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Peer Review of “Upper’s Quarry, Niagara: Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study Revision 2.0” and related documents

INTRODUCTION

The comments below constitute our peer review findings for the “Upper’s Quarry, Niagara: Level 1 and Level 2 Natural Environment Technical Report and Environmental Impact Study Revision 2.0”, prepared for Walker Aggregates Inc. by Stantec on April 4, 2024. Where appropriate, these findings were supplemented by additional information contained in several related documents (complete list provided at end of letter).

Only those comments that were not previously addressed are included below. For continuity, we have included our original July 15th 2022 peer review comments, as well as our September 2023 comments, which are followed by a May 2024 declaration indicating whether the comment has been resolved, conditionally resolved, partially resolved, not resolved, or where additional clarification is requested. Some of these declarations are followed by concluding comments and/or recommendations where appropriate.

KEY CONCERNS

The following key concerns are based on review of the Upper’s Quarry Level 1 and Level 2 Natural Environment Technical Report (NETR) and Environmental Impact Study:

Site Investigation Methodologies

- Clarification is required for various methodologies employed for site investigations and evaluation of significance. **September 2023 Response: Comment partially addressed.** Although new information has been provided, some gaps remain hampering the ability to evaluate whether the conclusions are valid. Additional details describing the gaps are provided in the Specific Comments section below. **May 2024 Response:** Additional information was provided, but differences in professional opinion remain regarding the timing of survey, and the interpretation of feature status based on documented species observations.

Impacts and Rehabilitation of Significant Woodlands

- Clarification is required regarding the evaluation of significance and proposed removal and habitat replacement of the significant woodland located on the subject property. **September 2023**

Response: Comment addressed. See the additional information provided in the Specific Comments section below. May 2024 Response:

- **May 2024 Response:** The updated NETR provides updated information regarding the status of the woodland adjacent to Thorold Townline Road based on Provincial and Regional criteria, confirming that the feature is a significant woodland per the Region's Official Plan criteria. The rationale for removal of the woodland and associated impacts to the form and function of the woodland are not clear and/or are not presented. Therefore, the information in the NETR is not sufficient to address the Region's OP policy 7.B.31 (b), requiring that significant woodlands that are removed 'will be replaced, on or off site, with features and functions of equal or greater ecological value'.

Evaluation of Significant Wildlife Habitat

- Clarification is required regarding the assessment of significance for Significant Wildlife Habitat (e.g., given presence of turtle species and habitat for species of conservation concern). **September 2023 Response: Comment partially addressed.** See the additional information provided in the Specific Comments section below. **May 2024 Response: Comment partially resolved.** See the additional information provided in the Specific Comments section below.

Fish Habitat

- The watercourse that crosses the property, which it is proposed to realign, provides spawning and nursery habitat for Northern Pike (*Esox lucius*). Adult Northern Pike migrate to the stream to spawn in the spring and then migrate back to downstream habitats. It is not known if Northern Pike migrate upstream past the subject property to spawn farther upstream, but the presence of young-of-the-year individuals in the entire length of the watercourse within the subject property (AECOM, 2010) suggests this may occur. **September 2023 Response: Comment not addressed.** No response provided. **May 2024 Response: Comment resolved.**
- The regional significance of Northern Pike spawning in the watercourse that crosses the property has not been assessed but clearly the spawning habitat has significance that extends beyond the immediate study area. The watercourse is accessible to fish from an extensive area of aquatic habitat that is suitable for adult Northern Pike. Investigations to determine the number of Northern Pike that enter this watercourse to spawn and to determine if Northern Pike from the downstream habitats spawn in other locations could provide regional context and allow the scale of potential effects to be assessed. **September 2023 Response: Comment partially addressed.** The response does not specifically address the abundance of Northern Pike that spawn within the watercourse that it is proposed to be moved or the abundance of Northern Pike spawning habitat elsewhere. The response indicates that Northern Pike habitat will be more abundant, and that the habitat will be more productive for Northern Pike after the watercourse realignment. **May 2024 Response: Comment partially resolved.** The response does not address the abundance of Northern Pike that spawn within the watercourse that it is proposed to move or the abundance of Northern Pike spawning habitat elsewhere. The NETR has been revised to address the presence of potential spawning habitat elsewhere, however; no observations of spawning or attempts to determine if spawning occurs in those locations are reported.

Specific Comments

In addition to the key concerns described above, the following specific comments are provided. They are grouped according to section headings in the NETR and EIS. Section numbering and page numbering has been updated to correspond with Revision 1.0 of the NETR. In addition, new comments have been added to the end.

