



The Regional Municipality of Halton

Report To:	Chair and Members of the Planning and Public Works Committee
From:	Mark G. Meneray, Commissioner, Legislative and Planning Services and Corporate Counsel
Date:	October 4, 2009
Report No. - Re:	LPS96-09 - Application for Regional Official Plan Amendment (File: RQ41A), Nelson Aggregates Co., City of Burlington

RECOMMENDATION

1. THAT Report No. LPS96-09 as it relates to Regional Official Plan Amendment Application, File RQ41A, Nelson Aggregates Co., City of Burlington, to re-designate portions of lands in Lots 17 and 18, Concession 2, on the south side of No. 2 Side Road, City of Burlington, from Escarpment Rural Area to Mineral Resource Extraction Area, Greenlands A, and Greenlands B, be endorsed by Regional Council.
2. THAT the Joint Board be advised that Regional Council does not support Regional Official Plan Amendment Application, File RQ41A, to re-designate portions of lands in Lots 17 and 18, Concession 2, on the south side of No. 2 Side Road, City of Burlington.
3. THAT the Regional Clerk forward a copy of Report No. LPS96-09 to all parties to the Joint Board Hearing for their information.

Executive Summary

The extraction footprint for the proposed quarry currently includes two Provincially Significant Wetlands, which are part of the Provincially Significant Grindstone Creek Wetland Complex. Staff is of the opinion the removal of these wetlands does not have regard to the policies/is not consistent with the policies in the Provincial Policy Statement (PPS) 1997 and PPS 2005, and does not conform to the policies in the Regional Official Plan (ROP). Staff is of the opinion the proposed Regional Official Plan amendment application does not represent good planning, therefore, recommends that Regional Council not support the Regional Official Plan Amendment application which is before the Joint Board.

The application should also not be supported due to the cumulative impacts of a number of issues:

- Impacts on the Grindstone Creek Wetland Complex.
- The loss of prime agricultural land.
- Impacts to two species at risk.

- Negative impacts to headwaters, wetlands, fish habitat and the overall water balance.
- The Mount Nemo Plateau, where the proposal is located, is an area of great biological and physical diversity which will be negatively impacted by the proposal through the destruction of habitat and connectivity.
- Final rehabilitation will not be completed on either the existing or proposed quarries for 55-65 years from present day with a total lifespan for both quarries of 100-120 years.
- Rehabilitation of the proposed quarry in the form of a lake is inconsistent with the terrestrial-based ecosystem in place today and the proposed enhancements outside of the extraction area do not constitute a net gain of natural heritage features or functions.
- The public has expressed a number of concerns, including concerns about private wells, environmental issues, noise, dust, blasting and the impacts from traffic.
- The proposed quarry is situated within a UNESCO World Biosphere Reserve, and any detrimental impacts to the escarpment lands may lessen the value of this designation.
- Private wells will be impacted by the proposal and there are not sufficient assurances that there will be proper mitigation measures if the proposal is approved.
- Questions regarding the economic benefits and the need/demand for additional mineral aggregate resources remain outstanding.
- Some mitigation measures regarding the unanticipated changes to ground and surface water levels may require extended monitoring and operation which raise a number of questions about the liability and financial risk for the Region.

REPORT

Purpose

The purpose of this report is to provide staff's opinion and recommendation regarding the application to amend the Region of Halton Official Plan (ROP) by Nelson Aggregates Co. (File RQ41A). The application applies to lands on the south side of No. 2 Side Road, west of Guelph Line (Regional Road 1) in the City of Burlington (Attachment #1), and is for the purpose of redesignating the lands from Escarpment Rural Area to Mineral Resource Extraction Area, Greenlands A, and Greenlands B (Attachment #2).

Please note that references are made throughout this report to the Joint Agency Review Team (JART) Report. The JART Report contains detailed analyses of the technical documents submitted by the applicant in support of the subject application and other companion applications and should be read in conjunction with this staff report. The JART Report was distributed to Regional Councillors during the week of February 9, 2009. Nelson's Response to the JART Report (March 30, 2009) has been taken into account in the writing of this report and is presented in Attachment #3.

Background

The proposed new quarry is to be located on Lots 17 and 18, Concession 2, on the south side of No. 2 Side Road in the City of Burlington. There is an existing quarry directly north of the subject lands and across No. 2 Side Road, which is also owned and operated by Nelson Aggregates Co. (Nelson). The existing quarry's licensed area is 218.3 ha, and it has operated since 1953. Nelson

assumed ownership of that quarry in 1983. At the current extraction rate of 2 million tonnes per year, it is estimated that the resource at the existing quarry will be depleted within the next 2-5 years.

Staff reports that have been produced which pertain to the Nelson Aggregate applications since 2004 include:

- Memo to PPWC (January 5, 2005)
- PPW103-06 (May 17, 2006)
- Memo to PPWC (June 25, 2006)
- PPW155-07 (October 11, 2007)
- PPW77-08 (May 12, 2008)
- Memo to PPWC (January 15, 2009)
- LPS12-09 (June 18, 2009).

Applications were received on October 8, 2004, to amend the Niagara Escarpment Plan, for a Niagara Escarpment Commission Development Permit, to amend the Halton Regional Official Plan, to amend the City of Burlington Official Plan, and for a Ministry of Natural Resources Class "A", Category 2 (Extraction Below Water Table) Quarry Licence, for the purpose of permitting the establishment of a licensed quarry operation.

There were two revisions to the applications; the latest submitted in January 2008 (please refer to the JART Report, page 33 for details). The licensed area of the proposed new quarry is 82.3 ha while the extraction area is 51.6 ha. If approved, the proposed new quarry would extend quarrying by approximately 15 years using the same extraction rate (2 million tonnes per year) as the current site. While Nelson is applying for an unrestricted tonnage limit, the company anticipates extracting an average of two million tonnes per year.

The processing plant and stockpiles for the new quarry will be located on the floor of the existing quarry, thereby integrating the existing and proposed quarries. Truck haul routes will remain essentially the same as for the existing quarry. Access to the new quarry will be from No. 2 Side Road, and as operations proceed, tunneling under No. 2 Side Road may be required to provide a connection with the existing quarry.

As with the existing quarry, extraction is proposed to be below the water table, thereby requiring a Class A license under the *Aggregate Resources Act*. Extraction below the water table requires de-watering to allow the quarry floor to remain dry during excavation. As Nelson intends to process rock from the proposed quarry on the floor of the existing quarry, de-watering of both sites would continue until the proposed new quarry is depleted.

Joint Board Hearing

In June 2008, Nelson filed appeals of the applications to the Joint Board and the Consolidated Board scheduled a pre-hearing date for December 2008. The members of the Joint Board panel include two members from the Environmental Review Tribunal (ERT) and one from the Ontario Municipal Board (OMB).

The Joint Board has met with the parties, participants and presenters at several pre-hearings but a hearing date has not yet been set. The Joint Board has dealt with a motion brought by the City of Burlington to define the parameters of the undertaking, to add additional approvals to the matters before the Board, to determine whether or not a Federal Environmental Assessment is required, and to identify which Provincial Policy Statement and Provincial Plans are applicable. As of the date of writing this report, the decision on the motion has not yet been issued. The decision of the Board, when issued, may lead to a supplementary report to reflect the outcome.

The timing of staff reports to the respective Board, Commission and Councils of the Conservation Authority, Niagara Escarpment Commission, City of Burlington, and Region of Halton was decided at a Joint Board pre-hearing conference and subsequently issued as a Board Order.

Conservation Halton has issued their staff report and it was considered at their Board meeting on October 1, 2009. The report is available on their website:

<http://www.conservationhalton.on.ca/ShowCategory.cfm?subCatID=1039>

The staff recommendation was:

“Conservation Halton staff recommend to the Ministry of Natural Resources, Niagara Escarpment Commission, Regional Municipality of Halton and the City of Burlington respectively that the following applications by Nelson Aggregate Co. be denied:

- A Class A licence to permit a quarry below water table pursuant to section 11(5) of the Aggregate Resources Act;
- Amendment to the Niagara Escarpment Plan, pursuant to section 10(3) of the Niagara Escarpment Planning and Development Act (NEPDA) and the Niagara Escarpment Development Permit pursuant to section 25 of the NEPDA;
- Amendment to the Regional Municipality of Halton Official Plan pursuant to section 22(7) of the Planning Act; and
- Amendment to the City of Burlington Official Plan pursuant to section 22(7) of the Planning Act.”

The Board of Conservation Halton unanimously passed each of the recommendations.

The City of Burlington will consider their staff report at their October 19, 2009 City Council meeting.

ROPA 25 – Significant Woodlands

The Region advised the Joint Board that there was an outstanding appeal regarding ROPA 25 and the definition of “significant woodlands”. The settlement with a number of aggregate producers, including Nelson, required that the policy in ROPA 25 regarding significant woodlands must be heard before the commencement of the hearing on the Nelson quarry appeals. Nelson continues to appeal the significant woodland definition and policy, but the other aggregate producers have now indicated their intention to withdraw their appeals. Staff anticipate that the outstanding Nelson appeal will now be dealt with by the Joint Board, in accordance with the terms of that settlement.

The Region of Halton has a set of policies and criteria for identifying significant woodlands within ROPA 25. Forested lands on the Nelson property meet at least two of those criteria for designation. In order for Nelson to proceed with development, Nelson must demonstrate that there will be no negative effects on the proposed quarry property and adjacent areas.

Joint Agency Review Team (JART)

The JART report has been prepared by a Joint Agency Review Team (JART) and summarizes the issues, completeness and merits of the applications as raised by the members of JART over the course of the review (please refer to the JART Report, page 21). The core JART membership included representatives from the City of Burlington, Conservation Halton, Niagara Escarpment Commission, Region of Halton, and the Ministry of Natural Resources.

A JART does not make a recommendation on whether or not the applications should be approved, but rather informs the agencies with decision-making authority on technical considerations. Once the collective work is complete, each JART member agency reviews the merits of the application they are responsible for, on an independent basis, and each in turn considers JART's comments along with agency-specific considerations and public comments prior to making a decision on the respective application. Each agency in turn makes a recommendation according to the specific legislation, mandates, policies, or regulations they are bound by.

In addition, JART received correspondence and input from the general public, Nelson representatives and several public interest groups including the local residents' group Protecting Escarpment Rural Land (PERL). JART also retained peer review consultants within key disciplines to ensure the technical reviews were properly informed.

As previously noted, the JART Report contains analysis and information, which Regional staff accept and which are relied upon in supporting the recommendations of this report.

Planning Policies

The Joint Board has been requested, as per the pending motion, to determine which Provincial Policy Statement applies to the subject application, being the PPS 1997 or PPS 2005. At the time of writing this report the Board had not rendered a decision on this matter. This report therefore addresses both PPS versions. Once the Joint Board renders its decision, a revised report may be necessary.

Provincial Policy Statement (PPS 1997)

The PPS 1997, in place at the time that the original applications were submitted, is intended to promote a policy led system, which recognises that there are complex relationships among environmental, economic and social factors in land use planning.

The preamble to the PPS 1997 states that:

“Section 3 of the *Planning Act* requires that, in exercising any authority that affects planning matters, planning authorities “shall have regard to” policy statements issued under the Act.

Wisely managed growth can result in communities which are economically and environmentally sound, and which meet the full range of needs of their current and future residents. Doing things right the first time can avoid the need for costly remedial measures to correct problems.

The Province’s resources – its agricultural land base, mineral aggregate resources, natural resources, natural heritage resources, water supply and cultural heritage resources – provide economic, environmental and social benefits. The wise use and protection of these resources over the long term is a key provincial interest.”

Section II of the PPS 1997, Principles, states that, among other things:

“Ontario’s long term economic prosperity, environmental health and social well being depend on:

2. Protecting resources for their economic use and/or environmental benefits”

Policies 1.1.3 f) and g) indicate that long term economic prosperity will be supported by optimizing the long-term availability and the use of agricultural and other resources, and planning so that major facilities (...aggregate activities) and sensitive land uses are appropriately designed, buffered and/or separated from each other to prevent adverse effects from odour, noise and other contaminants.

Agricultural resources are dealt with in Policy 2.1, where it indicates that prime agricultural areas will be protected for agriculture with permitted uses being agricultural uses, secondary uses and agriculture-related uses (2.1.1). In Policy 2.1.3, the PPS 1997 indicates that an area may be excluded from prime agricultural areas only for certain matters, including, extraction of mineral resources, in accordance with Policy 2.2 and limited non-residential uses, provided that:

1. There is a demonstrated need for additional land to be designated to accommodate the proposed use;
2. There are no reasonable alternative locations which avoid prime agricultural areas; and,
3. There are no reasonable alternative locations in prime agricultural areas with lower priority agricultural lands.

“Impacts from any new non-agricultural uses on surrounding agricultural operations and lands will be mitigated.” (2.1.3)

Policy 2.1.5 goes on to indicate that in prime agricultural areas, agricultural uses and normal farm practices will be promoted and protected.

Policy 2.2.1 states, “Mineral resources... will be protected for long term use.” Policy 2.2.3.1 requires that as much of the mineral aggregate resources as is realistically possible be made available to supply needs as close to markets as possible. It indicates in Policy 2.2.3.2 that operations and deposits should be protected from activities that would preclude or hinder expansion, continued use or potential future extraction. The policies require rehabilitation and progressive rehabilitation where feasible (2.2.3.5).

In prime agricultural areas, on prime agricultural land, extraction may be permitted provided that rehabilitation is carried out to substantially the same areas and same average soil quality. On prime agricultural lands, complete agricultural rehabilitation may not be required if there is a substantial quantity of mineral aggregate below the water table (2.2.3.6).

In regard to policies associated with Natural Heritage, the PPS 1997 indicates that development and site alteration will not be permitted in significant wetlands south and east of the Canadian Shield and in significant portions of the habitat of endangered and threatened species (2.3.1.a). Policy 2.3.1.b indicates that development and site alteration may be permitted in fish habitat, significant woodlands and significant wildlife habitat if it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the area is identified.

Development and site alteration may be permitted on adjacent lands to 2.3.1.a and 2.3.1.b if it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the area is identified (2.3.2).

Further, the diversity of natural features in an area, and the natural connections between them, should be maintained and improved where possible (2.3.3).

Policy 2.4.1 states that the quality and quantity of ground water and surface water and the function of sensitive ground water recharge/discharge areas, aquifers and headwaters will be protected or enhanced.

Cultural heritage and archaeological resources policies in the PPS 1997 indicate that development and site alteration may be permitted on lands containing archaeological resources or areas of archaeological potential if significant archaeological resources have been conserved by removal or documentation, or preservation on site (2.5.2).

Policy 3.2.2 indicates that contaminated sites will be restored as necessary prior to any activity on the site associated with the proposed use such that there will be no adverse effect.

Part IV Implementation/Interpretation, Policy 2 states that:

“Nothing in this policy statement is intended to prevent planning authorities from going beyond the minimum standards established in specific policies, in developing official plan policies and when making decisions on planning matters, unless doing so would conflict with any other policy. The Provincial Policy Statement is to be read in its entirety, and all pertinent policies are to be applied to each situation.”

Provincial Policy Statement (PPS 2005)

The PPS 2005 was issued under Section 3 of the *Planning Act* and came into effect on March 1, 2005. Part II of the PPS 2005 indicates that it applies to all applications, matters or proceedings commenced on or after March 1, 2005. Section 3 of the *Planning Act*, as amended by Bill 51 on January 1, 2007, requires planning decisions to be “consistent with” the PPS in effect at the time of the decision.

Policy 1.7.1 e) states that long term economic prosperity should be supported by planning so that major facilities (...resource extraction activities) and sensitive land uses are appropriately designed, buffered and/or separated from each other to prevent adverse effects from odour, noise and other contaminants, and minimize risk to public health and safety.

The PPS 2005 states that social and environmental impacts must be minimized (Part IV). Policy 2.1.2 expands on Policy 2.3.3 of the PPS 1997, and states that:

“The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.”

This policy is now more inclusive, recognizing the need for a systems approach to Natural Heritage.

The PPS 2005 does not permit development in significant woodlands and valleylands south and east of the Canadian Shield, in wildlife habitat or in significant areas of natural and scientific interest, unless it has been demonstrated that there will be no negative impacts on the natural features or functions (2.1.4). Development and site alteration are also not permitted in fish habitat except in accordance with provincial and federal requirements (2.1.5), or on lands adjacent to natural heritage features unless there will be no negative impacts on the natural features or their ecological functions (2.1.6).

Policy 2.2 of the PPS 2005 requires planning authorities to protect, improve or restore the quantity and quality of water through various means including using the watershed as the ecologically meaningful scale for planning; minimizing potential negative impacts; identifying surface water features, ground water features, hydrologic functions and natural heritage features and areas which are necessary for the ecological and hydrological integrity of the watershed; and maintaining linkages and related functions among surface water features, ground water features, hydrologic functions and natural heritage features and areas.

The PPS 2005 also contains expanded policy directions related to mineral aggregate resources. The demonstration of need for mineral aggregate resources, including any type of supply/demand analysis shall not be required (2.5.2.1). Extraction shall be undertaken in a manner which minimizes social and environmental impacts (2.5.2.2). Rehabilitation requirements are expanded

by requiring the promotion of land use compatibility and to recognize the interim nature of extraction (2.5.3.1).

PPS policy analysis is included in the individual sections that follow, where appropriate.

Region of Halton Official Plan 2006 (ROP)

The ROP includes the following of relevance to this application:

Planning decisions in Halton will be made based on a proper balance among the following factors: protecting the natural environment, enhancing its economic competitiveness, and fostering a healthy, equitable society. The overall goal is to enhance the quality of life for all people of Halton (Section 25).

To maintain Halton as a desirable and identifiable place for this and future generations, certain landforms within Halton must be preserved permanently. This concept of landform permanence represents Halton's fundamental value in land use planning and will guide its decisions and actions on proposed land use changes accordingly (Section 26).

In Halton's Vision (Section 27), its future landscape will have, outside the settlement areas, two classes of permanent landforms. The first class, which is meant to be maintained in their current form and extent with no or as little displacement or encroachment as possible, consists of the following:

- the Niagara Escarpment;
- environmentally sensitive areas;
- wetlands;
- streams and valley systems; and,
- Ontario and Burlington Bay shoreline.

The second class of permanent landforms (Section 28), to be preserved in large measures so that they will always form part of Halton's landscape, consists of the following:

- farms;
- countryside;
- forested areas; and,
- other open space.

In its vision of planning for Halton's future (Section 31), Halton believes in the development of healthy communities. A healthy community is one:

- that fosters among the residents a state of physical, mental, social and economic well-being (Section 31(1));
- where residents take part in, and have a sense of control over, decisions that affect them (Section 31(2));

- that is physically so designed to minimize the stress of daily living and meet the life-long needs of its residents (Section 31(3); and,
- where employment, social, health, educational, recreational and cultural opportunities are accessible for all segments of the community (Section 31(4)).

Halton recognizes the importance of a sustainable and prosperous economy and the need for its businesses and employers to compete in a world economy. Towards this end, Halton will actively maintain, develop and expand its economic and assessment base through economic development strategies, timely provision of infrastructure, cost-effective delivery of services, strong fiscal management, proactive planning policies, and support for development opportunities that respond to the vision and policies of the Regional Official Plan (Section 32).

The lands for the proposed quarry are located in the Rural Area and are currently designated by the ROP as Escarpment Rural Area and Greenlands B. The goal of the Rural System is to maintain a permanently secure, economically viable agricultural industry, as well as other resource industries, and to preserve the open-space character and landscape heritage of Halton's non-urbanized areas (91).

One of the objectives of the Escarpment Rural Area is to provide for the designation of new Mineral Resource Extraction Areas, which can be accommodated in accordance with the policies of the Regional Official Plan and by amendment to the Niagara Escarpment Plan and the Regional Official Plan (96(5)).

Other applicable Regional Official Plan policies include:

- 107(1) To ensure that as much of the mineral aggregate resources as is realistically possible be made available to supply mineral resource needs as close to markets as possible while having regard to other Regional goals and objectives;
- 107(3) To minimize the impact of mineral resource extraction operations on the Greenlands System;
- 107(5) To ensure the progressive rehabilitation of pits and quarries to appropriate after-use within the time frame of the licence;
- 110(2) Require that all extraction and accessory operations be conducted in a manner which minimizes environmental pollution in accordance with Provincial, Regional and Local standards and requirements;
- 110(3) Require that surface and ground water resources be protected from the adverse impacts of extraction, through appropriate hydrogeological studies and in accordance with Provincial requirements and policies of the Region in consultation with the Conservation Authorities;
- 110(4) Encourage the licensee to carry out an Environmental Impact Assessment for any extractive operations within or near any Greenlands. The purpose of such an Assessment is to consider mitigative measures to protect the function of the Greenlands or its remaining portions and to provide base information to assist in the rehabilitation of the extracted area;
- 110(5) Encourage the progressive rehabilitation of extractive operations;

- 110(6) Consider Extraction Areas as an interim use and encourage the rehabilitation of all such Areas to Greenlands A or B or for agricultural use;
- 110(7) Require an amendment to the ROP for any new Mineral Resource Extraction Areas;
- 110(7.2) Direct new or expanded Mineral Resource Extraction Areas to locate in the Escarpment Rural and Agricultural Rural Areas. Where the proposal includes or negatively affects areas of Greenlands A or B, the proponent is required to demonstrate that the proposal is consistent with the Provincial Policy Statement and the Provincial Greenbelt Plan where applicable and that it will result in a net gain or enhancement to functions or features of the Greenlands System. In this regard, the Region views the protection of Greenlands A as a priority. The net gain or enhancement shall be based on a combination of progressive and final rehabilitations of the proposal and/or other measures initiated by the proponent prior to and/or during the extraction operation;
- 110(8) Proposals for new Mineral Resource Extraction areas require the evaluation of the proposed use based on the availability of mineral aggregates to meet local, regional, and provincial demands at reasonable costs; economic benefits to Halton; impact on and measures to minimize such impact on the natural environment; quality and quantity of surface and ground waters; adjacent land uses; heritage resources or significant geologic formations; and transportation; and evaluation of the proposed rehabilitation plan, and compatibility of the proposed after-use with the goals of the Halton Plan;
- 110(9) Ensure coordination among the Region, Area Municipalities, Ministry of Natural Resources, affected conservations authorities and other agencies in the review and public consultation of proposals for new Mineral Resources Extraction Areas;
- 111(2) To promote and protect Halton's mineral resource industry as an important component of its economic base;
- 112(4) Seek to ensure the availability of mineral aggregate resources in accordance with forecast local, Regional and provincial demands;
- 125(8) The objectives of Greenlands A are to achieve no loss of function or area of Provincially Significant Wetlands;
- 142(4) To contribute to the overall improvement of air quality in Halton's airshed through facility management, land use planning, transportation management, roadway design, operation and maintenance, and other complementary programs.
- 142(8) The objective of the Region is to address the impact of noise, vibration and light on land uses;
- 145(10) Encourage the protection and enhancement of water courses and headwaters areas as an integral component for maintaining natural hydrological processes within a watershed and promote their integration with the Greenlands System;
- 145(17) Consider the impact of development on fish habitat and ensure compliance with the Federal *Fisheries Act*; and,
- 167(6) Prior to development occurring in or near areas of archaeological potential, require assessment and mitigation activities in accordance with Provincial requirements and the Regional Archaeological Master Plan.

Further discussion of these Regional Official Plan (2006) policies is contained in the sections below, as appropriate.

Public Participation

The first public information meeting was held on November 8, 2004, to provide information on the Nelson application, familiarize the public with both the JART process and the decision-making process, identify opportunities for public input, and obtain preliminary comments from the public. The second public information meeting, held on September 21, 2005, provided an update on JART's review of technical studies and obtained public input. The third meeting held February 19, 2009, discussed the JART Report and gathered additional comments from the public. Public involvement in this application process has met Halton's vision as prescribed in Section 31(2) of the ROP.

Several other meetings were held as outlined on page 27 of the JART Report. Comments from the meetings are summarized in Appendix C to the JART Report.

Several main public issues/concerns were expressed in the public comments and are listed here as follows:

- issues with water and private water wells;
- environmental concerns;
- impacts of noise, dust and blasting;
- traffic related issues;
- rehabilitation;
- UNESCO Biosphere Reserve; and,
- "interim use" questions.

Water

- Impacts to water wells
 - quantity (water table depletion and diversion) and quality (contaminant incursion)
 - who is responsible if wells are diminished or depleted;
- Permit to Take Water – no restrictions;
- Declining property values if wells are negatively affected;
- Mt. Nemo water wells are already stressed by the existing quarry;
- Mitigation measures that may run in perpetuity;
- Headwater streams could be lost; and,
- Mitigation of negative effects is not the answer.

Natural Environment

- Preservation of wildlife;
- Trees are important to the health of the community;
- Wildlife corridors, connectivity will be destroyed;
- Destruction of 60,000 trees planted in 1993;
- Destruction of wetlands;
- No substitutes for the original/existing ecosystems;

- Species of Concern – Jefferson Salamander and Butternut tree;
- Prime Agricultural Land contributes to the environment;
- Loss of tributaries of Grindstone Creek; and,
- Plateau includes Environmentally Significant Areas, Areas of Natural and Scientific Interest and Provincially Significant Wetlands.

Noise/Air Quality

- Mechanical and machinery noise;
- Blasting noise;
- Vehicular noise including reverse beepers;
- Excessive dust;
- Dust impacts to human health; and,
- Truck idling.

Blasting

- Structural damage to homes and farm structures;
- Noise;
- Vibration;
- Cumulative effect on residents’ health;
- Declining property values;
- Dwellings closer to the proposed quarry could experience greater damage; and,
- Possible disruption to wildlife breeding habitats.

Traffic

- Trucks – excessive speeds and tailgating;
- Noise;
- Dust;
- Idling;
- Pollution – exhaust; and,
- Danger to pedestrians, cyclists.

Rehabilitation

- Further delay to rehabilitation of the existing quarry.

Existing Quarry

- Cumulative effects of existing and proposed quarry.

UNESCO Biosphere Reserve

- No new quarries or expansions should be permitted;
- Destruction of the environment; and,
- Offends the spirit of this globally recognized designation.

