the stakeholders expect a fulsome, comprehensive, and transparent JART process. We will input and cooperate in any way we can to ensure that the recommendations JART make are based on solid proven science, which has been expert peer reviewed.

Roger Goulet
PERL Executive Director

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April 26th, 2021

Submitted to:

John Stuart - Niagara Escarpment Commission
232 Guelph Street,
Georgetown, ON L7G 4B1

**RE: Nelson Aggregates, Burlington Quarry Extension Application
City of Burlington, Region of Halton (ERO Number 019-3215)**

CORE Burlington (Conserving Our Rural Ecosystems of Burlington Inc) is a not-for-profit organization of community volunteers with the mission to preserve the ecological integrity of rural Burlington and to advocate for healthier communities by protecting our land, air and water. CORE Burlington and its members are strongly opposed to the Nelson Aggregate proposal for a new quarry license on Mt Nemo in Burlington's UNESCO World Biosphere Reserve on the Niagara Escarpment. We have reviewed the quarry application documents, received input from our community members and consulted with technical experts and have concerns and objections with a number of aspects of the application.

1. The Air Quality Assessment report contains a number of issues that must be resolved in order to obtain an appropriate assessment of the air quality impacts of the proposal:

- The dust control factors used, mainly for road dust control, are cited but no quantitative basis is provided. This is especially critical as road dust tends to be one of the major contaminant sources and emissions are very sensitive to the exact number used for the high control efficiencies stated.
- Not all contaminants of potential concern were assessed, including other minerals in the gravel dust, specifically calcium carbonate (CaCO₃), or in other ingredients used on site, such as the sand at the Hot Mix Asphalt (HMA) plant. These other contaminants may have different and unaccounted-for health impacts on the surrounding community that must be assessed.
- Baseline air quality was not measured, but rather estimated using nearby air quality measurement stations as representative of the entire site. These estimates were NOT done in a conservative manner as would be expected by best practices, as described in the 'International Association of Impact Assessments' air quality assessment guidelines. There was also missing data:
 - *Insufficient data was used from representative sites.*
 - *Station data was averaged rather than choosing the maximum value.*
 - *Respirable crystalline silica (RCS) and Carbon Monoxide (CO) baselines have not been included.*
- Justification for the use of controlled emission factors was not provided in all cases, and so, the actual emissions calculated may underestimate dust emissions, which could potentially lead to over exposure in the local community.
- Although PM_{2.5} from on-site diesel sources was assessed, there was no assessment of Diesel Particulate Matter (DPM) emissions, which are known to have specific health concerns that should be assessed separately.

- *There was also no assessment of the off-site contribution of PM_{2.5} and DPM emissions associated with the track-out from the quarry or of emissions from the high volume of quarry related truck traffic.*
- Health impact assessments should be conducted for PM_{2.5}, Benzo(a)pyrene (BaP) and DPM emissions.
 - *For PM_{2.5}, the CAAQS standard used is an interim air quality management goal set rather than a health-based benchmark value. Health risk exists at levels below the CAAQS.*
 - *Health impact assessments must be completed for BaP and DPM as these are known to have specific health risks.*
- The models used to predict storage tank fugitive emissions (Tanks 4.09d) and emissions dispersion (Aeromod 16216r) are both no longer considered suitable models.
 - *The US EPA has stopped updating and supporting Tanks due to known technical problems.*
 - *Aeromod was recently updated with adequate notice given to allow use by the proponent.*
- There is missing information on the calculations used to estimate the retention of dust in the pits, so these cannot be properly reviewed.

2. There is no discussion about CO₂ emissions and plans to address reductions over the life of the proposed extension.

- Taking into consideration that gasoline and diesel-fuelled transportation is one of the biggest emitters of greenhouse gases in Canada, CO₂ emissions must be included in the evaluation of the application.
- Furthermore, CO₂ emissions from other activities, such as blasting and deforestation must also be included in the assessment process in order to render a more accurate estimate of CO₂ emission levels.
- The City of Burlington has declared that the City be carbon neutral by 2050: in order to achieve this critical goal, these types of CO₂ emissions must be taken into account when assessing this application.

