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PLANNING JUSTIFICATION **REPORT** & AGGREGATE RESOURCES ACT **SUMMARY STATEMENT**

BURLINGTON QUARRY EXTENSION

Part Lot 1 and 2, Conc. 2 &Part Lot 17 and 18,
Conc. 2, NDS (former Township of Nelson),
City of Burlington

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1.0 EXECUTIVE SUMMARY

Nelson Aggregate Co. is applying for a proposed extension to its Burlington Quarry on lands located to the south and west of the existing Burlington Quarry. The proposed extension is located at Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton.

The proposed licence area is 78.3 hectares and the proposed extraction area is 50.2 hectares. The South Quarry Extension is 18.3 hectares with a proposed extraction area of 14.5 hectares. The South Quarry Extension consists of lands currently used for agricultural crops. The West Quarry Extension is 60.0 hectares with a proposed extraction area of 35.7 hectares. The West Quarry Extension consists of lands currently used as a golf course.

The proposed extension includes 6 phases. Phases 1 and 2 are located to the south of the existing quarry and Phases 3-6 are located to the west of the existing quarry. Within the proposed extension there will be no processing and the extracted aggregate will be transported to the existing Burlington Quarry for processing and shipping to market utilizing the existing entrance/exit and haul route. Aggregate transported from the South Extension (Phases 1 & 2) will be transported by crossing No. 2 Side Road and aggregate transported from the West Extension (Phases 3-6) will be transported by internal haul routes on the quarry floor.

The Burlington Quarry Extension contains approximately 30 million tonnes of the highest quality aggregate resource in Southern Ontario. Nelson is applying for a maximum tonnage limit of 2 million tonnes per year, however they plan on extracting an average of 1 million tonnes per year. As a result, the South Extension is expected to operate for +/-9 years and the West Extension for +/-21 years.

Nelson's after use vision for the extension and existing quarry is to develop a future park. As a result, the rehabilitation plan for the South Extension includes a beach, lake, exposed quarry faces, wetlands and forested areas. The rehabilitation plan for the West Extension includes a series of ponds, wetlands, exposed quarry faces, forested areas and lakes.

The proposed Burlington Quarry Extension is located where policy anticipates extraction to occur; appropriately balances economic, environmental and social considerations; and represents good planning taking into account provincial, regional and municipal planning policies.

1. The subject site contains the highest quality aggregate resource in Southern Ontario and the resource becomes increasingly valuable from a public interest perspective when it is located in proximity to major population centres with specialized infrastructure and construction requirements.

2. The site is located within 3.9 kilometres of the Burlington urban area, 7.7 kilometres of the Oakville urban area and 6.8 kilometres of the Milton urban area.

3. The City of Burlington is required to ensure that "as much of the mineral aggregate resources as is realistically possible shall be made available as close to market as possible". Ensuring a close to market supply of aggregate has been a cornerstone of provincial policy for the past four decades.

4. Close to market sources, such as the proposed extension, ensure that the environmental, social and economic impacts associated with aggregate hauling are reduced. The Province has noted that:

    - "*Extracting aggregate resources close to where they are being utilized can also be considered the most environmentally sensitive alternative. Trucking resources long distances increases greenhouse gas emissions, which is one of the top environmental concerns in the world today.*"
    - *"The cost of transportation is estimated to be approximately 60% of the total cost of aggregate. Therefore, the economic value of an aggregate deposit is based not only on the quantity and quality of the deposit, but also how close the deposit is to its final destination."*
    - *"Ontario has also benefited socially from accessible aggregate resources, thereby providing affordable infrastructure and housing costs."*
    - *"The wise management of aggregate resources and balancing of resource interests will ensure a continued close to market supply."*

5. The subject site has a long standing history of being recognized as an important mineral aggregate resource area in provincial documents dating back to 1974. The site is mapped as an Identified Mineral Resource Area in the Region of Halton Official Plan and policies protect the aggregate resource on-site for its potential future use.

6. The subject site is appropriately designated in the Niagara Escarpment Plan, the Region of Halton Official Plan and the City of Burlington Official Plan to consider an extension to the Burlington Quarry. The designation for the site has an objective to provide for new or expanded mineral aggregate operations.

7. The subject site and surrounding lands are located within the rural area of the City of Burlington. Surrounding lands uses include a mix of existing rural uses including the existing quarry, Mount Nemo Settlement Area, rural residential uses, golf courses, the Bruce Trail, natural heritage areas, Mount Nemo Conservation Area, an oil pipeline, rural roads, transmission towers and agricultural operations.

8. From a social perspective, aggregate extraction began in this area in 1953 and has been a longstanding use in the community ever since. The proposed extension has been designed, buffered and/or separated from sensitive land uses to prevent adverse effects and minimize risk to public health and safety based on technical reports addressing water resources, acoustics, air quality, blasting, visual, agricultural, and visual:

    - The community surrounding the existing quarry and proposed extension rely on individual groundwater wells for their water needs. The existing quarry has been operating in the community since 1953 and existing wells continue to function without adverse impacts from the quarry. The water resources report confirms that the proposed extension will not adversely impact wells. Nelson has guaranteed the protection of all private water supplies (residential and agricultural water supplies) in the

Mount Nemo Area and will implement a comprehensive groundwater monitoring program and Well Response Program.

- The proposed extension will not process any aggregate on-site. The aggregate will be extracted and transported back to the existing quarry processing plant, which is located 20 metres below grade and in a location that maximizes separation distance with surrounding residents.
- A blasting impact assessment was completed and blasting at the quarry will be in accordance with provincial guidelines to protect surrounding structures, oil pipeline and wells. All blasts will be designed and monitored to ensure compliance with provincial guidelines.
- A noise impact assessment was completed and the site has been designed with berms and operational controls to ensure provincial noise limits will be met at surrounding residents. During the commencement of each phase Nelson will complete a noise audit to ensure the operation is meeting the noise limits at adjacent receptors. Hours of operation within the proposed extension are limited to 7:00 am to 7:00 pm Monday to Friday.
- An air quality assessment was completed and the site has been designed to ensure provincial limits will be met at all surrounding receptors. A detailed Best Management Practices Plan for dust control and air emissions has been developed for the site in accordance with provincial requirements.
- A visual impact assessment was completed and the site has been designed with the retention of existing tree screens, tree planting and berms to minimize visual impacts.
- As part of the application, if required Nelson will establish a Stakeholders Liaison Committee to review on-going operations with representatives from the surrounding community and public agencies.

9. From a transportation perspective, the quarry is located close to market which reduces the overall distances that trucks travel, the amount of fossil fuel consumed and the amount of greenhouse gases emitted. The proposed extension will utilize the entrance / exit at the existing quarry and existing haul route which has been designed to accommodate truck traffic. A traffic impact assessment was completed which confirms the existing route is appropriately designed and has capacity to accommodate trucks from the continuation of the operation.
10. All potential aggregate sites for new or expanded mineral aggregate operations will either be part of the natural heritage system or agricultural system and some sites contain both. Overall, planning policies permit new or expanded mineral aggregate operations in agricultural areas since policies either prohibit or restrict aggregate extraction within certain key natural heritage features.
11. From an environmental perspective, the proposed extraction is predominately active agricultural land, golf course, constructed golf course ponds, an irrigation ditch and a few small woodlands adjacent to active golf holes.

    - This site is located outside of the Provincial Natural Heritage System, whereas 77 % of the identified crushed stone deposits within the Greater Golden Horseshoe are mapped as part of the Provincial Natural Heritage System.

- The proposed South Extension does not include any key natural heritage features within the proposed extraction area.
- The proposed West Extension includes 1 Butternut tree (Endangered), 3 golf course maintenance buildings containing barn swallow nests (Threatened), 0.48 ha woodland that contains significant wildlife habitat (Eastern Wood-Pewee) and another 0.48 woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and habitat for an endangered species (Bats). These features provide minimal diversity, are relatively isolated and managed features in the middle of active golf course. The applicable planning policies do not prohibit extraction within these features, subject to compliance with the Endangered Species Act and ensuring no negative impact to significant wildlife habitat.
- An on-site ecological enhancement plan has been designed to plant 4.5 ha of woodland, adjacent to key natural heritage features prior to the removal of the key natural heritage features in the West Extension. As part of rehabilitation of the site 3.6 ha of wetland will be created and another 24.7 ha of woodland will be planted for a total of 29.2 ha of woodlands. Overall the proposed extension will result in a significant increase in the diversity and size of the regional natural heritage system, compared to existing conditions.
- Although no direct or indirect impacts will occur to Jefferson Salamander habitat, an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System. With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands.
- Adjacent to the subject site there are several key natural heritage features and key hydrologic features including provincially significant wetlands, wetlands, habitat of endangered and threatened species, fish habitat, areas of natural and scientific interest, significant valleylands, significant woodlands, significant wildlife habitat, streams, seepage areas and springs. The proposed extension is not anticipated to have any negative impacts on adjacent natural heritage features based on the proposed buffers and mitigation measures. Nelson has developed an Adaptive Management Plan which is a comprehensive program that will be implemented to monitor and mitigate the impact on adjacent natural heritage features if required. The Adaptive Management Plan includes monitoring, thresholds and mitigation methods to recognize and prevent any negative impacts.

12. From an agricultural perspective, the subject site is mapped as a prime agricultural area and 80% of the site is mapped as prime agricultural land (Class 1, 2, and 3). However, the soils within the golf course have been disturbed through the grading of the golf course and the golf course is no longer in agricultural use. On the South Extension, only 12.7 ha are actively farmed. Planning policies permit aggregate extraction within prime agricultural areas, on

prime agricultural land and rehabilitation back to agricultural is not required subject to certain requirements. Based on these policy considerations, the site is not required to be rehabilitated back to agricultural and the application results in the removal of 12.7 ha of active agricultural land. Overall, these impacts are negligible and an agricultural impact assessment was completed and confirmed that the site has been appropriately designed to minimize impacts on surrounding agricultural operations.

13. From a cultural heritage perspective, a cultural heritage impact assessment (built heritage and cultural heritage landscape) and an archaeological investigation was completed. Overall, the proposed extraction area does not contain significant cultural heritage resources and adjacent cultural heritage resources will be conserved.

14. From an economic perspective, the proposed extension will have significant economic benefits to the regional economy and there will be no financial public liability as a result of the application. A study was completed in 2008 examining the economic benefits of the Burlington Quarry Extension which proposed to extract 26 million tonnes. In addition to employing 47 full-time persons the Burlington Quarry Extension also resulted in:

    - $1.25 million in property taxes to the City of Burlington;
    - $1.37 million in property taxes to the Region of Halton;
    - $1.96 million in taxes to the Board of Education; and
    - $136 million of supplies and services to operate the quarry.

15. From a rehabilitation and after use perspective, the application represents a significant long term public benefit related to recreational, natural heritage and water management. Planning policies require consideration of potential after uses for new or expanding mineral aggregate operations. Potential after uses are to be appropriate and compatible with surrounding land uses.

    - The rehabilitation plan for the South Extension includes a beach, lake, exposed quarry faces, wetlands and forested areas. The rehabilitation plan for the West Extension includes a series of ponds, wetlands, exposed quarry faces, forested areas and lakes. This landform is appropriate and compatible with surrounding land uses.

    - As part of the application, Nelson has developed an after use vision for 382 hectares of their landholdings including the existing quarry, proposed extension and some of Nelson's additional lands. The concept plan includes: 71 hectares of existing natural heritage system; 13 hectares recreational swimming area / beach; 47 hectares of additional lake / ponds; 89 hectares of new forest areas and wetlands; and 162 hectares of grassland area that could be used for active parkland.

    - The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated

to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

- As part of the application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension. Nelson currently has plans to significantly reduce extraction levels and operate the existing quarry for approximately 50 years and underground mining, subject to further approvals could potentially extend the life of the quarry.

- As part of the application Nelson is prepared to convey the lands to a public authority in phases: Phase 1: 48 hectares immediately following approval of the proposed extension. Phase 2: 89 hectares +/- 10 years following extraction commencing in the proposed extension. Phase 3: 245 hectares +/- 30 following extraction commencing in the proposed extension.

- This after use vision represents a unique opportunity to enhance parkland that is well-connected to the Bruce Trail. The value of 382 hectares of contiguous publically-accessible parkland to a rapidly growing centre such as Burlington is significant. The landholdings are 5 times larger than any City of Burlington park and are the size and scale that is suitable for a Provincial park within the Greater Golden Horseshoe.

2.0 NELSON AGGREGATE CO. – THE COMPANY

Nelson Aggregate Co. is a partnership between Lafarge Canada Inc. and Steed and Evans Holdings Inc. The partnership started in May 1983 through the acquisition of land and operational assets being sold by Genstar Building Products.

Nelson has mineral aggregate operations located in the areas of Beamsville, Burlington, Cambridge, Orillia, Oneida and Alliston. The Burlington Quarry is Nelson's flagship operation and their only mineral aggregate operation inside the Greater Toronto Area which is the highest demand area for aggregate in the Province of Ontario.

Nelson provides the public and private sectors with aggregate materials that are primarily used to manufacture a wide range of concrete and asphalt products necessary for various construction activities including road building, sewer and water main construction, shoreline protection, erosion control, landscaping and commercial, institutional, industrial and residential development.

3.0 EXISTING BURLINGTON QUARRY

The Burlington Quarry is located on Part of Lots 1 and 2, Concessions 2 and 3, City of Burlington, Regional Municipality of Halton (former Township of Nelson) north of No. 2 Sideroad and west of Guelph Line. The Aggregate Resources Act Licence area is 218.3 hectares (±540 acres) with an extraction area of 210.0 hectares (±519 acres). See Figure 1.

The Burlington Quarry has been in operation since 1953. Nelson Aggregate Co. purchased the Burlington Quarry in 1983 and has operated the quarry since. The Burlington Quarry is a local source of aggregate for the Region of Halton and in particular the City of Burlington. Approximately 75% of the aggregate produced in the quarry is used within the Region of Halton (37.5% is used in the City of Burlington and 37.5% in other areas of the Region of Halton) and the remaining 25% is predominately shipped to the Region of Peel and City of Toronto.

In total, the existing quarry has supplied approximately 130 million tonnes of a high quality aggregate resource to help build surrounding communities. Examples of construction and road building material the quarry has supplied include:

- residential homes (440 tonnes of aggregate are used in a typical residential home);[1]
- schools (13,000 tonnes of aggregate are used in average sized school);[2]
- office buildings (16,000 tonnes of aggregate are used in a large office building);[3]
- Highway 407 (51,800 tonnes of aggregate are used in a 1 kilometres section of a six lane provincial highway);[4]
- Burlington Skyway Bridge;
- Residential roads;
- CN Tower;
- Ontario Place;
- Rogers Centre;
- Toronto Convention Centre;
- Ford Plant Reconstruction;
- Lake Ontario shoreline restoration;

[1] Ontario Stone, Sand and Gravel Association – "About Aggregates #5, Importance of Aggregate."
[2] Ibid
[3] Ibid
[4] Ibid

- Bronte Harbour;
- Town of Oakville Municipal Office;
- Black Creek Pioneer Village; and
- Various Parks (e.g. Bluffers Park, Kerncliff Park, Paletta Lakeside Park, Spencer Smith Park, Roly Bird Park).

The Burlington Quarry is permitted to ship to market an unlimited amount of aggregate per year. The Burlington Quarry has historically shipped on average 1.5 to 2 million tonnes of aggregate per year with reduced levels in recent years since licensed aggregate reserves are running out. Without an extension to the quarry, Nelson plans to significantly reduce extraction levels and focus production to supply its on-site asphalt plant with the remaining reserves. Based on the reduced extraction levels Nelson expects to operate the Burlington Quarry site for approximately 50 years. The existing Aggregate Resources Act site plans for the Burlington Quarry also contemplate underground mining, subject to additional approvals. This could potentially extend the life of the quarry.

The existing Burlington Quarry does not have any restrictions for hours of operation. From May to December the quarry generally operates from 6:00 am to 5:00 pm on weekdays and from 7:00 am to 12:00 pm on Saturdays. During the balance of the years (January to May) the quarry generally operates from 7:00 am to 5:00 pm on weekdays and does not operate on Saturdays. The asphalt plant operates beyond these hours to supply public infrastructure projects, when required. There are no operations on Sundays or statutory holidays.

Aggregate at the Burlington Quarry is extracted both above and below the groundwater table. As a result, the quarry is dewatered to allow the quarry to remain in a dry state for operations. Dewatering involves collecting surface water and groundwater in a sump on the quarry floor and discharging excess water off-site at the northwest corner of the site and to the south of the site in accordance with the Ministry of the Environment, Conservation and Park permits. The existing Burlington Springs golf course, Camisle golf course, surrounding natural heritage features and residential ponds rely on this discharged water.

The aggregate at the Burlington Quarry is extracted by stripping the overburden and topsoil to expose the bedrock resource. The stripped overburden and topsoil are used for progressive and final rehabilitation of the site.

The exposed bedrock is then drilled in preparation for blasting. The majority of the blasted rock is then transported to the primary crusher by quarry trucks where the stone is crushed to approximately 8 inches in size and is then transported by a conveyor belt to a large stockpile called the primary surge pile.

Stone is transported from the surge pile by a conveyor belt to secondary and tertiary crushers. This material is then transferred by conveyor and graded through screens to create the required end product. No chemicals are used in the production of aggregates. The processing equipment is located on the quarry floor which is more than 20 metres below existing grade.

After the aggregate is processed into final product it is stored and shipped from product stockpiles on the quarry floor. Trucks leaving the quarry travel east on No. 2 Sideroad and the majority travel south on Guelph Line to access local job sites via Dundas Street, Highway 407 and the QEW.

At the Burlington Quarry Nelson also recycles concrete and asphalt which has diverted thousands of metric tons of material from municipal landfills. Annually the company recycles between 30,000 and 50,000 tonnes.

The existing quarry rehabilitation plan is approved for a ±185 hectares lake, with an island, exposed cliff faces, vegetated shorelines and shoreline wetlands. To date, Nelson has completed progressive rehabilitation in the eastern and western portion of the quarry floor and continues to finalize side sloping around the perimeter the site to create the future shoreline areas for the lake. Once extraction is complete dewatering of the quarry would stop and the lake would be permitted to fill naturally. When this occurs water that is currently discharged to the north and south would stop.

Since acquiring the Burlington Quarry in 1983, Nelson has implemented protocols and operational changes at the quarry, including:

- Relocation of the processing equipment and stockpiles to the quarry floor 20 metres below grade;
- Raising of acoustic berms around the perimeter of the quarry to address individual concerns;
- Installation of a truck wash system for all trucks leaving the site to reduce track out and limit airborne particulate matter;
- Adjustment of blasting techniques and monitors every blast for conformity with prescribed limits;
- Development of a Best Management Plan for airborne particulate matter;
- Purchase of two dedicated water trucks and a street sweeper to limit airborne particulate matter on-site and on No. 2 Sideroad;
- Development of a Protocol for the importation of clean fill for rehabilitation;
- Gates are opened 30 minutes prior to the quarry opening to allow highway trucks to queue on site instead of No. 2 Sideroad;
- Development of a blast notification program; and
- Development of a well complaint procedure.

4.0 OVERVIEW OF THE PROPOSED BURLINGTON QUARRY EXTENSION

Nelson seeks to replenish its existing reserves by extending the Burlington Quarry on lands to the south and west of the existing quarry so that it can continue to supply aggregate to the local market and surrounding municipalities from this strategic location. The proposed extension is located at Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton.

The proposed licence area is 78.3 hectares and the proposed extraction area is 50.2 hectares. The South Quarry Extension is 18.3 hectares with a proposed extraction area of 14.5 hectares. The South Quarry Extension consists of lands currently used for agricultural crops. The West Extension is 60.0 hectares with a proposed extraction area of 35.7 hectares. The West Extension consists of lands currently used as a golf course. See Figure 2.

The proposed extension includes 6 phases. Phases 1 and 2 are located to the south of the existing quarry and Phases 3-6 are located to the west of the existing quarry. Within the proposed extension the hours of operation are limited to Monday to Friday 7 am to 7 pm and there will be no processing. Extracted aggregate will be transported to the existing Burlington Quarry for processing and shipping to market utilizing the existing entrance/exit and haul route. See Figure 3.

Aggregate transported from the South Extension (Phases 1 & 2) will be transported by crossing No. 2 Sideroad to access the existing quarry and aggregate transported from the West Extension (Phases 3-6) will be transported to the existing quarry by internal haul routes on the quarry floor.

The Burlington Quarry Extension contains approximately 30 million tonnes of the highest quality aggregate resource in Southern Ontario. Nelson is applying for a maximum tonnage limit of 2 million tonnes per year, however they plan on extracting an average of 1 million tonnes per year. As a result, the South Extension is expected to operate for +/-9 years and the West Extension for +/-21 years.

Nelson proposes to continue aggregate recycling at the existing quarry as part of its future operations. Over the past 25 years, there has been an increased awareness regarding the need for sustainable development and the conservation of non-renewable virgin aggregates.[5] The process of recycling aggregates reduces the amount of waste going to landfills, as well as the amount of energy necessary to produce virgin aggregates; and also maximizes truck trips to and from the job

[5] Jegel – SAROS Paper 4, 2010 – Page i

site (i.e. trucks enter the quarry with broken asphalt/concrete, exit with a full truckload of aggregate rather than empty).

"*The use of recycled material in road building grew substantially between 1991 and 2006 from approximately 6 million tonnes per annum to approximately 13 million tonnes. While this represents a significant percentage of the primary sources of typical recycled material, this still represents only 18 to 19 percent of the total aggregates used for transportation infrastructure construction*[6]."

Recycled materials are often precluded from use in high-performance applications, as the result of technical (physical properties) aspects, durability concerns, or cost, but there remain ample applications where recycled materials can be used without special considerations (i.e. conventional asphalt concrete mixes and as granular base/sub-base aggregates).[7]

Close to market aggregate sites such as the Burlington Quarry are important to sustain the viability of aggregate recycling since:

- the majority of recycled aggregates need to be mixed with virgin aggregates to meet quality specifications;
- there is a need for a location that is large enough to handle, process, stockpile and transport the recycled aggregate; and
- recycling operations must be located close enough to the construction site that transportations costs don't preclude the reuse of aggregate.

Continuing to permit recycling activities at the existing quarry while the proposed extension is being operated is appropriate and helps to conserve mineral aggregate resources.

The rehabilitation plan for the Burlington Quarry Extension includes the following landforms:

- South Extension (18.3) includes:

  <u>Setback Area (3.8 hectares)</u>

  - 2.5 hectares of setback area to be forested during operations in Phases 1 and 2
  - 0.4 hectares of setback area to be forested once berms are removed
  - 0.9 hectares of setback area of existing trees and grasslands

  <u>Extraction Area (14.5 hectares)</u>

  - 1.6 hectares of beach
  - 0.8 hectares of shallow lake
  - 9.8 hectares of deep lake
  - 1.5 hectares of forested sideslopes
  - 0.8 hectares of wetland

[6] Ibid
[7] Ibid – Page 14

- West Extension (60.1 hectares) includes:

  Setback Area (24.4 hectares)

  - 17.4 hectares of existing trees and grasslands
  - 4.3 hectares of pond to be built prior to extraction in Phase 3
  - 2.0 hectares of setback area to be forested prior to extraction in Phases 3
  - 0.4 hectares of setback area to be forested once berms are removed
  - 0.3 hectares existing wetland

  Extraction Area (35.7 hectares)

  - 13.4 hectares of forested slideslopes
  - 9.8 hectares of lake
  - 0.9 hectares restored to original grade and forested
  - 8.1 hectares gradual grade with trees and vernal pools, including islands
  - 0.7 hectares of pond
  - 2.8 hectares of wetlands

See Figure 4.

As part of the Burlington Quarry Extension application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension.

If the extension is approved, Nelson's after use vision for the extension and existing quarry is to develop a future park and conservation area that could be created in phases. The total area includes 382 hectares consisting of:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

See Figure 5. After uses would be subject to further approvals after the Aggregate Resources Act License is surrendered. See Section 10.0 for additional information.

The proposed quarry extension has been designed taking into account the recommendations, mitigation measures and monitoring programs that have been developed by a multi-disciplinary project team. These include recommendations related to water resources, ecology, agricultural, acoustics, air quality, blasting, visual, traffic and cultural heritage.

Based on the operational design, the proposed quarry extension will protect private water supplies (residential and agricultural), prevent adverse impact on sensitive land uses and ensure no negative impact on significant natural features.

Similar to the existing quarry, the proposed extension would extract aggregate both above and below the groundwater table. As a result, the quarry will be dewatered to allow the quarry to remain in a dry state for operations. Dewatering involves collecting precipitation and groundwater in a sump on the quarry floor and then discharging the water off-site to the north and south consistent with dewatering requirements at the existing quarry. For Phases 1- 2 excess water will be discharged to the intermittent watercourse located in the northwest corner of the site, which currently receives discharge from the existing quarry. For Phases 3 – 6 the operation will be integrated into the existing quarry dewatering system and water will be discharged to the north and south similar to existing operations.

Prior to extraction commencing in the West Extension, a pond will be built to the west of the proposed extraction area to replicate the function of the existing golf course pond.

The topsoil and overburden stripped from the site will be retained and used for the construction of perimeter berms and progressive and final rehabilitation of the site. All on-site berms will be built in stages to mitigate noise and visual impacts from the active extraction area.

The exposed bedrock is then drilled in preparation for blasting. The blasted rock will be transported to the existing quarry for processing and shipping. Utilizing the existing quarry for processing and shipping will minimize impacts on the surrounding community since the:

- processing plant and shipping stockpiles will be located on the quarry floor 20 metres below grade; and
- the existing quarry entrance/ exit and haul route will be used. This entrance / exit and haul route has been in place since the 1950s and will maintain the current traffic patterns on No. 2 Sideroad and Guelph Line.

Utilizing an existing quarry for the processing and shipping of aggregates sourced from an extension is a common practice. From a planning and social impact perspective it is advantageous to have the processing area and stockpiles located on the quarry floor to minimize impacts on the surrounding community.

Utilizing the existing quarry will also not delay final rehabilitation of the site since Nelson's current plans are to extract the existing quarry at a significantly reduced extraction level and operate the existing quarry for approximately 50 years. As part of this application, Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude +/- 30 years of approval of the extension.

Although no direct or indirect impacts will occur to Jefferson Salamander habitat, Nelson has proposed an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson

Salamander habitat. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System. With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands. See Figure 6.

5.0 REQUIRED LAND USE APPLICATIONS

The Niagara Escarpment Plan, Region of Halton Official Plan and the City of Burlington Official Plan all require Plan amendments to permit a new or expanded mineral aggregate operation. These plans do not pre-designate land for new mineral aggregate operations. Instead the Plans include policies and objectives of where new aggregate operations are encouraged to locate and policies to evaluate the application to ensure social and environmental impacts are minimized.

The proposed Burlington Quarry Extension is located within a land use designation that has an objective to provide for new mineral aggregate operations in the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan. To permit the extension there are several applications required to both the subject site and existing Burlington Quarry.

The applications for the proposed Burlington Quarry Extension lands include a:

a) Aggregate Resources Act Class A Licence (West and South Extension);

b) Niagara Escarpment Plan Amendment from Escarpment Rural Area to Mineral Resource Extraction Area (West and South Extension);

c) A Development Permit pursuant to the Niagara Escarpment Planning and Development Act (Lands owned or controlled by Nelson);

d) Regional Municipality of Halton Official Plan Amendment from Agricultural Area and Regional Natural Heritage System to Mineral Resource Extraction Area (West and South Extension);

e) City of Burlington Official Plan Amendment from Escarpment Rural Area to Mineral Resource Extraction Area; and

f) Niagara Escarpment Plan Amendment to add the following site specific policy to the existing quarry: "*Notwithstanding the policies of the NEP including the permitted uses under section 1.9 Mineral Resource Extraction Area and the definition of accessory use in Appendix 2 of this Plan, for the quarry operating on property described as Part of Lots 1 and 2, Concessions 2 and 3 in the City of Burlington, Regional Municipality of Halton, the office, maintenance buildings, facilities for washing, processing and stockpiling of aggregate, truck washing facility, asphalt plant, recycling facilities and the entrance may be used for the purpose of supporting the extraction of aggregate from the area approved under Amendment _____ to the NEP and licences under the Aggregate Resources Act located on* Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton *provided, and only while the two sites are actively operated by a single licencee, as an integrated operation.*"

See the Application Booklet, filed under separate cover for a copy of the proposed land use schedules, policy amendments and conditions for the proposed Niagara Escarpment Development Permit and Aggregate Resource Act Licence.

Following approval of these documents, Nelson will also require the following approvals:

- MNRF Aggregate Resources Act site plan amendment to the existing quarry to allow removal of common setbacks, integrate operations and revise the rehabilitation plan;
- MECP authorizations, permits or registrations under the Endangered Species Act; and
- MECP updated Environmental Compliance Approvals for water handling and discharge to incorporate the extension.

6.0 LIST OF TECHNICAL REPORTS

Nelson's proposed Burlington Quarry Extension was designed based on several technical reports in the fields of water resources, ecology, acoustics, air quality, blasting, traffic, visual, cultural heritage, and agricultural. The controls and mitigation measures specified by the reports form the basis of the operational design of the quarry and the planning analysis.

The following is a list of reports that have been prepared for Nelson to assess the proposed extension and which have been relied upon in the preparation this report. These reports have been prepared based on pre-consultation with the Niagara Escarpment Commission, Region of Halton, City of Burlington and Conservation Halton. See the Application Booklet, filed under separate cover for a copy of the pre-consultation record.

1. Adaptive Management Plan, Proposed Burlington Quarry Extension, Earth FX Incorporated, Savanta, and Tatham Engineering, April 2020.
2. Agricultural Impact Assessment, Nelson Aggregate Co. Burlington Quarry Expansion, April 2020.
3. Air Quality Study for Nelson Aggregate Co., Burlington Quarry Extension, BCX Environmental Consulting, March 2020.
4. Archaeological Assessment (Stages 1, 2 & 3), Nelson Aggregates Quarry Expansion, Archaeologix Inc., August 2003.
5. Archaeological Assessment (Stage 4), Nelson Aggregates Quarry Expansion, Archaeologix Inc., August 2004.
6. Stage 1-2 Archaeological Assessment, Proposed West Extension of the Burlington Quarry, Golder Associates, March 2020.
7. Blast Impact Analysis, Burlington Quarry Extension, Explotech Engineering Ltd, April 23, 2020.
8. Cultural Heritage Impact Assessment Report (Built and Cultural Landscape), Burlington Quarry Extension, MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC), April 2020.
9. Financial Impact Study, Proposed Burlington Quarry Extension, Nelson Aggregates Co., April, 2020.
10. Level 1 and 2 Hydrogeological and Hydrological Impact Assessment Report, Proposed Burlington Quarry Extension, Earth FX Incorporated, April 2020. This report includes the karst assessment.
11. Level 1 and 2 Natural Environment Technical Report, Proposed Burlington Quarry Extension, Savanta, April 2020.

12. Noise Impact Assessment, Nelson Aggregate Quarry Extension, Howe Gastmeier Chapnik Limited, April 22, 2020.
13. Nelson Aggregate Company, Burlington Quarry Extension Traffic Report, Paradigm Transportation Solutions Limited, February 2020.
14. Surface Water Assessment, Burlington Quarry Extension, Tatham Engineering, April, 2020. This report also includes the hazard land assessment.
15. Visual Impact Assessment Report, Proposed Extension of the Burlington Quarry, MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC), April 2020.
16. Progressive and Final Rehabilitation / Monitoring Study, MacNaughton Hermsen Britton Clarkson Planning Limited (MHBC), April 2020.
17. Public Consultation Strategy, Project Advocacy, April 2020.

7.0 CLOSE TO MARKET POLICY

Mineral aggregates resources are a matter of provincial interest as set out in the 2020 Provincial Policy Statement. They are considered to be essential building blocks of the Provincial economy. Approximately 60% of all aggregate produced in Ontario is consumed by the public sector and is used to build highways, local roads, water and sanitary services, schools, hospitals and other public infrastructure. Municipal water systems use filter systems which include aggregates.

Aggregates are a non-renewable natural resource found at fixed locations. Not all municipalities in Ontario have a plentiful supply of aggregates. Given the importance to our everyday lives and the economy, Provincial Policy sets out that aggregates are to be protected for future use without being sterilized by competing uses.

The 2020 Provincial Policy Statement requires the Region of Halton and the City of Burlington to ensure that "*As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible*".

Ensuring a close to market supply of aggregate has been a cornerstone of provincial policy for the past four decades. Close to market sources, such as the proposed extension area ensures that the environmental, social and economic impacts associated with aggregate hauling are reduced.

The Burlington Quarry is a local source of aggregate for the Region of Halton and in particular the City of Burlington. Approximately 75% of the aggregate produced is used within the Region of Halton (37.5% in the City of Burlington and 37.5% in the other areas of the Region of Halton) and the remaining 25% is predominately shipped to the Region of Peel and City of Toronto. The Burlington Quarry is strategically located in close proximity to the urban areas of the City of Burlington, Town of Oakville and Town of Milton. See Figure 7.

The proposed Burlington Quarry Extension is located within the Greater Toronto Area (GTA) which is the highest demand area for aggregates in Ontario and consumes approximately one third of Ontario's total aggregate production. On average the GTA consumes approximately 65 million tonnes per year. [8]

Historically, the Region of Halton has produced an average of 12 million tonnes per year between 1988 -2006. However, Halton Region aggregate production has declined from nearly 16 million tonnes in 2001 to an average of 6.5 million tonnes between 2013 -2018 with only 5.4 million tonnes being produced in 2018.[9]

[8] OSSGA Secure Access
[9] TOARC Annual Production Reports

The depletion of close to market supplies, the difficulty of establishing new operations, the need for additional aggregate reserves in the GTA and the economic, environmental and social impacts of importing aggregate further from market has been well documented. This situation is particularly acute as it applies to crushed stone in the western half of the GTA. GTA West production of high quality crushed stone was historically supplied by 5 quarries. Two have closed and the 3 remaining crushed stone quarries (Milton Quarry, Acton Quarry and Burlington Quarry) have been in production for several decades. See Figure 8. These sites have produced large quantities of high specification material for the GTA market. The licences for these sites were issued in the 1970's, and replacement reserves have been limited to an extension of Dufferin Aggregates Milton Quarry and Acton Quarry. Even with these extensions, there is a limited supply of licensed crushed stone remaining based on projected demand.

In 1992, the Provincial State of the Aggregate Resource Study identified that 40 % of the aggregate consumed by the GTA was imported from outside of the GTA. Between1991 – 2015 the GTA has been extracting aggregate 3 times faster than it is replacing new supply. As a result of diminishing close to market supply of aggregate, in 2017 and 2018 the GTA imported 72 % of the aggregate that it consumed. This is consistent with the declining aggregate production trends in the Region of Halton. [10]

Minimizing travel distances and maximizing the use of existing infrastructure is a planning principle that is applied to many aspects of land use planning. This planning principle also applies to mineral aggregate operations since the GTA consumes on average 65 million tonnes of aggregate per year which represents approximately 3.7 million truck trips to accommodate its aggregate needs (35 tonne trucks / two way travel).

Past and current studies completed on behalf of the Province of Ontario all confirmed there are significant economic, social and environmental impacts of transporting aggregate from areas further from market. The Ministry of Natural Resources and Forestry has noted:

- "*Extracting aggregate resources close to where they are being utilized can also be considered the most environmentally sensitive alternative. Trucking resources long distances increases greenhouse gas emissions, which is one of the top environmental concerns in the world today.*"
- *"The cost of transportation is estimated to be approximately 60% of the total cost of aggregate. Therefore, the economic value of an aggregate deposit is based not only on the quantity and quality of the deposit, but also how close the deposit is to its final destination."*
- *"Ontario has also benefited socially from accessible aggregate resources, thereby providing affordable infrastructure and housing costs."*
- *"The wise management of aggregate resources and balancing of resource interests will ensure a continued close to market supply."*[11]

As part of the 2010 State of the Aggregate Resource in Ontario Study (SAROS), prepared for the Ministry of Natural Resources and Forestry; MHBC, Golder Associates, and iTrans Consulting assessed the feasibility of alternative transportation systems to supply aggregates to the GTA. Four modes of transportation were considered: long distance trucking, marine, rail, and the existing provincial policy of close to market.[12] The evaluation scenarios are set out below.

[10] OSSGA Secure Access and TOARC Annual Production Reports
[11] http://www.mnr.gov.on.ca/MNR/aggregates / resources.html
[12] SAROS Paper 2 – Future Aggregate Availability & Alternatives Analysis, December 2009, pg 77.

Evaluation Scenarios
A Long Haul Trucking from North Bay
B Rail from North Bay
C Marine from Manitoulin
D Close to Market (CTM)

Table 1 - Alternative Transportation Scenarios – SAROS Paper 2

The results of the study confirms previous work and outlined significant economic, environmental and social costs of shifting away from the current close to market policy in favour of importation from long distance sources for the GTA market. The following is a summary comparing the different modes of transport and associated impacts;

Mode of Transport	Total Cost / Tonne	Total Fuel Consumed (billion litres)	Total Greenhouse Gasses Produced (million tonnes)
Marine / Truck	$52.14	13.7	47.3
Long-haul Trucking	$44.31	12.73	44.4
Marine / Rail	$29.29	7.7	28.4
Rail	$17.66	5.5	26.5
CTM Status Quo	$9.46	2.7	12.1

Table 2 - Comparison of Alternate Modes of Transportation – Costs, Fuel and Greenhouse Gases

8.0 DESCRIPTION OF THE SUBJECT SITE AND ON-SITE RESOURCES

The proposed extension is located at Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton.

The proposed licence area is 78.3 hectares and the proposed extraction area is 50.2 hectares. The South Extension is 18.3 hectares with a proposed extraction area of 14.5 hectares. The South Extension consists of lands currently used for agricultural crops. The West Extension is 60.0 hectares with a proposed extraction area of 35.7 hectares. The West Extension consists of lands currently used as a golf course. See Figure 2.

8.1 Mineral Aggregate Resources

The Burlington Quarry is an established source of high quality aggregate produced from the Amabel Dolostone. Thirty million tonnes of the same high quality aggregate has been estimated for the proposed extension area based on the on-site drilling program.

The proposed extension area has a long standing history of being recognized as an important mineral aggregate resource:

- 1974, Mineral Aggregate Study, Central Ontario Planning Region (Proctor and Redfern);
- 1980 Niagara Escarpment Planning Area, High Priority Mineral Resource Protection Area (MNR);
- 1982 Aggregate Resources Inventory of City of Burlington, Regional Municipality of Halton, Southern Ontario, Paper 45 (MNR);
- 1996, Aggregate Resources Inventory of the Regional Municipality of Halton, Southern Ontario, Paper 164 (MNDM);
- 2009, Aggregate Resources Inventory of the Regional Municipality of Halton, Southern Ontario, Paper 184 (MNDM);
- 2006, Region of Halton Official Plan; and
- 2018 Office Consolidation of the Region of Halton Official Plan.

The aggregate on-site is a provincially significant aggregate resource (Amabel Dolostone) and is suitable for the production of a wide range of construction products including crushed stone, concrete aggregate and building stone. It is well suited for the production of road building and construction aggregate, and for high performance concrete.[13]

This dolostone provides a high strength, durable aggregate material in Southern Ontario for freeway and highway construction including structural concrete, concrete paving, and asphalt paving aggregates.[14]

The rock is highly competent, free of shale and silt impurities, and has highly desirable chemical properties.[15] The bedrock is considered to have superior hardness, toughness, crushability, workability and durability.[16] It is these physical properties that make the Amabel Dolostone such a high quality aggregate resource. The resource becomes increasingly valuable from a public interest perspective when it is located in proximity to major population concentrations with high order specialized infrastructure and construction requirements.

The proposed extension is an identified mineral resource area in the Region of Halton Official Plan and is protected for its potential future use. See Figure 9.

8.2 Key Natural Heritage Features and Key Hydrologic Features

Within the Greater Golden Horseshoe 77 % of the identified crushed stone deposits are mapped as part of the Provincial Natural Heritage System. This site is located outside of the Provincial Natural Heritage System and the City's Greenland System. See Figures 10 and 11.

The proposed extraction area contains cleared agricultural crop land, a golf course, constructed golf course ponds, a constructed irrigation ditch, a hedgerow and small woodland areas adjacent to active golf holes.

The proposed South Extension does not include any key natural heritage features within the proposed extraction area.

Within the proposed West Extension extraction area there is an area designated as part of the Region of Halton's Natural Heritage System. See Figures 12 and 13. This area includes three small woodlands located adjacent to active golf holes. An environmental impact assessment was completed and the on-site woodlands were evaluated using Provincial and Regional criteria to determine if the woodlands qualified as a significant woodland. Based on the assessment the woodlands did not meet Provincial and Regional criteria to be deemed significant.

[13] Golder Associates Ltd. & D.J. Rowell. Aggregate Resources Inventory of the Regional Municipality of Halton, Ontario Geological Survey Aggregate Resources Inventory Paper 164, 1996 pg. 75
[14] Joint Ministries Submission, Zoltan Katona (MTO) Witness Statement - Niagara Escarpment Plan Review. 1991, October 17, 1991, pg. 11.
[15] Ibid
[16] Ministry of Natural Resources. Response of the Ministry of Natural Resources to the Proposed Revisions to the Niagara Escarpment Plan and Aggregate Resources Technical Addendum. June 1991.

The woodlands were also assessed to determine if they included other key natural heritage or key hydrologic features. Based on this assessment one of the woodlands (0.48 hectares) contains significant wildlife habitat (Eastern Wood-Pewee) and another woodland (also 0.48 hectares) contains significant wildlife habitat (Eastern Wood-Pewee) and endangered species habitat for bats. The environmental impact assessment also identified 1 Butternut tree and 3 golf course garages containing barn swallow nests within the West Extension that are proposed for removal. The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act. The West Extension also includes the removal of a 0.26 ha woodland that did not qualify as a key natural heritage feature.

An on-site ecological enhancement plan has been designed to plant 4.5 ha of woodland, adjacent to key natural heritage features prior to the removal of the key natural heritage features in the West Extension. As part of rehabilitation of the site 3.6 ha of wetland will be created and another 24.7 ha of woodland will be planted for a total of 29.2 ha of woodlands. Overall the proposed extension will result in a significant increase in the diversity and size of the regional natural heritage system, compared to existing conditions.

Although no direct or indirect impacts will occur to Jefferson Salamander habitat, an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System. Nelson will consult further with the Ministry of Environment, Conservation and Parks since the area is regulated habitat.

With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands, of which 8.5 ha will be planted prior to the removal of woodlands in the West Extension.