Section 3.2 (FIELD SURVEY METHODS) pg. 3.2

1. It is noted in Table 3.1 that no dedicated Turtle surveys were conducted either on the Subject Lands or within the RAA. Given the proximity of larger wetlands to the north and the ability of turtles to move through the landscape while moving from wetland to wetland or in search of nesting habitat, please explain why no surveys were conducted, especially as it relates to potential Species at Risk and the identification of Significant Wildlife Habitat. It is noted that during the technical meeting held on March 30th, 2022, the applicant's consultant confirmed that turtles were observed along the watercourse on the subject property. These records have not been included in the Natural Environment Technical Report and Environmental Impact Study. Please address. **September 2023 Response: Comment partially addressed.** Although discussion regarding turtle surveys was inadvertently omitted from the original NETR report, additional information was provided in the August 2023 update. As per Section 3.2.5.1, turtle basking surveys were completed on site on April 4, May 3, May 9, May 17 and May 30, 2017. It is also noted in Section 3.2.5.2 that following receipt of JART/agency comments, six turtle nesting surveys were completed in late June 2023. However, neither section indicated what areas received survey coverage and why, limiting the ability to assess the robustness of the findings. Similarly, neither section included a description of how the surveys were actually completed, but rather indicated that the surveys followed the *Blanding's Turtle Nest and Nesting Survey Guidelines* (MNR, 2016). At a minimum, a condensed version of how the surveys were carried out, that is specific to the study area, should be provided to ensure that the protocol was appropriately interpreted and applied. Finally, Table 3-1 continues to omit any mention of the turtle basking surveys. The missing information should be provided for review and completeness. Please address. **May 2024 Response: Additional information required.** New information was provided in the April 2024 NETR indicated that all areas of suitable nesting habitat were walked, including the edge of the agricultural fields along the entire length of the watercourse. Given that any nesting turtles would most likely originate from the watercourse, this was appropriate. In addition, given that it is about 3.5 km to walk down one side of the creek (along the edge of the agricultural field) and back up the other side, the average survey length of just over 3 hours seems reasonable. However, upon closer review, the surveys conducted were not entirely consistent with the *Blanding's Turtle Nest and Nesting Survey Guidelines*. Four of the six surveys began 30 minutes or more before the recommended start time of 6:00 p.m. More importantly, instead of conducting the 6 visits over a three week period (as recommended in the guidelines), all six surveys were conducted over a 10 day period, therefore limiting surveys to only about 50% of the expected nesting window, and all occurring within the latter half of the survey window. In summary, although considerable efforts were expended conducting the turtle nesting surveys, some deficiencies were noted that could have potentially negatively affected the results documented. Additional information in support of the surveys conducted is welcomed.

Section 3.2.6.3. (Bat Exit Surveys) pg. 3.11

11. Please indicate why some of the other buildings were not surveyed? **September 2023 Response: Additional clarification requested.** Recognizing that the buildings at one of the three locations

described below have since been torn down, please confirm why the buildings at 5872 Thorold Townline Road, 10273 Upper's Lane and 5205 Beechwood Road were not surveyed? As indicated in the response matrix, were they assessed as not being suitable for bat roosts? **May 2024 Response: Comment resolved.**

Section 3.2.8 Headwater Drainage Feature Assessment pg. 3.12

15. Please provide a reference for the headwater drainage features (HDF) guidelines that the timing of site visits is stated to be consistent with. If the reference is to the CVC and TRCA guidelines (finalized in 2014), which are referred to in Section 3.3.5, please explain how the timing of the site visits was consistent with the timing recommended by the HDF guidelines. **September 2023 Response: Comment partially addressed.** It is agreed that site visits on April 14, 2017, and April 9, 2021, are consistent with Site Visit 1 of the guidelines. The site visit on June 22, 2017, does not conform with the guideline for Site Visit 2, which is described in the guidelines as typically occurring from late April to mid-May. The primary purpose of the second site visit is to determine if flow or standing water is present at that time and, if either is, fish sampling is recommended to determine if there is seasonal fish use of the feature. The hydrological condition during the second visit is key to determining whether a feature that is dry during the third site visit is ephemeral or intermittent, which affects its classification. As the guidelines state, ephemeral features which provide contributing functions “are typically dry or surface-damp by mid-May”. With no observations between early April and June 22, it is not possible to make that determination. Please address. **May 2024 Response: Comment partially resolved.** If it was documented that the features were dry by mid-May during snake coverboard checks, whether or not the visits were recorded as ‘official’ headwater drainage feature assessment visits would be of little consequence. Note that if flow is present in late April–mid-May electrofishing is recommended to determine if fish are present. It is true that if the hydrology classification changed from “contributing” to “valued”, the management recommendation would not change, however, if fish were present the management recommendation would change to either “conservation” or “protection”.