3. The Natural Environment Technical Report (NETR) is a pro forma approach to an environmental impact analysis which ignores the most salient aspect of this land use proposal and its full potential environmental impact.

- Following the protocols of the Aggregate Resources Act, the 'study area' is defined as the boundary of the proposed licence area plus the Adjacent Lands extending 120m from that boundary.
- Although the designation of the study area is consistent with the accepted methodology, the 120m zone is completely arbitrary with respect to being meaningful in assessing negative impacts on natural features or ecological functions.
- Implicit in this approach is that impacts generated by the proposed quarry will be proximate and that beyond the studied zone the landscape will continue to function with the usual ecological dynamics of things like foraging, dispersal and gene flow that will support the biological systems within the proximate zone. But this is not the case on Mount Nemo.
- Mount Nemo is a formation that is an outlier of the Niagara Escapement: it is more or less a flat-topped hill bounded on all sides by steep cliffs.
 - *On the western side adjacent to the proposed western expansion the land falls away by 30m over a lateral distance of less than 100m.*
 - *Along the northern face the drop is much steeper.*
 - *These cliffs that bound the Mount Nemo plateau are ecological barriers to many of the plant and animal systems that form the biodiversity of the plateau.*

- *They are too steep to allow normal species dispersal and genetic exchange whether it be pollination or interbreeding of animal populations.*
 - *The Mount Nemo plateau in its undisturbed state (even now with the large existing quarry operation cut from its centre) functions more like an island ecologically than an equivalent area of the broad landscape.*
- As an ecological 'island', Mt. Nemo's species populations must rely on their own genetic diversity, and on the resilience of local populations.
 - *Catastrophic natural or anthropogenic events impacting small local populations can often result in extirpation of the species from the plateau, despite the continued presence of adequate habitat, because there are insufficient neighbouring populations to disperse in, and thus repopulate.*
 - *This phenomenon has been demonstrated by studies of island biogeography which have revealed that island size is directly related to number of species that can be supported: smaller islands support fewer species.*
 - *In this application, the plateau 'island' of approximately 900 ha has already been reduced by approximately 20% by an existing, deep, steep-sided open-pit. This proposal is to substantially expand that pit and remove further biologically functioning land from the landscape.*
- A consideration of any negative impacts on the natural features or ecological functions identified in the study area due to this 'island' effect is absent from the NETR. Notwithstanding the need to maintain the ecological integrity of the 'island' as a whole, the internal connectivity of this constrained landform must be considered when evaluating environmental impacts of the proposal. There is a specific requirement of the Niagara Escarpment Plan which states:
 - *2.7.3. The diversity and connectivity between key natural heritage features and key hydrologic features shall be maintained, and where possible, enhanced for the movement of native plants and animals across the landscape.*
- The greatest risk to connectivity is presented by the proposed western expansion of the quarry. Presently the village of Mount Nemo to the east and the existing deep quarry create an ecological barrier that almost completely partitions the Mount Nemo plateau.
 - *The golf club property west of the existing quarry provides the only ecological corridor linking the north and south of the plateau.*
- The plan calls for the licensed area to be expanded into the golf club property right to the eastern side of Cedar Springs Road. On the western side of that road there are residential lots which are perched atop the aforementioned western cliffs of the Mount Nemo.
 - *The western expansion, therefore, would completely remove that ecological corridor. This is acknowledged in the NETR but quickly discounted as to its significance in the following passage:*
 - *"In the West Extension, KNHF were identified in the ROP within the active golf course; however, detailed field investigations and survey effort determined that these areas provide minimal diversity and are patchy, relatively isolated, managed features." (Section 10, page 86)*
 - *It is essential that the KNHF present in this area are acknowledged because there are large significant woodland features which support the diversity and connectivity of this natural heritage corridor.*
 - *It is not acceptable that these values are glossed over and dismissed in an arbitrary way.*
- The NETR purports to have done detailed investigations and survey efforts, but by what decision process did they conclude that these lands provide minimal diversity and are not worthy of being identified as an important connection in the natural heritage of the plateau?

