

VISUAL IMPACT ASSESSMENT

PROPOSED MILTON QUARRY EAST EXTENSION

Town of Halton Hills, Ontario

Date:

November 2021

Prepared for:

Dufferin Aggregates, a Division of CRH Canada Group Inc.

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2017 Niagara Escarpment Plan - Definitions

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1.0 Introduction

MHBC has been retained by Dufferin Aggregates to prepare a Visual Impact Report for the lands located in the Town of Halton Hills. The proposal contemplates an extension to the existing Milton Quarry. The proposed Milton Quarry East Extension includes 30.2 hectares, of which 15.9 hectares is proposed for extraction. The property is located in the Town of Halton Hills, directly adjacent to the Town of Milton municipal boundary. The property is located within the Region of Halton as shown in **Figure 1**.

The 2020 NEC Visual Impact Assessment Technical Criteria has been considered in the preparation of this Visual Impact Report. Furthermore, Please see Appendix A for definitions extracted from the Revised 2017 Niagara Escarpment Plan 2020. While not an exhaustive list, these definitions should be referenced through the course of reading this report. This report aims to satisfy the NEC's process for Visual Impact Assessments through:

- Establishing a baseline for the existing conditions through the following:
 - Establishment of a study area (within a 3.0 km radius of proposed extension sites);
 - Review of aerial photography, topographic mapping and review of existing features within the study area and surrounding context;
 - Initial on-site reconnaissance and photo inventory of existing conditions (conducted during leaf-off condition to depict worst case scenario).
- Identifying the physical changes in an accurate and objective and reproducible manner through the following:
 - Creation of viewshed location mapping based on desktop analysis;
 - On-site review and photography (conducted during leaf-off condition to depict worst case scenario);
 - Listing of all base material used, including sources.
- Assessing the impact of change on the Escarpment visual, landscape and scenic resources through the following:
 - Identification of areas of note and individual receptors / viewsheds where further study was deemed to be warranted;
 - Consideration of physical changes recommended through other reports (e.g. noise study);
 - Further on-site review and study where deemed to be warranted.

1.1 Description of the Proposed Extension

SITE DESCRIPTION

The proposed extension is located adjacent to Nassagaweya–Esquesing Townline, though there is no public access to this section of the road. The extension is bounded by naturalized areas to the north-east and east sides. To the north-west and south are existing extraction operations associated with the Milton Quarry. The site is characterized by relatively flat topography with some rolling hills. It is largely open field with small patches of trees. This property is currently Escarpment Rural Area under the Niagara Escarpment Plan (2017). See Figure 2

1.2 Purpose

The purpose of this report is to identify and describe the visual resources of the subject lands in the context of the proposed operations and to assess and recommend mitigation measures for any perceived visual impacts on surrounding lands, trails, and roads from the publicly accessible domain.

A key component of this report is to determine how to mitigate possible changes in the landscape views from the public domain toward the proposed quarry extension in order to limit the change to the open landscape character of the area. This includes views from public roads / public spaces, and from publicly accessible roads/areas adjacent to residential properties.

2.0 Background

The Niagara Escarpment includes a variety of topographic features and land uses extending 725 kilometres from Queenston on the Niagara River to the islands off Tobermory on the Bruce Peninsula. The following outlines the relevant designations and objectives of the Niagara Escarpment Plan that have been considered in this report. **Figure 2** shows the land designations within the study area, as found in the Niagara Escarpment Plan.

2.1 Purpose and Objectives of the Niagara Escarpment Plan

The Purpose of the Niagara Escarpment Planning and Development Act 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 opportunities 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 upon them by the Planning Act.

2.2 Land Use Objectives for Escarpment Rural Areas

The following objectives were extracted from Section 1.5 of the Niagara Escarpment Plan:

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.

2.3 Land Use Objectives for Mineral Extraction Areas

The following policies were extracted from Section 1.9 of the Niagara Escarpment Plan:

The Mineral Resource Extraction Area designation includes mineral aggregate operations licensed pursuant to the Aggregate Resources Act and areas where mineral aggregate resource extraction may be permitted, subject to the policies of this Plan.

The objectives of Mineral Extraction Areas are as follows:

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.

Criteria for Designation:

1. Licensed pits and quarries producing more than 20,000 tonnes annually.

2.4 Amendments for Mineral Resource Extraction

The following provisions apply to all amendments for new Mineral Resource Extraction Areas within the Niagara Escarpment Plan Area. These policies were extracted from Section 1.2.2 of the Niagara Escarpment Plan:

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

2.5 Development Criteria for Mineral Aggregate Resources

The following development criteria were extracted from Section 2.9 of the Niagara Escarpment Plan:

The objective is to ensure that mineral aggregate operations and their accessory uses are compatible with the Escarpment environment and to support a variety of approaches to rehabilitation of the natural environment and provide for re-designation to land use designations compatible with the adjacent land uses.

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:
 - c) demonstrate how the Escarpment's scenic resources and open landscape character will be maintained and where possible enhanced during and after the extraction;
 - g) minimize negative impacts of mineral aggregate operations and their accessory uses on surrounding land uses;
 - 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.
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.
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.

11. Rehabilitation shall incorporate the following:

- 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 compatible with the surrounding scenic resources;

2.6 Scenic Resources and Landform Conservation

The following policies were extracted from Section 2.13 the Niagara Escarpment Plan:

The objective is to ensure that development preserves the natural scenery and maintains Escarpment Related Landforms and the open landscape character of the Escarpment.

Scenic Resources

1. Development shall ensure the protection of the scenic resources of the Escarpment.
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.
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.
4. Appropriate siting and design measures shall be used to minimize the impact of development on the scenic resources of the Escarpment, including:
 - a) establishing appropriate setbacks and maximum building heights;
 - b) changing the orientation and height of built form to reduce visibility and skylining;
 - c) clustering buildings where appropriate;

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- d) minimizing the development footprint and changes to the existing topography and vegetation;
- e) using natural topography and vegetation as screening for visual mitigation;
- f) where there is minimal existing screening or vegetation that cannot be retained, providing new planting of native species to screen development;
- g) using non-reflective materials on roofs and walls along with measures to reduce reflectivity associated with windows; and
- h) minimizing the effect from exterior lighting (e.g., lighting directed downward). Landform Conservation

Landform Conservation

- 5. Planning, design and construction practices shall ensure that Escarpment Related Landforms are maintained and enhanced, and that development is visually compatible with the natural scenery and open landscape character of the Niagara Escarpment.
- 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.

