



**2023**

# State of Aggregate Resources

# Contents

<b>Overview</b> .....	<b>1</b>
<b>A. Active, New, Suspended, Revoked and Surrendered Licences</b> .....	<b>1</b>
<b>B. Overview of Active Extractive Operations in Halton</b> .....	<b>6</b>
B1. Areas under Extraction .....	6
B2. Aggregate Production in Halton Region and Local Municipalities .....	6
B3. Aggregate Production in Upper/Single-Tier Municipalities .....	7
B4. Aggregate Production in Lower-Tier Municipalities .....	8
B5. Disturbed and Rehabilitated Areas at the ARA Sites in Halton Region .....	9
<b>C. History of Complaints on Extractive Operations and Transportation of Aggregate Products</b> .....	<b>13</b>
C1. Summary of 2021 and 2022 Complaints/Notifications .....	13
C2. Burlington Quarry – The Majority (ARA 5499) .....	13
C3. Public Roads near Milton Quarry (ARA 5481) .....	16
C4. Hilltop Quarry (ARA 5720) .....	17
<b>D. History of Violations of Site Plan or Conditions of Licence under the <i>Aggregate Resources Act</i></b> .....	<b>18</b>
<b>E. Status of the Implementation of Approved Rehabilitation Plans</b> .....	<b>19</b>
E1. Rehabilitation at Licensed Sites .....	19
E2. Former/Abandoned Aggregate Sites .....	20
<b>F. Status of the Operation and Implementation of Approved Adaptive Management Plans</b> .....	<b>25</b>
F1. Dufferin Aggregates Milton Quarry AMP .....	25
F2. Meridian Brick Tansley Quarry AMP .....	26
F3. Dufferin Aggregates Acton Extension Quarry AMP .....	29

<b>G. Assessment of the Cumulative Impact of Extraction Operations on both the Greenbelt and Regional Natural Heritage System.....</b>	<b>32</b>
G1. Policy Context .....	32
G2. Rehabilitation Status of Sites Adjacent to/Intersecting the Regional Natural Heritage System .....	36
G3. Rehabilitation Status of Sites Adjacent to/Intersecting the Greenbelt Natural Heritage System .....	36
G4. Rehabilitation Status at Former and Abandoned Aggregate Sites Within/Adjacent to the NHS Areas in Halton .....	38
<b>H. Number and Status of Active and Potential Applications for Mineral Resource Extraction Areas.....</b>	<b>42</b>
H1. Reid Road Reservoir Quarry (Town of Milton), James Dick Construction Limited ..	42
H2. Burlington Quarry Expansion (Town of Burlington), Nelson Aggregates Co. ....	43
H3. Milton Quarry East Expansion; Dufferin Aggregates, a Division of CRH Canada Group Inc. ....	45
H4. Proposed Norval Quarry; Brampton Brick Ltd. ....	48
H5. Proposed Hilltop Quarry/ Brockton Quarry Expansion; Hilltop Stone and Supply/ Brockton Farms .....	48
H6. Aldershot Quarry – Air Quality Management Plan Circulation.....	49

## List of Maps

Map 1: Location of Aggregate Sites in Halton Region .....	2
Map 2: Former and Abandoned Pits and Quarries in Halton Region.....	24
Map 3: <i>ARA</i> Sites Located in the Greenbelt and Regional Natural Heritage System .....	37

## List of Figures

Figure 1: Aggregate Production by Local Municipalities in Halton Region: 2018-2022.....	6
Figure 2: Top Aggregate Producers in Ontario by Upper and Single-Tier Municipalities (2018-2022) .....	8
Figure 3: Top Aggregate Producers in Ontario by Lower (and Single-Tier) Municipalities (2018-2022) .....	9

Figure 4: Total Permitted, Disturbed and Rehabilitated Areas for the *ARA* Sites in Halton Region (2018-2022) in hectares ..... 10

**List of Tables**

Table 1: Licensed Sites and Aggregate Applications/Approvals in and Bordering Halton Region. .... 3

Table 2: Licensed Aggregate Sites in Halton Region with Active Extraction..... 5

Table 3: Aggregate Production in Halton Region and Local Municipalities in Metric Tonnes (2021-2022) ..... 6

Table 4: Licensed, Permitted, Disturbed and Rehabilitated Areas at the *ARA* Sites in Halton Region (2022)..... 11

Table 5: Status of Former/abandoned Aggregate Extraction Sites by District in Halton Region ..... 22

**Appendix**

Appendix 1: Definitions ..... 50

Appendix 2: Summary and Status of the *ARA* Licences in the Region of Halton (2021-2022) 58

Appendix 3: Status of Implementation of Approved Rehabilitation Plans *ARA* Sites in Halton Region (2021-2022)..... 65

# State of Aggregate Resources in Halton Region

## Overview

Policy 110 (12) of the Halton Region Official Plan (ROP) requires a State of Aggregate Resources Report to be prepared on a biennial basis. This report prepared for the 2021 and 2022 reporting period provides information on the following:

- A. Number of active, new, suspended, revoked and surrendered licences;
- B. An overview of active extractive operations in Halton;
- C. History of complaints on the extractive operations and transportation of aggregate products;
- D. History of violations of Site Plan or conditions of licence under the *Aggregate Resources Act*;
- E. Status of the implementation of approved rehabilitation plans;
- F. Status of the operation and implementation of approved adaptive management plans;
- G. An assessment of the cumulative impact of extraction operations on both the Greenbelt and Regional Natural Heritage System; and
- H. Number and status of active and potential applications for Mineral Resource Extraction Areas.

A glossary of key terms used in this report can be found in the list of definitions provided in Appendix 1 of this report.

## A. Active, New, Suspended, Revoked and Surrendered Licences

In the Province of Ontario, all aggregate licences are issued by the Ministry of Natural Resources and Forestry (MNRF), formerly part of Ministry of Northern Development, Mines, Natural Resources and Forestry (MNDMNR), under the *Aggregate Resources Act* (the *ARA*). In Halton Region, licensed quarries (rock extraction) and licensed pits (clay, sand and gravel extraction) are located in Halton Hills, Milton, and Burlington. There are no licensed quarries or pits in Oakville. There are currently 20 *ARA* licensed sites in the Region. The locations of the *ARA* sites and the *ARA* applications are shown on Map 1, and the site locations and ownership are identified in Table 1. The *ARA* licences and the operational status of each site are described in Appendix 2.

As noted in Table 2, there were ten licensed sites with approved resource available for extraction during this 2021 and 2022 reporting period. Four sites, where aggregate resources had been depleted, carried rehabilitation activities only, and six sites were reported to be inactive during this 2021-2022 reporting period. Two of the sites reported inactive have available approved shale resources for extraction.