Protecting Escarpment Rural Land (PERL) submitted to the Region a short report on “quality of life” issues (Attachment #4). For the most part, they describe the effects of the aggregate industry on those people living near aggregate operations. Most of their concerns mirror the public input

outlined above and question whether provincial guidelines truly fulfill their mandate to ensure quality of life to nearby residents.

Context – Mount Nemo Plateau

The study area for the review of the application has been identified by JART as the Mount Nemo Plateau (see JART Report page 62, Figure 5.1). The boundaries of the plateau are generally defined by the Medad Valley to the west, Mount Nemo to the east, and the Escarpment Brow. The proposed quarry is found in the centre of the Mount Nemo Plateau area.

The proposed quarry contains a section of the Grindstone Creek Headwaters Provincially Significant Wetland Complex. Elsewhere on the Mount Nemo Plateau, there are Environmentally Sensitive Areas (ESA), provincially designated Areas of Natural and Scientific Interest (ANSI), designated wetlands, and Escarpment Natural Area (see JART Report, page 64, Figure 5.2). The relationship between the quarries (existing and proposed) and these natural areas is inextricably linked. It is for this reason that JART believes the assessment of the quarries' ecological impacts on natural heritage must be evaluated within the context of the Mount Nemo Plateau and its associated natural heritage system.

The application does not meet the intent of Halton's Vision, as expressed in sections 27 and 28 of the ROP with regards to the preservation of the two classes of landforms. The Niagara Escarpment, wetlands and stream and valley systems present on or adjacent to the proposed quarry are permanent landforms which are intended to be maintained in their current form and extent with no or as little displacement or encroachment as possible. The proposal will permanently, adversely impact these landforms, contrary to Halton's Vision (see Natural Heritage section). Farms, countryside and forested areas are permanent landforms to be preserved in large measure so that they will always form part of Halton's landscape. There will be irreversible adverse impacts to these features (through removal and replacement), contrary to Halton's Vision.

Mount Nemo Nursing Home

Mount Nemo Christian Nursing Home is a two-storey, sixty-bed long-term care facility located at 4486 Guelph Line in Burlington serving the community since 1985. It is defined as a sensitive land use by both the PPS 1997 and PPS 2005.

The Home is located approximately 200 metres from both the existing and proposed quarries. PPS 1997 (Policy 1.1.3g) requires planning so that major facilities, such as aggregate activities and sensitive land uses are appropriately designed, buffered and/or separated from each other to prevent adverse effects from odours, noise and other contaminants. Mitigation of adverse effects on the nursing home from the proposal has not been fully demonstrated to date by Nelson.

Natural Heritage

Please refer to pages 61-83 of the JART Report for a full discussion of natural heritage issues.

The Natural Heritage component of the JART Report included the physiographic and ecological setting of the Mount Nemo Plateau area, plants and plant communities, wetlands, woodlands, fish, mammals, insects, birds, herptiles, and species at risk.

Owing to their central location on the Mount Nemo Plateau, both the proposed quarry and the existing quarry present challenges with respect to the protection of headwater wetlands and watercourses, which originate on the plateau. Further, the connectivity of the natural features and functions across the plateau is a critical component of natural heritage systems. There is also a high degree of biodiversity present and a number of rare species.

Wetlands

A series of wetlands exist on the Nelson property that forms part of the Provincially Significant Grindstone Creek Headwaters Wetland Complex. In 2006, Natural Resource Solutions Inc., on behalf of PERL, completed a wetland evaluation and submitted it to MNR. MNR subsequently conducted its own evaluation, which concluded that the wetlands were, in fact, provincially significant as per the Ontario Wetlands Evaluation System. The wetland complex also contains 15 other wetlands, as well as swamps, marshes and 24 wetland vegetation communities.

Two wetlands form part of the Complex in the southwest corner of the Nelson property. Both wetlands are within a Regional Candidate Significant Woodland. Nelson's consultants indicate that these two wetlands should not be classified as provincially significant due to their size, low quality and the limited functions of their features.

MNR identified that the Grindstone Creek Headwaters Provincially Significant Wetland Complex serves a number of important ecological functions, including:

- Water storage;
- As a local north-south corridor for wildlife;
- As a broader landscape level southwest-northeast corridor for wildlife movement across the top of the plateau;
- As a connection between the Medad Valley ANSI, the Provincially Significant Lake Medad Valley Wetland Complex and the Mount Nemo Escarpment ANSI;
- Support for five significant species including a breeding population of the nationally and provincially threatened Jefferson Salamander, the provincially threatened Butternut tree and three locally rare plant species;
- Providing breeding habitat for amphibian populations including Jefferson Salamander, Spotted Salamander, Spring Peeper, Wood Frog, Gray Treefrog, Bullfrog, Green Frog, Leopard Frog, American Toad and Eastern Newt. Wood Duck breeds in the wetland swamps; and,
- In conjunction with the surrounding upland forests, provides habitat for area sensitive forest birds, including Wood Duck, Pileated Woodpecker and Ovenbird.

The Natural Heritage Reference Manual (NHRM) (MNR 1999) is a technical guide for interpreting Section 2.3 – Natural Heritage of the PPS 1997. The NHRM recommends that lands within 120 metres of a significant wetland be considered as adjacent lands. In 2009 the MNR

released an updated version of the Natural Heritage Reference Manual for public comment on the Environmental Registry. The 2009 NHRM continues to recommend that lands within 120 metres be considered adjacent lands.

Nelson must demonstrate that no development or site alteration is proposed within the provincially significant wetlands (PPS 1997, Policy 2.3.1a & PPS 2005, Policy 2.1.4a). Further, for the lands within 120 metres to the wetlands, it must be demonstrated that there will be no negative impact on the natural features or on the ecological functions for which the area has been identified (PPS 1997, Policy 2.3.2 & PPS 2005, Policy 2.1.6). Currently, the extraction footprint shows that the southwest woodland and two Provincially Significant Wetland areas within the woodland are proposed for extraction contrary to the PPS 1997 and PPS 2005. The elimination of the wetlands is also contrary to Policy 125(8) of the ROP.

Although Nelson proposes a 30 metre buffer for the majority of wetlands on the eastern half of the property, the catchment area for two of the wetlands, which extend into the extraction footprint, will be significantly reduced and this could impact the functioning of these wetlands, contrary to the PPS (1997, Policy 2.3.2 and 2005, Policy 2.1.6).

JART's peer reviewer for hydrogeological concerns notes that any decisions regarding the southwest woodland and wetlands have important implications with respect to the footprint of the proposed Nelson Quarry. Nelson's consultant has provided information to demonstrate that the water that supplies the wetlands in the original footprint of the proposed quarry is derived from seasonal surface water flows, that is, the collection of surface runoff. If the flows to a wetland are to be sustained, a significant portion of the catchment area for the wetland must be left in place. In this case, the catchment area of the wetland represents the area that contributes surface water to it.

The southwest woodland and wetlands should be preserved together with a significant portion of its catchment area in order to ensure the long term viability of these features. The catchment area for the southwest woodland and wetlands includes most of the western half of the proposed extraction area. The catchment area represents a significant portion of the revised footprint for the proposed quarry and it is for this reason that the implications of any decisions with respect to the southwest woodland and associated wetlands are likely to be significant with respect to the footprint of the proposed quarry.

Woodlands

The forested portions of the Nelson property and adjacent lands consist of native and plantation communities.

Both the 1997 PPS and 2005 PPS have similar policies regarding development in and adjacent to significant woodlands. The 1997 PPS for example, indicates that development and site alteration may be permitted in significant woodlands south and east of the Canadian Shield if it has been demonstrated that there will be no negative impacts on the natural features or on the ecological functions for which the area is identified (2.3.1 b). The 1997 PPS also indicates that development and site alteration may be permitted on adjacent lands if it has been demonstrated that there will be no negative impacts on the natural features or on the ecological functions for which the area is

identified (2.3.2.). The 1999 NHRM states that the province recommends that adjacent lands in the latter policy are those lands within 50 metres of significant woodlands. This width is recommended since development within 50 metres of significant woodlands has a reasonable probability of affecting the ecological functions of the woodlands. Consideration in recommending the extent of adjacent lands focuses on the protection of the woodland vegetation, the tree species and woodland structure, canopy height, age and closure, projected rooting zones, potential for water table changes, and the influence on tree health from windthrow, sunscald, salting and adjacent uses. Adjacent development or site grading may also introduce undesirable plant or animal species and disrupt wildlife habitats in the woodland. The draft 2009 NHRM recommends 120 metres as adjacent lands for the purposes of implementing the PPS 2005 (2.1.6).

The 1999 NHRM states that the identification and evaluation of significant woodlands is a planning authority responsibility and it provides suggested factors and standards for evaluating the significance of woodlands. Woodlands that meet the suggested standards for one or more of the factors identified within the manual can be considered significant. The factors identified within the 1999 NHRM are woodland size, ecological function, uncommon woodlands, and woodland economic and social values.

A new NHRM (referred to in this report as the “draft 2009 NHRM”) is currently being developed by the Ministry of Natural Resources; the commenting period on the Environmental Bill of Rights web site has recently expired. The draft 2009 NHRM states that to be consistent with the policies respecting development in and adjacent to significant woodlands as cited in the 2005 PPS (Policies 2.1.4b & 2.1.6), planning authorities shall protect significant woodlands by directing development and site alteration away from significant woodlands unless negative impacts can be mitigated and directing development and site alteration away from adjacent lands unless its ecological functions have been evaluated and it is demonstrated that there will be no negative impacts on the feature or its ecological function. With regard to the identification of significant woodlands, the draft 2009 NHRM states that planning authorities should undertake a comprehensive study to identify significant woodlands for their planning area. The manual states that conducting a comprehensive study allows planning authorities to:

- Establish a set of criteria as part of a focused planning process;
- Apply consistent evaluations across the planning area;
- Take into account the physiography of the landscape;
- Allow for the evaluation of woodland function at the landscape level (e.g. providing linkages in a natural heritage system); and,
- Reduce resources needed to confirm site specific details at a later planning stage.

The manual further states that woodlands may be identified as potential or candidate significant woodlands for the purposes of the PPS until appropriate detailed studies can be undertaken at a later planning stage (e.g. development application) to confirm their status. The draft NHRM 2009 identifies recommended evaluation criteria for determining significant woodlands and states that woodlands which meet a suggested minimum standard for any one of the criteria listed should be considered significant. These criteria are size, ecological function, uncommon characteristics, economic and social values.

The Region of Halton has undertaken a comprehensive study of significant woodlands as part of its previous Official Plan update leading to the current Regional Official Plan. As a result of the background study, the Region of Halton established a policy and criteria for identifying significant woodlands within the Regional Official Plan (ROPA 25). Policy 132(2) of the Regional Official Plan states that “it is the policy of the Region to consider all woodlands greater than 0.5 ha in size as being important natural heritage features and candidates for assessment as Significant Woodlands”. Significant woodlands are included as Greenlands B within the current Regional Official Plan and are afforded appropriate policy protection.

Based on the definition of a Significant Woodland as set out in the Regional Official Plan (Policy 277), the forested lands on the Nelson property meet at least one criterion for identification as a significant woodland. The criteria met by the subject woodlands include the size criteria and being located within 50 metres of a headwater creek.

Significant Woodlands are included in the Greenlands B designation in the ROP. Policy 132(5) of the ROP requires that any development proposal that is located partially or wholly within 50m of woodlands 0.5 ha or larger must undertake an Environmental Impact Assessment to identify or refine the boundaries of the significant woodlands on the property and implement measures to protect such significant woodlands in accordance with the Greenland B policies of the Plan.

It is noted that Nelson disagreed with JART’s delineation of the significant woodlands and indicated that it did not meet any known Ontario criteria for provincial significance nor did it comply with the definition of “Woodlands” in the Regional Plan (e.g. hedgerows, nurseries, Christmas trees). Regional staff supports the delineation of the significant woodlands and are of the opinion that the woodlands identified do meet the criteria. In the Regional Plan “Woodland” (Policy 295) is defined as follows:

“WOODLAND means land with at least: 1000 trees of any size per ha, or 750 trees over 5 cm in diameter per ha, or 500 trees over 12 cm in diameter per ha, or 250 trees over 20 cm in diameter per ha but does not include an active cultivated fruit or nut orchard, a Christmas tree plantation, a plantation certified by the Region, a tree nursery, or a narrow linear strip of trees that defines a laneway or a boundary between fields. For the purpose of this definition, all measurements of the trees are to be taken at 1.37 m from the ground and trees in regenerating fields must have achieved that height to be counted.”

The plantations on the Nelson property are not active cultivated fruit or nut orchards, Christmas tree plantations, nor have they been certified by the Region; therefore they are correctly included within the significant woodland category. Further, it is Regional staff’s position that the connecting forests are of considerable width and would not be considered as a narrow linear strip of trees, as in a single line of trees.

As discussed above, based on the definition of a Significant Woodland as set out in the Regional Official Plan (Policy 277), the forested lands on the Nelson property meet two criteria for identification as a significant woodland, based on a size greater than 10 ha and being located within 50 metres of a headwater creek (only one criterion is needed to meet the definition). As part of the ROPA 25 appeals, Policy 277 was appealed by Nelson in conjunction with two other

aggregate producers, Dufferin Aggregates and the Ontario Stone, Sand and Gravel Association, on a site specific basis related solely to its properties. Dufferin Aggregates and the Ontario Stone, Sand and Gravel Association have recently withdrawn their appeals. The settlement conditions require that the deferred Nelson appeal must be addressed and resolved prior to a decision being made with respect to the subject application. This matter will be resolved as part of the Nelson appeals regarding the proposed quarry which is before the Joint Board.

Further it is noted that Nelson in their response to JART, advised that in their opinion the Regional Plan permits extraction within a significant woodland (Greenlands B) subject to Policy 110 (7.2) of the Regional Plan:

“.....Where the proposal includes or negatively affects areas of Greenlands A or B, the proponent is required to demonstrate that the proposal is consistent with the Provincial Policy Statement and the Provincial Greenbelt Plan where applicable and will result in a net gain or enhancement to functions or features of the Greenlands System. In this regard, the Region views the protection of Greenlands A as a priority. The net gain or enhancement shall be based on a combination of progressive and final rehabilitation of the proposal and/or other measures initiated by the proponent prior to and/or during the extraction operation.”

Nelson has stated that the Provincial Policy Statement also permits development within significant woodlands provided there is no negative impact and that the Region of Halton has confirmed that a proposal which meets the “net gain or enhancement” provision in Section 110 (7.2) of the Regional Plan would also meet the test of “no negative impact” found in the Provincial Policy Statement. Staff note, however, that Policy 110 (7.2) requires that it must be demonstrated that a proposal is consistent with the PPS. It is staff’s position that the proposal is not consistent with the PPS and the loss of the significant woodlands will impact the features and ecological functions by their removal. Nelson has not demonstrated a net gain or enhancement relating to the loss of a large portion of the significant woodland, including the plantations and south-western woodland, as the extraction will result in a net loss.

The final footprint proposed by Nelson, if approved, would result in the loss of the entire southwestern section of the significant woodland and approximately 24.4 ha of other portions of the significant woodland, contrary to the PPS 1997, PPS 2005, and the Regional Official Plan.

Significant Wildlife Habitat

The protection of significant wildlife habitat as defined by the PPS 2005 includes areas such as the Mount Nemo Plateau area, which can be considered as ecologically important in terms of features, functions, representation or amount and contributing to the quality and diversity of an identifiable geographic area or natural heritage system. The loss of significant wildlife habitat in this area would be contrary to the PPS (1997, Policy 2.3.1b and 2005, Policy 2.1.4d).

According to the Provincial Policy Statement 1997 and 2005, wildlife habitat means areas where plants, animals and other organisms live, and find adequate amounts of food, water, shelter and space needed to sustain their populations. Specific wildlife habitats of concern may include areas

where species concentrate at a vulnerable point in their annual life cycle; and areas, which are important to migratory or non-migratory species.

According to the 1999 NHRM, the provision of habitat is one of the primary ecological functions of natural heritage features and areas. The protection and management of wildlife habitat is fundamental to the maintenance of self-sustaining populations of wildlife and thus to biodiversity. The Mount Nemo Plateau area should be considered an area of significant wildlife habitat in that it provides habitat to a variety of species as identified below and in the section regarding Environmentally Sensitive Areas (below).

Insects

The assessment of terrestrial insects was limited (as is typical of Ontario environmental impact assessments) to moths, butterflies, dragonflies and damselflies. None of the dragonfly or damselfly species are considered uncommon or rare in Ontario, but nine are considered regionally rare or regionally uncommon. The greatest diversity was found in the marshes on the west side of the property associated with the creek marsh areas.

All the butterfly and moth species are considered common in Halton Region. However, the Monarch butterfly is a species that is in decline throughout North America. The species is considered of Special Concern nationally and provincially, due to the destruction of habitat in their over wintering grounds (mainly Mexico). Other species warranting special concern status include the Giant Swallowtail and the West Virginia White Butterfly, which feeds on Toothwort, found on the upland woodlands on the southern edge of Nelson's property.

Birds

None of the 64 bird species identified on the site are considered globally, nationally or provincially significant. A number, including the Scarlet Tanager, Pileated Woodpecker, and Black-Billed Cuckoo are of conservation concern. Bird habitat, including that of these several species of conservation concern, would be lost if the proposed quarry is approved.

Herptiles

In general, herptiles are considered to be indicators of quality habitat and will show environmental stress when their habitat is degraded. Garter snakes, the only reptile noted in the site inventory, are common in southern Ontario.

Seven amphibian species were documented on site, and none are considered rare nationally or provincially. Spotted Salamanders are considered uncommon in Halton Region.

The nationally and provincially threatened Jefferson Salamander has been noted on site by MNR and Natural Resource Solutions (an environmental consultant). The Jefferson Salamander was found to be breeding just south of the Nelson property. It is considered a Species at Risk under federal and provincial legislation.

Fish

The East Arm of the Mount Nemo Tributary originates on the eastern half of the property and connects the wetlands of the provincially significant wetland complex. It exits the property in the wetland forest community on the southern property boundary. It is intermittent and considered by Nelson's consultants to be contributing to fish habitat downstream. This tributary provides energy and some flow contribution to the downstream fisheries found in the Grindstone Creek. Although a karst feature along this tributary creates a barrier to fish passage upstream directly on to the subject lands, under the *Fisheries Act* this tributary would still be considered as fish habitat, since it contributes to downstream habitat.

Policy 2.3.1.b) of the PPS 1997 indicates that development and site alteration may be permitted in fish habitat if it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the area is identified. Development and site alteration may be permitted on adjacent lands to fish habitat if it has been demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the area is identified (2.3.2). Further, the diversity of natural features in an area, and the natural connections between them should be maintained and improved where possible (2.3.3). Policy 2.1.5 of the PPS 2005 indicates that development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements. Section 35 of the *Fisheries Act* prohibits harmful alteration, disruption or destruction (HADD) of fish habitat without authorization from the Minister of Fisheries and Oceans Canada.

Nelson is proposing to eliminate flows to the West Arm of Mount Nemo Tributary West Branch tributary altogether, following completion of extraction of the existing quarry. Nelson is proposing to rehabilitate the proposed quarry into a lake feature, which would ultimately passively discharge into this tributary in the vicinity of the golf course property boundary. As a result, flows to the upstream portion of the tributary would be limited to runoff only. Unless pumping is continued while the proposed quarry is filling, this tributary and its fisheries could be seriously impacted.

As well, potential East Arm mitigation and monitoring of stream flows would be required in order to protect fish habitat. Mitigation will be necessary in the East Arm to ensure that the downstream fish habitat is not impacted as a result of the quarry proposal.

Other tributaries originating on the Mount Nemo Plateau could be affected by changes to the groundwater table as a result of quarry dewatering. This may impact the quantity and duration of flows to these tributaries.

Should Nelson's proposal result in a HADD, authorization from DFO will be required. Further, the mitigation program would have to ensure continued pumping to the West Arm during operation and rehabilitation of the proposed quarry. As well, potential East Arm mitigation and monitoring of stream flows would be required in order to protect fish habitat. This is further discussed in the Adaptive Management Plan (AMP) section of this report.

Mammals

Each of the ten mammal species listed in the biophysical inventory are considered common in Halton Region and in Ontario, with populations that are widespread and secure. Other species likely include mice, voles and bats. Records for the nearby Mount Nemo Life Science ANSI suggest that the uncommon and Regionally Rare Eastern Pipistrelle Bat is found east of the study area.

Species at Risk

Two species at risk (SAR) have been documented on and/or adjacent to the Nelson property; Jefferson Salamander and Butternut trees. Jefferson Salamander is listed as a threatened species in Ontario and Butternut as endangered. Both receive habitat protection under the Provincial Policy Statement (1997 and 2005) and the *Endangered Species Act* (2007).

The current extraction footprint proposed by Nelson excludes the central woodland on the southern property boundary, the two Jefferson breeding wetlands and the connecting wetlands extending to the north along the east side of the Nelson property - collectively referred to as the eastern wetlands. Nelson must ensure that the proposed extraction does not alter or adversely impact the hydrology and habitat functions of the eastern wetlands, including the Jefferson Salamander breeding habitat.

Further, the *Endangered Species Act, 2007* (ESA) came into force on June 30, 2008. In accordance with this Act and its programs the Ministry of Natural Resources (MNR) in 2009 has proposed a draft habitat Regulation under the new Act. The proposed Regulation will prescribe the habitat of nine species including the Jefferson Salamander. The Jefferson Salamander is known to exist in only a few locations in Ontario. With regard to portions of the draft Regulation affecting the Jefferson Salamander, Halton Region is specifically named in the proposed Regulation. A habitat regulation, if passed, would describe the area that would be protected as habitat under the ESA. The MNR has posted the Draft Habitat Regulation on the Environmental Registry (ER) for public comment and the comment period has now expired. The proposed Regulation would protect wetlands, pools and ponds that are being used by Jefferson Salamanders or that were used in the past 3 years in certain geographic locations.

During a site visit in 2005, JART representatives documented that three Butternut trees had been removed by Nelson from the original extraction area and transplanted to another location on the property. It was also documented that the trees had not been transplanted properly. MNR then directed Nelson to remove the trees to a more appropriate location and to ensure that they were planted properly. As of Summer 2008, two of the three trees appear to have died.

A total of thirteen Butternuts have been encountered on the Nelson Property of which nine lie within the proposed extraction area. Nelson proposes to transplant four of the smaller stems to the south central woodland or some other suitable location on the property. A Butternut management strategy (for MNR approval) is outlined in the Nelson Report on the Adaptive Management Plan.

Halton Regional staff is not satisfied that the impacts from the proposed quarry to the significant wildlife habitat within the context of the Mount Nemo Plateau area have been adequately addressed by the proponent in order to satisfy either the PPS 1997 or 2005.

Environmentally Sensitive Areas

The Mount Nemo Plateau area includes two Environmentally Sensitive Areas (ESAs) currently recognized in the Halton Regional Official Plan as Greenlands B (Policy 130 (1)(a)). The objectives of Greenlands B are to:

- Protect or enhance the diversity of fauna and flora, ecosystems, plant communities, and significant landforms of Halton;
- To maintain or enhance the water quality and natural flow regulation of rivers, streams and wetlands within Halton;
- To provide where appropriate some opportunities for outdoor recreation;
- To contribute to a continuous natural open space system to provide visual separation of communities and to provide continuous corridors between ecosystems;
- To protect significant scenic heritage resources; and,
- To protect or enhance fish and wildlife habitats.

ESA Number 7 Lake Medad and Medad Valley are located to the west of the Nelson property and Mount Nemo Escarpment Woods ESA Number 8 is located to the east. Both of these ESAs have been recently studied as part of the Halton Natural Areas Inventory 2006. (HNAI)

According to the HNAI Lake Medad and Medad Valley support a high diversity of native species. Over 400 native species of plants have been identified within this site. It is also a particularly important natural area for birds, especially those species requiring interior forest habitat. In addition to its high species richness, this area also contains rare plants, butterflies, odonates, herptofauna, birds, and mammals. A large number of plant communities, including some that are provincially rare, also exist within this area. Of note is the fact that this ESA is part of a larger ESA designated by the City of Hamilton. This 500 hectare area straddles the boundary between the City of Hamilton and Halton Region and contains interior forest habitat. This area also contains a Regional Earth Science ANSI. Lake Medad is located within a bedrock channel, which suggests deep erosion by glacial meltwater. Moreover, 10,000 years of pollen records exist within the nud/marl sediment at the bottom of Lake Medad. The wetlands within Medad Valley serve as a groundwater recharge area, significant groundwater discharge occurs in a tributary of Bronte Creek. The surface water quality is also enhanced by the water storage of wetlands in this area.

Recommendations of the HNAI with regard to ESA Number 7 are:

1. This area qualifies as a Halton Region ESA and should be protected from future development within the City of Burlington;
2. Halton Region should consider evaluating the new area NAI-7A as a possible extension of ESA 7 based on the Halton NAI;
3. Linkages to neighbouring natural areas should be created and maintained; and,
4. Future studies should include the monitoring of significant species.

With regard to ESA Number 8, the HNAI states that the Niagara Escarpment is Mount Nemo's most prominent feature. Its cliffs and slopes are among the largest and most prominent in Halton Region. Due to the presence of these features and deep crevices and caves, OMNR has designated the area as a Provincially Significant Earth Science ANSI. There is a high diversity of vegetation communities within Mount Nemo; many of these communities are associated with the Niagara Escarpment and are provincially rare. The species richness within this area is also high. Over 300 native plant species have been recorded in this area. In addition, 77 native bird species, which are interior forest species are also known to this site.

Recommendations of the NHAJ with regard to ESA Number 8 are:

1. This area qualifies as a Halton Region ESA and should be protected from future development within the City of Burlington;
2. Halton Region should consider evaluating the new area NAI-8A as a possible extension of ESA 7 based on the Halton NAI;
3. Linkages to neighbouring natural areas should be created and maintained; and,
4. Future studies should include the monitoring of significant species, especially the bat species.