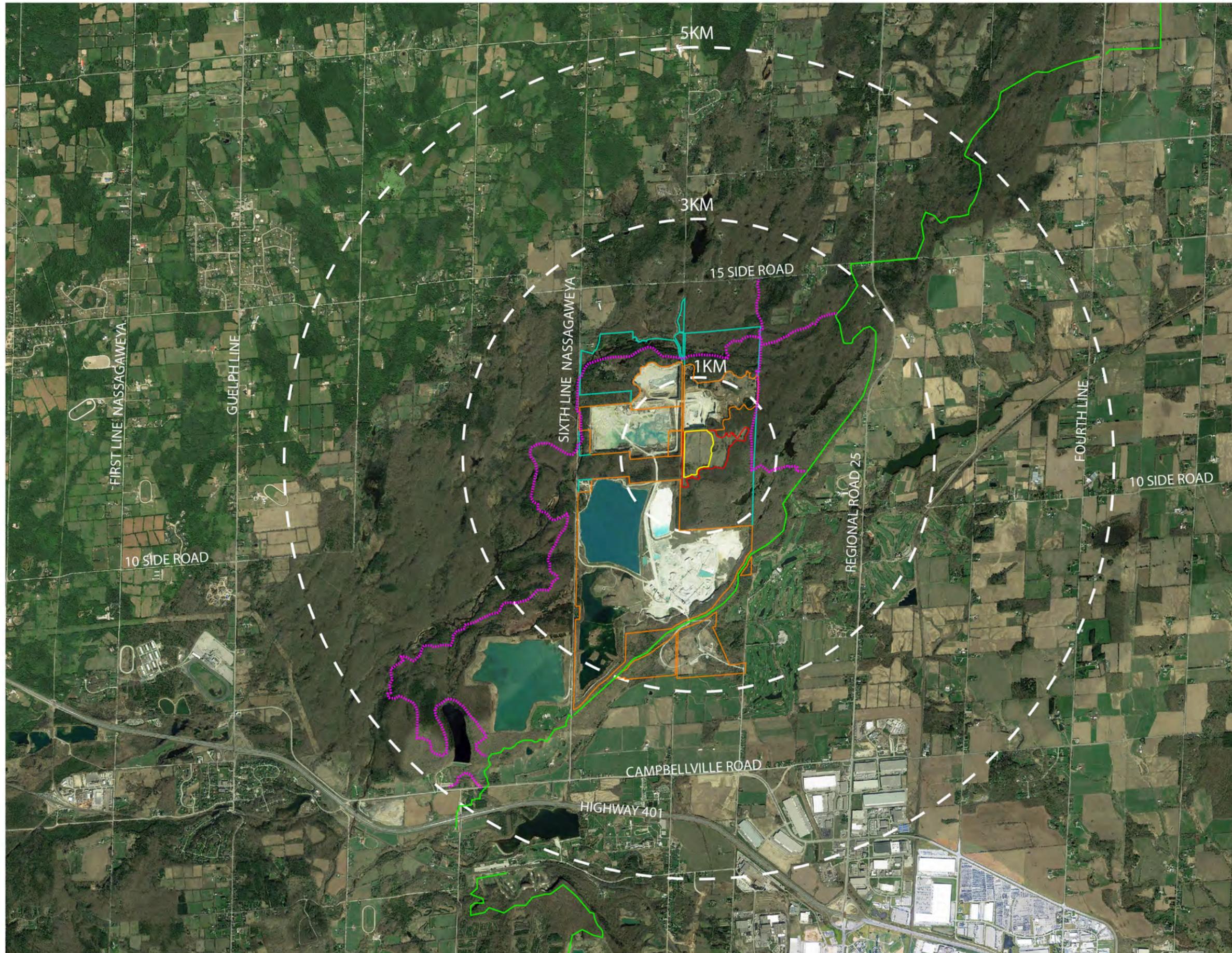


Figure 1
Site Location Map
 Dufferin Aggregates - Milton Quarry East Extension
 Town of Halton Hills
 Halton Region

- Existing Licences
- Licence Boundary
- Extraction Area
- Other Lands Owned by Dufferin
- Bruce Trail
- - - - - Hilton Falls Side Trail

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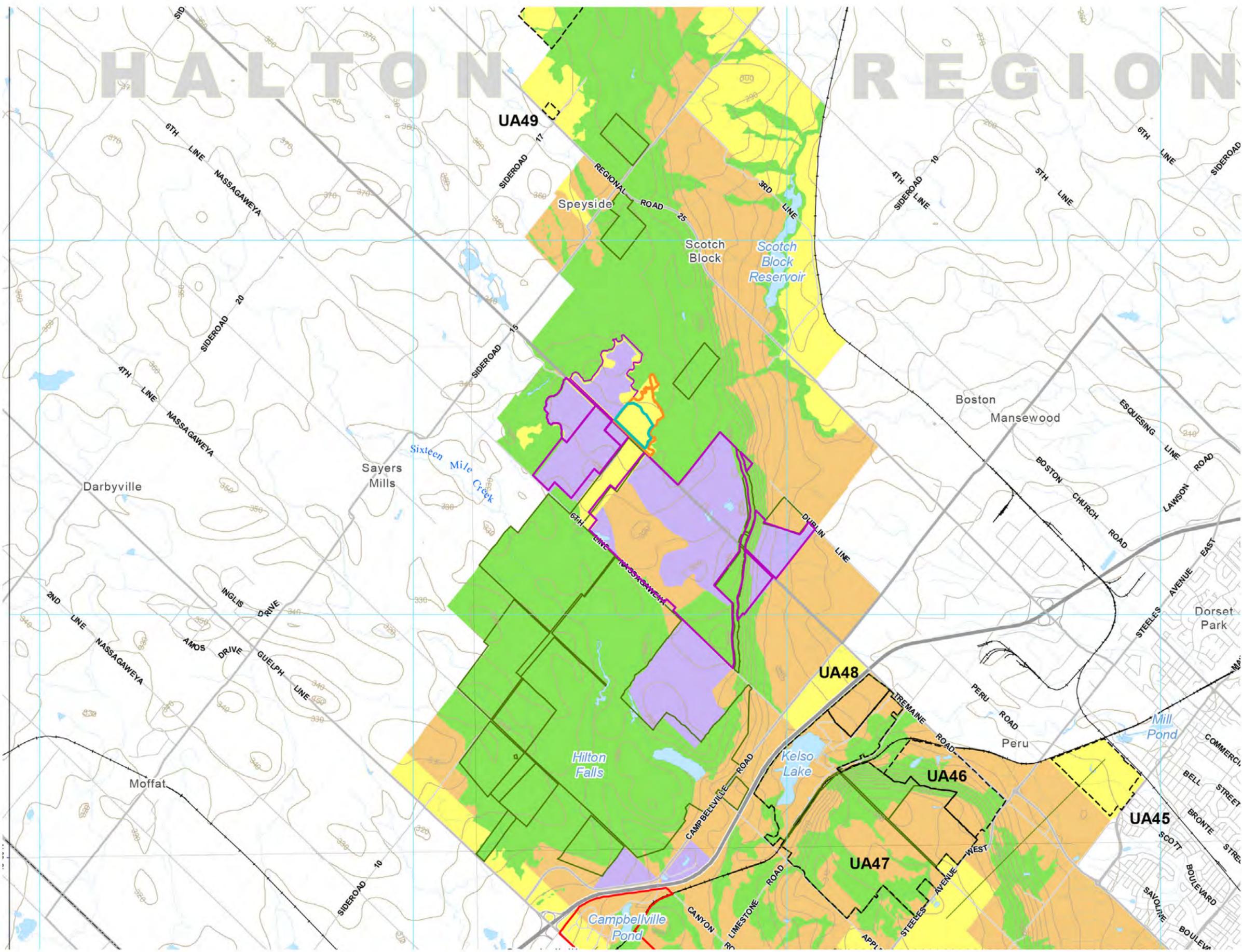
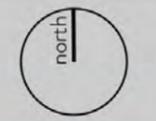


Figure 2
Niagara Escarpment Plan (2017)

Dufferin Aggregates - Milton Quarry East Extension
Town of Halton Hills
Halton Region

- Existing Licences
 - Licence Boundary
 - Extraction Area
 - █ Escarpment Natural Area
 - █ Escarpment Protection Area
 - █ Escarpment Rural Area
 - █ Escarpment Recreation Area
 - █ Mineral Resource Extraction Area
 - █ Urban Area
 - █ Minor Urban Centre
- OVERLAY
- █ Niagara Escarpment Parks and Open Space System
 - █ Amendments to the Niagara Escarpment Plan

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3.0 Methodology

The methodology used to complete the report included undertaking the following:

1. A detailed review of background documentation information including air photographs and topographic mapping.
2. The collection of field data and on-site photography from key vantage points (viewpoints) along public roadways during winter (leaf-off condition).
3. Identification and review of residences, public roads and golf courses that may be prone to visual impacts as a result of the proposed extraction activities.
4. Analysis and inventory of visual and landscape character.
5. Identification of potential visual impacts.
6. Recommendations of potential mitigation measures to be taken.
7. Preparation of a Visual Impact Report for submission to the relevant approval agencies.

Several areas were selected for the visual impact analysis due to the proximity to the subject lands and potential for views of the site. The viewpoint locations included Dublin Line, Sixth Line Nassagaweya, 15 Side Road, Nassagaweya-Esquesing Townline, Regional Road 25, and several publically accessible trail locations, including the Bruce Trail. This report includes a photographic inventory documenting existing views during leaf-off conditions, and a description / evaluation of the various views.

To capture photos on site for analysis, a Nikon D3300 model Digital Single-Lens Reflex (DSLR) camera using a 50mm lens at F2.8 was used. Photos were taken at eye level standing height (approximately 1.70m above grade). Photos were taken individually at a ratio of 6000px by 4000px to encompass a 180 degree viewpoint from the standing location. To create the panoramic photos presented, the individual photos were stitched together in Adobe Photoshop using the Photomerge tool.

The information presented in this assessment is based on a stationary perspective that would be experienced by a person standing at various station points / viewpoints along the selected roads. The photographs used in the report were taken in winter 2021 during 'leaf-off' conditions for the purposes of illustrating worst case scenario. For the residences within the study area, the elevation as well as the location and height of the

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houses (e.g. one or two-story) were taken into account in determining significant views and potential impacts. Photos from residential properties were taken from the end of the driveway (public property), closest to the road.

4.0 Proposed Quarry Operations

The proposed Milton Quarry East Extension includes a 30.2 hectare license area, of which 15.9 hectares is proposed for extraction. The area within the licensed area and outside of the extraction area will be used for visual screening, environmental water mitigation, access routes and areas of ecological enhancement.

Extraction of the Milton Quarry East Extension is proposed to proceed south from the existing Milton Quarry, East Cell. The proposed extension has been designed to occur in 2 phases. In Phase 1, extraction will proceed in a southerly direction to a maximum extraction depth of 302.5 masl.

In Phase 2, extraction will proceed in an easterly direction to a maximum extraction depth of 302.5 masl.