- *Certainly, this conclusion is contradicted by the proposed convoluted 'limit of extraction' which must be twisted into a pretzel configuration to retain the significant woodlands as natural heritage, isolated within the expanded quarry.*
- This corridor is a critically important natural heritage feature of the Mount Nemo landscape, the loss of which may severely impact the ecological integrity of the whole plateau.
 - *Recognition of the importance of this corridor calls into question the viability of the license expansion project.*
 - *Consideration of this issue cannot be disregarded without a full analysis and sound rational science-based argument: such an analysis is nowhere to be found in the NETR.*

4. Further to section 3, based on the information provided with respect to the impacts on the natural environment, we note the following concerns and deficiencies:

- The Natural Environment report omits numerous 'known to be present' species, including endangered, threatened and of-concern flora and fauna.
 - *The timing, methodology and scope of the field surveys lack completeness. There are many anecdotal reports of species at risk on adjacent properties that were not identified in the report, and the field surveys were done over a very short period of time which makes the data collected unreliable.*
- The surveys underestimate the quantity of species that are present in the study area and do not fully explore all of the impacts that open-pit mining will have on these diverse and complex ecosystems.
 - *For instance, the removal of natural areas that have been classified as breeding grounds for certain species during the 'off-season' will have significant negative impacts on the breeding patterns of these species in the subsequent season: despite this logical conclusion, the report claims that the proposed mining operation will have NO impact on the natural breeding patterns.*
- The removal, manipulation or disruption of the designated natural habitats for the endangered, indicator, Jefferson salamander species must NOT be permitted.
 - *This report provides no studies or evaluations to support how the proposed off-site 'ecological enhancement' plan will serve as a viable replacement for the rich and complex ecosystem that the Jefferson salamanders currently inhabit and which is essential to their survival.*
 - *More often than not, manipulating habitats or trans-locating sensitive species poses more threats than solutions.*

5. The Hydrogeological and Hydrological Impact Assessment report contains a number of issues that must be resolved in order to validate the conclusions drawn from the report and to assess the impacts on ALL stakeholders:

- How were the final hydraulic conductivity values used for the Amabel Formation in the integrated flow model determined?
 - *The hydraulic conductivity values of the Amabel Formation are variable and results from the field (in situ) assessments show the values used in the model are generally in the lower end of the range of horizontal hydraulic conductivity.*
 - *Anisotropy values (ratio of the horizontal hydraulic conductivity to the vertical hydraulic conductivity) for the Amabel Formation used in the integrated flow model also did not match well with values determined through on-site testing.*
 - *It appears that a substantial increase in the hydraulic conductivity anisotropy, (meaning the vertical hydraulic conductivity was much greater than the horizontal hydraulic*

conductivity), had to be applied to achieve a better model calibration to water levels in the Amabel aquifer system.