Halton Regional staff is not satisfied that the impacts from the proposed quarry to the surrounding ESAs and the functions they are providing within the context of the Mount Nemo Plateau area have been adequately addressed by the proponent in order to conform to the Regional Official Plan.

Ecological and Environmental Advisory Committee (EEAC) Report

EEAC found four main difficulties associated with the proposal and specifically with the Adaptive Management Plan (AMP). EEAC notes that the precautionary principle needs to control the Adaptive Management Plan, so that triggers are set more conservatively according to the level of ignorance or uncertainty about the accuracy of the trigger variable. Initial specifications and modifications of trigger points should incorporate buffers in accordance with the precautionary principle so that impacts are prevented, even when the state of the resource is accurately estimated.

The plan specifies that drilling of multiple low-yield wells jointly feeding a cistern will be deemed a satisfactory substitution for a malfunctioning single well. In addition it mandates pre-extraction monitoring and upgrading of the private wells that are most threatened by the quarrying. While this plan attempts to minimize disruptions to the lives of surrounding residents, the proposal does not seem to recognize the impact of the risk of interrupted water supply, disturbances associated with the quarrying, and stresses associated with participation and oversight of the Management Plan. These conditions would represent new and uncompensated impositions on residents surrounding the extension, and would represent a lengthy extension of these stresses for those living near the *present* quarry. Specifically, 1) they must tolerate the pre-extraction intrusions associated with well monitoring and upgrading; 2) they must live with an elevated threat of water supply disruption; 3) their property values may be reduced by this threat and by the disturbances

associated with blasting, noise, and dust; 4) if their water supply fails they will have to accept Company options for well replacement unless they pay for the repairs themselves and successfully pursue reimbursement outside the Management Plan; 5) they may have to tolerate the disruptions and uncertainty generated by well construction or other mitigation efforts that could extend up to a month; 6) since the Plan does not specify how satisfactory water quality would be achieved in a replacement well, it is possible that poor quality water that goes through a complicated post-treatment refinement could be offered as a substitute for a previously simpler supply system.

The monitoring associated with biological triggers in the AMP may only be effective in revealing large negative effects, and only long after they have occurred. For example, monitoring of fish in streams and Vickers Pond specifies sampling every two years in two sites with no methods described. Given the kinds of seasonal, spatial, and inter-annual variations typical for these organismal groups, and the absence of reference sites, the data collected could not statistically detect any but major changes four years after impact. Even intensive fish sampling in relatively stable lakes typically takes 6 years of data to detect doubling or halving of population sizes. The biological sampling for the Eastern Wetland and Southcentral Wetland Complex, though slightly more thorough, would still likely take many monitoring years to recognize change. The Plan's specifications for monitoring of all types needs power analyses to ensure that the sampling is adequate to meet the needs of the monitoring body.

The adaptive management organization does not have assured funding and decision-making capacity independent of the economic condition of the Company (Nelson). Based on the current project description, this AMP will need to continue to function for 50-70 years to oversee the recovery process after extraction is finished. It also needs to be able to direct its resources independent of Nelson's desires if a representative governing body so decides. The resources to see that job through need to be guaranteed before the project begins. Otherwise, the taxpayers and local residents will have to pay all the costs of impact and rehabilitation if the company fails financially or decides to contest its obligations.

Water Resources

Please refer to pages 84-98 of the JART Report as well as Conservation Halton's staff report for a full discussion of water resource issues.

The proposed quarry would involve extraction of aggregate below the water table, which will affect the groundwater and surface water regimes. Specifically, during the quarry operations phase if unmitigated, quarry activities would result in the capture of groundwater (i.e. capture zone) and lowering of groundwater levels some distance outward from the quarry (i.e. zone of influence) as well as the capture of surface water runoff that would have previously contributed to watercourses downstream of the quarry.

During the operational life of a quarry, much of the captured water is discharged to the surrounding area at particular discharge points. Often this results in increased stream flow (over natural conditions). However, the flow is often delivered to the stream shortly following precipitation events to maintain dry conditions within the quarry. After quarry operations, where a lake is proposed as the end use, the quarry would begin to fill with water from the captured surface

water and groundwater. Discharge downstream from the discharge location may be reduced or eliminated depending upon the proposed operating regime and regulatory requirements of the approval authorities. Once filling is complete, a lake is proposed to be established within the quarry and gravity discharge from the lake is anticipated. The final water surface elevation of the lake will be controlled by the elevation of the lowest height of land surrounding the quarry. This location is also the location where gravity based discharge can occur.

Surface Water

Drainage in the vicinity of the existing and proposed quarries contributes to a number of watersheds. The existing quarry is located within the headwaters of both Bronte and Grindstone Creeks.

Discharge from the existing quarry is split between these two watersheds, with approximately 55 per cent of the annual discharge from the existing quarry being discharged to the Bronte Creek and 45 per cent to the Grindstone Creek watersheds. During the operation of the quarry this flow split is planned to continue; however, at the conclusion of quarry operations, Nelson is proposing to terminate discharge from the existing quarry to the Grindstone Creek outlet (which would otherwise require pumping in order to continue). Nelson anticipates that flows from the existing quarry would discharge via gravity from the quarry lake into the Bronte Creek watershed once the quarry lake has filled with water.

Nelson's Permit to Take Water (PTTW) for the existing quarry identifies the maximum amount of takings from the two sumps (Bronte and Grindstone), however, the permit does not prescribe discharge requirements, such as the percent split in discharge to the two watersheds. The permit does require protection of water supplies that were in use prior to the issuance of the PTTW. Nelson's PTTW does not have an expiry date. It is Conservation Halton staff's understanding that Nelson has not been required to obtain a Certificate of Approval for discharge (Section 53, *Ontario Water Resources Act*) which is typically required for quarry operations.

The proposed quarry lands are located within the Grindstone Creek watershed. This proposed quarry area contains a number of tributaries of Grindstone Creek. Since the quarry would capture surface water runoff from these various tributary drainage areas and discharge from the proposed quarry is confined to a single location, the proposed quarry would change the amount of flow that is delivered to each of these tributaries.

The local drainage area contains provincially significant wetlands whose primary water supply is from capture of local runoff. The proposed quarry would alter the drainage areas to a number of these features, contrary to the PPS 1997 (Policy 2.4.1) and PPS 2005 (Policies 2.2.1 and 2.2.2). The general effect of the flow reduction is an earlier drying of the wetland during the spring/summer and a delayed filling in the early fall. The ROP also encourages the protection and enhancement of water courses and headwaters as an integral component for maintaining natural hydrological processes within a watershed and promotes their integration with the Regional Greenlands System (Policy 145(10)). The proposal would be contrary to this policy.

Water Balance

The water balance analysis was developed for the existing and proposed quarry drainage areas and included results for each subcatchment area affected by the extension. The analysis also included evaluation of the water balance for each phase of quarrying and various stages of rehabilitation. The phasing of extraction in the proposed quarry lands could occur over a period of approximately 14-16 years. Six Phases of extraction have been identified and assessed within the water balance calculations.

The water balance calculations also provided an assessment of the annual flow volume differences that would be anticipated to occur at various points in the receiving watercourses. Based on water balance calculations, including an assumption that 50 per cent of the surplus water is used for lake filling, Nelson's consultant has advised that both quarries would be expected to be filled within 40 years following the end of quarry extraction activities. There is potential that the implementation timelines for such projects may be affected by natural variability in precipitation, temperature and other meteorological parameters. The potential impacts of climate change should also be considered with respect to the proposal, based on the range of available modeled climate change impacts and the potential impacts of long term variability. It is necessary to examine the implications of climate change in addition to the historic variation in meteorologic parameters, because the change in climate may be beyond the historic values and trends.

Impacts to Private Wells

The development of the existing Nelson Quarry has had a negative impact on private wells in its vicinity, and it is predicted by Nelson's consultant that the proposed quarry will have further negative impacts on existing private wells. When evaluating a proposed quarry, the potential negative impacts on ground water quality and quantity must be considered and addressed.

A compilation of complaints was prepared with respect to private wells affected by the existing quarry. The consultant summarized the findings, adding that historical information prior to Nelson assuming the quarry in 1983 was limited. Approximately 16 to 23 wells were deepened between 1979 and 1981, and a cistern was added to one well in 1999. In 2003, three homes on the south side of No. 2 Side Road reported a loss of water in their wells (through direct effect of the quarry) and cisterns were installed.

In 2005 and 2006, a survey of private wells in the area was conducted by the applicant. The survey was distributed to 45 homes, 30 of which had their water levels recorded. It should be noted that 3 wells are predicted to be impacted sufficiently by further extraction at the existing quarry such that they will either be replaced or otherwise augmented by Nelson to meet the requirements of the Permit to Take Water of the existing quarry (Table 6.2, page 96 of the JART Report has been amended due to a transcription error by Nelson's consultant – the original Table showed 6 wells being affected). The 2008 Addendum Report also indicated that private wells (7 in total) that would have greater than 25 per cent relative reduction of the water column height would be augmented by Nelson under the current water well response program.

It should be noted that the new quarry would extend the operational life of the existing quarry, thereby postponing the filling and rehabilitation, which in turn could delay the recovery of the local water table adjacent to the existing quarry and extend related impacts on private wells.

JART identified numerous issues rising from the updated evaluation of potential impacts to private wells, which are detailed, on page 98 of the JART Report. The points of concern identified within this section are significant. The number of wells in this area is comparable to a local community such as Kilbride and well impacts cannot be taken lightly. Some points for consideration include:

- more information is required concerning potential impacts to individual wells;
- the impacts on individual wells of a 10% reduction in column height is unknown;
- water quality issues are not fully addressed;
- it is not indicated, for those wells with predicted impacts of 10% or less, whether it is feasible to deepen wells or whether deepening can be relied on as a universal remedy for water quantity or quality issues; and,
- urban services are not permitted outside the Urban Area, hence mitigation measures for affected wells are limited.

The Regional Health Department requests that all outstanding requirements pertaining to the groundwater model be addressed to the satisfaction of the JART peer reviewer.

The PPS 1997 (Policy 2.4.1) requires that the quality and quantity of ground water and surface water and the function of sensitive ground water recharge/discharge areas, aquifers and headwaters will be protected or enhanced. The PPS 2005 (Policies 2.2.1 & 2.2.2) requires planning authorities to protect, improve or restore the quantity and quality of water through various means including using the watershed as the ecologically meaningful scale for planning; minimizing potential negative impacts; identifying surface water features, ground water features, hydrologic functions and natural heritage features and areas which are necessary for the ecological and hydrological integrity of the watershed; and maintaining linkages and related functions among surface water features, ground water features, hydrologic functions and natural heritage features and areas.

The ROP also addresses, through Objective 144(3), the need to maintain, protect and enhance the quality of ground water and surface water and through Policy 144(5), to support the protection of water quality and quantity, both rate and volume.

Impacts to private wells cannot be categorized as minimal and although it may be possible to mitigate most effects, it is uncertain what the long term effects will be on individual private wells.

Further discussion regarding Water Resources, in particular potential impacts on private wells, is included in the AMP section of this report.

Karst

Please refer to pages 99-102 of the JART Report for a full discussion of karst issues.

Karst features are present on the lands adjacent to the proposed quarry. The presence of karst features would not significantly affect the impacts that the proposed new quarry would have on water resources in the area. The JART peer reviewer has confirmed that the level of understanding with respect to karst features is sufficient provided that karst receives further consideration under the AMP. Proper measures must be in place to mitigate any impacts to the regional water resources should karst features be encountered. Neither the PPS nor the ROP deal specifically with karst features.

Archaeology

Please refer to pages 103-104 of the JART Report for a full discussion of archaeological issues.

As a condition of approval for development or site alteration of areas of archaeological potential, a municipality or approval authority will require a proponent to undertake an archaeological assessment.

The Ministry of Culture has reviewed the submitted reports, Archaeological Assessment (Stages 1, 2 and 3) Nelson Aggregates Quarry Expansion, August 2003 and Archaeological Assessment (Stage 4) Nelson Aggregates Quarry Expansion, August 2004, prepared by Archaeologix Inc.

A letter from the Ministry of Culture confirmed that they had no further concerns for the archaeological sites documented within the subject property. The archaeological studies and mitigation processes prepared for the subject site meet the requirements of the PPS 1997 (Policy 2.5) and 2005 (Policy 2.6) and the ROP (Section 167(6)).

Agriculture

Please refer to pages 105-106 of the JART Report for a full discussion of agricultural issues.

The proposed quarry is situated on prime agricultural land (Canada Land Inventory Class 1A and 1B soils). The PPS 1997 (Policy 1.1.3f) and PPS 2005 (Part IV) stress that long term economic prosperity will be supported by optimizing the long-term availability and the use of agricultural and other resources.

The MHBC Planning Justification report in support of the Nelson application indicates that the subject area contains abundant high quality aggregates below the water table and rehabilitation back to agricultural land is unfeasible due to the depth of excavation. The PPS (1997, Policy 2.2.3.6 and PPS 2005, Policy 2.5.4.1) indicate that complete rehabilitation back to agricultural land is not required if there is a substantial quantity of mineral aggregates below the water table warranting extraction, and the 2005 policy also does not require complete rehabilitation where the depth of planned extraction makes restoration to pre-extraction agricultural capability unfeasible.

JART requested that Nelson submit an Agricultural Impact Assessment for the subject lands. The report was reviewed and commented on by the Region of Halton, the City of Burlington, Niagara Escarpment Commission and the Halton Agricultural Advisory Committee (HAAC).

The Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has no further comments or concerns regarding the approval of the applications from an agricultural standpoint as the proposal conforms to the policies of the PPS 1997 and PPS 2005. OMAFRA notes that there may be planning concerns or interests of other agencies that should be taken into consideration, in addition to any municipal planning considerations.

The Halton Agricultural Advisory Committee (HAAC) has advised Regional Council that concerns still remain over the loss of Prime Agricultural Land and the potential for the quarry operation to impact on local wells. Based on the impact to and removal of Prime Agricultural Land, HAAC has recommended to Council that the application should not be approved.

The ROP stresses that agriculture, agricultural operations and the agricultural industry are important to Halton. The goal of the Rural System in Halton is to maintain a permanently secure, economically viable agricultural industry, as well as other resource industries, and to preserve the open space character and landscape heritage of Halton's non-urbanized areas (Section 91). "Other resource industries" could include aggregate operations in the Escarpment Rural Area designation by amendment to the ROP. Although Nelson has attempted to design the quarry to preserve the open space character of the area, by virtue of the size and type of operation and the loss of agricultural operations on the proposed quarry site, the proposal is contrary to the ROP.

The objectives of the Halton Region Official Plan are clear that Prime Agricultural Lands are to be protected for agricultural purposes. As the Nelson application proposes a use that would have the effect of permanently removing some of the best agricultural lands in the Region, an alternative location for the proposed use in an area of lower agricultural capability should be considered. Excellent agricultural lands that are in close proximity to urban areas are a priority to the Region and the subject lands are among the best in this regard.

Traffic

Please refer to pages 107-110 of the JART Report for a full discussion of traffic issues.

An updated (May 2009) Traffic Impact Study was submitted as requested. The report included 2008 road and 2004-2008 truck data. Road traffic data shows no change in daily traffic along Guelph Line between 2005 and 2008. Daily truck traffic showed an increase of 8 per cent between the 2005 and 2009 studies. This increase in volume is not considered significant.

A collision history for Guelph Line, between No. 2 Side Road and Dundas Street was prepared by Regional staff in response to the concerns of residents. Guelph Line is a Regional Road and built for the purpose of carrying truck traffic. The number of trucks using Guelph Line has increased over the last five years but this section has operated within expected parameters. Capital improvements have been made to the section of Guelph Line between No. 2 Side Road and Dundas Street. Guelph Line was reconstructed just north of Dundas Street in 2002 to improve the approaching sight lines through knoll reductions. The existing southbound sight lines approaching Dundas Street are at least 400 meters and are considered adequate based on provincial standards. Also, based on the most recent traffic counts (Nov. 2008); the Guelph Line/No. 2 Side Road intersection does not fulfill the minimum requirements to warrant traffic signals.

It should be noted that, according to the Traffic Impact Studies, the number of trucks that will be using Guelph Line will be approximately the same as the existing quarry and there should be no increase in the number of trucks due to the new quarry.

Residents' concerns included truck idling before 6:00 am and safety issues, including speeding. Although Nelson is not directly responsible for the safe driving of their contracted truckers, Nelson has a corporate obligation to ensure that truck safety/driving practices are addressed through their contract. Nelson's offer to form a Community Liaison Committee could incorporate truck traffic safety as part of its mandate. The City of Burlington administers the Idling By-law through By-law enforcement and speeding is a law enforcement issue.

Regional staff has reviewed the numerous studies and have no further concerns with operational issues.

Noise

Please refer to pages 111-112 of the JART Report for a full discussion of noise issues.

According to the study submitted by Nelson's consultant, adjacent lands including the residences, the new subdivision and the nursing home are all within the acoustic zone of influence of the proposed quarry. The study established sound level limits for noise produced by the proposed quarry at the nearby residential receptors based on the applicable MOE Noise Guidelines. Noise control measures to bring noise levels into compliance with those guidelines were recommended where the levels were exceeded. Overall, ambient noise for residences along No. 2 Side Road is dominated by man made noise from the existing quarry operations and traffic.

Nelson has verified that the JART peer reviewer's as well as their own consultant's recommendations will be incorporated as a note in the Aggregate Resource Area (ARA) site plans. These include an annual acoustical audit for every year the quarry is in operation as well as a review of the site to verify that all of the recommended noise control measures for the quarry are in place. The audit will ensure that the applicable MOE sound level limits are being met at off-site residences around the site, that the quarry equipment present during site visits satisfies the allowable noise emissions specified and that the construction equipment present during the site visits satisfy the noise emission requirements for construction equipment as per the appropriate standards.

Air Quality

Please refer to pages 112-114 of the JART Report for a full discussion of air quality issues.

JART's peer reviewer has determined that the Air Quality reports submitted by Nelson's consultants have properly identified and described key emission sources relative to the applicable best practices and standards. It is recommended that a condition be included on the ARA site plan or through other means such as the Adaptive Management Plan requiring the implementation of a Best Management Plan, including a Dust Management Strategy. This should include specific

triggers, record keeping, monitoring and actions to be followed by operators to control dust at the site. If such a plan is implemented and adhered to, including continuous improvement as the plan evolves, the dust levels generated by quarry operations should not exceed provincial air quality criteria. At this time, it is unclear whether Nelson will be required to obtain a new Certificate of Approval from the MOE. This may be decided through the Joint Board process.

Regional Health Department

The following information respecting health impacts associated with fine particulate matter (PM_{2.5}) and coarse particulate matter (PM₁₀) is presented as background for Health's comments. It is commonly understood that there is no level of exposure to PM₁₀ and PM_{2.5} that is without negative health impacts. Many health studies have demonstrated that short-term increases in air levels of PM₁₀ and/or PM_{2.5} are associated with an increase in a broad array of negative health impacts including an increase in heart attacks and asthma.

Several comprehensive studies have demonstrated that long-term exposure to PM₁₀ and/or PM_{2.5} can have a significant impact on public health. For example, a long-term study, which followed 1.2 million adults in the United States over a 16-year period, found that for every 10 ug/m³ increase in air levels of PM_{2.5} in a community:

- Deaths from all causes increased by 4%;
- Deaths from cardiopulmonary disease increased by 6%; and,
- Deaths from lung cancer increased by 8%

JART's peer reviewers advise that predicted dust levels are reasonable if all of the best practices suggested by Nelson's consultant are followed, but maintain that a Best Management Plan needs to be developed. The Health Department supports this view.

The Health Department notes that it is not clear if the Air Quality Assessment includes particulate emissions from the asphalt plant and that the cumulative effect of the total Nelson operations in the area should be assessed and considered. The Health Department advises that this issue should be clarified.

There are a few ways in which the proponent could estimate background air levels of PM_{2.5} for the area and the department believes it is important for this to be done. The Air Quality Assessment predicts a maximum 24-hour air level of 17 ug/m³ for fine particulate matter (PM_{2.5}) under a worst case scenario in a few locations around the proposed quarry with maximum air levels of 5 and 10 ug/m³ affecting properties that are up to 3500 meters away from the proposed quarry's boundary. While these air levels are well below the CWS for PM_{2.5} of 30 ug/m³, they are not insignificant given the air levels at which health impacts occur and given the background air levels in southern Ontario.

The CWS is an ambient air standard that applies to the cumulative levels of PM_{2.5} in the air. Therefore, the proponent must add background air levels of PM_{2.5} to the predicted air levels of PM_{2.5} in order to determine if the quarry would be in compliance with the CWS for PM_{2.5}. Overall, any amount of particulate matter should be important enough to assess health impacts,

even if properties are as far away as 3500m from the quarry boundary. The Health Department would like to see a frequency analysis conducted for PM_{2.5} to understand how frequently air levels can be expected to approach the maximum air levels.

The peer reviewers advise that dust levels are reasonable if all of the practices recommended by Nelson's consultant are followed. This may be the case, but without addressing the issues related to the asphalt plant and background air levels, this has not been demonstrated.

It is an objective of the Region, through Section 142(4) of the ROP to contribute to the overall improvement of air quality in Halton's airshed through facility management, land use planning, transportation management, roadway design, operation and maintenance, and other complementary programs.

Blasting

Please refer to pages 114-115 of the JART Report for a full discussion of blasting issues.

The applicant's consultant identified, and provided an interpretation of, the Ministry of Environment's (MOE) guidelines that deal with ground-borne vibrations and air-borne noise from blasting activities. The report also addressed the likely impacts of blasting on structures and water wells based on appropriate standards. The report concluded that the majority of the proposed new quarry may be excavated using the blast parameters used in the existing quarry. JART peer reviewers agree with the methodology and calculations used.

The consultant's analysis is sufficient to demonstrate that blasting, in conformity with MOE guidelines can be conducted within the proposed quarry. A blasting plan and details dealing with monitoring and complaint resolution procedures for the proposed quarry should be included in the notes to the ARA site/operational plan.

Rehabilitation

Please refer to pages 116-117 of the JART Report for a full discussion of rehabilitation plan issues.

The rehabilitation plan, as submitted by Nelson, proposes that 48 ha of the 51.6 ha extraction area be rehabilitated to a lake feature. The proposed after uses include conservation and passive and low intensity recreation use.

The PPS 1997 (Policy 2.2.3.5) requires progressive rehabilitation where feasible and the PPS 2005 (Policy 2.4.3.1) indicates that rehabilitation to accommodate subsequent land uses shall be required after extraction and other related activities have ceased. Progressive rehabilitation should be undertaken wherever feasible.

Both the Regional Official Plan (Policy 110(6)) and the City of Burlington Official Plan consider extraction areas as interim uses. The ROP encourages the progressive rehabilitation of extractive operations ((Policy 110(5)) and it is a policy to encourage the rehabilitation of all such areas to

Greenlands A or B or for agricultural use (Policy 110(6)). It is important to note however that this area is part of a terrestrial based ecosystem consisting of land based features and functions. To replace a naturally occurring land oriented system with an aquatic or lake-based ecosystem is not in keeping with the natural features and functions of this area. Further, the current list of features identified as Greenlands A and B includes floodplains, watercourses, wetlands and the shoreline of Lake Ontario (among other features) but artificial lakes as such are not included in the present list of Greenlands A and B features.

Nelson's stated goal for rehabilitation is a net gain of environmental features on the site. Regional staff, based on JART analysis, is of the opinion that the current extraction footprint for the proposed quarry will result in a deficit of environmental features and functions. In particular, the destruction of the southwest woodland and Provincially Significant Wetlands associated with the Grindstone Creek Headwaters Complex represents a significant loss of features and functions, as well as connectivity within the Natural Heritage System. Proposed enhancements outside of the extraction area do not constitute a net gain. Staff are not aware of any information submitted by Nelson that provides evidence that the functions performed by the provincially significant wetlands proposed to be removed are replaced or even increased (net gain) with lake based features and other components of the rehabilitation plan. Species currently utilizing wetlands within the proposed extraction area are not guaranteed to remain on the landscape given the proposed remediation scheme.

JART and Regional staff do not agree with Nelson's assumption that the proposed use, especially in conjunction with the existing use, is an interim use. The existing quarry began extraction activities in 1953. Progressive rehabilitation of the existing quarry, according to Nelson, is ongoing and will be completed except for the area required for processing and shipping. Nelson also states that final rehabilitation of the site will only be delayed by 15 years (the estimated time to extract the resource from the proposed quarry). It would seem, however, that a certain amount of time would be required for final rehabilitation of the existing site, full rehabilitation of the proposed site, and, as both sites are to be flooded, an extended period of time before rehabilitation of both sites is completed. It was estimated by Nelson's consultant that the time required to flood the existing and proposed quarry would be about 40 years. Since the aggregate licence is not surrendered until final rehabilitation is complete and the lands dedicated to a public agency and converted to parkland/public use, it will take multiple decades for the surrounding community to utilize the area for recreation.

Consequently, the application does not conform to the ROP's policies regarding rehabilitation.

Environmental Commissioner of Ontario

According to the Environmental Commissioner of Ontario (ECO) (2006/2007 Annual Report – Reconciling Our Priorities), “the aggregate industry and provincial government also take the position that pits and quarries are an interim use because sites are to be rehabilitated into productive uses”. The ECO goes on to say that “sites are rarely returned to their original condition. If a quarry has gone below the water table, the site will be permanently flooded, resulting in a man-made lake. Some quarries will require manipulation of water levels in perpetuity. The term ‘interim’ also suggests ‘short term’ but the impact of aggregate operations on

the environment and communities is rarely that. The Greenbelt Task Force report on aggregates noted that most existing quarries in the Greenbelt Plan Area are more than 50 years old. Adding the years needed to complete the necessary rehabilitation, land used for a quarry could be unavailable for any other use for many decades. It has been observed that “no reasonable person could consider this length of time an ‘interim’ use”.”

Recommendation 3 from Reconciling Our Priorities states:

- “The ECO recommends that the provincial government reconcile its conflicting priorities between aggregate extraction and environmental protection. Specifically, the province should develop a new mechanism within the ARA approvals process that screens out, at an early stage, proposals conflicting with identified natural heritage or source water protection values.”