Map 1: Location of Aggregate Sites in Halton Region

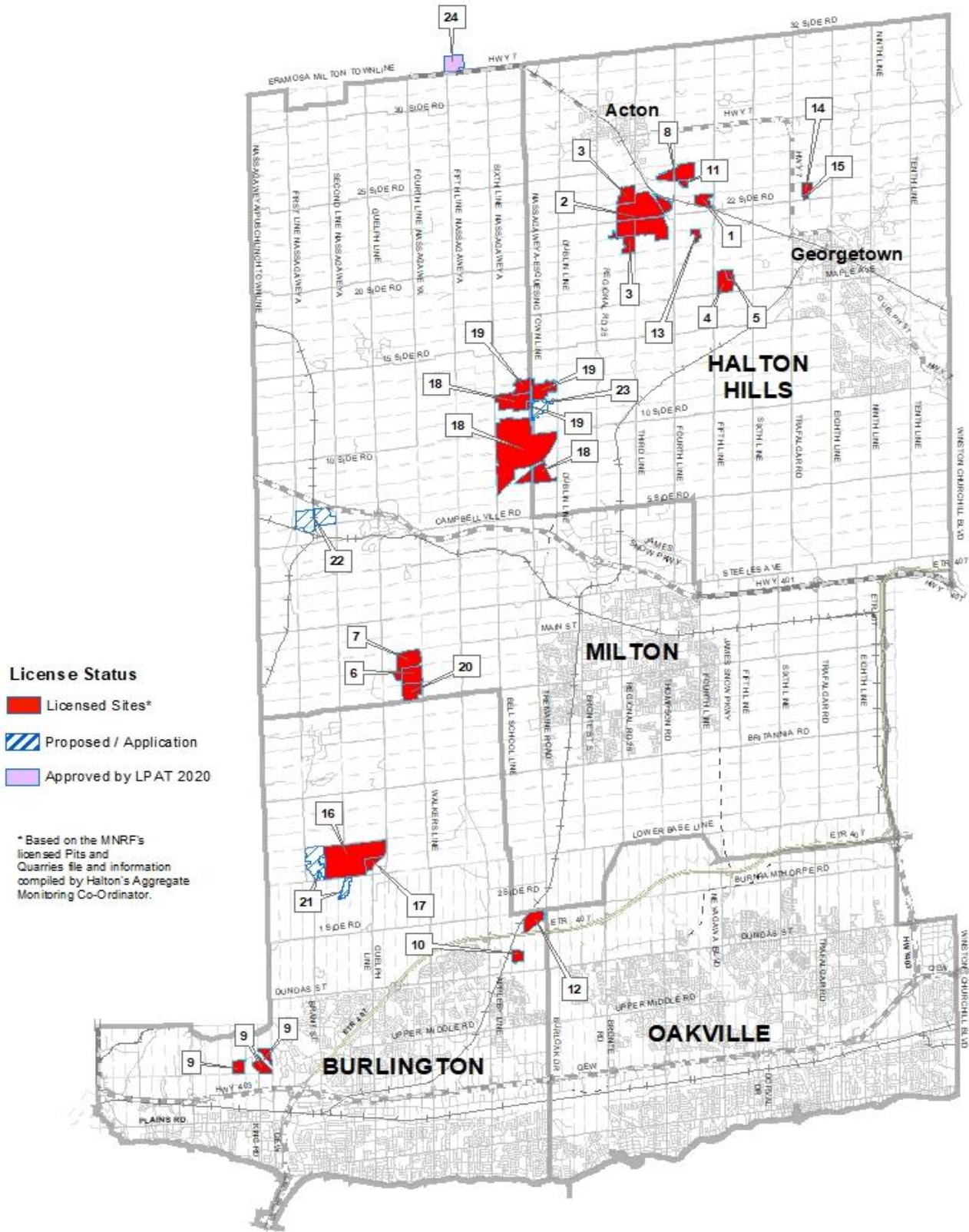


Table 1: Licensed Sites and Aggregate Applications/Approvals in and Bordering Halton Region.					
Map ID*	ARA Licence #	Site Name	Current Owner (Application)	Location Lot/Concession	Town (Former Township)
1	5480	Acton Limehouse Pit	Fountain Green South Inc. since May 31, 2018; formerly St Mary's Cement.	Lot 23, Con. (Concession) 5	Halton Hills (Esquesing)
2	5492	Acton Quarry - Phases: 1, 2, 3	Dufferin Aggregates, a Division of CRH Canada Group Inc.	Part of Lots 22 and 23; Con. 3; and Part of Lots 21 and 24, Con. 4	Halton Hills (Esquesing)
3	625003	Acton Extension Quarry - Phases: 4, 5E, 5/6W	Dufferin Aggregates, a Division of CRH Canada Group Inc.	Part of Lots 21, 22 and 24, Con.3; and Part of Lots 21 and 22, Con. 4	Halton Hills
4	20660	Brockton Farms Quarry	Brockton Farms	Lot 18 and Part Lot 19; Con. 6	Halton Hills
5	5720	Hilltop Quarry	Hilltop Stone and Supply Inc.	Part East and West half Lot 18, Part West half Lot 19, Conc. 6	Halton Hills (Esquesing)
*6	5507	Hayward Pit	Springbank Sand and Gravel Ltd.	Northeast half of Lot 12, Con. 4	Milton (Nelson)
*7	5619	Leaver Pit	Springbank Sand and Gravel Ltd.	Part of Lots 12 and 13, Con. 4	Milton (Nelson)
8	5616	Bot Holdings Pit	Bot Holdings Ltd. since November 2017; formerly Bot Duff Resources Ltd.)	Parts of east half and west half of Lot 25, Con. 4 and 5	Halton Hills (Esquesing)
9	5500	Aldershot Quarries	Meridian Brick Canada Ltd.	Part of Lots 2 and 3; Con. 1 and Part of Lots 1, 2, 3; Con. 2	Burlington (E. Flamborough)
10	5605	Burlington Pit/Quarry	Meridian Brick Canada Ltd.	Lot 3, Conc. 1 North Dundas Street (NDS)	Burlington (Nelson)
11	5546**	Wilroy Brooks Pit	Fountain Green North Inc.	Part of Lot 24, Con. 5	Halton Hills (Esquesing)
12	613081	Tansley Quarry	Meridian Brick Canada Ltd.	Part of Lots 1 and 2, Conc. 1, NDS	Burlington
13	5716	Rice and McHarg Quarry	Rice and McHarg Quarries Ltd.	Part of east half and Part of west half of Lot 21, Con. 5	Halton Hills (Esquesing)
14	5614***	Limehouse Clay Products – north	***Limehouse Clay Products Ltd.	Part of Lot 23, Con. 8	Halton Hills (Esquesing)
15	5711***	Limehouse Clay Products – south	***Limehouse Clay Products Ltd.	Part of west half of Lot 23, Con.8	Halton Hills (Esquesing)
16	5499	Burlington Quarry- The Majority	Nelson Aggregates Co.	Lot 2, Con 3; west half of Lot 1, Con. 3; and east half of Lots 1 and 2, Con. 2	Burlington (Nelson)

17	5657	Burlington Quarry- The Minority	Nelson Aggregates Co.	Part east half of Lot 1, Con. 3 (N.S.)	Burlington (Nelson)
18	5481	Milton Quarry - Main and North	Dufferin Aggregates, a Division of CRH Canada Group Inc.	Part of Lots 7-13, Con. 7 (Milton) and Part of Lots 8-10, Con. 1 (Halton Hills)	Milton (Nassagaweya) and Halton Hills (Esquesing)
19	608621	Milton Quarry Extension: Phases 1, 2, 3	Dufferin Aggregates, a Division of CRH Canada Group Inc.	Part of Lots 13-14; Con. 1 (Halton Hills) and Part of Lots 12-14; Con. 7 (Milton)	Halton Hills and Milton
20	5484	Milton Pit	368574 and 579813 Ontario Inc.	Northeast half of Lot 11, Con. 4	Milton (Nelson)
<b>Active Aggregate Application/Proposal in Halton Region (2021-2022)</b>					
21*	-	Burlington Quarry Expansion Application	Nelson Aggregates Co.	Part Lot 1 and 2, Concession 2 and Part Lot 17 and 18, Concession 2, NDS	Burlington
22*	-	Reid Road Reservoir Quarry Application	James Dick Construction Limited (JDCL)	Part of Lots 6 and 7, Con. 2	Milton
23*	-	Milton Quarry East Expansion Proposal	Dufferin Aggregates, a division of CRH Canada Group Inc.	Part of Lots 11 and 12, Con. 1	Halton Hills
<b>Approved by LPAT in 2020 (adjacent to Halton Region)</b>					
24*	-	Hidden Quarry	James Dick Construction Ltd.	Part of Lot 6, Con. 1	Township of Guelph/Eramosa
Notes: *Site numbering changed relative to LPS67-21 due to two licence surrenders in 2020. **ARA5546 - licensed area was reduced by 72.18 hectares (i.e. to 7 ha) in 2020. ***ARA 5614 and ARA 5711 licences were transferred to Zamparo Industries Inc. as of April 26, 2023.					



Table 2: Licensed Aggregate Sites in Halton Region with Active Extraction			
Area	Operation/Site Name (ARA Licence No.)	Current Owner/Operator	*Tonnes/ year (max)
Town of Halton Hills	<sup>1</sup> Acton Quarry (5492) <sup>***</sup>	Dufferin Aggregates/CRH	4,000,000 <sup>***</sup>
	<sup>1</sup> Acton Extension Quarry (625003) <sup>***</sup>	Dufferin Aggregates/CRH	4,000,000 <sup>***</sup>
	<sup>2</sup> Brockton Farms Quarry (20660)	Brockton Farms	20,000
	<sup>2</sup> Hilltop Quarry (5720)	Hilltop Stone and Supply Inc.	20,000
	<sup>2</sup> Rice and McHarg Quarry (5716)	Rice and McHarg Quarries	20,000
Town of Milton	<sup>1</sup> Milton Quarry – Main and North (5481)	Dufferin Aggregates, a Division of CRH Canada Group Inc.	Unlimited
	<sup>1</sup> Milton Quarry Extension (608621)		Unlimited
City of Burlington	<sup>3</sup> Aldershot Quarry (5500)	Meridian Brick Canada Ltd.	Unlimited
	<sup>3</sup> Tansley Quarry (613081)	Meridian Brick Canada Ltd.	300,000 <sup>**</sup>
	<sup>1</sup> Burlington Quarry – The Majority (5499)	Nelson Aggregates Co.	Unlimited
Notes: <sup>1</sup> Dolostone Quarry, <sup>2</sup> Sandstone Quarry, <sup>3</sup> Shale Quarry. Information sources: ARA Licences, ARA Site Plans, and Compliance Assessment Reports (CARs). *Max tonnes per year indicates extraction limit per year under the ARA licence. ** Maximum permitted extraction at Tansley Quarry is 150,000 tonnes/year until Tremaine Road is upgraded. *** Maximum permitted at Acton Quarry is 4,000,000 tonnes/year in total for the ARA 5492 and ARA 625003.			

#### **New ARA Licence:**

There were no new ARA licences issued in Halton Region during this 2021-2022 reporting period.

#### **ARA Licence Suspensions:**

There were no new suspensions of ARA licences in Halton Region during this 2021-2022 reporting period.

#### **ARA Licence Surrenders:**

There were no new surrenders of ARA licences in Halton Region during this 2021-2022 reporting period.

## B. Overview of Active Extractive Operations in Halton

Discussion on the active operations in Halton Region includes areas under extraction, the amount of aggregate produced, as well as extraction trends in the Region, Local Municipalities in Halton and other jurisdictions in Ontario.

### B1. Areas under Extraction

As of 2022, the total licensed area within Halton Region was 1,490 hectares, of which the permitted extraction area totaled about 1,237 hectares (Table 4). The total licensed and permitted extraction areas were about 110 hectares and 42 hectares lower relative to the previously reported due to two licence surrenders (former the *ARAs* 5478 and 5479) and one licence area reduction (*ARA* 5546) in 2020. Based on the 2021-2022 *CARs*, approved resources had been depleted or nearly depleted at 10 of the 20 existing (as of December 2022) licensed the *ARA* sites in Halton Region (Table 4 and Appendix 2). Rehabilitation was ongoing at four of the depleted the *ARA* sites (*ARA* 5507, *ARA* 5619, *ARA* 5616, and *ARA* 5546). No activities were reported at four of the depleted the *ARA* sites. (*ARA* 5480, *ARA* 5605, *ARA* 5657, and *ARA* 5484). Two of the sites reported inactive in 2021-2022 have available approved shale resources for extraction (*ARA* 5614 and *ARA* 5711).

### B2. Aggregate Production in Halton Region and Local Municipalities

Annual extraction volumes for the Province and upper- and lower-tier municipalities are provided in the Mineral Aggregates of Ontario Statistical Update reports prepared by The Ontario Aggregate Resources Corporation (TOARC). Table 3 displays production tonnage statistics for the 2021 and 2022 period for Halton Region and Local Municipalities.