The environmental impact assessment recommended several conditions related to the removal of on-site features that have been included on the Aggregate Resources Act Site Plans. The following is a summary of these conditions:

- Prior to site preparation an Erosion and Sedimentation Control (ESC) Plan will be prepared and implemented to minimize the potential for erosion and sedimentation.

- Prior to extraction commencing in Phase 2, the setback areas in Phase 2 adjacent to key natural heritage features will be planted with trees and shrubs.

- Prior to extraction commencing in Phase 3, the setback areas in Phases 3, 4, 5 and 6 adjacent to key natural heritage will be planted with trees and shrubs.

- Prior to extraction commencing in Phase 3, the west extension pond shall be constructed to west of the proposed extraction area.

- Prior to removal of the golf course irrigation ponds and irrigation channel in the West Extension, the downstream end of the golf course channel shall be blocked to isolate surface water. If water is to be pumped from the feature to facilitate site preparation it shall be directed to the existing sump for discharge in accordance with MECP ECA and PTTW requirements.

- Prior to removal of one Category 2 Butternut tree in Phase 3 the licensee shall register the activity under section 23.7, O.Reg. 242/08 of the Endangered Species Act and implement the requirements of the registration.

- Removal of the woodland in Phase 3 shall only occur between November 1 and March 31 to avoid impacts to bats and Eastern Wood-Pewee. To mitigate for the removal of bat habitat and Eastern Wood-Pewee the licensee shall complete the tree planting requirements as outlined on the operations and rehabilitation plan; install bat boxes and artificial bark stations adjacent to the pond and woodland in the West Extension.

- Removal of the woodland in Phase 6 shall only occur between August 1 and April 30 to avoid impact to Eastern Wood-Pewee. To mitigate for the removal of bat habitat and Eastern Wood-Pewee the licensee shall complete the tree planting requirements as outlined on the operations and rehabilitation plan.

- Prior to the removal of 3 golf course maintenance buildings in the West Extension, the licensee shall register the activity under section 23.5, O.Reg. 242/08 of the Endangered Species Act and implement the requirements of the registration.

- The site shall be rehabilitated in accordance with the details included on the rehabilitation plan and include forested areas, wetlands, lakes, and cliff faces.

- Subject to authorization from MECP, the licensee shall complete an off-site ecological enhancement plan on 4 hectares of Jefferson Salamander habitat that is currently active agricultural area. The goal is to create an upland woodland and minor grading to develop vernal pools.

- Areas identified on the rehabilitation shall be planted with the species listed in the environmental impact assessment. The planting design and approach will be guided by the Conservation Halton Landscaping and Tree Preservation Guidelines (2010).

- Planting densities are recommended based on the restoration objectives and presence/absence of existing natural features. For example, planting densities will be highest where the objective is to restore/establish a woodland but may be reduced if/when objective is to establish a buffer adjacent to a naturalized area. The type of species planted will also be dependent on adjacent habitat (e.g., greater reliance on shrub plantings when restoration occurs adjacent to a meadow, and tree plantings when planting next to woodland).

- The tree and shrub plantings shall be maintained and monitored at least annually until "free-to-grow" conditions have been achieved.

8.3 Agricultural Resources

The majority of the proposed extraction area is mapped as part of the Provincial and Regional Agricultural System. See Figures 14 and 15. An agricultural impact assessment was completed and concluded:

- the West Extension include lands historically mapped as prime agricultural lands (36.8 hectares Class 1, 0.4 hectares Class 2 and 20.3 hectares Class 3), however these lands have been disturbed for the construction of the golf course and are no longer in agricultural use;
- the South Extension contains prime agricultural lands (13.2 hectares Class 1 and 3.0 hectares Class 2) and 12.7 ha is actively used for crops. These lands do not qualify as specialty crop lands and are considered a prime agricultural area, consisting of prime agricultural land. On-site there is limited agricultural investment.

All potential mineral aggregate operations sites are either mapped as part of the Natural Heritage System or Agricultural System. Planning policies generally favours the removal of agricultural lands over key natural heritage features.

Of the lands mapped as part of the Agricultural System the application includes the removal of 12.7 hectares of land actively used for agricultural purposes within the South Extension. Planning policy permits aggregate extraction within prime agricultural areas, on prime agricultural lands, and does not require rehabilitation back to agricultural when certain tests have been met. The agricultural impact assessment addresses these requirements and concludes that rehabilitation of the site back to agricultural is not required.

Overall, the impact of the application on agricultural resources is negligible and results in only the removal of 12.7 hectares of land in agricultural use and all potential quarry sites in the rural area of the City of Burlington will be on prime agricultural land.

8.4 Cultural Heritage Resources

Planning policy requires that significant cultural resources be conserved. Cultural heritage resources include built heritage resources, cultural heritage landscapes and archaeological resources.

A cultural heritage impact study (built heritage resources and cultural heritage landscapes) and archaeological assessment was completed for the proposed Burlington Quarry Extension.

Based on these studies there are no significant built heritage resources, cultural heritage landscapes or archaeological resources located within the proposed extraction area.

Adjacent to the proposed extraction is the rural residential building and barn located at 2280 No. 2 Sideroad which is owned by Nelson. These buildings have cultural heritage value and are listed on the City of Burlington non-designated register. The buildings are located outside of the proposed extraction area and will be conserved.

The archaeological investigation identified an area outside of the West Extension extraction area, where a Stage 2 archaeological investigation is still required prior to any site disturbance in this area. The Stage 2 assessment for this area will be completed in 2020.

9.0 SURROUNDING LAND USES

The subject site and surrounding lands are located within the rural area of the City and Burlington. See Figure 16. Surrounding lands uses include a mix of existing rural uses including the existing quarry, Mount Nemo Settlement Area, rural residential uses, golf courses, the Bruce Trail, Mount Nemo Conservation Area, an oil pipeline, rural roads, transmission towers and agricultural operations. Overall the lands surrounding the proposed extension represent a highly altered landscape with a mix of rural land uses. See Figure 17.

Aggregate extraction began in this area in 1953 and has been a longstanding use in the community ever since. Since establishment of the Burlington Quarry, additional residential have developed and been approved in the Mount Nemo Area in proximity to the existing Burlington Quarry. The majority of the people living in the community moved into the area after the commencement of the existing quarry. Over the years the area has become less of an agricultural area due to various developments and lot creation. See Figure 18. These lots have been created primarily for rural residential purposes and also include commercial, institutional and recreational uses.

Taking into the consideration the evolution of land uses in the Mount Nemo area, the proposed extension lands and other lands in the area continue to be protected as a high potential mineral resource area and planning decisions have been made over the years to continue to protect this area for its aggregate potential. See Figure 9. As a result, the proposed extension lands are appropriate to consider for aggregate extraction based on surrounding land uses subject to the application being appropriately designed to minimize impacts on these uses.

The following is a summary of existing uses in the area and a summary of how the application has been designed to minimize impacts on these uses.

9.1 Rural Residential Uses

Within the areas surrounding the Burlington Quarry there is the Mount Nemo Settlement Area, a rural estate subdivision, strip residential development and farm residential uses. Many of the rural residential homes are large estate homes.

Since the 1980's, three (3) residential subdivisions have been approved in the Mount Nemo Area. Two of the subdivisions are located within the Mount Nemo Settlement Area (the Illingworth and Paletta subdivisions) and the other is located to the west of Cedar Springs Road and north of No. 2 Sideroad (the Golf Springs Estates subdivision). See Figure 17.

The Illingworth subdivision application consisted of a 12-lot residential development, within the Mount Nemo Settlement area; located east of Guelph Line and immediately west of Mount Nemo Crescent on Part of Lot 1, Concession 3, in the City of Burlington, Regional Municipality of Halton. The residential development encompassed an area of approximately 15.2 hectares (37.6 acres). The application was approved in 1992.

The Golf Springs Estates subdivision consisted of two subdivision applications: Golf Springs Estates East and Golf Springs Estates West (Part Lots 1 & 2, Concession 2, City of Burlington).

The Golf Springs Estates East application proposed a 16-lot residential subdivision on lands included within the proposed West Extension. In a letter to the City of Burlington on July 17, 1986, Halton Region highlighted four (4) areas of concern. These included the impact on mineral resources, ribbon (strip) development, wetlands and hydrogeology. In regards to mineral resources, Halton Region restated the Ministry of Natural Resources and Forestry's position on the application: "*MNR staff have identified the golf course lands as a potentially good source of mineral aggregate material…MNR staff advise that new residential development in this area would be incompatible with existing and licenced quarry operations and could restrict the expansion of such operations*." The letter also reiterates Niagara Escarpment Commission's position that the proposed development did not comply with Niagara Escarpment Plan on the basis of the Mineral Aggregate Resource Planning Policies. As a result of the concerns regarding the Golf Springs Estates East, the City of Burlington Planning Staff Report dated September 8, 1988, opposed the application. Following this report, the application for the Golf Springs Estates East was withdrawn.

The Golf Springs Estates West application proposed a 12-lot residential development on land surrounded by Cedar Springs Court to the west, No. 2 Sideroad to the south and Cedar Springs Road to the north and east. The subdivision application was approved in 1992.

The Paletta subdivision application proposed the creation of 27 residential lots located east of Guelph Line and south of No. 2 Sideroad, just south and southeast of the existing hamlet of Mount Nemo. The proposed residential development encompassed an area of approximately 34 hectares. The subdivision application was approved in 1996.

As part of the approval of each of the subdivisions, the Owners were required to include in all Offers of Purchase, Agreements of Purchase and Sale, or Lease and Reservation Agreements:

> *"Purchasers are advised that Nelson Aggregate Company ("Nelson") is the owners of lands located in Lots 1 and 2, Concession 2 and 3, N.S., City of Burlington, in the Regional Municipality of Halton and which lands are in proximity to those lands being developed for residential purposes by Paletta International Corporation.*
>
> *The Nelson lands are presently licensed and operated for aggregate extraction industrial purposes and it is the intention of Nelson, through its licensees, agents, successors and assigns, to use the lands for the purpose of extraction, processing, manufacturing and transportation of aggregates.*
>
> *(i) Purchasers are also advised and acknowledge that noise, vibrations, dust, visual unsightliness, large equipment, maneuvering and permitted working hours are all incidental to the lawful operation of aggregate extraction site and the lawful operation of heavy vehicles on the public roads.*

(j) Purchasers are further advised that even though noise and vibration control features may be incorporated within the development area, noise and vibration levels may be of potential concern." [17]

9.2 Agricultural Uses

The subject site and surrounding lands are located in the rural area of Burlington. As is the case with the existing quarry, mineral aggregate operations are found on and adjacent to agricultural operations.

Both agricultural and mineral aggregate operations are legitimate rural uses and have historically co-existed without unacceptable impacts. In the Niagara Escarpment Plan, Region of Halton Official Plan, and the City of Burlington Official Plan agricultural operations are a permitted use within the Mineral Resource Extraction Area designation.

The proposed extraction area is designated "Escarpment Rural Area" in the Niagara Escarpment Plan and City of Burlington Official Plan and the Region of Halton Official Plan predominately designated the site as Agricultural Rural Area. Each of these designations has an objective to provide for the designation of new Mineral Resource Extraction Areas by amendment to the respective plans.

The proposed extension and surrounding area is identified as prime agricultural land and a prime agricultural area. Over the years, the area has transitioned from a predominately agricultural area to a mix of rural land uses.

The agricultural uses in the area include low-intensity cash crop operations to the north, south and east, livestock and poultry farm operations to the south and equestrian farms to the north. Other than barns, there is limited capital investment evident on nearby farms.

9.3 Recreational Uses

The lands surrounding the existing quarry and proposed extension include several recreational uses, including golf courses, the Mount Nemo Conservation Area and the Bruce Trail. All of these uses commenced after operations began at the existing quarry and have co-existed over the years.

In addition to the Burlington Springs Golf Course, the other golf courses in the area include:

- Camisle Golf Club is a 27-hole golf facility, consisting of a 9-hole course established in 1971, and an 18-hole course established in 1988. Camisle is located directly to the west of the proposed extension.
- Hidden Lake Golf Club is a 36-hole golf facility that was established in 1962 (began as an 18-hole course, but expanded over time).

[17] Paletta Subdivision Agreement – Notification Clause (h); the Golf Springs Estates and Illingworth Subdivisions contain similar notification clauses.

Other recreational uses in the general area include the Mount Nemo Conservation Area and the Bruce Trail.

The Mount Nemo Conservation Area is located approximately 70 m to the northeast of the existing quarry. This park was established in 1959 and is operated by Conservation Halton. The park is open year-round, 7 days a week from 8:00 am to sunset (no overnight camping). Activities include hiking and cross country skiing on 5 kilometres of trails, scenic viewing and rock climbing.

In this area, the Bruce Trail runs east along No. 1 Sideroad (east of Guelph Line), north on Walkers Line, west on No 2. Sideroad road allowance to the Mount Nemo Conservation Area. The trail continues north through the Mount Nemo Conservation Area to Colling Road where it is located on 1.5 kilometres of land that Nelson has provided access to the Bruce Trail Association to establish a safer route for the trail adjacent to Colling Road. The trail is directly adjacent to the existing quarry and continues on Nelson's land until the trail goes north on Blind Line.

9.4 Institutional Uses

The Mount Nemo Christian Nursing Home is located 250 m from the existing quarry extraction area and over 500 m metres from the proposed extraction area in the South Extension. The Nursing Home is a long term care facility located within the Mount Nemo Settlement Area and has been in business since 1985. In 1991, after 6 years of operating adjacent to the existing quarry, the facility expanded from 30 beds to 60 beds.

9.5 Commercial Uses

There are several small scale commercial uses located within the surrounding area. These uses predominately include landscape / garden centre companies. Some of these companies purchase aggregate from the Burlington Quarry. Other local businesses exist, such as the Mount Nemo Restaurant, and a variety of businesses that cater to pets.

9.6 Other Land Uses

Other uses located within the surrounding area include the following:

- Guelph Line which is a major arterial road with a planned function to: serve mainly inter-regional and regional travel demands; accommodate truck traffic; carry high volumes of traffic; connect urban areas or nodes in different municipalities and distribute traffic to and from Provincial freeways and highways;
- Cedar Springs Road which is a minor arterial road with a planned function to serve mainly local travel demands, accommodate local truck traffic, carry moderate to high volumes of traffic and distribute traffic to and from major and multi-purpose arterials;
- Colling Road, No. 2 Sideroad and No. 1 Sideroad which are local roads;
- Transmission towers; and
- An oil pipeline which is located adjacent to Phase 5.

9.7 Minimize Impacts on Surrounding Land Uses

The proposed extension lands are considered a high potential mineral aggregate resource area and protected for potential future use. These lands are appropriate to consider for aggregate extraction based on surrounding land uses subject to the application being appropriately designed to minimize impacts on these uses.

The applicable planning documents require that mineral aggregate operations minimize and prevent adverse impact on surrounding land uses and protect residential and agricultural water supplies.

As part of the pre-application process, Nelson pre-consulted with the community regarding the application. The pre-consultation process included:

- Nelson established a dedicated website for the project on June 25, 2019.
- Door-to-door visits within 1 – 2 kilometers of the quarry on June 24, 2019, September, 25 2019 and February, 14 2020.
- Neighbourhood meeting hosted by Nelson on September 30, 2019.
- Burlington Quarry open house and tours for the community on October 5, 2019 and in 2020 every Thursday afternoon. As of late March these open houses and tours have been temporarily suspended during the COVID-19 pandemic.
- Pre-application public consultation meeting organized by the City of Burlington on February 18, 2020.

The discussion with the community has generally focused on the current operations, timing to close the quarry, after use, noise, air, blasting, truck traffic, dust, protection of water supplies, fill, rehabilitation, property values and the natural environment.

See the Application Booklet, filed under separate cover for a copy of the pre-application meeting notes. The following includes a summary of items included in the application in an effort to address concerns raised from the community and to minimize impacts on surrounding land uses. The issues related to after use and the natural environment are addressed in other sections of this report.

The proposed extension has been designed by a multi-disciplinary project team (water resources, acoustics, air quality, blasting, traffic, agricultural, and visual) and includes mitigation and monitoring requirements to protect private water supplies and prevent adverse impact on surrounding land uses. These mitigation measures and monitoring measures are included on the Aggregate Resources Act Site Plans for the proposed Burlington Quarry Extension. The following is a summary on how the proposed extension has been designed, buffered and/or separated from surrounding land uses to prevent adverse effects and minimize risk to public health and safety:

- The proposed extension is located outside of Municipal wellhead protection areas. See Figure 19. Within the surrounding area the residential and agricultural community relies on groundwater for their water needs. Within Mount Nemo there is no municipal water

supply and all uses have their own individual well(s). The existing quarry has been operating since 1953 and existing wells continue to operate in the area without adverse impacts from the quarry.

The water resources report confirms that the proposed extension will not adversely impact wells. Nelson has guaranteed the protection of all private water supplies (residential and agricultural water supplies) in the Mount Nemo Area and will implement a comprehensive groundwater monitoring program and Water Well Interference Complaint Protocol. Based on input from the community Nelson has posted its Well Interference Complaint Protocol on its website for the community to access. The following is the Well Interference Complaint Protocol for the existing quarry and proposed extension:

If a water well complaint is received by the licensee the following actions will be taken:

- The licensee will notify MNRF and MECP of the complaint.

- The licensee will contact a well contractor in the event of a well malfunction and residents will be provided a temporary water supply within 24 hours, if the issue cannot be easily determined and rectified.

- The well contractor will contact the resident with the supply issue and rectify the problem as expediently as possible, provided landowner authorization of the work. If the issue raised by the landowner is related to loss of water supply, the licensee will have a consultant/contractor determine the likely causes of the loss of water supply, which can result from a number of factors, including pump failure (owner's expense), extended overuse of the well (owner's expense) or lowering of the water level in the well from potential quarry interference (licensee expense). This assessment process would be carried out at the expense of the licensee and the results provided to the homeowner.

- If it has been determined that the quarry caused the water supply interference, the quarry shall continue to supply water at the licensee's expense until the problem is rectified. The following mitigation measures shall be considered and the appropriate measure(s) implemented at the expense of the licensee:

    - adjust pump pressure;
    - lowering of the pump to take advantage of existing water storage within the well;
    - deepening of the well to increase the available water column;
    - widening of the well to increase the available storage of water;
    - relocation of the well to another area on the property;
    - drilling multiple wells; and
    - only at the request of a landowner would a cistern be installed.

- If the issue raised by the land owner is related to water quality, the licensee will have a consultant/contractor determine the likely causes of the change in water quality, and review monitoring results at the quarry and background monitoring results from the baseline well survey to determine if there is any potential correlation with the quarry. If it has been determined that the quarry caused a water quality issue, the quarry shall continue to supply water at the licensee's expense until the problem is rectified. The licensee shall be responsible for restoring the water supply by replacing the well or

providing a water treatment system. Only at the request of a landowner would a cistern be supplied. The licensee is responsible for the expense to restore the water quality.

- Nelson currently conducts monitoring at private residential wells in the area, in addition to the existing and proposed groundwater monitoring network on their lands. Nelson has advised area residents that they can be included in the monitoring program subject to access and ensuring the wells is suitable for monitoring.

- Nelson contacted all residents within 1 km of the quarry extension to conduct a baseline survey of their well and determine if they wanted to be included in the current groundwater monitoring program. Of the 156 homes visited, only 11 homeowners participated in the baseline survey and were interested in participating in the monitoring program. Seven of the 11 private domestic water wells were accessible and, as a result, have been added to the current groundwater monitoring program. Nelson will conduct another baseline well survey for all wells within 1 km of the proposed extension prior to extraction commencing.

- Nelson has incorporated extraction setbacks in the design of the extension that are greater than the extraction limit established by the Province for all adjacent residential uses (i.e. Province requires 30 metres from rural residential uses).

- The operation is phased to limit extraction in proximity to certain residential areas for a defined time period. Assuming 1 million tonnes of extraction per year, extraction will occur in Phase for 1 for +/-1 year, Phase 2 for +/-8 years, Phase 3 for +/-5 years, Phase 4 for +/-5 years, Phase 5 for +/-8 years and Phase 6 for +/-3 years.

- The proposed extension will not process any aggregate on-site (e.g. no crushing). The aggregate will be extracted and transported back to the processing plant at the existing quarry which is located 20 metres below grade and in a location that maximizes separation distance with surrounding residents.

- A blasting impact assessment was completed and blasting at the extension will be in accordance with provincial guidelines to protect surrounding structures, wells and the pipeline. All blasts will be designed and monitored to ensure compliance with provincial guidelines and the pipeline requirements. Nelson has a blast notification program for area residents and provides blast monitoring results to those residents that request a copy.

- A noise impact assessment was completed and the site has been designed with berms (3 – 5 metres) and operational controls to ensure provincial noise limits will be met at surrounding residents. As part of the extension Nelson will use a new quieter drill. During the commencement of each phase Nelson will complete a noise audit to ensure the operation is meeting the noise limits at adjacent receptors.

- Nelson has committed to limit operations within the proposed extension to 7 am to 7 pm Monday to Friday. Within the extension there will be no operations on weekends or statutory holidays.

- An air quality assessment was completed and the site has been designed to ensure provincial air limits from the operation will be met at surrounding residents. A detailed Best Management Practices Plan for dust control and air emissions has been developed for the site in accordance with provincial requirements. As a result of the recent consultation, Nelson met with an adjacent landowner and is implementing additional measures, in the Best Management Practices Plan to address these concerns.

- From an impact perspective the proposed extension has been designed to minimize the impact on surrounding land uses and meet provincial standards for blasting, noise and air quality assuming 2 million tonnes of aggregate is produced per year. Nelson, plans on producing half this amount and therefore impacts will be further minimized.

- A visual impact assessment was completed and the site has been designed with the retention of existing tree screens, the addition of berms, and tree planting to minimize visual impacts.

- Property values are not a planning consideration when evaluating the appropriateness of new or expanded mineral aggregate operations. Planning policies have objectives and policies to permit mineral aggregate operations in the rural area and operations are typically located in close proximity to surrounding residents from close to market locations. From a planning perspective, residents are to be protected by appropriately designing the site to minimize impacts on surrounding land uses. In addition, mineral aggregate extraction is already established use in the area.

- The proposed extension will utilize the entrance / exit at the existing quarry and existing haul route which has been designed to accommodate truck traffic. Trucks enter / exit the site on No. 2 Sideroad and travel east to Guelph Line. The majority of trucks travel south on Guelph Line which provides access to other Regional Roads and Highway 407 and QEW. A traffic impact assessment was completed which confirms the existing route is appropriately designed and has capacity to accommodate truck from the continuation of the operation. Guelph Line is a major arterial road with a planned function to transport high volumes of traffic including truck traffic. See Figures 20 and 21. As per the existing City of Burlington By-law, trucks are prohibited on Cedar Springs Road except for local deliveries.

- Nelson has a strict fill protocol in place that requires testing prior to the removal of excess soils from a site and testing at the quarry, in accordance with Provincial regulations. The site plans will also require that a Record of Site condition be obtained prior to the surrender of the Aggregate Resources Act Site Plans.

- As part of the application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension. Nelson currently has plans to significantly reduce extraction levels and operate the existing quarry for approximately 50 years and underground mining could potentially extend the life of the quarry.

- As part of the application, if required Nelson will establish a Stakeholders Liaison Committee (SLC) to encourage open dialogue between Nelson and the community.

10.0 SURROUNDING KEY NATURAL HERITAGE AND HYDROLOGIC FEATURES

The lands surrounding the proposed extension are located within the rural area of the City of Burlington. Lands surrounding the proposed extension are included within the Provincial Natural Heritage System, Regional Natural Heritage System and City Greenland area. See Figures 10 to 13.

The natural landscape directly adjacent to the proposed extension lands includes a patchy network of small woodlands, young and immature plantations, open and treed wetlands, and generally intermittent and warm water tributaries. The main regional wildlife corridors within the area are further setback from the proposed extension. See Figure 10.

Within the surrounding area the following natural heritage features have been identified:

- Wetlands, See Figure 22;
- Jefferson Salamander Regulated Habitat, See Figure 6;
- Habitat for endangered and threatened species;
- Life and Earth Science ANSI, See Figure 23;
- Significant woodlands;
- Significant wildlife habitat;
- Significant valleylands;
- Habitat of rare and special concern species within the Escarpment Natural and Protection areas;
- Watercourses; and
- Fish habitat.

These features have been included within the Provincial, Regional and Local natural heritage mapping as shown on Figures 10 to 13 and further illustrated in the environmental impact assessment.

Planning policies require that new or expanded mineral aggregate operations be designed to ensure no negative impact on adjacent key natural heritage features and key hydrologic features.

An environmental impact assessment and water resources report has been completed for the Burlington Quarry Extension. These reports assess adjacent key natural heritage features and key hydrologic features and recommend mitigation measures and monitoring requirements to ensure the operation is designed to prevent negative impact on adjacent features. The following is a summary of the conclusions of these reports and how the application has been designed to ensure no negative impact on adjacent features and how the Regional Natural Heritage System will be enhanced and expanded:

- Contributions to the wetlands, vernal pools and watercourses are primarily from surface water conveyance;
- Vertical groundwater seepage through the overburden is minor due to the low hydraulic conductivity of overburden underlying the wetlands;
- Wetlands, watercourses and Jefferson Salamander Habitat (potential and known breeding ponds) are sustained by snowmelt and/or seasonal and intermittent flows of surface water;
- The proposed extraction area will have a minimum 30 metre buffer from wetlands;
- Provincially significant wetlands and potential and confirmed Jefferson Salamander breeding ponds are further setback from the extraction area. A detailed surface water assessment and an integrated surface water and groundwater model verifies that the water balance for these features will be maintained and there will be no direct or indirect impact as a result of the extension. A detailed water budget analysis has been completed for all provincially significant wetlands including the confirmed breeding ponds;
- The regulated habitat of the Jefferson Salamander is outside of the proposed extraction area and there will be no direct or indirect impacts to this habitat;
- The proposed extraction area maintains a minimum 30 metre setback from the majority of adjacent woodlands and other key natural heritage features. The only exception is a 15 metre extraction setback adjacent to the pine plantation along the east side of the South Extension and two small woodland lobes in the West Extension along the south boundary. Typically agencies require a 10-15 metre buffer from adjacent significant woodlands and this application exceeds those requirements;
- The West Extension has been phased to maintain connectivity between key natural heritage features located at the mid-point of the site and along the southern boundary of the site. During extraction of Phases 3 and 4, connectivity will be maintained from the buffer lands and Phase 5 and 6 areas. Prior to extraction commencing in Phase 6, sidesloping within Phase 3 will be completed to maintain connectivity between these features;
- The discharge location in the West Arm of the West Branch shall be installed between July 16 and March 14 to prevent disturbance to fish habitat. Other standard in-water and near-water work mitigation measures (e.g. sediment and erosion controls, spill prevention and response measures, work-site isolation, as may be necessary) shall be implemented. Any riparian areas disturbed during the installation of the outfall should be rehabilitated with appropriate native vegetation species. Following completion of detailed design of the

outlet, the licensee shall consult with DFO to ensure compliance with the provisions of the Fisheries Act;

- Alterations required to the weir plate and installation of the diversion pipe in the weir pond in the West Extension shall take place between July 16 and August 30 to minimize potential to impacts to downstream fish habitat;

- Prior to removal of the irrigation ponds and irrigation channel in the West Extension, the downstream end of the golf course channel shall be blocked to isolate surface water, if water is to be pumped from the feature to facilitate site preparation it shall be directed to the existing sump for discharge in accordance with MECP ECA and PTTW requirements;

- The licensee is required to operate in accordance with the Adaptive Management Plan, prepared by Earth FX Incorporated, Tatham Engineering and Savanta dated April 2020, as may be amended from the time to time with approval from MNRF, in consultation with NEC, Region of Halton, City of Burlington and Conservation Halton. The Adaptive Management Plan includes a comprehensive groundwater and surface water monitoring program (quantity and quality), mitigation measures and contingency measures to ensure surrounding natural heritage are not negatively impacted by the proposed extension;

- Post rehabilitation it is recommended that the west extension be maintained in a dewatered state and discharge continue to the north and south from Quarry Sump 0100 and 0200 within License # 5499 and passive discharge from a control valve in the west extension pond to provide water to the wetland north of No. 2 Sideroad adjacent to the West Extension. This pumping regime is consistent with current management from License # 5499 and provides long term public water management benefits and mitigates impacts to natural heritage features that depend on quarry discharge from the adjacent License # 5499;

- An on-site ecological enhancement plan has been designed to plant 4.5 ha of woodland, adjacent to key natural heritage features during operations. As part of rehabilitation of the site 3.6 ha of wetland will be created and another 24.7 ha of woodland will be planted for a total of 29.2 ha of woodlands. Overall the proposed extension will result in a significant increase in the diversity and size of the regional natural heritage system, compared to existing conditions;

- Although no direct or indirect impacts will occur to Jefferson Salamander habitat, an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System. Nelson will consult further with the Ministry of Environment, Conservation and Parks since the area is regulated habitat;

- With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands; and

- The application includes a revised rehabilitation plan for the existing quarry that integrates the proposed extension to provide a more diverse ecological landform and more terrestrial habitat.

11.0 AFTER USE

Planning policies require consideration of potential after uses for new or expanding mineral aggregate operations. After uses are to be appropriate and compatible with surrounding land uses.

Nelson's existing Burlington Quarry is approved to be rehabilitated to a private lake. One residential dwelling would also be permitted based on existing policies. This is comparable to the former Halton Crushed Stone Quarry located in the Town of Milton, within the Region of Halton.

Nelson currently has plans to significantly reduce extraction levels and operate the existing quarry for approximately 50 years and potential underground mining could further extend the life of the quarry, subject to required approvals.

As part of the Burlington Quarry Extension application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension.

If the extension is approved, Nelson's after use vision for the extension and existing quarry is to convey 382 hectares of land to a public authority consisting of the following:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

The application includes a revised rehabilitated landform for the existing quarry to maximize ecological diversity, opportunities for parkland, conservation areas, and water management. The overall rehabilitation plan for the existing quarry would be revised to no longer flood the quarry and create one large lake. Instead the quarry would be rehabilitated to:

- Retain the rehabilitated area in the eastern 1/3 of the existing quarry which currently includes large pond areas, wetland habitat, islands, cliff faces and forested side slopes;
- Retain the side slopes along the south, north and easterly boundary to provide additional terrestrial habitat;
- Rehabilitate the quarry floor to a vegetated grassland to provide a landform suitable for parkland; and
- Establish a pond in the northwest corner of the site to store excess groundwater and surface water. This water would be pumped off-site to the north and south similar to existing operations. The water could be managed to store water during periods of snow melt and storm events and release water during periods of droughts and low flow to enhance surrounding key natural heritage features and key hydrologic features.

The overall landform is suitable for a range of after uses including conservation, recreational and water management uses. This landholding is a good fit for Conservation Halton. The site is in close proximity to their head office and is adjacent to the Mont Nemo Conservation Area which is already operated by Conservation Halton. Conservation Halton's areas of focus include:

- Water Resources Management: *Conservation Halton manages water resources using integrated, ecologically sound environmental practices to maintain secure supplies of clean water to protect communities from flooding and erosion to ensure that environmental planning is an integral part of community development.*
- Forest Resources Management: *Conservation Halton manages a large forest resource using sound sustainable forest management practices involving silviculture and wildlife habitat improvements which contribute to the health of the watershed's natural environment.*
- Lifelong Education and Recreation: *Conservation Halton creates educational and recreational experiences in natural environments that enrich the lives of people of all ages by instilling awareness and appreciation of the watershed's natural heritage*[18]

Conservation Halton has acquired other quarry sites for to assist with their mandate. To date, Conservation Halton currently owns the former Milton Limestone Quarry which is now known as Kelso Quarry Park (71 hectares). During the Milton Quarry Extension, Conservation Halton negotiated the transfer of 405 hectares of land for conservation recreational and water management purposes. As part of the Acton Quarry Extension, the Town of Halton Hills negotiated the transfer of 438 hectares of land for conservation, recreational and water management purposes to the Town and Conservation Halton has agreed to manage water resources at the site to assist with overall watershed objectives.

As part of the application Nelson is prepared to convey the lands to a public authority in phases:

- Phase 1: 48 hectares immediately following approval of the proposed extension. Phase 1 includes the lands designated natural heritage system to the east of the South Extension. See Figure 25.
- Phase 2: 89 hectares +/- 10 years following extraction commencing in the proposed extension. Phase 2 includes two parcels: i) 31 hectares including the South Extension lands that will be rehabilitated to a lake and beach area and lands designated natural heritage system to the west of the South Extension. Rehabilitation of the final lake could be accelerated by transferring water from the existing quarry to convert this to parkland in +/- 10 years; and ii) 58 hectares of the rehabilitated eastern portion of the existing quarry. This area is already rehabilitated to large pond areas, wetland habitat, islands, cliff faces and forested side slopes. See Figures 26 and 27.
- Phase 3: 245 hectares +/- 30 following extraction commencing in the proposed extension. Phase 3 includes the West Extension lands and the western 2/3 of the existing quarry. Rehabilitation of this area includes forested areas, ponds, wetlands, islands, cliff faces and a vegetated quarry floor. This landform would also include the existing hill that has created on the existing quarry floor.

[18] https://www.conservationhalton.ca/

This after use vision represents a unique opportunity to significantly enhance parkland that is well-connected to the Bruce Trail. The value of 382 hectares of contiguous publically-accessible parkland to a rapidly growing centre such as Burlington is significant. The landholdings are 5 times larger than any City of Burlington park and are the size and scale that is suitable for a Provincial park within the Greater Golden Horseshoe. See Figures 29 and 30. In accordance, with planning policies future approvals and a public process would be required prior to any after uses being permitted on the site.

If Conservation Halton is not interested, Nelson would consider other public or private partnerships to implement the after use vision.

Parkland is an integral part of modern urban systems, offering array of social, environmental and health benefits. As the population of the Greater Toronto Area (GTA) continues to grow beyond its current 6 million people, so too will the demand on the regions existing park network.

In terms of uses, the potential Mount Nemo Park would support a balance of conservation, recreation and leisure uses and could include, subject to the required approvals trails, wildlife habitat, cross country skiing, various field sports, water sports and recreation, dog parks, an amphitheatre, pavilions, camping facilities, and other programmed uses. Setting it apart from others in the GTA, the Mount Nemo Park would offer a network of inland lakes and rivers which could support an array of aquatic recreation and leisure activities, as well as habitat and conservation purposes. The inland lakes would offer a different experience in terms of paddling, swimming, or watersport versus the much larger, open-water recreation and leisure experiences offered by Lake Ontario.

For the citizens of Burlington in particular, the 382-hecatre potential Mount Nemo Park area offers a considerable injection of publicly-accessible park space to the current 580-hectare inventory of (municipally held) publicly accessible parkland within the City. Mount Nemo Park would be a 10-minute drive from the Queen Elizabeth Expressway and 15-minute drive from Lakeshore Road, offering a central and accessible resource for citizens of the community.

Given both its proximity to major centres and potential programming, the potential Mount Nemo Park represents an opportunity to greatly expand the recreation and leisure opportunities for not only the population of the citizens of Burlington, but the GTA as a whole.

12.0 POLICY REVIEW

The Burlington Quarry Extension is located within a geographic area that is subject to several planning documents. The Burlington Quarry Extension is required to:

- Conform to the Growth Plan for the Greater Golden Horseshoe;
- Conform to the Niagara Escarpment Plan;
- Be consistent with the Provincial Policy Statement;
- Conform to the Region of Halton Official Plan;
- Conform to the City of Burlington Official Plan; and
- Address the requirements of the Aggregate Resources Act Provincial Standards.

The following sections of this report address the various planning documents and rely on information from the technical reports listed in Section 5.0.

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

The Growth Plan for the Greater Golden Horseshoe 2019 was prepared and approved under the Places to Grow Act and took effect on May 16, 2019. Section 4.1 of the Growth Plan provides the following context:

The GGH contains a broad array of important hydrologic and natural heritage features and areas, a vibrant and diverse agricultural land base, irreplaceable cultural heritage resources, and valuable renewable and non-renewable resources. These lands, features and resources are essential for the long-term quality of life, economic prosperity, environmental health, and ecological integrity of the region. They collectively provide essential ecosystem services, including water storage and filtration, cleaner air and habitats, and support pollinators, carbon storage, adaptation and resilience to climate change.

Related to mineral aggregate resources this section notes:

Building compact communities and the infrastructure needed to support growth requires significant mineral aggregate resources. The Aggregate Resources Act establishes the overall process for the management of mineral aggregate operations, and this Plan works within this framework to provide guidance on where and how aggregate resource extraction can occur, while balancing other planning priorities. The GGH contains significant deposits of mineral aggregate resources, which require long-term management, including aggregate reuse and recycling. Ensuring mineral aggregate resources are available in proximity to demand can support the timely provision of infrastructure and reduce transportation-related greenhouse gas emissions.

Section 1.2.3 of the Growth Plan includes a section titled "Relationship with Other Provincial Plans". This section notes:

Within the Greenbelt Area, policies of this Plan that address the same, similar, related, or overlapping matters as the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, or the Niagara Escarpment Plan do not apply within that part of the Greenbelt Area covered by the relevant plan except where the policies of this Plan, the Greenbelt Plan, the Oak Ridges Moraine Conservation Plan, or the Niagara Escarpment Plan provide otherwise.

The Burlington Quarry Extension is located within the Greenbelt Area and is subject to the policies of the Niagara Escarpment Plan and not the Growth Plan.

The Burlington Quarry Extension addresses the Niagara Escarpment Plan in the following section of this report and therefore conforms to the requirements of the Growth Plan.

12.2 **Niagara Escarpment Plan (2017)**

The existing Burlington Quarry and the proposed extension is located within the Niagara Escarpment Plan area. The Niagara Escarpment Plan is a provincial plan which governs land uses within the Niagara Escarpment Plan Area. The legislative authority for the Plan is the Niagara Escarpment Planning and Development Act. The Niagara Escarpment Plan serves as a framework of objectives and policies to strike a balance between development, preservation and the enjoyment of this important resource.

The Niagara Escarpment Plan is the primary planning document that applies to the subject site and takes priority over other provincial plans in the event of a conflict.

The purpose of 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, and to ensure only such development occurs as is compatible with that natural environment.*"

The objectives of the Niagara Escarpment Plan are:

1. *to protect unique ecologic and historic areas;*
2. *to maintain and enhance the quality and character of natural streams and water supplies;*
3. *to provide adequate for outdoor recreation;*
4. *to maintain and enhance the open landscape character of the Niagara Escarpment in so far as possible, by such means as compatible farming or forestry and by preserving the natural scenery;*
5. *to ensure that all new development is compatible with the purpose of the Plan;*
6. *to provide for adequate public access to the Niagara Escarpment; and*
7. *to support municipalities within the Niagara Escarpment Plan Area in their exercise of the planning functions conferred up them by the Planning Act.*"

Section 1.2.1 of the Niagara Escarpment Plan outlines the provisions that apply to applications to amend the Niagara Escarpment Plan:

- *Planning policies and land use designations may be changed as long as the Purpose and Objectives of the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan are met. The Purpose Statement and Objectives in the Introduction of the Plan shall not be changed outside of the context of a full review of this Plan.*
- *Sections 6.1(2.1) and 10(6) of the Niagara Escarpment Planning and Development Act require that amendments to the Niagara Escarpment Plan be justified. The justification for a proposed amendment to the Niagara Escarpment Plan means the rationale for the amendment, as well as reasons, arguments or evidence in support of the change to this Plan proposed through the amendment.*
- *It must be demonstrated that the proposed amendment and the expected impacts resulting from the proposed amendment do not adversely affect the purpose and objectives of the Niagara Escarpment Planning and Development Act. The proposed amendment must be consistent with the purpose and objectives of the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan and shall be consistent with other relevant Provincial policies.*
- *Development Criteria set out in Part 2 of the Niagara Escarpment Plan will be considered in the assessment of any amendment to the Niagara Escarpment Plan.*

The Burlington Quarry Extension application includes an amendment to the policies and land use designations of the Niagara Escarpment. The proposed amendment does not include changes to the Purpose and Objectives of the Niagara Escarpment Plan.

The proposed amendment does not adversely affect and is consistent with the purpose and objectives of the Niagara Escarpment Planning and Development Act.

Related to the purpose of the Niagara Escarpment Plan the Niagara Escarpment Commission's Chart IV-1 "Comprehensive Application Checklist" states:

"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), there is Escarpment Protection and / or Escarpment Natural designations, retention of a continuous natural environment is assured."

There are large areas of land designated Escarpment Natural Area and Escarpment Protection Area in the areas surrounding the Burlington Quarry Extension and therefore retention of a continuous natural environment is assured. See Figure 31. These Escarpment Natural Area and Escarpment Protection Area lands provide for a provincial natural heritage system that ensures a continuous natural environment. See Figure 10.

The other part of the purpose of the Niagara Escarpment Plan is to ensure that only such development occurs as is compatible with that natural environment.

Mineral aggregate operation are a permitted use within the Niagara Escarpment Plan and one of the objectives of the Escarpment Rural Area is to provide for the designation of new mineral resource extraction areas.

The principle as to whether new aggregate operations should be permitted in the Niagara Escarpment Plan Area has been thoroughly reviewed. As a result of this review, policies are included in the Niagara Escarpment Plan that:

- prohibit new mineral aggregate operations in the Escarpment Natural Area and Escarpment Protection Area; and
- provide as an objective for new mineral aggregate operations in the Escarpment Rural Area subject to an amendment.

The Burlington Quarry Extension is compatible with the natural environment. The proposed extraction area is predominately cleared agricultural land and an active golf course. The proposed extraction area includes small areas of key natural heritage features and Policy 2.9.1 of the Niagara Escarpment Plan permits mineral aggregate extraction within these features. The application includes mitigation and monitoring requirements to ensure the natural environment is protected. Overall, the on-site and off-site ecological enhancement plan results in an enhancement to the natural environment.

The Burlington Quarry Extension meets the objectives of the Niagara Escarpment Plan. Detailed technical studies have been completed and the following is concluded:

- The site does not contain unique ecologic and historic areas;
- The quality and character of natural streams and water supplies will be maintained during operations and with the proposed changes to the rehabilitation plan there will be an improvement to water resources;
- The after use plan provides a unique opportunity for outdoor recreation and public access to enhance the Niagara Escarpment Parks and Open System; and
- As required by the policies of the Niagara Escarpment Plan during extraction the site will be designed with berms, tree planting and retention of forested areas to minimize visual impacts. The rehabilitation of the site will enhance the open landscape character of the area by removing rural residential uses and creating an open landform with lakes, ponds, exposed cliff faces, wetlands and forested areas.

Other requirements of Section 1.2.1 of the Niagara Escarpment Plan require justification for the proposed amendment and consideration of the Development Criteria as set out in Part 2 of the Niagara Escarpment Plan.