Section 4.1 Landscape Context pg. 4.1

17. The description could be broader and include additional information other than a description of the most common tree species. The Great Lakes Conservation Blueprint for 7E-5 provides a good summary. **September 2023 Response: Comment conditionally addressed.** A few facts were incorporated from the Great Lakes Conservation Blueprint for Terrestrial Biodiversity (Volume 1). Considerably more ecological statistics regarding Ecodistrict 7E-5 could have been pulled from Volume 2, i.e., the Ecodistrict Summaries. Also please note that “Big Picture Cores” represents 12.74% of the Ecodistrict 7E-5, not 5.20% reported. Similarly, “Big Picture Corridors” represents 14.16% of the Ecodistrict 7E-5, not 9.55%. Please correct. **May 2024 Response: Comment resolved.**

Section 5.9 Headwater Drainage Feature Assessments pg. 5.12

21. Headwater drainage feature classification, as presented in CVC and TRCA (2014) and Section 3.3.5 of this EIS, is based on up to three site visits with the first typically occurring in late March to early April. A second visit is made during late April to early May if necessary, and a third visit is made during the July-mid-September period if necessary. Please explain how data from a site visit in early April (in two years) and a site visit in late June provides the information required to determine the classifications. **September 2023 Response: Comment not addressed.** A June 22 site visit is not consistent with the recommended late-April – mid-May timing for the second site visit. Please

address. **May 2024 Response: Comment partially resolved.** Please see the response to Comment 15.

22. Please provide the raw field observations, and their date(s), that were utilized to determine the classifications presented in Table 5.5. For example, the hydrology class is based on flow status (flow, standing water, or dry), the feature's physical form, and whether or not there is a wetland upstream. **September 2023 Response: Comment partially addressed.** It is stated that field notes can be provided, however to the best of our knowledge they have not been. Providing the hydrology condition and channel form during the first site visit in Table 5-5 or an ancillary table would facilitate a review of the classification, to the extent that this is possible without late-April – mid-May field investigations. Please address. **May 2024 Response: Comment resolved.**
23. It is not unusual for headwater drainage feature classifications to differ among reaches of an HDF. The classifications of upstream reaches can influence the classification of reaches downstream. Please consider whether this is relevant to any of the HDFs in the study area, including feature 11 and features 7, 12, 24 and 25. **September 2023 Response: Comment partially addressed.** Response partially accepted. The response states that HDF #11 *"is dry by May, as noted in 2017 and 2019 field work."* The site visits to assess HDFs, listed in Table 3-11, occurred on April 4, 2017, June 22, 2017, and April 9, 2021. The source of the May observation is unclear. It appears that the woodlot that HDF #11 is associated with provides a linkage but will be eliminated, not rehabilitated as the response indicates, by the proposed natural channel.

The response does not address HDFs 7, 12, 24 and 25, where the issue is similar, with HDF # 25 classified as protection. Please address. **May 2024 Response: Comment resolved.**

Section 5.10 Fish and Aquatic Habitat – Existing Watercourse pg. 5.14

26. The report states "The seasonal nature and lack of sustained flow, absence of adequate refuge pool habitat and inability to support perennial conditions favourable to fish all reduce the habitat quality of the tributary to a low rating." It should be recognized that Northern Pike often spawn on vegetation that is flooded in the spring in areas that are dry later in the year. It should further be recognized that, although those spawning areas may not be high quality fish habitat in the traditional sense, but they are critical for the Northern Pike populations that spawn there. The AECOM (2010) memorandum describing the 2010 field investigations states "Ultimately, the sensitivity of the fish and fish habitat present can be considered Moderately Sensitive due to the presence of spawning habitat for Northern Pike." Please address the significance of the Northern Pike spawning habitat in this watercourse to downstream fish communities and Northern Pike populations. **September 2023 Response: Comment partially addressed.** The response does not directly acknowledge the significance of the Northern Pike spawning habitat to downstream fish communities and Northern Pike populations. Given that the watercourse is Northern Pike spawning and nursery habitat, the validity of describing it as being of low habitat quality is questionable. This comment is somewhat related to comment #28. The response to Comment #28 indicates that the wording of the natural channel design report should reflect that the fish habitat is of moderate sensitivity, rather than marginal. Please address. **May 2024 Response: Comment resolved.**

Section 6.2.2 Assessment Based on NROP Criteria pg. 6.6

28. According to the analysis presented in Table 6.3, "the woodland on the Subject Property along Thorold Townline Road would be considered a Significant Woodland from a policy perspective and

would become a regional Environmental Conservation Area, per Policy 7.B.1.4 of the Region of Niagara Official Plan.” However, given this status, additional clarification is required to rationalize the recommendation for removal and habitat replacement of this feature. **September 2023 Response: Additional discussion warranted.** Although additional information was provided in the Response matrix explaining why the removal and replacement of the woodland as proposed would represent an overall net ecological benefit, removal and replacement warrants additional discussion in the context of negative impacts to the feature and its functions, including Significant Wildlife Habitat. Specific details regarding all species occurring within the woodland should be clearly documented – please provide the raw data for vegetation surveys, ELC, and any wildlife observations. **May 2024 Response: Comment not resolved.** The response and updates in the Natural Environment Report provide additional policy considerations that rationalize the removal of the woodland patches 9a and 9b based on size and function. As currently presented, the information included in Section 8.3 is insufficient to determine compliance with the Region OP Policy 7.B.31 (b), particularly relating to the test of whether or not rehabilitation *‘will be replaced, on or off site, with features and functions of equal or greater ecological value’*.

