

Proposed Burlington Quarry Expansion JART COMMENT SUMMARY TABLE – Noise

Please accept the following as feedback from the Burlington Quarry Joint Agency Review Team (JART). Fully addressing each comment below will help expedite the potential for resolutions of the consolidated JART objections and individual agency objections. **Additional, new comments may be provided once a response has been prepared to the comments raised below and additional information provided.**

	JART Comments (May 2021)	Reference	Source of Comment	Applicant Response (November 2021)	JART Response (May 2022)	Applicant Response (June 2022)	JART Response (June 2023)
Report/Date: Noise Impact Assessment, April 2020 Report/Date: Acoustic Assessment Report – Halton Asphalt Supply, February 2020				Author: HGC Engineering Author: HGC Engineering			
1.	Provide a copy of the HGC report for MECP environmental compliance approval to confirm how the height of the berms was determined and what mitigation they provide to the nearby residential noise sensitive receptors.	General	City of Burlington	An updated Acoustic Assessment Report dated April 27, 2021 was submitted to the MECP in support of an ECA amendment application for the Halton Asphalt Supply hot-mix asphalt plant located on the quarry lands. A copy of the updated AAR is included as an Appendix to the updated Noise Impact Assessment (NIA) enclosed with this response. Determination of existing berm heights is detailed in Section 6 of the AAR and Section 5 of the NIA.	HGC Limited confirmed an ECA is not required for the quarry extension, but is required for the on-site hot mix plant. Please provide a copy of the ECA for the hot mix plant, it was applied for on 2021/04/27, almost a year ago, when is it expected to be received?	The MECP has completed their review of the Acoustic Assessment Report, as evidenced by email communication from the MECP noise reviewer, included as Tab 1 to this letter. We understand that issuance of the ECA is pending the MECP completing review of other aspects of the application.	Not resolved.
2.	Provide a copy of the MECP ECA. This information is required for the City's records to confirm there is an ECA for the existing quarry and asphalt plant operations.	General	City of Burlington	A copy of the existing ECA for the hot-mix asphalt plant is enclosed with this response. The MECP has not yet issued the amended ECA referenced in Comment 1. However, as noted in Section 1 of the NIA, the MECP Senior Noise Engineer assigned to the application has confirmed the noise review is complete. With the exception of the hot-mix asphalt plant, the equipment operated within the quarry is exempt from requiring an ECA per Ontario Regulation 524/98.	A copy of the existing 1982 ECA was provided. They applied for a new ECA on 2021/04/27. Please provide a copy of the new ECA.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
3.	Provide a clear figure/map summary of stationary source noise levels for each receptor and sample calculations.	General	City of Burlington	The updated NIA includes sound level contours for worst-case operating scenarios in Figures 4a through 4i, and detailed source sound level contributions at points of reception, included as Appendix D.	Addressed.	No further comment required.	
4.	Provide OLA receptors for nearby residential, and clearly identify on a figure/map, if possible, noise contour mapping would be appreciated so that it is clearly demonstrated which receptors could be most affected.	General	City of Burlington	The updated NIA includes OLA receptors associated with each assessed residential property and sound level contours for worst-case operating scenarios in Figures 4a through 4i.	Addressed.	No further comment required.	

5.	For STAMSON calculations there may be multiple segments needed for different receptors, i.e. RO4 may need No. 2 Side Road and Guelph Line, same for RO2 maybe Colling and Guelph Line. Please provide sample calculations to demonstrate.	General	City of Burlington	The updated NIA and AAR do not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
6.	Does not include traffic counts confirmed by Halton and Burlington and copies of the correspondence with the agencies. It looks like private traffic counts were undertaken and utilized in calculations. Please provide traffic data from Burlington and Halton, including a copy of the correspondence, for comparison.	General	City of Burlington	The updated NIA and AAR do not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
7.	Confirm responsibility for the implementation and maintenance of required noise control measures.	General	City of Burlington	The implementation of noise control measures is the responsibility of the two respective entities operating within the site, Halton Asphalt Supply (via an ECA) and Nelson Aggregate (via an ARA license).	Please clearly state this in Appendix C of the NIA. We note that appendix C in the November 21, 2021 NIA may be mislabeled. Table of contents suggests this appendix is to address proposed noise control measures; the body of the report labels the appendix as <i>zoning maps</i> and does not appear to reference noise control measures.	The parties responsible for each noise control measure are stated in Appendix C of the NIA (pages 38/39 of the NIA pdf document). A copy of the latest AAR is embedded within the NIA, with Appendix C of that document (pages 93-97 of the "parent" NIA pdf document) including zoning information. See Tab 2 for NIA.	Not resolved.
8.	Need an estimate from the Quarry regarding truck traffic. There will be at grade quarry truck traffic crossing NO. 2 Side Road when the east section opens, their calculations only looked to take into consideration Guelph Line. Are there mitigation measures needed here (noise wall?) as the crossing is adjacent to two residential back yards and large trucks will be going up and down a slope, use of air brakes, etc. can be very loud. Please also ensure operating hours are taken into consideration and clearly stated (i.e. 24-hour/7-day operation or 7 to 7 Monday to Saturday. Additionally, please ensure truck traffic is based on license tonnage, i.e. if license is for 2 million tonnes extraction per year, ensure calculations are based on worst case scenario.	General	City of Burlington	Truck traffic activities and operating hours are detailed in Appendix B of the updated NIA and are based on the predictable worst- case activities assuming the maximum yearly production rate of 2 million tonnes, provided by Nelson Aggregate. Noise from haul trucks crossing 2 Side Road to access the South Extension is included, as are recommended berms west/east of the crossing as detailed in Appendix C. Nelson Aggregate has confirmed that the use of Jake-brakes is not permitted on the site (as noted in Appendix C).	Addressed.	No further comment required.	
9.	Provide revised Noise/Acoustical Impact Assessments and Blast Impact Analysis for review and commenting by all vested parties.	General	City of Burlington	The updated NIA is enclosed with this response.	Please see attached memo from the City of Burlington dated March 28, 2022 for comments to be addressed on the revised NIA.	Comments included in the memo, dated March 28, 2022, have been transcribed to this matrix as items 54 through 58, with responses provided for each.	Not resolved.