Adaptive Management Plan

Please refer to pages 118-127 of the JART Report for a full discussion of Adaptive Management Plan issues.

A bedrock quarry, particularly one that is large and below the water table such as the Nelson Quarry, involves complexities associated with not only day to day operations, but also with changes in surface and groundwater regimes and their impacts on the downstream habitats both during operation and in the years until rehabilitation is completed. In addition, the climate of Southern Ontario is not static; climate change is occurring and will continue in the future with unknown effects. While the particular suite of issues relating to the construction, operation and rehabilitation of a quarry by Nelson can be characterized to a certain degree from the experience of the existing quarry and through scientific study of the conditions of the site, it is understood that unforeseen effects may reasonably be anticipated to arise in the future. It is therefore important to ensure that these unknown factors can be addressed in the long term thereby ensuring that possible mitigation strategies adapt to changing conditions (JART Report, page 118).

Most aggregate operations are subject to a large number of site plan conditions. These conditions normally include responsibilities by the operator to monitor the potential negative impacts of a quarry. More recently, however, uncertainty in a quarry operation has been addressed through an additional site plan condition that requires compliance with an Adaptive Management Plan (AMP). The use of AMPs arose because of the need to ensure that aggregate operations, along with their inherent complexities and long project duration, suitably address the requirements of Provincial and municipal interests such as those detailed in the Provincial Policy Statements and other applicable legislation.

AMPs deal with such subject matters as the protection of natural features, groundwater quality and quantity and water wells. Details that may also be included are:

- features to be protected;
- target setting and monitoring requirements;
- mitigation/contingencies should unanticipated impacts occur;

- a requirement to undertake regular, periodic reviews of the AMP throughout the life of the operation; and,
- alteration to the project if required, should unanticipated impacts arise.

Nelson has proposed to develop an AMP as part of its applications for the proposed quarry. They have submitted several documents in this regard, but JART felt that the most recent iteration of their AMP lacked the precise and prescriptive wording required to define the implementation of mitigation of potential quarry effects. Notwithstanding these limitations, the AMP report submitted could provide a starting point for the development of a complete AMP should the quarry be approved. Pages 122-123 of the JART Report detail some of the proposed key components and measures of Nelson's AMP.

JART's review of Nelson's AMP identified several limitations that will need to be addressed:

- precise and prescriptive wording is required;
- triggers for actions and mitigation need to be specifically detailed;
- specific monitoring actions and triggers are required to implement mitigation measures to protect the Provincially Significant Wetlands;
- identify, to the greatest degree possible, a range of possible scenarios and technical problems that might reasonably be encountered in the future, based on the evidence available and the need to embrace the precautionary principle. Commitments to actions for each of the scenarios should reflect best management practices.

The Regional Health Department is in support of the JART peer reviewer's response to the revised report (Version I, dated January 2008) on the Adaptive Management Plan for Water Resources and Ecological features at the proposed Nelson Aggregate Company Extension. The Health Department supports the JART peer reviewer request regarding strengthening the qualification for the mitigation measures that was provided by the applicant in the Revised Adaptive Management Plan (AMP), that the AMP should demonstrate the effectiveness of the mitigation measures prior to the development of the quarry extension.

The Health Department further supports the JART peer reviewer comments that the revised AMP clearly identifies private wells as a feature that is to be protected. In addition to this observation, the Health Department advises that the Region should enter into a well disruption agreement with the applicant even in light of the Adaptive Management Plan.

It is noted that the AMP contends that the southwest woodlot and wetlands should not be included as part of the PSW Complex. Therefore, the Region agrees with JART's assessment that the Report on an Adaptive Management Plan is contrary to the PPS 1997 (Policy 2.3.1a) and PPS 2005 (Policy 2.1.3b).

The final AMP should be included by reference in the ARA Site Plan in order to be enforceable. Implementation of an AMP may also require that a separate legal agreement be prepared to enforce the requirements of the AMP, including a long term funding arrangement. Any and all impacts of the proposed quarry must be addressed and borne by Nelson to ensure the public and agencies are not put at financial risk.

Economic Impact

The policies of the ROP state that it is an objective of the Region to “protect from incompatible land uses and conserve mineral resources as a non-renewable natural resource for future use” and “promote and protect Halton’s mineral resource industry as an important component of its economic base” (Policies 111(1) & 111(2)). This policy direction is consistent with the policies of the PPS 1997 (Section II and Policies 2.2.3.1 & 2.2.3.2) and PPS 2005 (Policy 2.5.2.4).

Nelson’s existing quarry in the City of Burlington has been in production since 1953 but purchased by Nelson in 1983 and employs 48 people. Aggregates have contributed monies to Halton Region through the fees paid under the *Aggregate Resources Act*. The fee payable to the Region is 3/23 of 11.5 cents per tonne of aggregate removed from a site on an annual basis. According to a report on the economic benefits of the proposed quarry commissioned by Nelson, this will generate approximately \$27,000 in Aggregate Licence fees annually paid to Halton. Nelson pays City taxes of about \$78,000 annually and Regional taxes of about \$95,000 annually. The Region’s peer reviewer, Hemson Consulting, notes that the tax estimates include the existing quarry, as it will continue to be part of the operation (Peer Review of Report by Altus Group Economic Consulting Regarding the Proposed Nelson Quarry Extension, June 8, 2009).

The proposed quarry is viewed by Nelson to be an extension of the existing quarry. The new quarry is proposed as the existing supply will be exhausted within 2-5 years. If the proposed quarry is not approved, it is uncertain whether the existing quarry would close or be used for other purposes, possibly resulting in the loss of jobs.

Aggregate producers indicate that having the source of aggregate supply close to market is critical to ensuring that the cost of transporting the material to the market is kept to a minimum. The proposed quarry is close to the GTA West market and utilizes Regional, Local and Provincial roads. The Region’s peer reviewer of the Nelson economic benefits report notes that, while in theory there could be a cost advantage to the City and Region because of proximity of the resource to markets, no factual information is provided such as the differences in the delivered price of aggregate from other quarries to various locations in the Region.

Indirect financial benefits include a local supply of building materials used by the Region for roads and other construction, and voluntary contributions to the community at large (approx. \$75,000 per year). The Region’s peer reviewer notes that the voluntary contributions, because of their inherent nature, require that they be treated as a much less certain benefit than taxes or fees.

About \$136,000 is generated in education taxes. The economic report also claims that portions of the estimated \$3.6 million in annual wages earned by quarry employees and \$1.3 million earned by the site preparation workers is spent locally by those workers. It is not noted whether any of the workers live in Halton Region. Portions of the \$7.8 million on operating supplies and \$3.2 million on trucking services are spent locally. Actual figures for those “portions” are not given.

The economic report claims that 500 additional outside workers, who provide contracted services to the quarry operation, will be generated. With this figure, there is a large economic benefit that

is implied, but the Region's peer reviewer adds that there is no basis or supporting data provided for this expectation.

The economic report claims that the GTA West (west of Yonge Street to the westerly boundary of Burlington) is currently not self-sufficient in terms of crushed stone and that "imports" have increased from 20% in the latter 1980's to almost 50% in the past two years. The demand for crushed stone has been about 14 million tonnes on average per year for the past 22 years. Three scenarios are given for future demand levels, but the overall conclusion is that the existing licensed reserves of crushed stone in the GTA West would fall short of the 20-year need, depending on the extent to which imports vs. local production plays a role. The report states in its conclusion that:

"Given the long planning timeframes discussed previously to get new sites into production and potential for higher than expected demand levels and/or potential disruptions to supply, including additional production cuts by current quarry operators in order to extend their operating years, the local supply situation in the GTA West with respect to crushed stone can already be characterized as critical."

Supply constraints could also result in additional upward pressure on the price of crushed stone in the GTA West. If so, this would have flow-through implications for the cost of construction work, and a negative financial impact on the residents and governments in the GTA West, including Halton Region. (The Market for Crushed Stone in the GTA West and Economic Benefits of the Proposed Nelson Burlington Quarry Extension, Altus Group, December 2, 2008).

The Region's peer reviewer questions whether the concept of "imports" and "exports" is appropriate and that even if they are, does the location of the Nelson quarry very close to markets outside the GTA West area have any specific bearing? For example, what share of the Nelson quarry's production is currently used within the GTA West and elsewhere and will this change in the future?

While the conclusions above are perhaps theoretically possible, they are unlikely to occur unless no additional local capacity is brought on stream and no additional "imported" crushed stone is available. Since neither of these two eventualities was demonstrated to be likely, the conclusions are not considered to be well-supported, according to the peer reviewer.

The peer reviewer's conclusions are:

In the absence of analysis that better reflects the future demand in the trade area served by the Nelson quarry and the likely future supply within that area, the need on the basis of supply shortfalls for an extension of the quarry is not clear.

The peer reviewer also raised issues that were not addressed in the Economic Report. The report argues that the GTA West will have a shortfall in crushed stone equivalent to at least four years' demand during the next 20 years. This argument is founded on the premise that the GTA West area operates through a combination of internal trade as well as imports from and exports to

adjacent markets. It would be more relevant if the analysis was undertaken in the context of the supply/demand situation in the immediate area actually served by the Nelson quarry.

The report also did not examine whether, aside from the proposed Burlington quarry extension, there is any potential additional supply within its trade area that is likely to come on stream in the next 20 years.

The report did not consider the effect on property values in the vicinity of the quarry which could be affected by the quarry extension. If property values stagnate or are lowered, taxes paid to the upper and lower tier municipalities would diminish.

Because the report concerns the extension of an existing quarry operation, it is important that the analysis be undertaken in a way that identifies the positive economic differences between the situation with and without the extension. It is also important that the economic benefits analysis take into account costs that may partially or fully offset benefits such as:

- the cost to municipalities for wear and tear on the road systems; and,
- the potential reduction in assessed values of properties:
 - the assessment of properties of the expansion area would be eliminated; and,
 - the assessment of properties in the vicinity of the quarry may be depressed because of the negative effects on values of the heavy volumes of truck traffic, noise, dust and exhaust fumes.

With many unanswered questions regarding the economic benefits and need/demand for additional mineral aggregate resources, Regional staff is of the opinion that the proposal does not sufficiently address Policy 110(8) (a) and (b) of the ROP.

Contaminated Sites

Ontario Regulation 153/04 of the *Environmental Protection Act* requires that prior to changing a property to a more sensitive use, a Record of Site Condition be filed. The proposed quarry site will be changing from an industrial use to a parkland use through rehabilitation of the quarry site. An RSC will be required as part of any Regional Official Plan Amendment. In addition, the PPS 1997 (Policies 3.2.1 & 3.2.2) and PPS 2005 (Policies 3.2.1 & 3.2.2) require quarry sites to be free of contamination prior to rehabilitation of the site.

Conclusion

The decision on the ROPA application rests with the Joint Board. The Joint Board, or the Provincial Cabinet if the Joint Board decision is reviewed, will ultimately make the decision.

Staff is, therefore, recommending a position to Regional Council for endorsement regarding the Regional Official Plan Amendment application, which will be forwarded to the Joint Board.

The recommendations made herein are based on the current submitted Site Plan (January 2008) and it should be noted that the Joint Board process will include further discussions among all the parties involved regarding key issues.

The main issues, from a Regional and Provincial standpoint are as follows.

1. The extraction footprint currently includes two Provincially Significant Wetlands, which are a part of the Provincially Significant Grindstone Creek Wetland Complex. Removal of these wetlands, therefore, does not have regard to the policies/is not consistent with the policies in the PPS 1997 and PPS 2005 and does not conform to the policies in the ROP.
2. Prime agricultural land, close to several urban areas, will be lost forever. The objectives of the Halton Region Official Plan are clear in that prime agricultural lands are to be protected for agricultural purposes.
3. The Adaptive Management Plan, as is currently written, is incomplete and would need to be expanded. Legal agreements need to be in place to enforce the requirements of the AMP. Issues exist with private wells being affected, cumulative effects of two large quarries operating at once without the benefit of full rehabilitation of the existing quarry, and the spectre of perpetual pumping or other mitigation measures that would need to be complete in perpetuity.
4. Some mitigation measures regarding unanticipated changes to ground and surface water levels may require extended monitoring and operation which raise a number of questions about the liability and financial risk for the Region.
5. Two Species at Risk are found on or adjacent to the proposed quarry. Although the regulations under the *Endangered Species Act* (ESA) are still in draft form, consideration for the implications of the extent of protection to Jefferson Salamanders must be considered. In addition, consideration must be given to the presence of Butternut Trees on the property, nine of which are located within the proposed extraction footprint. The quarry proposal as currently identified in this regard has not adequately addressed the policies of either the PPS 1997 or PPS 2005.
6. The existing quarry has been in operation since 1953. Although parts of the existing quarry are undergoing progressive rehabilitation, final rehabilitation and lake filling may not occur for another 60 years because of the integration of the existing and proposed quarries. The total rehabilitation timeframe, assuming another expansion does not occur, could be 100 – 120 years from the date the existing quarry opened. This could not be interpreted as an interim use and is contrary to the Regional Official Plan in this regard. The Region views interim uses as temporary uses only, with a limited life span.
7. Rehabilitation of the proposed quarry in the form of a lake is inconsistent with the terrestrial-based ecosystem in place today and proposed enhancements outside of the extraction area do not constitute a net gain of natural heritage features or functions. It is also noted that artificial lakes are not included in the present list of Greenlands A or B features.
8. Citizen participation in this process has been very prominent. A number of issues and concerns were raised, including health, quality of life, private wells, traffic, noise, air quality and the environment, which must be taken into account.

9. The proposed quarry is located within the headwaters area of Grindstone Creek and removal or disturbance of this system will have profound effects, especially on fish habitat, wetlands and the overall water balance in the area.
10. Regional staff is not satisfied that the impacts from the proposed quarry to the surrounding ESAs and the functions they are providing within the context of the Mount Nemo Plateau area, have been adequately addressed by the proponent in order to conform to the Regional Official Plan.
11. The Mount Nemo Plateau is an area of great biological and physical diversity that will be further affected by the destruction of habitat and connectivity that exists today. This area contains, wetlands, woodlands, watercourses, ANSIs, ESAs, wildlife habitat and other natural area and is located on the Niagara Escarpment. It has not been demonstrated that there will be no negative impacts on the natural features or the ecological functions within this area contrary to the PPS 1997 and PPS 2005 and the Halton Regional Official Plan.
12. The proposed quarry is within a UNESCO World Biosphere Reserve, known worldwide for its beauty, biological diversity and geological significance. Although the Escarpment Rural Area designation may permit, by amendment to the Niagara Escarpment Plan, aggregate extraction, the fact that it is designated as a biosphere reserve should be taken into account.
13. There are numerous issues arising from the evaluation of potential impacts to private wells and these are detailed on pages 98 and 125-126 of the JART Report. The points of concern identified within this Section are significant and there must be assurances that all impacted wells will have proper mitigative measures applied to meet Provincial and Regional standards.
14. Questions regarding the economic benefits and need/demand for additional mineral aggregate resources remain unanswered. As such, the applicable policies regarding these matters in the Regional Official Plan have not been addressed.

FINANCIAL/PROGRAM IMPLICATIONS

The proposed quarry will provide a very modest contribution to the Region based on the tonnage quarried as per the *Aggregate Resources Act*. If approved, the Region will need to enter into agreements with the proponent to have them pay for all costs associated with monitoring and other reviews of the AMP.

RELATIONSHIP TO THE STRATEGIC PLAN

By placing the environment, agriculture and the health of residents at the forefront, the Region will Control and Manage Growth for Sustainable Communities (Theme 1) and protect and promote the continued viability of existing agricultural lands and the rural community in Halton (Goal 3). The Region will also Protect and Enhance our Natural Environment (Theme 2) and implement an enhanced systems approach to natural heritage preservation (Goal 2) and enhance, protect and maintain quality, quantity and safety of groundwater and surface water (Goal 5).

Regional staff, individually and in chairing JART, have worked with our government partners (MNR, MOE, NEC, Conservation Halton and the City of Burlington) and have obtained valuable

input and technical advice on this proposal. In addition, several public meetings and consultations have taken place as the public participated in the process. These Promote Cooperation and Partnerships among all Levels of Government (Theme 5) and strengthen Halton's advocacy efforts through enhanced relationships with other levels of government and government organizations (Goal 2); and Ensure Excellence in Government and Fiscal Responsibility (Goal 6), strengthen and enhance Halton's relationship with the Region's Local Municipalities (Goal 3) and strengthen and enhance communication and public engagement (Goal 4).

Respectfully submitted,



Ron Glenn
Director, Planning Services and Chief Planning
Official



Mark G. Meneray
Commissioner, Legislative & Planning Services
and Corporate Counsel

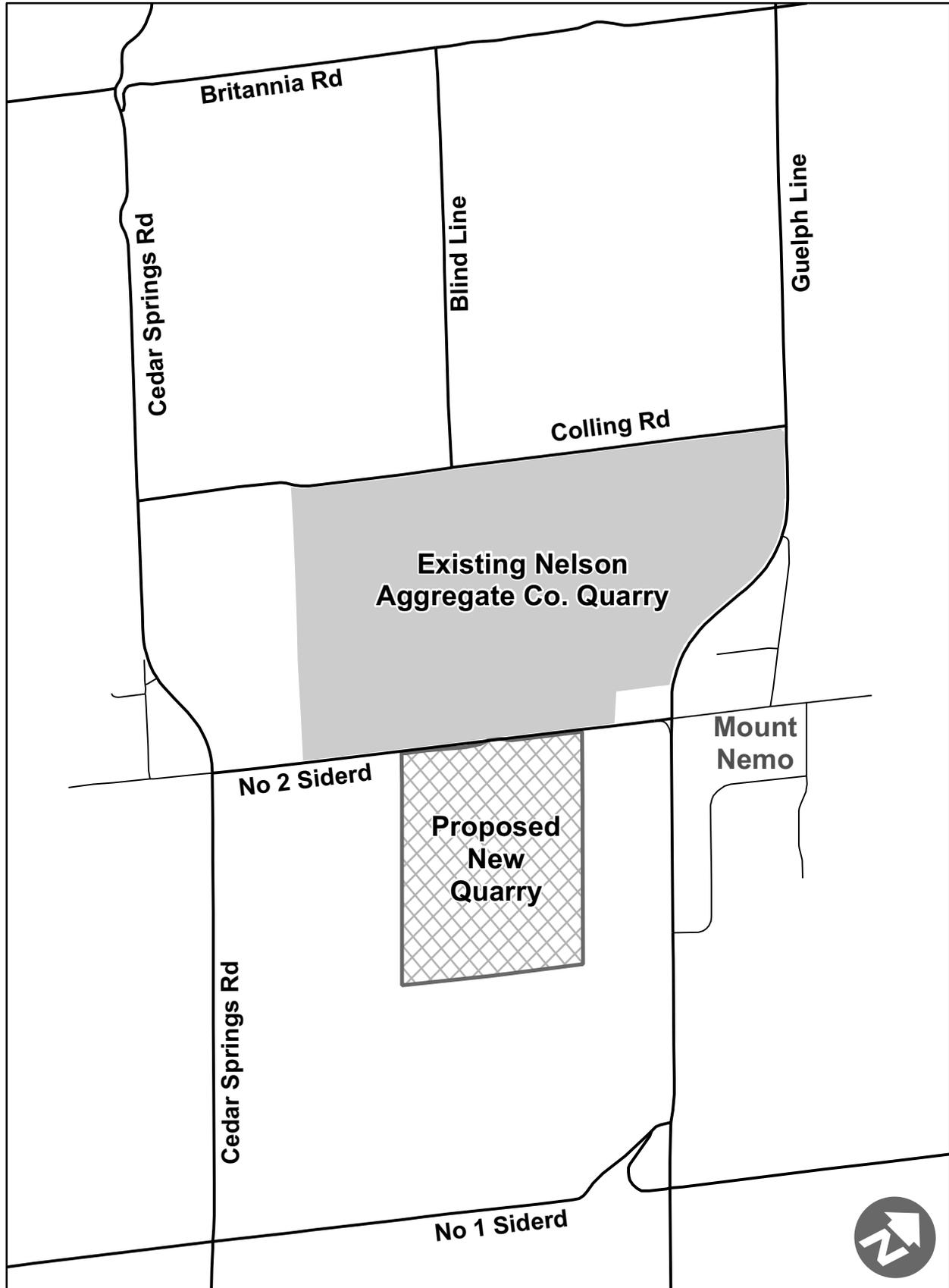
Approved by

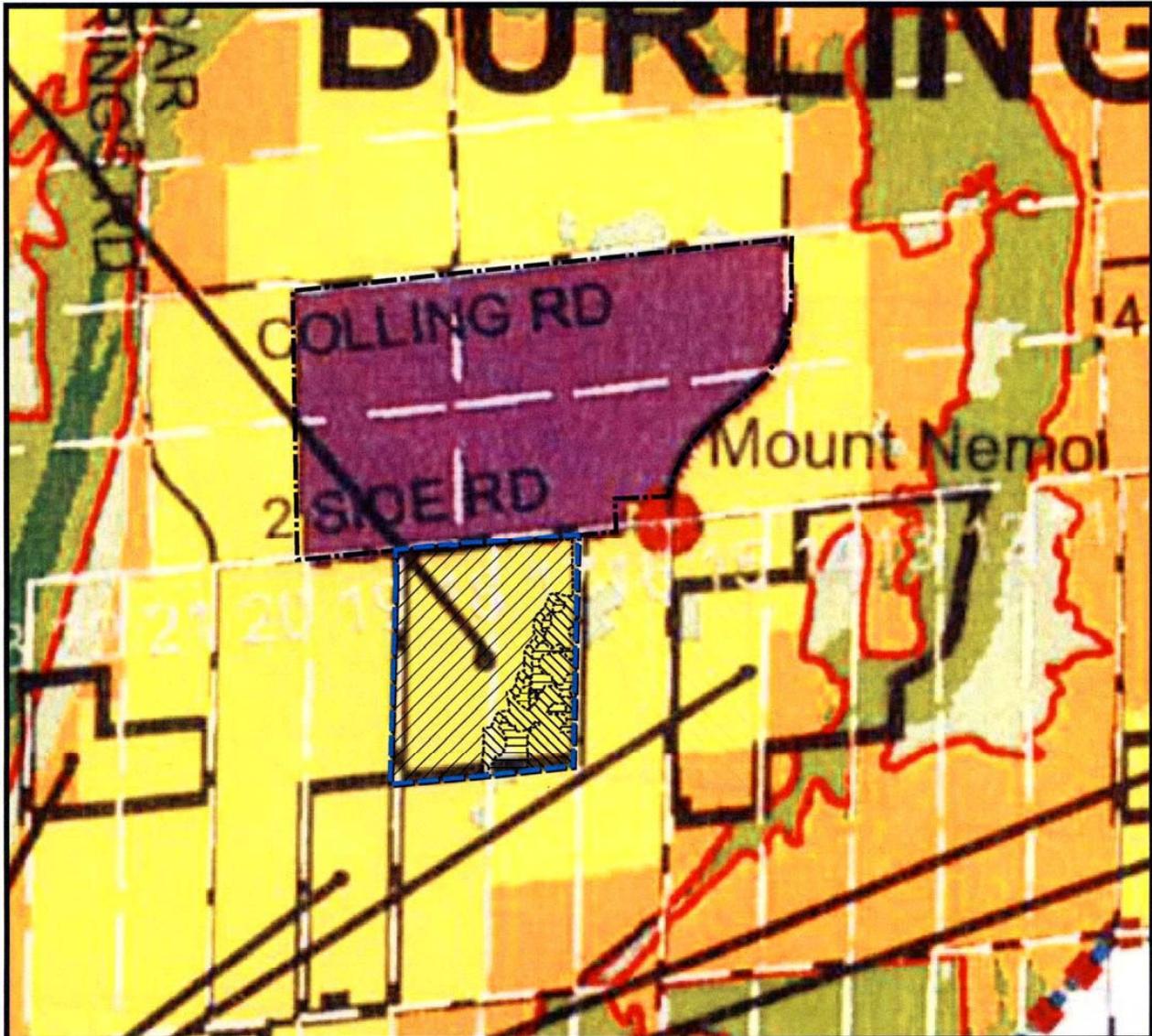


Pat Moyle
Chief Administrative Officer

If you have any questions on the content of this report, please contact:

Ron Glenn	Tel. # 7966
Robert Walters	Tel. # 7181
Rick Reitmeier	Tel. # 7923





Regional Municipality of Halton, Official Plan The Regional Structure, Map 1

 Subject Site

Proposed Amendment

-  Lands to be redesignated to Mineral Resource Extraction Area
-  Lands to be redesignated to Greenland A
-  Lands to be redesignated to Greenlands B

The Rural System

-  Escarpment Protection Area
-  Escarpment Rural Area
-  Hamlet
-  Mineral Resource Extraction Area

The Greenland System

-  Environmental Sensitive Area
-  Escarpment Natural Area
-  Greenlands A
-  Greenlands B

Other Areas

-  Niagara Escarpment Plan Area
-  Parkway Belt West Plan Area



SCALE



N:\Brian\9135 Nelson\BDrawings\Report Figures\Regional_OP_amendment

Nelson Aggregate Co. Response to JART Report (February, 2009)