Within the proposed extension, there will be no processing. All aggregate extracted from the proposed Milton Quarry East Extension will be transported to the Main Processing Plant for processing or shipping using existing internal haul routes to the existing entrance/exit on Dublin Line. If the processing plant in the main quarry is decommissioned when extraction commences at the proposed extension, aggregate extracted from the extension will be transported to the East Cell for processing and shipping using existing internal haul routes to the existing entrance/exit on Dublin Line.

The proposed Milton Quarry East Extension proposes a rehabilitation plan that is integrated with the existing rehabilitation plan for the East Cell of the Milton Quarry. The proposed rehabilitation landform includes terrestrial connections, wetlands, islands, lake and exposed cliff.

5.0 Landscape Character

5.1 Site Context

The proposed Milton Quarry East Extension is located in the Town of Halton Hills along the border of the Town of Milton. The site is located approximately 12 kilometres south-west of Georgetown, 10 kilometres south of Acton, and 8 kilometres north-west of the urban centre of Milton.

The surrounding area is primarily characterized by existing aggregate extraction, open space, rural residential buildings, naturalized areas, the brow of the Niagara Escarpment, and golf course recreational uses. The subject lands are currently characterized by mainly an open field, with patches of trees, surrounded by natural heritage features and existing extraction areas.

5.2 Topography

The extension lands consist mainly of large flat areas, with some slopes and the elevations on site are between 334 and 347 masl. The lowest point of the site is located in the south corner and the highest is in the north-west corner.

5.3 Vegetation

The Extension lands are comprised primarily of open fields consisting of various grasses and meadow perennials. There are a number of small patches of mixed coniferous and deciduous trees throughout the site. The east to north of the property is bounded by dense deciduous woodland while the lands bordering the existing quarry have one line of trees. The border at the closest portion of Nassagaweya- Esquesing Townline is mainly open with scattered groupings of trees.

5.4 Land Use

The subject lands for the Extension area designated as Escarpment Rural Area in the Niagara Escarpment Plan. The Niagara Escarpment Commission's Landscape Evaluation Study rated the immediately surrounding area as 'average', with the Bruce Trail being rated as 'attractive' to the east of the site. Refer to **Figure 3** for the Niagara Escarpment Landscape Evaluation Study for this area.

6.0 Descriptions of Views

Site reviews were undertaken in Winter 2021 during leaf-off condition to illustrate worst case scenario. The analysis and location of the 30 studied viewpoints are included in this chapter and are identified on **Figure 4 (Assessed Views Photo Location Plan), and 4A to 4G (Photo Records of Assessed Views)**. The site reviews included evaluation of potential receptors and views within 3 km of the proposed extensions and were chosen specifically in locations where visual impacts could potentially be expected. Refer to **Table 1** for a summary of the locations and associated evaluations of the identified potential receptors along the mentioned public roadways.

6.1 Existing Landscape Setting and Context

The subject lands are located in a relatively rural area largely characterized by the existing Quarry operations and surrounding forested and naturalized areas. Further away there are additional uses including rural residential, agricultural operations, and a golf course. A defining characteristic of the site is the adjacent Hilton Falls Side Trail in Figure 1, and Bruce Trail that run near the north, south, and east sides of the proposed extension.

6.2 Sixth Line Nassagaweya

Views from Sixth Line Nassagaweya is generally characterized by dense deciduous forest and understory plants. There are multiple openings in this vegetation for residential properties, which they themselves are bounded by similar vegetation. Other topologies along the road include wetlands, rock outcroppings, a previous quarry rehabilitated to a lake, and a farm located at the corner of Sixth Line Nassagaweya and 15 Side Road. Overall, the vegetation and topography provides no opportunity to view the subject lands. The one exception is a truck entrance to Dufferin owned property adjacent to the filled quarry. This specific spot, bounded by trees on either side, does provide the possibility of viewing the distance subject lands. This viewshed, dominated by the water pool, sheer cliffs of the quarry, and distance forest line could possible view the proposed quarry, but it is unlikely to be a significant feature in the overall visual landscape from this location and distance.

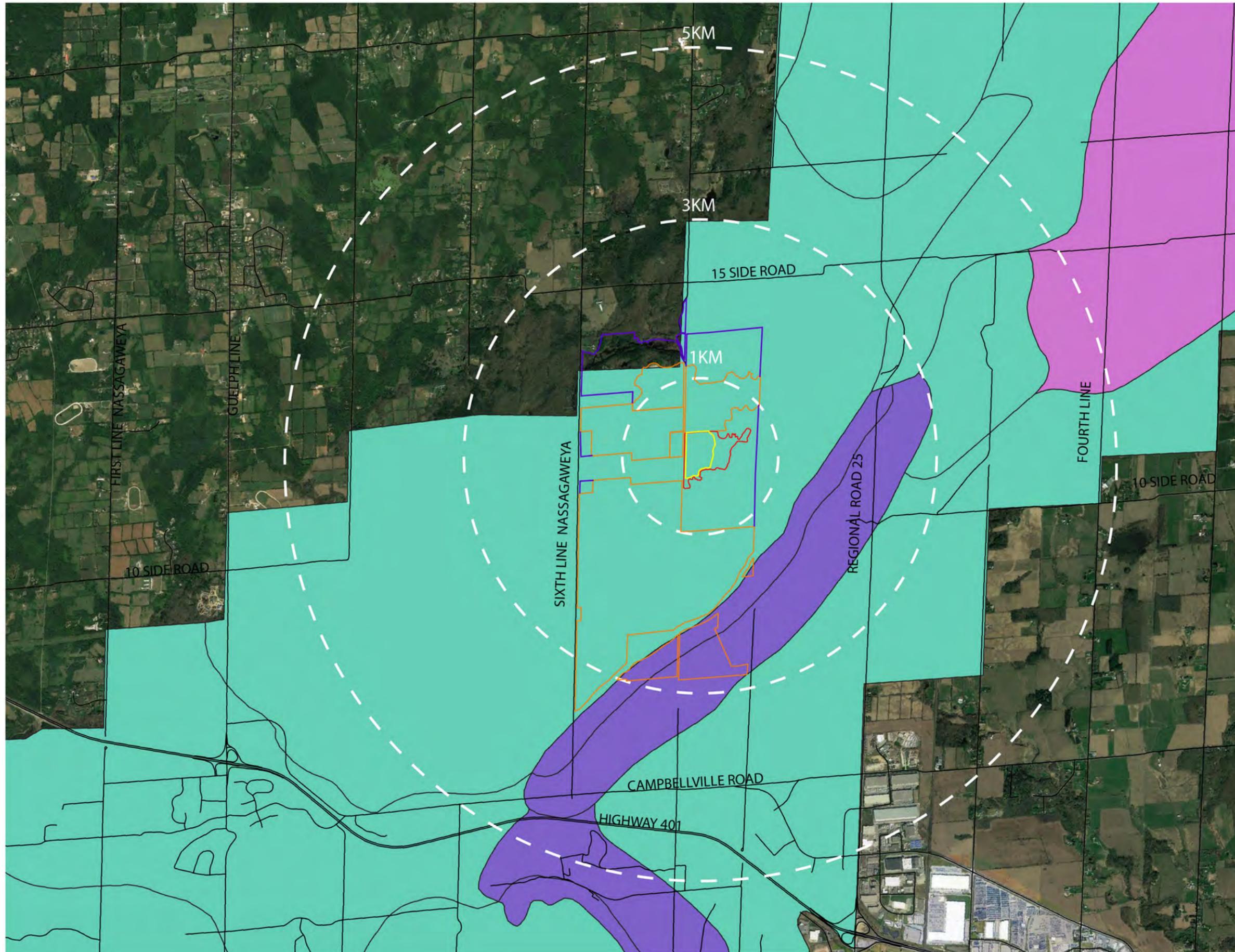


Figure 3
Niagara Escarpment Landscape Evaluation Study

Dufferin Aggregates - Milton Quarry East Extension
 Town of Halton Hills
 Halton Region

-  Existing Licences
-  Licence Boundary
-  Extraction Area
-  Other Lands Owned by Dufferin
-  Low
-  Average
-  Attractive

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6.3 Nassagaweya–Esquesing Townline

Nassagaweya-Esquesing Townline is bounded on both sides by dense forest that provides no opportunity for views into the site. The road ends at a dead end where Dufferin property begins. Although you can view into the site and view current extraction activities, it is difficult to get a clear view of the subject lands. Given the intermediary quarry activities, it is not expected that the proposed extraction activities on the subject lands will result in an overall negative change to the existing visual landscape.

6.4 Along 15 Side Road

As a result of existing vegetation and topography, there are no potential views from the public right-of-way of 15 Side Road.

6.5 Along Regional Road 25

As a result of existing vegetation and topography, there are no potential views from the public right-of-way of Regional Road 25.

6.6 Along Dublin Line

As a result of existing vegetation and topography, there are no potential views from the public right-of-way of Dublin Line.