The Niagara Escarpment Plan specifically contemplates and provides for Plan amendments to permit new or expanded mineral aggregate operations within the Escarpment Rural Area. The proposed Burlington Quarry Extension is justified based on recognition that the Niagara Escarpment Plan Area contains an important mineral aggregate resource that is required to supply mineral aggregate needs close to the consumer. Additional justification for the proposed plan amendment is provided in Sections 6.0 and 7.0 of this report.

Section 1.2.2 of the Niagara Escarpment Plan has additional provisions that apply to all amendments for new Mineral Resource Extraction Areas within the Niagara Escarpment Plan Area:

1. *Mineral aggregate operations within a new Mineral Extraction Area producing more than 20,000 tonnes annually may be considered on lands within the Escarpment Rural Area land use*

designation through an amendment to the Niagara Escarpment Plan. Such an amendment will be to effect the change from Escarpment Rural Area to Mineral Resource Extraction Area.

The subject site is currently designated Escarpment Rural Area and is proposed to be designated Mineral Resource Extraction Area.

2. *In considering applications for amendments to the Niagara Escarpment Plan to re-designate Escarpment Rural Area to Mineral Resource Extraction Area designation, the demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.*

This policy was included in the 2017 Niagara Escarpment Plan to ensure consistency with the Provincial Policy Statement and to confirm that locations outside of the Niagara Escarpment Plan did not need to be considered as an alternative to extraction within the Niagara Escarpment Plan area.

3. *In evaluating applications for amendments to the Niagara Escarpment Plan to re-designate Escarpment Rural Area to Mineral Resource Extraction Area, the following matters, in addition to all other relevant policies of this Plan, will be considered:*

    a) *protection of the Escarpment environment;*

    b) *opportunities for achieving the objectives of the Niagara Escarpment Planning and Development Act through the final rehabilitation of the site;*

    c) *the protection of prime agricultural areas, the capability of the land for agricultural uses, and its potential for rehabilitation for agricultural uses; and*

    d) *opportunities to include rehabilitated lands in the Niagara Escarpment Parks and Open Space System.*

These considerations are addressed in this section of the report based on an analysis of the development criteria in Part 2 of the Plan.

4. *Amendment applications must be accompanied by:*

    a) *information on the location of the site in relation to the Escarpment and to the Escarpment Rural, Protection and Natural Area designations;*

See Figure 31 for the location of the site in relation to the Niagara Escarpment and to the Escarpment Rural, Protection and Natural Area designations. The appropriateness of the Escarpment Rural Area designation on the site was confirmed during the approval of the 2017 Niagara Escarpment Plan.

    b) *information to support the requirements of this Plan, along with information submitted to meet the requirements of the Aggregate Resources Act, including site plans and reports submitted under that Act; and*

See Section 5.0 of this report for the information submitted to meet the requirements of the Niagara Escarpment Plan and Aggregate Resources Act as determined through pre-consultation process with the agencies. See Application Booklet filed under separate cover, for a copy of the pre-consultation record.

c) *information on the ultimate use of the site in conformity with the applicable land use designations.*

See Section 10.0 of this report for the ultimate use of the site. As envisioned by the Niagara Escarpment Plan the ultimate use of the site is for conservation, recreation and water management in conformity with the applicable land use designations.

The proposed Burlington Quarry Extension is located within the Escarpment Rural Area. Part 1, Section 1.5.1 of the Niagara Escarpment Plan includes the following Objectives for the Escarpment Rural Area:

1. *To maintain the scenic resources of lands in the vicinity of the Escarpment and the open landscape character of the Escarpment.*
2. *To conserve cultural heritage resources, including features of interest to First Nation and Métis communities.*
3. *To encourage forest management and recreation.*
4. *To provide for compatible rural land uses.*
5. *To encourage agriculture, and protect agricultural lands and prime agricultural areas.*
6. *To provide a buffer for ecologically sensitive areas of the Escarpment.*
7. *To provide for the consideration of new Mineral Resource Extraction Areas which can be accommodated by an amendment to this Plan.*

The proposed Burlington Quarry Extension includes a plan amendment to designate the subject site from Escarpment Rural Area to Mineral Resource Extraction Area. See Application Booklet filed under separate cover, for a copy of the proposed amendment. One of the objectives of the Escarpment Rural Area is to provide for the consideration of new Mineral Resource Extraction Areas which can be accommodated by an amendment to this Plan. The subject site is protected as a high potential mineral aggregate resource area in the Region of Halton Official Plan and is appropriate to consider as an extension to the existing Burlington Quarry. The other objectives are considered in this section of the report based on an analysis of the development criteria in Part 2 of the Plan.

The existing Burlington Quarry is designated Mineral Resource Extraction Area. Part 1, Section 1.9.1 of the Niagara Escarpment Plan includes the following Objectives for the Mineral Resource Extraction Area:

1. *To designate Mineral Resource Extraction Areas where licensed mineral aggregate operations are permitted.*
2. *To minimize the impact of mineral aggregate operations on the Escarpment environment.*
3. *To encourage progressive rehabilitation of mineral aggregate operations.*
4. *To encourage rehabilitated mineral aggregate operations to be restored to a state that is of equal or greater ecological or agricultural value than the original characteristics of the site.*

5. *To ensure that, after a licence is surrendered, the land is re-designated to a land use designation that is compatible with the rehabilitation of the site, the designation criteria of adjacent lands, the surrounding Escarpment environment and existing land uses in the area.*
6. *To encourage, where possible, the integration of rehabilitated lands into the Niagara Escarpment Parks and Open Space System.*

The existing Burlington Quarry is a licensed mineral aggregate operation in accordance with the Aggregate Resources Act. The site is required to operate in accordance with the Ministry of Natural Resources, and Forestry; the Ministry of Environment Conservation and Parks; and the Niagara Escarpment Commission permits to minimize the impact on the Escarpment environment and ensure progressive rehabilitation.

The proposed application includes a revised rehabilitation plan and vision to integrate the rehabilitated lands into the Niagara Escarpment Parks and Open System.

Part 1, Section 1.9.1 of the Niagara Escarpment Plan includes the permitted uses for the Mineral Resource Extraction Area. Permitted uses # 4 and 10 include:

4. *Mineral aggregate operations licensed pursuant to the Aggregate Resources Act but not including associated facilities unless they are permitted as an accessory use.*
10. *Accessory uses normally associated with the mineral aggregate operation, such as temporary offices serving the subject site, signage, crushing and washing facilities, or facilities for recycling and re-processing of mineral aggregate resources. Asphalt plants, concrete plants, brick manufacturing plants and other similar manufacturing uses shall not be permitted.*

The proposed Burlington Quarry Extension proposes to utilize the existing quarry to process and ship aggregate to market. The Niagara Escarpment Commission requires an amendment to the policies of the Niagara Escarpment Plan to permit the existing quarry to be used in conjunction with the proposed extension. See Application Booklet filed under separate cover, for a copy of the Based on this requirement, the following site specific policy is proposed to be added to the Niagara Escarpment Plan for the existing quarry:

> "*Notwithstanding the policies of the NEP including the permitted uses under section 1.9 Mineral Resource Extraction Area and the definition of accessory use in Appendix 2 of this Plan, for the quarry operating on property described as Part of Lots 1 and 2, Concessions 2 and 3 in the City of Burlington, Regional Municipality of Halton, the office, maintenance buildings, facilities for washing, processing and stockpiling of aggregate, truck washing facility, asphalt plant, recycling facilities and the entrance may be used for the purpose of supporting the extraction of aggregate from the area approved under Amendment _____ to the NEP and licences under the Aggregate Resources Act located on Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton provided, and only while the two sites are actively operated by a single licencee, as an integrated operation.*"

See Application Booklet filed under separate cover, for a copy of the proposed amendment.

Part 2 of the Niagara Escarpment Plan includes Development Criteria. As noted in Section 2.1 "*The development criteria are to be applied to all development within the area of the Niagara Escarpment*

Plan in conjunction with the other policies of this Plan. These criteria deal with development in a variety of situations; therefore, all the criteria will not apply to every development."

The following is an analysis of the relevant development criteria related to the proposed applications.

2.2. General Development Criteria

> *2.2.1 The Escarpment environment shall be protected, restored and where possible enhanced for the long term having regard to single, multiple or successive development that have occurred or are likely to occur.*

The proposed application takes into account developments in the Mount Nemo Area, including the existing quarry and will protect, restore and enhance the long term Escarpment environment. The proposed extraction area is predominately cleared agricultural land and an active golf course. The proposed extraction area includes some small key natural heritage features and Policy 2.9.1 of the Niagara Escarpment Plan permits mineral aggregate extraction within these features. The proposed extension includes mitigation and monitoring requirements to ensure the natural environment is protected. Overall the on-site and off-site ecological enhancement plan results in an enhancement to the escarpment environment compared to existing conditions. See Sections 7.2 and 9.0.

> *2.2.2 The site shall not be prone to natural hazards, and the development will not impact the control of these natural hazards including flooding hazards, erosion hazards, or other water-related hazards and hazard events associated with unstable soil or unstable bedrock.*

The site is not prone to natural hazards and the proposed development will not impact the control of these natural hazards.

> *2.2.8 Development permitted should be designed and located in such a manner as to provide for or protect access to the Niagara Escarpment, including the Bruce Trail corridor.*

The proposed application is setback from the Niagara Escarpment. As a result the site is located in a manner that does not impede access to the Niagara Escarpment. The application will not impact the Bruce Trail corridor. Nelson already modified the existing Burlington Quarry by surrendering a small portion of the license area to provide a location for the Bruce Trail corridor. This realignment provided a safer location for the trail since the existing trail travelled along Colling Road. The after use vision for the site provides an opportunity to significantly improve the Bruce Trail corridor in this area and provide several side trails.

2.3 Existing Uses

> *2.3.1 An existing use may change to a similar use, or a more compatible use only if it can be sufficiently demonstrated that the objectives of the applicable designation of the Plan are met.*

Utilizing the existing quarry for processing and shipping for the proposed extension is a similar use and will minimize impacts on the surrounding community since the:

- processing plant and shipping stockpiles will be located on the quarry floor 20 metres below grade; and

- the existing quarry entrance/ exit and haul route will be used. This entrance / exit and haul route has been in place since the 1950s and will maintain the current traffic patterns on No. 2 Sideroad and Guelph Line.

Utilizing an existing quarry for the processing and shipping of aggregates sourced from an extension is a common practice and other examples exist within the Niagara Escarpment Plan and within the Region of Halton. From a planning and social impact perspective it is advantageous to have the processing area and stockpiles located on the quarry floor to minimize impacts on the surrounding community.

The proposed application would also contribute to finalizing extraction and rehabilitation at the subject site. Under current approvals, Nelson plans to significantly reduce extraction levels at the existing quarry and will operate the existing quarry for approximately 50 years and underground mining could potentially extend the life of the quarry. As part of the application, Nelson is prepared to commit to finalize extraction and rehabilitation of the existing quarry and proposed extension in +/- 30 years.

2.5 Development Affecting Steep Slopes and Ravines

The proposed Burlington Quarry Extension lands are generally flat and do not contain any steep slopes and ravines.

2.6 Development Affecting Water Resources

2.6.1 The following are key hydrologic features within the meaning of this Plan:

- *permanent and intermittent streams;*
- *lakes (and their littoral zones);*
- *seepage areas and springs; and*
- *wetlands.*

2.6.2 Development is not permitted in key hydrologic features with the exception of the following, which may be permitted subject to compliance with all other relevant policies of this Plan.....

The proposed Burlington Quarry Extension does not include development within key hydrologic features. There are no wetlands, seepage area and springs, lakes or permanent and intermittent streams within the proposed extraction area. The Niagara Escarpment Commission confirmed that the irrigation pond and ditch used by the Burlington Springs Golf Course did not constitute a key hydrologic feature for the purpose of Section 2.6 of the Niagara Escarpment Plan and Conservation Halton confirmed it is not a regulated feature.

2.6.3 If, in the opinion of the implementing authority, a proposal for development within 120 metres of a key hydrologic feature has the potential to result in a negative impact on the feature and/or its functions, a hydrologic evaluation will be required that:

a) demonstrates that the development, including any alteration of the natural grade or drainage, will protect:
i. the key hydrologic feature or the hydrologic functions of that feature,
ii. the quality and quantity of groundwater and surface water

iii. natural streams or drainage patterns; and
iv. the overall water budget for the watershed, including existing and planned municipal drinking water systems.

b) identifies planning, design and construction practices that will minimize erosion, sedimentation and the introduction of nutrients or pollutants and protect, and where possible, enhance or restore the health, diversity and size of the key hydrologic feature, including:
i. natural features should be preserved;
ii. temporary vegetation and/or mulching should be used to protect critical areas exposed during development;
iii. topsoil should not be removed from the site, but rather, should be stored and redistributed as a suitable base for seeding and planting;
iv. sediment control devices should be installed to remove sediment from run-off due to changed soil surface conditions during and after construction; and
v. construction in or across a watercourse or wetland should be appropriately timed to minimize impacts on fish and wildlife habitat.
c) determines the minimum vegetation protection zone required to protect and where possible enhance the key hydrologic feature and its functions.

2.6.4 A vegetation protection zone shall:

a) be of sufficient width to protect the key hydrologic feature and its functions from the impacts of the proposed change and associated activities that may occur before, during, and after construction, and where possible, restore or enhance the feature and/or its function; and

b) be established to achieve, and be maintained as natural self-sustaining vegetation.

2.6.7 Where permitted, the construction and expansion of ponds shall be designed and located to avoid Escarpment slopes, key hydrologic features and key natural heritage features, and ponds shall be designed to be offline.

2.6.9 Development shall protect the quality and quantity of groundwater and surface water.

2.6.10 Changes to the natural drainage should be avoided.

2.6.11 Water taking must be accessory to the principal use except in the case of municipal water supply facilities. Increasing the capacity of existing water taking as a principal use shall not be permitted except for municipal water supply facilities.

A water resources report and environmental impact study has been completed to demonstrate adjacent key hydrologic features will be protected in accordance with the above noted criteria. These studies recommended retention of surface catchment areas, design and construction practices, minimum vegetation protection zones, and measures to protect the quality and quantity of groundwater and surface water.

2.7 Development Affecting Natural Heritage

2.7.1 The following are key natural heritage features within the meaning of this Plan:

- *Wetlands*
- *Habitat of endangered species and threatened species*
- *Fish habitat*
- *Life Science Areas of Natural and Scientific Interest*
- *Earth Science Areas of Natural and Scientific Interest*
- *Significant valleylands*
- *Significant woodlands*
- *Significant wildlife habitat*
- *Habitat of special concern species in Escarpment Natural and Escarpment Protection areas*

2.7.2 Development is not permitted in key natural heritage features with the exception of the following, which may be permitted subject to compliance with all other relevant policies of this Plan:. . .

The exceptions that following Development Criteria 2.7.2 do not list mineral aggregates operations, however Section 2.9.1 states:

Notwithstanding Part 2.7.2 and subject to compliance with all other relevant policies of this Plan, mineral aggregate operations, wayside pits and quarries, and any accessory use and accessory facility thereto, may be permitted in key natural heritage features and any vegetation protection zone associated therewith, except for:

a) wetlands;

b) significant woodlands, that are not young plantation or early successional habitat (as defined by the Ministry of Natural Resources and Forestry).

The proposed extraction area does not contain wetlands or significant woodlands.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and endangered species habitat (Bats) and another 0.48 hectare woodland that contains significant wildlife habitat (Eastern Wood-Pewee). The Niagara Escarpment Plan permits new mineral aggregate operations within these key natural heritage features. The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act. The West Extension also includes the removal of a 0.26 ha woodland that did not qualify as a key natural heritage feature. See Section 7.2.

2.7.3 The diversity and connectivity between key natural heritage features and key hydrologic features shall be maintained, and where possible, enhanced for the movement of native plants and animals across the landscape.

The operation has been phased to maintain the diversity and connectivity between key natural heritage features. The application also includes measures to enhance the movement of native

plants and animals across the landscape. This is achieved through the implementation of the off-site ecological enhancement plan, the planting of the vegetation protection zones during operations and further enhanced through final rehabilitation of the site and existing quarry. See Section 9.0.

2.7.6 If in the opinion of the implementing authority, a proposal for development within 120 metres of a key natural heritage feature has the potential to result in a negative impact on the feature and/or its functions, or on the connectivity between key natural heritage features and key hydrologic features, a natural heritage evaluation will be required that:

a) demonstrates that the development, including any alteration of the natural grade or drainage, will protect the key natural heritage feature or the related functions of that feature;

b) identifies planning, design and construction practices that will minimize erosion, sedimentation and the introduction of nutrients or pollutants and protect and, where possible, enhance or restore the health, diversity and size of the key natural heritage feature;

c) determines the minimum vegetation protection zone required to protect and where possible enhance the key natural heritage feature and its functions; and

d) demonstrates that the connectivity between key natural heritage features and key hydrologic features located within 240 metres of each other will be maintained and where possible enhanced for the movement of native plants and animals across the landscape.

2.7.7 For the purposes of 2.7.6, a vegetation protection zone shall:

a) be of sufficient width to protect and where possible enhance the key natural heritage feature and its functions from the impacts of the proposed change and associated activities that may occur before, during, and after, construction;

b) be established to achieve, and be maintained as, natural self-sustaining vegetation;

A water resources report and environmental impact study has been completed to demonstrate adjacent key natural heritage features will be protected in accordance with the above noted criteria. These studies recommend design and construction practices, minimum vegetation protection zones, and measures to maintain and improve connectivity between key natural heritage and key hydrologic features. See Section 9.0.

2.7.8 Development within the habitat of endangered species and threatened species:

b) located within Escarpment Rural Areas, Mineral Resource Extraction Areas, Urban Areas, Minor Urban Centres and Escarpment Recreation Areas, is not permitted unless it is in compliance with the Endangered Species Act, 2007.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains endangered species habitat (Bats). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed in compliance with the Endangered

Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act.

2.7.10 Any forest management activities shall include natural regeneration or rehabilitation through reforestation, using native tree species where necessary.

The proposed off-site ecological enhancement plan, planting of the vegetation protection zones and rehabilitation plan uses native tree species.

2.7.12 Development where permitted in woodlands should protect and where possible enhance the woodland and associated wildlife habitat. All development involving the cutting of trees requires approval from the implementing authority, subject to the following criteria:

a) cutting of trees and removal of vegetation shall be limited to the minimum necessary to accommodate the permitted use;

b) using tree-cutting methods designed to minimize negative impacts on the natural environment, including surface drainage and groundwater;

c) minimizing disruption to wildlife habitat in the area;

d) retaining the diversity of native species;

e) aiming over the long term to protect and where possible enhance the quality and biodiversity of the woodland;

f) protecting trees and vegetation to be retained by acceptable means during construction; and

g) maintaining existing tree cover or other stabilizing vegetation, on steep slopes in excess of 25 per cent (1:4 slope).

Overall the majority of woodlands on Nelson's land are protected and will not be removed. The natural environment report includes recommendations to minimize the impact of tree clearing on wildlife habitat. The application also includes 29.2 hectares of tree planting within the proposed extension lands and 4.0 hectares of tree planting off-site. See Sections 7.2 and 9.0.

2.8 Agriculture

2.8.1 Prime agricultural areas shall be protected for long-term agricultural use.

2.8.4 New development adjacent to prime agricultural areas may only be permitted where the new development incorporates suitable methods to avoid, minimize and mitigate land use conflicts.

Notwithstanding Section 2.8.1, the policies of the Niagara Escarpment Plan (2.9.11) permit extraction within prime agricultural areas and do not require rehabilitation back to agricultural based on the planned depth of extraction and the proposed rehabilitation plan. An agricultural impact assessment was completed and concludes that the development incorporates suitable methods to avoid, minimize and mitigate land use conflicts. See Sections 7.3, 8.2 and 8.7.

2.9 Mineral Aggregate Resources

2.9.1 Notwithstanding Part 2.7.2 and subject to compliance with all other relevant policies of this Plan, mineral aggregate operations, wayside pits and quarries, and any accessory use and accessory facility thereto, may be permitted in key natural heritage features and any vegetation protection zone associated therewith, except for:

a) *wetlands;*

b) significant woodlands, that are not young plantation or early successional habitat (as defined by the Ministry of Natural Resources and Forestry).

The proposed extraction area does not contain wetlands or significant woodlands.

2.9.2 Mineral aggregate operations and wayside pits and quarries, and accessory uses may be permitted in a key natural heritage feature or the vegetation protection zone associated therewith, which is solely the habitat of endangered species and threatened species and not any other key natural heritage feature, provided it is in compliance with the Endangered Species Act, 2007.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains endangered species habitat (Bats). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act.

2.9.3 In addition to all other relevant policies of this Plan, proposals for mineral aggregate operations including wayside pits and quarries, accessory uses, accessory facilities and haul routes shall:

a) demonstrate how key natural heritage features and functions will be protected and where possible enhanced during and after extraction;

b) demonstrate how cultural heritage resources will be conserved;

c) demonstrate how the Escarpment's scenic resources and open landscape character will be maintained and where possible enhanced during and after the extraction;

d) demonstrate how key hydrologic features will be protected and where possible enhanced during and after extraction, including the maintenance of the groundwater and surface water quantity and quality;

e) demonstrate how natural heritage features will be avoided and the connectivity between key natural heritage features and key hydrologic features will be maintained and where possible enhanced during and after the extraction of mineral aggregates;

f) in prime agricultural areas, undertake an Agricultural Impact Assessment to determine how to avoid, minimize and mitigate impacts on agricultural lands and operations;

g) minimize negative impacts of mineral aggregate operations and their accessory uses on surrounding land uses;

h) complete progressive and final rehabilitation of the licensed site to provide equal or greater ecological values, including utilizing native species, in order to accommodate subsequent land use designations compatible with the surrounding land uses;

i) within the licensed area but outside of the area of extraction, protect the Escarpment environment during periods of extraction and rehabilitation; and

j) minimize negative impacts of mineral aggregate operations and their accessory uses on parks, open space and the existing and optimum routes of the Bruce Trail.

Technical reports addressing key natural heritage features, cultural heritage resources, visual, water resources, agricultural, noise, air quality, blasting, traffic, planning, rehabilitation, parks and the Bruce Trail have been completed. See Sections 7.0 to 10.0. The design of the quarry:

- Protects and enhances key natural heritage features;
- Conserves cultural heritage resources;
- Screens the active extraction area to maintain the open landscape character and following rehabilitation enhances the open landscape character of the existing quarry and proposed extension lands;
- Protects key hydrologic features including the maintenance of the groundwater and surface water quantity and quality;
- Maintains connectivity between key natural features and key hydrologic features;
- Minimizes and mitigates impacts on agricultural lands and operations, recognizing that the Niagara Escarpment Plan contemplates extraction in prime agricultural areas and does not require rehabilitation back to agriculture in all circumstances;
- Enhances the natural environment through the off-site ecological enhancement plan and the progressive and final rehabilitation plan to create a landform that is suitable for conservation, recreation, and water management and is compatible with surrounding land uses;
- Enhances lands that are located within the licensed area but not used for extraction or berms; and
- Minimizes impacts on surrounding parks, open space and the Bruce Trail and in the long term provides a significant opportunity to enhance the Niagara Escarpment Parks and Open Space System.

2.9.4 For quarries licensed prior to June 12, 1985, no extraction shall take place at any point nearer to the brow of the Escarpment than 90 metres measured horizontally. For new quarry operations approved after the date of approval of the revised Plan, no extraction shall take place at any point nearer to the brow of the Escarpment than 200 metres, measured horizontally, or any greater setback required by the implementing authority.

The brow of the Escarpment is setback 200 meters from the proposed extraction area. See Figure 31 and Aggregate Resources Act Site Plans.

2.9.5 The mineral aggregate operation shall be screened while it is in progress and, where possible, prior to extraction in a manner compatible with the surrounding visual environment.

2.9.6 Screening shall incorporate the following:

a) overburden material in the form of a berm with varied heights and widths, supplemented with native tree, shrub and vegetative plantings;

b) vegetative screen plantings are to be of compatible species and sizes to permit only very limited visual contact from the surrounding landscape;

c) all plantings should be properly maintained to ensure continued survival and good growth rates; and

d) where the existing forest is adequate to be considered as an effective screen along the perimeter of the site, no additional artificial berming or stockpiling of overburden materials will be permitted within the forested area being used as a natural screen.

The Niagara Escarpment Plan requires that new development maintain, and where possible enhance, the open landscape character. For new mineral aggregate operations the Niagara Escarpment Plan recognizes that berms may be utilized to maintain the open landscape character of the area. A visual impact assessment was completed to address the above noted development criteria. The development includes earth berms where required for noise mitigation and visual screening in locations where the existing forest is not adequate to screen the operation. In other locations, the retention of existing forest areas around the perimeter of the site will screen the proposed extension.

2.9.7 Progressive rehabilitation may include the use of off-site material, where on-site material is not available. Off-site material shall only be used where required to stabilize and revegetate disturbed areas. The use of off-site material shall be minimal and shall not be used for any major regarding toward a planned after-use with the deposition of off-site material.

The proposed rehabilitation plan allows for the importation of fill to stabilize and revegetate sideslopes and the quarry floor. The proposed landform does not include any major regarding to fill the site.

2.9.8 The use of off-site material for progressive rehabilitation shall meet the applicable provisions of Part 2.13 (Scenic Resources and Landform Conservation) of this Plan and such material shall also meet the relevant standards of the Ministry of the Environment and Climate Change, the Ministry of Natural Resources and Forestry and the municipality where it has approved such standards.

The rehabilitation plan requires that the use of off-site fill meet the relevant standards of the Ministry of Environment, Conservation and Parks and the Ministry of Natural Resources and Forestry.

2.9.9 The use of off-site material shall not be permitted unless it is determined through appropriate environmental, technical and planning studies that doing so will achieve greater long-term ecological and land use compatibility (e.g., the importation of topsoil to improve site capability for agriculture, forestry or habitat diversity) and the implementing authority is satisfied that the use of off-site material does not constitute a commercial fill or landfill operation.

The proposed rehabilitation plan only allows for the importation of fill necessary to stabilize and revegetate sideslopes and the quarry floor. The application does not constitute a commercial fill

site. The land form that has been designed is suitable for conservation, recreation and water management and provides greater long-term ecological and is compatible with surrounding land uses.

2.9.10 All accessory uses to the Mineral Resource Extraction Area operation shall be discontinued and be required to vacate the property as soon as extraction ceases, including any on-site processed aggregate material.

The existing Burlington Quarry has no timelines to cease extraction and Nelson plans on extracting at the site for approximately 50 years and underground mining (subject to further approvals) could potentially extend the life of the quarry. With approval of the extension Nelson is prepared to commit to a timeline to cease operation of the existing quarry and proposed extension in approximately 30 years.

2.9.11 Rehabilitation shall incorporate the following:

a) natural heritage and hydrologic features and functions shall be restored or enhanced;

b) aquatic areas remaining after extraction shall be rehabilitated as representative of the natural ecosystem in that particular setting or ecodistrict, and the combined terrestrial and aquatic rehabilitation shall protect and where possible enhance the ecological value of the site;

c) excess topsoil and overburden are to be retained and stabilized for future rehabilitation;

d) all excavated pit and quarry walls are to be sloped and rehabilitated in accordance with best practices. On sites where a higher standard of rehabilitation is justified (e.g., to improve land use compatibility) or on sites where topsoil and/or land fill material is scarce, alternative approaches to slope standards may be applied. Sections of pit or quarry faces may be left exposed for aesthetic or educational purposes or to create habitat diversity in an approved rehabilitation plan;

e) vegetation, including seeding, crops, trees and shrubs, shall be planted as soon as possible as part of progressive rehabilitation of the pit or quarry;

f) rehabilitation of the site shall contribute to the open landscape character and be compatible with the surrounding scenic resources;

g) in prime agricultural areas, other than specialty crop areas, Mineral Resource Extraction Areas shall be rehabilitated to a condition in which substantially the same areas and same average soil capability for agriculture are restored;

h) in specialty crop areas, Mineral Resource Extraction Areas shall be returned or rehabilitated to a condition in which substantially the same areas and same average soil capability for agriculture are restored, the same range and productivity of specialty crops common in the area can be achieved, and, where applicable, the microclimate on which the site and surrounding area may be dependent for specialty crop production are maintained or restored;

i) in prime agricultural areas, where rehabilitation to the conditions set out in (g) and (h) above is not possible or feasible due to the depth of planned extraction or due to the presence of a substantial deposit of high quality mineral aggregate resources below

the water table warranting extraction, agricultural rehabilitation in the remaining areas will be maximized as a first priority;

j) in areas with below-water table extraction, mineral aggregate operations requiring perpetual water management after rehabilitation is complete should be avoided but may be considered where it can be demonstrated that such actions would support other public water management needs; and

k) comprehensive rehabilitation shall be considered and encouraged where feasible.

The rehabilitation plan has been designed to:

- Restore and enhance natural heritage and hydrologic functions;
- Enhance the ecological value of the site;
- Use all available on-site soil;
- Implement side slopes and portions of exposed quarry faces
- Timely planting;
- Contribute to open landscape character; and
- Create a landform suitable for conservation, recreation and water management.

The application does not rehabilitate the site back to agriculture based on the presence of a substantial deposit of high quality resource located below the water table.

The proposed rehabilitation plan for the existing quarry and proposed extension maintains the existing pumping regime from the existing quarry to maintain water to surrounding natural features that currently depend on this water and provides additional land area for conservation and recreational after uses. The water management system is straight forward and involves water being stored in onsite lakes and ponds on the quarry floor and pumped off-site to the north and south similar to the existing quarry operation. The only addition to the system is the passive discharge from the pond to the wetland north of No. 2 Sideroad via a control valve. The management of the site is similar to activities routinely conducted by conservation authorities to manage water resources to the benefit of the public by storing water during snow melt and storm events and releasing water during droughts or periods of low flow to help maintain and enhance surrounding natural heritage features.

2.10 Cultural Heritage

2.10.1 Development shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources are conserved.

2.10.2 Where proposed development is likely to impact cultural heritage resources or areas of archaeological potential, the proponent shall undertake a heritage impact assessment and/or archaeological assessment. The proponent must demonstrate that heritage attributes will be conserved through implementation of proposed mitigative measures and/or alternative development approaches.

Archaeological, built heritage resource, and cultural heritage landscape assessments have been completed and all significant cultural heritage resources will be conserved. As noted in Section 7.4 an additional area of the West Extension (within the setback area) still requires a Stage 2 archaeological investigation prior to any site disturbance.

2.13 Scenic Resources and Landform Conservation

2.13.1 Development shall ensure the protection of the scenic resources of the Escarpment.

2.13.2 Where a visual impact on the scenic resources is identified as a concern by the implementing authority, a visual impact assessment shall be required.

2.13.3 A visual impact assessment shall:

a) establish a baseline for the existing conditions;

b) identify the proposed physical changes; and

c) assess the impact of the proposed change on the scenic resources of the Escarpment; and

d) propose measures to minimize any visual impacts.

2.13.7 Except as provided for in Part 2.9 (Mineral Aggregate Resources), the construction of berms will only be permitted in cases where natural vegetation is insufficient to mitigate visually incompatible land uses, or where noise attenuation is required.

A visual impact assessment was completed and the proposed development will ensure the protection of the scenic resources of the Escarpment and in the long term will enhance these resources.

3.1 The Niagara Escarpment Parks and Open System

3.1.1 Objectives

1. *To protect the Niagara Escarpment's natural heritage resources and conserve its cultural heritage resources;*
2. *To provide opportunities for outdoor education and recreation;*
3. *To provide for public access to the Niagara Escarpment;*
4. *To complete a public system of major parks and open spaces through land acquisition and Master/Management planning;*
5. *To secure a permanent route for the Bruce Trail;*
6. *To protect and enhance the natural environment of the Niagara Escarpment, including the protection of natural heritage and hydrologic features and functions;*
7. *To support tourism by providing opportunities on public land for discovery and enjoyment by Ontario's residents and visitors;*
8. *To provide a common understanding and appreciation of the Niagara Escarpment; and*

9. *To show leadership in supporting and promoting the principles of the Niagara Escarpment's UNESCO World Biosphere Reserve designation through sustainable park planning, ecological management, community involvement, environmental monitoring, research and education.*

3.2.1 The Bruce Trail is an essential component of the NEPOSS, linking parks, open spaces and natural heritage features through the establishment of the Bruce Trail corridor, in conjunction with Bruce Trail access points and overnight rest areas. The long-term goal is to secure a permanent route for the Bruce Trail along its entire length.

3.2.5 Securing a permanent continuous route for the Bruce Trail will be accorded the same priority as establishing and completing the other parks and open spaces in the NEPOSS.

If the extension is approved Nelson's after use vision for the extension and existing quarry is to convey 382 hectares of land to a public authority. See Figure 24. This land could be phased in public ownership as follows:

- Phase 1: 48 hectares immediately following approval of the proposed extension. Phase 1 includes the lands designated natural heritage system to the east of the South Extension. See Figure 25.
- Phase 2: 89 hectares +/- 10 years following extraction commencing in the proposed extension. Phase 2 includes two parcels: i) 31 hectares including the South Extension lands that will be rehabilitated to a lake and beach area and lands designated natural heritage system to the west of the South Extension. Rehabilitation of the final lake could be accelerated by transferring water from the existing quarry to convert this to parkland in +/- 10 years; and ii) 58 hectares of the rehabilitated eastern portion of the existing quarry. This area is already rehabilitated to large pond areas, wetland habitat, islands, cliff faces and forested side slopes. See Figures 26 and 27.
- Phase 3: 245 hectares +/- 30 following extraction commencing in the proposed extension. Phase 3 includes the West Extension lands and the western 2 /3 of the existing quarry. Rehabilitation of this area includes forested areas, ponds, wetlands, islands, cliff faces and a vegetated quarry floor. This landform would also include the existing hill that has created on the existing quarry floor. See Figure 28.

This after use vision represents a unique opportunity to significantly enhance parkland that is well-connected to the Bruce Trail. The value of 382 hectares of contiguous publically-accessible parkland to a rapidly growing centre such as Burlington is significant. The landholdings are 5 times larger than any City of Burlington park and are the size and scale that is suitable for a Provincial park within the Greater Golden Horseshoe. See Figures 29 and 30.

Based on this analysis is concluded that the application conforms to the Niagara Escarpment Plan.

12.3 **Provincial Policy Statement (2020)**

This Provincial Policy Statement (PPS) was issued under Section 3 the Planning Act and came into effect May 1, 2020.

The PPS provides policy direction on matters of provincial interest related to land use planning and development. (Part 1 Preamble)

The PPS is a policy-led planning system that recognizes and addresses the complex inter-relationships among environmental, economic and social factors in land use planning.

The PPS recognizes the Province's natural heritage resources, water, agricultural lands, mineral resources, cultural heritage and archaeological resources provide important environmental, economic and social benefits. The wise use and management of these resources over the long term is a key Provincial interest. The Province must ensure that its resources are managed in a sustainable way to conserve biodiversity, protect essential ecological processes and public health and safety, provide for the production of food and fibre, minimize environmental and social impacts, provide recreational opportunities and meet its long-term needs. (Part IV: Vision for Ontario's Land Use Planning System)

The following is a summary of how the Burlington Quarry Extension is consistent with the Provincial Policy Statement:

1.0 Building Strong Healthy Communities

Ontario is a vast province with urban, rural, and northern communities with diversity in population, economic activities, pace of growth, service levels and physical and natural conditions. Ontario's long-term prosperity, environmental health and social well-being depend on wisely managing change and promoting efficient land use and development patterns. Efficient land use and development patterns support sustainability by promoting strong, liveable, healthy and resilient communities, protecting the environment and public health and safety, and facilitating economic growth.

1.1.1 Healthy, liveable and safe communities are sustained by:

a) promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;

c) avoiding development and land use patterns which may cause environmental or public health and safety concerns;

h) promoting development and land use patterns that conserve biodiversity;

i) preparing for the regional and local impacts of changing climate.

The proposed Burlington Quarry Extension is located close to market and offers efficient, cost-effective development that sustains the financial well-being of the Province and municipalities and reduces greenhouse gas emissions. The subject site has been mapped as an important aggregate resource area since the 1970s, is an expansion of an existing use and has been designed to address environmental, public health and safety concerns. The final landform promotes opportunities to manage water to benefit the public and the natural environmental taking into consideration regional and local impacts of changing climate.

1.1.4 Rural Areas in Municipalities

Rural areas are important to the economic success of the Province and our quality of life. Rural areas are a system of lands that may include rural settlement areas, rural lands, prime agricultural areas, natural heritage features and areas, and other resource areas. Rural areas and urban areas are interdependent in terms of markets, resources and amenities. It is important to leverage rural assets and amenities and protect the environment as a foundation for a sustainable economy.

Ontario's rural areas have diverse population levels, natural resources, geographies and physical characteristics, and economies. Across rural Ontario, local circumstances vary by region. For example, northern Ontario's natural environment and vast geography offer different opportunities than the predominately agricultural areas of southern regions of the Province.

1.1.4.1 Healthy, integrated and viable rural areas should be supported by:

f) promoting diversification of the economic base and employment opportunities through goods and services, including value-added products and the sustainable management or use of resources;

h) conserving biodiversity and considering the ecological benefits provided by nature;

The proposed extension is located in the rural area. The application includes promoting the rural economic base through the use of resources while conserving biodiversity and providing ecological benefits through the off-site ecological enhancement plan and rehabilitation plan.

1.1.5 Rural Lands in Municipalities

1.1.5.2 On rural lands located in municipalities, permitted uses are:

a) the management or use of resources;

b) resource-based recreational uses (including recreational dwellings);

1.1.5.3 Recreational, tourism and other economic opportunities should be promoted.

1.1.5.7 Opportunities to support a diversified rural economy should be promoted by protecting agricultural and other resource-related uses and directing non-related development to areas where it will minimize constraints on these uses.

The use of mineral aggregate resources within the proposed extension lands are a permitted use and the after use vision to provide recreational, tourism and other economic opportunities is promoted.

1.2.6 Land Use Compatibility

1.2.6.1 Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures.

Aggregate extraction began in this area in 1953 and has been a longstanding use in the community ever since. Since establishment of the Burlington Quarry, additional residential have developed and been approved in the Mount Nemo Area in proximity to the existing Burlington Quarry. The majority of the people living in the community moved into the area after commencement of the existing quarry.

Taking into the consideration the evolution of land uses in the Mount Nemo area, the proposed extension lands and other lands in the area continue to be protected as a high potential mineral resource area and planning decisions have been made over the years to continue protect this area for its aggregate potential. As a result, the proposed extension lands are appropriate to consider for aggregate extraction based on surrounding land uses. The proposed extension has been appropriately designed and buffered to prevent adverse effects and minimize risk to public health and safety in accordance with provincial standards, guidelines and procedures. See Section 8.0.

1.5 Public Spaces, Recreation, Parks, Trails and Open Space

1.5.1 Healthy, active communities should be promoted by:

b) planning and providing for a full range and equitable distribution of publicly-accessible built and natural settings for recreation, including facilities, parklands, public spaces, open space areas, trails and linkages, and, where practical, water-based resources;

The proposed after use vision for the site provides a publicly-accessible built and natural setting for recreation, parklands, open space area, trails and linkages and also include a significant water-based resource. See Section 10.0.

1.6.7 Transportation Systems

1.6.7.2 Efficient use shall be made of existing and planned infrastructure, including through the use of transportation demand management strategies, where feasible.

The proposed extension makes efficient use of an existing haul route from a close to market location thereby reducing overall travel distances. See Section 6.0.

1.7 Long-Term Economic Prosperity

1.7.1 Long-term economic prosperity should be supported by:

c) optimizing the long-term availability and use of land, resources, infrastructure and public service facilities;

h) providing opportunities for sustainable tourism development;

k) minimizing negative impacts from a changing climate and considering the ecological benefits provided by nature;

The subject site has been mapped as an important aggregate resource area since the 1970s, is an expansion of an existing use and optimizes the long-term availability of mineral aggregate resources. The site is located close to market and is an efficient, cost-effective development that reduces greenhouse gas emissions. See Sections 6.0 and 7.1.

The application also proposes an after use vision that provides for ecological benefits and sustainable tourism development. See Section 10.0.

2.0 Wise Use and Management of Resources

Ontario's long-term prosperity, environmental health, and social well-being depend on conserving biodiversity, protecting the health of the Great Lakes, and protecting natural heritage, water, agricultural, mineral and cultural heritage and archaeological resources for their economic, environmental and social benefits.

2.1 Natural Heritage

2.1.1 Natural features and areas shall be protected for the long term.

Natural features and areas will be protected and enhanced for the long term. See Sections 7.2, 9.0 and 10.0.

2.1.2 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.

The proposed phasing plan, ecological enhancement plan and rehabilitation plan will improve the diversity and connectivity of natural features in the area and the long-term ecological function and biodiversity of the natural heritage system. See Sections 7.2, 9.0 and 10.0.

2.1.3 Natural heritage systems shall be identified in Ecoregions 6E & 7E, recognizing that natural heritage systems will vary in size and form in settlement areas, rural areas, and prime agricultural areas.

The Province has mapped a natural heritage system and the proposed extension is located outside of this natural heritage system. See Section 7.2.

2.1.4 Development and site alteration shall not be permitted in:

a) significant wetlands in Ecoregions 5E, 6E and 7E; and
b) significant coastal wetlands.

No development is proposed within wetlands. See Section 7.2.

2.1.5 Development and site alteration shall not be permitted in:

a) significant wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;

b) significant woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);

c) significant valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Marys River);

d) significant wildlife habitat;

e) significant areas of natural and scientific interest; and

f) coastal wetlands in Ecoregions 5E, 6E and 7E that are not subject to policy 2.1.4(b)

unless it has been demonstrated that there will be no negative impacts on the natural features or their ecological functions.

A portion of the West Extension contains a 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and another 0.48 hectare woodland that contains significant wildlife habitat (Eastern Wood-Pewee). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat. See Section 7.2.

2.1.6 Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements.

There is no fish habitat within the proposed extraction area. See Section 7.2.

2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains endangered species habitat (Bats). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act. See Section 7.2.

2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5, and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.

An environmental impact assessment and water resources report has been completed and recommended mitigation and monitoring measures to demonstrate that there will be no negative impacts on the adjacent natural features or on their ecological function. See Section 9.0.

2.2 Water

2.2.2 Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored.

Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features, and their hydrologic functions.

A water resources report was completed and the proposed extraction does not contain sensitive surface water features or sensitive ground water features. Surrounding features will be protected and the proposed change to the existing quarry rehabilitation plan will improve surrounding features by providing a long term supply of water to these features. See Section 9.0.