March 30, 2009

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
1 Executive Summary		There are numerous statements in the Executive Summary that are incorrect, misleading or areas of professional disagreement. To avoid repetition responses are provided in the applicable sections below.
2 Introduction		
2.1 Overview and Purpose of Report		No issues raised.
2.2 The Joint Agency Review Team (JART)		No issues raised.
2.3 JART Mandate and Members	<i>"Since that time JART has met no less than 40 times to examine submitted materials, to determine issues and to reach agreement on the issues raised by the applications. As well, many hours of individual analysis have also been undertaken by all those participating in the JART process between formal meetings." (p. 24)</i>	Nelson was not invited nor provided an opportunity to participate in the majority of the JART meetings. This lack of communication has resulted in numerous misunderstandings related to the application. As noted in the Region's staff report PPW135-04 regarding the JART protocol <i>"The successful implementation of the Protocol is based largely on open communication and co-operation between proponents and government agencies."</i>
2.4 JART Review Program	<p><i>"In general, the applicant has provided much of the required information in support of its submission, Exceptions, whereby it was determined that the work undertaken was either inadequate or lacking include:....."</i></p> <p><i>∂ The initial submission was determined to be insufficient regarding site characterization and missing some related studies. It was necessary for Nelson to commission the collection of key data to be analyzed and reports prepared.</i></p> <p><i>∂ Early presumptions such as assuming no karst features....."</i></p>	<p>Nelson's consultants believe that the scope of the reports initially submitted in October 2004 were thorough and complete. During the review process, JART requested further information and studies and Nelson agreed to undertake them.</p> <p>The October 2004 Hydrogeological and Water Resources Assessment (Golder Associates) included an assessment of karst, including detailed geophysical testing, electrical resistivity imaging, review of existing quarry faces and borehole observations. The result of the study concluded that no <u>significant</u> karst features were identified. Nelson at the request of the agencies retained Dr. Worthington a karst expert who did additional work in the area. Dr. Worthington agreed with Golder's assessment that the site did not contain any significant karst features and water flow in the bedrock in the extension lands is predominately through small solutionally-enlarged fractures or channels that have apertures in the millimeter to centimeter range.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>∂ Footprint changes through Site Plan resubmissions required revisiting some points a multiple number of times.</i></p> <p><i>∂ The appeal of the JART application to the OMB in May of 2008 prematurely concluded the interaction between JART and Nelson due to legal restrictions, virtually closing the door on information exchange. (p.24)</i></p>	<p>During the 5 year review process Nelson Aggregates reduced the extraction area twice in response to agency and public comments. The first revision was in May 2006 and the second revision was in January 2008. Overall the extraction area has been reduced by 30 % to address agency and public concerns of the agencies.</p> <p>There is no legal restriction requirement for JART to stop communication with Nelson. When Nelson requested the hearing in May 2008, Nelson wrote to the agencies that <i>"Nelson remains committed to working with the review agencies and members of the public in order to clarify, scope and resolve outstanding concerns related to the applications."</i> It was JART which decided unilaterally to stop the communication. On-going dialogue could have avoided some of the inaccuracies and misinterpretations in the JART report.</p>
2.5 Public Participation and Information Sessions		No issues raised.
3 The Nelson Applications		
3.1 Location		No issues raised.
3.2 Current Site Description		No issues raised.
3.3 Surrounding Land Uses	Figure 3.2 indicates Areas of "Greenlands or Natural Heritage System" (p. 29)	Figure 3.2 incorrectly maps the Greenlands or Natural Heritage System. See Official Plan schedules for the delineation of the Greenlands System.
3.4 History of the Application	Figure 3.3 indicates the extraction area applied for in October 2004 was 82.3 ha. (p. 31)	The extraction area applied for in October, 2004 was 73.2 ha. The license area applied for was 82.3 ha. It is typical that the license area is larger than the extraction area since setbacks and buffers are included in the license area.
	<p>First Revision <i>In May, 2006, the applicant modified the extraction area (see Figure 3.4) by deleting the woodland in the southwest corner and the wetlands in the south central portion of the property. (p.30)</i></p>	Only a portion of the southwest woodland was proposed to be removed from the extraction area.
	<p>Second (and Latest) Revision <i>On its own initiative, the applicant, as recently as January, 2008, substantially revised the extraction footprint (see Figure 3.5) over both the original submission and first revision by proposing to remove from extraction the provincially significant wetlands on the east and southeast corner, <u>but proposing to extract the woodland and provincially significant wetlands that had been excluded in 2006.</u> (p.33)</i></p>	<p>The wetlands in the southwest corner had not been excluded from the extraction footprint in 2006. See comment above.</p> <p>It is misleading to state Nelson did not consult with JART on any of the resubmissions or infer that the revisions made to the proposed aggregate operation in January 2008 were not confirmed by Nelson to constitute part of the application until December 2008. In part, Nelson's December 3, 2008 letter to JART stated <i>"Clearly, all of the agencies, and the public, have been aware that Nelson was prepared to proceed with a reduced extraction area since these documents were formally submitted in January 2008 and it is our understanding that JART have been reviewing the documents on this basis. Accordingly it is surprising that the question in your letter of November 10, 2008 is being raised some ten months after the information was provided to JART."</i></p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>In addition, some other revisions Nelson proposes now include:</i></p> <ul style="list-style-type: none"> ▪ <i>Implementation of a well protection plan including a monitoring program, response action, and restoration program;</i> ▪ <i>Provision of a 30 m buffer between the proposed extraction footprint and the majority of the provincially significant wetlands to the east and southeast.</i> <p><i>The revised submissions were instigated by the applicant and required full analysis in each instance. Nelson did not consult with JART on any of the resubmissions. The final review undertaken and completed by JART, and documented within this report, is on the basis of this most recent revision as Nelson's consultant confirmed that the latest revision constituted its application in a letter and email on December 23, 2008. (p.33)</i></p>	<p>The changes to the mineral aggregate operation were made in response to JART concerns. The following is a summary of the timelines associated with these changes:</p> <ul style="list-style-type: none"> ▪ Full details of the proposed well water protection plan were submitted to JART for its consideration in the March 2007 draft of the Adaptive Management Plan; ▪ On July 9, 2007 JART provided Nelson a report identifying key issues based on their review. Some of issues raised by JART required additional technical work to be completed. The resubmission in January 2008 and revisions to the proposed quarry were to address issues raised by JART in July 2007. ▪ JART was consulted regarding the provision for a 30 m setback between the proposed extraction area and the provincially significant wetlands. In September 2007, Nelson submitted 10 copies of a report to JART entitled "<i>Reports Addressing Hydrology, Hydrogeology and Ecology of Wetland Features Proposed Nelson Quarry Extension</i>". This report examined the setbacks required to protect the wetlands identified by MNR as provincially significant. On October 31, 2007 Nelson and its consultants met with JART to discuss this report. ▪ Nelson commenced the notification and consultation period under the Aggregate Resources Act (ARA) in May 2006. The ARA requires this process to conclude within 2 years. At the October 31, 2007 meeting Nelson advised JART regarding the timelines associated with the ARA. To achieve the legislated timeline, Nelson advised the agencies it would provide the final 20 day objector's response under the Aggregate Resources Act in March 2008. Prior to March 2008, Nelson committed to providing JART a detailed response to their July 9, 2007 letter including updated site plans, an updated AMP and other technical information. JART was aware of this, Regional Staff Report PPW155-07 (October 11, 2007) stated "<i>In recent months JART has provided Nelson with a status on all key issues, an outline of Adaptive Management Plan expectations and feedback on hydrogeological and surface water studies that are needed to define the extraction footprint. Nelson Aggregate Co. and its consulting team have prepared a response and this is currently being reviewed by JART.....Regional staff, therefore, anticipates that Nelson will attempt to resolve as many issues as possible over the next seven months.</i>" ▪ As per Nelson's commitment they provided JART with revised site plans and the remaining technical studies in January 2008 and requested that the City and Region hold public meetings to present the revised information to Councils and the public. The updated plans and technical information were posted on Nelson's web site at that time. Nelson held its own public meeting on February 12, 2008 to present the information to people who had submitted objections under the Aggregate Resources Act process. The revised site plans were acknowledged in Halton Staff report CA-44-08/PPW77-08 of May 12, 2008, and in a presentation by the JART chair to Ward 3 Burlington on April 22, 2008.
3.5 Description of the Current Applications and Revised Site Plan	<i>If approved, the proposed new quarry would extend quarrying by 20 years using the same extraction rate as the current site. (p.33)</i>	Twenty years is based on the original extraction footprint. The life of the proposed quarry would be approximately 15 years based on the reduced extraction footprint.

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
3.6 Supporting Studies	<i>Nelson submitted applications and technical reports in support of the proposed quarry beginning in October 2004. These reports referenced an extraction area of 82.3 ha and were reviewed by JART and its peer reviewers. (p.36)</i>	In 2004, the proposed license area submitted was 82.3ha with a proposed extraction area of 73.2ha. It is typical that the license area is larger than the extraction area since setbacks and buffers are included in the license area.
3.7 Approvals Required		No issues raised.
3.8 Rehabilitation Plan		No issues raised.
4 Planning and Regulatory Context		
4.1 First Nations	<i>"Clarification regarding the interaction between Nelson and the First Nations groups needs to be in place prior to consideration of the applications by the respective Councils and NEC." (p.39)</i>	While it is the role of government to consult with First Nations, Nelson has nevertheless consulted with First Nations and can provide details upon request. This should address the issue.
4.2 Fisheries Act		No issues raised.
4.3 The Aggregate Resources Act	<i>"Notwithstanding the foregoing, the report makes reference to the material on site as a "provincially significant resource". JART notes that the term "provincially significant", when referring to mineral aggregate resources, is not recognized in either the Aggregate Resources Act or the Provincial Policy Statement. The current terminology used by the Ministry of Northern Development and Mines to describe bedrock resources that have less than 8 metres of overburden is "selected bedrock". (p.42)</i>	<p>The term "provincially significant" when referring to mineral aggregate resources is a recognized and accepted term. It refers to the Aggregate Resources Inventory Papers (ARIPs) prepared by the Ministry of Northern Development and Mines. ARIP's provide an inventory and evaluation of the aggregate resources within a certain geographic area.</p> <p>The 1982 ARIP states that the Amabel in the City of Burlington is "considered to be a resource of provincial significance for crushed aggregate products". The 1996 and 2009 ARIP's state that most of the Amabel Formation in the Region of Halton along the brow and upper surface of the Niagara Escarpment "is considered to be a resource of provincial significance".</p>
4.4 The Niagara Escarpment Planning and Development Act	<p><i>"The application lands are subject to the Niagara Escarpment Planning and Development Act (NEPDA) and the Niagara Escarpment Plan 2005 (NEP)." (p.42)</i></p> <p><i>"Relative to the NEP Amendment application, Nelson included a map showing the area to be re-designated Mineral Resource Extraction Area as including all of the subject property save and except for the east and southeast portion of the site containing the aforementioned wetlands (see Figure 4.1). It is JART's view that the northwest portion of the subject property</i></p>	<p>The application was submitted in October 2004 and the 1994 Niagara Escarpment Plan applies.</p> <p>The northwest corner of the site is excluded from the extraction area but includes facilities associated with the mineral aggregate operation such as the acoustic berm and discharge point. As a result these areas are proposed to be redesignated Mineral Resource Extraction Area. No extraction is proposed in this area.</p> <p>The southeast and southwest corner of the site does not meet the designation criteria for Escarpment Natural Area. The designation criteria for Escarpment Natural Area are:</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>proposed for re-designation should instead remain as Escarpment Rural Area since it contains a portion of the west branch of the Mount Nemo Tributary and would provide more of a buffer to residences, including a historic home. Furthermore, it is JART's view that those lands on the east, southeast and southwest portions of the property which contain provincially significant wetlands and woodlots, should be proposed for re-designation to Escarpment Natural Area."</i> (p.44)</p>	<p><i>"1. Escarpment slopes and related landforms associated with the underlying bedrock which are in a relatively natural state. 2. Where forest lands abut the Escarpment, the designation includes the forested lands 300 metres (1,000 feet) back from the brow of the Escarpment slope (e.g. Bruce Peninsula). 3. The most significant Areas of Natural and Scientific Interest (Life Science). 4. The most significant stream valleys and wetlands associated with the Escarpment."</i></p> <p>Criteria 1: The site does not contain an escarpment slope or related landform as defined by the Niagara Escarpment Plan.</p> <p>Criteria 2: The Escarpment Brow is not located within 300 m of the site.</p> <p>Criteria 3: The site is not a Life Science Area of Natural and Scientific Interest.</p> <p>Criteria 4: The site does not contain "the most significant wetlands associated with the Escarpment."</p>
	<p><i>"The Development Criteria against which a Development Permit Application and a Niagara Escarpment Plan Amendment are assessed are found in Part 2 of the NEP."</i> (p.46)</p>	<p>Part 2 of the Niagara Escarpment Plan includes development criteria that apply to development located within the Niagara Escarpment Development Control Area. Part 2, Section 2.1 of the Niagara Escarpment Plan states that the criteria in Part 2 deal with development in a variety of situations, and therefore, all the criteria will not apply to every development.</p> <p>The Niagara Escarpment Plan has developed specific criteria in Section 2.11 that apply to mineral aggregate operations. Part 1.5 of the Niagara Escarpment Plan permits new mineral aggregate operations in the Escarpment Rural Area, subject to an amendment and Part 1.9 and 2.11 of the Niagara Escarpment Plan. The plan clearly stipulates which criteria are applicable to Mineral Aggregate applications.</p>
	<p><i>"Part 2.11 of the NEP, entitled "Mineral aggregate resources", contains some direction with respect to the rehabilitation of pits and quarries. Slopes of 3:1 or 2:1 at a maximum are allowable but the proposed rehabilitation plan for Nelson quarry shows vertical walls in some areas of the quarry. (p. 46)</i></p>	<p>JART's reference is a selected excerpt of the Niagara Escarpment Plan which is misleading. Part 2.11 (9b), of the Niagara Escarpment Plan if read in its entirety, provides for areas of vertical quarry faces. This development criteria states:</p> <p><i>"All excavated pit walls are to be regraded to a slope of 3 to 1 or less except in regions where topsoil and fill materials are scarce. In such areas finished slopes may be no steeper than 2 to 1. <u>Exposed sections of pit or quarry faces may be left unrehabilitated for aesthetic or educational purposes as incorporated into an approved after use plan.</u>"(underline added)</i></p> <p>In addition, on July 9, 2007 JART wrote Nelson regarding the rehabilitation plan and stated "JART prefers that plans be developed that avoid the need to import fill". Nelson has developed a rehabilitation plan that includes some vertical faces as contemplated by the Niagara Escarpment Plan and avoids the need to import fill.</p>
	<p><i>The NEP also requires progressive rehabilitation wherever possible. Since the existing and proposed Nelson quarries are to be linked potentially by way of a</i></p>	<p>Progressive rehabilitation of the existing quarry is on-going and will be completed except for the area required for processing and shipping. See page 61 of "Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>tunnel but also by keeping the existing processing plant in use to service the proposed quarry, this would delay opportunities for rehabilitation.” (p.46)</i></p>	<p>Final rehabilitation of the site will only be delayed by 15 years while the existing quarry is utilized to ship and process aggregate from the extension. Over 75% of the faces within the existing quarry have been sloped and vegetated and almost 50% of the quarry floor area is under rehabilitation. Nelson anticipates that by the time the extraction in the proposed quarry commences, over 85% of the existing quarry faces will have been rehabilitated in accordance with the site plans, and over 60% of the floor area of the quarry will be in a state of rehabilitation. The rationale for utilizing the existing quarry for processing / shipping is outlined on page 59 of “<i>Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008</i>”. It is also important to note that it is typical for proposed quarry expansions to utilize the existing site for processing and shipping.</p>
	<p><i>“The MHBC report at pages 30 and 31 states that the purpose of the NEP is respected because notwithstanding the proposed loss of a portion of the Niagara Escarpment, other areas designated Escarpment Natural and Protection would remain and that future rehabilitation of extracted areas would enhance the open landscape character. In fact, a continuous natural environment would not be maintained due to the proposed alteration of the Niagara Escarpment that would result from the proposed quarry and the re-created landscape following rehabilitation would not be the same or even similar to the original landform. (p. 47)</i></p>	<p>The Niagara Escarpment Plan is to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment. Nelson’s application achieves this. The NEC’s Chart IV-1 “<i>Comprehensive Application Checklist</i>”, states:</p> <p><i>“The proposed operation must ensure the maintenance of the Niagara Escarpment substantially as a continuous natural environment. In locations where, across the width of the Escarpment Plan (i.e., from side to side in the Plan Area), <u>there is Escarpment Protection and/or Escarpment Natural designations, retention of a continuous natural environment is assured.</u> (underline added)</i></p>
	<p><i>The MHBC report at page 31 and 38 states that the NEP objective of maintaining and enhancing the quality and character of natural streams and water supplies will be respected as there will be no unacceptable impacts on streams or water supplies resulting from the proposed quarry. In fact, Nelson has not demonstrated to JART’s satisfaction that there will be no unacceptable impacts on streams and water supplies. (p. 47)</i></p>	<p>As noted in the various technical reports submitted in support of the application the hydrogeological and ecological evaluations have demonstrated there will be no unacceptable impacts on streams and water supplies. An Adaptive Management Plan (AMP) has been prepared to monitor the groundwater and surface water systems. The AMP includes triggers, mitigation and contingency methods to recognize and prevent impacts. This is reasonable and includes sufficient safeguards.</p>
	<p><i>The MHBC report (page 36) justifies the proposed quarry extension by stating that “only 1 crushed stone and 3 sand and gravel licenses” have been issued since 1975. In fact, several licenses have been issued in Halton since 1975 and more applications are pending. (p. 47)</i></p>	<p>This statement is misleading. MHBC has justified the application on more than a quantitative analysis of aggregate approvals in Halton Region. In addition to the detailed site specific and surrounding land use considerations, the justification for the Niagara Escarpment Plan Amendment includes locational attributes, quantity and quality of the resource, benefits and uses of aggregates and location within the highest demand area for aggregate in Ontario. See Sections 8.2.3.1 to 8.2.3.4 of MHBC’s Planning Analysis (Oct 2004).</p> <p>Furthermore, MHBC’s reference only related to Class A crushed stone and sand and gravel pit licenses and was correct at the time it was written.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>In evaluating an application to amend the NEP to a Mineral Resource Extraction Area designation, the impact on species must be assessed. The MHBC report, page 39 references the butternut trees on the site as part of the impact of the proposed quarry but there is no mention of impact on the habitat of the Jefferson salamander and for fish resulting from the potential impacts to the surface and groundwater regimes as outlined elsewhere in the JART report. The MHBC Report has become outdated in light of other new information that became known during the course of the JART review.” (p. 46 & 47)</i></p>	<p>This is an incorrect statement. MHBC’s updated policy analysis (January 2008) addressed these issues.</p>
	<p><i>“The MHBC report misstates the intent of the policies of the Escarpment Rural Area designation by implying that it has “an objective to provide for the designation of New Mineral Resource Extraction Areas by amendment to the Plan” [MHBC report p. 32, 51]” (p.49)</i></p>	<p>This is incorrect. The MHBC Report accurately references the objective of the Niagara Escarpment Plan. The Escarpment Rural Area, Section 1.5, Objective 5 states: <i>“To provide for the designation of new Mineral Resource Extraction Areas which can be accommodated by an amendment to the Niagara Escarpment Plan.</i></p>
<p>4.5 Planning Act and Provincial Policy Statement, 1997</p>	<p><i>“Staff must also consider updated PPS 2005 in their examination of this application in a relevant, if not determinative, manner.” (p.49)</i></p>	<p>The application was filed in October 2004 and the 1997 Provincial Policy Statement is the applicable policy statement to evaluate the application. The 2005 Provincial Policy Statement applies to all applications commenced on or after March 1, 2005.</p>
	<p><i>“In JART’s review of the MHBC Report, October 2004, claims are made that “the mineral aggregate resource located within the proposed extension area is a provincially significant resource”. JART notes that the term “provincially significant resource” is misleading and is not a recognized term used in the PPS when dealing with mineral aggregate resources.” (p.50)</i></p>	<p>See above response to Section 4.3 “Aggregate Resources Act”.</p>
	<p><i>The MHBC Report also incorrectly states that key natural heritage features will be mitigated, compensated and monitored to ensure no adverse effect, referencing PPS policies 2.3.1 and 2.3.2……Nelson proposes to remove provincially significant wetlands in the southwest corner of the subject site. The proposed aggregate operation would also remove major portions of the significant woodland in the southwest corner and elsewhere on the property. This would be contrary to PPS policy 2.3.1. In addition, the removal of these</i></p>	<p>As noted in <i>“Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008”</i> the revised extraction area includes two wetlands (0.68 ha and 0.05 ha) that MNR identified as provincially significant. It is Stantec / Savanta’s position that these two wetlands should not be classified as Provincially Significant Wetlands (p. 51 – 52) due to the size, quality and function of the features. In addition, Stantec/Savanta disagree with JART’s delineation of woodland significance, based on the Province’s Natural Heritage Reference Manual.</p> <p>With respect to implementation and interpretation of the Provincial Policy Statement, the 1997 Provincial Policy Statement requires planning authorities to have regard to the policy statement in making decisions on all applications. The PPS is intended to promote a policy-led system which recognizes that there are complex inter-</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>features will disrupt the existing connections and linkages between the natural features present in the area, which is Contrary to PPS policy 2.3.3. (p. 51)</i></p> <p><i>The Report states that quality and quantity of ground water and surface water and the function of sensitive ground water recharge/discharge areas, aquifers and headwaters will be protected or enhanced (24.1). Impacts to the quality and quantity of ground water and surface water are extremely difficult to determine and cannot be fully mitigated.” (p.51)”</i></p>	<p>relationships among environmental, economic and social factors in land use planning. The Province’s agricultural, mineral resource, natural heritage, water supply and cultural heritage resources provide economic, environmental and social benefits. The wise use and protection of these resources over the long term is a key provincial interest. The Policy Statement is to be read in its entirety, and all pertinent policies are to be applied to each situation. No single resource should automatically take priority over another due to the complex interrelationships among environmental, economic and social factors in land use planning.</p> <p>An Adaptive Management Plan (AMP) has been prepared to monitor the groundwater and surface water systems. The AMP includes triggers, mitigation and contingency methods to recognize and prevent impacts. This will assure mitigation.</p>
4.6 Provincial Policy Statement 2005	“JART does not agree with the assessment offered in the MHBC Report that the proposal conforms to the PPS documents (1997 and 2005).” (p.51)	It is MHBC opinion that Nelson’s proposed Burlington Quarry Extension has regard for the 1997 Provincial Policy Statement and the detailed policy analysis is included on pages 20 – 28 of “Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008”
4.7 Ontario Heritage Act		No issues raised.
4.8 Regional Policy Framework	“The 2004 ROP based on Amendment 25 (ROPA 25) (1995 Plan updated June 23, 2004) is therefore the plan being used to evaluate this application. However, for the portions of the ROP that were appealed, the previous plan applies (1995 ROP prior to Regional Council Adoption of ROPA 25, which is also dated June 2004). It should also be noted that, because ROPA 25 has since been adopted and approved (Halton Region Official Plan 2006), and Nelson submitted a revision to its application in 2008, Regional staff will interpret the policies in this document as relevant, adding the results to Regional comments on the application.” (p.52)	<p>This position is contrary to the position:</p> <p>a) JART took on July 9, 2007. In July 2007, JART advised Nelson that “the Nelson application is subject to Halton’s 2006 Official Plan (resulting from Regional Official Plan Amendment 25) which is guided by the principles of land stewardship and healthy communities. The ROPA 25 settlement between Halton Region and Nelson Aggregate Co. (and three other aggregate companies) must also be considered.” and</p> <p>b) the Region of Halton took on June 18, 2006 (ROPA 25 Minutes of Settlement) “with respect to applications in process, particularly those commenced after the date of adoption of ROPA 25 by Council, the Region highlights its position that the Clergy principle does not apply and fairness does not require ROPA 25 policies to be ignored, but rather that good planning will still require conformity to the approved ROPA 25”</p> <p>At the request of JART and the Region of Halton, MHBC updated the planning analysis based on Halton’s 2006 Official Plan. This policy analysis is found on pages 28 – 35 of “Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008”.</p> <p>A new/revised application was not submitted in 2008. The application was submitted in October 2004 and during the course of the review process Nelson made changes to the mineral aggregate operation, including reducing the extraction area in an effort resolve public and agencies concerns.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>Portions of the 2004 plan have been deferred through a specific ROPA 25 settlement. Specifically, the definition of significant woodlands (Section 277) was deferred on May 3, 2006 in accordance with the ROPA 25 Minutes of Settlement dated April 23, 2006. This deferral (AMD25-D4) is specific to the Nelson application site and three other sites owned by others. The settlement conditions require that the deferral must be addressed and resolved prior to a decision being made with respect to the application.(p.52)</i></p> <p><i>"Nelson does not recognize the status of the wetland as being provincially significant and the woodland as being significant. However, the PSW meets the criteria for Greenlands A in the ROP while the significant woodland meets the criteria for Greenlands B" (p.52)</i></p> <p><i>"The removal of a PSW and significant woodland does not meet the policy objectives of the ROP or the PPS." (p. 55)</i></p>	<p>JART has mapped significant woodlands based on the Region of Halton's definition of significant woodlands which is deferred and not applicable to the subject site.</p> <p>Even if the definition were applicable JART maps areas on the subject site as significant woodland that do not meet the definition of woodland as defined in the Regional Plan (Sec. 295).</p> <p>In addition, if a portion of the site did meet the Region's definition of significant woodlands (that is noted above as not applicable to the site), the JART report fails to mention that the Regional Plan permits extraction within a significant woodland (Greenlands B) subject to Policy 110 (7.2) of the Regional Plan:</p> <p><i>".....Where the proposal <u>includes</u> or <u>negatively affects</u> areas of Greenlands A or B, the proponent is required to demonstrate that the proposal is consistent with the Provincial Policy Statement and the Provincial Greenbelt Plan where applicable and will result in a net gain or enhancement to functions or features of the Greenlands System. In this regard, the Region views the protection of Greenlands A as a priority. The net gain or enhancement shall be based on a combination of progressive and final rehabilitation of the proposal and / or other measures initiated by the proponent prior to and/or during the extraction operation." (emphasis added)</i></p> <p>The Provincial Policy Statement also permits development within significant woodlands provided there is no negative impact. The Region of Halton has confirmed that a proposal which meets the "net gain or enhancement" provision in Section 110 (7.2) of the Regional Plan would also meet the test of "no negative impact" found in the Provincial Policy Statement.</p> <p>The removal of the area mapped by MNR as a PSW is discussed above under Section 4.5 "Planning Act and Provincial Policy Statement, 1997".</p>
	<p><i>"Nelson claims that the extraction area was revised to 51.6 ha. The above noted amendment claims 61 ha. Also noted is that the site plan submitted through the ARA process (January 11, 2008) shows an extraction area of 51.6 ha." (p.54)</i></p>	<p>The extraction area is 51.6 ha and the area for redesignation to Mineral Resource Extraction Area is ± 61 ha. The 61 ha includes the entire extraction area and setbacks areas (the majority of this area includes acoustics / visual berms associated with the mineral aggregate operation) but excludes the eastern portion of the site where the wetlands and associated setbacks are located.</p>
	<p><i>"The text changes that Nelson proposes for the ROP amendment are also inconsistent with wording normally used, do not reflect all the changes required, and should be modified to properly address the proposed changes." (p.54)</i></p>	<p>This is an implementation issue which should be easily resolved. Could the Region of Halton please provide sample text for our consideration?</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"The "Planning Report and Aggregate Resources Act Summary Statement submitted by MHBC on behalf of Nelson in October 2004 includes references and opinion regarding policies in the Regional Official Plan (1995). In general, the policies referenced deal specifically with mineral resource extraction areas and the protection of mineral aggregate resources. As noted above, many other policies apply with respect to health, the economy and the environment which should be taken into account.</i></p> <p><i>"MHBC's policy analysis was based on the 1995 ROP and not the partially approved 2004 ROP. Its analysis only covers policies dealing with aggregates and does not discuss the other aspects as noted above. Aggregate policies must be considered equally with other policies dealing with such areas as natural heritage, agriculture, health, water resources and the economy." (p.54 & 55)</i></p>	<p>The October 2004 Planning Report and updated policy analysis submitted in January 2008 address policies and issues related to health, the economy and the environment. For example the Planning Report addressed issues such as but not limited to surrounding lands uses, mitigation measures to protect surrounding land uses, water resources, agricultural resources, on-site and off-site natural heritage areas, and economic considerations. In addressing these considerations the planning report relied on detailed technical reports that were related to the natural environment, water resources, blasting, noise, air quality, traffic, and archaeology. All of the recommendations of these studies are proposed to be included on the Aggregate Resources Act Site Plans to minimize impacts on surrounding land uses.</p> <p>Specifically the Regional Plan has policies that require the following factors to be considered in evaluating a mineral resource extraction application. These factors are listed below and were addressed in the October 2004 Planning Report and the updated policy analysis submitted in January 2008:</p> <ul style="list-style-type: none"> ▪ <i>availability of mineral aggregates to meet future forecast local, regional and provincial demands at reasonable costs,</i> ▪ <i>economic benefits to Halton,</i> ▪ <i>impact on, and proposed measures to minimize such impact:</i> <ul style="list-style-type: none"> ▪ <i>the natural environment through an Environmental Impact Assessment, where applicable,</i> ▪ <i>quality and quantity of surface and ground waters,</i> ▪ <i>adjacent land uses,</i> ▪ <i>any heritage resources or significant geologic formations,</i> ▪ <i>transportation,</i> ▪ <i>the surrounding farming and rural communities, and</i> ▪ <i>Proposed rehabilitation plan and compatibility of the proposed after-use with the goals and objectives of this Plan.</i> <p>Nelson questions why there was no consideration in the JART report for "economic benefits to Halton" as required by the Regional Plan.</p>
	<p><i>"The final rehabilitation of the existing quarry therefore is not possible until at least the end of the life cycle of the proposed quarry. The ROP considers aggregate extraction to be an interim use." (p.55)</i></p>	<p>MHBC agrees that extraction is an interim use. Progressive rehabilitation of the existing quarry is on-going and will be completed except for the area required for processing and shipping. See page 61 of "<i>Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008</i>".</p> <p>Final rehabilitation of the site will only be delayed by 15 years while the existing quarry is utilized to ship and process aggregate from the extension. Over 75% of the faces within the existing quarry have been sloped and vegetated and almost 50% of the quarry floor area is under rehabilitation. Nelson anticipates that by the time the extraction in the proposed quarry commences, over 85% of the existing quarry faces will have been rehabilitated in accordance with the site plans, and over 60% of the floor area of the quarry will be in a state of rehabilitation. The rationale for utilizing the existing quarry for processing / shipping is outlined on page 59 of "<i>Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008</i>". It is also important to note that it is typical for proposed quarry expansions to utilize the existing site for processing and shipping.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"An unsolicited report was submitted on December 3, 2008 for JART's review and is also in the process of being peer reviewed." (p.55)</i></p>	<p>The Altus Group report entitled <i>"The Market for Crushed Stone in the GTA West and Economic Benefits of the Proposed Nelson Burlington Quarry Extension"</i>, was submitted to JART in December 2008.</p> <p>This report supports and builds upon previous information provided to JART by MHBC in October 2004, March 2005 and January 2008 regarding the economic benefits of the quarry to the Region of Halton, aggregate supply and demand trends in the GTA and the Region of Halton. The only new information provided in this report was a detailed analysis on the GTA west supply and demand for crushed stone.</p> <p>It is unclear why JART did not include an analysis and comment on the information that was previously provided to them regarding the economic, environmental and social considerations of ensuring a close to market source of aggregate.</p>
4.9 Local Policy Framework	<p><i>"The analysis by MHBC singles out an objective in the plan that is "to provide for extraction of mineral aggregate resources through amendments to the Plan" (Part IV Section 2.3.1). Emphasis on this objective over others in the Official Plan seems to suggest that MHBC believes this objective takes precedence over others in the Plan. This is not correct." (p. 60)</i></p> <p><i>"The Burlington Official Plan (1996) contains many principles, objectives and policies to promote the city's vision for sustainable development in the rural area. These principles, objectives and policies should be reviewed in concert with each other and not in isolation. For instance, key principles in the rural planning area (Part IV section 2.1.1) that apply to this application include:</i></p> <p><i>b) The present and future use of productive agricultural lands in the Rural Planning for farming shall be given priority through the policies of the Plan.</i></p> <p><i>c) Development on Rural Lands shall be self-sustaining in terms of well water supply and sewage disposal.</i></p> <p><i>d) Significant natural and cultural heritage features and landscapes shall be preserved and protected.</i></p> <p><i>e) The importance of wetland areas shall be recognized, with policies that restrict the alteration of the physical and / or biological features present.</i></p>	<p>This objective in the Burlington Official Plan has been specifically referenced since the objective is directly applicable to the proposed application. This objective confirms that the "Agricultural Rural Area (Escarpment Plan Area) Designation" is the appropriate designation to locate a new mineral resource extraction site in the City of Burlington. It is noted that this area is the only designation in the City which has this objective. The "Mineral Resource Extraction" designation contains a similar objective, however the Burlington Official Plan only designates a site "Mineral Resource Extraction" that is already licensed and approved for extraction so these areas do not provide an opportunity for new sites.</p> <p>It is absurd and misleading to suggest that MHBC takes the position this objective takes precedence over other policies and objectives in the Plan. See the following response.</p> <p>MHBC did read and evaluate the Burlington Official Plan in its entirety and considered all of the relevant principles, objectives and policies in the plan. Based on these policies MHBC carefully considered the technical reports and balanced the economic, social, and environmental considerations relevant to the application and concluded the application conforms to the Burlington Official Plan.</p> <p>The October 2004 Planning and updated policy analysis submitted in January 2008 does not include an exhaustive review of the Burlington Official Plan policy by policy to avoid repetition in the report. The majority of these overall objectives, principles and policies are addressed in MHBC's policy review of the Provincial Policy Statement, Niagara Escarpment Plan and the Region of Halton Official Plan. The complete updated policy analysis is found on pages 6 – 40 of the <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i>.</p> <p>MHBC's policy review considered among other factors, impact on, and proposed mitigation measures to minimize such impact on: the natural environment; quality and quantity of surface and ground waters, adjacent land uses; heritage resources; significant geologic formations; transportation; and the surrounding farming and rural communities. The policy analysis also considered items such as the provincial interest in close to market supply of aggregate, aggregate demand / supply trends within the GTA and the Region of Halton, the quality and quantity of the aggregate resource; economic benefits; and the proposed after-use of the Plan.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>g) Agricultural lands shall be protected.</i></p> <p><i>The MHBC report overlooks these and other principles, objectives and policies in the Plan that are relevant to consideration of the application. JART is not able to conclude therefore that the application adequately addresses, or is in conformity with the Burlington Official Plan.” (p. 60)</i></p>	
5 Natural Heritage		
5.1 Introduction to Natural Heritage		No issues raised.
5.2 Physiographic and Ecological Setting of the Mount Nemo Plateau	<p><i>“While Stantec and Savanta have confined much of its analysis to the area proposed for a new quarry, JART has found it necessary to broaden the scope of the analysis to include much of the area in and around the Mount Nemo Plateau.” (p. 61)</i></p> <p><i>“JART is of the opinion that there was insufficient breadth of study within the study completed (Stantec 2006). Therefore JART expanded the study area to include the whole of the plateau.” (p. 63)</i></p>	<p>The Stantec/Savanta regional context analysis focuses on the designated features at a landscape level beyond the immediate area of impact. This is an accepted and reasonable approach. Chapter 3 of the Natural Environment (NE) report is dedicated to the landscape analysis. The NE report addresses natural heritage resources beyond the property boundary where potential impacts are predicted to occur, for example fisheries resources were studied (as approved and developed in consultation with JART) downstream of the subject property. It is unreasonable to suggest that the NE report confined much of its analysis to the proposed extension lands and overlooked other areas. JART has been closely involved in the development and the assessment of the scope of the work performed on this project. When JART has been interested in further studies, (e.g., fisheries), the natural heritage team developed the scope and sought comments and concurrence with JART. This ongoing collaborative approach was meant to avoid significant differences regarding scope and methods. If JART had been concerned with the geographic or technical scope through these years of study, some earlier dialogue would have been expected. With respect to studies on adjacent lands, Nelson Aggregate made several requests to 3 adjacent property owners for Stantec to get access to study features on their properties. These requests were all denied.</p>
	Figure 5.1, The Mount Nemo Plateau (p.62)	The map incorrectly portrays the plateau with an escarpment brow shown in the southwest area. In fact, the plateau is connected to the rest of the escarpment in that area and there is no brow as JART has indicated.