- As a follow up to the above noted concern: wouldn't the increased vertical hydraulic conductivity potentially overestimate the quantity of water recharging the main portion of the Amabel aquifer system and call into question the resulting model predictions, with respect to the potential impact on water supply wells in the Amabel aquifer system?
 - *The integrated flow model predictions, with respect to the impact of the proposed western extension, are greatly influenced by recharge to the deeper aquifer unit 'layers' in the groundwater flow model due to these higher vertical hydraulic conductivity values in some of the upper aquifer model layers.*
 - *As a result of using these high vertical hydraulic conductivities, the recharge of water to the deeper aquifer units could be over-predicted, and the resulting impact on water levels and well yields in domestic wells would be underpredicted.*
- How was the value determined for the hydraulic conductivity (both horizontal and vertical) of the Halton till, which was used in the integrated flow model?
 - *The hydraulic conductivity of the Halton till was presented as being relatively low and the till layer being fairly continuous (i.e., no 'windows' or thin areas allowing greater downward leakage of water in local areas).*
 - *The Halton till was assigned one value of hydraulic conductivity. This is an oversimplification of the properties of this geologic unit.*
 - *It was interpreted that the Halton till acts as a barrier to downward movement of water and there would be limited 'hydraulic connection' between the wetlands and the underlying bedrock water system. But due to the nature and variability of the bedrock topography there will be local variations in the thickness of the Halton till, and specific areas where there are greater hydraulic connections between the shallow water system and the underlying bedrock.*
 - *This will be difficult to capture in this scale of model. Has this been assessed for each local wetland, potentially impacted by the South Extension?*
- How sensitive is the integrated flow model to minor changes in wetland water balances (near the proposed South Extension) and local groundwater and surface water interactions for these wetlands, given that it does not take much change in the water regime to impact these wetlands?
 - *The water balance modelling for these ponds shows limited water interaction; however, there is not a high volume of water involved, and small changes in volume could be significant.*
 - *It is noted that monitoring is ongoing in a number of wetlands; therefore conclusions should not be made until this data is collected for a sufficient period of time and under a variety of climatic conditions. It is premature to conclude that there is a lack of groundwater influence on the hydroperiod of the ponds, given that subtle changes in the hydroperiod could impact the function of the wetland.*
- Have the potential impacts to fish habitat in the upper reaches of Willoughby Creek and the West Arm been fully assessed?
 - *Limited information was presented, with respect to the impact of water lost to the upper reaches of Willoughby Creek and the West Arm which has the potential to create permanent adverse impacts to downstream fish habitat. This needs to be assessed in more detail.*
- Have the potential impacts of localized changes to the groundwater discharge zones, in the Medad Valley been fully assessed, as a result of changes to the upgradient groundwater flow system due to the potential future quarry operations?

- *There is limited discussion or assessment of the potential for localized impacts on minor changes to groundwater discharge zones along the Medad Valley due to local potential recharge alterations for individual karst features.*
- *Although it was concluded in the Earthfx report that the general water balance for the Medad Valley does not appear to be altered on a broad scale as a result of the proposed new extraction, there will likely be local 'shifts' in groundwater discharge areas due to changes in local recharge to individual karst features.*
- *Karst field studies went to the level of detail to examine individual karst features and karst springs; there should be a more specific assessment of the potential impacts on each feature, rather than an overall water balance assessment for the Medad valley discharge.*
- *There could be potential issues related to local shifting of groundwater discharge locations within the Medad Valley (i.e., will these subtle changes affect specific springs and discharge areas and impact associated terrestrial and aquatic features?).*
- How long will it take the proposed quarries to fill, upon completion, given that this water will be 'lost' to the groundwater and surface water systems during this time?
 - *The length of time for the quarry lakes to fill, the potential impact of the infilling waters on the groundwater system, and the groundwater discharge to the surface water, has NOT been examined in detail.*
 - *It often takes years for dewatered quarries to naturally fill back to a static lake level. During this time, groundwater flowing into the quarry is not contributing to the flow system.*
 - *Although there were short term transient simulations, there was no extended running of the model to determine how long it would take for the quarry lakes to fill and what the potential impact on the groundwater and surface water system during that filling time would be.*

6. Further to section 5, data from a recent pipeline construction incident challenges the accuracy of the conclusion in the Hydrogeological and Hydrological Impact Assessment report that there is no measurable hydraulic connection between the wetlands and bedrock groundwater underlying the wetlands in the area of the South quarry expansion proposal.

- On February 10, 2021, while conducting directional drilling for the installation of a new pipeline in the vicinity of the proposed South expansion, Imperial Oil reported a release of drilling mud into the Provincially Significant Wetlands located on the Harmer property. The salient points from the Imperial Oil responses to the release are as follows:
 - *Horizontal Directional boring under the wetland area of the Harmer property resulted in a release of drilling mud (clay and water) to the surface, within the wetland. The area of the breach was contained, and a vacuum truck was used to remove the drilling mud in a controlled manner while the boring continued for the final 40 m.*
 - *The area of impact where the drilling mud came to the surface in the wetland was approximately a 5m x 10m area.*
 - *Approximately 4,500 L of drilling mud was removed from the wetland area where sandbags were in place to control the release.*
 - *Bedrock was originally identified as being 1 m below the ground surface in this area and the boring depth was approximately 6.5 m (below the wetland surface) when unexpected soft conditions were encountered during the boring.*