7.0 Findings

7.1 Visual Impact on Public Roadways

The closest public roadway is over a kilometer away from the subject lands. These roadways are largely separated from the subject lands by dense forest and the rising topography of the escarpment, preventing potential views into the site.

7.2 Visual Impact on Nearby Residences

As mentioned in Section 7.1, as there are no expected visual impacts from public roadways, it is not expected that views from surrounding residences will experience a visual impact due to distance, topography, and densely vegetated landscape.

7.3 Visual Impact on Nearby Recreational Trails

The two trails in proximity to the subject lands are the Bruce Trail Toronto Section and Hilton Falls Side Trail (part of the greater Bruce Trail Network). The Bruce Trail, running from Sixth Line Nassagaweya to the Dufferin Bridge affords minimal opportunities to see the main quarry and no opportunity to view the subject lands. While views from the Dufferin Bridge are unobstructed into the main quarry for a limited duration, the proposed extension is shielded by existing topography and vegetation. Views further north along the Bruce Trail and along the Hilton Falls Side Trail are also obstructed by existing topography and vegetation with no potential views into the subject lands.

It is noted that there are several trails that verge off of the Hilton Falls Side Trail on Dufferin owned property that lead closer to quarry operations. While the terminus of these trails leads to direct views into the existing quarry, and possible views of the proposed extension, it is noted that these trails exist to offer access to water monitoring stations and are not intended to be part of the recreational trail network. Consequently, the views from these access trails should not be considered to be requiring visual mitigation.

7.4 Summary of Visual Impacts

The following table summarizes potential visual impacts. Visual impact has been defined as any potential change made to the existing landscape character or views of the subject lands and surrounding area by the proposed use of the subject lands for aggregate extraction. High impact suggests very noticeable change, therefore requiring mitigation measures to minimize the perceived visual impacts. Moderate impact

suggests noticeable change, and may require mitigation measures to minimize perceived visual impacts. Low impact suggests that insignificant or filtered views may be had from very specific angles, but the perceived visual impact is so slight that it would not likely require mitigation.

Table 1. Summary of Visual Impacts

Viewshed/ Photo	Description of View	Notes	Potential Impact (without mitigation)	Expected Result of Visual Impact	Recommended Mitigation (Figure 5)
<u>Figures 4A & 4G</u> <u>Viewsheds</u>					
Photo 1	10589 Sixth Line Nassagaweya	Views of existing residence and predominantly coniferous roadside vegetation. Mixed forest in background. No views of subject lands.	None		Mitigation required.
Photo 2	5565 15 Side Road	Views of coniferous forest along roadside. No views of subject lands.	None	-	Mitigation measures not required.
Photo 3	10670 Nassagaweya- Esquesing Townline	Views of dense deciduous forest lining road on either side. The meander of the road allows for minimal opportunity for long viewsheds. No views of subject lands.	None	-	Mitigation measures not required.
Photo 4	End of Nassagaweya- Esquesing Townline	Location at the end of the road provides views into Dufferin owned lands. Clear views of existing extraction operations and vegetation lining the private road. Additional trees visible between	None	-	Mitigation measures not required.

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		viewpoint and subject lands. Possible chance of views into subject lands low.			
Photo 5	6327, 6343 15 Side Road	Views of dense deciduous forest along roadside. No views of subject lands.	None	-	Mitigation measures not required.
Photo 6	7400, 7419, 7434, 7462 15 Side Road	Views of existing residence and surrounding trees. No views of subject lands.	None	-	Mitigation measures not required.
Photo 7	9870, 9884 Regional Road 25	Views of existing residences and private trees. Property mainly boarding by wood fencing, but views of distant escarpment are clearly visible. No views of subject lands.	None	-	Mitigation measures not required.
Photo 8	9689 Dublin Line	Views dominated by rising escarpment and surrounding forest. No views of subject lands.	None	-	Mitigation measures not required.
Photo 9	9519 Sixth Line Nassagaweya	Views of existing residence and mixed vegetation. Berm at back of the property shields from additional distant views. No views of subject lands.	None	-	Mitigation measures not required.
Photo 10	10786 Regional Road 25	Views of dense deciduous vegetation along roadside. No views of subject lands.	None	-	Mitigation measures not required.
Photo 11	7569 15 Side Road	Views of existing residences and mixed vegetation. Views of	None	-	Mitigation measures not required.

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		rising escarpment in background. No views of subject lands.			
Photo 12	End of 10 Side Road	Views of mixed forest and thick understorey vegetation. No views of subject lands.	None	-	Mitigation measures not required.
Photo 13	10025 Sixth Line Nassagaweya,	Views of primarily consist of waterbody created from previous extraction activity and current ongoing quarry operation. A distant tree line that is in-between the viewer and the subject lands is present and will be retained.	None		Mitigation measures not required.
Photo 14	10131-10145 Sixth Line Nassagaweya	Views of structures on Dufferin property. Views of mixed forest and lower vegetation. No views of subject lands.	None	-	Mitigation measures not required.
Photo 15	Bruce Trail Bridge	Views of existing quarry operations and periphery dense forest vegetation. Subject lands not visible from this location.	None	-	Mitigation measures not required.
Photo 16	Bruce Trail Lookout	Views of existing quarry operations and periphery dense forest vegetation. Subject lands not visible from this location.	None	-	Mitigation measures not required.
Photo 17	Bruce Trail	Views of dense forest and understory vegetation. Views of distance escarpment along skyline. No views of quarry.	None	-	Mitigation measures not required.

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Photo 18	Bruce Trail	Views of dense mixed forest. Relatively flat topography with some rocky outcroppings. No views of quarry.	None	-	Mitigation measures not required.
Photo 19	Bruce Trail	Views of dense mixed forest. Relatively flat topography with some rocky outcroppings. No views of quarry.	None	-	Mitigation measures not required.
Photo 20	Bruce Trail	Views of dense mixed. Relatively flat topography with some rocky outcroppings. No views of quarry.	None	-	Mitigation measures not required.
Photo 21	Water Monitoring Side Trail on Dufferin Land	Clear views into Dufferin property which are of largely open fields and roads used for quarry operations. Distant tree line provides some screening of subject lands.	None	Limited removal of some distant trees. Possible views of machinery along top of quarry during site preparation. Distant Views into the quarry possible.	Mitigation measures not required.
Photo 22	Water Monitoring Side Trail on Dufferin Land	Clear views into Dufferin property which are of largely open fields and roads used for quarry operations. Distant tree line provides some screening of subject lands.	None	Limited removal of some distant trees. Possible views of machinery along top of quarry during site preparation. Distant Views into the quarry possible.	Mitigation measures not required.

Visual Impact Report
Dufferin Aggregates Milton Quarry East Extension

Photo 23	Water Monitoring Side Trail on Dufferin Land	Views of mixed forest and understorey. Rocky outcroppings rise around the trail. Screened views into Dufferin property possible, but no views of subject lands.	None	-	Mitigation measures not required.
Photo 24	Hilton Falls Side Trail	Views of mixed forest and understorey. Rocky outcroppings rise around the trail. Screened views into Dufferin property possible, but no views of subject lands.	None	-	Mitigation measures not required.
Photo 25	Hilton Falls Side Trail	Views of deciduous forest and understorey. Rocky outcroppings rise around the trail. Screened views into Dufferin property possible, but no views of subject lands.	None	-	Mitigation measures not required.
Photo 26	Hilton Falls Side Trail	Views of deciduous forest and understorey. Rocky outcroppings rise around the trail. Screened views into Dufferin property possible, but no views of subject lands.	None	-	Mitigation measures not required.
Photo 27	Water Monitoring Side Trail on Dufferin Land	Open views of subject lands with dense forest along the periphery. Extraction activities will be clearly visible in distance.	None	Views only present from private land that can be accessed by coming off trail. Area to be fenced off in the	Mitigation measures not required.

					future to prevent access and potential views. .
Photo 28	Hilton Falls Side Trail	Views of existing dense deciduous forest provides full screening of potential views.	None	-	Mitigation measures not required.
Photo 29	Hilton Falls Side Trail	Views of existing marsh and dense deciduous forest. Small rolling hills provide full screening of potential views.	None	-	Mitigation measures not required.
Photo 30	Bruce Trail	Views of existing dense deciduous forest and high topography along trail provides full screening of potential views.	None	-	Mitigation measures not required.

7.5 Niagara Escarpment Plan Policy Analysis

The following section provides an analysis of how the proposed quarry and associated mitigation measures conform to the policies of the Niagara Escarpment Plan outlined in Section 2.0 of this report.