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
5.3 Plants and Plant Communities	<p>"...the size of some ELC communities was smaller than the standards set by the ELC manual. For instance, a number of the communities were less than 0.5 hectares in size. In general, communities this small are described as inclusions within in [sic] a larger ELC community using the methodology. This is particularly the case when looking at the marsh wetlands (MAM's) and cultural thickets (CUT's). JART was of the opinion therefore that some of these communities would more appropriately be described as inclusions within other, larger ELC communities." (p. 65)</p>	<p>The 0.5 ha for patch size is not an ELC directive, but a guideline, rather, the many small patches delineated and mapped are a reflection of the very detailed level of field work and of depicting the distinctive ELC types where the unit is found at the edge of the community. Inclusions are more commonly culled out where they occur within the larger patches.</p>
	<p>"JART was concerned that the datasheets used by Stantec were not complete. In particular, the soil descriptions were not filled out on the sheets and most communities described had less than 12, and as few as two, plant species listed. The soil work was not submitted by Stantec until late 2005." (p. 65)</p>	<p>Key soils characteristics can be, and are often determined without the benefit of detailed soils surveys (e.g. dry, fresh, moist, wet); type of soil (e.g., organic, mineral). The ELC cards that had less than 12 species reflect the simplicity of the vegetative cover. Some types (e.g., MAM2-2) very often have only one species present (e.g. reed canary grass). In any case, ELC classification is based on the top one or two species in terms of abundance, and these have been noted on the cards. The remaining species provide supportive but not determinative information.</p>
	<p>"JART did not agree that the CUT1-8 (Cultural Thicket) community was appropriately named. JART suggests that a portion of this is a swamp thicket wetland (e.g. SWT2-13). JART also had similar concerns with the identification of CUT1-9 and CUP3-2a. JART believes a portion of which may also be swamp thicket wetlands.' (p. 66)</p> <p>'Due to property access issues (Nelson's consultants were not allowed on the adjoining lands), areas such as the Camisle Golf Course and the farmlands directly south and east of the proposed quarry were not subject to ELC investigation. Stantec was not able to rectify this concern and therefore much of the surrounding area has not been studied using ELC." (p. 66)</p>	<p>Stantec is confident in the delineation of ELC units. This work has been based upon extensive field investigations. Minor inclusions may be found within the matrix of the greater community. There are no complex vegetation patches in the 120 metre study zone that were not accessible, with the possible exception of the woodlot to the south where access was requested but denied by the landowner."</p> <p>As access is often difficult within the 120 m adjacent lands zone around proposed applications, it is common to work from airphotos and visual observations from the edges of the application to provide a level of characterization. This situation is not unexpected in this type of application.</p> <p>In the wetland delineation mapping that Nelson received from JART following their May 4, 2006 ecological site visit, in the CUT 1-8 and CUT 1-9 areas JART did not indicate that wetland features were present.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"It is important to note that the wetland boundaries provided by the Ministry of Natural Resources are more accurate than the ELC community boundaries. By design, ELC is concerned with the general characteristics of a plant community rather than the characteristics at the edge of a plant community. For example, some communities such as woodlands have a patchy distribution and change gradually from one community to the next. The wetland evaluation methodology however, provides specific criteria to be used for the delineation of wetland boundaries. Therefore the boundaries originating from the wetland evaluation methodology are considered to be more precise."</i> (p. 68)</p>	<p>It is not uncommon to work with both the ELC community boundaries and wetland limits to develop a precise depiction of upland and wetland features. Stantec is confident with the delineation work they performed on the subject lands as part of the comprehensive field program.</p> <p>Notwithstanding, Nelson adopted the wetland mapping that was done by MNR for analysis of wetland water balances and used that mapping to delineate buffer setbacks from the wetlands. An exception to this was for wetland #13027 where detailed soils investigations were undertaken to delineate the extent of hydric soils and hence, the boundary of that wetland. This information was provided to JART in Attachment C of "Reports Addressing Hydrology, Hydrogeology and Ecology of Wetland Features Proposed Nelson Quarry Extension". (September 2007).</p>
	<p><i>"MNR identified that this wetland complex serves a number of important ecological functions, including the following: ...In conjunction with the surrounding natural landscape, serves as a local north-south corridor between larger forested areas. At the broader landscape level, serves as a southwest-northeast corridor for wildlife movement across the top of the Mount Nemo plateau;"</i> (p. 70)</p>	<p>At the broader landscape level, the site is surrounded by land uses such as the existing quarry, Mount Nemo Settlement Area, golf courses, and cleared agricultural lands. We are not aware of any technical information gathered by JART that would support their contention that the plateau provides an important function in this regard.</p> <p>Having said that, the proposed restoration plan in the southeast corner in combination with the rehabilitation plan would establish a higher level of local connectivity for a local wildlife corridor and would promote habitat diversity if implemented.</p>
	<p><i>"MNR identified that this wetland complex serves a number of important ecological functions, including the following: .Supports five significant species including a breeding population of the nationally and provincially threatened Jefferson Salamander, the provincially endangered Butternut tree and three locally rare plant species;"</i> (p. 70)</p>	<p>Stantec and Savanta continue to disagree that Butternut is a wetland species and disagree that Butternut on the site occur within the wetland boundary based on soil sampling that was conducted in the area.</p>
	<p><i>"The initial extraction footprint (2004) proposed to extract all of the significant wetlands on the Nelson property. In 2006, the footprint was revised to exclude a portion of swamp on the southern property boundary. The 2008 extraction footprint, excludes the majority of the significant wetlands from extraction, however, the wetlands in the southwestern woodlot (wetlands #11 and #12) are proposed for extraction, contrary to the PPS."</i> (p. 70)</p>	<p>In 2004 when the initial extraction footprint was proposed the wetlands were not designated as significant. It wasn't until more than 2 years after the application was submitted that MNR identified wetlands as significant. Following this decision Nelson completed additional technical work to examine the required setbacks to protect these features and despite some technical disagreements excluded the majority of the wetlands from the proposed extraction area in order to satisfy regulatory authorities. As noted in "Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008" (p. 51-52) the revised extraction area includes two wetlands (0.68 ha and 0.05 ha) that MNR identified as provincially significant. It is Stantec / Savanta's position that these two wetlands should not be classified as provincially significant wetlands due to size, low quality and limited function of the features.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"Nelson has proposed a 30 metre buffer from the wetland boundary to the extraction limit as shown on the Site Plan (Operational Plan 2 of 4). However, according to Cross Sections 4 of 4, a trail/path and swale are proposed within this area between the limit of extraction and the wetland boundary. In order to adequately protect a wetland, buffers should be undisturbed and fully vegetated; however, this has not been proposed by Nelson in its application nor its supporting documentation." (p. 70)</i></p>	<p>The JART statement is incorrect. The trail/path and swale shown in the buffer area on the cross-section is not being "proposed" by Nelson. The cross-section merely reflects the locations of the farm laneway and adjacent ditch that have been in existence for many decades.</p> <p>As the extraction operation progresses in Phase 6, the section of the laneway to the north of the cross-section will be extracted and access to the laneway would obviously be terminated at that time.</p>
	<p><i>"The forested portions of the Nelson property and adjacent lands are shown on Figure 5.5 and consist of native and plantation communities. The total woodland area is approximately 64.2 ha in size, of which approximately 44.5 ha occurs on the Nelson property." (p. 71)</i></p>	<p>The Figure 5.5 is entitled "Significant Woodlands". This requires clarification and Stantec / Savanta disagree with the area delineation, for example, the hedgerows identified on the JART Figure 5.5 would not meet any known Ontario criteria for provincial significance. Also, they do not comply with the definition of "Woodlands" in the Regional Plan (Sec. 295). We believe that JART has misinterpreted "significant woodlands" on these lands. This would benefit from additional dialogue. See additional comments that were made in Section 4.8 of this response.</p>
	<p><i>"The majority of the eastern half of the Nelson property has been replanted in conifer (White Pine, Red Pine, White Cedar, European Larch, Norway Spruce) and some hardwood plantations. At the request of the former landowner, Conservation Halton arranged for the site to be planted by a private contractor in April 1998. A total of 57,650 trees were planted on the property. The purpose of the plantings, as identified by the owner, was reforestation for wildlife habitat and environmental protection. The trees were three years old when planted. As a result of the planting, the former landowner was eligible for a tax reduction through the Managed Forests Tax Incentive Program based on a total forested area of 38.9 ha which includes the plantations, wetlands and deciduous forest. This initiative represents the largest single planting project undertaken by Conservation Halton on a private property. This reforestation project provided buffering for the Grindstone Creek Headwaters Wetland Complex, and enhanced the connectivity of natural features across the Mount Nemo Plateau, restoring connections between Mount Nemo and the Medad Valley." (p. 71)</i></p>	<p>The following clarifications are offered to correct misstatements. According to discussions with Nelson Aggregate and a review of woodland information:</p> <ul style="list-style-type: none"> - The property owner paid for the planting; - A large percentage of the trees planted were White Spruce (almost 20%). JART fails to note this species; - The landowner did not identify planting for the purpose of "wildlife and environmental protection" in fact the contrary is true – planting was identified for future economic tree value; - As noted in planting plan the objective of the plan was to; "Maintaining a healthy forest", and "Income", were stated as being the highest priority. It was also stated in the submitted Plan that "Trees will be harvested for lumber, fence posts, firewood, chips, etc."; - The planting was not undertaken by Conservation Halton but rather the landowner; and - It is stated that the "reforestation project provided (past tense noted) buffering for the Grindstone Creek Headwaters Wetland Complex...". It is important to note that the wetland complex was not even designated at the time of planting. Furthermore, a number of the wetland units now considered part of the newly designated GCHWC were reported by the landowner to be actively farmed in the period that planting occurred. At that time the wetland areas were planted with soya beans, clover, grain and corn. <p>Confirmation of the foregoing information was submitted to JART by the farmer (the former property owner) who originally submitted the Managed Forest Plan. It is included in Attachment A.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"Based on the definition of a Significant Woodland as set out in the Regional Official Plan (Policy 277) the forested lands on the Nelson property meet at least one criterion for designation as a significant woodland, based on a size greater than 10 ha and being located within 50 metres of a headwater creek. As part of the ROPA 25 appeals, Policy 277 has been deferred on appeal by Nelson in conjunction with two other aggregate producers, Dufferin Aggregates and the Ontario Stone, Sand and Gravel Association, on a site specific basis related solely to its properties." (p. 73)</i></p>	<p>Apparent inconsistencies in JART's definition and interpretation of significant woodlands merit investigation and further discussion. Many of the areas JART refers to as significant woodland do not appear to meet the definition of Woodland as stated in clause 295 of Regional Plan (e.g., hedgerows, nurseries, christmas trees)</p>
	<p><i>"Species that are nationally or provincially rare have special consideration in the Species at Risk Act and the Endangered Species Act" (p.74)</i></p>	<p>Species are considered under these acts only if they are designated extirpated, endangered, or threatened. A species can be nationally or provincially rare (special concern), but not protected under these acts.</p>
	<p><i>"A list of Regionally Significant Species occurring in Halton and the provincial natural heritage data base designates species as uncommon or regionally uncommon (S4 rank)." (p.74)</i></p>	<p>The MNR does not provide a clear definition of Regionally Significant species and JART appears to have misinterpreted the standard definition. Regionally Significant plant species in the province have been typically recognized to be those species that occur in the former MNR Central Region and listed in Riley (1989). Sub-national Rankings (e.g. "S4") are not associated with Regional Significance. In fact, any species designated S1 to S5 may occur as a regionally significant species.</p> <p>The Region of Halton's list is recognized as "locally significant species" as opposed to regionally significant.</p>
<p>Table 5.1 Regionally Significant Species (p. 74)</p>		<p>Table 5.1 contains many errors. In fact, there is only one Regionally Significant species on the proposed site and it is located in the area that has been excluded from extraction.</p>
	<p><i>"The relatively high number of regionally rare and provincially uncommon species indicates that the natural areas on the Nelson property are of regional importance. With regard to the provincial wetlands evaluation, the high number of species contributes nearly 50 points to the wetland evaluation." (p. 75)</i></p>	<p>Page 27 of the Wetland Evaluation report done by MNR attributes only 24 points to Significant Species (p. 27), of which only 17 points can be attributed to species found on the site itself. The JART report is incorrect in stating "...contributes nearly 50 points to the wetland evaluation".</p>
	<p><i>"...based on the number of significant species present, in combination with other criteria, the area may meet the Regional criteria for designation as an Environmentally Sensitive Area." (p. 75)</i></p>	<p>The application of ESA criteria to these and adjacent lands has not been undertaken by the Region and/or Conservation Halton. This has never been raised in the past by JART or any of its members as an issue.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
5.4 Fish and Wildlife	<p><i>"Nelson is proposing to rehabilitate the proposed quarry into a lake feature which would ultimately passively discharge into this tributary in the vicinity of the golf course property boundary. As a result, flows to the upstream portion of the tributary would be limited to runoff only. Unless pumping is continued while the proposed quarry is filling, this tributary and its fisheries could be seriously impacted. Section 35 of the Fisheries Act prohibits harmful alteration, disruption or destruction (HADD) of fish habitat without authorization from the Minister of Fisheries and Oceans Canada." (p. 77)</i></p>	<p>The proposed extension will not result in a HADD and pumping from the extension will continue during lake filling.</p>
	<p><i>"...In 2006, Stantec (accompanied on one occasion by a Conservation Halton ecologist) conducted a survey of both insect Orders on the proposed quarry property." (p. 78)</i></p>	<p>JART members accompanied Stantec twice during the insect surveys.</p>
	<p><i>"...The assessment yielded 21 dragonfly and damselfly species and 22 butterfly and moth species." (p. 78)</i></p>	<p>Stantec recorded 22 dragonflies and damselflies (not 21) and 22 butterflies and skippers (not moth) species.</p>
	<p><i>"All butterfly and moth species are considered common in Halton Region⁵ from a provincial perspective; however, several butterfly species require discussion." (p. 78)</i></p>	<p>"All butterfly and moth species..." should read "All butterfly and skipper species..."</p>
	<p><i>"It was necessary for Stantec to study herptiles over a number of years since initial surveys either did not conform to accepted sampling protocols or because there was a need for extra work to corroborate historical records." (p. 80)</i></p>	<p>Stantec's sampling protocols were not raised by JART as an issue with respect to the need for additional work.</p>
5.5 Species at Risk	<p><i>"Stantec, in a letter to JART, January 24, 2006, downplayed the significance of Jefferson Salamander saying "the southwest wetland pool does not necessarily constitute the significant habitat of" [Jefferson Salamander] and "the data shows in fact a very weak if any, population of Jefferson in the wetland that extends onto the Nelson property". JART does not agree with this statement and supports the MNR position that the property does provide Jefferson Salamander habitat and that this viable population requires protection from any</i></p>	<p>The letter was correct at the time. As a result of subsequent information provided to Nelson the extraction area was revised to protect the Jefferson Salamander breeding ponds (located offsite) and the surrounding upland woodlot.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>impacts associated with the proposed quarry.” (p. 82)</i></p> <p><i>”In 2004 Stantec identified several Butternut trees on the Nelson property. During a site visit in 2005, JART representatives documented that three Butternut trees had been removed by Nelson from the original extraction area and transplanted to another location on the property. It was also documented that the trees had not been transplanted properly. MNR then directed Nelson to remove the trees to a more appropriate location and to ensure that they were planted properly. As of summer 2008, two of the three trees appear to have died.” (p. 83)</i></p>	<p>Two (2) butternut trees (stem diameters 4.5 inches and 9.25 inches) were located in isolated hedgerows. Both trees were afflicted with butternut canker. Nelson sought advice from several different sources on how best to deal with the 2 trees. The trees were professionally transplanted by Hall Tree Farms using a large diameter tree spade in December 2005. During a subsequent storm one of the trees shifted and this exposed some of its root mass. Nelson arranged for Hall Tree Farm to straighten the tree. A third tree was transplanted at the same time but was a nursery stock tree that was later identified to be a Heartnut tree and not a butternut.</p> <p>For clarity, the larger of the two butternuts survived for 2 years after transplanting, and the other tree was still alive at the end of 2008. It is however, exhibiting increasing crown dieback and advancing canker scarring on its stem.</p>
6 Water Resources		
6.1 Overview		No issues raised.
6.2 Surface Water	<p><i>”The report evaluated not only the reduction in flow contribution but also the effects of storage and evapotranspiration within each wetland. The report indicates that the general effect of the flow reduction is an earlier drying of the wetland during the spring/summer and a delayed filling in the early fall. The potential impacts of this effect have been addressed within the Natural Heritage section of this report.” (p.87)</i></p>	<p>See Report <i>”Reports Addressing Hydrology, Hydrogeology and Ecology of Wetland Features Proposed Nelson Quarry Extension”</i> (September 2007). The delay in the spring is less than a week and the delay in the fall is at most 3 weeks depending on the wetland area. As noted in Attachment C of the report entitled <i>”Wetland Ecological Effects Assessment Associated with Predicted Hydrologic Changes”</i>, Stantec and Savanta indicate that these minor changes in timing of the hydro period are not expected to have an impact, but the wetlands will be monitored to ensure this as noted in the AMP (January 2008, Sec. 6.1).</p>
6.3 Water Balance	<p><i>Table 6.1(p.88)</i></p> <p><i>”The preceding results are based upon an assumption that during the lake filling period continued pumping from the existing quarry and proposed quarry will occur. However, at this time, a means to ensure that this assumption is implemented has not been confirmed.” (p.88)</i></p>	<p>The JART Report does not clarify that the reductions in flow to the Grindstone Mount Nemo West Branch (West Arm) are unrelated to the extension application i.e., they are a result of the existing quarry and will happen regardless of the extension.</p> <p>Both the AMP (Sec. 3.4) and the Addendum report (Sec. C-5.2) indicate that Nelson will continue pumping during lake filling. The AMP is proposed to form part of the legal requirements of the license application.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"The water balance analysis does not include an assessment of the change in flows relative to pre-quarry "natural" conditions; hence this is unknown and the proposal cannot be evaluated relative to such conditions." (p.88)</i></p>	<p>The water balance calculates pre-extension quarry flows since the existing quarry is an approved land use and the usefulness of pre-existing quarry flows was questioned since the pre-existing quarry flow has not existed for more than 50 years. However, at the request of the JART, the Addendum report (Sec. C-2.3 – Pre-Existing Quarry Drainage of the Updated Water Balance) (Golder, January 2008) states <i>"The assumed drainage divide prior to extraction of the existing Nelson Quarry is shown on Figure C.12. Pre-quarry drainage information is scarce. The drainage divide shown is based on watershed boundaries provided by Conservation Halton and is believed to be reasonably accurate, although it is difficult to verify its accuracy."</i> Figure C.12 demonstrates that the majority of the drainage in pre-quarry "natural" conditions was likely discharged north to Bronte Creek, consistent with proposed post-lake filling conditions.</p>
	<p><i>"However, JART has not been provided with a year-by-year calculation to support the time line estimates that have been presented." (p.88)</i></p>	<p>This is not necessary. The water balances assessed the following five stages of filling (Golder, January 2008):</p> <ol style="list-style-type: none"> 1) "Phase 6" - Fully extracted, no ponded water 2) "Rehab Minimal Water" – quarry floor entirely covered with water 3) "Rehab 50% Flooded" – lake half filled 4) "Rehab 99% Flooded" – lake fully filled but no gravity discharge to the environment 5) "Rehab 100% Flooded" – lake fully filled with gravity discharge to the environment <p>These five cases include all of the points in time where conditions changed appreciably. Interpolation between the cases is therefore appropriate. There are no discrete/quantum changes from one year to the other (other than the five assessed cases).</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"JART has also requested from Nelson that the potential impacts of climate change also be considered with respect to the proposal. It is necessary to examine the implications of climate change in addition to the historic variation in meteorologic parameters, because the change in climate may be beyond the historic values and trends. The informal response to this request merely use existing records to infer what might happen in the future. JART recommends that a water balance analysis be completed inclusive of both natural variability as well as the potential impact of climate change to meet the intent of the precautionary principle referenced in the previous Section.</i></p> <p><i>Golder Associates has presented its "lower bound" scenario to provide insight into the potential changes in lake filling timelines that may be expected based upon this set of assumptions. While this analysis is generally helpful in understanding the potential changes in the lake filling timeline under the presented scenario and may well address the potential fore natural variability, it has not specifically referenced or addressed the current range of predicted impacts due to climate change as outlined in the currently available climate models. It is also unclear whether the water balance calculations provide any type of contingency regarding the uncertainty of the other water balance parameters and model assumptions, beyond those noted in the "lower bound" scenario." (p.91)</i></p>	<p>As noted by JART, the lower bound scenario is a reasonable estimate of historical natural variability.</p> <p>If the effects of climate change over the life of the project (including lakefilling) are similar or less than the modeled lower bound scenario, then the lower bound scenario would provide a bounding case and be suitable to assessing the potential effect of climate change.</p> <p>The Updated Water Balance report (Addendum Report, Golder, January 2008, Sec. C-5.4) states <i>"the potential effect of climate change is not fully understood or fully agreed upon by the scientific community, however, assuming a 100 mm decrease in surplus water for the entire duration of lake filling is anticipated to provide a conservative estimate to the effect of climate change."</i> This statement does not imply that there is debate that climate change is happening or that temperatures will increase, but there is uncertainty in the effect of climate change i.e. the resultant effect on annual runoff, evaporation, lake levels, etc. Specifically, the "currently available climate models" quantify changes to temperature and precipitation, but do not quantify changes in evaporation, transpiration, runoff and infiltration.</p> <p>In the absence of this information, the lower bound scenario was used to provide insight into the potential effects of climate change. The above mentioned average 100 mm decrease in surplus (93mm to 115 mm, depending on land use) corresponds to a 19% to 44% reduction in surplus, depending on land use. A reduction in groundwater discharge to the quarry of 29% was also assumed in the lower bound scenario i.e. the lower bound scenario incorporated a 19% to 44% reduction in water available to fill the quarry lake.</p> <p>A benefit of the proposed rehabilitation lake is the potential for its use as a water management feature for flood reduction and base flow augmentation, similar to the benefits expected from the Dufferin Milton Quarry, as well as the existing Mountsburg, Kelso and Hilton Falls Reservoirs. As indicated in the Addendum report (Sec. C-3.2), <i>"A controlled outlet to Camisle Golf Course is recommended to attenuate large storm flows. A reverse slope pipe outlet to convey base flows from the lake could be considered to discharge cooler water at depth in the lake, rather than the warmer surface water."</i></p>
6.4 Impacts to Private Wells	Table 6.2 <i>Impacts on Private Wells</i> (p.96)	<p>The table copied by JART from the Addendum Report (Golder, Jan. 2008, Table A.3) is incorrect as a result of a transcription error in the Addendum Report. An Errata was submitted on February 10, 2009 to JART by Nelson with the correct information.</p> <p>Nelson thanks JART for making note of the transcription error in its presentation at the February 19th public meeting and requests that the corrected information be incorporated in the individual agency staff reports.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>Predictions of the potential impacts of the proposed quarry were updated to reflect the revised quarry footprint and staging of quarry development. However, no new data on private wells was presented relative to the 2004 report, and the update did not include any of the information collected during the 2005-2006 private well survey. (p.96)</i></p> <p>and</p> <p><i>The evaluation does not incorporate the most recent data available on private wells in the vicinity of the proposed quarry. (p.98)</i></p>	<p>MOE water well records provide a source of information regarding private wells on the Mount Nemo plateau. This information was reported by licensed well drillers/technicians capable of accessing the private wells and measuring water level depths. Water well records generated from this information provides the reviewer with water levels at the time of drilling that were uninfluenced by domestic use and, as such, are an appropriate database for use in future impact assessment predictions.</p> <p>Information gained from more recent wells surveys was considered, but it is Golder's opinion that these represented cursory and/or anecdotal knowledge of the wells surveyed, as opposed to measured results. Only longer term monitoring that would establish true static conditions would be applicable for incorporating into the impact assessment since spot measurements, such as those taken during the well survey, could have been recorded during times of recovery or decline depending on the use of the well just prior to or during the survey period. In addition, the survey took place during two different seasons (December and June) which also affected baseline results that could have been incorporated into the impact assessment.</p>
	<p><i>Information as presented does not allow more specific evaluation on the part of JART of potential impacts to specific individual wells. (p.98)</i></p>	<p>It remains unclear as to how JART would like the information presented. JART has access to MOE well data and took part in the 2005-2006 private well survey.</p>
	<p><i>The evaluation does not indicate whether a reduction of 10% at any of locations could result in the supply becoming inadequate for its intended purpose. The 1996 MOE Technical Guideline for Private Wells, Procedure D-5-5 indicates the required flows should be 450 litres per person per day and a minimum of 13.7 litres per minute pumping capability for normal domestic demands. Nelson has not indicated if any of the 123 existing wells experiencing the less than 10% impact, meet these standards and whether reduction in the water column height would cause them to not meet the standards. (p.98)</i></p>	<p>Nelson is committed to ensuring the operation of all private wells potentially affected by proposed quarry pumping. This includes private wells that could experience less than 10% reduction in water column heights. If a well complaint is received by Nelson, regardless of whether it has been identified as being affected by less than 10%, Nelson's Complaints Response Program (AMP, Sec. 7.1.1) will apply. As stated in the AMP: <i>"The following complaint response program will apply to all private wells on the Mount Nemo plateau and within 2 km of the proposed quarry extension."</i> It should be noted that the number of water wells with anticipated reduction of 10% or less is 255 as clarified in the Errata submitted by Nelson on February 10, 2009.</p> <p>Determination of Procedure D-5-5 for each private well would require performance testing of each well as well as knowledge of the household demand requirements. This is an unreasonable request for wells that are currently anticipated to have impacts of less than 10%. For wells that are likely to have greater impacts (i.e. Category A), such as those in close proximity to the site, this information will be obtained through the Baseline Well Condition Survey recommended within Section 5.3 of the AMP.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>The evaluation does not address whether the private wells with predicted impacts of 10% or less would be subject to a change in water quality. (p.98)</i></p> <p>and</p> <p><i>The Nelson reports do make reference to water quality; however, assurances on maintaining the existing quality have not been provided. A comprehensive mitigative program, with a focus on water quality, must be prepared prior to any potential approval of the applications. (p.98)</i></p>	<p>No groundwater quality impacts have been predicted.</p> <p>As part of the AMP, groundwater quality monitoring will be carried out during the life of the proposed extension and during rehabilitation to confirm that groundwater quality at the Nelson Quarry (existing and proposed extension) is not affected.</p> <p>Section 7.1.2 of the AMP (which forms part of the proposed licence) states: <i>“Appropriate water treatment, including disinfection and/or an ultra violet (UV) filter, would be incorporated into any restored water supply as appropriate to provide a supply of potable domestic water at historic rates of consumption. The quarry licensee’s restoration program will include, if necessary at its expense, chemical, bacteriological and physical treatment as required.”</i></p>
	<p><i>The evaluation does not indicate whether all of the private wells are for domestic water supply, or whether some of the private wells are for other purposes, for example agricultural use. The evaluation does not indicate whether Nelson is prepared to mitigate impacts to non-domestic well supplies. As well, it is not clear whether future well installation has been taken into consideration. (p.98)</i></p>	<p>It is not necessary to distinguish private well use with respect to the Adaptive Management Plan. Nelson is committed to ensuring the operation of all private wells (regardless of use) potentially affected by the proposed quarry pumping.</p> <p>It is to be noted that the Ontario Ministry of Environment discourages the practice of reserving future water rights. As such, installation of future wells has not been considered within the AMP. It should be noted however; as new wells are completed within the potential zone of influence of the Nelson Quarry Extension they would be incorporated into the AMP in accordance with the criteria for existing wells.</p>
	<p><i>At locations where impacts are predicted to be of sufficient magnitude to require mitigation, it is not indicated whether it is feasible to deepen wells; (p.98)</i></p> <p><i>In general, JART has a lack of confidence that deepening of wells can be depended on as a universal remedy for either water quantity or quality. (p.98)</i></p> <p><i>With respect to water quantity, it is Regional policy that urban services are not available to areas outside the urban boundary. MOE does not support long-term water trucking. In light of this, the mitigative measures for affected wells are somewhat limited and need to be expanded by Nelson in a full scale mitigation program, as at this time JART is not aware of other proven remedies. (p.98)</i></p>	<p>It is misleading to state that deepening wells will be “depended on as a universal remedy”. As noted in Section 7.1.2 of the AMP, a series of potential mitigation measures have been proposed. Compared to deepening of private wells, it is expected that the following forms of mitigation are more likely to improve water quantity:</p> <ol style="list-style-type: none"> 1. Rehabilitation of well; 2. Replacement of well; 3. Installation of larger diameter wells; 4. Installation of multiple wells; 5. Installation of additional storage. <p>These alternative forms of mitigation, most notably well replacement, have a high success rate in the vicinity of the existing quarry to date. Attachment B contains a letter from a well drilling company that was employed by Nelson in 2008 to successfully replace two domestic wells that were in very close proximity (100m) to the existing quarry face. A copy of the letter was provided to JART at the February 19th, 2009 public information meeting. To be clear, urban water supply and/or long-term trucked water are not being relied upon as measures to mitigate impacts associated with the proposed extension.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>Nelson has predicted that some wells will be affected by the proposed new quarry. Unless it is clearly demonstrated that these impacted wells will have appropriate mitigative measures, i.e. ensuring that these wells meet provincial standards, this is an unacceptable situation. (p.98)</i></p>	<p>Golder has predicted potential impacts on certain private wells in the vicinity of the proposed extension, based on the best available private well information and the extensive knowledge of bedrock hydrogeology. As a result of the study only a limited number of wells <u>may</u> be impacted as result of the proposed quarry extension. Despite this the Adaptive Management Plan includes an extensive monitoring plan to monitor groundwater quantity and quality in the area and guarantees that any well located on the mount Nemo plateau within 2 km, that is adversely impacted by the quarry will be restored. In addition as indicated in the AMP (Sec. 5.1.1), 31 on-site perimeter wells will be monitored regularly. These wells are located between the proposed extraction area and surrounding private wells. These wells will provide early indications of any unanticipated impacts to groundwater levels in advance of potential problems. As noted above there are several mitigative measures available to restore a well if required (see Section 7.1.2 of the AMP for mitigation options for domestic well locations) to meet provincial standards.</p> <p>It is also important to look at historic information from the existing quarry. Very few private wells have been adversely impacted by the existing quarry. Over the 50 years of operation there have been very few well complaints and in cases where there was an impact Nelson was able to remedy the situation. For example Attachment B contains a letter from a well drilling company that was employed by Nelson in 2008 to successfully replace two domestic wells that were in very close proximity (100m) to the existing quarry face. A copy of the letter was provided to JART at the February 19th, 2009 public information meeting.</p>
<p>7 Karst Assessment</p>	<p><i>In his response to the peer review comments, Dr. Worthington also noted that monitoring of the largest springs in Medad Valley for basic chemistry and flow will be carried out as part of the AMP. (p.102)</i></p>	<p>As per Dr Worthington correspondence (Oct 7 2006) <i>"The springs in Medad Valley are more than 1 km from Mount Nemo Tributary West Branch and so it is probable that most or all their flow is from percolation water. However, it is possible that this creek loses some water in its bed which then flows to one or more of the springs in the Medad Valley. Monitoring of chemistry and discharge at the largest springs is planned as part of the AMP. This will help identify such putative creek-bed losses."</i> Nelson agrees to add this requirement to the AMP.</p>
<p>8 Archaeology</p>		<p>No issues raised.</p>
<p>9 Agriculture</p>	<p><i>"It is unclear as to whether farm wells are being considered for mitigation in the Nelson analysis.....farm well impacts must be addressed in an Adaptive Management Plan." (p. 106)</i></p>	<p>The AMP (section 7.1.1) states <u>all</u> wells within 2 km are covered by the complaint response and restoration program and this was intended to include farm wells. Nelson presumes that this addresses the JART issue.</p>
<p>10 Traffic</p>	<p><i>"The crossing between the existing and proposed quarry site is proposed to be at-grade, approximately 390 metres to the west of the existing quarry's truck entrance, with a flagman regulating traffic in/out of the quarries. The expected crossing volume on No. 2 Side Road was not given and should be provided by Nelson.(p.108)"</i></p>	<p>The JART statement is incorrect. The estimates of the traffic crossing No. 2 Sideroad between the existing site and the proposed site have been provided by Nelson Aggregate. See page 67 of <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i>.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"JART requested actual traffic count data for the existing quarry. In response to this request, Nelson indicated that actual numbers were provided in the Paradigm report. However, Section 2.2 suggests that the numbers in the report are interpolations (as indicated by phrasing such as "estimated" and "typically") rather than actual counts." (p.108)</i></p>	<p>JART misunderstands the Paradigm table. Table 1A of the Paradigm report very clearly indicate that the numbers shown are actual recorded truck trips for the dates indicated.</p> <p>The words estimated and typically are used for daily truck volumes as these fluctuate from day to day. We presume this addresses the JART issue.</p>
	<p><i>"However, as the proposal includes an unlimited tonnage condition and importation of fill for rehabilitation, traffic could be expected to increase." (p.108)</i></p>	<p>Nelson advised JART in January 2008 that fill will not be imported for rehabilitation. See page 62 of <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i>.</p>
	<p><i>"JART reiterates its requirement for actual counts rather than estimates or summaries. Raw data should be included in an addendum so that traffic flows can be better understood. (p.108)"</i></p>	<p>Raw data can be provided but summaries such as those provided in the report are provided precisely so that an extensive volume of raw numbers can be understood.</p>
	<p><i>"Data is required on future traffic (background) and realistic quarry traffic over the life of the quarry plus during the period when fill is imported." (p.108)</i></p>	<p>Future traffic conditions, including future background traffic are discussed in Section 4.0 of the Paradigm report. See Figures 8A and 8B.</p> <p>Note that information provided previously by Nelson indicates that fill will not be imported for rehabilitation.</p>
	<p><i>"Peak traffic that can be accommodated at the site should be confirmed."(p.108)</i></p>	<p>See Figure 8A in the Paradigm report that provides an estimate of the peak hour quarry traffic. This should address the JART issue.</p>
	<p><i>"Further, data is required on traffic flow to/from and between the existing and proposed quarry sites, within the context of non-quarry traffic using No. 2 Side Road." (p.108)</i></p>	<p>See previous comment. Paradigm understands this information has been provided. See page 67 of <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i>.</p>
	<p><i>"The applicant must develop mitigation (e.g. staging area) to control the idling of trucks, and describe this in an addendum to the traffic report." (p.109)</i></p>	<p>The current practice is that the plant gates open at 5:30 AM and staging of inbound trucks occurs on the Nelson site. See page 68 of <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i>.</p>
	<p><i>"Safety Issues: Nelson could undertake to review it's contractual arrangements with outsourced truck operators to identify that unsafe driving practices will result in a default of their contract (as is currently the practice with some other aggregate firms)." (p.109)</i></p>	<p>Nelson's contractual agreements with hired truckers requires that they maintain their equipment in good operating condition and that operators have all appropriate licensing. Nelson can, and has in the past, terminated employment if unsafe operating practices are observed or reported to the company. Any complaints received are reported to the individual trucking firms in accordance with Nelson's Complaint Resolution Protocol. This should address the JART issue.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"The relationship with "trips" vs "inbound and outbound" trucks must be clearly defined in the Traffic study". (p.110)</i></p> <p><i>"The study needs more detail in regards to the amount of future truck traffic (background) which will occur and the specific overall increase to the area roads and intersections." (p.110)</i></p> <p><i>"Subsequent to the preparation of the Paradigm report, the City of Burlington prohibited truck traffic on Cedar Springs Road. Therefore the traffic impact study needs to be updated to reflect this change based on actual traffic counts." (p.110)</i></p> <p><i>....an updated report should be submitted using 2008 data with actual traffic counts, prior to the commencement of the Joint Board Hearing. (p.110)</i></p>	<p>The Paradigm report uses the terms trucks and truck movements to refer to round trips while inbound and outbound refer to one way trips. This was clarified to JART in the letter "Response to Region of Halton Traffic Study Comments" (October 27, 2006).</p> <p>This statement should be clarified. The level of detail is consistent with studies of this nature. The future traffic conditions are described in Section 4.0 of the Paradigm report.</p> <p>Please refer to the 1st paragraph in Section 4.0 of the Paradigm report. During the traffic study the City of Burlington implemented the prohibition of truck traffic on Cedar Springs Road and this was incorporated in the June 2005 edition of the Paradigm report.</p> <p>In Paradigm's opinion it is not necessary and creates an additional cost to Nelson but if it resolves a JART issue, Nelson is prepared to undertake this. The existing study has demonstrated that the existing haul route can continue to accommodate truck traffic from the extension. It is important to note that the extension does not represent new truck traffic but the continuation of existing traffic levels and patterns. Guelph Line is a major arterial Regional road which is planned and designed to accommodate truck traffic.</p>
<p>11 Noise, Air Quality and Blasting</p>		
<p>11.1 Noise</p>	<p><i>"Nelson has proposed to include AEL's acoustical recommendations on the revised ARA Site Plan dated January 11, 2008. JART also understands that the MNR would be willing to include the HGC Engineering recommendations as conditions on the ARA site plan. The matter of timing and frequency of the monitoring program and acoustical audits remains an issue to resolve." (p. 112)</i></p>	<p>In its recommendations from AEL (dated Apr 11, 2008) the timing and frequency of monitoring and acoustical audits were stated. At that time Nelson committed to JART that it would add the following note to the site plans:</p> <p><i>"An annual acoustical audit conducted in accordance with the applicable MOE Guidelines will be completed by a qualified acoustical engineer within 3 months of commencement of the operation and for every year the quarry is in operation. The site will be visited once per year during a day when the quarry is in full operation. Noise measurements will be performed to verify;</i></p> <ol style="list-style-type: none"> <i>1) that the applicable MOE sound level limits are being met at off-site residences around the site.</i> <i>2) that the quarry equipment present during the site visit satisfy the allowable noise emissions specified in [reference to equipment noise emission levels].</i> <i>3) that the construction equipment present during the site visit satisfy the noise emission requirements for construction equipment as per NPC-115.</i> <p><i>A review of the site shall also be conducted to verify that all of the recommended noise control measures of the quarry are in place."</i></p> <p>We trust this addresses the JART issue.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"As well a question remains regarding the impacts of cumulative noise (i.e. the combined noise from existing and proposed operations)." (p.112)</i></p>	<p>The AEL report dated January 2008 included cumulative noise emissions as stated in the report: <i>"This report is report revision 2. It incorporates the following changes from the report revision 1:</i> 1. <i>Addition of the aggregate processing and asphalt plants of the existing quarry in the noise impact predictions"</i></p>
11.2 Air Quality	<p><i>"A mitigation plan must address winter conditions when cold, dry and windy weather makes it impractical to administer the use of water as a traditional dust control suppressant. These details would be essential to a Best Management Practice (BMP), but to this point, JART is unaware whether an actual BMP has been prepared." (p.113)</i></p>	<p>As posted on the Nelson Website a BMP for all seasons, including winter, has been prepared (www.nelsonaggregate.com). JART was advised in the document <i>"Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008"</i> (p. 64) that it was posted on the website. The plan states:</p> <ul style="list-style-type: none"> • <u>Immediate Shutdown</u> – The portion of the operation causing the airborne particulate to leave the licensed boundary will be shut down immediately and will cease to operate until effective mitigation measures have been implemented. • <u>Application of Calcium Chloride</u> – During winter or periods of cold temperatures, flaked calcium chloride shall be applied to the upper shipping areas, scale house area and travel routes as much as necessary to mitigate airborne particulate. In cold weather, water cannot be used on roadway areas due to ice formation hazard. • <u>Application of Water</u> – A water truck will be maintained in a state of readiness to apply water to freeze the outside of stockpiles to minimize windborne particulate.
11.3 Blasting		No issues raised.
12 Rehabilitation Plan	<p><i>"JART does not agree with the MHBC Planning report reference to the proposed quarry as an "interim land use" (p. 116)</i></p> <p><i>"Notwithstanding, JART recognizes that the range of passive uses final rehabilitation options for a below-water table quarry on the Niagara Escarpment are limited. Given that the quarry floor will ultimately be submerged, other rehabilitation options (e.g. forest or wetland creation, open space) would potentially require on-going active quarry management (e.g. dewatering) of the site. However, JART continues to express a preference for passive final site rehabilitation. JART recommends that if the applications are approved,</i></p>	<p>The Regional Plan (Section 110.6) and the Burlington Official Plan(2.7.2 e) : <i>"Consider Extraction Areas as an interim use"</i></p> <p>In addition to the policy reference that extraction is an interim use, the Aggregate Resources Act, Provincial Policy Statement, Niagara Escarpment Plan, Regional Plan and City of Burlington Official Plan require rehabilitation to accommodate subsequent land uses. In Burlington examples of quarries being an interim land use with rehabilitation back to a subsequent use include Royal Botanical Gardens, Kerncliff Park and Mount Nemo Conservation Area.</p> <p>As noted on Page 3 of the Aggregate Resources Act Site Plans all shoreline wetland areas and vegetated shoreline areas will be backfilled to a 2:1 slope. Combined, these areas equate to approximately +/- 2495 m or approximately 75% of the total rehabilitated perimeter of the quarry. All these areas have variable shorelines and edges and do not represent a "predominately square appearance" as noted by JART.</p> <p>These areas also provide shallow water area, shoreline wetlands and will provide for aquatic habitat. The area described in the "Shoreline Wetland Detail" on the Rehabilitation Plan (+/- 1,715m) includes a 10 – 15m wide wetland 'shelf' with water that is less than 2 m deep. In addition, from the edge of the wetland, a 2:1 slope begins which provides additional shallow water. As noted on the site plans, these areas will include the placement of, <i>"organic material, topsoil, substrates and cover materials and structures along shallow shoreline to promote</i></p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>Nelson consider including additional shallow water areas, shoreline wetlands, etc. to the final rehabilitation plan in order to improve the overall ecological function of the rehabilitated quarry. Opportunities to create more varied shorelines should also be explored to create a more natural lake feature and avoid the predominately "square" appearance of the proposed final rehabilitation plan." (p.117)</i></p>	<p><i>shoreline and aquatic vegetation, amphibian breeding and potential fish spawning and cover for fish and other aquatic organisms."</i></p> <p>In the backfilled area noted as "Vegetated Shoreline Area" on the Rehabilitation Plan (+/- 780 m) these areas will be backfilled to a 2:1 slope that will create a 4m wide area with water that is less than 2m deep. This area will also include the placement of, "organic material, topsoil, substrates and cover materials and structures along shallow shoreline to promote shoreline and aquatic vegetation, amphibian breeding and potential fish spawning and cover for fish and other aquatic organisms."</p> <p>The proposed rehabilitated feature also consists of approximately 900 m of "Vertical Cliff Face Area". These areas will have irregular quarry faces as exhibited in the existing quarry and will resemble the natural escarpment. Exposed rock faces also provide habitat for certain wildlife species.</p> <p>This landform has been carefully designed to achieve JART's preference (July 9, 2007 comments) "that plans be developed that avoid the need to import fill" and to maximize the ecological opportunities of the proposed rehabilitation plan. There will be passive water outflow from the quarry lake to the Mount Nemo Tributary.</p>
	<p><i>The proposed rehabilitation plan also calls for experimental enhancement to certain areas that would not be affected by extraction. JART is of the opinion that this is neither necessary nor appropriate in that this would contribute to potential disturbance when creating pit and mound topography which could cause impact to the provincially significant wetlands, woodlands and habitat or Species at Risk (SAR). In this regard, JART believes it is preferable that less invasive improvements (e.g. nodal planting of native specie) be considered as an alternative." (p.117)</i></p>	<p>The enhancement plan is proposed in an area that was actively farmed 10 years ago for soya bean, clover, grain and corn and contains limited ecological diversity. The proposed enhancements for this area are not "experimental" in nature. The methods proposed were recommended by experts in hydrogeology and the natural environment from Golder Associates, Stantec and Savanta. The proposed 'pit and mound' enhancement technique provides a number of landscape benefits including the creation of the hummocky terrain typically found in mature and moist deciduous forests and the creation of additional areas for vernal pooling (AMP, p. 59). Further to this, these enhancement areas will be monitored to ensure their success and to ensure there will be no negative impacts to the adjacent wetlands. Nelson would be pleased to continue to work with the agencies to implement a plan that will enhance the natural environment in this area.</p>
	<p><i>"Aspects of the current rehabilitation plan do not meet with current provincial standards. Of particular note, Nelson is proposing to leave vertical faces along the portions of the western and southern extraction boundaries. The Aggregate Resources of Ontario Provincial Standards require that final rehabilitation side slopes should be a minimum of 2:1 (rise / run). While the Standards do provide opportunities for variance from this standard on a case by case basis, it is not clear that would exist prior to the filling of the lake and the limited ecological functionality of these vertical faces once the lake is full." (p.117)</i></p>	<p>As noted by JART, the Provincial Standards can be varied to permit vertical cliff faces. Portions of the quarry have been left as vertical cliff faces as contemplated by the Niagara Escarpment Plan (Part 2.11.9.b) and to avoid the need to import fill as requested by JART.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>"JART also notes that progressive rehabilitation of the existing quarry will be significantly delayed as a result of the aggregate being transported from the proposed quarry across to the existing quarry would correspondingly be delayed for the proposed period of extraction , followed by an indeterminate rehabilitation period, which could be a number of decades, until the quarry is filled to form a lake." (p. 117)</i></p> <p><i>The proposed final rehabilitation plan includes a large, deep lake (+/- 48ha in size, +/- 20m in depth). Deep lakes of this nature are not naturally found on the Niagara Escarpment. (p.116)</i></p>	<p>Progressive rehabilitation of the existing quarry is on-going and will be completed except for the area required for processing and shipping. See page 61 of "<i>Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008</i>".</p> <p>Final rehabilitation of the site will only be delayed by 15 years while the existing quarry is utilized to ship and process aggregate from the extension. Over 75% of the faces within the existing quarry have been sloped and vegetated and almost 50% of the quarry floor area is under rehabilitation. Nelson anticipates that by the time the extraction in the proposed quarry commences, over 85% of the existing quarry faces will have been rehabilitated in accordance with the site plans, and over 60% of the floor area of the quarry will be in a state of rehabilitation. The rationale for utilizing the existing quarry for processing / shipping is outlined on page 59 of "<i>Nelson Aggregate Co. – Burlington Quarry Extension Response to the Joint Agency Review Team Key Issues, dated January 16, 2008</i>". It is also important to note that it is typical for proposed quarry expansions to utilize the existing site for processing and shipping.</p> <p>Crawford Lake is approximately 20 m deep and is naturally occurring. A benefit of the proposed rehabilitation lake is the potential for its use as a water management feature for flood reduction and base flow augmentation, similar to the benefits expected from the Dufferin Milton Quarry, as well as the existing Mountsburg, Kelso and Hilton Falls Reservoirs.</p>
<p>13 Adaptive Management Plan (AMP)</p>		
<p>13.1 Introduction</p>		<p>No issues raised.</p>
<p>13.2 Legislative Context of Adaptive Management Plans</p>	<p><i>Within the context of JART meetings, JART considered how engineered mitigation can have an influence on planning recommendations. JART is of the opinion that the Nelson applications, along with the scientific studies detailing mitigation measures, need to be comprehensive and standalone from the AMP with respect to merits of the proposal. Therefore, Nelson may be confused about the intent of the AMP and that it could be seen as a mechanism for deferral of the evaluation of various engineering and mitigation measures until after an approval or that an AMP could be used to garner an approval through an engineered solution. (p.120)</i></p>	<p>Nelson disagrees with the JART suggestion that it is "confused" or is using the AMP inappropriately.</p> <p>As stated in the AMP (Jan 2008, Sec. 1.2), the key components of the AMP include: receptor identification and predictions of potential impact; a monitoring plan; thresholds, triggers, and management action development; and a management system to implement actions. "The AMP is intended to be flexible in order to relate to the inherent variability observed and measured in the natural environment and/or to effects not predicted by the various modeling and impact studies completed as part of the application."</p> <p>Section 7.0 of the AMP outlines both mitigation and contingency procedures. "Mitigation" describes measures that are expected to be required due to effects from the extraction operations. This includes well augmentation for selected wells prior to extraction commencing, and compacted backfilling of some quarry face areas. Nelson has proven the effectiveness of the mitigation procedures with respect to the augmentation of wells in the area of the existing quarry. In addition, Nelson initiated rehabilitation by backfilling the south west corner of the existing quarry operation in 2004 and have measured positive responses in adjacent monitoring wells (i.e., water levels are rebounding). Water levels reached a low of approximately 19m in Monitoring Well 5 in 2004 and have since risen to approximately 16m below ground surface and is still trending upwards.</p> <p>At the request of JART, Nelson also included detailed descriptions of "contingency" measures that could be undertaken if unanticipated effects (i.e. not predicted by modeling) occur as the result of extraction operations. The monitoring program provides for early detection of unanticipated effects and implementation of contingency</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
		measures. In this respect, Nelson has demonstrated the feasibility of the groundwater recharge system (see response to JART Sec. 13.5) and proposes to complete the system design early in the extraction process. Grouting of any significant karstic features as a contingency procedure is a well know engineering process that is commonly undertaken worldwide.
13.3 Recommended Principles for an Adaptive Management Plan	<i>In addition to those design principles identified by Nelson (listed on page 122), JART has prepared a number of principles and considerations that may be used to formulate an AMP: ... (p.120)</i>	Nelson incorporated the design principles listed on page 122 in the AMP as requested by JART (Geerts e-mail of Dec 23, 2006). Nelson believes that these principles were addressed in the second draft of the AMP (March 2007) and again in the updated AMP (Jan. 2008). The list of revised "principles and considerations" as listed by JART on page 120, are similar to the original principles but will require additional discussion with the agencies as they request new requirements and restrictions.
13.4 Nelson Proposal - Report on Adaptive Management Plan (Report on AMP)		No issues raised.
13.5 JART Review of Nelson's Report on AMP	<p><i>The Report on AMP defers much of the development of the specific mitigation measures to the future and therefore does not appear to meet the 'greatest degree possible' design principle. By way of example: (p.123)</i></p> <ul style="list-style-type: none"> <i>The demonstration of feasibility and effectiveness of the GRS is proposed to be deferred to the later stages of the proposed extension (i.e. proposed to be demonstrated during the extraction phase of the project).</i> 	<p>The GRS is a contingency measure, the use of which is currently not anticipated. The implementation of the GRS will be based on future monitoring results. Results of groundwater level monitoring are not anticipated to change substantially until the extension property starts to be developed and the majority of the current quarry footprint has been extracted. As such, as changes to water levels occur during the development of the extension they can be reviewed and applied to the impact assessment within an appropriate amount of time before mitigation measures are deemed to be necessary.</p> <p>It should be noted that a Stage 1 pilot study of the recharge system was completed in December 2006, as discussed in the Addendum Report (Golder, Jan. 2008) (Sec. D-7.2.2), which provided very positive results as substantiated by JART's hydrogeological review consultant in their May 2008 report to JART. This pilot study was considered Stage 1 in the development of the GRS and the information obtained from the testing will be used to develop the subsequent Stage 2. As indicated in the Addendum Report (Sec. D-7.2.2), the Stage 2 testing would be undertaken at the end of Phase 1 of the extraction, after the first 2 years of extraction. If deemed to be necessary based on the results of future monitoring, Stage 3 would entail the actual installation of the fully designed GRS.</p>
	<i>The Water Resources Report and Report on AMP provide an assumed scenario of a continued pumping rate from the existing and proposed quarries throughout the life of the project until the quarries ultimately fill to become lakes. There remains a question as to how this operation will be ensured over the life of the quarry. It is questioned as to what specific implementation mechanism (i.e. agreement, legislation etc). will be utilized to ensure long-term operation/pumping to downstream systems and implementation of the Mitigation Strategy and AMP (including possible Groundwater Recharge systems etc). This needs to be addressed in terms of meeting Nelson's stated AMP</i>	Both the AMP (Sec. 3.4) and the Addendum report (Sec. C-5.2) indicate that Nelson will continue pumping during lake filling. The AMP is proposed to form part of the legal requirements of the license application with respect to the responsibilities for bearing the costs associated with the application.