2.3 Agriculture

> 2.3.1 *Prime agricultural areas shall be protected for long-term use for agriculture.*
>
> *Prime agricultural areas are areas where prime agricultural lands predominate. Speciality crop areas shall be given the highest priority for protection, followed by Canada Land Inventory Class 1, 2 and 3 lands, and any associated Class 4 through 7 lands within the prime agricultural area, in this order of priority.*
>
> 2.3.6.1 Non-Agricultural Uses in Prime Agricultural Areas
>
> *2.3.6.1 Planning authorities may only permit non-agricultural uses in prime agricultural areas for:*
>
> *a) extraction of minerals, petroleum resources and mineral aggregate resources;*
>
> *2.3.6.2 Impacts from any new or expanding non-agricultural uses on surrounding agricultural operations and lands are to be mitigated to the extent feasible.*

Extraction of mineral aggregate resources may be permitted in prime agricultural areas. An agricultural impact assessment has been completed to mitigate impacts to surrounding agricultural operations to the extent feasible. See Sections 7.3, 8.2 and 8.7.

2.5 Mineral Aggregate Resources

> *2.5.1 Mineral aggregate resources shall be protected for long-term use and, where provincial information is available, deposits of mineral aggregate resources shall be identified.*

The proposed extension has a long standing history of being recognized as an important mineral aggregate resource area and is considered a high potential mineral aggregate resource area in the Region of Halton Official Plan. Based on the land use designations for the subject site, the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan have an objective to provide for new mineral aggregate operations in this location. See Sections 7.1, 11.2, 11.4 and 11.5.

> *2.5.2.1 As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.*
>
> *Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.*

Ensuring a close to market supply of aggregate has been a cornerstone of provincial policy for the past four decades. Close to market sources, such as the proposed extension area ensures that the environmental, social and economic impacts associated with aggregate hauling are reduced.

The Burlington Quarry is a local source of aggregate for the Region of Halton and in particular the City of Burlington. Approximately 75% of the aggregate produced is used within the Region of Halton (37.5% in the City of Burlington and 37.5% in the other areas of the Region of Halton) and the remaining 25% is predominately shipped to the Region of Peel and City of Toronto. The Burlington Quarry is strategically located in close proximity to the urban areas of the City of Burlington, Town of Oakville and Town of Milton. See Section 6.0.

> *2.5.2.2 Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.*

The proposed extension has been designed to minimize social and environmental impacts. See Sections 7.0 to 9.0.

> *2.5.2.3 Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*

Nelson currently recycles concrete and asphalt at the Burlington Quarry and blends this material with aggregate resources to conserve mineral aggregate resources. This use is proposed to continue at the existing quarry in conjunction with the proposed extension. See Section 2.0.

> *2.5.2.4 Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing mineral aggregate operations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. Where the Aggregate Resources Act applies, only processes under the Aggregate Resources Act shall address the depth of extraction of new or existing mineral aggregate operations. When a license for extraction or operation ceases to exist, policy 2.5.2.5 continues to apply.*

The existing Burlington Quarry is protected for its ability to continue to operate and expand.

> *2.5.2.5 In known deposits of mineral aggregate resources and on adjacent lands, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:*
>
> *a) resource use would not be feasible; or*
>
> *b) the proposed land use or development serves a greater long-term public interest; and*
>
> *c) issues of public health, public safety and environmental impact are addressed.*

In the past, the West Extension lands were not permitted to be developed as a subdivision in part, to ensure the underlying aggregate resource was not sterilized and didn't restrict the ability of the Burlington Quarry to potentially expand onto these lands. See Section 8.1.

> *2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.*

2.5.3.2 Comprehensive rehabilitation planning is encouraged where there is a concentration of mineral aggregate operations.

A comprehensive progressive and final rehabilitation has been prepared for the existing quarry and proposed extension. The final land form creates a landform that is suitable for conservation, recreation and water management and is appropriate considering surrounding land uses and approved land use designations. See Sections 3.0 and 10.0.

2.5.4.1 In prime agricultural areas, on prime agricultural land, extraction of mineral aggregate resources is permitted as an interim use provided that the site will be rehabilitated back to an agricultural condition.

Complete rehabilitation to an agricultural condition is not required if:

a) outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;

b) in a specialty crop area, there is a substantial quantity of high quality mineral aggregate resources below the water table warranting extraction, and the depth of planned extraction makes restoration of pre-extraction agricultural capability unfeasible;

c) other alternatives have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 through 7 lands, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, Canada Land Inventory Class 1, 2 and 3 lands; and

d) agricultural rehabilitation in remaining areas is maximized.

The proposed extension is not a specialty crop area but is considered prime agricultural land within a prime agricultural area. Aggregate extraction is a permitted use on the proposed extension lands and an agricultural impact assessment was completed and concluded that rehabilitation back to agricultural is not required based on the above considerations. In total, only 12.7 hectares of prime agricultural land that is in agricultural use will be removed. Although the golf course lands are mapped as prime agricultural land, construction of the course has disturbed these soils and the property is no longer in agricultural use. See Section 7.3.

2.6 Cultural Heritage and Archaeology

2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.

2.6.2 Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.

2.6.3 Planning authorities shall not permit development and site alteration on adjacent lands to protected heritage property except where the proposed development and site

alteration has been evaluated and it has been demonstrated that the heritage attributes of the protected heritage property will be conserved.

There are no protected heritage properties on or adjacent to the proposed extension.

There are no significant built heritage or cultural heritage landscapes within the proposed extraction area and archaeological resources have been conserved. As noted in Section 7.4 an additional area of the West Extension (within the setback area) still requires a Stage 2 archaeological investigation prior to any site disturbance.

3.0 Protecting Public Health and Safety

Ontario's long-term prosperity, environmental health and social well-being depend on reducing the potential for public cost or risk to Ontario's residents from natural or human-made hazards.

Development shall be directed away from areas of natural or human-made hazards where there is an unacceptable risk to public health or safety or of property damage, and not create new or aggravate existing hazards.

Mitigating potential risk to public health or safety or of property damage from natural hazards, including the risks that may be associated with the impacts of a changing climate, will require the Province, planning authorities, and conservation authorities to work together.

3.1.1 Development shall generally be directed to areas outside of:

a) hazardous lands adjacent to the shorelines of the Great Lakes - St. Lawrence River System and large inland lakes which are impacted by flooding hazards, erosion hazards and/or dynamic beach hazards;

b) hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards; and

c) hazardous sites.

The proposed extraction area does not contain hazardous lands or hazardous sites.

3.1.2 Development and site alteration shall not be permitted within:

a) the dynamic beach hazard;

b) defined portions of the flooding hazard along connecting channels (the St. Marys, St. Clair, Detroit, Niagara and St. Lawrence Rivers);

c) areas that would be rendered inaccessible to people and vehicles during times of flooding hazards, erosion hazards and/or dynamic beach hazards, unless it has been demonstrated that the site has safe access appropriate for the nature of the development and the natural hazard; and

d) a floodway regardless of whether the area of inundation contains high points of land not subject to flooding.

The proposed extraction does not contain a dynamic beach hazard, flooding hazard, areas rendered inaccessible, or a floodway.

3.2.1 Development on, abutting or adjacent to lands affected by mine hazards; oil, gas and salt hazards; or former mineral mining operations, mineral aggregate operations or petroleum resource operations may be permitted only if rehabilitation or other measures to address and mitigate known or suspected hazards are under way or have been completed.

The proposed extension is located adjacent to the existing quarry and the quarry is protected for its ability to expand onto surrounding lands.

Based on the above analysis it is concluded that the proposed Burlington Quarry Extension is consistent with the policies of the Provincial Policy Statement.

12.4 Region of Halton Official Plan (Office Consolidation 2018)

The Region of Halton Official Plan was approved under the provisions of the Planning Act. The Region of Halton Official Plan was approved in 2006. Between 2006 and 2009 the Region undertook a planning exercise called Sustainable Halton, which resulted in a major update of the Official Plan through the approval of Regional Official Plan Amendments 37, 38 and 39. Official Plan Amendment 38 included updated polices for the rural area including mineral aggregate resources.

The Regional Plan governs land use within the Region of Halton. The Regional Plan requires planning decisions to be based on a proper balance of protecting the environment, enhancing the Region's economic competitiveness, and fostering a healthy and equitable society.

In the Region of Halton Official Plan, the proposed extension area is predominately designated Agricultural Area and small portion of the West Extension is designated Regional Natural Heritage System. See Figures 12 and 13. The proposed extension is also located in an area mapped as an Identified Mineral Resource Area in the Official Plan. See Figure 9.

The Region of Halton Official Plan requires an amendment to the Official Plan to permit all new or expanded mineral aggregate operations. See Application Booklet filed under separate cover, for a copy of the proposed Region of Halton Official Plan Amendment.

The proposed Nelson Burlington Quarry Extension conforms to the policies of the Regional Plan based on the following:

PART II
HALTON'S PLANNING VISION

25. Regional Council supports the concept of "sustainable development", which meets the need of the present without compromising the ability of future generations to meet their own need. ("Our Common Future, The World Commission on Environment and Development, 1987") Planning decisions in Halton will be made based on a proper balance among the following factors: protecting the natural environment, preserving Prime Agricultural Areas, enhancing its economic competitiveness, and fostering a

healthy, equitable society. Towards this end, Regional Council subscribes to the following principles of sustainability: that natural resources are not being over-used; that waste generated does not accumulate over time; that the natural environment is not being degraded; and that this and future generations' capacity to meet their physical, social and economic needs is not being compromised. The overall goal is to enhance the quality of life for all people of Halton, today and into the future.

26. *Halton recognizes its strategic location within the Greater Toronto and Hamilton Area and the importance of population and employment growth to the social and economic life of its residents. Halton expects further urbanization and changes to its landscape within the planning period between now and 2031. In this regard, Halton will undertake the necessary steps to ensure that growth will be accommodated in a fashion that is orderly, manageable, yet sensitive to its natural environment, heritage and culture. To maintain Halton as a desirable and identifiable place for this and future generations, certain landscapes within Halton must be preserved permanently. This concept of "landscape permanence" represents Halton's fundamental value in land use planning and will guide its decisions and actions on proposed land use changes accordingly.*

27. *In Halton's vision, its future landscape will always consist of three principal categories of land uses in large measures:*

    (1) settlement areas with identifiable communities,
    (2) a rural countryside where agriculture is the preferred and predominant activity, and
    (3) a natural heritage system that is integrated within settlement areas and the rural countryside, to preserve and enhance the biological diversity and ecological functions of Halton.

    The land uses in these categories are complementary to each other and will together move Halton towards the goal of sustainability. Each will always exist in large measures over time, both during and beyond the planning period.

29. *The concept of landscape permanence will be reflected in the goals, objectives, and policies of this Plan. In pursuit of this concept, Regional Council will exercise its powers and authority, as permitted by legislation, and deploy its resources accordingly. Other government agencies, as well as individuals or corporations, making decisions affecting Halton's landscape are also encouraged to incorporate this concept.*

30. *Although the best means of preserving landscapes is by public ownership, the Region believes that this is impractical or unnecessary in most cases. Instead, the preservation should be a shared value among Halton's residents, land owners, business sector, development industry, agricultural community and government agencies. Regional Council therefore advocates the principle of "land stewardship"--that all land owners are entitled to reasonable use and enjoyment of their land but they are also stewards of the land and should give proper regard to the long term environmental interests in proposing any land use change to their land. Within the rural area the protection and use of rural resources including agriculture is supported as the predominant use in harmony with the natural environment. As well, within parts of the natural heritage system, agriculture supported as the predominant use in harmony with the natural*

environment. In its approach to making planning decisions, Council will refer to the concept of sustainable development and the principles of sustainability, i.e., seeking a balance among the environmental, economic and social interests.

33. *In summary, Halton will use the concept of sustainable development and principles of sustainability to guide its land use decisions and hence achieve its planning vision. Stated plainly, this vision is to preserve for this and future generations a landscape that is rich, diverse, balanced, productive and sustainable, and a society that is economically strong, equitable and caring. Specifically, such a vision will be delivered through the two main themes of land stewardship and healthy communities. Part III, Land Stewardship Policies, describes area-specific land use policies that apply to designated geographical areas of Halton to support the concept of landscape permanence. Part IV, Healthy Communities Policies, contains general policies that apply to all land use decisions to be made in Halton.*

The proposed Burlington Quarry Extension supports the concept of "sustainable development". The application provides a needed aggregate resource from a close to market location which reduces economic, social and environmental impacts. The proposal also entails continued aggregate recycling at the existing quarry which helps to conserve aggregate resources and reduce waste.

The vision of the Official Plan recognizes that within the rural area the protection and use of rural resources including agriculture is supported as the predominant rural use in harmony with the natural environment. Mineral aggregate resources are a rural resource and this site is protected in the Regional Plan for its potential future aggregate potential. The proposed quarry protects the adjacent natural environment and includes measures to expand and enhance the Regional Natural Heritage System.

The Region of Halton envisions "landscape permanence" in the rural countryside, where agriculture is the preferred and predominant activity, alongside a natural heritage system. The application supports the concept of "landscape permanence".

All potential quarry sites within the Region of Halton will either be located within the Agricultural Area or the Regional Natural Heritage System.

The majority of the proposed extraction area is not in agricultural use (e.g. golf course) or contain key natural heritage features. The application only results in the removal of:

- 12.7 hectares of active agriculture lands;
- one Butternut Tree (Endangered);
- three golf course maintenance buildings that contain barn swallow nests (Threatened);
- 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and endangered species habitat (Bats); and
- 0.48 hectare woodland that contains significant wildlife habitat (Eastern Wood-Pewee).

The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act.

The removal of these rural resources, will provide access to 30 million tonnes of the highest quality aggregate in close proximity to the consumer and the proposed rehabilitation plan will create a landscape that will enhance the rural countryside and enhance the Regional Natural Heritage System. The after use vision for the existing quarry and extension includes a 382 ha landform suitable for conservation, recreation and water management:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

Nelson is prepared to convey the land in phases to a public authority to enhance the quality of life for all people of Halton, today and into the future. As part of application Nelson is prepared to convey the land into public ownership starting with 48 ha immediately following approval of the extension, 89 ha +/- 10 years later, and 245 ha in +/- 30 years.

HALTON AND ITS SURROUNDING REGION

> *16. The Greater Toronto and Hamilton Area (GTHA), as currently defined, comprises the Cities of Toronto and Hamilton and the Regional Municipalities of Halton, Peel, York and Durham (see Figure 1). Extending this area to include the surrounding urban centres would encompass the Greater Golden Horseshoe region, the most populous and economically active part of Ontario. Some of these centres are the fastest growing areas within the Province. Halton is remarkably well situated within this conurbation of settlement.*

The site is close to market and is well suited to supply mineral aggregate needs to the GTHA while minimizing the environmental, economic, and social impacts associated with transporting the resource further from market.

DEVELOPMENT CRITERIA

> *57. Development is directed to environmentally suitable areas with the appropriate land use designation in accordance with the goals, objectives and policies of this Plan.*
>
> The site is located in an environmentally suitable area with the appropriate land use designations and policies to consider an extension to the existing Burlington Quarry.
>
> *62. All development within the Niagara Escarpment Plan Area is subject to the provisions of the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan, as well as applicable policies of this Plan, Local Official Plan, and Local Zoning Bylaws.*

This report addresses the provisions of the Niagara Escarpment Plan, Region of Halton Official Plan and the City of Burlington Official Plan. The City of Burlington Zoning By-law does not apply to the subject site or existing quarry since the property is located within the Niagara Escarpment Development Control Area.

LAND USE DESIGNATIONS

> *91. The goal of the Agricultural System is to maintain a permanently secure, economically viable agricultural industry and to preserve the open-space character and landscape of Halton's non-urbanized areas.*
>
> *99. The objectives of the Agricultural System are:*
>
> *(17) To provide for the designation of new Mineral Resource Extraction Areas which can be accommodated in accordance with goals, objectives and policies of, and by amendment to, this Plan and, where applicable, the Niagara Escarpment Plan and the Greenbelt Plan.*

The Region of Halton Official Plan recognizes a goal is an "*idealized end state*"…."*towards which the Plan must strive but for which it may not be possible to apply a test of fulfilment*". In this situation, over the years the Mount Nemo area has transitioned from a predominately agricultural area to an area with a mix of rural land uses. The loss of 12.7 ha of active agricultural land will not undermine the goal of the Agricultural System. One of the objectives of the Agricultural System is to provide for the designation of new Mineral Resource Extraction Area and therefore the plan contemplates that aggregate extraction will occur within the agricultural system.

> *107. The objectives of the Mineral Resource Extraction Areas are:*
>
> *(1) To ensure as much of the mineral aggregate resources as is realistically possible shall be made available within the Region to supply mineral resource needs.*
>
> *(2) To protect legally existing mineral aggregate operations from incompatible land uses.*
>
> *(3) To ensure that mineral aggregate resource extraction occur in a manner that minimizes social, environmental and human health impacts. (3.1) To ensure that the functions and features of the Region's Natural Heritage System are maintained or, where possible, enhanced during and after the extraction operations.*
>
> *(4) To provide policies and criteria for evaluating new licence applications for mineral aggregate operations.*
>
> *(5) To ensure the progressive and final rehabilitation of mineral aggregate operations to the appropriate after use.*

The existing Burlington Quarry is designated Mineral Resource Extraction Area and the proposed extension is proposed to be designated Mineral Resource Extraction Area. The Burlington Quarry Extension will help implement these objectives by:

- Ensuring as much of the mineral aggregate resources as is realistically possible shall be made available within the Region to supply mineral resource needs;
- Protecting the existing quarry from incompatible land uses;

- Being designed to operate the site in a manner that minimizes social, environmental and human health impacts;

- Maintaining and enhancing the features and functions of the Region's Natural Heritage System during and after extraction;

- Addresses the policies and criteria outlined below for evaluating new licence applications for mineral aggregate operations; and

- Ensuring progressive and final rehabilitation in a timely manner and creates a landform suitable for conservation, recreation and water management.

109. Subject to other policies of this Plan, applicable policies of the Greenbelt Plan and Niagara Escarpment Plan, applicable Local Official Plan policies and Zoning By-laws, and site plan and conditions of the licence under the Aggregate Resources Act, the following uses may be permitted:

(2) existing uses,

(3) mineral aggregate operations licensed pursuant to and in compliance with the Aggregate Resources Act.

(4) associated facilities to a mineral aggregate operation used in extraction, transport, beneficiation, processing or recycling of mineral aggregate resources and derived products such as asphalt and concrete, or the production of secondary related products, provided that such associated facilities are:

a) [Section number not in use].

b) directly associated with the extraction of mineral aggregate resources from an integrated mineral aggregate operation, which may consist of more than one Aggregate Resources Act License;

c) designed to be temporary and not to be utilized after extraction has ceased; and

d) located in a manner that does not affect the final rehabilitation or enhancement of the site in accordance with an approved rehabilitation and enhancement plan.

Accessory uses and associated facilities at the existing quarry are an existing use and permitted in compliance with the Aggregate Resources Act. Nelson is proposing to use these associated facilities in conjunction with the extension.

As required by Section 109.4 the use would be directly associated with extraction from an integrated mineral aggregate operation. They are designed to be temporary and not be utilized and removed after extraction has ceased. In addition, the proposed application will facilitate final rehabilitation and enhancement of this area in a timely manner. As part of the application Nelson is prepared to enter into agreements to finalize rehabilitation of the existing quarry and proposed extension in +/- 30 years whereas under existing approvals Nelson planned to operate the existing quarry for approximately 50 years.

110. It is the policy of the Region to:

(1) Require the Local Municipalities to adopt Zoning By-laws, where applicable, to permit the operation of legally existing mineral aggregate operations in accordance with the Aggregate Resources Act and protect them from new land uses incompatible with such operations for reasons of public health, public safety or environmental impact or which would preclude or hinder the expansion or continued use of such operations.

The existing Burlington Quarry is protected from new land uses that would preclude or hinder the expansion or continued use of such operations.

(2) Require that all extraction and accessory operations be conducted in a manner which minimizes environmental impact in accordance with Provincial standards and requirements and Regional and Local Official Plan policies.

The site has been designed so operations are conducted in a manner which minimizes environmental impact in accordance with Provincial standards and the requirements of the Niagara Escarpment Plan and Regional and Local Official Plan policies.

(3) Establish as a priority the protection of surface and ground water from the adverse impacts of extraction. Accordingly, the proponent of new or expanded mineral aggregate operations is required to carry out comprehensive studies and undertake recommended mitigation and/or remedial measures and on-going monitoring in accordance with Provincial requirements and policies of this Plan and in consultation with Conservation Authorities.

A comprehensive water resources study was completed and recommends mitigation and/or remedial measures and on-going monitoring in accordance with Provincial requirements and the policies of the Regional Plan to protect surface and ground water resources from adverse impacts of extraction. Nelson pre-consulted with Conservation Halton prior to the submission of the application and Conservation Halton forms part of the Joint Agency Review Team for the application.

(3.1) Develop and maintain, in consultation and partnership with public agencies, aggregate industry and citizen groups, an Aggregate Resources Reference Manual which serves as a guidance document for Halton, which contains, among other things:

a) data, information and results of credible research on the Greenbelt and Regional Natural Heritage Systems, and surface and ground water systems in Halton, especially as these relate to the cumulative impacts on those systems of extractive operations in Halton and neighbouring municipalities,

b) best practices and protocols on mitigative and restorative measures to minimize the social, environmental and human health impacts of extractive operations for both the short and long terms, and

c) information, studies and proposed plans required to assist in the review of an application for a licence under the Aggregate Resources Act and applications for Official Plan amendments under the Planning Act.

The Aggregate Resources Reference Manual was reviewed in preparation of the terms of references for the various technical reports that were provided to the Joint Agency Review Team during pre-consultation.

> *(4) Encourage the applicant to consult, prior to the submission of an application for a new mineral aggregate operation or expansion to an existing operation, the Region, the Province, Conservation Authorities and other relevant agencies to identify the content of studies and information to be provided to support the application, to scope or focus study requirements where appropriate, and to determine a process and an agreement of evaluation and peer review.*

Nelson consulted with the Ministry of Natural Resources and Forestry, Ministry of Environment, Conservation and Parks, Niagara Escarpment Commission, Region of Halton, City of Burlington and Conservation Halton prior to the submission of the application to identify the scope of study requirements and to outline of process for evaluation and peer review.

> *(5) Require that air, noise and blasting studies be undertaken in accordance with Provincial regulations and standards and recommendations be implemented to minimize impact on social and human health.*

Air, noise and blasting studies were completed and these studies include recommended mitigation and monitoring requirements to ensure provincial regulations and standards are implemented to minimize impact on social and human health.

> *(6) Consider mineral aggregate resource extraction as an interim use and require the rehabilitation of all such sites to form part of the Greenbelt or Regional Natural Heritage System or the Agricultural Area, with the proposed after-uses being in conformity with the applicable policies of that land use designation.*

The rehabilitation of the site has been designed to form part of the Regional Natural Heritage System and proposes a landform that is suitable for conservation, recreation and water management after-uses which is in conformity with the policies of the Regional Plan.

> *(6.1) Require the rehabilitation of mineral aggregate operations on prime agricultural lands, within Prime Agricultural Areas to be carried out so that substantially the same areas and same average soil quality for agriculture are restored.*
>
> *On prime agricultural lands, complete agricultural rehabilitation is not required if:*
>
> *a) There is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;*
>
> *b) Other alternative locations have been considered by the applicant and found unsuitable. The consideration of other alternatives shall include resources in areas of Canada Land Inventory Class 4 to 7 soils, resources on lands identified as designated growth areas, and resources on prime agricultural lands where rehabilitation is feasible. Where no other alternatives are found, prime agricultural lands shall be protected in this order of priority: specialty crop areas, and Canada Land Inventory Class 1, 2 and 3 lands; and*

c) Agricultural rehabilitation in remaining areas is maximized.

An agricultural impact assessment was completed and agricultural rehabilitation is not required based on the above noted criteria.

(7) Require an amendment to this Plan to designate any new Mineral Resource Extraction Areas, except for an 11.3 ha expansion of an existing sandstone quarry located on the east half of Lot 21, Concession V, former Township of Esquesing, in the Town of Halton Hills.

An amendment to the Regional Plan has been submitted. See Application Booklet filed under separate cover, for a cover of the proposed amendment to the Regional Plan.

(7.1) In areas outside the Greenbelt Natural Heritage System, consider applications for new or expanded mineral aggregate operations by amendment to this Plan and/or the Niagara Escarpment Plan in appropriate land use designations other than the following areas:

a) The Niagara Escarpment Plan Area except the Escarpment Rural Area,

b) Provincially Significant Wetlands,

c) Significant habitat of endangered species and threatened species as identified by the Province, except in accordance with the Endangered Species Act, 2007,

d) For quarries, areas within 200 m of the Escarpment Brow,

e) The Urban Area, Hamlets and Rural Clusters as identified by policies of this Plan, and

f) The North Aldershot Policy Area except in accordance with the time limited and area specific Minutes of Settlement dated June 1, 2013 and executed prior to the approval of this Plan.

The site is located outside of the Greenbelt Natural Heritage System and is not located within any of the above noted areas, therefore the site is located within in an appropriate land use designation to consider a new or expanded mineral aggregate operation.

(7.2) In accordance with Section 118(3)d), apply the following systems based approach in the assessment of the impact of a new or expanded mineral aggregate operation on the Region's Natural Heritage System:

a) Where the proposal has the potential to negatively affect Key Features of the Regional Natural Heritage System, as identified in Section 115.3(1), require the proponent to demonstrate through an EIA that the proposal will result in no negative impact on the Key Features or their ecological functions for which the area is identified.

The proposal has the potential to negatively affect key features of the Regional Natural Heritage System. An EIA was completed that demonstrates, that the proposal will result in no negative impact on the key features or their ecological functions.

b) In addition to Section 110(7.2)a), where the proposal has the potential to negatively affect the Regional Natural Heritage System, require the proponent to demonstrate through an EIA that the proposal will maintain, restore or where possible enhance the diversity and connectivity of natural heritage features in an area, and the long term

ecological functions and biodiversity of natural heritage systems, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features.

An EIA has demonstrated that the proposal will maintain, restore and enhance the diversity and connectivity of natural heritage features in the area based on the ecological enhancement plan and rehabilitation plan. These measures expand and enhance the existing Regional Natural Heritage System.

d) Where the proponent has satisfied the requirements of Sections 110(7.2)a) through 110(7.2)c) as applicable, require any application for a new or expanded mineral aggregate operation to consider a "net environmental gain" approach to the preservation and enhancement of the Greenbelt and/or Regional Natural Heritage System based on the following principles:

A) *Outside Prime Agricultural Areas, or where agricultural rehabilitation is not required in accordance with Section 110(6.1), the site is to be rehabilitated to function as part of the Greenbelt and/or Regional Natural Heritage Systems.*

B) The Key Features and ecological functions of the Greenbelt and/or Regional Natural Heritage Systems will, where possible, be enhanced both in the short and long terms as a result of implementing the rehabilitation plan of the proposed extractive operation and/or an off-site enhancement plan. Such enhancements may include but not necessarily be limited to:

[i] increase in the spatial extent of the Greenbelt and/or Regional Natural Heritage Systems,

[ii] increase in biological and habitat diversity,

[iii] enhancement of ecological system function,

[iv] enhancement of wildlife habitat,

[v] enhancement of natural succession,

[vi] creation of new wetlands or woodlands, [vii] enhancement of riparian corridors,

[viii] enhancement of groundwater recharge or discharge areas, and

[ix] establishment or enhancement of linkages between significant natural heritage features and areas.

C) Priorities for restorations or enhancements to the Greenbelt and/or Regional Natural Heritage Systems through post-extraction rehabilitation shall be based on the following in descending order of priority:

[i] restoration to the original features and functions on the areas directly affected by the extractive operations,

[ii] enhancements to the Greenbelt and/or Regional Natural Heritage Systems by adding features and functions on the balance of the site,

[iii] enhancements to the Greenbelt and/or Regional Natural Heritage Systems by adding features and functions in areas immediately surrounding the site,

[iv] enhancements to that part of the Greenbelt and/or Regional Natural Heritage Systems in the general vicinity of the site, and

[v] enhancements to other parts of the Greenbelt and/or Regional Natural Heritage Systems in Halton.

D) Restorations or enhancements shall proceed immediately after extraction in a timely fashion.

E) Consideration should be given to the transfer of the ownership of any privately owned rehabilitated or enhanced lands to a public body.

F) A detailed implementation plan of the proposed restorations and enhancements shall form part of the rehabilitation plan in the site plan or be included as a condition of the licence under the Aggregate Resources Act.

The Burlington Quarry Extension application includes a variety of ecological enhancements and a detailed implementation plan which forms part of the rehabilitation plan under the Aggregate Resources Act. These include:

- 4.5 hectares of the setback areas adjacent to key natural heritage features that do not include berms will be planted to expand the natural heritage system during operations. Following berm removal another 0.8 hectares will be planted. This tree planting will expand the Regional Natural Heritage System by 5.3 hectares.
- 4.0 hectare off-site ecological enhancement plan on land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System.
- 32.8 hectares of the extraction area will be rehabilitated to a key natural heritage feature, including 29.2 ha of woodlands and 3.6 ha of wetlands. These features in the long term will enhance and enlarge the natural heritage system by 32.8 hectares.
- Collectively the off-site ecological enhancement plan and rehabilitation plan for the extension will result in the creation of 33.2 hectares of new woodlands, of which 8.5 ha will be planted prior to the removal of woodlands in the West Extension.

As required by the Regional Plan, consideration has been given by Nelson and they are prepared to transfer ownership of the privately owned rehabilitated and enhanced lands to a public body.

(7.6) Consider applications for an amendment to this Plan to designate a new or expanded Mineral Resource Extraction Area under the Planning Act to be complete on the basis of Sections 187(10).

(8) Evaluate each proposal to designate new or expanded Mineral Resource Extraction Areas based on its individual merits and consideration of all the following factors:

a) [Section number not in use.]

b) [Section number not in use.]

c) Adverse impacts on, and proposed measures to minimize or address such adverse impacts:

[i] the Regional Natural Heritage System in accordance with Section 110(7.2),

[ii] quality and quantity of surface and ground waters,

[iii] adjacent sensitive land uses including their source of drinking water,

[iv] any Cultural Heritage Resources,

[v] transportation system,

[vi] the surrounding agriculture and rural communities,

[vii] visual character of the area,

[viii] air quality, and

[ix] the Greenbelt Natural Heritage System in accordance with Section 110(7.2)

c.1) *cumulative impacts of the proposal and other extractive operations in the general area,*

d) proposed rehabilitation plan and compatibility of the proposed after-use with the goals and objectives of this Plan, and

e) risk of public financial liability during and after extraction where continuous active on-site management is required.

The proposed application includes measures to minimize or address such adverse impacts on the natural environment, water resources, adjacent sensitive land uses, cultural heritage resources, transportation, surrounding agricultural and rural communities, visual, air quality, noise, and blasting based on the technical reports that have been completed. The applications also took into consideration cumulative impacts of the existing quarry and designed a comprehensive after use plan for the existing quarry and proposed extension that meets the goals and objective of the Region of Halton Official Plan. See Sections 7.0 to 9.0.

The proposed rehabilitation plan for the existing quarry and proposed extension maintains the existing pumping regime from the existing quarry to maintain water to surrounding natural features that currently depend on this water and provides additional land area for conservation and recreational after uses. The water management system is straight forward and involves water being stored in onsite lakes and ponds on the quarry floor and pumped off-site to the north and south similar to the existing quarry operation. The only addition to the system is the passive discharge from the pond to the wetland north of No. 2 Sideroad via a control valve. The management of the site is similar to activities routinely conducted by conservation authorities to manage water resources to the benefit of the public by storing water during snow melt and storm

events and releasing water during droughts or periods of low flow to help maintain and enhance surrounding natural heritage features. The conditions of the Aggregate Resources Act Site Plans ensure that there is no risk of public financial liability as a result of active management.

(8.1) Support the progressive and final rehabilitation of extractive operations that:

a) takes place in a timely fashion;

b) limits the amount of disturbed area on an on-going basis ;

c) adopts prevailing best management practices; and

d) conforms with the applicable policies of the Greenbelt Plan.

The application includes a progressive and final rehabilitation plan that will accelerate closure of the site, limit amount of disturbed area and incorporates best managements practices to enhance the Region's Natural Heritage System. The site is not subject to the policies of the Greenbelt Plan.

(8.2) Discourage the use of adaptive management plans or similar measures that will require continuous or perpetual active on-site management post rehabilitation.

If the extension is approved, Nelson's after use vision for the extension and existing quarry is to develop a future park and conservation area that could be created in phases. The total area includes 382 hectares consisting of:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

The water management system is straight forward and involves water being stored in onsite lakes and ponds and pumped off-site to the north and south similar to the existing quarry operation. The management of the site is similar to activities routinely conducted by conservation authorities to manage water resources to the benefit of the public by storing water during snow melt and storm events and releasing water during droughts or periods of low flow to help maintain and enhance surrounding natural heritage features.

(9.1) Encourage the proponent of new or expanded Mineral Resource Extraction Areas to have regard to the Aggregate Resources Reference Manual for Halton under Section 110(3.1) of this Plan and to engage in pre-consultation with the Region and public agencies in accordance with Section 110(4).

The technical reports have regard to the Aggregate Resources Reference Manual and Nelson engaged in pre-consultation with the Region and public agencies. See Application Booklet filed under separate cover for a copy of the pre-consultation record.

> *(11) Require the proponent of a new or expanded Mineral Resource Extraction Area to demonstrate to the satisfaction of the Region that the transportation of aggregate and related products associated with the proposed extractive operation can be adequately accommodated by the transportation system in Halton. Any improvements to the Regional and Local transportation infrastructure to accommodate the transportation of aggregate shall be at the expense of the proponent. If applicable, alternative routes and alternative modes for transporting the products shall be considered and evaluated.*

A traffic impact assessment was completed and there are no improvements required to the existing haul route as result of the proposed extension. Improvements are required to the crossing on No. 2 Sideroad and Nelson has committed to the City of Burlington to upgrade the crossing to municipal standards and maintain the crossing throughout the lifecycle of the South Extension at Nelson's expense.

This site represents a close to market source of aggregate and is ideal from a transportation perspective. There are no alternative haul routes or alternative modes for transport aggregate from this site to market.

> *111. The objectives of the Region are:*
>
> *(1) To recognize existing mineral aggregate operations and protect them from activities that would preclude or hinder their continued use or expansion.*
>
> *(2) To protect known mineral aggregate deposits and areas of high potential mineral aggregate resources, as shown on Map 1F, for potential future extraction.*
>
> *The Region recognizes that within the Niagara Escarpment Plan Area, these objectives are subject to the priorities set by the purpose, objectives and policies of the Niagara Escarpment Plan.*
>
> *(3) To support mineral aggregate resource conservation.*

The existing Burlington Quarry is protected from activities that would preclude or hinder the continued use or expansion of the quarry. The proposed extension is protected as a known mineral aggregate deposit and an area of high potential mineral aggregate resources as shown on Map 1F of the Region of Halton Official Plan for potential future extraction.

The Niagara Escarpment Plan contemplates extraction on the subject site, subject to amendment and the application has been designed to conform to the requirements of the Niagara Escarpment Plan.

The proposed extension proposes to continue aggregate recycling in conjunction with the existing quarry to conserve mineral aggregate resources.

> *112. It is the policy of the Region to:*

(1) Protect high potential mineral aggregate resource areas consisting of primary and secondary sand and gravel resource areas and selected bedrock/shale resource areas, except for those areas considered to be unsuitable for extraction based largely on Section 110(7.1) of this Plan, Provincial policies and Provincial Plans. The resource areas thus identified are generally shown on Map 1F using mapping supplied by the Ministry of Northern Development, Mines and Forestry or the Ministry of Natural Resources. Map 1F is not drawn to scale and the boundaries are only approximate. The identification of these mineral aggregate resource areas on Map 1F does not imply that extraction in these areas conforms to Provincial Plans or policies, nor does it imply support by the Region for any licence application under the Aggregate Resources Act in these areas or for any amendment to this Plan thereof.

The subject site is a protected high potential mineral aggregate resource area and is not considered unsuitable for extraction based on Section 110(7.1) of the Region of Halton Official Plan. The application has been designed to conform to Provincial and Regional policies and is proposed to be licensed under the Aggregate Resources Act.

113. The Natural Heritage System consists of the Greenbelt Natural Heritage System and the Regional Natural Heritage System.

114. The goal of the Natural Heritage System is to increase the certainty that the biological diversity and ecological functions within Halton will be preserved and enhanced for future generations.

116.1 The boundaries of the Regional Natural Heritage System may be refined, with additions, deletions and/or boundary adjustments, through:

a) a Sub-watershed Study accepted by the Region and undertaken in the context of an Area-Specific Plan;

b) an individual Environmental Impact Assessment accepted by the Region, as required by this Plan; or

c) similar studies based on terms of reference accepted by the Region.

Once approved through an approval process under the Planning Act, these refinements are in effect on the date of such approval. The Region will maintain mapping showing such refinements and incorporate them as part of the Region's statutory review of its Official Plan.

118. It is the policy of the Region to:

(2) Apply a systems based approach to implementing the Regional Natural Heritage System by:

a) Prohibiting development and site alteration within significant wetlands, significant coastal wetlands, significant habitat of endangered and threatened species and fish habitat except in accordance with Provincial and Federal legislation or regulations;

b) Not permitting the alteration of any components of the Regional Natural Heritage System unless it has been demonstrated that there will be no

negative impacts on the natural features and areas or their ecological functions; in applying this policy, agricultural operations are considered as compatible and complementary uses in those parts of the Regional Natural Heritage System under the Agricultural System and are supported and promoted in accordance with policies of this Plan;

c) Refining the boundaries of the Regional Natural Heritage System in accordance with Section 116.1; and

d) Introducing such refinements at an early stage of the development or site alteration application process and in the broadest available context so that there is greater flexibility to enhance the ecological functions of all components of the system and hence improve the long-term sustainability of the system as a whole.

Within the proposed West Extension extraction area there is an area designated as part of the Region of Halton's Natural Heritage System. See Figures 12 and 13. This area includes three woodland areas. An environmental impact assessment was completed and the on-site woodlands were evaluated using Provincial and Regional criteria to determine if the woodlands qualified as a significant woodland. Based on the assessment the woodlands did not meet Provincial and Regional criteria to be deemed significant woodlands, but two of the woodlands contain other key natural heritage features.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and endangered species habitat (Bats) and another 0.48 hectare woodland that contains significant wildlife habitat (Wood-Pewee). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act. The West Extension also includes the removal of a 0.26 ha woodland that did not qualify as a key natural heritage feature. See Section 7.2.

The Burlington Quarry Extension application applies a system based approach to implementing the Regional Natural Heritage System. Overall, 32.8 hectares of the extraction area will be rehabilitated to a key natural heritage feature, including 29.2 ha of woodlands and 3.6 ha of wetlands. These features in the long term will enhance and enlarge the natural heritage system by 32.8 hectares. The off-site ecological plan enhances 4.0 hectares of land already included in the Regional Natural System. Collectively the off-site ecological enhancement plan and rehabilitation plan for the extension will result in the creation of 33.2 hectares of new woodlands, of which 8.5 ha will be planted prior to the removal of woodlands in the West Extension.

(3) Require the proponent of any development or site alteration that meets the criteria set out in Section 118(3.1) to carry out an Environmental Impact Assessment (EIA), unless:

a) the proponent can demonstrate to the satisfaction of the Region that the proposal is minor in scale and/or nature and does not warrant an EIA,

b) *it is a use conforming to the Local Official Plan and permitted by Local Zoning By-laws;*

c) *it is a use requiring only an amendment to the Local Zoning By-law and is exempt from this requirement by the Local Official Plan; or*

d) *exempt or modified by specific policies of this Plan.*

The purpose of an EIA is to demonstrate that the proposed development or site alteration will result in no negative impacts to that portion of the Regional Natural Heritage System or unmapped Key Features affected by the development or site alteration by identifying components of the Regional Natural Heritage System as listed in Section 115.3 and their associated ecological functions and assessing the potential environmental impacts, requirements for impact avoidance and mitigation measures, and opportunities for enhancement. The EIA, shall, as a first step, identify Key Features on or near the subject site that are not mapped on Map 1G.

An EIA was completed and demonstrated that the proposed development will not result in a negative impact to the Regional Natural Heritage System.

(3.1) Set the criteria for the requirement of an EIA for proposed developments and site alterations as follows:

c) *all other developments or site alterations, including public works, that are located wholly or partially inside or within 120m of the Regional Natural Heritage System.*

Since the development is located partially inside and within 120 metres of the Regional Natural Heritage System and EIA was completed and terms of reference for the study were reviewed with the Joint Agency Review team.

(4) Require that the recommendations of an Environmental Impact Assessment, including the placement of lot lines and structures, carried out under Section 118(3) and endorsed by the Region be implemented through official plan amendments, zoning by-laws, site plan control, conditions of planning approval or regulations by the appropriate authority.

The recommendations of the Environmental Impact Assessment are implemented through the Aggregate Resources Act Site Plans regulated by the Ministry of Natural Resources and Forestry.

(9) Promote, in conjunction with other public agencies and through stewardship programs, the donation of privately owned lands in the Regional Natural Heritage System to public agencies or charitable organizations, or the transfer of the responsibilities for the protection of the ecological functions and features on such lands to a public agency or charitable organization through a conservation easement agreement.

As part of the application Nelson proposes to convey 382 hectares of land suitable for conservation, recreation and water management to a public agency.

139.8 The purpose of the Municipal Wellhead Protection Zones, as shown on Map 1D is to assist in the implementation of Sections 145(2) through 145(4), policies designed to protect the source of municipal well water from contamination.

The subject site is well setback from the closet Municipal Wellhead Protection Zones. See Figure 19.

139.9 The purpose of the Prime Agricultural Areas, as shown on Map 1E, is to assist in interpreting policies of this Plan and to assist the City of Burlington and the Towns of Milton and Halton Hills in developing detailed implementation policies for their respective Official Plans.

139.9.1 The Prime Agricultural Areas shown on Map 1E include lands in the Agricultural Area and Regional Natural Heritage System designations. Together these lands support and advance the goal to maintain a permanently secure, economically viable agricultural industry and to preserve the open space character and landscape of Halton's nonurbanized area.

139.9.2 It is the policy of the Region to:

(3) Outside the Greenbelt Plan Area, permit the removal of land from Prime Agricultural Areas only where the following have been demonstrated through appropriate studies to the satisfaction of the Region:

a) necessity for such uses within the planning horizon for additional land to be designated to accommodate the proposed uses;

b) amount of land area needed for such uses;

c) reasons for the choice of location;

d) justification that there are no reasonable alternate locations of lower capability agricultural lands;

e) no negative impact to adjacent agricultural operations and the natural environment;

f) there are no reasonable alternatives that avoid Prime Agricultural Areas as shown on Map 1E, and

g) the land does not comprise a specialty crop area. Extraction of mineral aggregate resources is permitted in Prime Agricultural Areas in accordance with Section 110(6.1).