Land Use Objectives for Escarpment Rural Areas

The lands for the proposed quarry extensions are currently designated as Escarpment Rural Areas. As per Section 1.5.1.7, an objective of this type of designation is to provide for consideration of new Mineral Resource Extraction Areas by amendments to the Plan. As such, Dufferin Aggregates is currently seeking to fulfill this objective in accordance with the Niagara Escarpment Plan. As this area is largely surrounded by Mineral Extraction Areas and Natural Areas as defined by the Niagara Escarpment Plan, the re-designation of this space as a Mineral Extraction Area would fit into the overall surrounding context of the site.

Land Use Objectives for Mineral Extraction Areas

As this proposed licensed quarry will produce more than 20,000 tonnes annually, it is proposed for designation as a Mineral Resource Extraction Area. The proposal is in compliance with these amendments stipulated for Mineral Resource Extraction areas for multiple reasons. Firstly, the site is well screened and separated from public viewpoints. Secondly, the operation has been phased (**Figure 6**) and the land not required for extraction will be predominantly reforested during operations (**Figure 5**).

Furthermore, a Rehabilitation Plan (**Figure 5**) has been proposed to show how the lands will be transformed after extraction activities cease. This proposal contains hectares of different ecosystems such as a lake, wetlands, forest/meadow, and cliff faces. This will complement the existing naturalized area and expand the local biodiversity of the ecosystem. There will be specific space for recreation that will connect to the Bruce Trail network via the Hilton Falls Side Trail, providing an improvement to the overall open space network.

Development Criteria for Mineral Aggregate Resources

The proposal shall meet the development criteria set out in Section 2.9 of the Niagara Escarpment Plan through prevention, mitigation, and rehabilitation. Firstly, the Operations Plan (**Figure 6**) lays out where and when extraction activities will occur.

Rehabilitation will be the last stage in ensuring that the development criteria for this proposal is fulfilled. Upon completion of extraction activities, a Rehabilitation Plan outlined in **Figure 6** shall commence implementation. Compared to the current 'Average' visual ranking of the subject lands, the post-rehabilitation areas will have abundant vegetation, water features, and varying topographies that will contribute to an enhanced visual landscape.

Scenic Resources and Landform Conservation

In keeping with the requirements of Section 2.13 of the Niagara Escarpment Plan, this Visual Impact Assessment has been prepared to establish baseline conditions, identify proposed physical changes, assess the impact of proposed changes on scenic resources, and propose mitigation measures to minimize visual impacts.

Although there are no proposed structures that will affect the skyline as part of this proposal, significant changes to the existing topography will occur as a result of excavation. Setbacks from the extraction zone have been established to maximize the separation between possible viewers and extraction activities. Where possible, existing vegetation will be retained to maintain existing screening and visual landscape character. The proposal will not affect any existing escarpment landforms. While there

will be changes to the open landscape character of the subject lands, it is noted that these lands will not have any significant views from publically owned lands and will subsequently be enhanced through the proposed Rehabilitation Plan.

7.6 Niagara Escarpment Commission Landscape Evaluation Study Analysis

The NEC Landscape Evaluation Study (LES) ranked the scenic Visual Impact Assessment quality of landscape units across the Niagara Escarpment Planning Area from Outstanding to Very Low based on scoring landform, vegetative cover, land use, special features, and views. **Figure 3** shows the landscape evaluation of the subject lands and surrounding area. It is noted that the entirety of the subject lands is listed as average. Given much of this area is already characterized by extraction activities, the addition of extraction operations to the subject lands is not expected to change the visual ranking of this space.

To the east within three kilometers is an area of land listed as 'Attractive' (See Figure 3). These lands are the surrounding area of the Bruce trail, which as previously noted does not have views to the site. Consequently, the expansion of quarry operations into the subject lands is not expected to alter the 'Attractive' rating of this space as there will be no views negatively impacted.

Photo Locations

#	Direction	Coordinates	Address
1	E	43°32'59.60"N, 79°59'48.69"W	10589 Sixth Line Nassagaweya
2	SE	43°33'20.07"N, 80°00'05.14"W	5565 15 Side Road
3	SE	43°33'37.15"N, 79°59'23.96"W	10670 Nassagaweya-Esquesing Townline
4	SE	43°33'24.06"N, 79°59'01.96"W	End of Nassagaweya-Esquesing Townline
5	SE	43°33'58.27"N, 79°59'20.54"W	6327, 6343 15 Side Road
6	S	43°33'25.68"N, 79°58'49.82"W	7400, 7419, 7434, 7462 15 Side Road
7	W	43°33'27.95"N, 79°56'42.08"W	9870, 9884 Regional Road 25
8	NW	43°32'38.97"N, 79°57'02.48"W	9689 Dublin Line
9	NE	43°31'45.30"N, 79°58'03.97"W	9519 Sixth Line Nassagaweya
10	S	43°34'38.03"N, 79°58'00.61"W	10786 Regional Road 25
11	S	43°34'03.67"N, 79°57'30.30"W	7569 15 Side Road
12	W	43°33'24.97"N, 79°57'07.09"W	End of 10 Side Road
13	NE	43°32'10.36"N, 79°58'39.46"W	10025 Sixth Line Nassagaweya, 10131-10145 Sixth Line Nassagaweya
14	NE	43°32'31.62"N, 79°58'55.20"W	Bruce Trail Bridge
15	NW	43°32'16.38"N, 79°57'16.89"W	Bruce Trail Lookout
16	NW	43°32'00.92"N, 79°57'21.11"W	Bruce Trail
17	NW	43°31'42.42"N, 79°57'21.92"W	Bruce Trail
18	N	43°31'30.67"N, 79°57'22.46"W	Bruce Trail
19	N	43°31'23.16"N, 79°57'21.20"W	Bruce Trail
20	N	43°31'23.16"N, 79°57'21.20"W	Bruce Trail
21	SE	43°33'35.92"N, 79°58'41.02"W	Water Monitoring Side Trail
22	S	43°33'39.16"N, 79°58'33.53"W	Water Monitoring Side Trail
23	SE	43°33'41.71"N, 79°58'33.04"W	Water Monitoring Side Trail
24	S	43°33'42.76"N, 79°58'27.37"W	Hilton Falls Side Trail
25	S	43°33'41.29"N, 79°58'24.45"W	Hilton Falls Side Trail
26	S	43°33'36.20"N, 79°58'13.74"W	Hilton Falls Side Trail
27	SW	43°33'19.91"N, 79°58'09.49"W	Water Monitoring Side Trail
28	SW	43°33'18.39"N, 79°57'55.56"W	Hilton Falls Side Trail
29	SW	43°33'18.20"N, 79°57'46.31"W	Hilton Falls Side Trail
30	W	43°33'14.32"N, 79°57'32.48"W	Bruce Trail