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>objective to bear the costs and risks associated with the proposal (i.e. no private resident, public agency or environmental burden). It should also address both the required form of agreement or legislation to accomplish this, as well as the required securities to ensure that the public and agencies are not put at financial risk. (p.124)</i></p>	
	<p><i>The Water Resources Report and Report on AMP do not identify how the assumed/proposed flow rate (i.e. 50% of surplus during lake filling) relates to the natural conditions that would be anticipated in the absence of the quarry. JART has requested that Nelson assess this condition in order to better understand the proposal in the context of riparian objectives. Specifically, JART has recommended that this be used as a benchmark when evaluating the proposed discharge from the quarry. (p.124)</i></p>	<p>The water balance calculates pre-extension quarry flows since the existing quarry is an approved land use and the usefulness of pre-existing quarry flows was questioned since the pre-existing quarry flow has not existed for more than 50 years. However, at the request of the JART, the Addendum report (Sec. C-2.3 – Pre-Existing Quarry Drainage of the Updated Water Balance) (Golder, January 2008) states “<i>The assumed drainage divide prior to extraction of the existing Nelson Quarry is shown on Figure C.12. Pre-quarry drainage information is scarce. The drainage divide shown is based on watershed boundaries provided by Conservation Halton and is believed to be reasonably accurate, although it is difficult to verify its accuracy.</i>” Figure C.12 demonstrates that the majority of the drainage in pre-quarry “natural” conditions was likely discharged north to Bronte Creek, consistent with proposed post-lake filling conditions.</p> <p>A 50% discharge of the surplus was selected as a reasonable estimate but as stated in Section 3.4 of the AMP “<i>Alternative lake filling timelines and discharge scenarios could be developed through refinement of the AMP.</i>”</p>
	<p><i>Climate change is a source of much uncertainty. Changes in atmospheric temperature and precipitation will occur. There is some uncertainty however regarding the magnitude of increase in temperature in Southern Ontario and what effect this will have on precipitation. It is appropriate to include in any AMP measures to address increased temperatures and variation in precipitation and any impacts this may have on the proposal. As noted in the Water Resources Section of the JART report, the potential impacts due to climate change have not been specifically addressed based on the available climate model predictions. (p.124)</i></p>	<p>See response to similar comment in Section 6.3 Water Balance.</p>
	<p><i>The Report on AMP does not appear to provide for adequate monitoring to assess flow/water level conditions, and impacts that may result on the features, within the receiving tributaries and wetlands which are in close proximity to the proposed quarry. It is not clear how potential losses in flow or water levels in these areas would be detected and what mitigation strategy is available if impacts are noted. (p.125)</i></p>	<p>With respect to “Below the Brow” Tributaries, potential water levels/ flow changes associated with the proposed quarry can only be influenced by changes to groundwater. As such, the proposed groundwater level monitoring above the brow as described in the AMP (Sec. 5.1) offers an appropriate means of examining potential changes in contribution to these watercourses that could affect their fisheries function.</p> <p>The East and West Arms of the Mount Nemo West Branch are noted to be intermittent and the West Arm is subject to quarry discharge fluctuations which effects the collection of data and assessment of level/flow monitoring information. As such, fish and benthic monitoring has been assigned as an appropriate means of examining indications of potential effects to this tributary system. The proposed biological monitoring stations are</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>The Report on AMP outlines proposed groundwater “target levels” which would trigger various actions, mitigation and/or changes to quarry operations if unanticipated impacts were to occur. The targets for the initial phase of extraction, as outlined in the Report on AMP, appear to be established based on recent historical water levels (from years 2003-2005) and predicted impacts from the quarry (i.e. 2 metres below average seasonal values for these years). According to the Report on AMP, target levels are proposed to be established for each subsequent phase as extraction in the quarry proceeds. However, there is little detail in the Report on AMP as to how this is proposed to occur or how a formal approval process related to any necessary changes would be incorporated into the ARA site plan or AMP. (p.125)</i></p>	<p>identified in the AMP Section 6.1 and illustrated on figure 6.1 of the AMP.</p> <p>Section 5.1.5 of the AMP outlines the protocol for setting target levels. A sample calculation is shown in Table 5.4 of the AMP.</p> <p>As indicated in Section 5.1.5.1 Future Adjustments to Target Levels: <i>“Target water levels will be adjusted on an annual basis to reflect changes in climatic conditions and advancement of the proposed quarry excavation”</i></p> <p>It is further stated in Section 9.1 Annual Reporting: <i>“The report will be submitted to the agencies for their information and review... The annual report will include the following:</i></p> <ul style="list-style-type: none"> • <i>Interpretation of monitoring results, comparison to impact assessment and re-evaluation of target water levels”</i>
	<p><i>The Report on AMP suggests that only category A and B wells (currently predicted to have impacts greater than 10% of water column height) would be subject to mitigation regardless of actual impacts that may occur. This leads to a number of potential concerns, including:</i></p> <ul style="list-style-type: none"> • <i>Are wells that are not predicted to be at risk, but where the actual impacts are greater than 10%, excluded from consideration for mitigation?</i> • <i>The 10% impact threshold does not include an assessment of whether this could affect the viability of the supply, or whether the supply is already being utilized to its available extent. This leads to the potential that some supplies that are currently marginal will be affected more severely.</i> • <i>The 10% threshold does not address the reduction of storage/recharge and recharge time that may also affect a well operation.</i> • <i>The proposed protocol for setting water level targets surrounding the quarry indicates that under dry conditions and/or climate change, water level targets may be reduced further</i> 	<p>The AMP says “The following complaint response program will apply to all private wells on the Mount Nemo plateau and within 2 km of the proposed quarry extension.” (7.1.1). Therefore the AMP indicates <u>all</u> wells are covered, not just those with more than 10% level reductions.</p> <p>It is unreasonable to require performance testing of all 255 wells that are currently anticipated to have less than 10% reduction due to impact from the quarry. The Baseline Well Condition Survey being proposed as part of the AMP will include the assessment on availability of supply at Category A private well locations. An appreciation of aquifer storativity and current well yield at each of these private well locations will be developed through the Baseline Well Condition Survey.</p> <p>Nelson is committed to investigating all well complaints on the Mount Nemo plateau and within 2 km of the proposed extension and restoring/mitigating wells adversely impacted by quarry operations. If water levels in surrounding wells are being affected by the dewatering of the extension property to the point of interfering with normal domestic use then Nelson will respond according to the AMP protocols.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<p><i>based on correlation to background water levels. JART is concerned that this incremental change is proposed in addition to the 10% threshold impact, leading to a potentially larger overall impact and decreased resiliency of these wells to operate in the face of such climatic changes. The AMP Report suggests that the loss of flow is similar to a natural variation, however, it should be noted that the effect is additive (i.e. when natural variation occurs these areas will be incrementally affected by both the loss of contributing area and the natural variable conditions). (p.125)</i></p>	
	<p><i>There are statements in the Report on AMP that suggest that the monitoring wells would be relocated further from the quarry as the quarry progresses. It is not clear what effect this would have on establishing target levels as quarrying progresses. (p.126)</i></p>	<p>This statement is incorrect. At the start of quarrying in the proposed extension, the full monitoring network with on-site and off-site wells will be established and subsequently monitored. As the quarry extraction progresses, some on-site wells will be removed. The trigger levels, however, have already been established for the on-site and off-site monitoring wells during each phase of extraction.</p>
	<p><i>The additional mitigation strategies only appear to be triggered if water levels decline beyond the predictions made by the model. JART recommends that it may be more appropriate to implement mitigation measures based on actual concerns/impacts as they arise (i.e. there appears to be a potential scenario for impacts that are within the predicted conditions but may prove to be problematic – yet mitigation appears only to be available where the impact predictions are exceeded) as well as when impacts exceed the stated threshold from the Report on AMP. (p.126)</i></p>	<p>As indicated in the AMP (see Section 5.1.4), revisions will be carried out on an annual basis and changes to trigger levels may occur as actual concerns or impacts arise.</p> <p>At this time, the predicted impact of proposed quarry pumping represents an appropriate reference for trigger elevations.</p> <p>Mitigation or restoration of private water wells, should they be adversely impacted, is outlined in section 7.1.1 of the AMP.</p>
	<p><i>The January 2008 Report on AMP also notes the need to undertake further analysis of flow regimes in creeks below the Niagara Escarpment should groundwater level monitoring targets near the escarpment brow be exceeded. However, the Report on AMP only identifies Shoreacres, Tuck and Appleby Creeks as part of this analysis and does not provide any consideration for monitoring/analysis/mitigation of springs feeding the Provincially Significant Medad Valley ANSI as was agreed by Dr. Worthington in correspondence dated</i></p>	<p>As per Dr. Worthington correspondence: <i>“The springs in Medad Valley are more than 1 km from Mount Nemo Tributary West Branch and so it is probable that most or all their flow is from percolation water. However, it is possible that this creek loses some water in its bed which then flows to one or more of the springs in the Medad Valley. Monitoring of chemistry and discharge at the largest springs is planned as part of the AMP. This will help identify such putative creek-bed losses.”</i> Nelson agrees to add this requirement to the AMP.</p>