Primarily this relates to the Region not being provided with specific Ecological Land Classification data and associated species lists (per the agreed Terms of Reference). The information provided in Section 8.2.1 relating to ‘potential impacts’ identifies the woodland patches as being compromised and refers to non-native species such as garlic mustard, Tatarian honeysuckle, and common privet. This contrasts with information included in Table 5.1 (ELC Vegetation Types) that identifies the woodland patches as mid-aged to mature forests with a sub-canopy and understory composed of predominantly native plant species. As removal of the woodland has been rationalized from a policy perspective based on its size, specific data that are used to establish the Ecological Land Classification summary should also be used in Section 8.3 to document specific feature characteristics such as the species present, species relative abundance, size, age, and the associated ecological functions that will be affected; subsequently, these data should be used to clearly show how the proposed rehabilitation achieves equal or greater ecological value (e.g. aligned with information provided in Table 8-3). This is particularly important as specific details regarding the timing of ELC and botanical site visits, and the associated data collected, have not been provided as part of the Natural Environment Report submission.

Section 6.6 Fish Habitat pg. 6.11

30. This section describes conditions but does not provide an assessment of the significance of the existing watercourse from a fish habitat perspective. Based on the reported field observations, this watercourse provides spawning and nursery habitat for Northern Pike. Adult Northern Pike migrate into this watercourse to spawn in the spring and presumably migrate back downstream after they have spawned. No investigations were conducted to determine the number of adults moving into the watercourse to spawn or the number of young-of-the-year that move downstream after they hatch. The fact that adults migrate into the watercourse from downstream to spawn indicates that the significance of the watercourse extends beyond the study area. Its significance at a regional scale will depend, in part, on the proportion of regional pike spawning habitat that this watercourse provides. **September 2023 Response: Comment partially addressed.** The response indicates that collecting additional data is **not necessary** (emphasis ours) because it might inadvertently affect spawning activities or young of the year and because of the limited effectiveness of methods available. In the absence of any information regarding numbers of spawning fish, numbers of young-of-the-year produced, or the availability of other spawning areas, it is not possible to know

how significant this watercourse is to the regional fish community and pike population(s). Furthermore, in the absence of baseline data it will not be possible to assess the effectiveness of the proposed habitat creation, except in qualitative terms. The response seems to imply that there is no need for this knowledge because Northern Pike spawning and nursery habitat will be improved and that, based on pre-consultation, Fisheries and Oceans Canada supports the proposed design. Documentation of pre-consultation with Fisheries and Oceans Canada has not been provided. Please provide. **May 2024 Response: Comment not resolved.** Documentation of pre-consultation with DFO was not provided.

The response to Comment #38, which pertains to the Natural Channel Design, states, in part, *“The pike spawning habitat is recognized as important in the watershed and sensitive including its contribution to the diversity of Beaverdam’s creek.”* That statement addresses significance and Section 6.6 would benefit from its inclusion. Please address. **May 2024 Response: Comment resolved.**

Section 6.7 Significant Wildlife Habitat pg. 6.12

31. According to text, Table B-2, Appendix B provides a detailed assessment using the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E.
 - a. Re: the discussion about the Turtle Nesting Areas SWH type, it states *“Suitable habitat for turtle nesting is present on the road shoulders and in agricultural fields, however anthropogenic features do not qualify as significant wildlife habitat.”* However, the statement regarding agricultural fields is incorrect. There is no such exemption for agricultural fields. Therefore, given the close proximity of the agricultural fields to the watercourse bisecting the Subject property, and the fact that no turtle nesting surveys were conducted in support of the application, it is premature to conclude that Turtle Nesting Habitat SWH is absent. Please address. **September 2023 Response: Comment partially addressed.** Please see the September 2023 comment for Specific Comment #1. Until additional information is provided for review that indicates how the turtle nesting surveys were carried out, the conclusion that Turtle Nesting Habitat SWH is absent may not be justified. Furthermore, the statement that *“The agricultural field is not considered preferred nesting habitat due to the high density of vegetation cover (i.e. winter wheat) during peak breeding season and the likelihood for nest disturbance and loss by agricultural equipment.”* unnecessarily diminishes its significance as nesting habitat on the subject lands since the Significant Wildlife Habitat Criteria Schedules for Ecoregion 7E does not distinguish between preferred and non-preferred nesting habitat. Turtles are opportunists, often using whatever suitable habitat is available. It is also worth noting that according to Section 5.3.2: *“In 2019, agricultural fields on the Subject Property were planted with soy.”* Therefore, the reference to winter wheat doesn’t appear to make sense. Also, soy tends to allow more sunlight to penetrate to the ground than winter wheat, increasing the likelihood that the agricultural fields would be used for turtle nesting. Please address and revise the affected text. **May 2024 Response: Comment partially resolved.** See May 2024 response to comment 1.
 - c. Re: Eastern Milksnake (Species of Conservation Concern), the assessment is based on coverboard surveys conducted in 2017 *“and other field investigations in 2012 and 2019”*. Please indicate whether the 2012 field investigations are referring to incidental observations? According to Table 3.1 no dedicated field surveys were carried out prior to