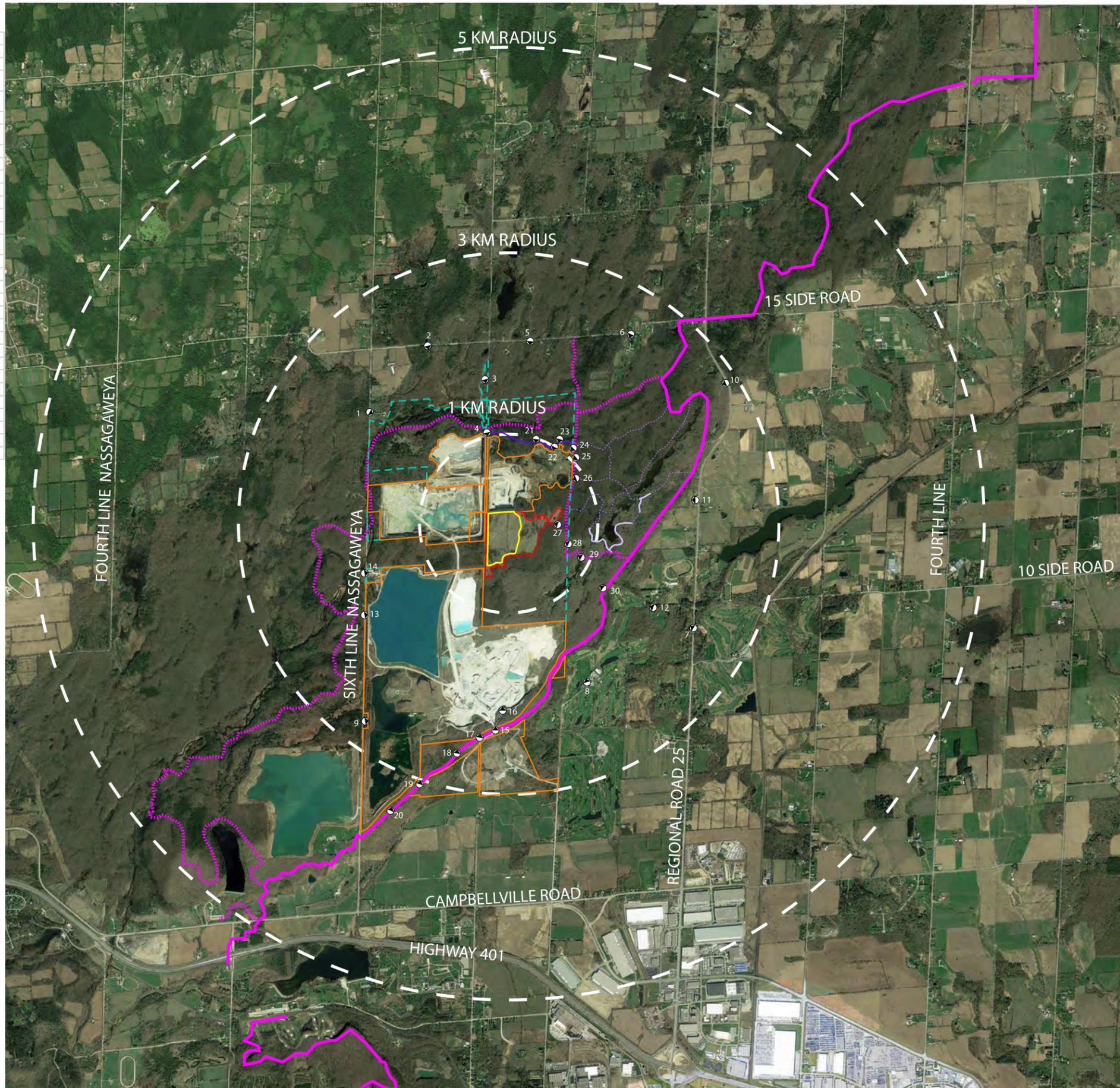


Figure 4
Assessed Views Photo Location Map

Dufferin Aggregates - Milton Quarry East Extension
Town of Halton Hills
Halton Region

-  Existing Licences
-  Licence Boundary
-  Extraction Area
-  Other Lands Owned by Dufferin
-  Location of Viewshed and Barrier Photos (see Figures 4A to 4G)
-  Hilton Falls Side Trail
-  Bruce Trail
-  Water Monitoring Side Trail on Dufferin Land
-  Side Trail on Private Land
-  Side Trail on Public Land

DATE: November 2021
SCALE: 1:45,000
FILE: 9061DO
DRAWN: CC





Photo 1: Taken at 10589 Sixth Line Nassagaweya facing towards proposed quarry extension.



Photo 2: Taken at 5565 15 Side Road facing towards proposed quarry extension.



Photo 3: Taken at 10670 Nassagaweya - Esquesing Townline facing towards proposed quarry extension.



Photo 4: Taken at the end of Nassagaweya - Esquesing Townline facing towards proposed quarry extension.

Figure 4A
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
 Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos taken on March 12, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC



Photo 5: Taken between 6327, 6343 15 Side Road facing towards proposed quarry extension.



Photo 6: Taken between 7400, 7419, 7434, 7462 15 Side Road facing towards proposed quarry extension.



Photo 7: Taken between 9870 and 9884 Regional Road 25 facing towards proposed quarry extension.



Photo 8: Taken at 9689 Dublin Line facing towards proposed quarry extension.

Figure 4B
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos taken on March 12, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC



Photo 9: Taken at 9519 Sixth Line Nassagaweya facing towards existing quarry and future extension.



Photo 10: Taken at 10786 Regional Road 25 facing towards existing quarry and future extension.



Photo 11: Taken between 10381 and 10382 Regional Road 25 facing towards existing quarry and future extension.



Photo 12: Taken at the end of 10 Side Road facing towards existing quarry and future extension.

Figure 4C
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos taken on March 12, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC



Photo 13: Taken at approximately at 10025 Sixth Line Nassagaweya, at Dufferin Quarry Entrance, facing towards existing quarry and future extension.



Photo 14: Taken between 10131-10145 Sixth Line Nassagaweya facing towards future extension.



Photo 15: Taken on Dufferin Bridge facing towards existing quarry and future extension.



Photo 16: Dufferin Quarry Lookout along Bruce Trail. Facing existing quarry and proposed extension.

Figure 4D
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos 13 and 14 taken on March 12, 2021

Photos 15 and 16 taken on February 02, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC



Photo 17: Along Bruce Trail taken towards proposed extension.



Photo 18: Along Bruce Trail taken towards proposed extension.



Photo 19: Along Bruce Trail taken towards proposed extension.



Photo 20: Along Bruce Trail taken towards proposed extension.

Figure 4E
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for
view locations

Photos taken on February 02, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC



Photo 21: Along Water Monitoring Side Trail on Dufferin Land taken towards proposed extension.



Photo 22: Along Water Monitoring Side Trail on Dufferin Land taken towards proposed extension.



Photo 23: Along Water Monitoring Side Trail on Dufferin Land taken towards proposed extension.



Photo 24: Along Hilton Falls Side Trail taken towards proposed extension.



Photo 25: Along Hilton Falls Side Trail taken towards proposed extension.

Figure 4F
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos taken on March 05, 2021

DATE: November 2021

FILE: 9061DO

DRAWN: CC



Photo 26: Along Hilton Falls Side Trail taken towards proposed extension.



Photo 27: Along Water Monitoring Side Trail on Dufferin Lands taken towards proposed extension.



Photo 28: Along Hilton Falls Side Trail taken towards proposed extension.



Photo 29: Along Hilton Falls Side Trail taken towards proposed extension.



Photo 30: Along Bruce Trail taken towards proposed extension.

Figure 4G
Photo Record of Assessed Views

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

NOTE: Refer to Figure 4 Assessed Views Photo Map for view locations

Photos taken on March 05, 2021

DATE: March 2021

FILE: 9061DO

DRAWN: CC

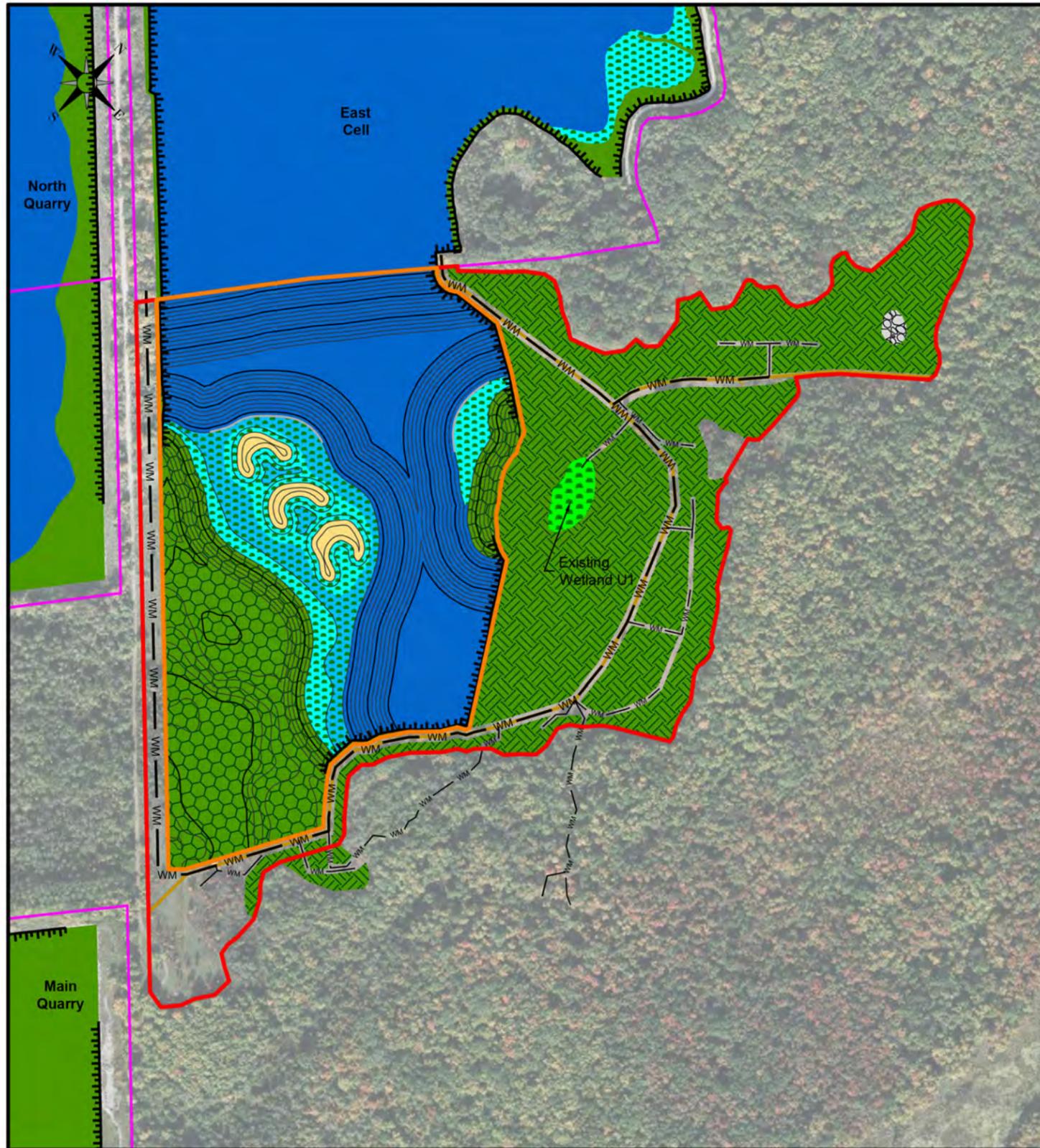


Figure 5
Rehabilitation Plan

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

Legend

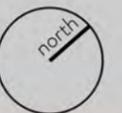
-  Proposed Milton Quarry East Extension - Licence Boundary
-  Proposed Milton Quarry East Extension - Limit of Extraction
-  Main Watermain / Service Access
-  Feeder Line
-  Rocky Shoal
-  Shallow / Deep Wetland
-  Deep Lake
-  Islands
-  Forested Area: Within Extraction Limit
-  Forested Area: Outside Extraction Limit
-  Snake Hibernaculum
-  Cliff Face