JART Report Section	JART Report Comment	Nelson Aggregate Co. Response
	<i>August 25, 2006 and October 7, 2006. (see Section 8) (p.127)</i>	
13.6 Implementation of the AMP	<i>It is important that the AMP be included by reference on the Site Plan under the ARA in order to be enforceable. Implementation of an AMP may also require that a separate legal agreement be prepared to enforce the requirements of such an AMP. Any and all impacts of the proposed quarry must be addressed and borne by Nelson to ensure the public and agencies are not put at financial risk. (p.127)</i>	The AMP is proposed to form part of the site plan and compliance with the site plan is a legal requirements of the licensee. The site plans submitted to JART in January 2008 state: <i>"Implement the requirements as set out in the "Adaptive Management Plan (AMP), Version 1, Water Resources and Ecological Features, Proposed Nelson Aggregate Co. Extension", January 2008. The AMP may be amended from time to time with approval from MNR through the AMP review and reporting process. Amendments that cannot wait until the annual review and are reported to ensure protection to water/environment resources are permitted subject to notice being provided to MNR. Such amendments must subsequently be approved by MNR through the annual report and review process."</i>
13.7 Timing of the AMP Preparation	<i>JART recommends that the applications along with the scientific studies detailing mitigation measures, need to be comprehensive and standalone from the AMP with respect to merits of the proposal. However, JART would also advise that in the absence of a detailed AMP, including an implementation agreement to accompany the application, there remains insufficient information available for JART to reach any conclusions regarding how the impacts of the proposed new quarry could be appropriately mitigated. (p.127)</i>	The Aggregate Resources Act, Provincial Standards require technical studies to be completed to determine if there are any impacts and if so preventative, mitigative or remedial measures should be recommended.. An updated Adaptive Management Plan (AMP) was submitted to JART in January 2008. The AMP identifies the required mitigation and monitoring requirements including contingency items. As noted above the implementation tool to ensure the AMP is complied with is the Aggregate Resources Act.
14 Conclusion	<i>"The results have been carefully documented within this report and a number of major issues have been identified and which need to be addressed. For a detailed accounting of the issues, please refer to the Executive Summary section of this report..... In light of the completion of the JART technical report, staff of the member agencies that comprised JART will be commencing its work in preparation for reports on the merits of the applications to be considered by respective Councils, Boards, and Commissions." (p. 128)</i>	Nelson has provided a response to the JART report and would appreciate an opportunity to meet with the respective agencies to discuss any outstanding issues prior to the finalization of reports that will be presented to the respective Committee, Council and Commission meetings. The JART protocol states following the JART Report <i>"The applicant will be afforded an opportunity to address any outstanding issues and concerns"</i> .



March 17, 2009

Reference: Quality of Life input

Backgrounder:

The aggregate industry is inherently destructive. It is in the business of removing the living world and then blasting, extracting and crushing bedrock. Thoughtful observers recognize the nature of this industry and the various uses of aggregates in society. However, the MOE and MNR noise and blasting standards for aggregate operations that are in place to ensure **quality of life** for adjacent land-users do not fulfill their mandate. Furthermore, the systemic non-compliance of the industry to these standards, as evidenced by no “negative consequence” to the industry when noise and vibration exceed legal limits (*case study, Nelson Aggregate Mount Nemo quarry, City of Burlington 2006*), further exemplifies the outdated, broken, and intolerable conditions that residents affected by quarrying operations endure. The lack of enforcement capacity at both MOE and MNR has created broken systems of aggregate licensing and Permit to Take Water, and a serious lack of enforcement of standards, which further creates an environment of non-transparency and over-sight. As the systemic and chronic non-compliance issues within the industry create mistrust, lack of confidence, and injustice, this is within the realm of **quality of life**. These issues are well documented by province-wide NGO’s such as Gravel Watch Ontario, and repeatedly acknowledged by the Environmental Commissioner of Ontario in successive ECO Annual Reports.

Prepared by: Sarah Harmer and Roger Goulet, PERL Directors

What is “Quality of Life” from an official plan standpoint and how is it enhanced?

The following are higher level principles and concepts for a good “**quality of life**”:

- ❖ Peaceful enjoyment of property, surroundings and environment
- ❖ Respect for property, environment, and cultural, historical, and natural heritage
- ❖ Safeguard from negative effects, consequences and unacceptable health and safety risks
- ❖ Right to ample clean air, safe water and healthy productive soils
- ❖ Responsible neighbours and good corporate citizens that address community concerns and complaints quickly and satisfactorily
- ❖ Communities that attract world-class companies, leaders in their product and environmental stewardship and corporate responsibility
- ❖ Freedom from interference with charter / human rights
- ❖ Family and community spirit
- ❖ Trust in government and institutions
- ❖ Healthful mind, body and spirit
- ❖ Safe and livable communities
- ❖ Access to good education and health services
- ❖ Healthy, productive and sustainable ecosystems / ecology

...Continued

In reviewing the Appendix 'C' of the JART report, and prior ARA objection letters, the following references to detractors from 'quality of life' are made:

➤ **Property damages...**

- Cracks in foundations, walls, ceiling floors, chimneys, porches, and windows
- Quarry operator not taking responsibility for property damages
- Blasting causing changes/losses in well water flows
- Gravel truck spills of stones & gravel, due to ineffective load covers, causing car and property damage

➤ **Water supply...**

- Reduction in or loss of or fear of future loss of well water supplies / dry wells
- Well water flow reversal causing well output losses
- Reduction in groundwater/aquifer quantity and quality

➤ **Air quality...**

- Dust, dirt, grit covering surfaces of adjacent properties
- Gravel truck and heavy rock mover truck exhaust pollution / emissions
- Gravel trucks idling generating air emissions
- Asphalt plant air emissions
- Gravel truck mud and dust due to not using wheel wash station, or improperly designed / operated wheel wash station

➤ **Noise...**

- Noise from industrial operations
- Early morning operational and truck noise, before 6:00am
- Gravel trucks idling
- Gravel trucks using noisy engine brakes, or faulty brakes
- Gravel truck exhaust muffler noise

➤ **Public Safety...**

- Accidents and people death involving gravel trucks
- Speeding and tailgating by gravel trucks
- Gravel truck spills of stones & gravel (ineffective load covers)
- Well water flow reversal causing e-coli contamination of the drinking water supply
- Concerns over mining dust (silica) affecting health
- Concerns over blasting compound residues contaminating the drinking water supply
- Concerns over gasoline, oil and lubricant spills contaminating the drinking water supply

➤ **Natural environment...**

- Loss of life-giving woodlands, wetlands, marshes, meadows
- Loss/ reduction of groundwater levels / stores which support our natural systems
- Loss of wildlife habitats, populations, and species at risk
- Road kill of wildlife
- Loss of enjoyment of natural areas

➤ **Social / Community...**

- Broken promises, lack of trust in neighbour
- Quarry operator not behaving responsibly / poor corporate citizen
- Light pollution from quarry
- Peaceful enjoyment of our surroundings