The subject site is located within the Region's Agricultural System. See Figure 15. The Agricultural Area designation includes an objective to provide for new mineral resource extraction areas. Section 110 (6.1) of the Region of Halton Official Plan includes policies that do not require agricultural rehabilitation of the site if certain tests have been met. An agricultural impact assessment was completed and concluded the site does not require agricultural rehabilitation based on the planned depth of extraction, the proposed rehabilitation landform and other alternatives were considered by the application and found unsuitable.

139.10 The purpose of the Identified Mineral Resource Areas, as shown on Map 1F, is to assist in the implementation of Sections 112(1) and 112(2), policies designed to protect high potential mineral aggregate resources areas from incompatible land uses.

The subject site is mapped as an Identified Mineral Resource Area on Map 1F of the Region of Halton Official Plan and is considered a high potential mineral aggregate resources areas protected from incompatible land uses.

139.11 The purpose of the Key Features within the Greenbelt and Regional Natural Heritage Systems, as identified in Sections 115.3(1) and 139.3.3, and shown on Map 1G, is to assist in the implementation of permitted use policies in the Regional Natural Heritage System and the requirement for Environmental Impact Assessments, as well as to assist the Local Municipalities in developing detailed implementation policies for the Key Features of the Greenbelt Natural Heritage System in accordance with policies of the Greenbelt Plan and this Plan.

A small portion of the proposed West Extension extraction area is part of the Regional Natural Heritage System. See Figures 12 and 13. An Environmental Impact Assessment was completed and the proposed application conforms to the Natural Heritage System policy requirements of the Region of Halton Official Plan.

ENVIRONMENTAL QUALITY

142. The objectives of the Region are:

(1) To reduce, in concert with the Federal Government, the Province, other municipalities, public interest groups and the private sector, the emissions of greenhouse gases.

(2) To improve air quality and to address the impact of climate change.

(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.

(7) To promote tree planting in both rural and urban areas for the purposes of improving air quality, sequestering carbon dioxide and reducing energy use through shading and sheltering.

143. It is the policy of the Region to:

(10) Develop, in consultation with the Local Municipalities, the Province, Federal government and the railway agencies, Land Use Compatibility Guidelines to minimize the adverse effect of noise, vibration, odour and air pollution from industrial, transportation and utility sources on sensitive land uses, including the application of separation distance between these non-compatible uses.

The subject site and surrounding area are mapped as an identified mineral resource area in the Region of Halton Official Plan and new mineral aggregate operations are contemplated in this area taking into account existing sensitive land uses. The Aggregate Resources Act requires an extraction setback of 30 metre from residential uses and the proposed extension includes setbacks that are greater than this separation distance. Detailed assessments related to noise, air and blasting have been completed and demonstrate that the operation has been designed and buffered to meet provincial limits for noise, air and blasting at surrounding sensitive land uses.

Overall, the application contributes to improvement to Halton's airshed through land use planning and transportation management by accessing the needed aggregate resources close to the consumer which reduces greenhouse gases and helps to address the impact of climate change. The application also includes 33.2 hectares of tree planting within the extension that will assist in improving air quality, sequestering carbon dioxide and reducing energy use through shading and sheltering.

144. The objectives of the Region are:

(3) To maintain, protect and enhance the quality and quantity of groundwater and surface water.

(4) To achieve integrated watershed management in Halton through partnership with all stakeholders within the watersheds.

(5) To support the protection of water quality and quantity in accordance with the objectives of Watershed Plans and Sub-watershed Studies, where they exist, or through best management practice, where such Plans/Studies do not exist.

(6) To maintain and enhance fish habitat in Halton.

(7) To promote efficient and sustainable use of water resources, including the practices for water conservation and sustaining water quality.

145. It is the policy of the Region to:

(5) Require that any development proposal that has the potential to release or discharge contaminants to affect the quality of groundwater be subject to a review by the Region to assess the risk of such uses to potentially contaminate the groundwater system in Halton. As a result of such an assessment, the proponent may be required to carry out a hydrogeological study to the satisfaction of the Region and implement its recommendations which may result in a prohibition or restriction of the proposed use, or an agreement to adopt best management practices as prescribed by the Region.

(10) Encourage the protection and enhancement of watercourses and headwaters areas as an integral component for maintaining natural hydrological processes within a watershed.

(12) Promote the regeneration of natural areas near watercourses.

(17) Consider the impact of development on fish habitat and ensure compliance with the Federal Fisheries Act.

(23) Restrict development and site alteration in or near sensitive surface and ground water features and require the proponent to carry out an Environmental Impact Assessment in accordance with policies of this Plan and, undertake where appropriate, hydrogeological and hydrological studies to protect, improve or restore such features.

A water resources and environmental impact study were completed. The application has been designed to maintain, protect, and enhance the quality and quantity of groundwater and surface water, including fish habitat.

146. The objectives of the Region are:

(1) To protect unique landforms such as the Niagara Escarpment permanently.

(3) To preserve certain landscapes as part of Halton's Cultural Heritage Resources.

(4) To implement, in part, the environmental goals and objectives of this Plan through strategic land acquisitions;

(5) To promote the concept of a Regional trail system by providing the needed connections, through acquisitions or easements, between local trails and/or interregional trails such as the Bruce Trail and the Waterfront Trail.

(6) To protect significant tree-covered areas as a natural resource and promote the enhancement of woodland coverage in Halton.

(12) To protect and utilize mineral aggregate resources in accordance with Sections 107 through 112 of this Plan.

(13) To protect agricultural lands where appropriate.

147. It is the policy of the Region to:

(3) Adopt and maintain, in consultation with the Halton community and in collaboration with the appropriate agencies, a Land Securement Strategy that would identify how the overall environmental quality of Halton can be enhanced through acquisitions of land ownership or land management rights through purchases, conservation easements, or private-public partnership agreements.

The proposed extension protects unique landforms, preserves cultural heritage resources, enhances woodland coverage in Halton, utilizes mineral aggregate resources and proposes to convey 382 hectares of land suitable for conservation, recreation and water management.

CULTURAL HERITAGE RESOURCES

165. The goal for Cultural Heritage Resources is to protect the material, cultural and built heritage of Halton for present and future generations.

166. The objectives of the Region are:

(1) To promote awareness and appreciation of Halton's heritage.
(2) To promote and facilitate public and private stewardship of Halton's heritage.

167. It is the policy of the Region to:

(1) Maintain, in conjunction with the Local Municipalities, local historical organizations, and municipal heritage committees a list of documented Cultural Heritage Resources in Halton.

(2) Inform promptly the appropriate government agencies, First Nations and Municipal Heritage Committees of development proposals that may affect defined Cultural Heritage Resources and known archaeological sites.

(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 Management Plan.

An archaeological and cultural heritage impact assessment (built heritage and cultural heritage landscapes) was completed and significant cultural heritage resources will be conserved. As noted in Section 7.4 an additional area of the West Extension (within the setback area) still requires a Stage 2 archaeological investigation prior to any site disturbance.

TRANSPORTATION

173. It is the policy of the Region to:

(22) Require the proponent of any development considered to have a transportation impact to carry out a detailed transportation study to assess the impact of the proposal and to recommend necessary improvements to the transportation network and services consistent with the goals, objectives and policies of this Plan.

A transportation study was completed and no improvements are necessary to regional roads as a result of the proposed quarry extension. The application includes the continuation on existing use and utilizes an existing entrance / exit and existing haul route. The main haul route is Guelph Line which is identified as Major Arterial road. See Figure 20. The planned function of Guelph Line is to serve:

- Mainly inter-regional and regional travel demands;
- Accommodate all truck traffic;
- Carry high volumes of traffic; and
- Distribute traffic to and from Provincial Freeways and Highways.

Based on the above analysis, it is concluded that the proposed Burlington Quarry Extension conforms to the policies of the Region of Halton Official Plan.

12.5 City Of Burlington Official Plan (Office Consolidation 2017)

The City of Burlington Official Plan was approved in 1994 under the provisions of the Planning Act. The City undertook a city wide review of their official plan which proposed a major update to the Official Plan through City of Burlington Official Plan Amendment 55. Many of the rural area policies of Official Plan Amendment 55 remain under appeal by Nelson. The 2017 Office Consolidation of the City of Burlington Official Plan references that policies that are deferred by Nelson (i.e. deferral D53).

As result the following analysis incorporates polices from the 2017 Office Consolidation that are in force and for those policies that are deferred reference is made to the policies found in the certified copy of the Burlington Official Plan dated June 30, 2004. This plan includes the policies that were in force prior to the City of Burlington Official Plan Amendment 55.

To assist the reviewer, the policies from the various sections of the two plans have been considered together and it is noted whether the policy is from the 2017 or 2004 version of the Plan. As a result not all of the numbering of policies will correspond to those found in the 2017 Plan.

In the City of Burlington Official Plan, the proposed extension area is designated Escarpment Rural Area and is located outside of the Greenlands System. See Figure 14.

The City of Burlington Official Plan requires an amendment to the Official Plan to permit any new or expanded mineral aggregate operation. See Application Booklet filed under separate cover for a copy of the proposed City of Burlington Official Plan Amendment.

The proposed Burlington Quarry Extension conforms to the policies of the City of Burlington Official Plan based on the following:

The purpose of the Plan is to outline a long-term vision of the community and quality of life for Burlington residents through statements of principles, objectives and policies. The Plan provides policy direction to the public and private sectors on land use, development and resource management matters to guide the future planning and development of the City of Burlington towards the desired community vision (Part I, Section 5.2, 2017)

Part I Policy Framework

1.0 Mission Statement

To maintain and enhance the City's physical, natural and cultural features and to manage growth and development in a manner that enhances the quality of life in Burlington and reflects an awareness of the environment, ensuring that ecological and environmental considerations will be incorporated into the planning process. (2004)

3.0 Guiding Principals

b) Support a healthy, clean and sustainable community based on an ecosystem approach, by ensuring that environmental integrity and diversity are considered in land use decisions.(2004)

e) Create a community development pattern that supports the existing business community and promotes new business development opportunities, by protecting critical areas of economic enterprise and promoting a variety of locations for economic activity (2017).

4.3 The Future Built Form and Natural Environment

Rural Area: This Plan supports previous planning approaches in terms of designating distinct urban and rural areas. Development in the Rural Planning Area will remain restricted to existing Rural Settlement Areas. Preservation of significant natural features, particularly the Niagara Escarpment, and promotion and protection of agricultural operations and aggregate resources and operations are supported by this Plan. (2017)

The proposed Burlington Quarry Extension supports the policy framework of Burlington Official Plan. The Official Plan recognizes that within the rural area the protection and use of rural resources including agriculture is supported by the plan. Mineral aggregate resources are a rural resource and this site is protected in the Regional Plan for its potential future aggregate potential. The proposed quarry protects the adjacent natural environment and includes measures to expand and enhance the City's Greenland system.

The majority of the proposed extraction area is not in agricultural use (e.g. golf course) or contain key natural heritage features. The application only results in the removal of:

- 12.7 hectares of active agriculture lands;
- one Butternut Tree (Endangered);
- three golf course maintenance buildings that contain barn swallow nests (Threatened);
- 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and endangered species habitat (Bats); and
- 0.48 hectare woodland that contains significant wildlife habitat (Eastern Wood-Pewee).

The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act.

The removal of these rural resources, will provide access to 30 million tonnes of the highest quality aggregate in close proximity to the consumer and the proposed rehabilitation plan will create a landscape that will enhance the rural countryside. The after use vision for the existing quarry and extension includes a 382 ha landform suitable for conservation, recreation and water management:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

Nelson is prepared to convey the land in phases to a public authority to enhance the quality of life for people of the City of Burlington in phases, with 48 ha immediately following approval of the extension, 89 ha +/- 10 years later, and 245 ha in +/- 30 years.

Part II – Functional Policies

2.0 Environment

From an environmental planning perspective, the main intent of the Plan is to integrate environmental considerations with economic and social factors in land use planning decisions. Achieving a balance between these three components requires

that the long-term environmental, social and economic implications of development be considered. Sustainable development is premised on the ability to create links between the environment and economy that can support an enhanced quality of life. Directly, the environment provides life support with air and water. Indirectly, it provides natural resources, which in turn provide food, other economic goods, services and employment. The integration of environmental considerations will be directed to the following principles, objectives and policies. (2004)

2.1 Principals

a) The environment is an important consideration in the planning and development of the City of Burlington.

b) Land, air and water have a limited capacity to support development and the relationships and dynamic processes occurring between the components of the natural environment and those of the built environment must be recognized and taken into account.

e) To conserve and manage wisely all natural resources in a manner that addresses global environmental problems, maximizes the environmental benefits of public and private investment, reduces wasteful consumption of physical resources and promotes a clean, healthy, sustainable environment. (2004)

2.2 Objectives

a) To encourage municipal decisions that consider environmental effects.

c) To encourage the conservation and managed use of all natural resources.

e) To preserve, protect and enhance significant natural features.

f) To minimize the potential for adverse impacts to the air, land and water.

g) To assess development on the basis of long term and cumulative impacts, and net positive and negative contributions to environmental quality. (2004)

2.4 Protection/Enhancement Policies

a) Development shall be limited to lands that are environmentally suited for the proposed use, considering the safety and health of the user, and negative effects on the natural environment.

b) When required by this Plan or by City Council, Environmental Evaluations shall be performed as part of development applications. These Evaluations may require a review of the natural environment affected, the effects of the proposed development on that natural environment and the measures proposed to lessen any negative effects from the development.

g) Exposure of residential and other land uses sensitive to vibration, noise, dust, odours or other effects caused by transportation or industrial facilities, and likewise, the encroachment of sensitive land uses on these facilities, shall be minimized through the use of separation distances, the placement of non-

sensitive land uses as buffers, and/or other means. Provincial guidelines should be referred to for direction in land use planning decisions. (2004)

2.5 Environmental Evaluation

a) An Environmental Evaluation Report, to be prepared on behalf of the development proponent to the satisfaction of the City, shall be required as part of the consideration of a development application affecting lands found:

(i) within an area identified by the Ministry of Natural Resources as a Regionally Significant Wetland;

(ii) within an area designated as an Environmentally Sensitive Area on Schedule B, Comprehensive Land Use Plan -Urban Planning Area or Schedule C, Comprehensive Land Use Plan- Rural Planning Area;

(iii) within an area identified by the Ministry of Natural Resources as a Regionally or Provincially Significant Area of Natural and Scientific Interest;

(iv) within 120m of a Regionally or Provincially Significant Wetland, and Regionally or Provincially Significant Area of Natural and Scientific Interest as identified by the Ministry of Natural Resources; and

(v) within 60 m of an Environmentally Sensitive Area.

b) An Environmental Evaluation Report may be required for development proposals affecting lands other than those described in Part II, Section 2.5 (a) where it is considered that the proposal has the potential to adversely affect the environment.

c) For Environmentally Sensitive Areas and Provincially Significant Wetlands, the Regional Environmental Impact Assessment will replace the City's Environmental Evaluation Report.

d) The Environmental Evaluation Report shall be submitted as part of the review of the development application.

e) The Environmental Evaluation Report shall include, but not be limited to the following:

(i) a description of the environment that will be affected, directly or indirectly;

(ii) a description of the development proposal, including the purpose, location, land area and proposed use;

(iii) an assessment of the expected effects on the environment by the development proposal;

(iv) a listing of assumptions used in the assessment; and

(v) recommendations regarding the actions necessary to prevent, mitigate or remedy the effects on the environment of the development proposal. (2004).

The majority of the proposed extension does not contain key natural heritage features and the site is suitable to consider for extraction. An EIA was completed that demonstrates, that the proposal will result in no negative impact on the key features or their ecological functions.

A portion of the West Extension contains one Butternut Tree (Endangered), three golf course maintenance buildings that contain barn swallow nests (Threatened), a 0.48 hectare woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and endangered species habitat (Bats) and another 0.48 hectare woodland that contains significant wildlife habitat (Wood-Pewee). The environmental impact assessment concluded these features provide minimal diversity, are relatively isolated and managed features in the middle of an active golf course and could be removed without negative impact to significant wildlife habitat and in compliance with the Endangered Species Act. Nelson is consulting with the Ministry of Environment, Conservation and Parks regarding compliance with the Endangered Species Act. The West Extension also includes the removal of a 0.26 ha woodland that did not qualify as a key natural heritage feature. See Section 7.2.

The Burlington Quarry Extension application applies a system based approach to protecting and enhancing the City's Greenland System. Overall, 32.8 hectares of the extraction area will be rehabilitated to a key natural heritage feature, including 29.2 ha of woodlands and 3.6 ha of wetlands. The off-site ecological plan enhances 4.0 hectares of land that is currently in agricultural use. Collectively the off-site ecological enhancement plan and rehabilitation plan for the extension will result in the creation of 33.2 hectares of new woodlands, of which 8.5 ha will be planted prior to the removal of woodlands in the West Extension.

3.0 Transportation

3.2.2(d) A transportation study to assess the impact of a proposed development on current travel patterns and/or future transportation requirements may be required before Official Plan amendments, subdivision approvals, rezonings, site plan approvals or other development proposals are allowed. (2017)

3.8. Truck and Commercial Traffic Objectives

3.8.1(b) To encourage safe and efficient truck and commercial traffic movement as part of the transportation system.

3.8.1(c) To minimize the impact of commercial vehicle operation on overall traffic operations and other activities on and adjacent to roads.

3.8.2(a) Heavy truck traffic may be restricted to designated truck routes to minimize the negative impact that this traffic will have on residential areas and on transit-oriented roads. (2017).

The proposed extension will utilize the entrance / exit at the existing quarry and existing haul route which has been designed to accommodate truck traffic. Trucks enter / exit the site on No. 2 Sideroad and travel east to Guelph Line. The majority of trucks travel south on Guelph Line which provides access to other Regional Roads and Highway 407 and QEW. A traffic impact assessment was completed which confirms the existing route is appropriately designed and has capacity to accommodate truck from the continuation of the operation. Guelph Line is a major arterial road with a planned function to transport high volumes of traffic including truck traffic. See Figures 20 and 21. As per the existing City of Burlington By-law, trucks are prohibited on Cedar Springs Road except for local deliveries.

The proposed extension includes a direct at grade crossing from the proposed South Quarry Extension to the existing quarry on No. 2 Sideroad. The traffic impact assessment confirmed the proposed crossing location maintains required sight distances and recommends that the quarry traffic be controlled by a stop sign. The traffic impact assessment recommends that the crossing be up-graded to municipal standards to accommodate the proposed truck traffic. Nelson has committed to the City of Burlington to upgrade the crossing to municipal standards and maintain the crossing throughout the lifecycle of the South Extension at Nelson's expense.

8.0 Cultural and Heritage Resources

8.1 Principals

a) Cultural heritage resources of significant cultural heritage value shall be identified, and conserved. (2017)

7.0 Heritage Resources

7.2 Objectives

f) To ensure that all development considers heritage resources and, wherever feasible, includes these resources into any development plans in a way that preserves and enhances the physical character of the heritage resources in terms of scale, form, colour, texture, material and the relation between structures, open spaces and landforms.

j) To conserve significant archaeological resources and artifacts through assessment and mitigation of impacts to those resources. (2004)

7.5 Planning, Development/Redevelopment Policies

e) Approval of development on lands with archaeological resources may be conditional on the conservation of the resources. In consultation with the Provincial and Regional governments, the need for the study and preservation of significant archaeological sites shall be determined during the review of development proposals. An archaeological survey and the preservation or rescue excavation of significant archaeological resources, that may be affected by the development may be required. Archaeological assessments and mitigation must be done by an archaeological consultant licensed by the Ministry of Citizenship, Culture and Recreation. (2004)

There are no protected heritage properties on or adjacent to the proposed extension.

A cultural heritage impact assessment (built heritage and cultural heritage landscape) and archaeological assessments were completed. There are no significant built heritage or cultural heritage landscapes within the proposed extraction area and archaeological resources have been conserved. As noted in Section 7.4 an additional area of the West Extension (within the setback area) still requires a Stage 2 archaeological investigation prior to any site disturbance.

9.0 Storm Water Management

9.1 Principals

a) Maintain or restore the natural hydrologic and ecologic function of significant watercourses.(2004)

9.2 Objectives

9.2.1 Flooding

a) To ensure that future development does not increase the risk of property damage and danger to life from flooding.

c) To manage flooding concerns in a way that maintains fish habitat and other natural resources features.(2004)

9.2.3 Hydrogeology

a) To control future development in a way that maintains and/or enhances significant groundwater recharge and prevents undesirable groundwater level decline and reduction in base flow to watercourses.

b) To ensure base flow maintains permanent and seasonal fish habitat where it exists naturally.

c) To minimize the possible negative effects on groundwater quality from land use practices and/or development.

d) To restrict or limit development in hydrogeologically sensitive areas such as important recharge and discharge features.(2004)

9.3 Policies

a) Stormwater management techniques shall be used in the design and construction of all new developments to control both the quantity and quality of stormwater runoff. The degree of control will depend on the conditions in the downstream receiving water bodies. This is to minimize the adverse effects of development on the downstream aquatic environment and adjacent lands.

h) Wherever feasible, watercourses should be left in their natural state.(2004)

The proposed extraction area does not contain hazardous lands, a dynamic beach hazard, flooding hazard, a floodway, sensitive surface water features or sensitive ground water features.

A water resources report was completed and surrounding features will be protected and the proposed change to the existing quarry rehabilitation plan will improve surrounding features by providing a long term supply of water to these features. See Section 9.0.

Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

The water management system is straight forward and involves water being stored in onsite lakes and ponds and pumped off-site to the north and south similar to the existing quarry operation. The management of the site is similar to activities routinely conducted by conservation authorities to manage water resources to the benefit of the public by storing water during snow melt and storm events and releasing water during droughts or periods of low flow to help maintain and enhance surrounding natural heritage features.

13.0 Agriculture

13.2 Objectives

a) To recognize agriculture as the primary activity and land use in the Rural Planning Area, and as an interim activity and land use in the Urban and North Aldershot Planning Areas.

b) To reduce fragmentation of lands suitable for agriculture and provide for their consolidation. (2017)

13.3 Policies

e) The City and the Region of Halton shall require the proponent of a nonfarm development to carry out an Agricultural Impact Assessment based on guidelines adopted by Regional Council. (2017)

The subject site is mapped as a prime agricultural area and 80% of the site is mapped as prime agricultural land (Class 1, 2, and 3). However, the soils within the golf course have been disturbed through the grading of the golf course and the golf course is no longer in agricultural use. On the South Extension, only 12.7 ha are actively farmed. Planning policies permit aggregate extraction within prime agricultural areas, on prime agricultural land and rehabilitation back to agricultural is not required subject to certain requirements. Based on these policy considerations, the site is not required to be rehabilitated back to agricultural and the application results in the removal of 12.7 ha of active agricultural land. Overall, these impacts are negligible and an agricultural impact assessment was completed and confirmed that the site has been appropriately designed to minimize impacts on surrounding agricultural operations.

The loss of 12.7 ha of active agricultural land will not undermine the objectives of the Official Plan. One of the objectives of the designation of the subject site is to provide for the designation of new Mineral Resource Extraction Area and therefore the plan contemplates that aggregate extraction will occur within the agricultural area.

Part IV

2.0 Rural Lands

The lands identified as "Rural Lands" on Schedule A, City Structure Land Use Policy Plan comprise the majority of the Rural Planning Area of the City of Burlington. To provide for the long-term preservation of natural features and the protection of the rural community as an agricultural area, six categories of land use have been identified on Schedule C, Comprehensive Land Use Plan- Rural Planning Area for "Rural Lands": The Agricultural Rural Area (Non- Escarpment Plan Area), and Greenlands (Non-Escarpment Plan Area) designations are found on lands outside the Niagara Escarpment Plan Area. The Agricultural Rural Area (Escarpment Plan Area), Greenlands (Escarpment Plan Area), and Escarpment Protection Area designations are found on lands within the Niagara Escarpment Plan Area. Mineral Resource Extraction Areas are

found both within and outside of the Niagara Escarpment Plan Area. Each of these designations are based on the range of uses, the scale and intensity of the development allowed, and the degree of preservation of natural features and resources.

The following principles, objectives and policies provide a framework that will guide future development and conservation decisions for the "Rural Lands". (2004)

2.1 General

2.1.1 Principals

a) Rural Lands have a distinct character consisting of productive farm lands and other resource industries, limited residential settlement and natural areas including the Niagara Escarpment and Bronte Creek.

b) The present and future use of productive agricultural lands in the Rural Planning Area for farming shall be given priority through the policies of the Plan.

*c) Development on Rural Lands shall be self-sustaining in terms of well water supply and sewage disposal. *D22, D23*

d) Significant natural and cultural heritage features and landscapes shall be preserved and protected.

e) The importance of wetland areas shall be recognized, with policies that restrict the alteration of the physical and/or biological features present.

*g) Agricultural lands shall be protected. *D22, D23 (2004)*

2.1.2 Objectives

*a) To encourage the use and protection of prime agricultural areas for farming purposes. *D22, D23*

*b) To direct non-agriculture related development in the Rural Planning Area to Rural Settlement Areas or to the Urban Planning Area, except uses directly related to agriculture that need to be close to the agricultural community. *D22,D23*

c) To recognize Environmentally Sensitive Areas (ESAs) as identified by the Region of Halton and restrict the alteration of physical and/or biological features.

f) To recognize existing pits and quarries that are licensed under the applicable legislation. (2004)

The subject site is located within the Rural Area of the City of Burlington. The Official Plan recognizes that Mineral Resource Extraction Areas and resource industries are located within the Rural Area both inside and outside the Niagara Escarpment Plan Area. The application has been designed to preserve significant cultural heritage features and enhance the natural environment. The application does not result in the removal of any wetlands or "Environmentally Sensitive Areas". The application results in the removal of some small key natural heritage features that are part of the golf course and with the mitigation measures proposed there will be no negative impact. Overall the application results in 33.2 ha of new woodlands and 3.6 ha of new wetlands.

Planning policies permit aggregate extraction within prime agricultural areas, on prime agricultural land and rehabilitation back to agricultural is not required subject to certain requirements. Based on these policy considerations, the site is not required to be rehabilitated back to agricultural and the application results in the removal of 12.7 ha of active agricultural land. Overall, these impacts are negligible and an agricultural impact assessment was completed and confirmed that the site has been appropriately designed to minimize impacts on surrounding agricultural operations.

The loss of 12.7 ha of active agricultural land will not undermine the objectives of the Official Plan. One of the objectives of the designation of the subject site is to provide for the designation of new Mineral Resource Extraction Area and therefore the plan contemplates that aggregate extraction will occur within the agricultural area.

2.1.3 Policies

e) Land use development proposals shall be evaluated using the following criteria:

i) all development within the Niagara Escarpment Plan Area shall be subject to the Niagara Escarpment Planning and Development Act, the Niagara Escarpment Plan, and the policies of the Region of Halton and City of Burlington Official Plans. In the event of conflicts between policies, the more restrictive shall apply;

ii) all development within the Parkway Belt West Planning Area shall be subject to the Parkway Belt Planning and Development Act, applicable Provincial Land Use Regulations, the Parkway Belt West Plan, and the policies of the Region of Halton and City of Burlington Official Plans. In the event of conflicts between policies, the more restrictive shall apply;

iii) the site is not hazardous to life or property in terms of soil contamination, unstable ground or soil, or possible flooding;

iv) the proposed development meets all Federal, Provincial, Regional and City requirements;

v) the site supports the use with minimal adverse effects on water quality, natural vegetation, soil, and wildlife population of the site;

vi) all development is to be designed and located having regard for the preservation of the natural and visual features of the area;

vii) all development recognizes established Fill, Construction and Alteration to Waterways Regulations and Flood Line Mapping and Regulations;

viii) any new roads, road improvements or service corridors should be determined with consideration of environmental features; and

ix) the groundwater impacts of the development are evaluated.(2004)

Based on these policies it is noted that:

- The site is located within the Niagara Escarpment Plan and policies of the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan have been considered;
- The site is not hazardous to life or property;
- The application has been designed to meet all applicable Federal, Provincial and Regional requirements;
- The proposed quarry has been designed to avoid adverse effects to water resources and the natural environment;
- The progressive and final rehabilitation of the site will enhance the natural environment;
- During operations measures such as retaining existing tree screens, proposed tree planting and berms will minimize visual impacts and following rehabilitation visual features will be enhanced;
- The proposed extraction area does not contain any regulated features, such as watercourses and wetlands;
- No new roads are proposed; and
- Groundwater impacts have been evaluated and the application will not adversely affect groundwater resources or private wells.

g) An amendment to the Plan shall be required to allow a new or expanded mineral resource extraction use under The Aggregate Resources Act.(2004)

See Application Booklet filed under separate cover for a copy of the proposed amendment to the City of Burlington Official Plan.

2.3 Escarpment Rural Area Designation

2.3.1 Objectives

a) The objectives for this designation include those found in Part IV, Subsection 2.2.1 and the following:

(i) to maintain the scenic values of lands in the vicinity of the Escarpment;

(ii) to maintain the open landscape character by encouraging the conservation of the traditional cultural landscape and cultural heritage features;

(iii) to encourage agriculture and forestry and to provide for compatible rural land uses;

(iv) to provide a buffer for the more ecologically sensitive areas of the Escarpment; and

(v) to provide for the designation of new Mineral Resource Extraction Areas which can be accommodated by an amendment to the Niagara Escarpment Plan.(2017)

The subject site is designated Escarpment Rural Area and on the objectives of this designation is to provide for the designation of new Mineral Resource Extraction Areas which can be accommodated by an amendment to the Niagara Escarpment Plan.

2.4 Greenlands (Non-Escarpment plan area)

2.4.1 Objectives

a) To ensure the long-term preservation of lands that form a permanent natural resource base consisting of ecologically sensitive natural areas and open space areas. These lands include the most natural Escarpment features, stream valleys, hazard land areas, significant woodlots, environmentally sensitive areas, wetlands, related significant natural areas and associated cultural heritage features.

b) To maintain and enhance the landscape qualities of Escarpment features, stream valleys, hazard land areas, woodlots, environmentally sensitive areas, wetlands, related significant natural areas and associated cultural heritage features.

*c) To allow only passive recreation and conservation activities which are compatible with the Greenlands (Non-Escarpment Plan Area) designation as well as agricultural activity. *D23*

d) To identify lands that comprise the Greenlands System of interconnected open space and natural areas as identified in the Region of Halton's Official Plan.

e) To protect private lands from public trespass by requiring clear identification of public lands where public access shall be encouraged.

f) To indicate that the Greenlands (Non-Escarpment Plan Area) designation does not imply or authorize that there should be public access or use of private lands.(2004)

2.4.2 Policies

f) Notwithstanding Part IV, Section 2.4.2 b), no development shall be allowed within the portions of the Greenlands (Non-Escarpment Plan Area) designation containing Provincially Significant Wetlands as identified through the Ministry of Natural Resources in accordance with Provincial policy and regulatory floodplains as identified by the Halton Region Conservation Authority.

g) The proponent of a development may be required to prepare an Environmental Evaluation Report for lands in the Greenlands (Non-Escarpment Plan Area) subject to the policies of Part IT, Section 2.5 of this Plan, if the development would adversely affect the environment. Single-detached dwellings and agricultural related uses such as barns and sheds would be exempt from this policy.

h) Environmentally Sensitive Areas (ESAs) are identified as an overlay on Schedule C, Comprehensive Land Use Plan: Rural Planning Area. The precise boundaries of these areas shall be determined by the Region of Halton. Specific policies for Environmentally Sensitive Areas are:

i) the alteration of physical and/or biological features shall be restricted;

ii) subject to the requirements of Part N, Section 2.4.2 g) the proponent of any development, including public works, inside of or within 60 m of an ESA must carry out an Environmental Evaluation; and

iii) the alteration of any condition or land use that may affect the ESA shall be subject to approval of the appropriate authority, based on site plans submitted by, and agreements entered into with the developer.(2004)

2.5 Greenlands (Escarpment plan area)

2.5.1 Objectives

a) The objectives for this designation are found in Part IV, Section 2.4.1. (2004)

2.5.2 Policies

a) The policies for this designation are found in Part IV, Section 2.4.2. (2004)

The subject site is not designated Greenlands in the City of Burlington Official Plan. An Environmental Impact Assessment was completed.

The proposed South Extension does not include any key natural heritage features within the proposed extraction area. The proposed West Extension includes 1 Butternut tree (Endangered), 3 golf course maintenance buildings containing barn swallow nests (Threatened), 0.48 ha woodland that contains significant wildlife habitat (Eastern Wood-Pewee) and another 0.48 woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and habitat for an endangered species (Bats). These features provide minimal diversity, are relatively isolated and managed features in the middle of active golf course. The applicable planning policies do not prohibit extraction within these features, subject to compliance with the Endangered Species Act and ensuring no negative impact to significant wildlife habitat.

An on-site ecological enhancement plan has been designed to plant 4.5 ha of woodland, adjacent to key natural heritage features prior to the removal of the key natural heritage features in the West Extension. As part of rehabilitation of the site 3.6 ha of wetland will be created and another 24.7 ha of woodland will be planted for a total of 29.2 ha of woodlands. Overall the proposed extension will result in a significant increase in the diversity and size of the regional natural heritage system, compared to existing conditions.

Although no direct or indirect impacts will occur to Jefferson Salamander habitat, an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System. With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands.

Adjacent to the subject site there are several key natural heritage features and key hydrologic features including provincially significant wetlands, wetlands, habitat of endangered and threatened species, fish habitat, areas of natural and scientific interest, significant valleylands,

significant woodlands, significant wildlife habitat, streams, seepage areas and springs. The proposed extension is not anticipated to have any negative impacts on adjacent natural heritage features based on the proposed buffers and mitigation measures. Nelson has developed an Adaptive Management Plan which is a comprehensive program that will be implemented to monitor and mitigate the impact on adjacent natural heritage features if required. The Adaptive Management Plan includes monitoring, thresholds and mitigation methods to recognize and prevent any negative impacts.

2.7 Mineral Resource Extraction Area

2.7.1 Objectives

a) To protect legally existing pits and quarries licensed under The Aggregate Resources Act from incompatible land uses.

b) To minimize the potential for incompatibilities between impact of mineral resource extraction and the rural community.

c) To ensure the progressive rehabilitation of pits and quarries to an appropriate after-use that is compatible with the applicable Plan designation, the surrounding environment and existing uses.

d) To provide for the expansion of existing licensed aggregate operations and for the establishment of new operations through amendments to this Plan and the Niagara Escarpment Plan.

e) To minimize the impact of mineral extraction operations on the Escarpment environment.

d) To encourage the rehabilitation of pits and quarries to an agricultural after-use if the lands are located in an agricultural area or to be integrated into the Niagara Escarpment Parks and Open Space System, where appropriate. (2004)

2.7.2 Policies

b) In conjunction with the Provincial and Regional regulations the City shall regulate the operation of pits or quarries to minimize adverse impact on surrounding land uses, the rural community and the Escarpment environment.

c) In conjunction with the Provincial and Regional regulations the City shall regulate pits and quarries and accessory operations to ensure that environmental pollution is minimized, consistent with standards laid down in pertinent legislation and municipal regulations.

d) The City shall support the undertaking of hydrogeological studies in accordance with Provincial legislation and policies of the Region of Halton and the Halton Region Conservation Authority to ensure that surface and ground water resources are protected from the adverse effects of mineral resource extraction.

e) The City shall consider mineral resource extraction areas as an interim use and encourage their progressive rehabilitation for an appropriate after-use.

f) Recreation uses shall be permitted only when buildings and structures are minor in scale, and are located to preserve an open-space character in the

area; landscaping and berms are provided to maintain an open-space character of the area; if the use involves significant taking of ground or surface waters, the proponent must demonstrate, through a detailed study and to the satisfaction to the City, that the water resources in the general area will not be adversely affected and the impact on adjacent agricultural operations is minimized, through the preparation of an Agricultural Impact Assessment to the satisfaction of the Region of Halton.

g) Where rehabilitation is being undertaken by reforestation, the after use shall aim to re-establish a functioning ecosystem similar in condition to the natural ecosystem in the region.

h) Where rehabilitation is being undertaken to agriculture, substantially the same acreage and average soil capability for agriculture shall be restored. (2004)

The City of Burlington Official Plan protects the existing Burlington Quarry and contemplates expansions to existing licensed operations.

The proposed extension has a long standing history of being recognized as an important mineral aggregate resource area and is considered a high potential mineral aggregate resource area in the Region of Halton Official Plan. Based on the land use designations for the subject site, the Niagara Escarpment Plan, Region of Halton Official Plan and City of Burlington Official Plan have an objective to provide for new mineral aggregate operations in this location.

Ensuring a close to market supply of aggregate has been a cornerstone of provincial policy for the past four decades. Close to market sources, such as the proposed extension area ensures that the environmental, social and economic impacts associated with aggregate hauling are reduced.

The Burlington Quarry is a local source of aggregate for the Region of Halton and in particular the City of Burlington. Approximately 75% of the aggregate produced is used within the Region of Halton (37.5% in the City of Burlington and 37.5% in the other areas of the Region of Halton) and the remaining 25% is predominately shipped to the Region of Peel and City of Toronto. The Burlington Quarry is strategically located in close proximity to the urban areas of the City of Burlington, Town of Oakville and Town of Milton. See Section 6.0.

The proposed application includes measures to minimize or address such adverse impacts on the natural environment, water resources, adjacent sensitive land uses, cultural heritage resources, transportation, surrounding agricultural and rural communities, visual, air quality, noise, and blasting based on the technical reports that have been completed. The applications also took into consideration cumulative impacts of the existing quarry and designed a comprehensive after use plan for the existing quarry and proposed extension. See Sections 7.0 to 9.0.

The City of Burlington Official Plan encourages rehabilitated pits and quarries to be integrated within the Niagara Parks Open Space System. If the extension is approved, Nelson's after use vision for the extension and existing quarry is to develop a future park and conservation area that could be created in phases. The total area includes 382 hectares consisting of:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;

- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

Based on the above analysis the proposed Burlington Quarry Extension conforms to the policies of the City of Burlington Official Plan.

12.6 Aggregate Resources Act Summary Statement

Nelson Aggregate Co. is applying for a proposed extension to its Burlington Quarry on lands located to the south and west of the existing Burlington Quarry. The proposed extension is located at Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS (former geographic Township of Nelson), City of Burlington, Region of Halton.

The proposed licence area is 78.3 hectares and the proposed extraction area is 50.2 hectares. The South Quarry Extension is 18.3 hectares with a proposed extraction area of 14.5 hectares. The South Quarry Extension consists of lands currently used for agricultural crops. The West Quarry Extension is 60.0 hectares with a proposed extraction area of 35.7 hectares. The West Quarry Extension consists of lands currently used as a golf course.

12.6.1 Summary Statement: Required Information

The following sections are structured to provide information required by the Provincial Standards for an Aggregate Resources Act Summary Statement for Class A Category 2, Quarry Below Water.

12.6.1.1 Planning and Land Use Considerations - Standard 2.1.1

An amendment to the Niagara Escarpment Plan, the Region of Halton Official Plan and the City of Burlington Official Plan and a Niagara Escarpment Development Permit to required to permit the proposed Burlington Quarry Extension. These applications have been filed concurrently with the Aggregate Resources Act application. See Application Booklet filed under separate cover for a copy of the applications submitted, including the Aggregate Resources Act application.

The planning and land use considerations are addressed in Sections 2.0 to 11.0 and summarized as follows:

- The subject site contains the highest quality aggregate resource in Southern Ontario and the resource becomes increasingly valuable from a public interest perspective when it is located in proximity to major population centres with specialized infrastructure and construction requirements.

- Close to market sources, such as the proposed extension, ensure that the environmental, social and economic impacts associated with aggregate hauling are reduced.

- The subject site has a long standing history of being recognized as an important mineral aggregate resource area in provincial documents dating back to 1974. The site is mapped as an Identified Mineral Resource Area in the Region of Halton Official Plan and policies protect the aggregate resource on-site for its potential future use.

- The subject site is appropriately designated in the Niagara Escarpment Plan, the Region of Halton Official Plan and the City of Burlington Official Plan to consider an extension to the Burlington Quarry. The designation for the site has an objective to provide for new or expanded mineral aggregate operations.

- The subject site and surrounding lands are located within the rural area of the City of Burlington. Surrounding lands uses include a mix of existing rural uses including the existing quarry, Mount Nemo Settlement Area, rural residential uses, golf courses, the Bruce Trail, natural heritage areas, Mount Nemo Conservation Area, an oil pipeline, rural roads, transmission towers and agricultural operations.

- From a social perspective, aggregate extraction began in this area in 1953 and has been a longstanding use in the community ever since. The proposed extension has been designed, buffered and/or separated from sensitive land uses to prevent adverse effects and minimize risk to public health and safety based on technical reports addressing water resources, acoustics, air quality, blasting, visual, agricultural, and visual:

    - The community surrounding the existing quarry and proposed extension rely on individual groundwater wells for their water needs. The existing quarry has been operating in the community since 1953 and existing wells continue to function without adverse impacts from the quarry. The water resources report confirms that the proposed extension will not adversely impact wells. Nelson has guaranteed the protection of all private water supplies (residential and agricultural water supplies) in the Mount Nemo Area and will implement a comprehensive groundwater monitoring program and Well Response Program.

    - The proposed extension will not process any aggregate on-site. The aggregate will be extracted and transported back to the existing quarry processing plant, which is located 20 metres below grade and in a location that maximizes separation distance with surrounding residents.

    - A blasting impact assessment was completed and blasting at the quarry will be in accordance with provincial guidelines to protect surrounding structures, oil pipeline and wells. All blasts will be designed and monitored to ensure compliance with provincial guidelines.

- A noise impact assessment was completed and the site has been designed with berms and operational controls to ensure provincial noise limits will be met at surrounding residents. During the commencement of each phase Nelson will complete a noise audit to ensure the operation is meeting the noise limits at adjacent receptors. Hours of operation within the proposed extension are limited to 7:00 am to 7:00 pm Monday to Friday.

- An air quality assessment was completed and the site has been designed to ensure provincial limits will be met at all surrounding receptors. A detailed Best Management Practices Plan for dust control and air emissions has been developed for the site in accordance with provincial requirements.

- A visual impact assessment was completed and the site has been designed with the retention of existing tree screens, tree planting and berms to minimize visual impacts.

- From a transportation perspective, the quarry is located close to market which reduces the overall distances that trucks travel, the amount of fossil fuel consumed and the amount of greenhouse gases emitted. The proposed extension will utilize the entrance / exit at the existing quarry and existing haul route which has been designed to accommodate truck traffic. A traffic impact assessment was completed which confirms the existing route is appropriately designed and has capacity to accommodate trucks from the continuation of the operation.