DATE: November 2021

SCALE: 1:5,000

FILE: 9061DO

DRAWN: CC



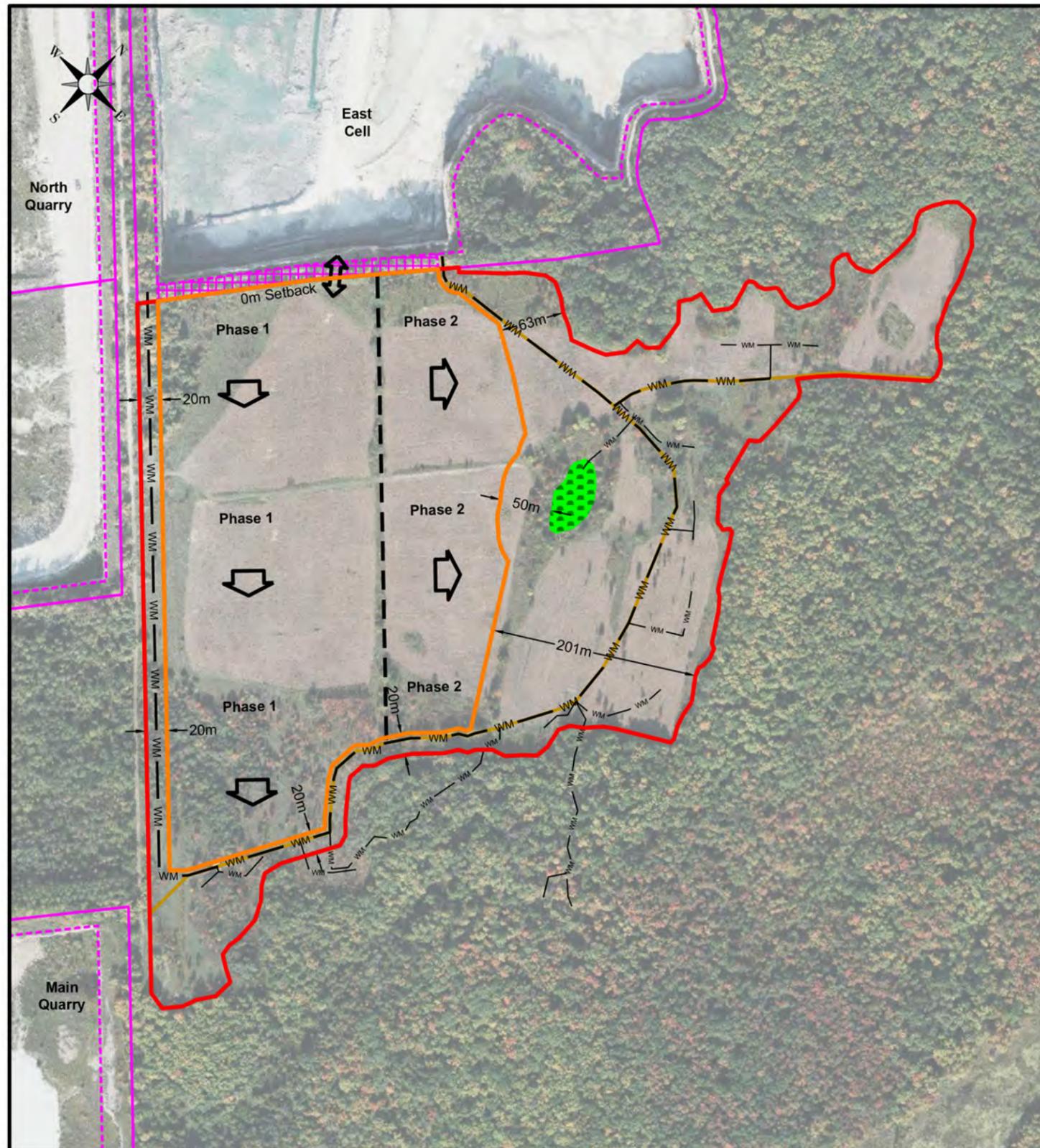


Figure 6
Operations Plan

Dufferin Aggregates - Milton Quarry East Extension

Town of Halton Hills
Halton Region

Legend

- Proposed Milton Quarry East Extension - Licence Boundary
- Proposed Milton Quarry East Extension - Limit of Extraction
- Existing Licence Boundaries
- Existing Limits of Extraction
- East Cell Setback Removal
- Main Watermain / Service Access
- Feeder Line
- Site Entrance
- Phase Direction
- Phase Boundary
- Existing Wetland U1

DATE: November 2021
SCALE: 1:4,000
FILE: 9061DO
DRAWN: CC



8.0 Future Rehabilitation

After extraction activities of the proposed extensions have ended, a rehabilitation strategy will be implemented in order to restore and enhance the subject landscapes. As shown in **Figure 5**, multiple landscape ecologies will be created enhance the naturalized landscape character of the site, while providing opportunities for recreation and the creation of natural habitats for a variety of species.

The overall goal of the proposed rehabilitation will be to enhance the natural character of the subject lands and to create a visually appealing, ecologically functional, and vibrant landscape.

9.0 Conclusions

It is our professional opinion that visual mitigation measures will not be required as part of this proposal. Based on our assessment, any potential fleeting views are effectively mitigated as a result of significant distances, varying topographies, and existing vegetation. Furthermore, the fleeting views of the proposed quarry extension are fronted by views of the existing quarry and ancillary quarry operations.

Through the enhancement and strengthening of the open landscape character of the proposed extension lands, the rehabilitation strategy (**See Figure 6**) will create a visually appealing landscape that is proposed for public leisure and recreation. Consequently, the introduction of the proposed quarry extension will not result in visual impacts to the open landscape character, scenic resources for surrounding public lands. In the long term, public access and the rehabilitated site would enhance the open landscape character of the area.

Please feel free to contact the undersigned with any questions regarding this report.

Respectfully submitted,

MHBC Planning, Urban Design & Landscape Architecture

Report Prepared by:



Nick A. Miele, BLA, OALA, CSLA, ISA
Partner

APPENDIX **A**

2019 NEC Visual Impact Assessment Technical Criteria - Definitions

Compatible: Where the building, structure, activity or use blends, conforms or is harmonious with the Escarpment environment.

Escarpment environment: The physical and natural heritage features, cultural heritage resources, and scenic resources associated with the Escarpment landscape.

Height: With respect to a building, means the greatest vertical distance between the point of lowest finished grade adjoining any exterior wall of a building and the highest point of the roof. With respect to a structure, means the greatest vertical distance between the point of lowest finished grade and the highest point or points of the structure.

Natural scenery: The existing scenery of the Escarpment environment associated with the continuous natural environment.

Negative impact:

a) in regard to water, degradation to the quality or quantity of surface water or groundwater, key hydrologic features and their related hydrologic functions, due to single, multiple or successive development;

b) in regard to key and other natural heritage features, degradation that threatens the health and integrity of the natural features or ecological functions for which an area is identified due to single, multiple or successive development;

c) in regard to fish habitat, any permanent alteration to or destruction of fish habitat, except where, in conjunction with the appropriate authorities, it has been authorized under the Fisheries Act;

d) in regard to scenic resources, a degradation to the natural scenery and scenic quality due to single, multiple or successive development; and

e) in regard to cultural heritage resources, degradation or destruction of built heritage resources, cultural heritage landscapes, archaeological resources, including a visual impact, when heritage attributes include the visual setting of a cultural heritage resource and other features of significant cultural heritage value or interest, including heritage and archaeological sites of critical importance to Aboriginal peoples. Open landscape character: The system of rural features, both natural and human made, that makes up the rural environment, including forests, slopes, streams, valleylands, hedgerows, agricultural fields, agricultural buildings and other features of similar character and scale.