10.	Please provide a copy of the current MECP Environmental Compliance Approval for the existing quarry operations, and a copy of the noise impact study that was submitted as supporting materials for the approval.	General	City of Burlington	See response to Comment 2.	Provide a copy of the new ECA that was applied for 2021/04/27.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
11.	Please confirm in the report who is responsible for the implementation and maintenance of the required noise measures.	General	City of Burlington	Implementation and maintenance of the noise control measures are detailed in Appendix C of the updated NIA.	Please include a statement in Appendix C about responsibility, as per applicant response to item 7 above.	See Applicant Response (May 2022) to Comment 7.	Not resolved.
12.	Provide noise measurements taken on site during normal working hours in peak construction season	General	City of Burlington	The NIA assesses the worst-case noise impact from the future quarry operation, based on an assumption that it will operate at its maximum yearly production rate of 2 million tonnes. Noise measurements taken during existing operation, which can be significantly different than that of the maximum production, are not relevant for the purposes of this noise assessment.	Addressed.	No further comment required.	
13.	MHBC Burlington Quarry Extension Drawing 2 of 4 dated September 2020, Note I, items 1 to 6, reference "complete a noise audit to ensure the site is meeting NPC-300 Noise Guidelines" with each phase. The HGC Noise Impact Assessment Nelson aggregate Quarry Extension dated April 22, 2020 does not reflect this requirement in their summary or recommendations. The noise report will need to be updated to reflect these statements.	General	City of Burlington	Appendix C of the updated NIA includes a recommendation for periodic noise surveys to confirm that extension operations comply with the limits stipulated in NPC-300.	Appendix C states that at each phase of extraction Nelson will undertake an acoustic survey to confirm compliance with MECP limits. Please provide additional details of the recommended periodic noise surveys, i.e., what is the estimated timing? Is it anticipated they would be undertaken yearly? And by whom, an independent third party? Will the results of the survey be provided to vested agency staff? What mechanisms will be in place, should the noise survey indicate an excess of MECP limits, to mitigate so that MECP requirements are met.	See copy of ARA Site Plans (March 2022) included as Tab 3 . Page 2 of 4 -Phasing Notes regarding details for the acoustic audit. In general, the noise audit shall be conducted at the commencement of each phase (6 times), to ensure the site is meeting NPC-300 noise guidelines at the nearest sensitive receptor. The acoustic audits are to be kept the licensee and made available to agencies upon request. If the noise audit shows exceedances to NPC-300, adjustments to the operation / equipment will be required to ensure the operation meets NPC-300 noise guidelines. In addition the ARA Site Plans require: "If a noise complaint is received, the noise complaint will be responded to and investigated in a timely manner by the licensee in a manner commensurate to the specific context of the complaint."	Not resolved.

14.	An Acoustic Assessment Report Halton Asphalt Supply prepared by HGC Engineering (Dated February 27, 2020), was submitted in support of the application. This report (when revised) should be referenced and included in the appendix of the Noise Impact Assessment Nelson Aggregate Quarry Extension.	General	City of Burlington	The most recent version of the AAR, dated April 27, 2021, is included in the updated NIA as Appendix F.	Addressed.	No further comment required.	
15.	This acoustic report should clarify the operating tonnage the assessment is based on. The assessment should be based on the worst-case operating scenario of 2 million tonnes per year. Adjustments to the applicant's noise report may be required, depending on the quantity and how the material is mined.	General	J.E. Coulter Associates Limited	The updated NIA includes a statement in Appendix B confirming that predictable worst- case operation considers trucking activities based on the maximum yearly production rate of 2 million tonnes.	This acoustic report should clarify if the existing quarry and the proposed extension will operate simultaneously until the existing license expires. The report should also outline how truck traffic will be managed when the existing quarry, the proposed extension, and the asphalt plant operate simultaneously. It appears there is no limitation as to when the extension can operate. The additional operations could trigger a 5 dB impact from activity on the property and along some of the access routes for shipping. 5 dB is the measure of significant impact if shipping times are not limited.	The operational plan for the existing quarry includes: 1) a condition that prohibits simultaneous drilling or extraction activities within the existing quarry while extraction activities are taking place in the extension and 2) maximum hourly movements of shipping trucks and onsite haul trucks. Trucking activities associated with the Halton Asphalt Supply hot mix asphalt plant will be limited by the ECA, once issued, as it will reference the AAR that details those trucking volumes.	Comments addressed.
16.	The acoustic reports use two different truck models in their analysis. The ambient sound levels at the receptors surrounding the site are calculated using STAMSON version 5.04. The trucks in STAMSONS data base are rated to sound level of approximately 83 dBA at 15m (acceleration in second gear at ~35Km/h on asphalt). The CadnaA model of the site that is used to predict the sound levels produced by the quarry uses highway truck sound levels of 72 dBA at 15m. This review limits the analysis to twin axle trucks since both models assume truck noise to be the equivalent of ~13 cars. As such, truck noise dominates the ambient noise near roadways. When comparing the sound levels from the quarry to the baseline sound levels at the receptors, the highway trucks modelled in CadnaA should use similar sound levels as the trucks used to calculate the baseline sound levels at the receptors. The CadnaA model has used trucks that are 11 dB quieter than those used in STAMSON and appear to be low.	General	J.E. Coulter Associates Limited	Sound emission levels employed for highway trucks in the acoustic analysis represent an average of trucks measured by HGC Engineering for numerous past projects and are consistent with those used by HGC Engineering in numerous peer reviewed noise impact studies of pits/quarries throughout Ontario. As noted in the response to Comment 5, the updated NIA does not rely on predictions of road traffic sound to establish noise criteria.	The report should clearly state that Jacobs brakes will not be used on site to manage speed when descending.	This JART Response (May 2022) appears to be related to Comment 17. Nevertheless, Appendix C of the NIA includes a statement precluding the use of Jacobs brakes.	Comment pertaining to truck noise and Jacobs brakes addressed.
17.	For modelling purposes, the report used 83 dBA at 15m maximum for the quarry haul when operating in the quarry. The report does not address the sound levels of operations such as the haul trucks climbing the hill to the at- grade crossing when loaded. It also does not model Jacobs brakes used to manage speed when descending.	General	J.E. Coulter Associates Limited	The updated NIA explicitly considers noise from haul trucks crossing 2 Side Road to access the South Extension (including the incline/decline), as detailed in Appendix C. Nelson Aggregate has confirmed that the use of Jake-brakes is not permitted on the site (as noted in Appendix C).	The ambient sound levels calculated in STAMSON are used to justify the use of Class 2 sound level criteria for the receptors surrounding the quarry. Detailed tables of the ambient sound levels should be provided to justify the surrounding area designation as Class 2.	This JART Response (May 2022) appears to be related to Comment 18. Nevertheless, see Applicant Response (November 2021) to Comment 6.	Comments addressed in updated NIS and Comment 18.