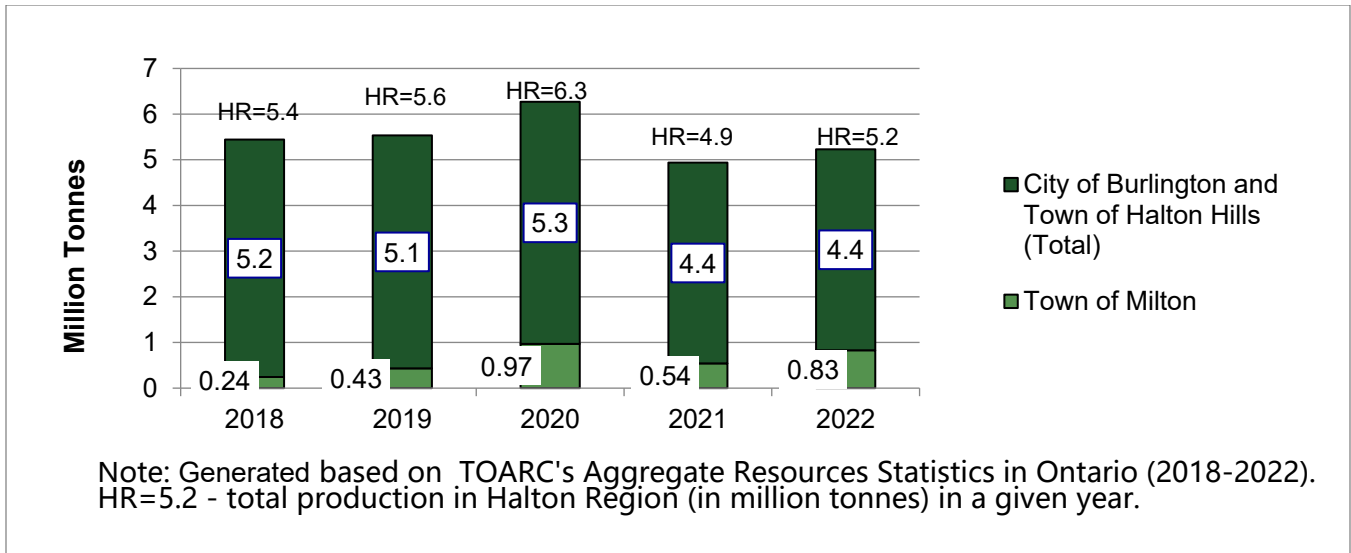
**Table 3: Aggregate Production in Halton Region and Local Municipalities in Metric Tonnes (2021-2022)**

Municipality	2021	2022
Town of Halton Hills and City of Burlington (total)	4,368,314	4,396,633
Town of Milton	544,983	829,825
Halton Region	4,913,297	5,226,458

Up to 2015, most of the production occurred in the Town of Milton. Since 2016, the Town of Halton Hills and the City of Burlington (reported together) have had higher total production in Halton Region. The change occurred due to shift in extraction activities at the Milton Extension Quarry intercepting a local municipal boundary.

Figure 1 displays aggregate production by Local Municipalities in Halton Region for the 2018-2022 period.

**Figure 1: Aggregate Production by Local Municipalities in Halton Region: 2018-2022**



### B3. Aggregate Production in Upper/Single-Tier Municipalities

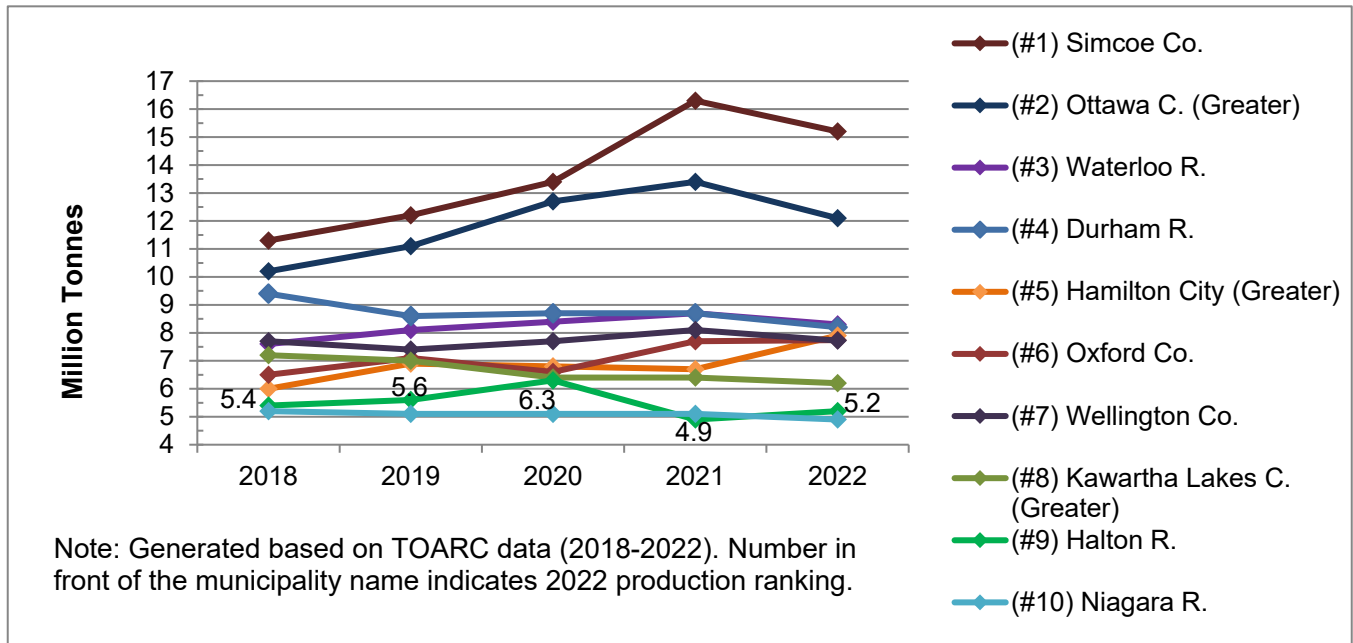
Halton Region has consistently been among the highest producers in Ontario since annual production data became available in 1990. Halton Region was the tenth highest aggregate producing municipality in Ontario in 2021 and ninth in 2022. The ten top municipalities produced about 48.5 percent (83.5 million tonnes) of total aggregate produced in Ontario in 2021 (172 million tonnes).

The top ten upper-and-single tier producing municipalities in 2022 were as follows (production rounded to nearest million tonnes):

- Simcoe County (15.2 million tonnes),
- City of Ottawa - Greater (12.1 million tonnes),
- Waterloo Region (8.3 million tonnes),
- Durham Region (8.2 million tonnes),
- Hamilton (7.9 million tonnes),
- Oxford County (7.74 million tonnes),
- Wellington County (7.72 million tonnes),
- City of Kawartha Lakes (6.2 million tonnes),
- Halton Region (5.2 million tonnes), and
- *Niagara* Region (4.9 million tonnes).

Figure 2 displays the production trend for top upper- and single-tier municipalities for the 2018-2022 period.

**Figure 2: Top Aggregate Producers in Ontario by Upper and Single-Tier Municipalities (2018-2022)**

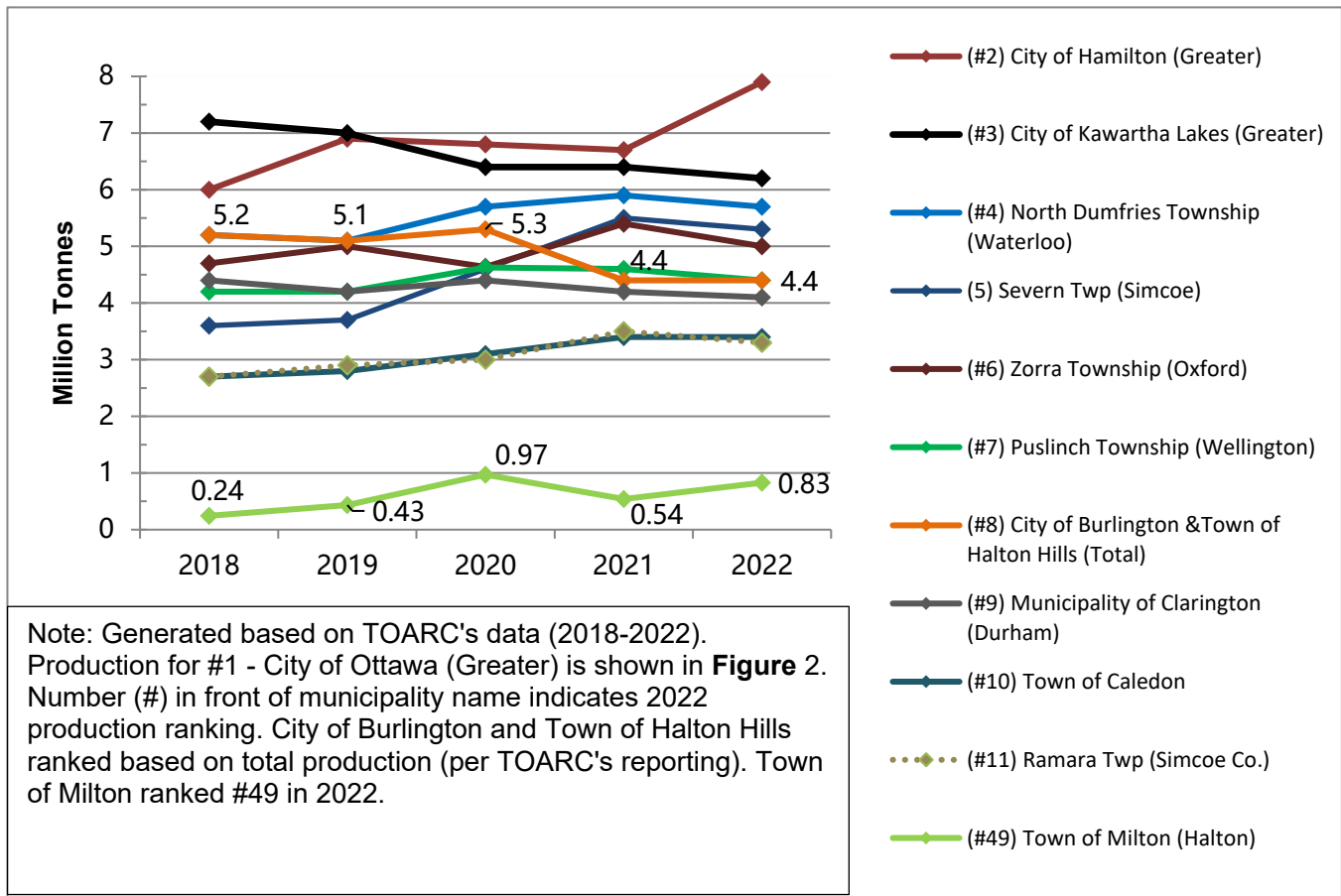


#### B4. Aggregate Production in Lower-Tier Municipalities

Among the lower-tier municipalities, the City of Burlington and the Town of Halton Hills were ranked by TOARC within the highest producers in the Province since 2016. Based on the total (amalgamated) extraction tonnage (TOARC does not separate tonnage for these municipalities in Halton), they ranked #6 in 2016, #7 in 2017, #4 in 2018, #5 in 2019-2020, #8 in 2021, and #8 in 2022.