- *Imperial Oil indicated that soft conditions were encountered in the bedrock or a "seam" within the bedrock that allowed the fluid to reach the surface of the bedrock and discharge upwards to the wetland.*
- *A 'relief pit' was dug outside the wetland to allow the drilling fluid (mud) to seep upwards into the pit rather than into the wetland.*
 - *Bedrock was encountered at 1.8 m below ground surface at this location.*
 - *A relief pit was also dug at the exit point of drilling fluid into the wetland to better control the release of the fluid into the wetland.*
- *Drilling fluids normally return to the surface at the entry or exit point of the boring but in this case unexpected bedrock conditions resulted in a surface breach tens of metres away from the location of the boring activity at the time.*
- *Ms. Harmer contacted hydro-geologist Ray Blackport to help understand the event and what the implications might be for the family's well and the protected breeding habitat of the Jefferson Salamander, as well as other sensitive wetland species. The following is Ray Blackport's report:*
 - *Nelson's consultants have interpreted investigations and groundwater modelling that there is no measurable hydraulic connection between the water regime in the wetlands on the both the southern portion of the Nelson lands and the Harmer property and the bedrock groundwater underlying the wetlands.*
 - *Although groundwater levels in the bedrock underlying the wetlands will be lowered during the proposed extraction stages in the South Extension area, it is concluded by Nelson's consultants that the lowering of the bedrock groundwater levels will not impact the water regime in the wetlands due to the interpreted low hydraulic conductivity values and thickness of the Halton till overlying the bedrock.*
 - *The Halton till is interpreted to create a hydraulic barrier between the water in the wetlands and underlying groundwater in the bedrock, impeding movement of water vertically upward and downward across the till.*
 - *The wetland breach within the wetland on the Harmer property, as a result of the Imperial Oil Horizontal Directional Drilling, highlights the following concerns related to the above noted interpretation:*
 - *The surface escape of drilling fluid into the wetland, from boring within the bedrock, indicates there are areas of hydraulic connection between the wetlands and the underlying bedrock.*
 - *The thin (1.8 m) overburden layer underlying at least a portion of the Harmer wetland appears to provide limited hydraulic isolation between the wetland and the underlying bedrock water. A lowering of water levels in the bedrock, as predicted by the Nelson integrated flow model, could negatively impact the water regime within the wetland, given the apparent greater hydraulic connection than is currently interpreted by Nelson's consultants.*
 - *The unanticipated encountering of 'soft' rock during horizontal boring indicates potential highly vertically fractured bedrock, or small karstic features in the shallow bedrock, which would increase the vertical connectivity within the shallow bedrock. This could have implications for the lowering of water levels in the overburden or wetlands, as there could be a greater impact on water levels in the bedrock than predicted. These zones could be conduits for greater drainage into the proposed quarry if they are laterally extensive.*
 - *The implications of the Imperial Oil breach should be factored into the current interpretation and impact assessment related to wetlands adjacent to the proposed South Extension."*

7. The Blasting Impact Analysis report has arrived at a conclusion of 'safe operation' without properly incorporating the dangers posed by flyrock, which creates a serious public safety risk that must be addressed:

- Flyrock has been extensively studied by the US Bureau of Mines (USBOM) who have developed a model for predicting the safe management of flyrock, which is used almost universally in the mining and quarrying industry.
- The proponent has chosen to utilize an infrequently-used, alternate model which, though structurally quite different, if applied fully will produce similar results to the USBOM model.
- The report does review flyrock and estimates the 'range-of-throw' but it does so without including the safety factors specified by the model authors.
- The report indicates, *"Through proper blast planning and design, it is possible to control and mitigate the possibility for flyrock"*: This is an oversimplification of the nature of flyrock. It fails to recognize that flyrock is generally caused by natural and unpredictable variations in the geology and particularly geological imperfections which the flyrock models have no way to predict or address.
- Because of the omission of safety factors, the 'proposed limits of extraction' present a real danger to the families who reside in the more than 60 near-by residences, and to people, cyclists, pedestrians and cars using the adjacent roads; dangers which include personal injury and equipment/ structural damage.
- The clearance distance between the blasting site and neighbouring residences and other sensitive receptors must be increased to a minimum of 500m, which ensures an appropriate safety zone, consistent with the full implementation of the model used by the proponent and that of the USBOM.