18.	<p>The ambient sound levels calculated in STAMSON are used to justify the use of Class 2 sound level criteria for the receptors surrounding the quarry. A review of Table 1 in the Noise Impact Assessment report shows that the calculated ambient sound levels at most receptors are below the exclusion limit. The statement about the analysis being conservative is incorrect. The background sound levels could not be measured in the field as the current sound levels produced by the quarry are significant enough that it would dominate the ambient sound levels. No further field observations were conducted nor was any monitoring data provided.</p>	General	J.E. Coulter Associates Limited	<p>Class 1 through 3 acoustical environments are defined in NPC-300 in terms of the degree to which the background sound level is dominated by the activities of people (e.g. road traffic), not the background sound levels themselves. During multiple visits to the site and surrounding area, as cited in the NIA, HGC Engineering staff observed daytime background sound levels to be dominated by traffic (excluding that to/from the subject site) on surrounding roadways. Where background sound levels in such areas may be dominated by natural sounds at night, they best fit the definition of a Class 2 area, per NPC-300. This classification is supported by an MECF Senior Noise Engineer having recently completed their review of the updated AAR prepared for the onsite hot-mix asphalt plant (see the response to Comment 2), and a previous NIA prepared for the site by Aercoustics Engineering Limited.</p>	<p>The background sound levels could not be measured in the field as the current sound levels produced by the quarry are significant enough that it would dominate the ambient sound levels. No further field observations were conducted nor were any monitoring data provided. The report indicates that the site operations are not meeting the current MECF sound guidelines. The site noise may be louder than the ambient, which puts the existing operations out of compliance with the current guidelines.</p>	<p>Section 7 of the AAR provides information regarding sound levels of the existing operation. Section 8 provides details of additional, proposed noise control measures. Section 9 discusses the future sound levels of the site, including the benefit of existing noise control measures (detailed in Section 6) and proposed noise control measures (detailed in Section 8), which comply with the applicable limits at all points of reception.</p>	<p>It is our understanding that the MECF has issued an Environmental Certificate of Approval confirming the Asphalt Plant is within a Class 2 area. We would like to note that although the area has been classified as a Class 2 by MECF, there is still the strong possibility of complaints from the residents due to the low nighttime ambient sound levels.</p>
19.	<p>The report states that the parts of the quarry and asphalt plant (shipping material in and out) will operate at night. 2nd Line east of Highway 6 is shown as having 0 to 2 trucks per hour during the early morning periods. This will create a Class 3 environment at Receptors R4 to R8 and drop the minimum exclusion limit to 40 dBA. This will result in the sound levels from the Nelson Quarry being above the guideline limits at Receptors R4 to R7. With no additional mitigation recommended, nighttime operation involving shipping is questionable.</p>	General	J.E. Coulter Associates Limited	<p>See response to Comment 18.</p>	<p>The report states that the parts of the quarry and asphalt plant (shipping material in and out) will operate at night. 2nd Line east of Highway 6 is shown as having 0 to 2 trucks per hour during the early morning periods. This will create a Class 3 environment at Receptors R4 to R8 and drop the minimum exclusion limit to 40 dBA. This will result in the sound levels from the Nelson Quarry being above the guideline limits at Receptors R4 to R7 and other receptors along the haul route. With no additional mitigation recommended, nighttime operation involving shipping is questionable.</p>	<p>See Applicant Response (November 2021) to Comment 18.</p>	<p>Addressed in Comment 18.</p>
20.	<p>Broadband backup beepers (hiss) can be used as an alternative to the tonal beepers currently used. They are noticeably quieter than the standard beepers when heard indoors and cost ~\$200 to equip the construction vehicle. Not every vehicle will be captive to the operation, so a complete changeover will take several years. They have been used successfully on the Toronto Eglinton LRT construction project.</p>	General	J.E. Coulter Associates Limited	<p>The updated NIA includes a recommendation in Appendix C to equip all mobile equipment operating in the extension with broadband back-up alarms.</p>	<p>Broadband backup beepers (hiss) should be used as an alternative to the tonal beepers currently being used. They are noticeably quieter than the standard beepers when heard indoors and cost ~\$200 or so to equip each construction vehicle. Not every vehicle will be captive to the operation, so a complete changeover will take some time. They have been used</p>	<p>See Applicant Response (November 2021) to Comment 20.</p>	<p>Broadband backup beepers (hiss) should be used as an alternative to the tonal beepers currently being used. They are noticeably quieter than the standard beepers when heard indoors and cost ~\$200 or so to equip each construction vehicle. Not every vehicle will be captive to the operation, so a complete changeover will take some time.</p>