2017. **September 2023 Response: Comment partially addressed.** The response included in the response matrix still does not indicate whether the fieldwork, now acknowledged to have been conducted in 2011, was incidental in nature. Similarly, no mention is made of the 2019 field investigations. Please provide clarification and ensure that the text in Table B-2 (Appendix B) is updated accordingly. **May 2024 Response: Comment resolved.**

- d. Re: Snapping Turtle (Species of Conservation Concern), please indicate if any dedicated surveys to document this species along the creek were conducted or whether the statement that “...the species was not observed during the 2017 or 2019 field investigations” was based on incidental observations only. Table 3.1 does not indicate that any dedicated surveys were conducted. **September 2023 Response: Comment partially addressed.** New information was provided in the updated NETR indicating that turtle basking surveys were completed on site in the spring of 2017. However, text in Section 3.2.5.1 does not indicate what areas received survey coverage, limiting the ability to assess the robustness of the findings and the conclusion that Snapping Turtle SWH is absent. It is also noted that the Snapping Turtle text in Table B-2 has not been updated to reflect the fact that the 2019 field investigations were incidental in nature, thereby limiting their value, or that additional turtle nesting surveys were conducted in 2023 that documented evidence of nesting along the road shoulders. Even though turtle nesting along municipal road shoulders is not considered SWH, it does confirm the overall presence of turtles within the subject lands. Finally, the NETR does not acknowledge the turtle observations that were made along the watercourse on the subject property. These were noted during the March 30th, 2022 technical meeting. Additional information regarding the extent of the turtle basking turtle surveys conducted in 2017 is requested, as well as a full accounting of the turtle observations made along the watercourse. **May 2024 Response: Comment partially resolved.** Most of the field surveys conducted to document turtle presence, including Snapping Turtle, were conducted according to protocol. However, one of the five basking turtle surveys was conducted under 100% cloud cover and a trace of rain, conditions resulting in very low detectability, which would compromise results. Despite this deficiency, the response matrix indicates that the Natural Channel Design (NCD) Planting Plan includes many pond areas for basking and a number of nesting mounds in the vicinity of the proposed new creek alignment. These are viewed as mitigation measures/enhancements. Finally, the contents of Table B-2 were not updated to accurately reflect the survey work conducted.
- e. Re: Common Nighthawk (Species of Conservation Concern), please provide additional justification why suitable nesting habitat is absent in the Study Area. The nesting habitat description provided is misleading. According to Sandilands (2007), in Cadman et al., (2007), “In the agricultural south, it has nested in grasslands, agricultural fields, gravel pits, prairies, and alvars and airports.” **September 2023 Response: Comment partially addressed.** According to the response provided in the response matrix:
- “Uppers quarry area is mainly agricultural land and the presence of nighthawk in the peripheral type habitats would not be considered SOCC. This agricultural type of habitat is widely distributed and abundant in the study area and in the Region of Niagara as such these fields would not be considered SWH.”*

However, according to the “Special Concern and Rare Wildlife Species” SWH criterion (OMNRF, 2015), no Candidate ELC Ecosites are excluded from consideration, nor are any given preferential treatment due to their abundance in the landscape. As such, agricultural habitats should not be automatically discounted or worse yet, excluded from surveys. Nevertheless, and despite the above description of which habitat types qualify for consideration, it is Sandilands’ (2010) opinion that *“In southern, off-Shield Ontario, the Common Nighthawk appears to have almost abandoned nesting in natural forest clearings and rural areas; most nesting occurs in cities or communities where there are flat roofs.”* As such, it is acknowledged that the likelihood of Common Nighthawks nesting in the agricultural fields on the subject lands is likely low, and the absence of dedicated surveys conducted in search of the species can be ignored, if suitable nesting habitat for the species can be provided on site, during and post quarry operation. **May 2024 Response: Comment not resolved.** The response matrix indicated that *“Common Nighthawk habitat is effectively added to the Natural Channel Design in the riparian/meadow grasslands proposed.”* However, upon review of the riparian meadow and upland meadow planting zone seed mixes (see Natural Channel Design in Appendix E), it is expected that these areas will fill in and result in dense cover, severely limiting suitability as potential nesting habitat since Common Nighthawks tend to select bare surfaces on which to lay their eggs. In fact, text in Section 4.10 of the Natural Channel Design goes so far as stating that the intended goal of the riparian planting design is *the gradual successional spread of trees and shrubs within the corridor*. It is also noted that the riparian areas may be subject to periodic flooding, again reducing their suitability. Furthermore, the upland habitats mostly correspond to the side slopes of the watercourse valley, again generally rendering the habitats unsuitable, since Common Nighthawks tend to select flat surfaces on which to lay their eggs. To increase the chance of creating suitable nesting habitat, it is recommended that five to ten dedicated nesting beds be constructed within the realigned watercourse corridor, offering a mix of locations to choose from. To be considered suitable, the nesting beds should be on flat surfaces such as bare rock, sand or gravel, or on soils where leaves or conifer needles from adjacent vegetation can cover the ground. Sizing of the nesting beds should be researched to ensure their adequacy. The locations of the nesting beds should be added to the drawings and notes.