The Town of Milton was among the highest producers in the Province between 1993 (when production data became first available) and 2015 (ranked #6 that year). It was ranked #29 in 2016, #41 in 2017, #104 in 2018, #64 in 2019, #43 in 2020, #66 in 2021, and #49 in 2022. The change in ranking for Local Municipalities in Halton Region was due to shift in extraction activities at the Milton Extension Quarry intercepting a local municipal boundary (i.e. from Milton to Halton Hills) since 2016. Figure 3 displays the production trend for top lower- and single-tier municipalities for the 2018-2022 period.

**Figure 3: Top Aggregate Producers in Ontario by Lower (and Single-Tier) Municipalities (2018-2022)**



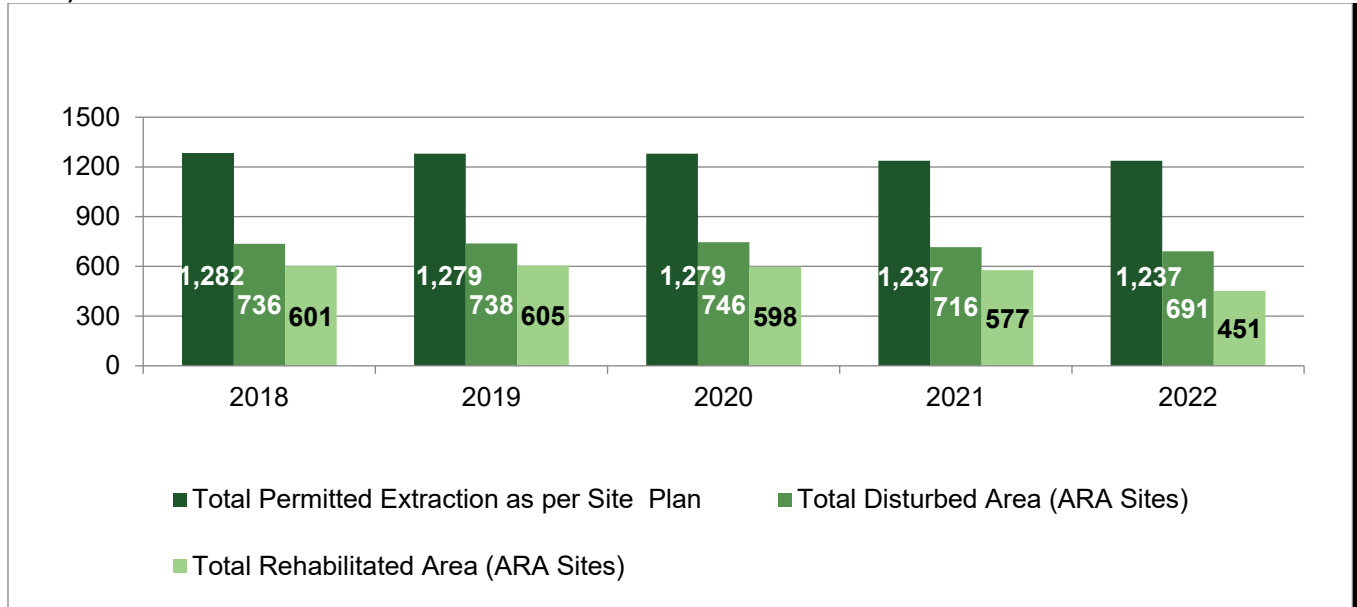
### B5. Disturbed and Rehabilitated Areas at the ARA Sites in Halton Region

The available Compliance Assessment Reports (CARs) submitted by aggregate operators to MNRF (with copies to municipalities) annually, provide a checklist of compliance with the ARA Site Plans, including reporting on disturbed and rehabilitated areas. Based on the recent CARs, total disturbed areas at the ARA sites in Halton Region were 716.05 hectares (2021) and 691.04 hectares (2022), and total rehabilitated areas were 576.75 hectares (2021) and 451.07 hectares (2022). The decline in total rehabilitation area over this reporting period is largely attributed to surrender of two licences (Campbellville Pits) in 2020 and reductions reported for Burlington Quarry in 2022. The total sums of disturbed and rehabilitated areas (1,292.8 hectares in 2021 and 1,142.1 hectares in 2022) are at times higher than the total area permitted for extraction (1,237 hectares for both years) and this is in part due to different methodologies in reporting by operators.

As of 2021-2022, three the ARA sites in Halton were over 100 hectares in size: Acton Quarry (ARA 5492), Milton Main and North Quarry (ARA 5481), and Nelson Burlington Quarry (ARA 5499). The approximate total disturbed and rehabilitated areas at these three sites were 429.9 hectares and 395.2 ha, respectively, in 2021, and 421 hectares and 269.7 ha, in 2022. The

decline in total rehabilitation area for largest sites is largely attributed to reductions reported for Burlington Quarry in 2022. For further information, refer to Table 4. Figure 4 shows total areas in Halton Region since 2018. Table 4 identifies licensed, permitted for extraction and rehabilitation areas at the ARA sites in Halton Region as of 2022.

**Figure 4: Total Permitted, Disturbed and Rehabilitated Areas for the ARA Sites in Halton Region (2018-2022) in hectares**



<b>Table 4: Licensed, Permitted, Disturbed and Rehabilitated Areas at the ARA Sites in Halton Region (2022)</b>				
<b>Site Name, Owner, ARA Licence Number</b>	<b>ARA Licensed Area<sup>1</sup> (ha)</b>	<b>Permitted Extraction<sup>2</sup> (ha)</b>	<b>Total Disturbed Area<sup>3</sup> (ha)</b>	<b>Total Rehabilitated Area<sup>3</sup> (ha)</b>
1. Acton Limehouse Pit; Fountain Green South Inc. (5480)*	26.3	22.6	6.9	6.75
2. Acton Quarry - Dufferin Aggregates, a Division of CRH Canada Group Inc. (5492)*	222.3	193.25	112.06	83.02
3. Acton Extension Quarry - Dufferin Aggregates, a Division of CRH Canada Group Inc. (625003)	65.6	49.3	8.05	0.25
4. Brockton Farms; Brockton Farms (20660)	36.8	25.7	1.4	1.3
5. Hilltop Quarry; Hilltop Stone and Supply Inc. (5720)	9.4	6.9	5.9	0.8
6**. Hayward Pit; Springbank Sand and Gravel Ltd. (5507)*	52.0	19.5	20.2	20.2
7**Leaver Pit; Springbank Sand and Gravel Ltd. (5619)*	54.3	52.6	52.6	52.6
8. Bot Holdings Pit; Bot Holdings Ltd. (5616)*	58.6	49.2	38.1	33
9. Aldershot Quarries; Meridian Brick Canada Ltd. (5500)	62.4	62.1	22.1	8
10. Burlington Pit/Quarry; Meridian Brick Canada Ltd. (5605)*	17.1	16	12.3	12.3
11. Wilroy-Brooks Pit; Fountain Green North Inc. (5546) <sup>4*</sup>	74	74	7	7
12. Tansley Quarry; Meridian Brick Canada Ltd. (613081)	37.8	28.9	17.2	8
13. Rice and McHarg Quarry; Rice and McHarg Quarries Ltd. (5716)	12.9	1.9	3.35	6.25
14. Limehouse Clay Products – north; Limehouse Clay Products Ltd. (5614)***	12.8	10.6	2.7	0.3
15. Limehouse Clay Products - south; Limehouse Clay Products Ltd. (5711)***	3.2	3.2	1.7	0.8
16. Burlington Quarry - The Majority; Nelson Aggregates Co. (5499)	202.5	193.8	102.82	9
17. Burlington Quarry - The Minority; Nelson Aggregates Co. (5657)*	16.2	16.2	16.2	0
18. Milton Quarry - Main and North; - Dufferin Aggregates, a Division of CRH Canada Group Inc.(5481)*	467.7	382	206.12	177.72
19. Milton Quarry-Expansion - Dufferin Aggregates, a Division of CRH Canada Group Inc. (608621)	84.5	70.6	49.36	21.28
20. Milton Pit; 368574 Ontario Ltd. and 5798813 Ontario Inc. (5484) [formerly The Warren Paving Group Ltd.]*	40.7	25.5	5	2.5
<b>Total Areas for the ARA Sites in Halton</b>	<b>1490.1</b>	<b>1236.85</b>	<b>691.06</b>	<b>451.07</b>
Notes: Site numbers reflect locations on Map 1. Notes: (Additional Notes on following page)				

Site Name, Owner, ARA Licence Number	ARA Licensed Area <sup>1</sup> (ha)	Permitted Extraction <sup>2</sup> (ha)	Total Disturbed Area <sup>3</sup> (ha)	Total Rehabilitated Area <sup>3</sup> (ha)
<p><sup>1</sup> Licensed Area is derived from the ARA licences.</p> <p><sup>2</sup> Permitted Extraction Area is derived from latest approved Site Plans; where permitted extraction area is not available, the licensed area is used as an equivalent.</p> <p><sup>3</sup> Total Disturbed Area and Total Rehabilitated Area - based on 2022 Compliance Assessment Reports, or prior CARs, where recent data was not available.</p> <p><sup>4</sup> Wilroy Brooks Pit - licence area reduced from 79.2 to 7 hectares in May 2020.</p> <p>*The ARA sites with resources depleted or near depletion.</p> <p>** Former #6 (ARA 5479) and #7 (ARA 5478) were surrendered in May and November 2020.</p> <p>***The ARA 5614 and the ARA 5711 licences were transferred to Zamparo Industries Inc. as of April 26, 2023.</p>				



## C. History of Complaints on Extractive Operations and Transportation of Aggregate Products

In accordance with a MNR-MOE Agreement (2008), the Ministry of Natural Resources (MNRF) is the first responder to public complaints on extractive operations and aggregate transportation. MNRF has an administrative role under the *ARA*, while the Ministry of Environment, Conservation and Parks (MECP) has roles under the *Environmental Protection Act (EPA)* and the *Ontario Water Resources Act (OWRA)*. The *Ministry of Transportation (MTO)* has delegated authority under the *ARA* to administer wayside permits and aggregate permits. The Niagara Escarpment Commission (NEC) has roles related to NEC's development permits, including inspection and compliance with conditions of the permits. Since August 2016, all third-party complaints must be reported directly to the applicable Provincial Ministry - MECP Spills Action Centre for water-related concerns, and MNRF for operational and other complaints.