					successfully on the Toronto Eglinton LRT construction project.		
21.	A quiet drill with a sound power of 109 dBA has been used in the analysis and has been assumed to operate at all areas on the quarry. This will require the use of a special drill such as the Atlas Copco ROC D9C silenced drill or similar and should be noted clearly in the report. Standard drills typically have a sound power of 115 to 120 dBA.	General	J.E. Coulter Associates Limited	Comment only, no response required.	A quiet drill with a sound power of 109 dBA has been used in the analysis and has been assumed to operate at all areas on the quarry. This will require the use of a special drill such as the Atlas Copco ROC D9C silenced hydraulic, down-the-hole drill and should be noted clearly in the report. Standard drills typically have a sound power of 115 to 120 dBA. The site plan condition should state that the quiet drill, which is at 109 dBA, be used on site everywhere.	The site plans, included as Tab include conditions limiting the rock drill sound power level to 110 dBA, consistent with the recommendation in the NIA. .	A quiet drill with a sound power of 109 dBA should be used everywhere on site as per Point N.3.d in the Site Plan dated March 2022.
22.	The noise reports discuss briefly the MECP notion of predicable worst case for the analysis. This would be the case when the weather is calm (minimum leaf noise), often at night and during an inversion. The combination of light winds in the evening or early morning often results in the worst-case scenario. It is often the result of idling trucks lining up at the gate of a quarry awaiting opening.	General	J.E. Coulter Associates Limited	Comment only, no response required.	The noise reports discuss briefly the MECP notion of predicable worst case for the analysis. This would be the case when the weather is calm (minimum leaf noise), often at night and during a local temperature inversion. The combination of light winds in the evening or early morning often results in the worst-case scenario. It is often the result of idling trucks lining up at the gate of a quarry awaiting opening.	Comment only, no response required.	The noise reports discuss briefly the MECP notion of predicable worst case for the analysis. This would be the case when the weather is calm (minimum leaf noise), often at night and during a local temperature inversion. The combination of light winds in the evening or early morning often results in the worst-case scenario. Idling trucks lining up at the gate of a quarry awaiting opening should be avoided.
23.	The local noise barrier for the asphalt plant should be designed using the octave band sound values, as we have observed in past projects that the sound emitted from such plants is mostly concentrated in the lower frequency (100– 500 Hz) bands.	General	J.E. Coulter Associates Limited	The updated NIA and AAR no longer include a recommendation for a noise barrier at the hot-mix asphalt plant.	NPC-233, one of the report's references, states in Section 8-4 that the sound level analysis should include mapping of the existing level of road traffic in the vicinity of the proposed site and the increase in such traffic due to the plant's operation, projected for at least 10 years into the future. The truck routes to/from the quarry have not been considered as it is assumed that truck traffic from the extension will replace the current truck traffic and will therefore not cause an increase in sound levels. However, residences along the haul route may have been under the impression that the existing quarry was nearing exhaustion and the sound levels from truck traffic would be reduced once the material in the existing quarry was exhausted.	This JART Response (May 2022) appears to repeat JART Comment (May 2021) 24, which was addressed with Applicant Response (November 2021) to Comment 24.	Nelson Aggregate has applied for a maximum tonnage of 2 million tonnes per year which is an increase from current capacity. As such there would be increased truck traffic along the haul routes leading to an increase in sound levels. NPC-233, one of the report's references, states in Section 8-4 that the sound level analysis should include mapping of the existing level of road traffic in the vicinity of the proposed site and the increase in such traffic due to the plant's operation, projected for at least 10 years into the future. The truck routes to/from the quarry have not been considered as it is assumed that truck traffic from the extension will replace the current truck traffic and will therefore not cause an increase in sound levels. Residences along the haul route