- f. Re: Woodland Vole (Species of Conservation Concern), please provide other justification why suitable habitat is absent in the Study Area. The statement that *“There are no records of Woodland Vole in the vicinity of the Study Area”* is not satisfactory since *“Woodland Voles are an often overlooked member of the fauna, as they are secretive and rarely appear above ground during daylight”* (Naughton, 2012). **September 2023 Response: Comment partially addressed.** References in the response matrix to the questionable quality of habitat due to the absence of deep leaf litter and dense herbaceous layer preferred by the species are acceptable responses. However, the text in Table B-2 (Appendix B) as it relates to *“Results of Desktop Habitat Assessment”* should be revised. The sole reason why the species is likely absent should not be based on the fact that there are no records of Woodland Vole in the vicinity of the Study Area. Please address. **May 2024 Response: Comment resolved.**
32. Text on page 6.11 or Table B-2 (Appendix B) does not adequately justify why breeding habitat for Eastern Wood-Pewee is absent on the Subject Property. An Eastern Wood-Pewee was recorded in

the woodland along Thorold Townline Road on June 14, 2019, when bat acoustic monitors were deployed but not on June 25, 2019, when monitors were collected. Given that (1) this woodlot was not monitored for breeding birds in 2019, (2) wind speeds exceeded the recommended maximum to document breeding birds for the majority of June 25, 2019, and (3) less time was spent within the woodlot removing the monitoring equipment than setting it up, it is reasonable to assume that the habitat was suitable for breeding. This is consistent with the conservative approach applied to the Breeding Bird Survey methodology (see Section 3.2.3 on page 3.5). Please provide justification to support the position that the woodland along Thorold Townline Road did not provide suitable breeding habitat for Eastern Wood-Pewee in 2019. **September 2023 Response: Comment partially addressed.** Additional justification was provided. It is acknowledged that Eastern Wood-Pewee was not documented from the woodland along Thorold Townline Road during the 2017 breeding bird surveys. However, that does not discount the fact that it was documented there more recently in 2019, which at the very least suggests that it is suitable habitat. Furthermore, given the significance of the observation, please explain why additional breeding bird survey visits to the woodland were not carried out in 2023 to help confirm whether the bird was present. In absence of additional breeding bird surveys having been conducted, it is assumed that the woodland provides suitable habitat and is SWH for Eastern Wood-Pewee. **May 2024 Response: Comment not resolved.** The 2017 breeding bird survey results are not in question. However, they do not diminish the significance of the more recent 2019 Eastern Wood-Pewee observation which was made during the height of the breeding season. Furthermore, the fact that the 2019 observation was made incidentally does not make it invalid. It is also noted that text in Appendix C (i.e., Attachment 2, Table 1) states: *“One signing male was confirmed on site in suitable habitat during 2012 field investigations (Stantec 2012e).”* Given that the habitat was suitable in 2012 and 2019, the woodland is considered SWH for Eastern Wood-Pewee. Please provide Stantec Consulting Ltd.’s 2012 “Walker Upper’s Lane Quarry – Niagara Region Breeding Bird Survey 2012 (memo)” for review. In addition, please update the text in Section 4.6.5 to acknowledge the presence of this Species at Risk. It appears that this was the only significant bird species not mentioned.

Appendix E Proposed Upper’s Quarry, Natural Channel Design Report – Section 3.4 Aquatic Habitat pg. 3.5-3.6

37. The Natural Channel Design Report states “Habitat conditions for potential usage by spawning Northern Pike were noted to be of marginal quality during that [the March 26, 2010] survey.” We were unable to find a statement to this effect in the memorandum by AECOM (2010) describing that survey. Please clarify. **September 2023 Response: Comment partially addressed.** The response indicates *“the Natural Channel Design [report] wording should reflect that fish habitat is of moderate sensitivity”*. The Natural Channel Design report has not been revised. If the Natural Channel Design report is not revised, the change to the sensitivity should be documented somewhere in a preface or addendum or list of errata appended to that report. Please address. **May 2024 Response: Comment resolved.**
38. The Natural Channel Design Report states “While spring freshet typically creates conditions that allow for movement of Northern Pike into potential spawning areas, as flows recede and conditions become intermittent, habitat conditions are generally too poor to support various life stages of fish. As the system dries up, refuge pool habitat becomes limiting except for the pool associated with the Upper’s Lane culvert. The seasonal nature and lack of sustained flow, absence of adequate refuge pool habitat and inability to support perennial conditions favourable to fish reduce the habitat quality of the tributary to a low rating.” It should be recognized that Northern Pike often