- All potential aggregate sites for new or expanded mineral aggregate operations will either be part of the natural heritage system or agricultural system and some sites contain both. Overall, planning policies permit new or expanded mineral aggregate operations in agricultural areas since policies either prohibit or restrict aggregate extraction within certain key natural heritage features.

- From an environmental perspective, the proposed extraction area is predominately active agricultural land, golf course, constructed golf course ponds and an irrigation ditch, and a few small woodlands adjacent to active golf holes.

    - This site is located outside of the Provincial Natural Heritage System, whereas 77 % of the identified crushed stone deposits within the Greater Golden Horseshoe are mapped as part of the Provincial Natural Heritage System.

    - The proposed South Extension does not include any key natural heritage features within the proposed extraction area.

    - The proposed West Extension includes 1 Butternut tree (Endangered), 3 golf course maintenance buildings containing barn swallow nests (Threatened), 0.48 ha woodland that contains significant wildlife habitat (Eastern Wood-Pewee) and another 0.48 woodland that contains significant wildlife habitat (Bats and Eastern Wood-Pewee) and habitat for an endangered species (bats). These features provide minimal diversity, are relatively isolated and managed features in the middle of active golf course. The applicable planning policies do not prohibit extraction within these features, subject to compliance with the Endangered Species Act and ensuring no negative impact to significant wildlife habitat.

- An on-site ecological enhancement plan has been designed to plant 4.5 ha of woodland, adjacent to key natural heritage features prior to the removal of the key natural heritage features in the West Extension. As part of rehabilitation of the site 3.6 ha of wetland will be created and another 24.7 ha of woodland will be planted for a total of 29.2 ha of woodlands. Overall the proposed extension will result in a significant increase in the diversity and size of the regional natural heritage system, compared to existing conditions.

- Although no direct or indirect impacts will occur to Jefferson Salamander habitat, an off-site ecological enhancement plan on 4.0 hectares of land regulated as Jefferson Salamander habitat is proposed. These lands are located to the south of the South Extension, on lands owned by Nelson and currently in active agricultural production. The off-site ecological enhancement plan will be completed during extraction of Phase 1 and 2 of the proposed extension. The ecological enhancement plan is focused on improving Jefferson Salamander habitat; improving local landscape connectivity; improving buffering of existing features. The off-site ecological enhancement plan will result in an additional 4 ha of upland forest and vernal pools, which is the preferred habitat for Jefferson Salamanders. This will enhance an area already included in the Regional Natural Heritage System.

- With the addition of the off-site ecological enhancement plan the application will result in the creation of 33.2 hectares of new woodlands.

- Adjacent to the subject site there are several key natural heritage features and key hydrologic features including provincially significant wetlands, wetlands, habitat of endangered and threatened species, fish habitat, areas of natural and scientific interest, significant valleylands, significant woodlands, significant wildlife habitat, streams, seepage areas and springs. The proposed extension is not anticipated to have any negative impacts on adjacent natural heritage features based on the proposed buffers and mitigation measures. Nelson has developed an Adaptive Management Plan which is a comprehensive program that will be implemented to monitor and mitigate the impact on adjacent natural heritage features if required. The Adaptive Management Plan includes monitoring, thresholds and mitigation methods to recognize and prevent any negative impacts.

- From an agricultural perspective, the subject site is mapped as a prime agricultural area and 80% of the site is mapped as prime agricultural land (Class 1, 2, and 3). However, the soils within the golf course have been disturbed through the grading of the golf course and the golf course is no longer in agricultural use. On the South Extension, only 12.7 ha are actively farmed. Planning policies permit aggregate extraction within prime agricultural areas, on prime agricultural land and rehabilitation back to agricultural is not required subject to certain requirements. Based on these policy considerations, the site is not required to be rehabilitated back to agricultural and the application results in the removal of 12.7 ha of active agricultural land. Overall, these impacts are negligible and an agricultural impact assessment was completed and confirmed that the site has been appropriately designed to minimize impacts on surrounding agricultural operations.

- From a cultural heritage perspective, a cultural heritage impact assessment (built heritage and cultural heritage landscape) and an archaeological investigation was completed.

Overall the proposed extraction does not contain significant cultural heritage resources and adjacent cultural heritage resources will be conserved.

- From an economic perspective, the proposed extension will have significant economic benefits to the regional economy and there will be no financial public liability as a result of the application. A study was completed in 2008 examining the economic benefits of the Burlington Quarry Extension which proposed to extract 26 million tonnes. In addition to employing 47 full-time persons the Burlington Quarry Extension also resulted in:

  - $1.25 million in property taxes to the City of Burlington;
  - $1.37 million in property taxes to the Region of Halton;
  - $1.96 million in taxes to the Board of Education; and
  - $136 million of supplies and services to operate the quarry.

- From a rehabilitation and after use perspective, the application represents a significant long term public benefit related to recreational, natural heritage and water management. Planning policies require consideration of potential after uses for new or expanding mineral aggregate operations. Potential after uses are to be appropriate and compatible with surrounding land uses.

  - The rehabilitation plan for the South Extension includes a beach, lake, exposed quarry faces, wetlands and forested areas. The rehabilitation plan for the West Extension includes a series of ponds, wetlands, exposed quarry faces, forested areas and lakes. This landform is appropriate and compatible with surrounding land uses.

  - As part of the application, Nelson has developed an after use vision for 382 hectares of their landholdings including the existing quarry, proposed extension and some of Nelson's additional lands. The concept plan includes: 71 hectares of existing natural heritage system; 13 hectares recreational swimming area / beach; 47 hectares of additional lake / ponds; 89 hectares of new forest areas and wetlands; and 162 hectares of grassland area that could be used for active parkland.

  - The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation.

  - As part of the application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension. Nelson currently has plans to significantly reduce extraction levels and operate the existing quarry for approximately 50 years and underground mining, subject to further approvals could potentially extend the life of the quarry.

- As part of the application Nelson is prepared to convey the lands to a public authority in phases: Phase 1: 48 hectares immediately following approval of the proposed extension. Phase 2: 89 hectares +/- 10 years following extraction commencing in the proposed extension. Phase 3: 245 hectares +/- 30 following extraction commencing in the proposed extension.

- This after use vision represents a unique opportunity to enhance parkland that is well-connected to the Bruce Trail. The value of 382 hectares of contiguous publically-accessible parkland to a rapidly growing centre such as Burlington is significant. The landholdings are 5 times larger than any City of Burlington park and are the size and scale that is suitable for a Provincial park within the Greater Golden Horseshoe.

12.6.1.2 Agricultural Classification of the Proposed Site - Standard 2.1.2

The majority of the proposed extraction area is mapped as part of the Provincial and Regional Agricultural System. See Figures 14 and 15. An agricultural impact assessment was completed and concluded:

- the West Extension include lands historically mapped as prime agricultural lands (36.8 hectares Class 1, 0.4 hectares Class 2 and 20.3 hectares Class 3), however these lands have been disturbed for the construction of the golf course and are no longer in agricultural use;
- the South Extension contains prime agricultural lands (13.2 hectares Class 1 and 3.0 hectares Class 2) and 12.7 ha is actively used for crops. These lands do not qualify as specialty crop lands and are considered a prime agricultural area, consisting of prime agricultural land. On-site there is limited agricultural investment.

All potential mineral aggregate operations sites are either mapped as part of the Natural Heritage System or Agricultural System. Planning policies generally favours the removal of agricultural lands over key natural heritage features.

Of the lands mapped as part of the Agricultural System the application includes the removal of 12.7 hectares of land actively used for agricultural purposes within the South Extension. Planning policy permits aggregate extraction within prime agricultural areas, on prime agricultural lands, and does not require rehabilitation back to agricultural when certain tests have been met. The agricultural impact assessment addresses these requirements and concludes that rehabilitation of the site back to agricultural is not required.

Overall, the impact of the application on agricultural resources is negligible and results in only the removal of 12.7 hectares of land in agricultural use and all potential quarry sites in the rural area of the City of Burlington will be on prime agricultural land.

12.6.1.3 Quality and Quantity of Aggregate on Site - Standard 2.1.3

The Burlington Quarry is an established source of high quality aggregate produced from the Amabel Dolostone. Thirty million tonnes of the same high quality aggregate has been estimated for the proposed extension area based on the on-site drilling program.

The proposed extension area has a long standing history of being recognized as an important mineral aggregate resource:

- 1974, Mineral Aggregate Study, Central Ontario Planning Region (Proctor and Redfern);
- 1980 Niagara Escarpment Planning Area, High Priority Mineral Resource Protection Area (MNR);
- 1982 Aggregate Resources Inventory of City of Burlington, Regional Municipality of Halton, Southern Ontario, Paper 45 (MNR);
- 1996, Aggregate Resources Inventory of the Regional Municipality of Halton, Southern Ontario, Paper 164 (MNDM);
- 2009, Aggregate Resources Inventory of the Regional Municipality of Halton, Southern Ontario, Paper 184 (MNDM);
- 2006, Region of Halton Official Plan; and
- 2018 Office Consolidation of the Region of Halton Official Plan.

The aggregate on-site is a provincially significant aggregate resource (Amabel Dolostone) and is suitable for the production of a wide range of construction products including crushed stone, concrete aggregate and building stone. It is well suited for the production of road building and construction aggregate, and for high performance concrete.[19]

This dolostone provides a high strength, durable aggregate material in Southern Ontario for freeway and highway construction including structural concrete, concrete paving, and asphalt paving aggregates.[20]

The rock is highly competent, free of shale and silt impurities, and has highly desirable chemical properties.[21] The bedrock is considered to have superior hardness, toughness, crushability, workability and durability.[22] It is these physical properties that make the Amabel Dolostone such a high quality aggregate resource. The resource becomes increasingly valuable from a public interest perspective when it is located in proximity to major population concentrations with high order specialized infrastructure and construction requirements.

[19] Golder Associates Ltd. & D.J. Rowell. Aggregate Resources Inventory of the Regional Municipality of Halton, Ontario Geological Survey Aggregate Resources Inventory Paper 164, 1996 pg. 75
[20] Joint Ministries Submission, Zoltan Katona (MTO) Witness Statement - Niagara Escarpment Plan Review. 1991, October 17, 1991, pg. 11.
[21] Ibid
[22] Ministry of Natural Resources. Response of the Ministry of Natural Resources to the Proposed Revisions to the Niagara Escarpment Plan and Aggregate Resources Technical Addendum. June 1991.

12.6.1.4 Main Haulage Routes – Standard 2.1.4

The proposed extension will utilize the entrance / exit at the existing quarry and existing haul route which has been designed to accommodate truck traffic. Trucks enter / exit the site on No. 2 Sideroad and travel east to Guelph Line. This is an existing entrance/exit and an entrance permit from the City of Burlington is not required for its continued use. The majority of trucks travel south on Guelph Line which provides access to other Regional Roads and Highway 407 and QEW. A traffic impact assessment was completed which confirms the existing route is appropriately designed and has capacity to accommodate truck from the continuation of the operation. Guelph Line is a major arterial road with a planned function to transport high volumes of traffic including truck traffic. See Figures 20 and 21. As per the existing City of Burlington By-law, trucks are prohibited on Cedar Springs Road except for local deliveries.

This proposed extension also includes a road crossing to transport aggregate from the south extension to the existing quarry for processing. To allow this crossing, an entrance permit will be required from the City of Burlington. As noted in the traffic report, this crossing will be upgraded and maintained throughout the operation of the South Quarry Extension.

12.6.1.5 Progressive and Final Rehabilitation – Standard 2.1.5

The rehabilitation of the proposed quarry extension will be progressive and has been designed to integrate and enhance adjacent natural heritage features. Overall the rehabilitation plan includes the following landforms:

- South Extension (18.3) includes:

  Setback Area (3.8 hectares)

  - 2.5 hectares of setback area to be forested during operations in Phases 1 and 2
  - 0.4 hectares of setback area to be forested once berms are removed
  - 0.9 hectares of setback area of existing trees and grasslands

  Extraction Area (14.5 hectares)

  - 1.6 hectares of beach
  - 0.8 hectares of shallow lake
  - 9.8 hectares of deep lake
  - 1.5 hectares of forested sideslopes
  - 0.8 hectares of wetland

- West Extension (60.1 hectares) includes:

  Setback Area (24.4 hectares)

  - 17.4 hectares of existing trees and grasslands

- 4.3 hectares of pond to be built prior to extraction in Phase 3
- 2.0 hectares of setback area to be forested prior to extraction in Phases 3
- 0.4 hectares of setback area to be forested once berms are removed
- 0.3 hectares existing wetland

Extraction Area (35.7 hectares)

- 13.4 hectares of forested slideslopes
- 9.8 hectares of lake
- 0.9 hectares restored to original grade and forested
- 8.1 hectares gradual grade with trees and vernal pools, including islands
- 0.7 hectares of pond
- 2.8 hectares of wetlands

See Figure 4.

As part of the Burlington Quarry Extension application Nelson is prepared to enter into an agreement requiring extraction at the existing quarry and proposed extension to conclude within +/- 30 years of approval of the extension.

If the extension is approved, Nelson's after use vision for the extension and existing quarry is to develop a future park and conservation area that could be created in phases. The total area includes 382 hectares consisting of:

- 71 hectares of existing natural heritage system;
- 13 hectares recreational swimming area / beach;
- 47 hectares of additional lake / ponds;
- 89 hectares of new forest areas and wetlands; and
- 162 hectares of grassland area that could be used for active parkland.

The after use vision includes a revised rehabilitation plan for the existing quarry. Current approvals require the existing quarry to be rehabilitated to a private 185 hectare lake with shoreline wetlands, an island, vegetated shorelines ranging from 30 m to 250 m and exposed cliff faces. Once extraction ceases at the existing quarry current approvals will stop water from being discharged to the surrounding natural environment which will impact wetlands, fish habitat and watercourses that depend on this water. The revised rehabilitation plan would maintain the current discharge of water to surrounding natural heritage features and allow the existing quarry to be rehabilitated to a more diverse landform including wetlands, lakes, forests, grasslands and large area for active recreation. See Figure 5. After uses would be subject to further approvals after the Aggregate Resources Act License is surrendered. See Section 10.0 for additional information.

13.0 CONCLUSIONS

For the reasons outlined in this report, the proposed Burlington Quarry Extension application represents good planning, wise resource management, and:

- Conforms to the Niagara Escarpment Plan;
- Conforms the Growth Plan for the Greater Golden Horseshoe;
- Is consistent with the Provincial Policy Statement;
- Conforms to the Region of Halton Official Plan; and
- Conforms to the City of Burlington Plan.

Respectfully Submitted,

MacNaughton Hermsen Britton Clarkson Planning Limited



Brian Zeman, BES, MCIP RPP
President

Figures

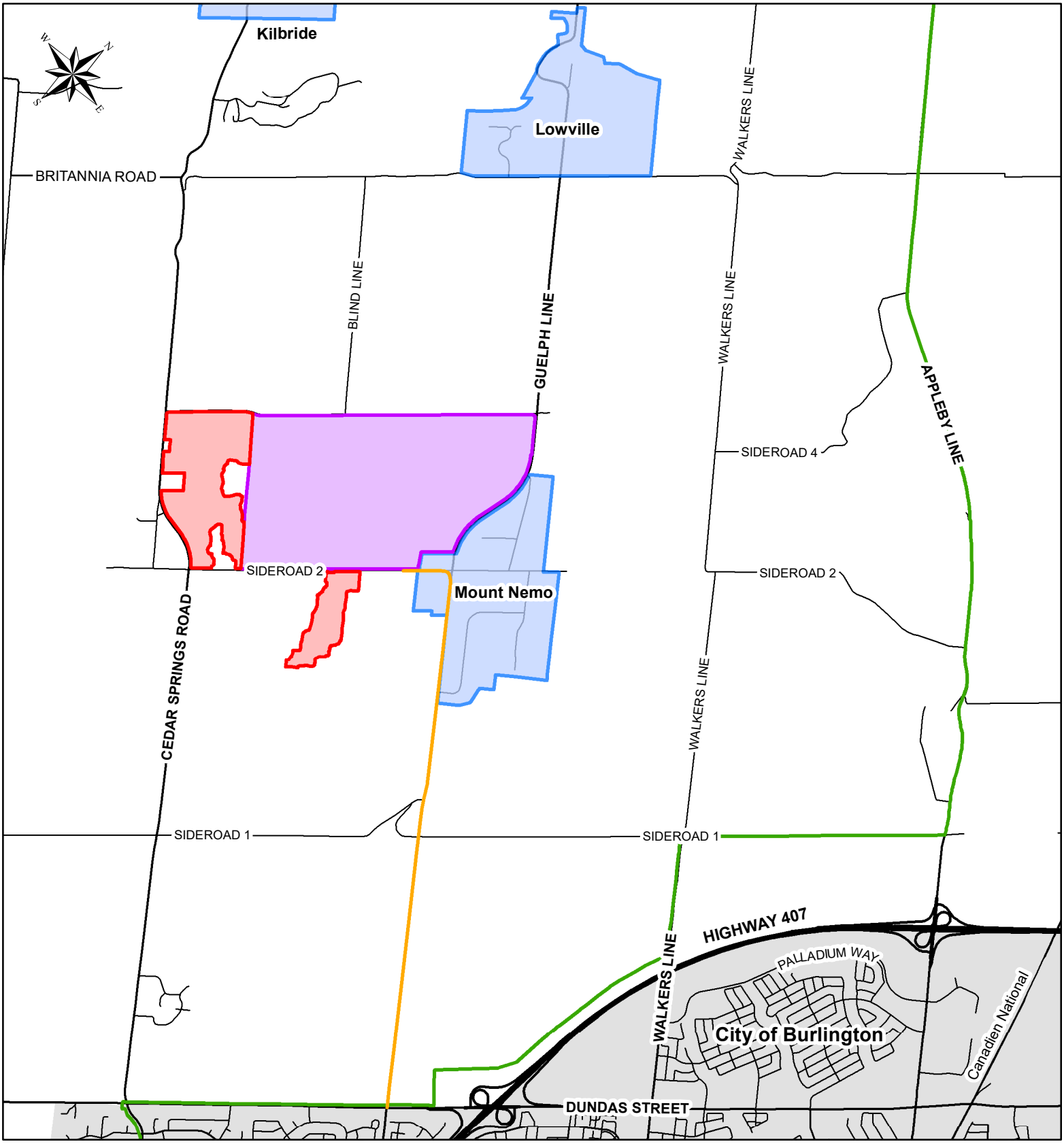


Figure # 1

Location

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Existing Burlington Quarry
- Settlement Boundaries
- Niagara Escarpment Plan Boundary
- Urban Area
- Primary Haul Route

DATE: April 2020

SOURCES
Land Information Ontario
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Meters (1:40,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

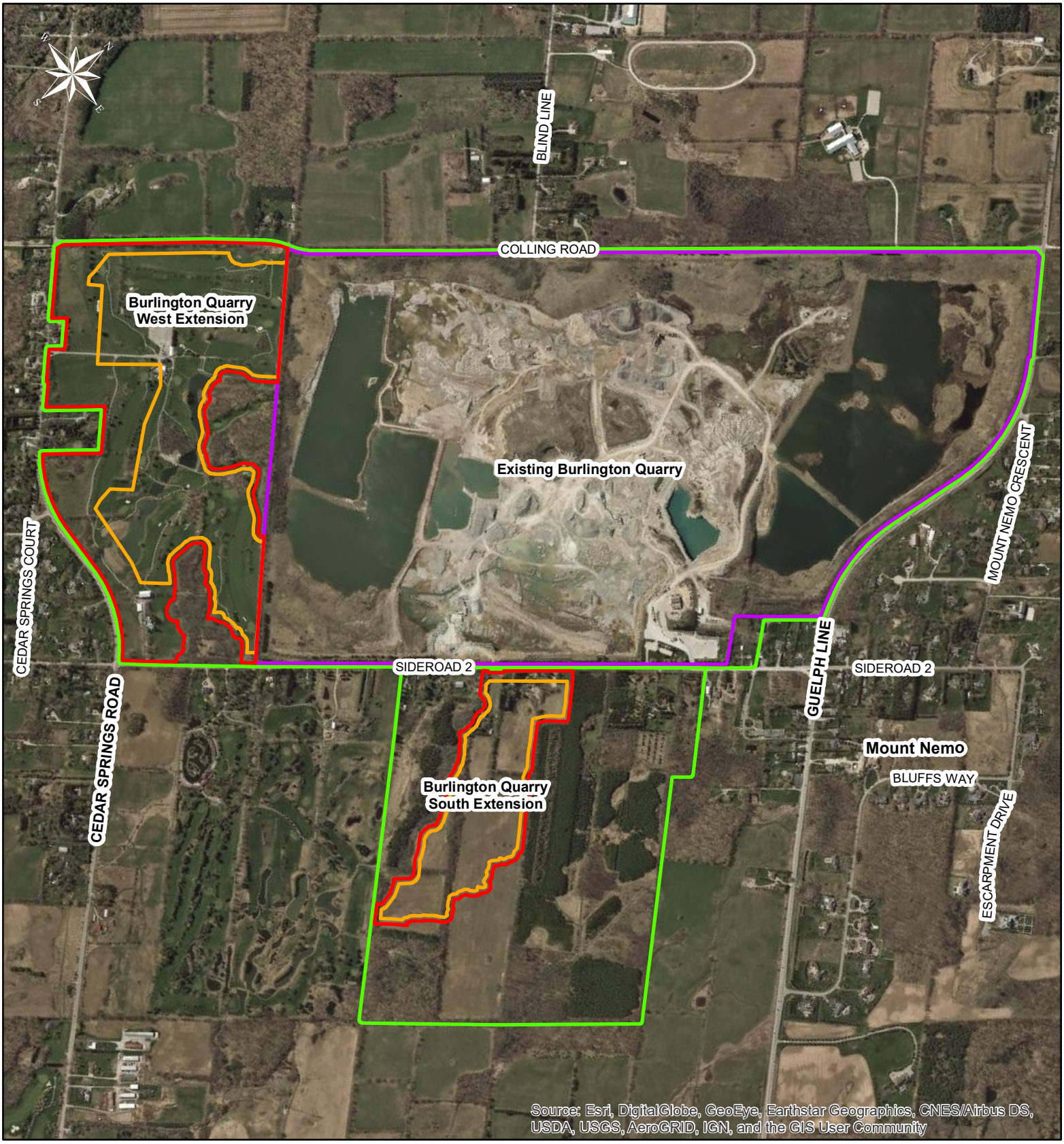


Figure # 2

Overview of Nelson Aggregates Landholdings

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Land Owned or Controlled by Nelson Aggregates

DATE
April 2020

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Land Information Ontario
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Meters (1:15,000)

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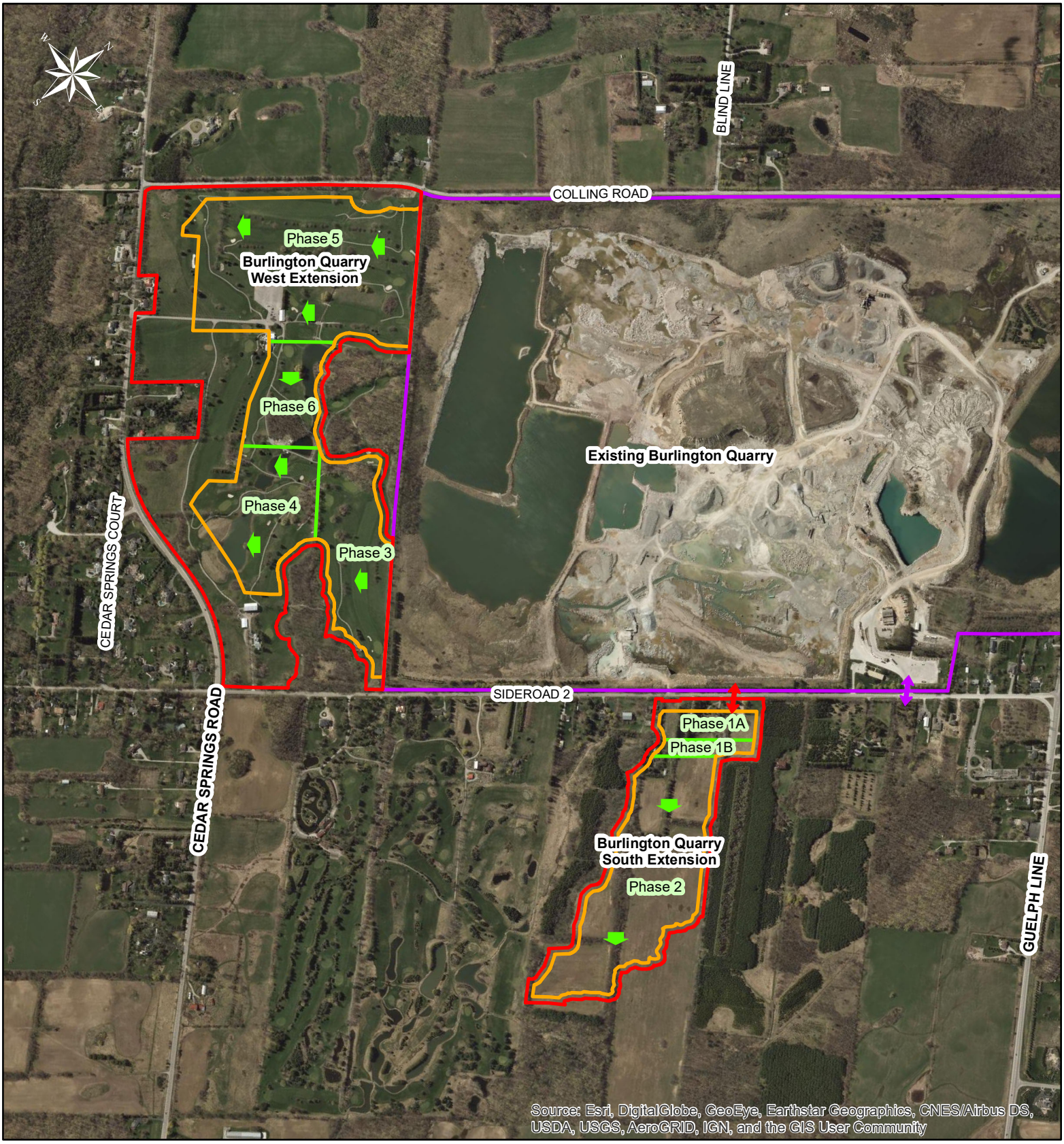


Figure # 3

Operations Sequence

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Extraction Sequence Boundary
- Main Entrance/Exit
- Roadway Crossing

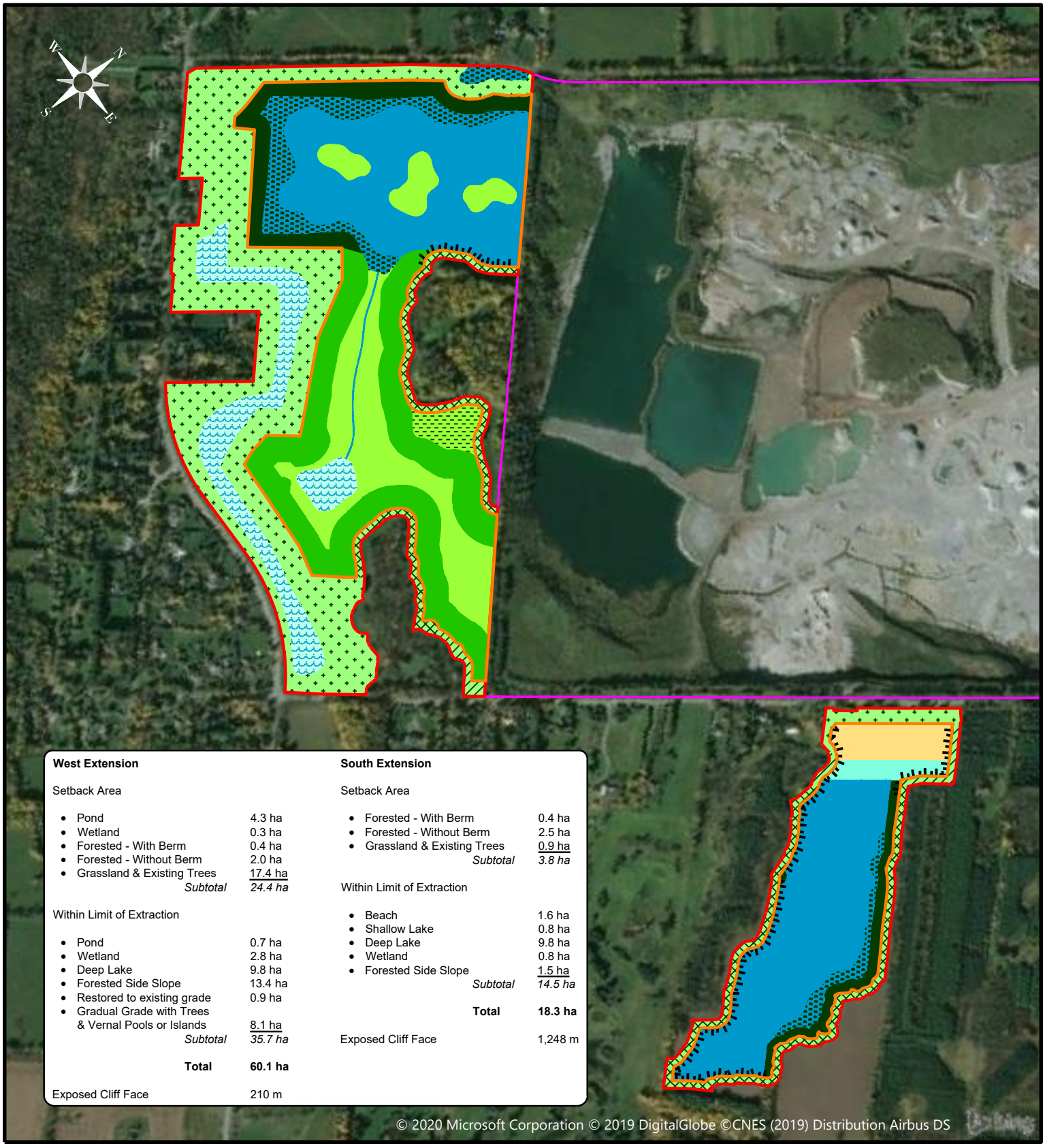
DATE: April 2020

SOURCES
Land Information Ontario
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Meters (1:12,500)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE



West Extension	
Setback Area	
• Pond	4.3 ha
• Wetland	0.3 ha
• Forested - With Berm	0.4 ha
• Forested - Without Berm	2.0 ha
• Grassland & Existing Trees	17.4 ha
Subtotal	*24.4 ha*
Within Limit of Extraction	
• Pond	0.7 ha
• Wetland	2.8 ha
• Deep Lake	9.8 ha
• Forested Side Slope	13.4 ha
• Restored to existing grade	0.9 ha
• Gradual Grade with Trees & Vernal Pools or Islands	8.1 ha
Subtotal	*35.7 ha*
Total	**60.1 ha**
Exposed Cliff Face	210 m

South Extension	
Setback Area	
• Forested - With Berm	0.4 ha
• Forested - Without Berm	2.5 ha
• Grassland & Existing Trees	0.9 ha
Subtotal	*3.8 ha*
Within Limit of Extraction	
• Beach	1.6 ha
• Shallow Lake	0.8 ha
• Deep Lake	9.8 ha
• Wetland	0.8 ha
• Forested Side Slope	1.5 ha
Subtotal	*14.5 ha*
Total	**18.3 ha**
Exposed Cliff Face	1,248 m

Figure # 4

Rehabilitated Land Formation

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Beach
- Pond / Wetland
- Shallow / Deep Lake
- Grassland & Existing Trees
- Gradual Grade/Side Slope with Trees
- Forested Setback - During Operation
- Forested Setback - Post Berm
- Restored to Existing Grade & Forested
- Exposed Cliff Face

Date: April 2020

Sources: Nelson Aggregate's Burlington Quarry Extension Site Plan, Rehabilitation Plan, updated April 20, 2020.

Scale: 0 150 300 Meters (1:10,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE



Figure # 5
After-Use Vision

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Conservation Halton - Managed Lands
- Existing Bruce Trail

Date: April 2020

Sources
Google Earth Pro aerial photography
Captured September 10, 2016

Scale
0 300 600
Meters (1:20,000)

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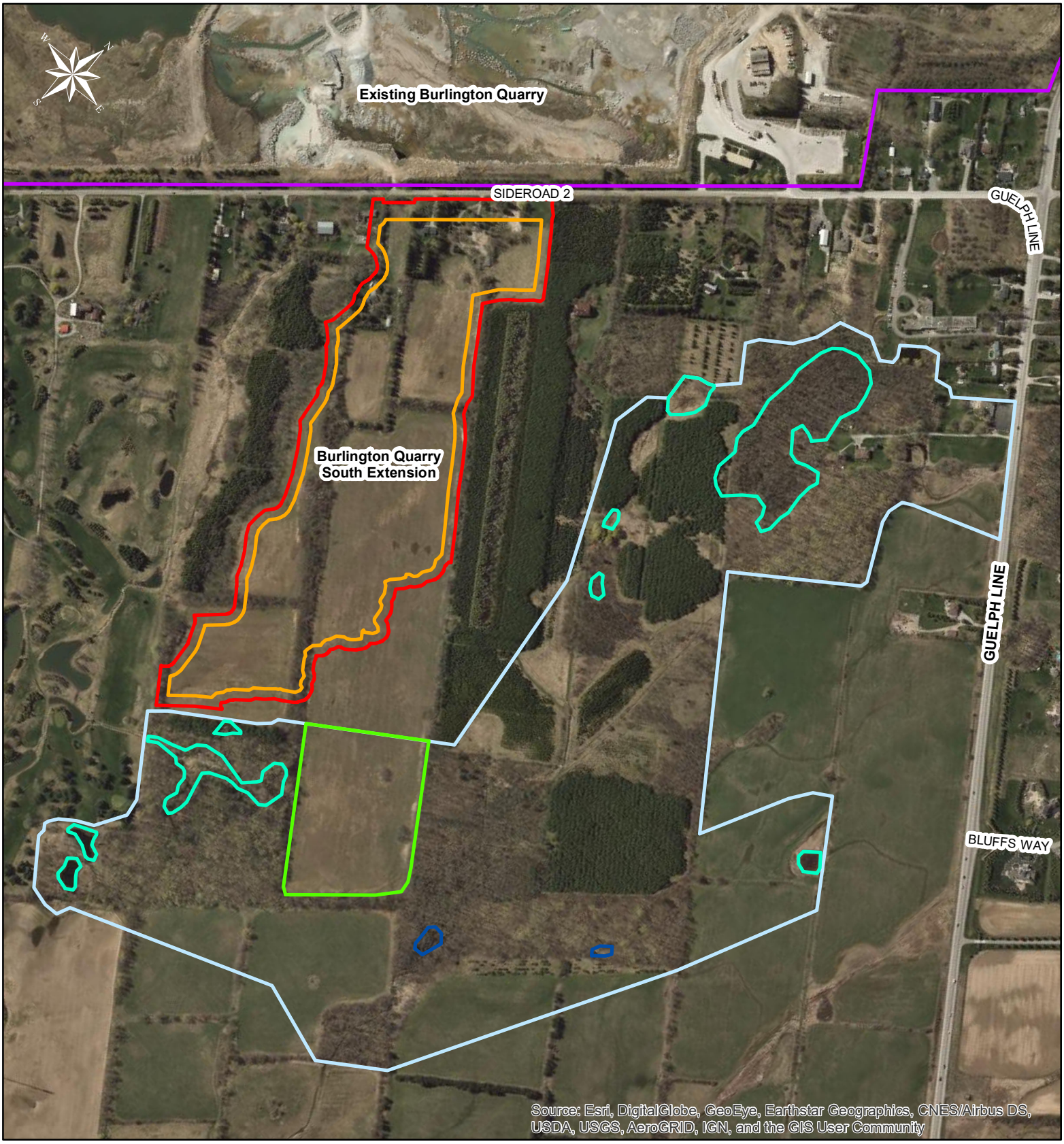


Figure # 6

Jefferson Salamander Habitat as Defined by MNRF

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Off-site Ecological Enhancement Areas
- Breeding Pond
- Potential Breeding Pond
- Regulated Habitat

DATE
April 2020

SOURCES
Land Information Ontario
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Breeding Ponds and Regulated Habitat from MNRF

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Meters (1:7,500)

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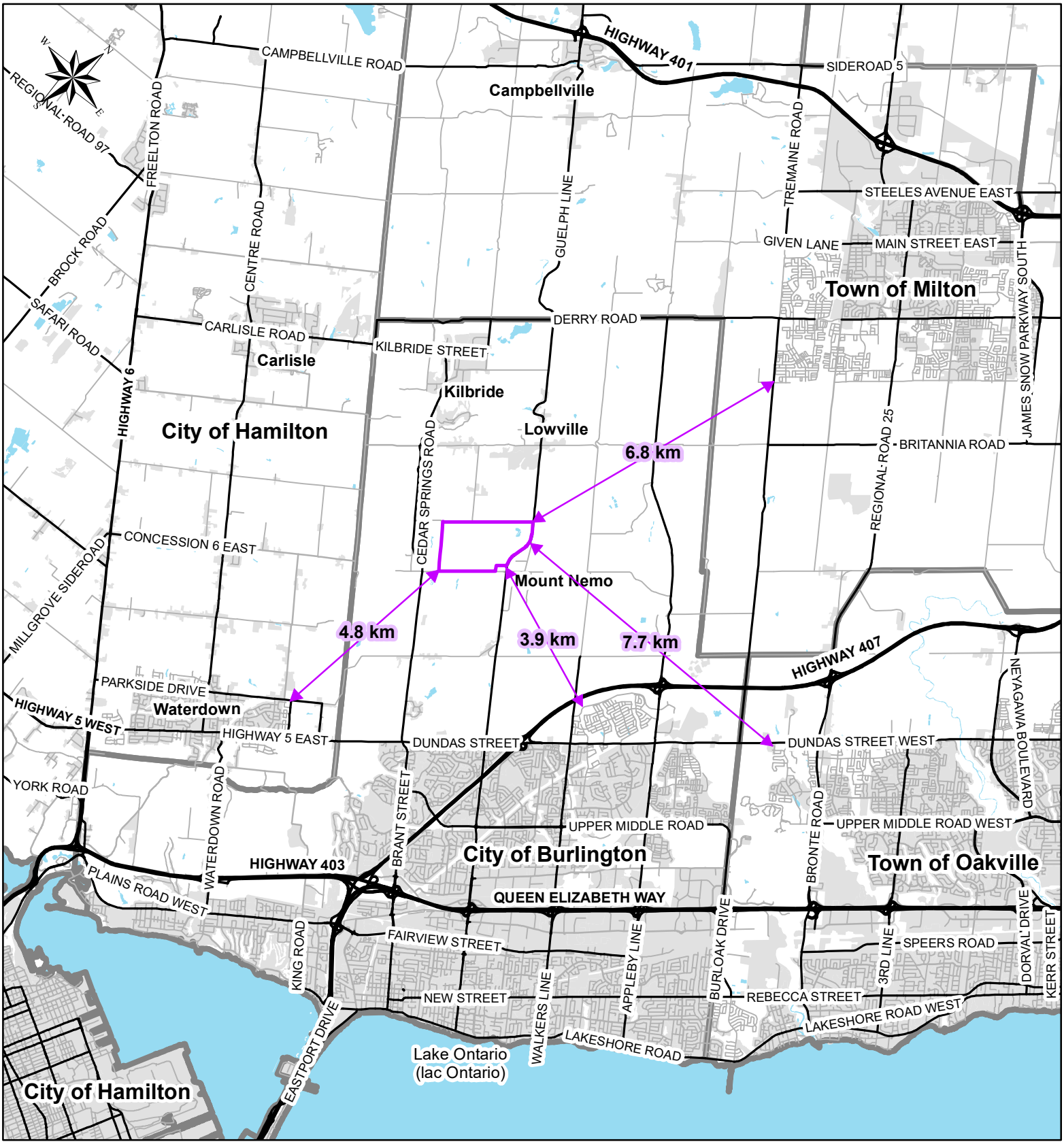


Figure # 7

Proximity to Urban Areas

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

Existing Burlington Quarry

DATE
April 2020

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Kilometers (1:125,000)

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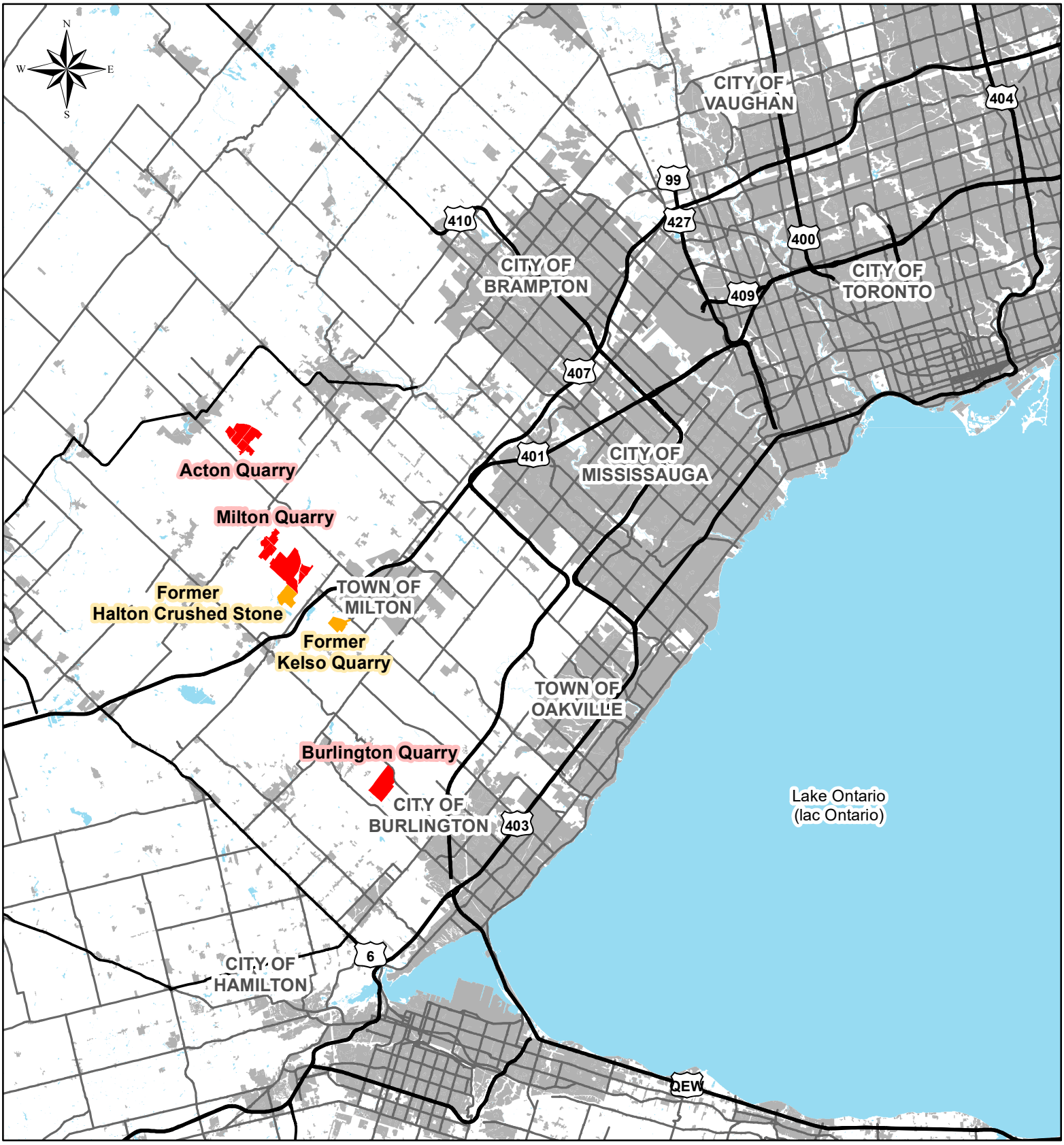