							may also be under the impression that the existing quarry was nearing exhaustion and the sound levels from truck traffic would be reduced once the material in the existing quarry was exhausted.
24.	NPC-233, one of the report's references, states in Section 8-4 that the sound level analysis should include mapping of the existing level of road traffic in the vicinity of the proposed site and the increase in such traffic due to the plant's operation, projected for at least 10 years into the future. The truck routes to/from the quarry have not been considered as it is assumed that truck traffic from the extension will replace the current truck traffic and will therefore not cause an increase in sound levels. However, residences along the haul route may have been under the impression that the existing quarry was nearing exhaustion and the sound levels from truck traffic would be reduced once the material in the existing quarry was exhausted.	General	J.E. Coulter Associates Limited	Comment only, no response required.	Ambient sound levels were calculated in STAMSON version 5.04 using traffic data of the surrounding roadways. The ambient sound levels could not be measured as the existing quarry operates throughout the year. Calculated sound levels when the quarry extensions are in operation were within the applicable MECP noise criteria at all receptors. Once either quarry extension is operational, a noise monitoring program should be implemented to corroborate the predicted sound levels at the receptors selected in the report. A monitoring program for the predictable worst-case scenario should be prepared ahead of time and should account for wind direction. The monitoring should be conducted when the quarry is operating at full capacity. A similar monitoring program should be implemented once the other extension is operational	This JART Response (May 2022) appears to repeat JART Comment (May 2021) 25, which was addressed with Applicant Response (November 2021) to Comment 25 and Applicant Response (May 2022) to Comment 13.	Once either quarry extension is operational, a noise monitoring program should be implemented to corroborate the predicted sound levels at the receptors selected in the report as outlined in Point H. Extraction Sequence in the Site Plan dated March 2022. A monitoring program for the predictable worst-case scenario should be prepared ahead of time and should account for wind direction. The monitoring should be conducted when the quarry is operating at full capacity.
25.	Ambient sound levels were calculated in STAMSON version 5.04 using traffic data of the surrounding roadways. The ambient sound levels could not be measured as the existing quarry operates through the year. Calculated sound levels when the quarry extensions are in operation were within the applicable MECP noise criteria at all receptors. Once the south quarry extension is operational, a noise monitoring program should be implemented to corroborate the predicted sound levels at the receptors selected in the report. A monitoring program for the predictable worst-case scenario should be prepared ahead of time and should account for wind direction. The monitoring should be conducted when the quarry is operating at full capacity. A similar monitoring program should be implemented once the west extension is operational.	General	J.E. Coulter Associates Limited	Appendix C of the updated NIA includes a recommendation for periodic noise surveys to confirm that extension operations comply with the limits stipulated in NPC-300.	The noise report states there is no vibration on site. This is a very unlikely during the blasting phase of work. During blasting in close proximity to the residences, we would expect to feel vibration. It may fall within the MECP draft vibration guideline and, as such, not be a concern, but it is very likely that some of the neighbours will sense the pulses in the ground.	This JART Response (May 2022) appears to be unrelated to Comment 25. Nevertheless, assessment of vibration impacts from blasting is outside of the scope of the NIA and is addressed by a separate report prepared by others.	The noise report states there is no vibration on site. This is a very unlikely during the drilling and blasting phase of work. During blasting in close proximity to the residences, we would expect to feel vibration. It may fall within the MECP draft vibration guideline and, as such, not be a concern, but it is very likely that some of the neighbours will sense the pulses in the ground. A statement confirming that the vibration from drilling is being covered should be added to the Site Plan and NIS.
26.	The asphalt plant horn, use of Jacobs brakes, working hours, and low- frequency noise from the asphalt plant burners remain to be dealt with and should be dealt with by direct talks with the quarry owners.	General	J.E. Coulter Associates Limited	Comment only, no response required.	We noted that in the noise model, the quarry is modelled as an intermediate surface for ground absorption. Our experience includes pits and quarries whose	This JART Response (May 2022) appears to be unrelated to Comment 26. Nevertheless, the ground absorption coefficient employed in the acoustical model	Provisions should be made to address truck operators that use Jacob breaks on site.

	<i>JART Comment:</i> These issues will be raised in discussions with the quarry operator.				bases, when covered in fine dust particles and water, act hard acoustically.	was carefully selected to yield the best agreement with sound level measurements at select locations of existing operations at the site.	
27.	Section 1 indicates that the study is required to support an application for a Class “A” license (Category 2) to the MNR. It is also required to support an Official Plan Designation to “Mineral Resource Extraction Area” in the City of Burlington. Please include the additional purpose of the study in this section.	Section 1	City of Burlington	Section 1 of the updated NIA has been updated accordingly.	Addressed.	No further comment required.	
28.	Section 2 indicates that the extraction activities and processing of aggregate for the proposed quarry extension will occur from Monday to Friday 7:00 to 19:00; therefore, would recommend (if possible) that the language of the Official Plan Designation (if approved) reflect the working hours stated in the Noise Impact Study. Alternatively, if operations could run on a 24-hour basis (including weekends) please revise the report to reflect and clearly state.	Section 2	City of Burlington	Proposed hours of operation are as stated in the NIA and are included on the ARA Site Plans. The ARA Site Plans are the appropriate location to govern hours of operation.	Please include the ARA Site plan in the appendix of the NIA. Appendix A of the NIA contains five plans, Existing Features, Operational Plan, Rehabilitation Plan., Cross Sections and another Operational Plan. Both Operational Plans indicate the working hours as Monday to Friday 7am to 7pm, statutory holidays excepted, and Blasting Monday to Friday 8am to 6pm excluding Statutory Holidays. Is the Operational Plan the same as the ARA Site Plan? If there is a separate ARA Site Plan please include it in Appendix A	The NIA has not been updated to include the current ARA Site Plans. Throughout the course of the agency review there are numerous updates to the ARA Site Plans and it is not necessary to re-issue the NIA each time. When the ARA Site Plans are updated they are circulated to JART and available for review. The current version of the proposed Burlington Quarry Extension ARA Site Plans are dated March 2022, included as Tab 3 , and the proposed Burlington Quarry ARA Site Plans are dated February 2022.	Not resolved.
29.	Section 3 indicates that the hourly traffic data for No 2 Side Road, Cedar Springs Road and Colling Road were collected by a private firm. Would ask that HGC reach out to the City of Burlington’s Traffic Department to obtain the City’s traffic data and use the most conservative data for calculations. Please include a copy of the City’s correspondence in the appendix of the report.	Section 3	City of Burlington	The updated NIA and AAR do not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
30.	Please reference NPC-300 in the title or as a footnote on the table, including class designation.	Section 3 (Table 1)	City of Burlington	Tables 2 and 3 in Section 7 of the updated NIA include reference to NPC-300 and the established Class 2 acoustical environment.	Addressed.	No further comment required.	
31.	Please change the description of “Residential Home” to the individual municipal addresses. All the documents associated with the application are accessible to the public on the City’s website, and the impact to each property should be clear for adjacent homeowners to see in the report.	Section 3 (Table 1)	City of Burlington	The updated NIA includes the municipal address of each point of reception in Tables 2 and 3 of Section 7 and Appendix D.	Addressed.	No further comment required.	
32.	Section 4 references Appendix B, which outlines on-site operations. Appendix B provides Sound Power Levels for equipment/trucks and estimates of truck haul movements, but does not reference noise levels on adjacent receptors.	Section 4 (Appendix B)	City of Burlington	The updated NIA includes noise from haul trucks crossing the 2 Side Road to access the South Extension and assesses the sound levels of the	Addressed.	No further comment required.	