Occasionally, the Region receives complaints on water quality and quantity from local residents living adjacent to aggregate operations. Water quality complaints are directed to Halton Region Health Department where follow-up is carried out by a Public Health Inspector. Issues are sometimes directed to MNRF/MECP if they require further investigation. When a complaint pertains to water quantity, Public Health refers the complaint to the MECP. Following an inspection, the Ministry provides feedback directly to the resident regarding the water quantity issue.

### C1. Summary of 2021 and 2022 Complaints/Notifications

During this reporting period, Halton Region was copied on communication from a local resident and a coalition group concerning an existing Burlington Quarry (*ARA* 5499). In early 2022, the Region received additional comments regarding Aldershot Quarry (*ARA* 5500). Some of the earlier concerns regarding this quarry were summarized in the [2021 State of Aggregate Report](#), received by Regional Council through Report No. LPS67-21 re: "State of Aggregate Resources in Halton Region."

Between November 2020 and March 2021, the Region was in communication with an operator of Milton Quarry (*ARA* 5481)/Milton Extension Quarry (*ARA* 608621) regarding aggregate debris and silt on public roads adjacent to the quarry.

The Region is not aware of any other quarry-related complaints received by other agencies or operators during this reporting period.

### C2. Burlington Quarry – The Majority (*ARA* 5499)

- On January 10, 2021, a Burlington resident raised a concern with local and Regional officials regarding quality of fill material brought onto the Burlington Quarry site for

rehabilitation purposes, noting that leaching of pollutants could affect groundwater and local aquifers. The resident also remarked on lack of specific regulations and controls under Provincial Act(s) to control and monitor disposal of construction fill, and lack of monitoring and testing by provincial and local agencies of the fill brought to the Burlington Quarry. The resident maintained that the City of Burlington and the Region of Halton should be involved in fill-related matters and should insist on receiving regular records and reports (including past documents) related to fill material imported to this quarry.

As approval and oversight of the *ARA*-related fill importation fall under provincial domain, responses to applicable comments are administered by the Province. In reference to operator's annual CARs, Table 1 fill is allowed at this quarry as per the approved site plan (brought in as required for progressive rehabilitation), and is subject to Nelson Aggregates' internal fill protocol. During this reporting period, the Province developed new tools under the *EPA* for management of excess soil that is moved off-site during construction activities to another site for a beneficial reuse. The *ARA*-related changes concerning excess soil, which came into effect on July 1, 2022, are identified in Section 0.14 of Ontario Regulation 244/97.

- On January 16, 2021, a resident near Burlington Quarry advised local and provincial agencies and Nelson Aggregates Co. of significant reduction in flow at the unnamed tributary to Willoughby Creek north of this quarry site and more specifically “the effects of prolonged neglect of Nelson’s requirements under their PTTW to provide a minimum 2 L/s discharge to unnamed tributary to Willoughby Creek.” According to the resident, discharge disruptions from Burlington Quarry resulted in marked water level decreases in Willoughby Creek, with the latest interruption exposing creek beds, narrowing creek widths, and exposing vegetation to freezing. The resident was concerned of negative effects on conservation efforts to rehabilitate brook trout habitat, and damage or loss of habitat and vegetation in and around the unnamed tributary of Willoughby Creek.

Nelson Aggregates' consulting representative responded to the resident on January 18, 2021, noting that Nelson was looking into the flow conditions along the downstream reaches of the creek and that formal response would be provided as soon as possible, considering Covid-related “Stay at Home order” in effect at the time. Additionally, Nelson’s consultant indicated the following: “There is no requirement on Nelson’s PTTW to provide a minimum of 2 L/s to the unnamed tributary of Willoughby Creek. The Burlington Springs Golf and Country Club holds a PTTW for the irrigation of the course. This PTTW has a requirement that a minimum base flow of 2 L/s must be maintained to the upstream end of the tributary of Willoughby Creek. This flow is maintained by a modified weir structure at the crossing of Collins Rd. This weir structure is designed to maintain water levels in the upgradient wetland and maintain flow downstream to a tributary of Willoughby Creek, even during periods when there is no discharge from the

quarry.” The Region was not copied on subsequent communication between Nelson’s representative and the resident.

- On June 21, 2022, the Region was copied on a letter from Conserving our Rural Ecosystem (CORE) Burlington to MECP’s Pollution Reporting Hot Line concerning a significant blast at the Burlington Quarry observed on June 2, 2022. According to the letter, the blast “rocked [the] community and sent a caustic cloud of dust sailing over [the] neighbourhood.” The letter also referred to “equally disturbing quarry blasts,” which reportedly occurred on April 27, 2022, and May 11, 2022. The letter expressed CORE’s concerns in terms of immediate and long-term effects on health due to exposure to blast-related airborne particles. Supporting information included links to videos taken during the three blasts, extract from Nelson Aggregates’ website concerning “SDS [Safety Data Sheet] for Limestone” as well as references to “contaminant discharge” and “adverse effect” in the *Environmental Protection Act*. The letter concluded “Based on the videos taken and in accordance with the *Environmental Protection Act*, and in particular O/Reg. 419/05, Nelson Aggregates had at least three reportable discharge events.” CORE’s letter requested confirmation that Nelson Aggregates notified the Ministry of the three events documented by CORE; of “specific actions taken by the Ministry to investigate the cause of the events, the health effects on the community and the actions to be taken (including implementation timelines) to ensure these events do not occur again in the future;” and “the number of similar reportable discharge events that have occurred on the property in the past 12 months, and the actions taken by the Ministry and Nelson Aggregates for each event.” As the *ARA*-related blasting activities fall under provincial domain, responses to applicable comments are administered by the Province.

On September 7, 2022, the Region was copied on communication between CORE Burlington and MNRF concerning previously reported (by CORE) blast events at the Burlington Quarry on April 27, May 11, and June 2, 2022. The e-mail contained MNRF’s staff responses to the June 21, 2022 letter from CORE and subsequent concerns from CORE, including additional videos showing off-site migration of residual dust following blasting events at the Burlington Quarry on July 14, July 27, and August 12, 2022. In their e-mail response of July 11, 2002, MNRF indicated that: staff contacted the operator and confirmed that “all blasts were within the Environmental Noise Guidelines and NPC-119 for blasting allowable limit of 128 db” and that the operator was in the process of implementing additional blast-related warning/notifications and mitigation measures. MNRF offered assistance in connecting CORE Burlington with a representative from Nelson Aggregates to “discuss directly their operations and what mitigation measure might be implementable.” Though CORE acknowledged some of the operator’s efforts to address blast-related effects using water spraying techniques, they restated their concerns that “the blasts did not comply with the requirements of the *Environmental Protection Act* by discharging a contaminant into the natural

environment, which may/did cause an adverse effect,” and that Nelson’s operating controls must be more than an effort to “reduce disturbances to nearby residences” and must consistently demonstrate regulatory compliance as is expected of every other business operating in Ontario.” As the ARA-related blasting activities fall under provincial domain, responses to applicable comments are administered by the Province.

### C3. Public Roads near Milton Quarry (ARA 5481)

- Between November 2020 and March 2021, Regional staff from Road Operations were in communication with Dufferin Aggregates/CRH Canada Group Inc. (Dufferin Aggregates) regarding cleanup of material debris at the roundabout of 5 Side Road and Dublin Line, due to aggregate spillage from transport trucks exiting Milton Quarry. During the November 2020 communication, Dufferin Aggregates informed the Region that they had sent notices to carriers and customers to stress the importance of inspecting and securing their loads and reducing their speed when entering the new roundabout at Dublin Line and 5 Side Road. They also noted that it is the responsibility of the carrier to inspect and tarp their loads before entering a public road, and that they had “done monitoring to watch trucks using the roundabout.” In terms of road clean up, Dufferin Aggregates believed that “the Region/Town should be looking after that as it is a public road.” The Region responded in November 2020, noting that the quarry is responsible for the cleanup and should hold the drivers accountable.

On March 4, 2021, Regional staff from Road Operations informed Dufferin Aggregates that, due to reoccurrence of aggregate spillage events, the Region resolved to install a camera at the roundabout at 5 Side Road and Dublin Line to enable monitoring and to request commercial enforcement as warranted. In their March 4, 2021 response to the Region, Dufferin Aggregates indicated that they had been in “constant communication with their hauling vendors about Halton Region’s aggregate-spillage concerns at the roundabout and had undertaken site observations from their side. They supported Region’s initiative to install a camera at the location of concern, noting, “If a truck is causing spillage at the roundabout, it is the truck driver not Dufferin that should be responsible for the cleanup.”

- On November 25, 2021, Regional staff from Road Operations contacted Dufferin Aggregates and MNRF regarding cleanup of “mud tracking” on Dublin Line and James Snow Parkway in the Town of Halton Hills and Milton. The Region requested “immediate cleanup of the roadways through a sweeping initiative” and requested further discussion with Dufferin Aggregates to address the on-going (at the time) matter.

In their response of the same day, Dufferin Aggregates indicated that they had “a sweeper that’s actively sweeping daily on Dublin Line and James Snow Parkway to the roundabout and has been sweeping today” and they had advised [the] sweeper to capture section of the James Snow Parkway east of the roundabout.” Additionally, they

noted that “there [was] also another construction site just west of the roundabout with truck traffic and they do have a sweeper out as well.”