Figure # 8

Greater Toronto Area West Quarries

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

DATE
April 2020

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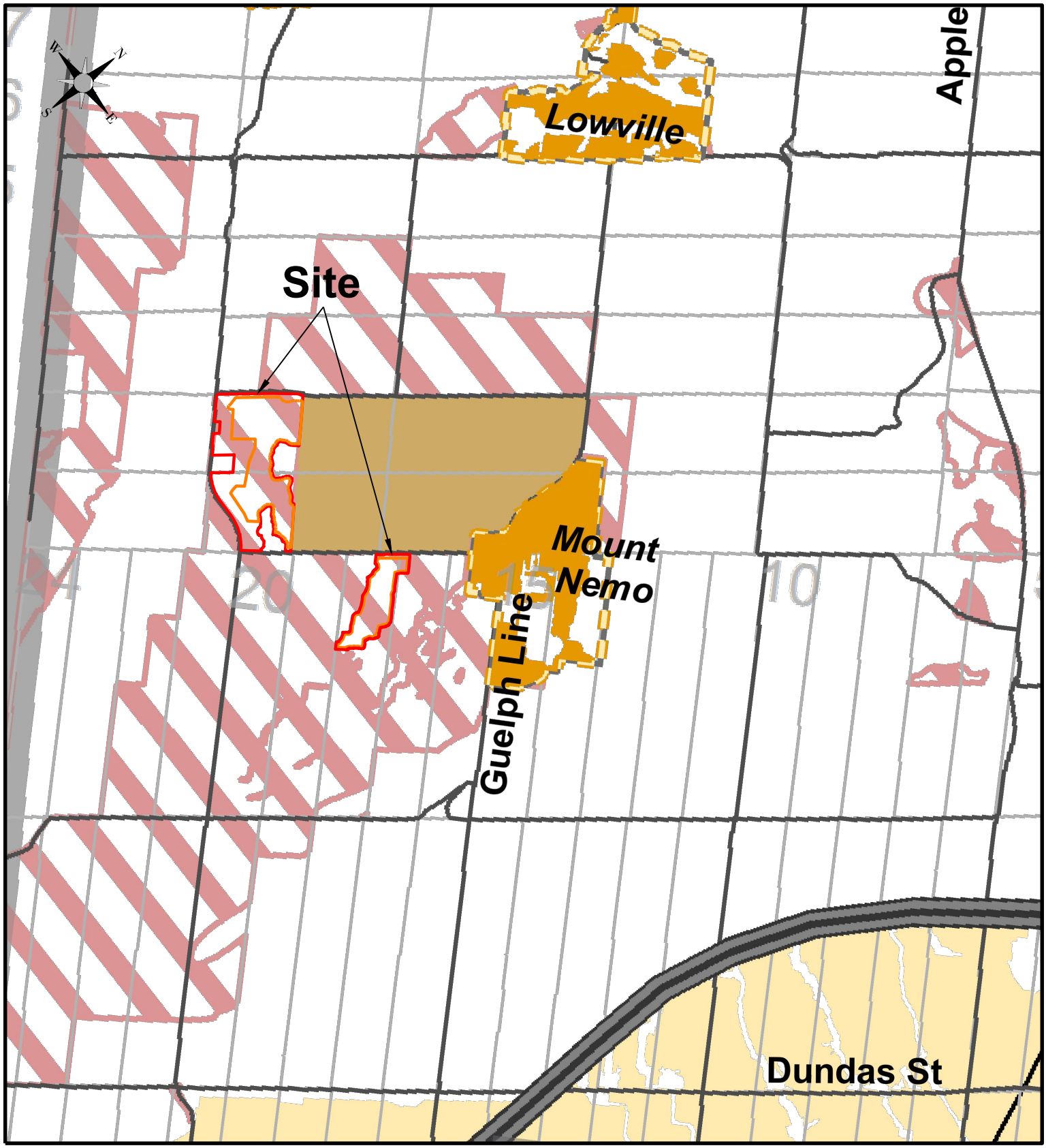


Figure # 9
Identified Mineral Resource Area
Region of Halton Official Plan

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Mineral Resource Extraction Area
- Identified Mineral Resource Area
- Urban Area
- Hamlet

Date: April 2020

Sources: Halton Region Official Plan - Map 1F - Identified Mineral Resource Area, dated June 19, 2018

Scale: 0 500 1000 Meters (1:40,000)

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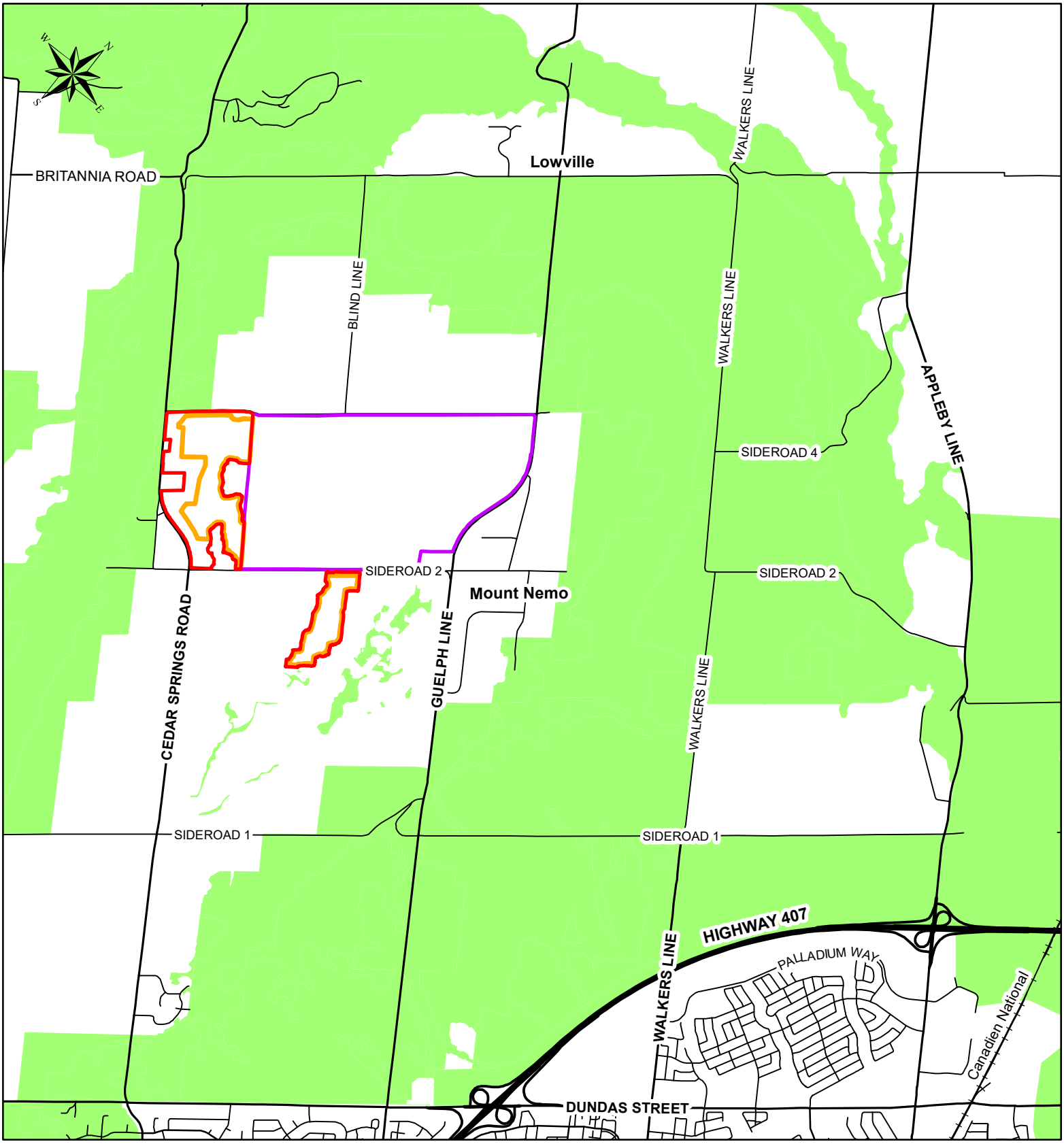


Figure # 10

Provincial Natural Heritage System

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Provincial Natural Heritage System

DATE
April 2020

SOURCES
Land Information Ontario
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Meters (1:40,000)

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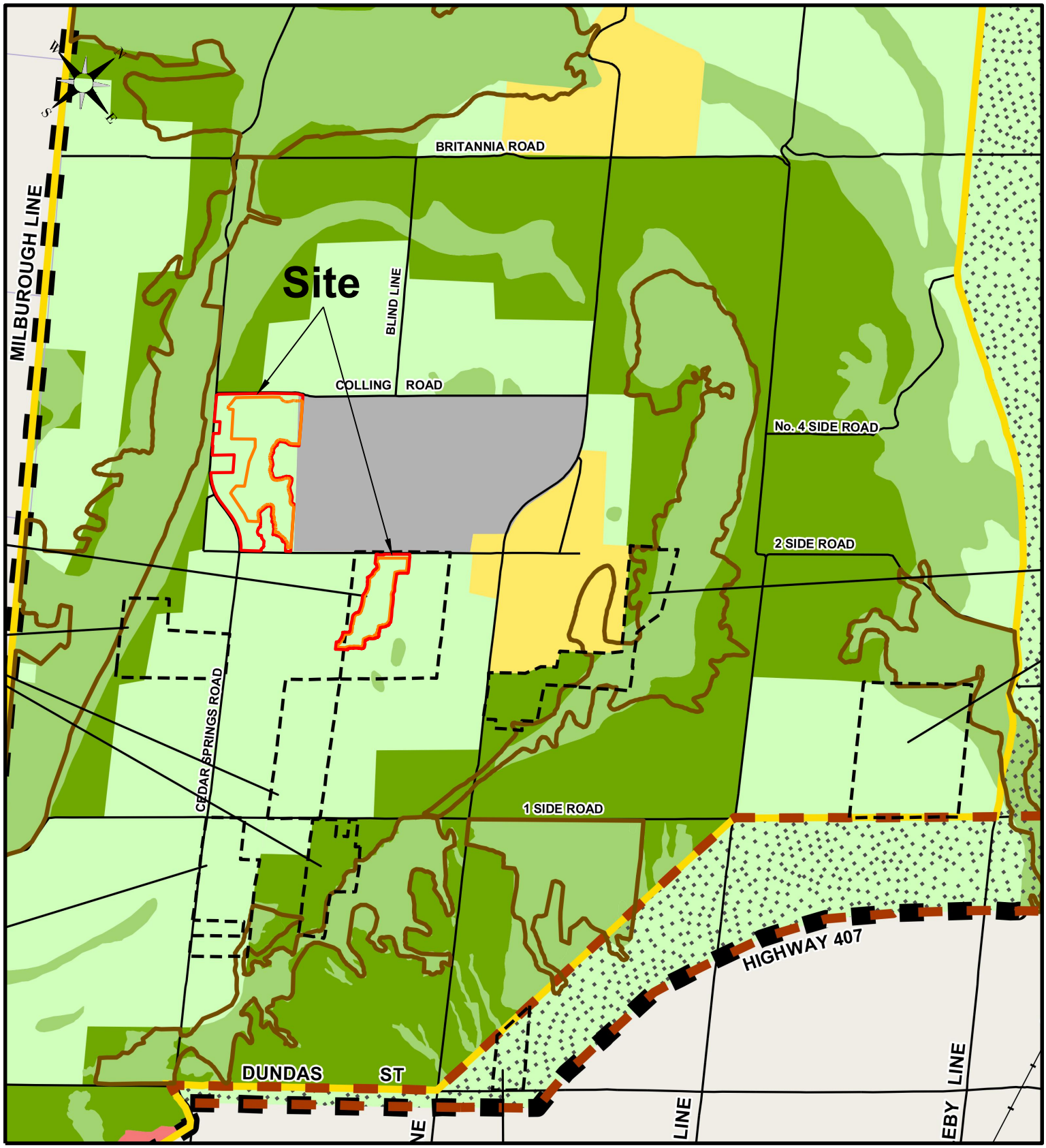


Figure # 11

Comprehensive Land Use Plan - Rural Planning Area

City of Burlington Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Niagara Escarpment Plan Area
- Parkway Belt Plan Area
- Environmentally Sensitive Area
- Greenlands (EPA)
- Escarpment Protection Area
- Escarpment Rural Area
- Escarpment Urban Area
- Agricultural Rural Area
- Mineral Resource Extraction Area
- Rural Settlement Area

Date: April 2020

Sources: City of Burlington Official Plan - Schedule C - Comprehensive Land Use Plan - Rural Planning Area, dated October 2017

Scale: 0 500 1000 Meters (1:40,000)

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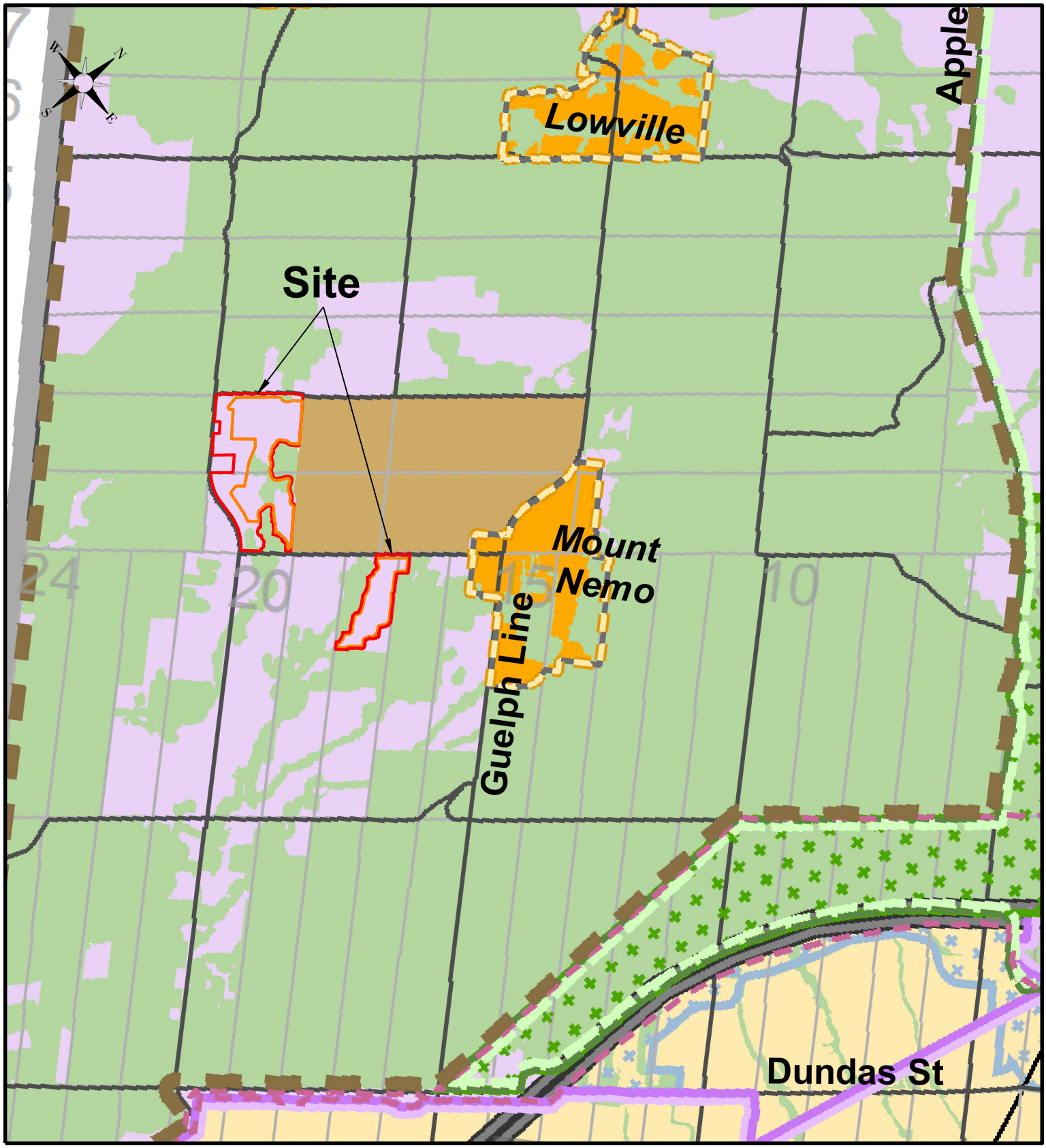


Figure # 12
Regional Structure
Region of Halton Official Plan

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Niagara Escarpment Plan
- Built Boundary
- Employment Area
- Greenbelt Natural Heritage System
- Regional Natural Heritage System
- Agricultural Area
- Mineral Resource Extraction Area
- Urban Area
- Hamlet

Date: April 2020

Sources: Halton Region Official Plan - Map 1 - Regional Structure, dated June 19, 2018

Scale: 0 500 1000 Meters (1:40,000)

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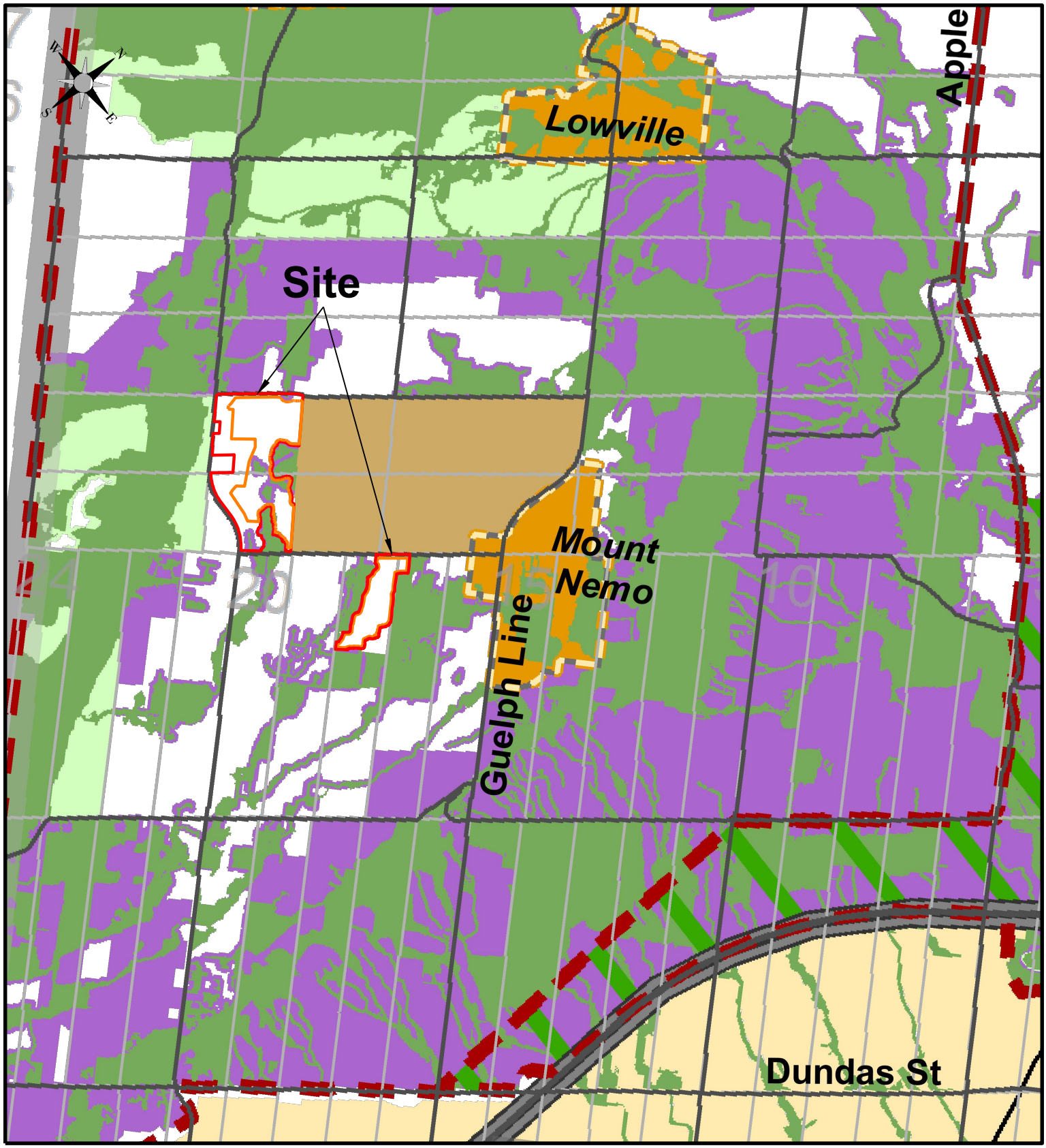


Figure # 13

Key Features within the Greenbelt & Regional Natural Heritage Systems

Region of Halton Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Natural Heritage System (Greenbelt)
- Prime Agricultural Areas in Natural Heritage System Enhancements/Linkages/Buffers
- Key Features
- Enhancement Areas, Linkages and Buffers
- Mineral Resource Extraction Area
- Urban Area
- Hamlet

Date: April 2020

Sources
Halton Region Official Plan - Map 1G - Key Features within the Greenbelt & Regional Natural Heritage Systems dated June 19, 2018

Scale
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Meters (1:40,000)

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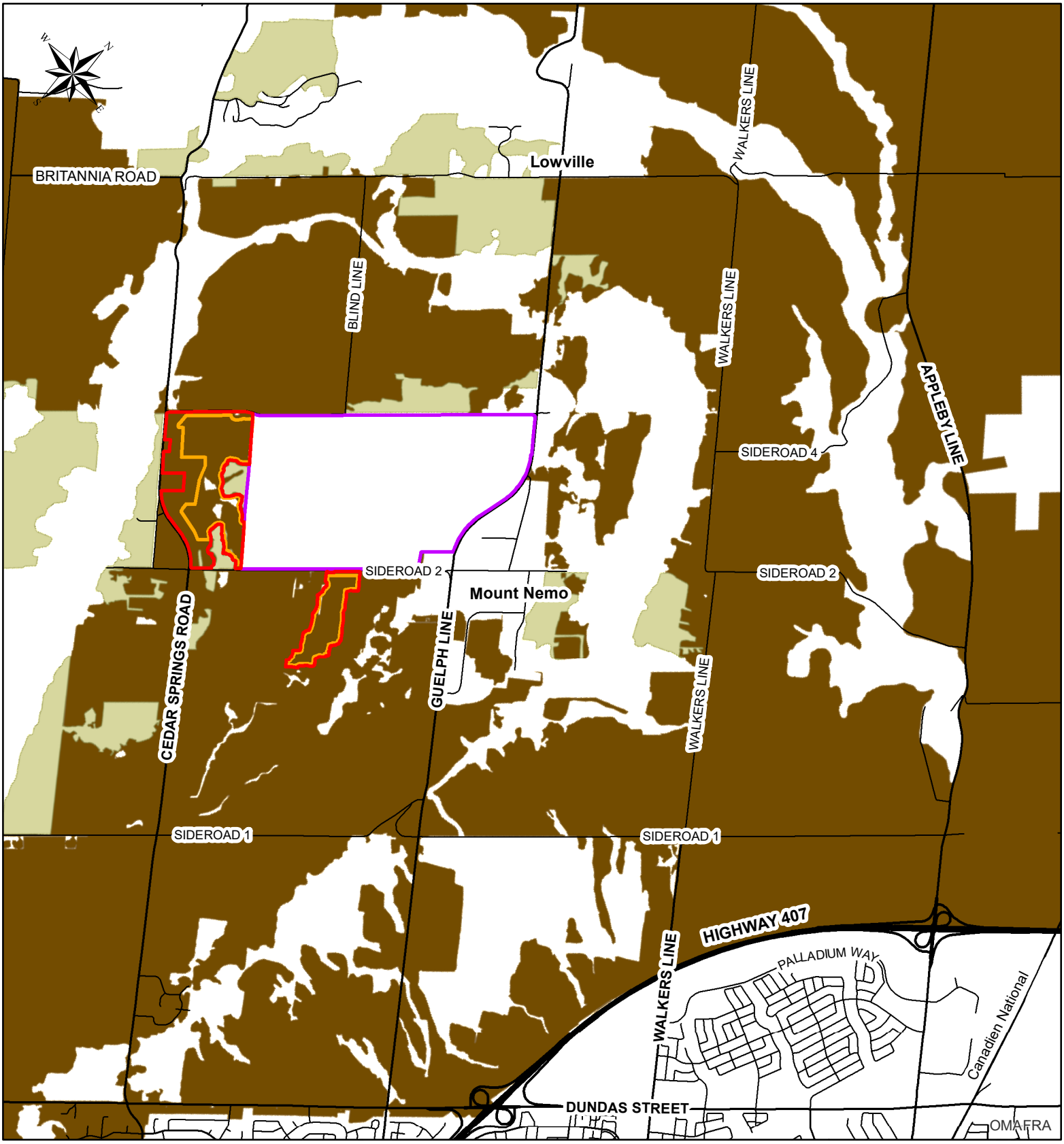


Figure # 14

Provincial Agricultural System

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Prime Agricultural
- Candidate Area

DATE
April 2020

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Meters (1:40,000)

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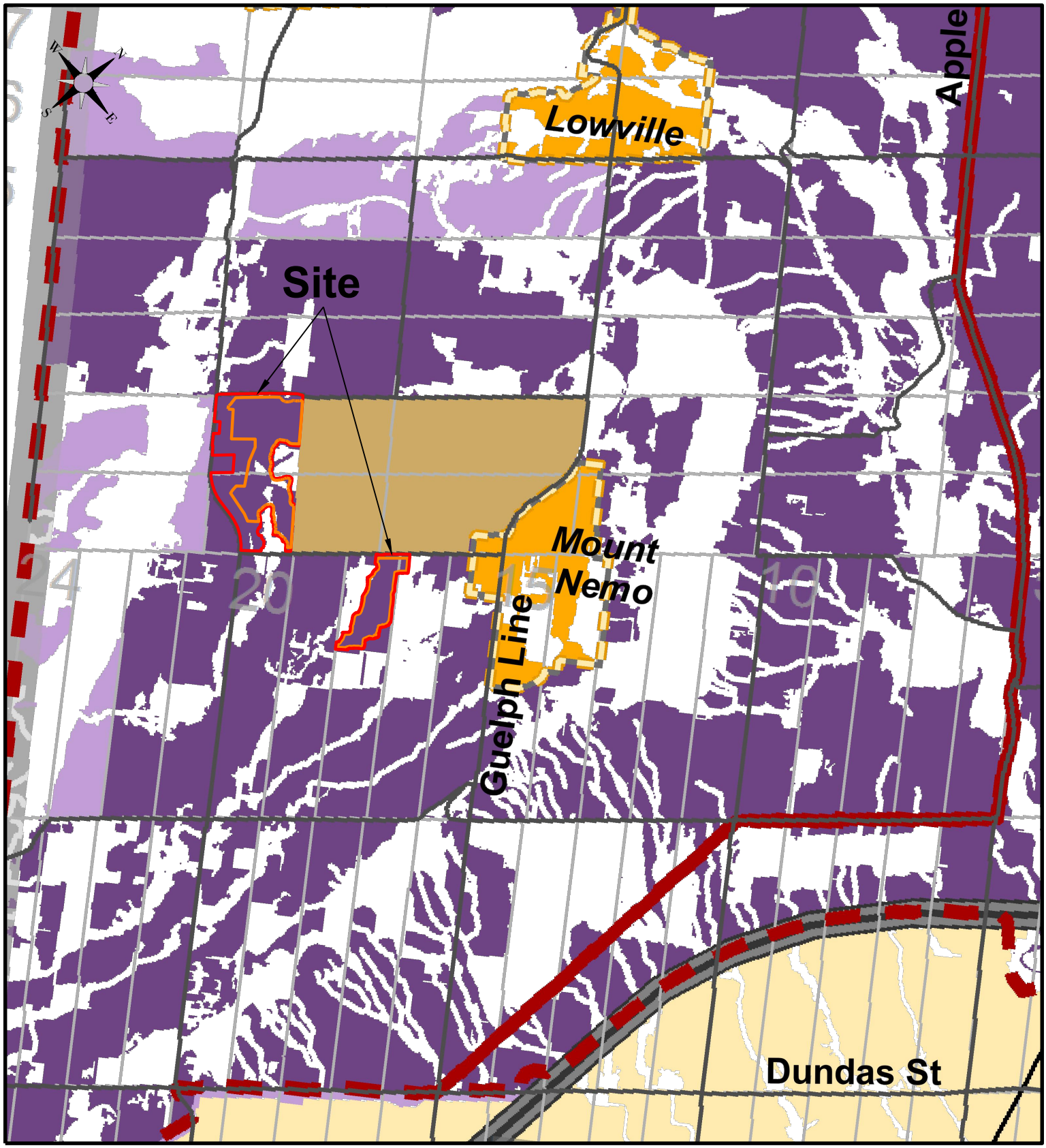


Figure # 15

Agricultural System & Settlement Areas

Region of Halton Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Niagara Escarpment Plan
- Greenbelt Plan
- Prime Agricultural Areas
- Agricultural System Outside Prime Agricultural Areas
- Mineral Resource Extraction Area
- Urban Area
- Hamlet

Date: April 2020

Sources: Halton Region Official Plan - Map 1E - Agricultural System and Settlement Areas, dated June 19, 2018

Scale: 0 500 1000 Meters (1:40,000)

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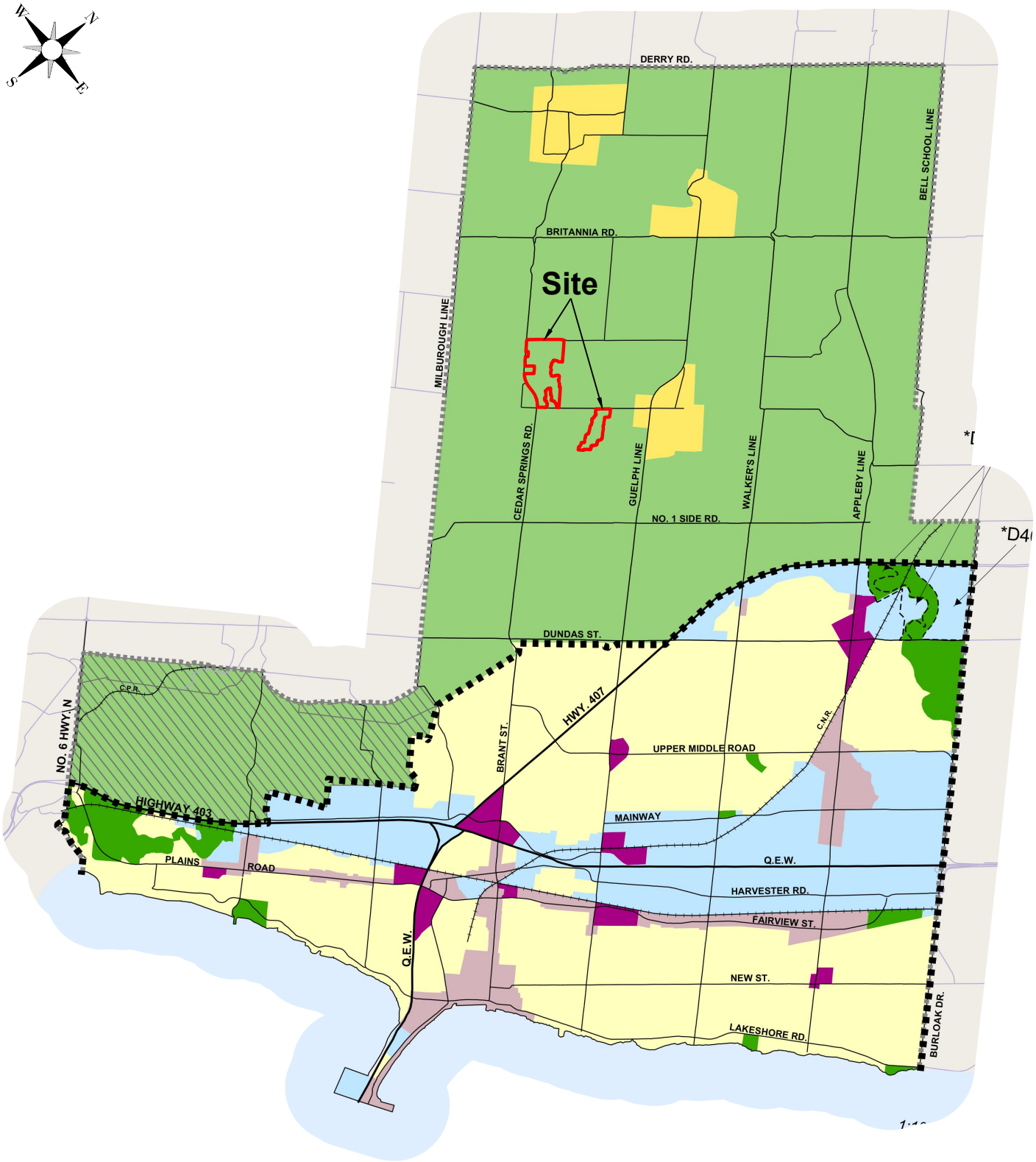


Figure # 16

Settlement Pattern

City of Burlington Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Residential Area
- Employment Lands
- Major Retail Areas
- Mixed Use Activity Areas
- Natural Features / Open Space
- Rural Lands
- Rural Settlement Area
- North Aldershot Planning Area
- Urban Planning Area Boundary

Date: April 2020

Sources: City of Burlington Official Plan - Schedule A - Settlement Pattern, dated June 2011

Scale: 0 1500 3000 Meters (1:100,000)

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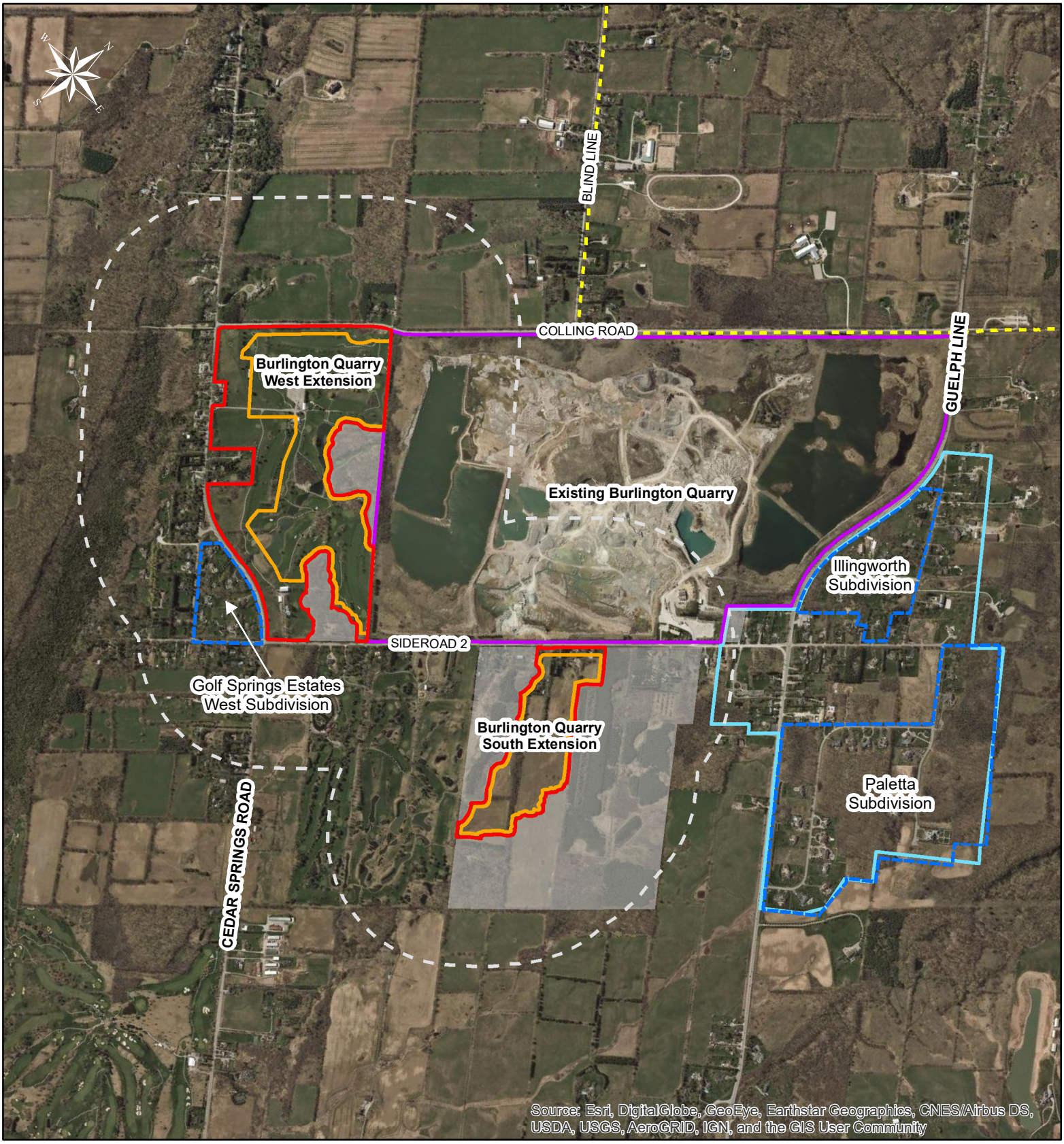


Figure # 17

Existing Land Use

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- 500m Offset
- Additional Land Owned or Controlled by Nelson Aggregates
- Boundary of Approved Subdivisions
- Mount Nemo Settlement Boundary
- Bruce Trail

DATE
April 2020

SOURCES
Land Information Ontario
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0 100 200 400 600 800
Meters (1:20,000)

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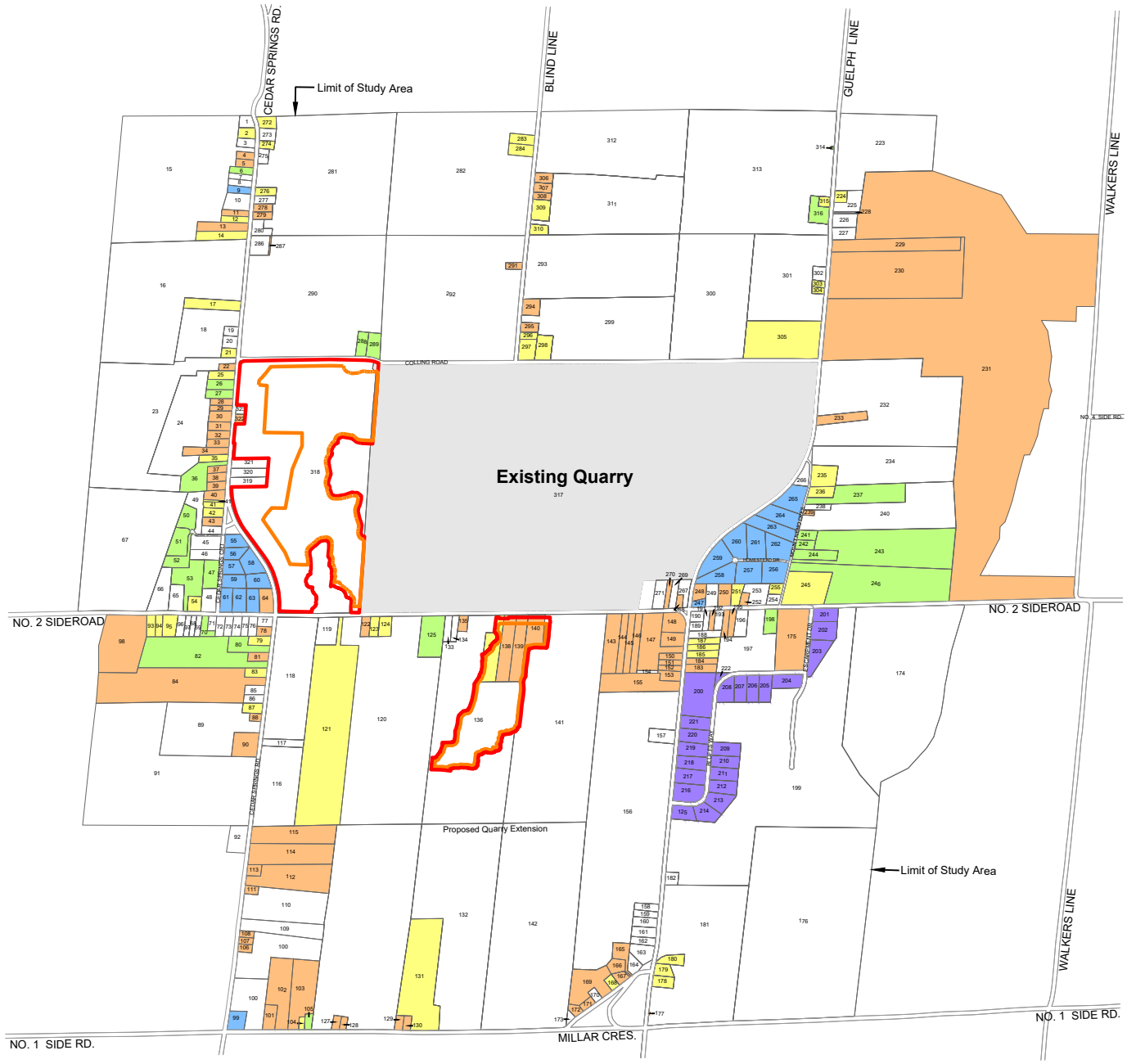


Figure # 18

Historic Parcel Fragmentation

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Quarry

Lot Creation Date	Number of Parcels	Average Size of Lot (excluding existing quarry)
Prior to 1960	142	28.0 ac
1960 to 1969	215	18.3 ac
1970 to 1979	262	15.0 ac
1980 to 1989	285	13.8 ac
1990 to 1999	303	13.0 ac
2000 to 2004	323	11.9 ac

Note: Table last updated in 2005

Date: April 2020

Sources
Property boundary obtained from 1998 Assessment Mapping and aerial photography which was taken from April 24, 2003.