Open landscape character: The system of rural features, both natural and human-made, that makes up the rural environment, including forests, slopes, streams, valleylands, hedgerows, agricultural fields, agricultural buildings and other features of similar character and scale.

Scenic quality: A reference to the scenic rankings derived from the Niagara Escarpment Plan: A Landscape Evaluation Study and updates to the study. There are six rankings: Outstanding, Very Attractive, Attractive, Average, Low and Very Low.

Scenic resource: The general appearance of a place or landscape, or the features of a landscape, taking into consideration the visual condition and scenic quality, which vary by location and are dependent on features such as geology, vegetation, landforms, and human developments. The heritage attributes of protected heritage properties may also include or be, in themselves, scenic resources.

Skylining: Extending above the horizon line of the Escarpment brow, slope or other prominent landform and, where applicable, associated vegetation.

Visual impact: A change to the existing cultural and natural landscape from viewing points, usually associated with proposed development.

Visual impact assessment: A study in accordance with the NEC Visual Assessment Guidelines. (Note: in this case the words Technical Criteria have the same meaning as Guideline)

Other Terms Utilized in Visual Impact Assessment Studies

Digital Visibility Analysis: A means for determining the area of visibility of an object from specific locations using Geographic Information Systems (GIS).

Geographic Information Systems (GIS): A computer-based tool that analyzes, stores, manipulates and visualizes geographic information, usually in a map.

Viewshed: The total surface area visible from an observer's viewpoint.

Viewpoint: A strategic viewing position from which a viewshed is identified.

Foreground: The immediate area in front of the viewer (observer) where landscape details can easily be discerned. This area extends out approximately 2km from the viewpoint.

Background: The distant landscape where patterns rather than details or features are seen. These distant areas lie beyond the foreground. Structures that skyline above the

Dufferin Aggregates Milton Quarry East Extension

horizon line of the Escarpment landscape can be discerned as a distinct feature where they break the pattern of the landscape.

Visual Shadow: Lands or structures hidden by physical conditions such as topography, or vegetation from a viewpoint.

Global Positioning System (GPS): A system of radio-emitting and receiving satellites used for determining positions on the earth. The orbiting satellites transmit signals that allow a GPS receiver anywhere on earth to calculate its own location through trilateration.

Coordinates: A set of values represented by the letters x, y, and optionally z or m (measure), that define a position within a spatial reference. Coordinates are used to represent locations in space relative to other locations.

Digital Elevation Model (DEM): The representation of continuous elevation values over a topographic surface by a regular array of z-values, referenced to a common vertical datum. DEMs are typically used to represent the bare-earth terrain, void of vegetation and human made features.

OLS: An Ontario Land Surveyor as licenced under the Ontario Surveyors Act, R.S.O.

APPENDIX **B**



CURRICULUMVITAE

Nick A. Miele, BLA, OALA, MALA, AALA, SALA, CSLA, ISA

EDUCATION

1997
Bachelor of Landscape
Architecture, University of
Toronto

Nick Miele, a Partner with MHBC, joined the firm in 2004. Mr. Miele has been responsible for designing and managing a broad range of project work locally and internationally for both public and private sector clients.

Mr. Miele's project experience ranges from large scale residential and commercial developments, community and urban design, institutional landscapes, recreational facilities, parks, public open spaces, environmental design and restorations.

Mr. Miele is an accredited Landscape Architect and is a full member in good standing with the Ontario Association of Landscape Architects, Manitoba Association of Landscape Architects, Alberta Association of Landscape Architects, Saskatchewan Association of Landscape Architects and Canadian Society of Landscape Architects as well as being an ISA Certified Arborist.

Highlights of Mr. Miele's career include being a member on an award winning team for environmental design in stormwater management (CSLA), and being a Lead Designer on a short listed team for designs for the 2008 summer olympic games in Beijing, People's Republic of China. At the OALA's 50th Anniversary AGM and Conference, Mr. Miele was awarded the David Erb Memorial Award, a high honour recognizing an OALA member who through their volunteer efforts has made an exceptional contribution towards advancing the profession of Landscape Architecture.

Mr. Miele is involved in overseeing all aspects of project development and management from planning and design through to implementation, construction contract administration, and project close-out.

PROFESSIONAL ASSOCIATIONS

Full Member, Ontario Association of Landscape Architects (OALA)
Full Member, Manitoba Association of Landscape Architects (MALA)
Full Member, Alberta Association of Landscape Architects (AALA)
Full Member, Saskatchewan Association of Landscape Architects (SALA)
Full Member, Canadian Society of Landscape Architects (CSLA)
Certified Arborist, International Society of Arboriculture (ISA)

PROFESSIONAL DEVELOPMENT

Examining Board Member (Current Chairperson), OALA, 2005 - present
Professional Advisor, OALA, 2001 - present
LARE (Landscape Architect Registration Examination), Advisor, 2001-present. Teaching Assistant, University of Toronto, School of Architecture and Landscape Architecture, 1997.

CONTACT

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nmiele@mhbcplan.com
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CURRICULUMVITAE

Nick A. Miele, BLA, OALA, MALA, AALA, SALA,
 CSLA, ISA **PROFESSIONAL HISTORY**

2009 - Present **Partner**, MHBC Planning, Urban Design & Landscape
 Architecture

2004 - 2009 **Senior Landscape Architect and Associate**,
 MHBC Planning, Urban Design & Landscape
 Architecture

2003 - 2004

Principal, MEP Design Inc.

1999 - 2003

Senior Landscape Architect, Terraplan Landscape
 Architects Inc.

1997 - 1999

Intermediate Landscape Architect, Terraplan
 Landscape Architects Inc.

PROFESSIONAL EXPERIENCE

Selected Parks and Open Space Projects

- Riverwood Park – Kitchener
- Oakdale Park, Bridge and Creek Restoration – Oakville
- Morrison Creek Bridge, Stairs and Trail Restoration – Oakville
- Rainbow Creek Park: Bridges and Trail Revitalization - Vaughan
- Dufferin Hill Woodland Trail – Vaughan
- Woodbridge Memorial Park - Vaughan
- Milton Quarry Trail Head Master Plan – Milton
- Agostino Park – Vaughan
- Alexander Park – Vaughan
- Snowbirds Park – Oshawa
- Lakeview Neighbourhood Park – Oshawa

Selected Stormwater Management and Ecological Restoration Projects

- Waterside Marsh Restoration - Vaughan
- Vellore Woods Stormwater Management Facility – Vaughan
- Stormwater Corridor / Habitat Restoration – Georgetown
- Humber River, Pond Diversion and Fish Habitat Restoration
 Caledon
- Naturalized Corridor for Jefferson Salamander– Oak Ridges
- Various storm water management facilities in the GTA, Collingwood,
 Stayner, Cobourg and Southern Ontario
- Various Private Naturalization / Restoration Plans in Toronto,
 Vaughan, and Caledon

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CURRICULUMVITAE

Nick A. Miele, BLA, OALA, MALA, AALA, SALA,
 CSLA, ISA

Selected Residential Projects

- Riverwood Community – Kitchener
- South Unionville Square – Mixed Use / Condominiums - Markham
- Amica Retirement Community - Oakville
- Vellore Woods Community Masterplan – Vaughan
- Dufferin Hill Community Masterplan – Vaughan
- Trafalgar Hills – Georgetown
- Lakeview Park Community – Oshawa
- Edgeley Village – Toronto

Selected Commercial & Institutional Projects

- Various Home Depot stores across Ontario
- Various Shoppers Drug Mart stores across Ontario
- Bradford Shopping Centre – Bradford
- Alcona Shopping Centre – Innisfil
- Allandale Veterinary Clinic - Barrie
- Colossus Centre, Streetscape Concepts - Vaughan
- Pickering College School, Expansion and Playground Relocation - Newmarket
- Metro Toronto Zoo, Children's Wet Play Area Conceptual Design - Toronto
- Nanjing Youth Sciences Centre - Nanjing, People's Republic of China
- Various Commercial Plazas throughout Ontario, Quebec, and Manitoba
- Various Supermarkets in Toronto, Vaughan, Markham, Newmarket

Selected Transit Projects

- Rouge Hill GO Station Parking Lot Expansion - Toronto
- Metrolinx Bronte Station Parking Lot Expansion - Oakville

Selected Visual Impact Assessments

- Dufferin Milton Quarry, VIA and Screening – Milton
- Rogers / Bell Telecommunications Tower VIA – Halton Hills
- Dufferin Acton Quarry, VIA and Screening – Acton
- Bell Telecommunications Tower VIA – Milton
- Olympia Gravel Pit VIA – Caledon
- Bell Telecommunications Tower VIA – Burlington

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& L A N D S C A P E
A R C H I T E C T U R E