#### **C4. Hilltop Quarry (ARA 5720)**

- The Region was made aware (through NEC’s planning-related communication) of some public complaints raised with provincial agencies in regards to Hilltop Quarry (ARA 5720) in 2022. The NEC noted that file concerning this site has remained open as of 2023.

The Region was not copied on specifics concerning public complaints related to this quarry site. Compliance matters are being addressed through the NEC and the Town of Halton Hills (site alteration), as described in Section D below.

## **D. History of Violations of Site Plan or Conditions of Licence under the *Aggregate Resources Act***

The Region was made aware (through NEC's planning-related communication) of some land-use non-compliance issues in relation to Hilltop Quarry (*ARA 5720*) property in 2022. The NEC noted that compliance-related file concerning this site has remained open as of 2023. MNRF staff advised that enforcement action through their aggregate team does not occur outside of licenced areas.

For the remaining active *ARA* sites, most operators or their consultants have checked off in compliance or not applicable in their annual Compliance Assessment Report (CAR) submittals. The "remedial action" notes and/or "general comments" in some of the 2021-2022 CARs refer to site maintenance, such as:

- minor fence repairs;
- erosion-related repairs;
- new signage requirement;
- site boundary demarcation;
- installation of marker posts at unfenced boundaries; and
- stone relocation from unlicensed areas of the site.

The "remedial actions" section in CARs includes due-dates for completion of the required actions, as applicable. The MNRF oversees implementation of CARs' directives and compliance matters by operators.

There were no posts on MNRF's website on violations, enforcements, or rehabilitation orders related to aggregate operations in the Province.

## E. Status of the Implementation of Approved Rehabilitation Plans

### E1. Rehabilitation at Licensed Sites

Progressive and final rehabilitation of aggregate sites are regulated under the *ARA* and the nature of rehabilitation is governed by the approved *ARA* Site Plans. Compliance with approved site plans is administered by the MNRF. Appendix 3 provides post-rehabilitation end-use descriptions for licensed sites in Halton, as per the individual site plan notes. For older (legacy) disturbed areas at these sites, rehabilitation was perpetuated by older standards (i.e., former *Pits and Quarries Control Act*, 1971). Sites licensed under the 1971 Act had been required to prepare replacement site plans in accordance with the *ARA* and Provincial Standards. The *ARA*-licensed sites are subject to the requirements for progressive and final rehabilitation in accordance with site plans amended under the *ARA*.

Historically, some degree of progressive rehabilitation has occurred at all licensed sites. Appendix 2 contains information on the 2021-2022 total rehabilitation areas for all licensed sites in Halton Region. Descriptions of the status of the implementation of approved rehabilitation plans are provided in Appendix 3. A number of former aggregate sites, licensed under the former *Pits and Quarries Control Act* and now the *ARA* are no longer licensed; their rehabilitation status is discussed in Section G in relation to the Regional NHS.

The annual fluctuation in total rehabilitated area is contingent on a number of active licences, nature of extraction progression at active sites (lateral versus vertical), demand for resource in a given year, rehabilitation area availability (e.g., if within a developing quarry), new disturbance to previously rehabilitated areas, refinements to rehabilitated area estimation, and different approaches to rehabilitation area reporting by operators.

According to the CARs, 576.75 hectares had been rehabilitated as of 2021 and 451.07 hectares as of 2022. The decline in total rehabilitated area over this reporting period, and relative to 2020 (597.65 ha), is largely attributed to surrender of two Campbellville Pits in 2020 (32 hectares rehabilitated at these sites was excluded from the 2021-2022 totals), and 128.7 hectares reduction reported for Burlington Quarry sites in 2022 relative to 2021.

Of the sites that reported some progress in rehabilitation during the 2021-2022 period, Bot Holdings Pit (*ARA* 5616) reported rehabilitation activities on 29 hectares in both years, Milton Extension Quarry (*ARA* 608621) reported rehabilitation on about 21.3 hectares in 2022, Wilroy Brooks Pit (*ARA* 5546) identified rehabilitation activities on 3.5 hectares in 2021 and on 4.5 hectares in 2022, Hayward Pit (*ARA* 5507) and Leaver Pit (*ARA* 5619) reported rehabilitation on 3 hectares at each site in 2021, and Acton Extension Quarry (*ARA* 625 003) reported rehabilitation on 1.27 hectares in 2021.

In 2022, decrease in rehabilitation area was reported for Burlington Quarry (by 112.5 hectares at the *ARA* 5499 and by 16.2 hectares at the *ARA* 5499), relative 2021. The reason for these

reductions was not provided in the 2022 CARs. No changes to rehabilitated areas had been reported for a number of years at Acton Limehouse Pit (ARA 5480), Brockton Farms Quarry (ARA 20660), Rice and McHarg Quarry (ARA 5716), Limehouse Clay Products Pits (ARA 5711 and ARA 5614), and Aldershot Quarry (ARA 5500). Some of these sites had been reported inactive for several years. No changes to rehabilitation area was reported at developing Tansley Quarry (ARA 613081) since 2015, where extraction continued within the sinking cut stage and was progressing towards Initial Stage. Burlington Pit (ARA 5605) and Milton Pit (ARA 5484) had been considered rehabilitated for a number of years, with licences being maintained by the licencees.

## E2. Former/Abandoned Aggregate Sites

Part of the mandate of TORAC's Management of Abandoned Aggregate Properties (MAAP) program is rehabilitation of former pits and quarries deemed to be abandoned (i.e., former sites that have not had a valid licence issued under the ARA since 1990) in the ARA-designated areas of the province. This work is funded by the aggregate industry (i.e., through fee payable per tonne of aggregate removed from the each ARA-licensed site). According to TOARC, these former extraction sites are generally less than 2 hectares, were created as a result of small-scale operations, and remain the property of individuals, corporate entities, or other parties. The MAAP's program aims to provide rehabilitation on an equitable basis, and targets counties and regions on a rotating basis each year. Site prioritization for rehabilitation under MAAP is based on composite ranking (e.g., safety concerns, visibility, size, susceptibility to erosion), and requires landowners' approval. MAAP works directly with landowners to develop site plans that match future property goals. Based on the 2020 TOARC Annual Report of May 27, 2021, one site in Halton Hills (i.e. "Cyganek Pit," 0.89 hectares in size), was rehabilitated to "agriculture" in 2020. TOARC does not provide information on more specific location of sites rehabilitated under MAAP.

According to TOARC's MAAP On-line Reporting Tool, Halton has 68 abandoned former aggregate extraction sites, including 41 closed and two LNI (Landowner not Interested). This number includes 15 legacy sites added by TOARC in February 2019.

TOARC's classification of abandoned former aggregate extraction sites in Halton Region:

- 1) Two - classified LNI (Landowner Not Interested)
- 2) 41 - designated as "closed" for various reasons:
  - five had been developed;
  - five had been rehabilitated by landowners;
  - two were rehabilitated by MNR in 1994 and 1995;
  - four were rehabilitated under the MAAP program: two to natural and recreational areas (1999, 2011) and two to agriculture (the latest in 2020);
  - 19 had become naturalized, including one alvar, two forest, three regenerating forests, seven meadows, and six water bodies;



- four became licensed; and
- three were classified as other (no historical aggregate extraction was reported in the past).

Of the remaining open files, TOARC had previously recommended two for closure, five for rehabilitation, and five for re-assessment. The 15 new files added by TOARC in the recent years (based on review of MNRF's documented legacy sites since 1985) will require assessment (TOARC, February 2019).

Table 5 summarizes the status of former/abandoned aggregate extraction sites by district in Halton Region. The location of sites is shown in Map 2.

Table 5: Status of Former/abandoned Aggregate Extraction Sites by District in Halton Region											
Former district	LNI	Closed (Total)	Developed (file closed)	Rehabilitated (file closed)	Naturalized (file closed)	Other* (closed)	Licensed (file closed)	To be closed	To be rehabilitated	File open**	New*** File (as of 2018)
Esquesing (31)	2	18	1	3-Landowner 2-MAAP (*) (agriculture)	9	1	3	2	3	5	3
Nassagaweya (16)	0	8		1 – MNR 1-Landowner	4	1	1	0	2	0	6
Nelson (13)	0	8	3	1 – MNR 2 – MAAP	2	0	0	0	0	0	5
Trafalgar (8)	0	7	1	1-Landowner	4	1	0	0	0	0	1
<b>Halton Region (68)</b>	<b>2</b>	<b>40</b>	<b>5</b>	<b>11</b>	<b>18</b>	<b>3</b>	<b>4</b>	<b>2</b>	<b>5</b>	<b>5</b>	<b>15</b>

Notes: MAAP = Management of Abandoned Aggregate Properties  
MNR = Former Ministry of Natural Resources, later became MNRF, currently MNDMNRF  
LNI = Landowner Not Interested (as per TOARC's designation)  
\* Other = no historical aggregate extraction had taken place  
\*\*File Open = re-assessment required  
\*\*\*New File = assessment required  
(\*) Though TOARC's legacy sites' reporting tool refers to 10 rehabilitated sites, one more site (referred to as "Cyganek Pit") was rehabilitated under MAAP in 2020. Thus, the sum of rehabilitated sites is assumed to be 11 as of 2020.

Aside for a single increase in total closed/naturalized sites in the former Esquesing County, no changes are identified for Halton Region under TOARC's On-line Reporting Tool, relative to the 2020 reporting.