	i.e. the proposed entrance for the No. 2 Side Road south quarry expansion could impact existing residential lots, typically the house can provide protection for rear yard outdoor living areas from road/traffic noise, but if the Quarry and associated vehicles/equipment is operating at the side or rear of existing homes what is the effect on the houses outdoor living areas? Please assess each house in the area on all sides. Specifically, comment if noise/acoustical barriers are required for adjacent/nearby existing residential properties. Please also provide comment in this regard for the other adjacent existing residential properties on the west expansion, i.e. without a new access proposed, combined with the construction of new berms and difference in elevation, the noise from the West expansion may be very different from the noise on the South expansion.			quarry at all façades and in outdoor amenity areas of neighbouring homes. Multiple operating scenarios are presented, representative of “worst-case” impacts at each point of reception.			
33.	Please provide a table summarizing the stationary sources of noise, impact on adjacent residential and allowable limits, exceedances, mitigated level estimates, etc.	Section 4	City of Burlington	The updated NIA includes the sound level contribution of each source at each point of reception, detailed in Appendix D.	Addressed.	No further comment required.	
34.	Section 5 references a separate Acoustical Assessment for the hot-mix asphalt plant. Please provide a copy of this report.	Section 5	City of Burlington	The most version of the AAR, dated April 27, 2021, is included in the updated NIA as Appendix F.	Addressed.	No further comment required.	
35.	Please provide more detail for the noise control measures, i.e. height of berms, reference a plan that shows the location of the berms, etc., and any other noise control measures.	Section 5	City of Burlington	The updated NIA includes detailed descriptions of the noise control measures in Section 5, Figures 3a through 3c and Appendix C.	Operational Plan drawing 2 of 4 only identifies the proposed berms at the NE entrance, not the berms for the west or south expansions. Please clearly identify all proposed berms on the Operational Plan, and the ARA Site Plan (if that is a different plan from the Operational Plan). Please ensure the deemed right of way widths are identified on the plans and that the berms do not encroach into the deemed right of ways.	The noise berms recommended for the extension are included on the Operational Plan for the extension (whereas the berms recommended for the existing quarry are indicated on the Operational Plan for the existing quarry).	Not resolved.
36.	Please include the quarry/asphalt plant working hours assessed/used for the calculations for predicted worst-case sound levels, i.e. 7am to 7pm Monday to Saturday or 24-hours/7days	Section 7	City of Burlington	The updated NIA details the operating hours of all onsite operations in Appendix B.	Addressed.	No further comment required.	
37.	Appendix B, Table B2, please include the location of the Phases either in the column subtitles or as a footnote to the table, i.e. Phases 1-2 are the south expansion, Phases 3-6 are the west expansion. Also, the MHBC Operation Plan indicates Phase 1A and 1B, what is the difference? The MHBC extraction sequence notes do not delineate between Phase 1A and 1B, the Extraction Sequence section “I” just states Phase 1.	Appendix B (Table B2)	City of Burlington	Table B2 of the updated NIA has been updated accordingly.	Addressed.	No further comment required.	
38.	Appendix C provides a sketch for a 1.0-metre barrier at the asphalt plant mixing tower. How was the height determined, what are the unmitigated noise levels and the	Appendix C	City of Burlington	The updated NIA and AAR no longer include a recommendation for a noise barrier at the hot-mix asphalt plant.	Addressed.	No further comment required.	