8. The proposed extensions are reducing their encroachment distance on sensitive receptors and the Blasting Impact Analysis report does not address controls to ensure regulatory limits are always met:

- One of the report's recommendations states that, *"In the event of an exceedance of NPC 119 limits or any such document, regulation or guideline which supersedes this standard, blast designs and protocol shall be reviewed prior to any subsequent blasts and revised accordingly in order to return the operations to compliant levels"*. One would expect that this would be an existing fundamental requirement of the current blasting procedures and not a recommendation associated with the proposed quarry extension.
- Blasting data reported from 2014 shows several exceedances of the regulated limits. In a number of these cases, it appears that the blast designs and protocol were NOT reviewed prior to any subsequent blasts and NOT revised accordingly in order to return the operations to compliant levels, given subsequent blasts showed repeated exceedances.
 - *The proposed extensions are requesting a license for 2MM tonnes/year of production, with an intention to operate at 1MM tones/year; however we must consider the impact based on the full operating license application.*
 - *Although the proponent has reduced production in recent years to extend the life of the existing facility, if an extension is approved, we can expect the potential for a significant increase in production and the potential for blasting results similar to what was seen in 2014.*
- The report acknowledges the presence of a high pressure petroleum products pipeline (Gasoline, Diesel, Jet Fuel and Furnace Oil) at the northern extent of phase 5, and plans to encroach within 12.8 m of this pipeline.
 - *The proposed approach to this encroachment is a recommendation that "an independent third party firm be retained to conduct vibration monitoring on this pipeline when*

separation encroaches within 60m of the pipeline or when calculations suggest ground vibrations in excess of 35mm/s as measured at the pipeline are anticipated. The results of this monitoring program will determine what alterations shall be necessary as the separation distance to the subject pipeline decreases."

- *The data from 2014 does not show a track record of altering blasting plans based on unacceptable monitoring data: should this practice occur in the vicinity of the pipeline, the outcome could be catastrophic.*
- How will the proponent and regulators guarantee that monitoring equipment is functional and blasts are within regulatory limits for all events, and when they are not, that there is proper action taken to ensure a rapid return to compliance?

9. Imported waste construction fill is reported in the application to represent ~200 trucks/day today and into the future in order to support rehabilitation plans without any indication of the total fill volume anticipated, or of the plans to guarantee the protection of the groundwater quality.

- The proponent has been reluctant to provide further information related to the total planned quantity of imported waste construction fill being trucked into the current site, or to the results of both the quality monitoring and the progress on the rehabilitation plan, citing they are only prepared to answer questions about the new quarry applications.
 - *Given that the existing quarry site is planned to be an integral part of proposed extensions, which will delay the completion of the approved final rehabilitation plan, an understanding of the current practices, results and status is indisputably relevant to the assessment of the application plans.*
- The proponent has confirmed that they have a monitoring program for imported waste construction fill that involves random sampling of a small subset of the incoming trucks (once every 10,000m³ or 1 in 700 trucks), although confirmation of compliance with this sampling program and the results of the testing has not been provided to CORE Burlington despite a request for such information
 - *The proponent has confirmed that their monitoring program has identified non-compliant loads of imported waste construction fill that have been rejected.*
 - *Given that it has been confirmed that not all loads received are 'clean fill', and that less than 0.2% of incoming trucks are tested, it would be logical to conclude that there are contaminated loads not being identified and being disposed of on site.*
 - *There is no indication of how the groundwater will be protected from contamination when not every load is sampled.*
- The AMP does not address potentially contaminated imported construction fill wastes deposited in the existing and proposed quarries.
 - *Although the proponent argues that there have not been any reported incidents of groundwater contamination to date, that is not a guarantee that the current practices are adequate to ensure no contamination in the future.*
 - *History is full of examples of industrial operations that have had tragic impacts on adjacent communities because of inadequate or unenforced operational policies despite years of operations without significant reported incidents.*
- According to Niagara Escarpment Plan:
 - *2.9.7 – "Progressive rehabilitation may include the use of off-site material, where on-site material is not available. Off-site material shall only be used where required to stabilize and revegetate disturbed areas. The use of off-site material shall be minimal and shall not be used for any major regrading toward a planned after-use with the deposition of off-site material."*