Scale
0 450 900
Meters (1:30,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

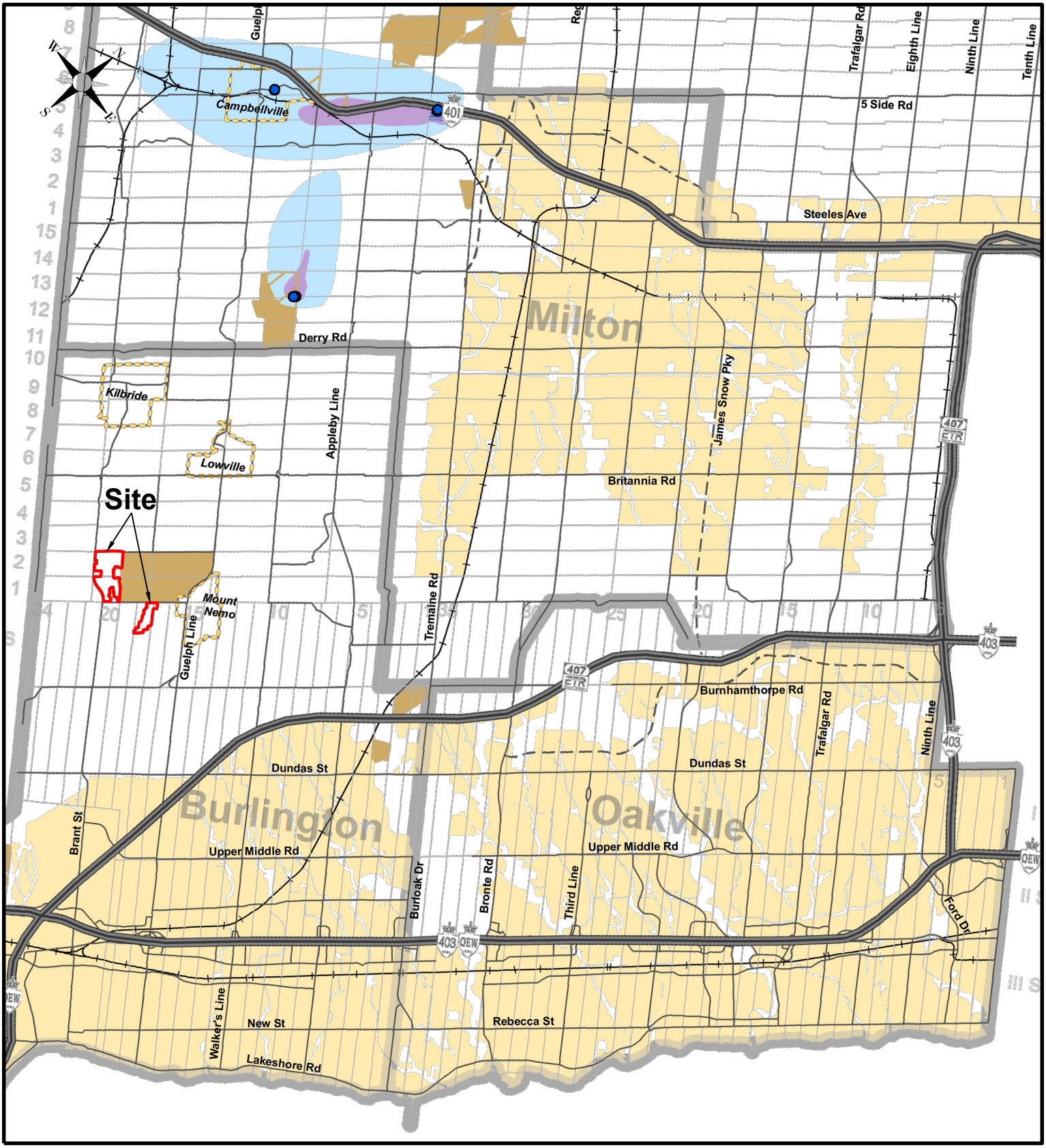


Figure # 19

Municipal Wellhead Protection Zones

Region of Halton Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Zone 1 (100 Days)
- Zone 2 (100 Days to 2 Years)
- Zone 3 (2 Years to 10 Years)
- Mineral Resource Extraction Area
- Urban Area

Date: April 2020

Sources: Halton Region Official Plan - Map 1D - Municipal Wellhead Protection Zones, dated June 19, 2018

Scale: 0 2000 4000 Meters (1:125,000)

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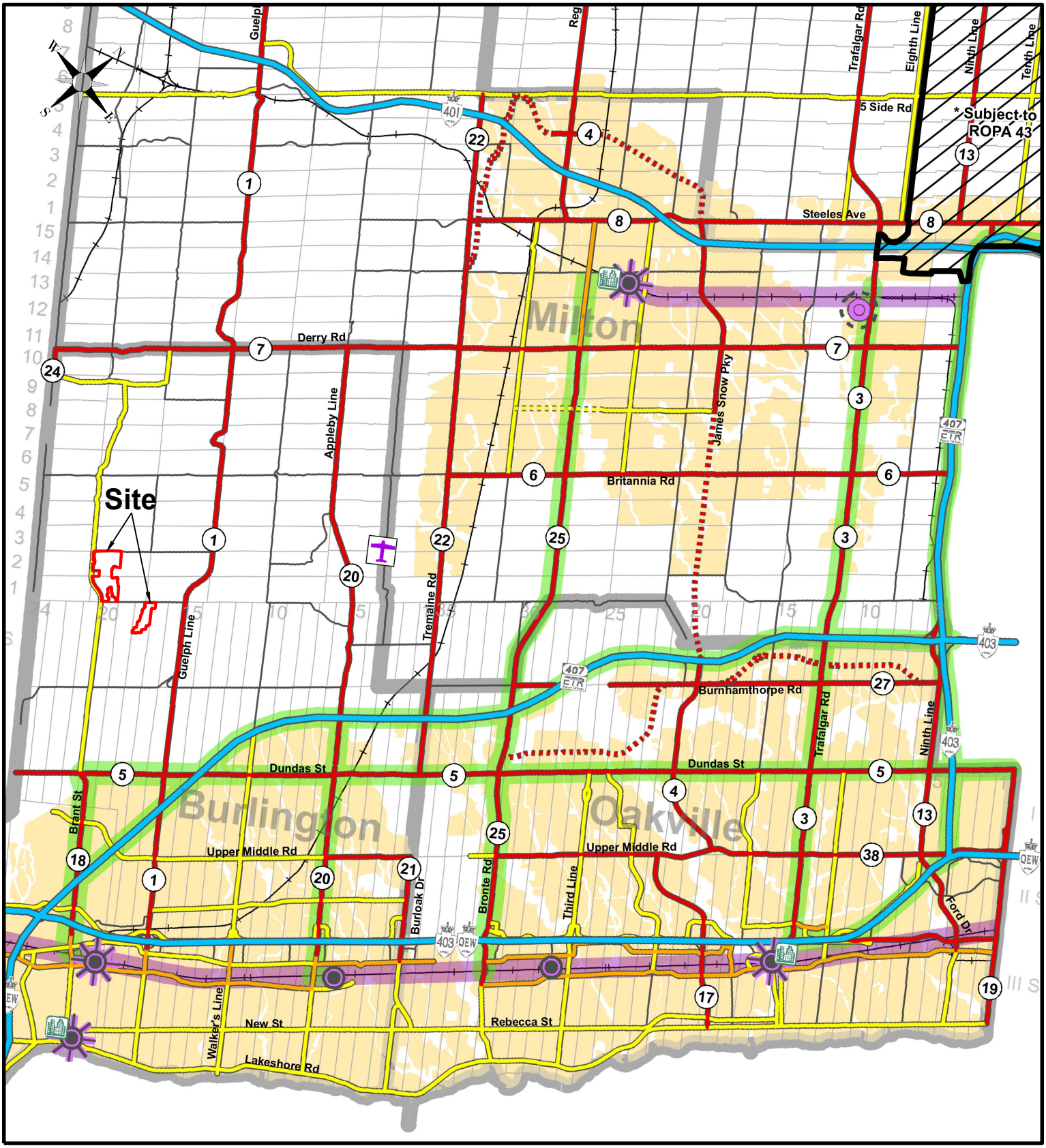


Figure # 20

Functional Plan of Major Transportation Facilities

Region of Halton Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Urban Area
- Higher Order Transit Corridor
- Commuter Rail Ccrridor
- Proposed Major / Minor Arterial
- Provincial Highway
- Major Arterial
- Multi-Purpose Arterial
- Minor Arterial
- Provincial Freeway

Date: April 2020

Sources: Halton Region Official Plan - Map 3 - Functional Plan of Major Transportation Facilities, dated June 19, 2018

Scale: 0 2000 4000 Meters (1:125,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

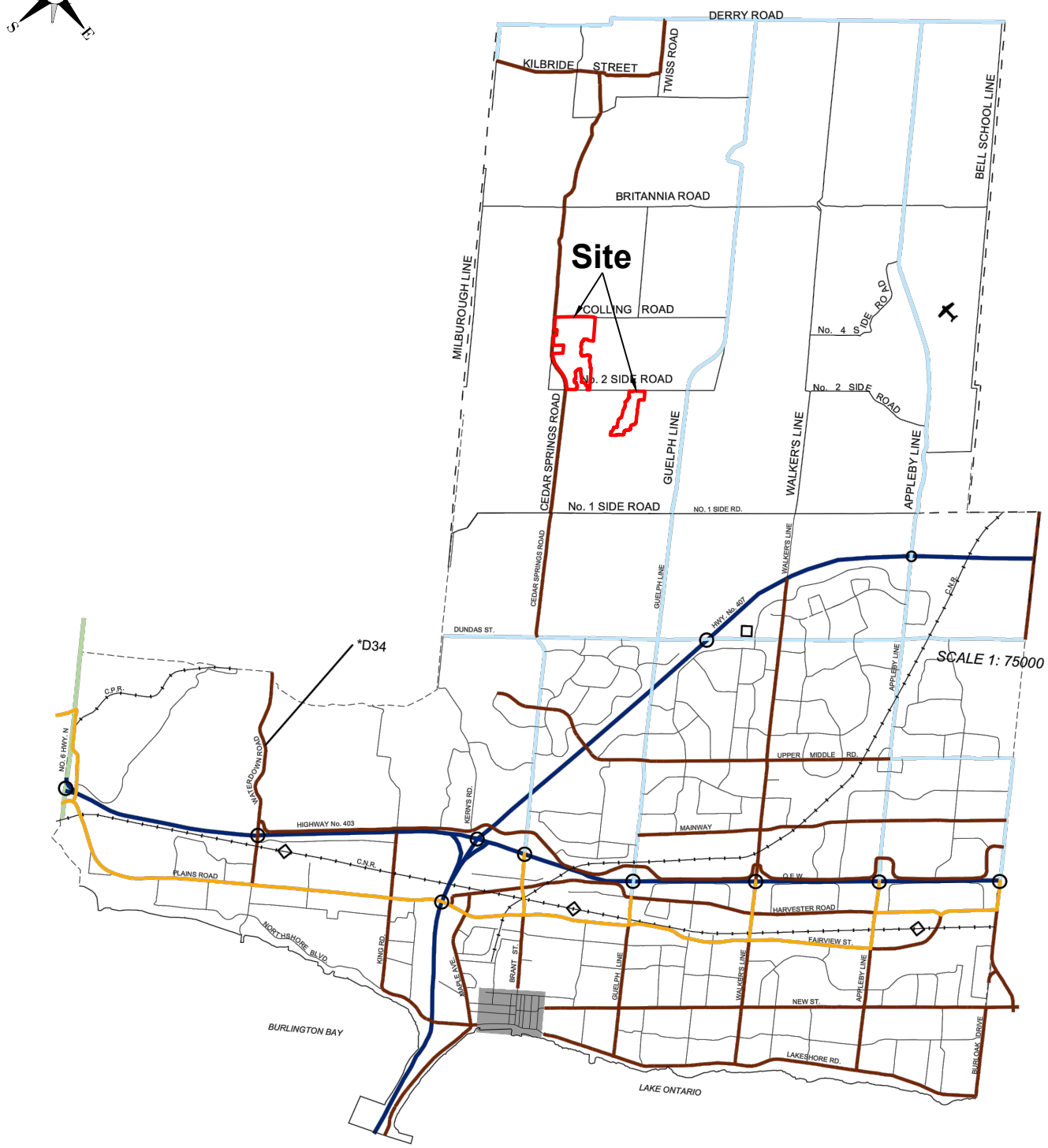


Figure # 21

Classification of Transportation Facilities

City of Burlington Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Freeway Interchange
- Transit / Commuter Station
- Commuter Rail Station
- Minor Arterial
- Multi-Purpose Arterial
- Major Arterial
- Provincial Freeway
- Provincial Highway
- Collector

Date: April 2020

Sources: City of Burlington Official Plan - Schedules J & L - Classification of Transportation Facilities, dated May 2010 & October 2006

Scale: 0 1500 3000 Meters (1:100,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

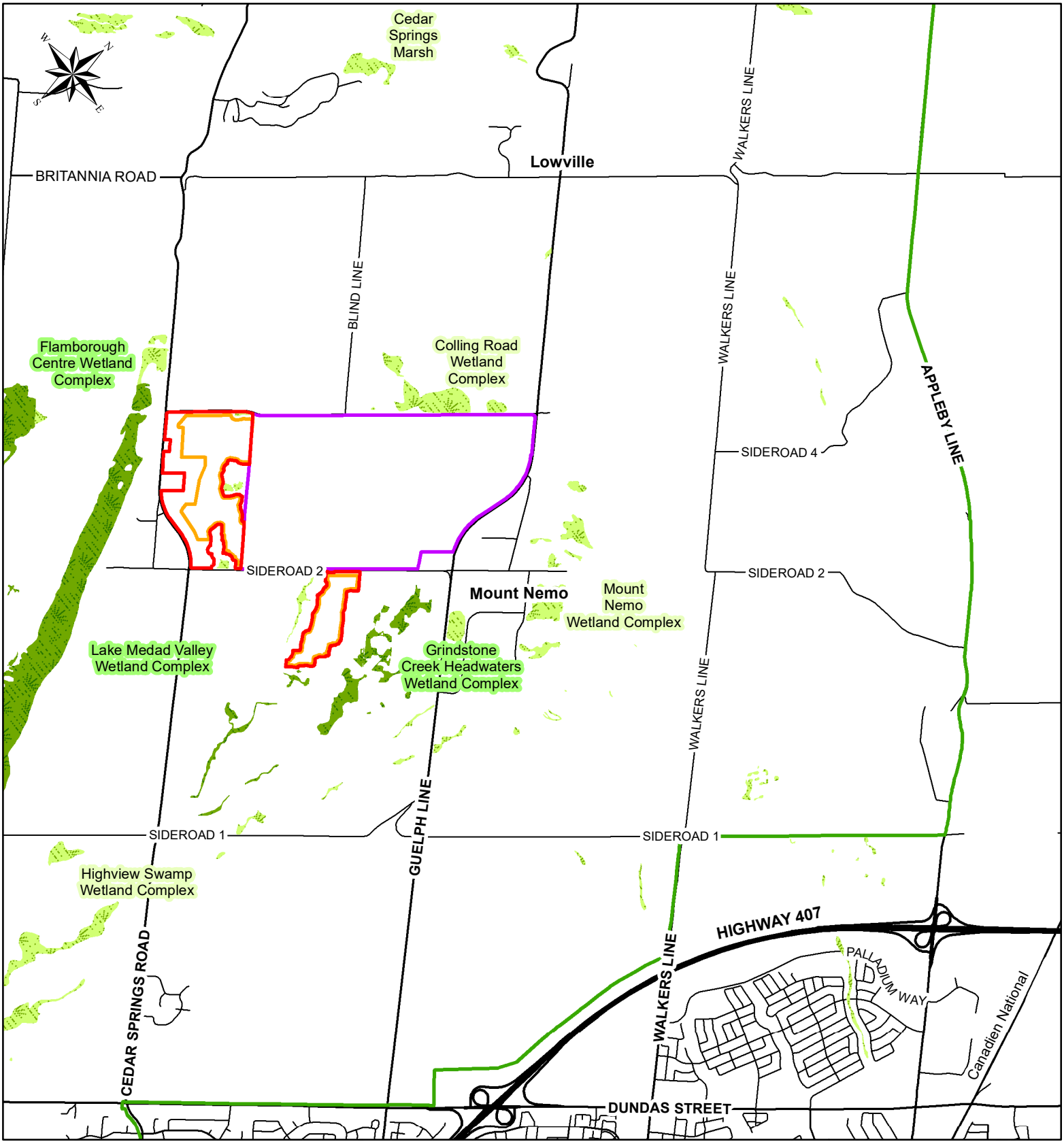


Figure # 22

Provincial & Regional Wetlands

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Niagara Escarpment Plan Boundary
- Provincially Significant Wetland (PSW)
- Non Significant Wetland / Unevaluated Wetland

DATE: April 2020

SOURCES
Land Information Ontario
Contains information licensed under the Open Government Licence - Ontario

0 200 400 800 1,200 1,600
Meters (1:40,000)

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MHBC PLANNING URBAN DESIGN & LANDSCAPE ARCHITECTURE

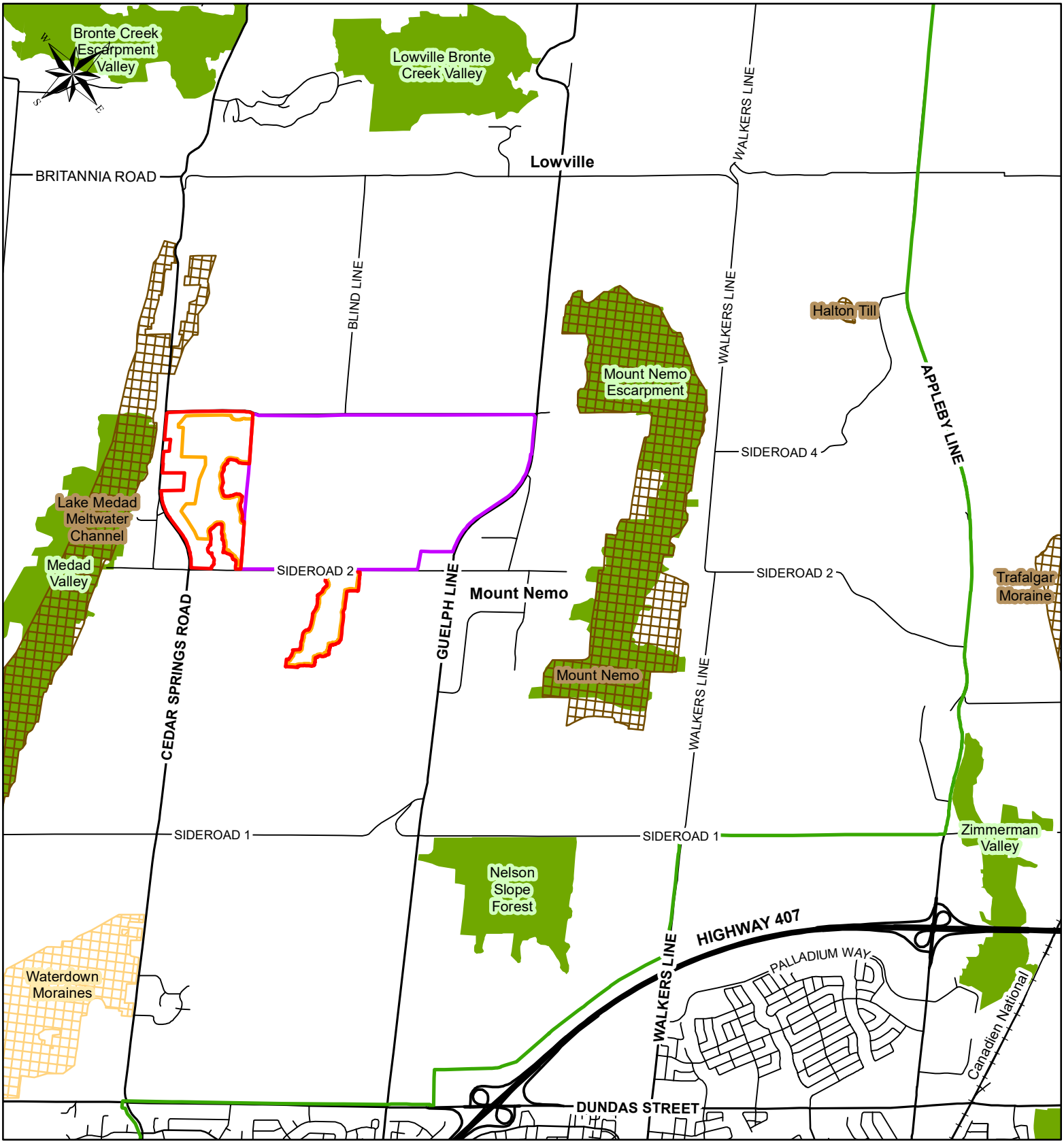


Figure # 23

Provincial Areas of Natural & Scientific Interest (ANSI)

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Proposed Limit of Extraction
- Existing Burlington Quarry
- Niagara Escarpment Plan Boundary
- ANSI - Earth Science
- ANSI Candidate - Earth Science
- ANSI - Life Science

DATE: April 2020

SOURCES
Land Information Ontario
Contains information licensed under the Open Government Licence - Ontario

0 200 400 800 1,200 1,600
Meters (1:40,000)

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Figure # 24

After-Use Vision

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Date: April 2020

Sources: Google Earth Pro aerial photography
Captured September 10, 2016

Scale: 0 300 600 Meters (1:20,000)

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Figure # 25

Mount Nemo Park
Phase 1

South Extension

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Date	April 2020
Sources	Google Earth Pro aerial photography Captured September 10, 2016
Scale	0 100 200 Meters (1:7500)

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Figure # 26

Mount Nemo Park Phase 2

South Extension

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Date	April 2020
Sources	Google Earth Pro aerial photography Captured September 10, 2016
Scale	0 100 200 Meters (1:7500)

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Figure # 27

Mount Nemo Park
Phase 2
East Portion of Existing Quarry

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Date	April 2020
Sources	Google Earth Pro aerial photography Captured September 10, 2016
Scale	0 100 200 Meters (1:7500)

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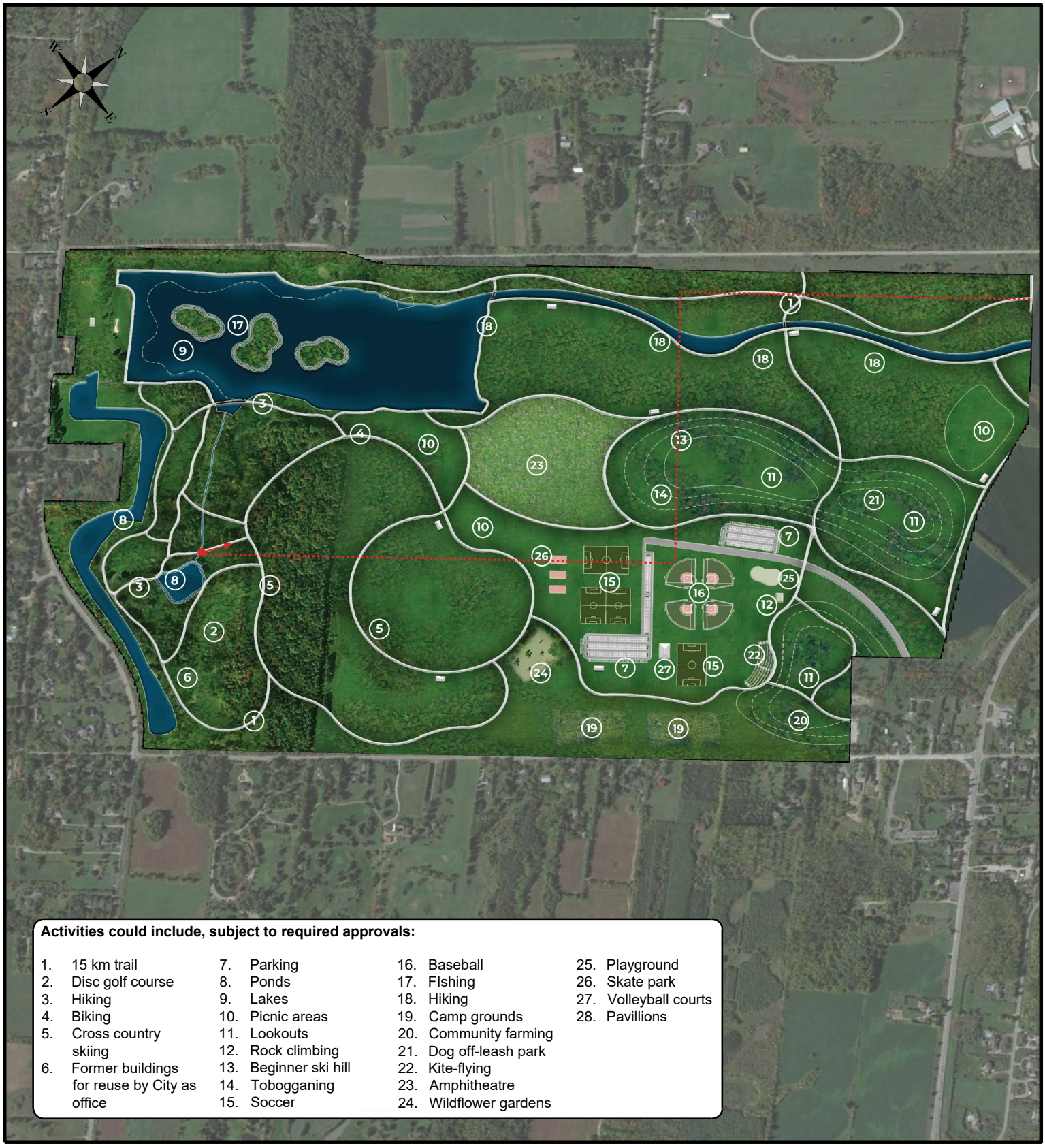


Figure # 28

Mount Nemo Park Phase 3

West Extension and Existing Quarry

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Date	April 2020
Sources	Google Earth Pro aerial photography Captured September 10, 2016
Scale	0 200 400 Meters (1:12,500)

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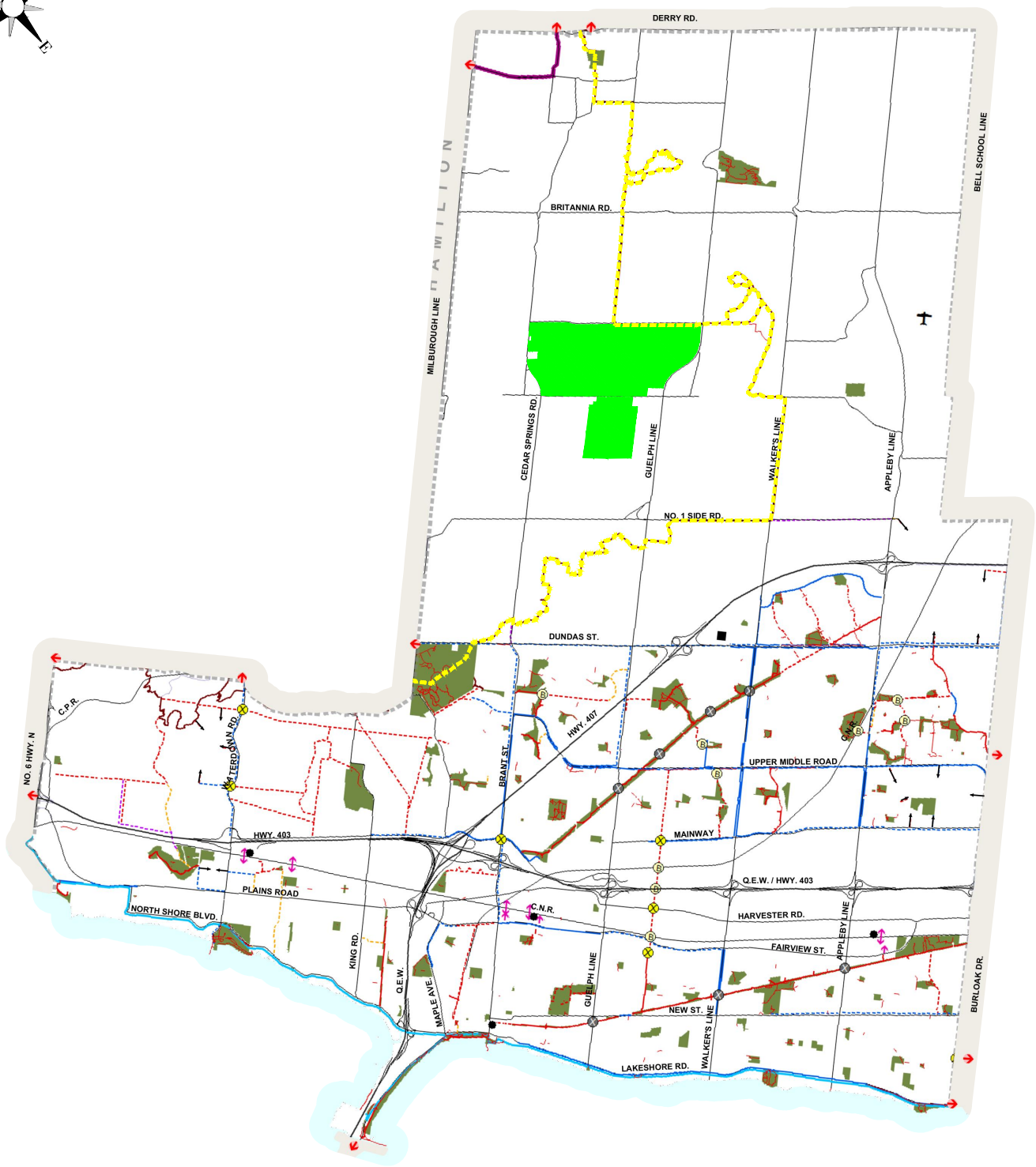


Figure # 29

City of Burlington Parkland System

City of Burlington Official Plan

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Potential Mount Nemo Park
- City Park
- Existing Bruce Trail & Side Trail

Date: April 2020

Sources: City of Burlington Official Plan - Schedule Q - Trails Strategy, dated November 2017

Scale: 0 1500 3000 Meters (1:100,000)

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Figure # 30

Provincial Parks in GGH

Burlington Quarry Extension
Part Lots 1 & 2, Concession 2 and
Part Lot 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Potential Mount Nemo Park
- Provincial Park within GGH
- Growth Plan Area

DATE: April 2020

SOURCES
Land Information Ontario
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0 5 10 20 30 40
Kilometers

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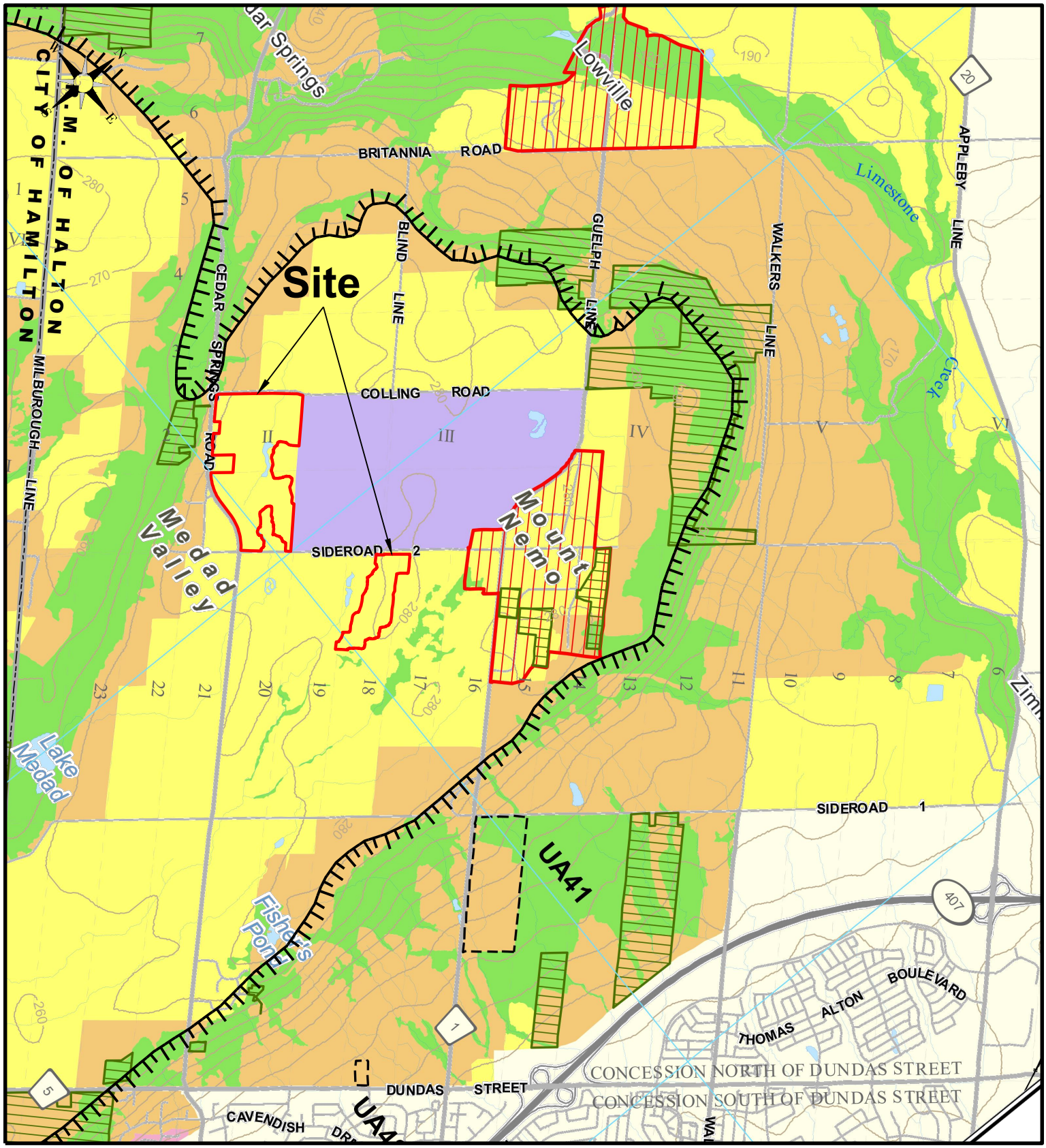


Figure # 31

Land Use Designations

Niagara Escarpment Plan
Region of Halton

Burlington Quarry Extension

Part Lots 1 & 2, Concession 2 and
Part Lots 17 & 18, Concession 2 NDS
City of Burlington
Region of Halton

Legend

- Proposed Licence Boundaries
- Niagara Escarpment Parks and Open Space System
- Amendments to the Niagara Escarpment Plan
- Escarpment Brow
- Escarpment Natural Area
- Escarpment Protection Area
- Escarpment Rural Area
- Mineral Resource Extraction Area
- Minor Urban Centre

Date: April 2020

Sources: Niagara Escarpment Plan - Map 3 - Regional Municipality of Halton - Plan Designations, dated June 1, 2017

Scale: 0 500 1000 Meters (1:40,000)

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Appendices

Appendix **1**

MHBC
PLANNING
URBAN DESIGN
& LANDSCAPE
ARCHITECTURE

CURRICULUM**VITAE**

Brian A. Zeman, BES, MCIP, RPP

EDUCATION

1998
Bachelor of Environmental Studies, Honours, Urban and Regional Planning, University of Waterloo

Brian Zeman, President of MHBC, joined MHBC as a Planner in 1998 after graduating from the University of Waterloo with a Bachelors Degree in Urban and Regional Planning.

Mr. Zeman provides planning services for all aspects of the firm's activities including residential, commercial and industrial uses while specializing in aggregate resource planning. He has experience in aggregate site planning and licensing and processes relating to aggregate applications.

Mr. Zeman is a member of the Canadian Institute of Planners and Ontario Professional Planners Institute.

PROFESSIONAL ACCREDITATIONS / ASSOCIATIONS

- Full Member, Canadian Institute of Planners
- Full Member, Ontario Professional Planners Institute
- Member, Ontario Expropriation Association
- Certified by the Province of Ontario to prepare Aggregate Resources Act Site Plans

PROFESSIONAL HISTORY

2014 - Present	**President**, MacNaughton Hermsen Britton Clarkson Planning Limited
2010 - 2014	**Vice President and Partner**, MacNaughton Hermsen Britton Clarkson Planning Limited
2005 - 2009	**Partner**, MacNaughton Hermsen Britton Clarkson Planning Limited
2004 - 2005	**Associate**, MacNaughton Hermsen Britton Clarkson Planning Limited
2001 – 2004	**Senior Planner**, MacNaughton Hermsen Britton Clarkson Planning Limited
1998 - 2001	**Planner**, MacNaughton Hermsen Britton Clarkson Planning Limited

CONTACT

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bzeman@mhbcplan.com
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CURRICULUM**VITAE**

Brian A. Zeman, BES, MCIP, RPP

PUBLICATIONS

- Co Author of the "State of the Aggregate Resource in Ontario Study Paper 2 – Future Aggregate Availability & Alternatives Analysis, Prepared for the Ministry of Natural Resources dated December 2009.

SELECTED PROJECT EXPERIENCE

- Research, preparation and co-ordination of reports / applications under the Planning Act, Niagara Escarpment Planning and Development Act, Oak Ridges Moraine Conservation Act, and the Aggregate Resources Act.
- Facilitate public meeting on major development applications.
- Project management for major development applications.
- Undertake aggregate Compliance Assessment Report inspections and preparation of reports.
- Planning evaluations and analysis for mineral aggregate development and resource management.
- Conduct notification and consultation procedures under the Aggregate Resources Act.
- Aggregate Resources Act site plan amendments.
- Planning evaluations for residential developments.
- Registration and planning of residential developments.
- Planning assessment for commercial, retail, office and industrial developments.
- Restoration planning for pits and quarries and preparation of recreational afteruse plans.
- Research and preparation of reports /evidence for hearings before the Ontario Municipal Board, Environmental Review Tribunal, Joint Board.
- Provide expert planning evidence before the Ontario Municipal Board, Environmental Review Tribunal and the Joint Board.

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& LANDSCAPE
ARCHITECTURE

CURRICULUM**VITAE**

Brian A. Zeman, BES, MCIP, RPP

SAMPLE PROJECT LIST

- Activa Group - Laurentian Subdivision, Kitchener
- Adventure Farm – Kirkwall Subdivision, Hamilton
- Aecon - Oliver Pit - Site Plan Amendment/Compliance Assessment Report
- Aggregate Producers Association of Ontario - Caledon Official Plan
- Aggregate Producers Association of Ontario - PPS Review
- Aggregate Producers Association of Ontario - Region of Halton Official Plan
- Blue Mountain Aggregates-Pit Deepening and Expansion
- Brampton Brick - Cheltenham Quarry Site Plan Amendment
- Brampton Brick - Niagara Escarpment Development Permit
- Cayuga Material & Construction - Property Investigation
- Cliff's Natural Resources – Chromite Aggregate Project
- Crisdawn Construction Inc. – Barrie Annexation Lands
- Dufferin Aggregates - Acton Quarry Afteruse Plan
- Dufferin Aggregates - Acton Quarry Expansion
- Dufferin Aggregates – City of Hamilton Official Plan
- Dufferin Aggregates - Milton Comprehensive Zoning By-law
- Dufferin Aggregates - Milton Quarry Afteruse Plan
- Dufferin Aggregates - Milton Quarry Extension
- Dufferin Aggregates - Property Investigations
- Dufferin Aggregates - Region of Halton Official Plan
- Dufferin Aggregates - Town of Halton Hills Official Plan
- Dufferin Aggregates – Town of Halton Hills Zoning By-law
- E.C. King Contracting - Sydenham Quarry Expansion Erie Sand & Gravel - Pelee Quarries
- Gies Construction - Old Chicopee Drive, Waterloo
- Hazad Construction - Conestoga Golf Course Subdivision Hallman Construction Limited - Consent for Church Site
- Home Depot - Barrie, Kitchener, Markham, Mississauga, Richmond Hill and Whitby
- J.C. Duff - Property Investigations
- Kulmatycky Rezoning/Plan of Subdivision/Area Study - Town of Paris
- Lafarge Canada – Brechin Quarry Site Plan Amendment
- Lafarge Canada – City of Hamilton Official Plan
- Lafarge Canada - Dundas Quarry Expansion
- Lafarge Canada - Lawford Pit
- Lafarge Canada – Limbeer Pit
- Lafarge Canada – Mosport Pit Site Plan Amendments
- Lafarge Canada - Oster Pit

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Brian A. Zeman, BES, MCIP, RPP

- Lafarge Canada - Property Investigations
- Lafarge Canada - Warren Merger Due Diligence
- Lafarge Canada-Wawa Site Plans
- Lincoln Village Subdivision - Phase 2 and 3, Waterloo
- Livingston Excavating - Simcoe Pit
- Nelson Aggregates Co., Burlington Quarry Extension
- Ontario Stone, Sand & Gravel Association – Region of Halton Aggregate Strategy
- Ontario Stone, Sand & Gravel Association - Region of Halton Official Plan
- Paris Land Development Limited - Subdivision
- Pitway Holdings - Brillinger Pit
- Pitway Holdings - Naylor/Forman Pit
- Pine Valley Homes - Ainsley Estates, Town of Wasaga Beach
- Pioneer Construction-Aggregate Resources Act Licensing-Thunder Bay
- Region of Durham - Homefounders Subdivision Riverbank Estates Inc. - Subdivision, Kitchener
- St. Marys Cement – Alternative Fuels
- St. Marys Cement - Bowmanville Quarry Deepening
- St. Marys Cement - Bowmanville Quarry Site Plan Amendment
- St. Marys Cement - Clarington Comprehensive Zoning By-law
- St. Marys Cement – Westside Marsh Project
- Steed & Evans - Contractor's Yard/Site Plan Amendment
- Tanem Developments - Bridge Street Subdivision University of Guelph - Canadian Tire
- University of Guelph - Commercial Centre University of Guelph - Office/Research Park
- YMCA – Redevelopment of Site, Barrie
- Zavarella Construction Ltd. - Consent/Rezoning/Plan of Subdivision/Area Study, Town of Paris

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