	mitigated noise levels on nearby noise sensitive receptors?						
39.	The traffic counts for the municipal roads, Colling, Cedar Springs, No. 2 Side Road, were taken by a private firm in December 2018. We ask that the City's traffic data be obtained from City Staff, for comparison, and include a copy of the correspondence in the appendix.	Appendix D	City of Burlington	The updated NIA and AAR do not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
40.	Please ensure the example STAMSON calculations clearly identify the road segment, i.e. is it Colling Road, Guelph Line, No. 2 Side Road, etc. Some STAMSON calculations may require more than one segment, i.e. corner lots would have minimum 2 - one for each road. Provide clearer figures/maps summarizing calculations.	Appendix E	City of Burlington	The updated NIA and AAR do not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
41.	Appendix F does not appear to clearly label the total sound level calculation (total) for R01. Please clearly label the total dBA from the quarry vehicles/equipment/trucks/etc. Additionally, R01 looks to be the receptor that may be one of the least impacted by the proposed quarry expansion (as it is located near the middle of Colling Road between Guelph Line and Cedar Springs Road). Please provide sample calculations, including a clear total dBA for each receptor for at minimum R10, R09, and R15, additional calculations may be asked for after review of the revised report.	Appendix F	City of Burlington	Appendix D of the updated NIA includes a table showing sound level contributions from all equipment at each point of reception. Detailed calculations showing attenuating parameters determined by the ISO 9613-2 standard have been included for locations R10 and R15. Location R09 has been excluded from assessment as it does not represent a noise sensitive use (a barn associated with the home represented by R08).	Addressed.	No further comment required.	
42.	There were supplemental pages submitted in October's circulation, STAMSON calculations for R03-Morning, R04-Morning, R05-Morning, R06-Morning, R07Morning, and R14-Morning, there was also Table 1 that had rows for R01 through R18, but the aforementioned individual STAMSON calculations do not appear to correspond with Table 1. Do these supplementary tables reference the Acoustic Assessment Report Halton Asphalt Supply, or another report? If another report, which one?	General	City of Burlington	The updated AAR does not rely on predictions of road traffic sound to establish noise criteria. Rather, the Class 2 exclusionary minimum limits stipulated in MECP guideline NPC-300 have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
43.	There was a calculation summary provided for R01, R02, R03, R04, R05, R06, R07, R08, R09, R10, R11, VL1, and VL2. Figure 2 provides general locations of receptors but the report does not clearly identify the municipal addresses of the receptors. Would ask that the municipal addresses of the receptors be provided in a separate table (or on Table 2 & 3) so that they can be clearly identified by the general public, as all reports submitted in support of the OPA are public information and available for view on the City's website.	General	City of Burlington	An updated AAR (included as Appendix F to the updated NIA) has been submitted to the MECP in support of an application to amend the ECA for the onsite hot-mix asphalt plant. As noted in the response to Comment 2, the MECP Senior Noise Engineer has completed their review of the AAR. Therefore, the AAR cannot be further updated. Nevertheless, the updated NIA includes the municipal address of	Addressed.	No further comment required.	

				each point of reception in Tables 2 and 3 of Section 7 and Appendix D.			
44.	The executive summary states the purpose of the report is to support an application to the Ontario Ministry of Environment Conservation and Parks for an Environmental Compliance Approval for a Hot Mix Asphalt Plant. Is this for a renewal of an existing MECP Compliance Approval? The Halton Asphalt Supply Ltd. (Steed & Evans) is existing. Has the Compliance Approval from the MECP been received? Is this report also in support of the OPA?	General	City of Burlington	The AAR was prepared in support of an ECA amendment application for the hot-mix asphalt plant. A copy of the existing ECA for the hot-mix asphalt plant is enclosed with this response. The amended ECA has not yet been issued by the MECP. However, as noted in Section 1 of the NIA, the MECP Senior Noise Engineer assigned to the application has confirmed the noise review is complete. The NIA enclosed with this response has been prepared in support of the OPA.	Please provide a copy of the email/memo from the MECP Senior Noise Engineer confirming they have no further requirements for the AAR, or provide copy of the updated ECA.	A copy of the email communication is included a Tab 1 .	Not resolved.
45.	Tables 2 and 3 are for the applicable (allowable) sound level limits. Please provide additional columns or additional tables for the calculated and mitigated sound level limits at the receptors. Figure 5a, 5b, 5c, 5d, and 5e show contour lines for mitigated noise levels, and Appendix A and B have tables/calculations for unmitigated and mitigated values. Please also provide a summary (of just dBA for each receptor) table in the body of the report.	General	City of Burlington	The AAR has been submitted as part of an ECA application to the MECP and has been since reviewed and accepted by the Ministry review staff, as confirmed by email communication included in Appendix F of the updated NIA. For this reason, it is no longer possible to make changes to the AAR. Nevertheless, detailed information is included in Appendix F.	Appendix F did not have an email from the MECP Senior Noise Engineer, please provide.	A copy of the email communication is included as Tab 1 .	Not resolved.
46.	Figure 4a identifies a 1.0-metre high barrier above the mixing tower. Please provide details, material, density, etc., will this need a building permit? Please reach out to the City's Building Department to confirm. Usually building permits are required for only permanent structures	General	City of Burlington	Based on results of the updated acoustic analysis, the noise barrier for the mixing tower is no longer required.	Addressed.	No further comment required.	

47.	Section 8.2 indicates that noise control measures will be installed within 24 months following receipt of approval from the MECP. If the hot mix plant is currently in operation should not the noise control measures already be in place?	General (Photograph)	City of Burlington	Per Section 9 of the Environmental Protection Act, the operator of the hot-mix asphalt plant is not permitted to install the noise control measures recommended in the AAR until approval is granted by the MECP in the form of an amended ECA. Typically, ECA conditions relating to proposed noise control measures provide a timeline for implementation based on a proposal from the proponent and approved at the discretion of the MECP.	Please provide a copy of the updated ECA and conditions to confirm the timeline for installing the noise control measures.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
48.	Figure 4b identifies a 5.0-metre high barrier around the drill. Please provide details, material, density, etc., is it a portable barrier, will this need a building permit? Please reach out to the City's Building Department to confirm.	Section 2.2 (Page 4) Last Sentence	City of Burlington	The updated NIA and AAR no longer include a recommendation for a noise barrier at the hot-mix asphalt plant.	Please include in Appendix C of the NIA and on the Sound Power Level table on the Operations Plan and/or the ARA Site Plan that the "quiet drill (110dBA) is to be utilized on site.	Referring to this equipment as a "quiet drill" offers no technical specificity; only the maximum allowable sound power level of the equipment is of technical relevance and is referenced in both the NIA and on the ARA Site Plan.	Not resolved.
49.	Appendix F, Tables F1 and F1 - Please indicate which values are NPC-300 and which values are calculated background sound levels. Please also note at the bottom of the tables that they are also identified as Tables 2 and 3 in section 5 of the report.	Section 3.1	City of Burlington	The updated AAR does not rely on predictions of road traffic sound to establish noise criteria. Rather, the MECP exclusionary minimum limits (NPC-300) have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
50.	Please confirm in the report who is responsible for the implementation and maintenance of the required noise measures.	Section 3.2	City of Burlington	The implementation of noise control measures at the hot-mix asphalt plant will be the responsibility of Halton Asphalt Supply, which will be stipulated in the ECA upon issuance.	Please provide a copy of the ECA to confirm.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
51.	Appendix G - Please also provide the correspondence from the City and Region that accompanied the traffic data. Appendix F indicates that the Region of Halton supplied traffic counts, but did not indicate that the City of Burlington supplied traffic counts. Ask that the City of Burlington Traffic Department be contacted for traffic counts so that City information can be compared to the consultant's counts. As mentioned, provide copies of the correspondence with the agencies as well in the appendix.	Section 3.2 (Page 11) Last Sentence	City of Burlington	The updated AAR does not rely on predictions of road traffic sound to establish noise criteria. Rather, the MECP exclusionary minimum limits (NPC-300) have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.
52.	Appendix H - The sample STAMSON calculation did not identify the road name. Please provide additional sample STAMSON calculations and ensure the roads and receptors are clearly identified.	Section 3.2 (Page 12)	City of Burlington	The updated AAR does not rely on predictions of road traffic sound to establish noise criteria. Rather, the MECP exclusionary minimum limits (NPC-300) have been adopted.	It is our understanding that the MECP has issued a certificate of approval confirming the plant is within a Class 2 area. This comment is conditionally addressed upon JART receipt of the Certificate of Approval for the Hot Mix Plant.	See Applicant Response (May 2022) to Comment 1.	Not resolved.