spawn on vegetation that is flooded in the spring, in areas that are dry later in the year. It should be recognized that, although those spawning areas may not be high quality fish habitat in the traditional sense, but they are critical for the Northern Pike populations that spawn there. The AECOM (2010) memorandum states “Ultimately, the sensitivity of the fish and fish habitat present can be considered Moderately Sensitive due to the presence of spawning habitat for Northern Pike.” **September 2023 Response: Comment partially addressed.** The response states *“The pike spawning habitat is recognized as important in the watershed and sensitive including its contribution to the diversity of Beaverdam’s creek. This understanding is best demonstrated in the level of effort and the considerations incorporated into the restoration plan including design elements, sequence of construction, and review and monitoring of the inundation capacity of the spawning habitat.”* Section 6.6 of the Natural Environment report and Section 3.4 of the Natural Channel Design report would benefit from inclusion of the first sentence of the preceding quote. Please address.

The response further states *“Pike are noted to be a course [sic] fish with a strong resiliency and adaptable to a variety of conditions and changes.”* It is incorrect to refer to Northern Pike as a “course” [sic] fish. Northern Pike is a sports fish in Ontario, with catch limits described in the Ontario Fishing Regulations.

Please provide references supporting the assertions that Northern Pike have a strong resiliency and are adaptable to a variety of conditions and changes.

Please also provide supporting references for the statement *“Creation of Pike spawning habitat has been successful completed throughout North America in the range of where Pike are distributed in warm water systems.”* **May 2024 Response: Comment resolved.**

NEW COMMENTS (September 2023)

Section 5.8 Incidental Wildlife Observation pg. 5.11

39. During the technical meeting held on March 30th, 2022, the applicant’s consultant confirmed that turtles were observed along the watercourse on the subject property. These observations have not been included in the Natural Environment Technical Report and Environmental Impact Study to date. Please address. **May 2024 Response: Comment not resolved.** The objective of the comment was to clarify the location(s) of the confirmed turtle observations, not whether or not turtles were present. As noted previously, there was a unequivocal statement made during the first technical meeting that turtles were observed in the existing watercourse, and that the habitat created in the realigned channel would address any impacts to turtles and their habitat. In part, the assertions of this conclusion were premised on the expertise of Ms. Cameron, who is a recognized expert in turtle conservation, but had recently left Stantec.

Section 6.7 Significant Wildlife Habitat pg. 6.12

40. Under the Seasonal Concentration Areas heading, the text indicated that the woodland on the east side of Thorold Townline Road was considered Significant Wildlife Habitat (SWH) as a Deer Winter Concentration Area. However, there is no mention of Bat Maternity Colony SWH, yet the text in Table 6-3 (Section 6.2.2) state *“The woodland contains Significant Wildlife Habitat for Bat Maternity Colony and Deer Winter Concentration Area.”* The data included in Table 5-4 (Section 5.6.2) for Big Brown Bat and Silver-haired Bat appears to support that conclusion. Please include acknowledgement of this in this section as well as Section 8.5. In addition, please correct the

conclusion for Bat Maternity Colonies in Table B-2 (Appendix B). Instead of “Absent” it should read “Present”. **May 2024 Response: Comment partially resolved.** Additional text was included in this section acknowledging that a Bat Maternity Colony is present in the “area”. While the statement is not inaccurate, it does however, unnecessarily avoid naming the Thorold Townline Road woodlot as the most likely location for the bat maternity colony. In absence of any additional data suggesting otherwise, the text should be revised to reflect the most likely location of the bat maternity colony.

Section 8.5 Significant Wildlife Habitat [Assessment of Impacts] pg. 8.27

41. Section 8.5.1 is titled Potential Impact. However, given that the woodland on the east side of Thorold Townline Road, acknowledged to support provincially Significant Wildlife Habitat, is proposed for removal, the heading is inappropriate. Rather the removal of the woodland would represent a direct and permanent impact. Section 2.1.5 of the Provincial Policy Statement (PPS) also states: *“Development and site alteration shall not be permitted in: ... d) significant wildlife habitat ...unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.”* Furthermore, Section 8.5.2.1 (Mitigation Recommendations for Woodland SWH) states: *“As described in Section 8.2.2, woodland compensation¹ planting will occur on 4 ha of land west of Thorold Townline Road and adjacent to an existing 14 ha woodland of similar species composition and structure.”* Despite the section heading (i.e., Mitigation Recommendations for Woodland SWH), what is being proposed is not mitigation, but rather compensation (i.e., replacement of damaged habitat). However, compensation is not an accepted option available in the PPS when it comes to reducing or eliminating negative impacts. Not only is compensation is not mentioned in the PPS, but it is also only mentioned once in the Natural Heritage Reference Manual², and specifically in relation to a HADD (i.e., the harmful alteration, disruption or destruction of fish habitat). Please revise the text/tables/figures in this section and all other applicable sections as appropriate, to reflect the discussion above and its implications to the proposed extraction scenarios. **May 2024 Response: Comment not resolved.** The Response Matrix indicates that *“The report has been revised to more concisely address this matter with regard to the woodland assessment and the PPS which must be read in its entirety.”* However, the NETR should still acknowledge real impacts, such as the proposed removal an entire woodlot, even if it ultimately considers the impacts to be adequately mitigated. As it stands, Section 8.5.1, titled, *“Potential Impact”*, does not accurately describe what is being proposed. This can be addressed by providing a summary of net impacts that lists all impacts, avoidance strategies, mitigation strategies, and enhancement strategies, followed by the expected net result (e.g., positive, negative, unchanged) and an indication of the scale of the net result, if applicable. In addition, the Region should be provided copies of correspondence with Province where they explicitly state that off-site mitigation is an acceptable option with respect to the proposed loss of the woodland.