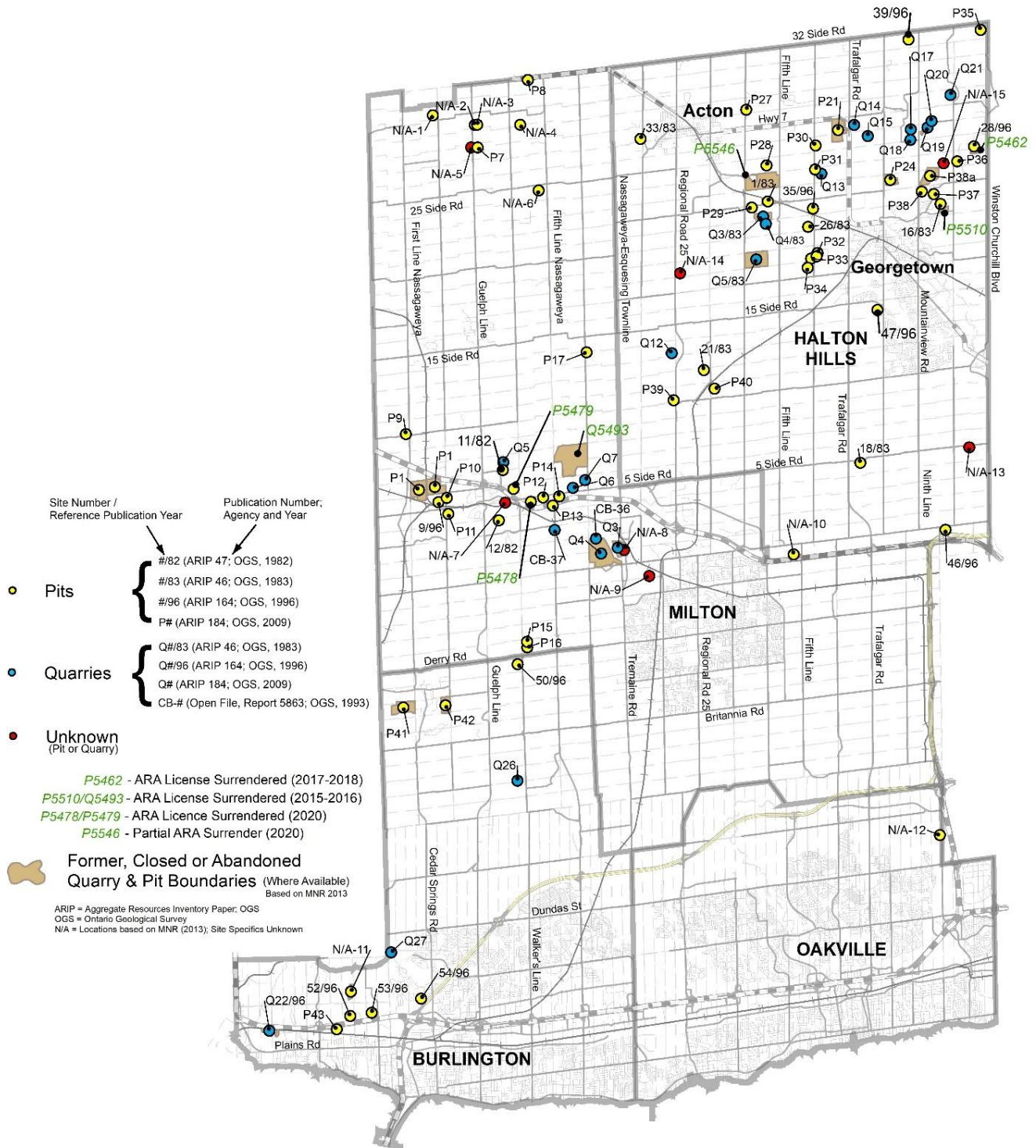
According to TOARC's Surrendered Sites Reporting and Mapping Tool – Statistics by County, current land use at surrendered sites in Halton Region, defined in percentage total of surrendered area, is as follows:

- Water - Pond (25.7 percent)
- Recreational - Conservation Area (22.4 percent)
- Open - Natural (13.6 percent)

- Natural - Meadow/Grassland/Prairie (10.6 percent)
- Agriculture - Livestock (8.3 percent)
- Natural - Cultural Thicket (6.1 percent)
- Residential - Single Family Housing (3.6 percent)
- Natural - Woodland (3.3 percent)
- Open - Exposed Sand, Stone, Gravel (2.9 percent)
- Multiple land uses (3.5 percent)

No changes to these areas were identified in TOARC's Surrendered Sites Reporting and Mapping Tool relative to the 2020 reporting.

Map 2: Former and Abandoned Pits and Quarries in Halton Region



## F. Status of the Operation and Implementation of Approved Adaptive Management Plans

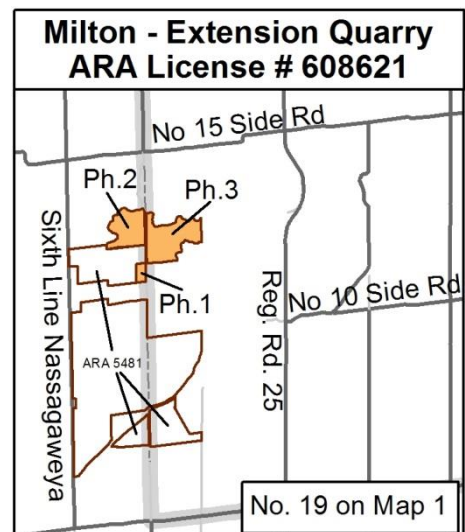
The objective of Adaptive Management Plans (AMPs) is to protect water resources and ecological features and functions. There are currently three active Adaptive Management Plans in Halton Region: Dufferin's Milton Extension Quarry (ARA 608621) AMP, Dufferin's Acton Quarry Extension (ARA 625003) AMP, and Meridian Brick's (formerly Forterra's and Hanson Brick's) Tansley Quarry (ARA 613081) AMP.

While the AMPs are part of the operating licences and the associated site plan conditions, the Region has an on-going oversight role as per the AMP (and related) Agreements with the proponents relating to each operation.

### F1. Dufferin Aggregates Milton Quarry AMP

The Milton Quarry in the Towns of Milton and Halton Hills consists of the Main Quarry and North Quarry (ARA 5481), and Extension areas (ARA 608621) encompassing Phases 1, 2, and 3. Dufferin Aggregates, a Division of CRH Canada Group Inc. (Dufferin Aggregates) is the current owner and holder of the ARA licences for the Milton Quarry. The AMP (2003) applies to the Milton Extension Quarry (85 ha), which was licensed in 2007 (ARA 608621).

The Milton Extension Quarry AMP contains implementation requirements for the protection, mitigation and monitoring of water resources and groundwater-dependent ecological features adjacent to the quarry. Under the AMP Agreement (2003), Halton Region and Conservation Halton (CH) are to perform an ongoing role of overseeing the effectiveness of the water management system implemented under the AMP.



In 2021 and 2022, Halton staff conducted the following reviews as part of the Milton Quarry AMP-related oversight:

- Review of the 2020 and 2021 Annual Monitoring Reports (2021 and 2022).
- Regular reviews of on-line (WebDT) monitoring data to assess performance and effectiveness of the quarry's water management system.
- Review of water targets for 2021 and 2022 winter and spring seasons
- Review of the 2021 and 2022 annual reports pertaining to the Cox Tract Haul Route
- AMP-related administrative reviews (2021 and 2022).

Halton Region technical staff completed the reviews of applicable reports and provided comments to Dufferin on July 16, 2021 and July 25, 2022.

## Milton Extension-Quarry Status

Below-water extraction in the West Cell (Phase 2 of the Extension Quarry) commenced in June 2013 and in the East Cell (Phase 3 of the Extension Quarry) in 2017. Full mitigation and monitoring provisions of the AMP came into effects in June 2013. Extraction in Phases 1 and 2 were completed as of 2021. In 2022, extraction occurred in the East Cell (Phase 3). The West Cell (Phase 2) buttress construction was reported completed and lake filling started in 2022, with occasional dewatering still occurring. Dewatering has continued in Phase 3 and the North Quarry.

Dufferin has continued to operate the North Quarry and Extension recharge well system in accordance with the related approvals. Dufferin installed six additional recharge wells in the Extension (one in Phase 2 and five in Phase 3) in 2021, and additional nine recharge wells in the Phase 3 of the Extension in 2022 to proactively increase recharge capacity in areas where it was anticipated to be needed, based on existing recharge capacity and Dufferin's mining plans. Some rock grouting had also occurred. The new wells and preventive grouting on the northwest to east sides of the Phase 3 are to serve future recharge needs as the East Cell lower bench is advanced to its final extraction limits.

Per the 2021 CAR, total disturbed area within the ARA 608621 was reported at about 66.3 hectares and was decreased to 49.4 hectares in 2022. This was presumably due to the initiation of rehabilitation-related lake filling in Phase 2. The 2022 total rehabilitation area was reported at about 21.3 hectares relative to 4.3 hectares reported as of 2021. The types of rehabilitation activities check-marked in the 2021-2022 CARs included: backfilling slopes/pit floor, rough grading, re-spreading topsoil/overburden, seeding/tree planting and start-up of lake filling in Phase 2 with occasional dewatering still occurring.

Based on the Region's review of the WebDT up-to-date data and technical monitoring reports, dewatering and mitigation activities continued throughout this 2021-2022 reporting period, with no notable deviations from the seasonal targets established/adjusted per the AMP protocols.

## F2. Meridian Brick Tansley Quarry AMP

The Tansley Quarry in Burlington (licensed in 2007) is owned and operated by Meridian Brick Canada Ltd. (Meridian Brick) in Burlington. In May 2007, Hanson Brick Ltd. (original licensee) entered into an Adaptive Groundwater Management Plan (AMP) Agreement and a Private Communal Water System (PCWS) Agreement with the Region of Halton. Since that time, there have been several ownership changes with each owner assuming conditions and requirements of the ARA licence and Tansley legal agreements. As of October 5, 2021, Meridian Brick Canada Ltd. was owned by Arriscraft Canada Inc., (owned by



Wienerberger). Additional oversight of Meridian Bricks operations is provided by General Shale Brick Inc. (General Shale), which is also owned by Wienerberger. All communication concerning Tansley PCWS and Tansley Quarry are with Meridian Brick's office in Burlington, Ontario. Additional communication (financial and other as required) is directed to General Shale.