- 2.9.8 - *"The use of off-site material for progressive rehabilitation shall meet the applicable provisions of Part 2.13 (Scenic Resources and Landform Conservation) of this Plan and such material shall also meet the relevant standards of the Ministry of the Environment and Climate Change, The Ministry of Natural Resources and Forestry, and the municipality where it has approved such standards."*
- 2.9.9 - *"The use of off-site material shall not be permitted unless it is determined through appropriate environmental, technical and planning studies that doing so will achieve greater long-term ecological and land use compatibility (eg – the importation of topsoil to improve site capability for agriculture, forestry or habitat diversity) and the implementing authority is satisfied that the use of off-site material does not constitute a commercial fill or landfill operation."*
- Aerial photographs have identified a massive stockpile of imported waste construction fill, actively being expanded, in the vicinity of the quarry entrance road.
 - *This stockpile is clearly not being used for slope stabilization as required by the NEC and appears to be merely a commercial fill operation and source of revenue for the proponent.*
 - *Furthermore, aerial photographs identify at least two other substantial stockpiles of fill material that could be utilized for rehabilitation (slope stabilization) before additional waste construction fill is imported.*
 - *Finally, there is significant amount of fill being deposited adjacent to the south face of existing quarry in the area planned for the road from the proposed South extension. The amount of imported waste construction fill being deposited is substantially more than would be required for a 2:1 or 3:1 sloping of the quarry walls. This appears to be pre-work for the unapproved South extension and not part of the current license.*
 - *Given that the extension application contemplates continued use of the existing quarry, we are extremely worried that this current practice of using the quarry as a commercial fill operation will continue. With each load of waste construction fill delivered, the probability of contamination of the groundwater increases.*
 - *The current imported fill management program does not appear to meet the requirements of the Niagara Escarpment Plan noted above. We request that these expectations be reinforced in the near term and that the application review assess the proponent's on-going rehabilitation practices to determine if they are complying fully with NEC fill requirements under the NEP.*
- *The requirements of section 2.9.9 require the execution of appropriate environmental, technical and planning studies before the use of off-site material: has this requirement been completed for the existing quarry and is it part of the application review, given the stated expectation for further imported waste construction fill?*

10. The Progressive and Final Rehabilitation plan is based on an after-use 'vision' that has not been fully developed or approved. The plan must be evaluated on a stand-alone basis and in the context of no pre-approval.

- The application document states that, *"As part of the Burlington Quarry Extension application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension."*
 - *If no extension is granted, the proponent has confirmed their intention to operate the existing quarry for a further 50+ years and explore the potential for underground mining to further extend the operating life.*

- *Without terms of reference for the contemplated agreement, there is no assurance to stakeholders that once the license is granted, an agreement will actually be implemented.*
- *The proponent must declare the expected terms under which the life of the quarry operations (current and future) will be capped. Those terms must be included in the application submission as part of the overall review.*
- The approved rehabilitation plan requires the existing quarry be rehabilitated to a private 185 hectare lake by ceasing to discharge water and allowing the quarry to flood.
 - *The application considers a revised rehabilitation plan for the existing quarry to align with the integrated site vision and conveyance of 382 hectares of land to a public authority, contemplated to be Conservation Halton.*
 - *The impact of the proposed rehabilitation plan needs to be evaluated in the absence of the implementation of the proponent's vision (which is not approved). What are the impacts of the rehabilitation plan and how do they align with the requirements of the Niagara Escarpment Plan, the Provincial Policy Statement, the Region of Halton Official Plan and the City of Burlington Official Plan?*
 - *This after-use "vision" (for a park in the perpetually de-watered pit) is no more than a concept at present without a confirmed scope, a confirmed owner, an implementation plan, an approved budget, or the required approvals. The evaluation of the rehabilitation plan must NOT include the uncertain benefits of the after-use vision, given that the details are not known or approved. Without firm plans and approvals, this "vision" is not likely to come to fruition.*