42. Site Plans 2 and 3: It is not clear why some existing features are shown, and others are not. For example, the existing watercourse is shown, but wooded features and Significant Wildlife Habitat are not shown. Please include. **May 2024 Response: Comment partially resolved.** Drawing 1 of the site plan was updated with a separate figure showing the location of significant features using a larger scale inset map. Significant features should be incorporated onto the primary map. As well,

¹ Underlining added for emphasis.

² The Natural Heritage Reference Manual (2010) provides technical guidance for implementing the natural heritage policies of the Provincial Policy Statement and represents the Province’s recommended technical criteria and approaches for being consistent with the PPS in protecting natural heritage features and areas and natural heritage systems in Ontario.

a response was not provided to clarify why significant features are excluded from other drawings such as the operations plan and the extraction plan.

NEW COMMENTS (May 2024)

Section 8.5.2.2 Mitigation Recommendations for Potential Non SAR Bat Maternity Colonies pg. 8.28

43. The report text states that “*eight (8) multichambered bat boxes have been added to the NCD Planting Plan Drawings L-460 to L-463 to support bat maternity roost opportunities.*” However, upon review, only 5 “Rocket” boxes appear to be mapped, all of which are within the southern half of the realigned watercourse corridor. The plan should be updated by including additional rocket boxes to the north half of the corridor.

Appendix E Natural Channel Design

44. According to the Grading Plan Drawings only one artificial snake hibernaculum appears to be proposed to be constructed along the approximately 1.6 km length of the realigned watercourse corridor. However, according to the Planting Plan Drawings, two artificial snake hibernacula are proposed along the realigned watercourse corridor. Please ensure that the drawings are consistent with one another. Also, to better accommodate the future overwintering needs of these taxa, it is recommended that 6 or more additional snake hibernacula be constructed along the length of the corridor. In addition, please incorporate clear specifications on the snake hibernacula design shown on Drawing L-502 from the Toronto Zoo “Adopt-a-Pond” website (<https://www.torontozoo.com/adoptapond/habitat/hibernacula>).

45. Based on the same drawings described in the above comment, three turtle nesting beds are proposed to be constructed along the realigned watercourse corridor. To better accommodate the nesting needs of these taxa, it is recommended that three additional turtle nesting beds be constructed and if possible, situated in such a way that they face south or southwest and receive unobstructed sunlight (e.g., might some nesting beds be located on the east side of the realigned creek corridor?). In addition, please ensure that the design details shown on Drawing L-502 are consistent with the direction provided in the Toronto Zoo “Adopt-a-Pond” Turtle Nesting Beach Design (<https://www.torontozoo.com/adoptapond/habitat/nesting>).

46. A wildlife monitoring plan is requested to be included in the Natural Channel Design to document the success of the specific wildlife habitat features described above, as well as wildlife diversity and abundance in general (pre- and post creek corridor realignment).

Updated ARA Site Plans, Drawing 4 of 6 (Report Recommendations)

47. Re: Note E. 3.a. It is our understanding that MECP, in its “Species at Risk Bats Survey Note – 2022” now considers the bat active season to be from April 1 – September 30. Please adjust the date range to be consistent with this direction.

Should the Region and/or members of the Joint Agency Review Team have any questions and/or require clarification of the points raised as key concerns and/or specific comments, please do not hesitate to contact the undersigned.

Sincerely,

A handwritten signature in black ink, appearing to read "S Hill". The signature is written in a cursive style with a large initial "S" and a smaller "Hill".

Steve Hill, PhD
Senior Ecologist, Director
519.242.4505
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A handwritten signature in black ink, appearing to read "Karl Konze". The signature is written in a cursive style with a large initial "K" and a smaller "Konze".

Karl Konze, B.Sc.
Senior Wildlife Ecologist
519.242.6977
kkonze@dougan.ca

CC. Cam Portt, C. Portt and Associates