53.	The NEC is undertaking review of the second submission regarding Visual Impact Assessment (VIA) and notes that there is a relationship between berm location and height in terms of visual impact. Any modifications to berming and landscaping will need to also be considered in terms of visual impact.	General	Niagara Escarpment Commission	Comment only, no response required.	The NEC has since commented in detail on the second VIA submission: the NEC's May 2021 interests identified here are reflected in our response to the second VIA submission.	Comment only, no response required.	
Additional comments included in a letter from the City of Burlington, Engineering Services, March 28, 2022. Only comments already not addressed above are included.							
54.			City of Burlington		The "Limitations" section excludes reliance on the document for anyone except Nelson Aggregate Co. Please provide a letter of reliance from HGC Engineering, confirming the City of Burlington and other vested review agencies and the peer reviewer, J. E. Coulter Associates Limited, can rely on the information in the same manner as Nelson Aggregate Co.	A reliance letter is included as Tab 4.	Not resolved.
55.			City of Burlington		Section 2 indicates "the site hosts a hot-mix asphalt plant owned by a third-party; sound emissions from the hot-mix plant have been jointly assessed with the quarry." Table 1 outlines the predicted "Worst-Case" Sound Levels. Appendix F contains the Acoustic Assessment Report (AAR) Section 3.2 indicates. Table A3 of the AAR outlines the "Existing Worst Case Operation". The hot- mix plant is proposed to continue to operate after the quarry extension. Will the ECA for the hot-mix plant need to be updated again if the quarry expansion is approved? We do note that the AAR existing worst case operation sound levels are worse than the predicted NIA worst case sound levels.	The ECA, when issued, will pertain only to the Halton Asphalt Supply facility (i.e. the hot mix asphalt plant), as the quarry does not require an ECA and has only been included in the AAR given the symbiotic relationship with the hot mix asphalt plant. Therefore, the ECA will not require updating to address the quarry expansion.	Not resolved.
56.			City of Burlington		Is Figure 3a mislabeled as Figure 5? Noise Barriers/Berms Near Site Entrance	Yes, Figure 3a of the NIA is mislabeled as "Figure 5".	Not resolved.

57.			City of Burlington		Appendix F, Acoustic Assessment Report (AAR) prepared by HGC Engineering dated April 27, 2021, section 7 indicates "These levels are generally within the applicable criteria but can exceed the noise limits at locations R01, R04 through R08 and VL1", approximately a third of the receptor locations exceed noise limits. Section 8 of the same report states "with the noise control measures outlined in Sections 6 and 8, the worst-case sound levels of the site are predicted to be within the applicable limits set out in MECP publication NPC-300" Section 8 and Section 7 seem to state two different conclusions, please clarify.	Section 7 and 8 of the AAR include different conclusions, since Section 8 provides for additional noise control measures. With those additional noise control measures, the site will comply with the applicable limits at all points of reception.	Not resolved.
58.			City of Burlington		Section 8.3 of the AAR indicates that "the measures detailed in Sections 8.1 and 8.2 will be implemented within 24 months following receipt of Approval from the MECP", the measures include both the acoustic silencers at the hot mix plant and the noise berms. Appendix B of the NIA states "Prior to commencement of quarrying activities in the two extensions, berms will be constructed at the perimeter of the site as discussed in Appendix C," Please confirm the latter is true, that the berms will be constructed prior to extraction activities in the west or south expansions of the quarry, even if that timeline is less than 24 months after MEC approval.	The AAR pertains to noise emissions from equipment that requires an ECA, namely the Halton Asphalt Supply hot mix asphalt plant (noise emissions from the existing quarry are included in the AAR given the symbiotic relationship with the hot mix asphalt plant). Therefore, the noise control measures (and implementation timeframe) proposed in the AAR pertain only to the hot mix asphalt plant and existing quarry operations. Noise control measures related to the extension are stipulated within the associated site plans and are only required to be in place before operations commence in the extension (as they are intended to mitigate noise from the extension, not from the hot mix asphalt plant or existing operations).	Not resolved.