11. Operation of the existing quarry and proposed extensions bring significant truck traffic to the local roads, increasing the safety threat to pedestrians, cyclists and cars with whom they share this mostly 2 lane rural road:

- Average truck traffic is estimated at 600-700 trucks/day travelling North and South on Guelph Line.
- Trucks that are improperly maintained and/or unsafely operated present an increased threat to local users of the rural roads
 - *Regional Police information indicated 60-70% of 300 trucks inspected in 2019 had at least one safety violation: this is consistent with general truck safety blitz information conducted on Ontario roads and these safety violations can and have resulted in tragic traffic accidents.*
- The Traffic report is focused on road capacity but does not address the inherent safety risks associated with a high volume of heavy commercial trucks utilizing rural roads.
 - *Further study work is required to assess the impact of full rate quarry production on the safe operation of the truck routes to and from the quarry*
- The South quarry extension proposal introduces additional traffic (240 crossings/day) associated with heavy rock trucks crossing #2 Sideroad to the processing plant on the North side.
 - *These vehicles have poor visibility of smaller objects (pedestrians, cyclists and cars) and are slow to react to emergency situations. There are no adequate provisions in the plan to safely manage the high volume of these rock trucks on a rural road.*
 - *The expected health and safety concerns associated with track-out from these trucks has not been addressed and must be included in the application review.*

12. There is no evidence that indigenous groups were consulted for their input to any of the application reports:

- There is evidence that a number of First Nation artifacts have been found in the proposed West expansion area.

- For this reason, First Nations representatives should be consulted and have their perspective included in this project review.

13. Nelson contends that an expansion would simply supply the regional demand for aggregate and that by locating quarry operations close to urban centres, environmental costs associated with transportation are minimized.

- There are currently 22 licensed quarries in Halton Region. Without a proper supply demand/balance it is impossible to quantify the environmental benefits associated with the questionable, reduced trucking logistics of an expanded Nelson Aggregate quarry in Burlington.
 - *No data has ever been provided to show the location of future demand growth and the proximity to the available quarries in Halton Region.*
- It is also critical to consider all of the environmental lifecycle costs associated with building, operating and retiring a quarry, including the displacement of close-to-market agricultural production, the carbon consumption benefits of greenspaces, and the environmental cost of negatively impacting the sensitive and complex ecosystem of the Niagara Escarpment.
 - *Shortening the delivery distance is only one part of the environmental cost equation. IF Nelson Aggregate (and the entire aggregate industry) is genuine about reducing environmental costs, a full lifecycle assessment that considers all components of the current and proposed quarry operation from cradle to grave needs to be conducted. For example: a large portion of the truckload traffic into the Nelson Aggregate Burlington quarry is importing waste construction fill (which exceeds the rehabilitation requirements) some of which comes from as far away as Toronto.*

CORE Burlington appreciates the opportunity to provide comments as part of the Niagara Escarpment Commission review of the application submission from Nelson Aggregates. We believe the Nelson Aggregate application contains material deficiencies that present unreasonable risks to the community and the ecological systems of the Niagara escarpment. Given that this is the proponent's second application for expansion with many of the same issues in the application as the one that was rejected in 2012, we respectfully request that the Niagara Escarpment Commission reject the application for NECP amendment and the development permit.

Sincerely,

Gord Pinard
 President, CORE Burlington
coreburlington@gmail.com
 905.973.8825

cc: Joe Nethery - Halton Region
 Janice Hogg - Halton Region
 Gord Dickson - City of Burlington
 Leah Smith - Halton Region Conservation
 Curt Benson - Halton Region
 Gary Carr - Regional Council Chair
 Marianne Meed Ward – Burlington Mayor
 Rory Nisan - Councillor Ward 3
 Angelo Bentivegna - Councillor Ward 6
 Parm Gill – MPP Milton
 Jane McKenna – MPP Burlington