### **Adaptive Groundwater Management Plan**

The Adaptive Groundwater Management Plan (AMP) for the Tansley Quarry sets out a program to monitor the potential effects of the quarry and ensure that affected property owners have uninterrupted access to potable water. This is further guaranteed by the AMP Agreement and Private Communal Water System (PCWS) Agreement. These Agreements obligate Meridian Brick (previously Forterra Brick and Hanson Brick) to undertake actions set out in the AMP, including construction, operation and maintenance of the PCWS. Halton staff oversees, reviews, and keeps track of deliverables associated with the AMP and PCWS Agreements, including technical, financial, and insurance matters.

### **Private Communal Water System**

Hanson Brick Ltd. (currently Meridian Brick) constructed a PCWS and related infrastructure between December 2011 and February 2013. Since May 2013, the PCWS, classified as Non-municipal Year-round Residential Drinking Water System, provides potable water to 11 private residences and six vacant lots (referred to as Eligible Properties) adjacent to the Tansley Quarry. The System has been "fully operational" since July 15, 2013 (Hanson Brick Ltd., 2013). As per the PCWS Agreement, Meridian Brick is responsible to own, maintain, repair and replace the PCWS and is required to file annual financial and operating reports with the Commissioner of Planning, Public Works, or designate, by April 30 of each year. The Ontario Clean Water Agency (OCWA) operates, maintains, and monitors the Tansley PCWS facility on behalf of Meridian Brick. Additional subcontractor services (water tracking, site maintenance, capital works) and utilities are managed by Meridian Brick separately.

Halton Region received the 2021 and 2022 Tansley PCWS - Operations, Maintenance and Financial Reports in April 2022 and April 2023. Based on the 2021 and 2022 Reports and Meridian's responses to Region's comments, staff had no issues that could affect the on-going PCWS operation.

The first five-year review of the PCWS operational securities was completed in mid-2018, and resulted in adjustments to the current five-year period (July 2018 to July 2023). The financial security adjustments are administered by Meridian Brick on an annual basis, with records of adjustments (communication and bank records) maintained by Halton Region.

On May 19, 2023, the Region provided detailed comments to Meridian Brick in relation to the second five-year operational securities review for the 2023/24 to 2028/29 period, as per the

PCWS Agreement (May 8, 2007). Responses from Meridian Brick were received in early June 2013 and were followed by several meetings between Halton Region staff and Tansley Quarry representatives from Meridian Brick and General Shale. The financial securities' review was completed in July 2023 and resulted in adjustments to the next five-year period (2023/24 to 2028/29).

### **AMP Monitoring and Reporting**

The AMP requires the quarry operator to submit annual monitoring reports by April 30 of each year, for the preceding calendar year, to the MNR, MECP and the Region of Halton, and to report on any unusual water level and water quality data within 30 days of detection. Meridian Brick is also required to submit pumping and discharge reports to the MECP by March 31 of each year, in accordance with water taking and discharge permits (PTTW and ECA for Industrial Sewage Works). As per the AMP, the Region also has a role in reviewing and approving Annual Monitoring Reports. In accordance with the AMP, the Region, along with Meridian Brick and the MECP, have a role in reviewing well restoration options if dewatering activities affect properties beyond the PCWS-serviced zone. In their annual monitoring reports submitted to date, the licensee reported that there were no well interference complaints within or beyond the servicing zone since quarry operation started.

Regional staff reviewed the AMP-related 2020 and 2021 annual monitoring reports, both submitted by the operator in April 2022. According to Meridian Brick, the delay with the former was due to "external circumstances." The Region provided comments on both reports on July 12, 2022. The review was conducted in reference to Halton Region's comments of August 5, 2020 and response letter from Meridian Brick's consulting firm of April 18, 2022. No amendments to the AMP or additional contingency actions have been required since commencement of the PCWS operation at this site.

Some modifications to the off-site private well monitoring were introduced by the operator over the years due to provision of water supply to the Eligible Properties, and some wells were decommissioned by the operator as requested by the well owners connected to the PCWS. Several on-site monitoring locations north of the sinking cut had been decommissioned to allow for continued stripping and progression of the quarry face to the north. The Region provides comments and recommendation on the adequacy of the groundwater monitoring network through annual monitoring report reviews.

Staff will continue to review and comment on monitoring reports, including monitoring network adequacy and water level targets as extraction progresses to the north to ensure that dewatering cone does not affect private wells beyond the current PCWS servicing corridors.



### Tansley Quarry Status

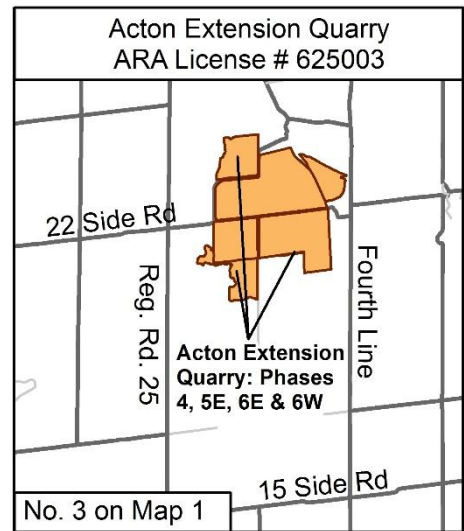
Based on the 2021 Tansley Quarry Annual Monitoring Report (AMR), pumping from the quarry sump had been carried on as needed basis since 2009. Operational progress outlined in the AMRs referred to exclusive extraction within the sinking cut limits until 2015, initiation of stripping in the northwest direction (beyond the sinking cut) in 2016 in relation to berm expansion adjacent to CNR, and initiation of extraction within the initial stage in 2017 to accommodate removal of remaining sources within the steep slopes of the sinking cut. Per the 2021 AMR, extraction proceeded towards the north with removal of upper shale progressing within the “initial stage.” Based on the 2021-2022 CARs, extraction was taking place in Zone A (per approved Site Plan). In reference to the AMP, this zone encompasses “sinking cut,” “initial stage” and southwestern portion of the northern half of the approved quarry site. Based on the annual CARs, the disturbed area of 17.2 hectares had not changed since 2018. Prior CARs indicated that this area included about an 8.55 hectares excavated area and an 8.4 hectares berm. The rehabilitation area of 8 hectares has not changed since 2015 within this developing site.

### F3. Dufferin Aggregates Acton Extension Quarry AMP

The Acton Quarry in the Town of Halton Hills consists of an existing Acton Quarry - Phases 1, 2 and 3 (ARA 5492), and an Extension Quarry - Phases 4, 5E, and 5W/6 (ARA 625003). Dufferin Aggregates, a Division of CRH Canada Group Inc. (Dufferin Aggregates) is the current owner and holder of the ARA licences for Acton existing and Extension Quarry. The AMP (2014) applies to the Acton Extension Quarry (65.6 ha), which was licensed in 2017 (ARA 625003). The AMP implementation is a condition in the ARA licence and the ARA Site Plan.

The Acton Extension Quarry AMP (November 2014) is the key document to guide implementation and operation of mitigation and rehabilitation measures for the protection of water resources and related ecological features. The AMP includes requirements for comprehensive monitoring and includes procedures for actions that must be taken in the event that Performance-Based Targets (PBTs) are not met. Comprehensive data collection, system testing, and reporting (annual, on-line, pre-extraction, verification, etc.) are required for Phases 4 and 5/6 West of the Extension Quarry.

Under the AMP Agreement (April 2016), Halton Region, Conservation Halton (CH), and Credit Valley Conservation (CVC) are to oversee the effectiveness of the water management system implemented under the AMP on an on-going basis. Halton Region has a lead oversight role under the AMP and Ecological Enhancement Plan (EEP) Agreements. The EEP Agreement ensures that Dufferin implements the EEP for ecological restoration and natural feature



enhancement, including on-and-off site enhancement, and progressive and final rehabilitation. The EEP technical document identifies types of enhancements, implementation schedules, and timelines for submission of planting-prescriptions' for review by the Region in advance of enhancement works linked to the Acton Extension EEP.

In 2021-2022, Halton staff conducted the following reviews as part of the AMP- related oversight:

- Review of the AMP-related 2020 Annual Monitoring Report (2021)
- Review of the AMP-related 2021 Annual Monitoring Report (2022)
- Review of Pre-Extraction Report (2022) related to Phase 4 (2022-2023)
- AMP-related administrative reviews (2021 and 2022)

Halton Region technical staff completed the reviews of applicable reports and provided comments to Dufferin on June 24, 2021, August 24, 2022, and May 26, 2023.

The EEP-related implementation report concerning final EEP prescriptions for two off-site enhancement areas near Phase 4 were received and reviewed in 2019. The monitoring of EEP-related planting is conducted by the operator.

### **Acton Quarry Status**

No bedrock extraction or blasting activity occurred in Acton Quarry (existing and Extension) between 2019 and 2021. Extraction resumed in 2022 and involved removal of minor remaining reserves on the floor of Phase 2 and in the ramp area of Phase 3 (both phases in the existing quarry under the ARA 5492), and minor above-water extraction occurred in Phase 4 of the Extension area (ARA 625003). Extraction was substantially complete in Phase 5 East (5E) of the Extension licence by the end of 2018. No quarrying activities took place in Phase 5 West (5W) and Phase 6 of the Extension in 2022. Dewatering of Phase 3 (existing quarry) continued throughout 2022. No dewatering occurred from Phase 4 (Extension) as of 2022. Dewatering for Phase 5 East (5E of Extension) was completed as part of the Phase 2 dewatering using the Phase 2 sump.

The water management system (WMS) required by the extension approvals for Phase 4 mitigation was completed in 2018. The operation of the Phase 4 WMS is linked to extraction below the water table in this phase, which had not yet occurred as of 2022. Some WMS re-commissioning work was undertaken in Phase 4 in 2022 and involved operation of recharge wells and diffuse discharges for a short period in the fall (October/November) to ensure mechanical equipment and instrumentation were functioning as intended.

Operational pumping from the Phase 1 Pumping Station started in November 2019 following modifications to discharge lines to replace components of pumping capacity at this station. The modifications serve simultaneous discharge from the Phase 1 Pumping Station to the Fourth Line weir and ultimately to the Black Creek, to the Phase 2 Seeps at the Escarpment edge,

and to the wetland south of Phase 3 and ultimately to 16 Mile Creek. Off-site dewatering and internal transfers originating in Phases 2 and 3 (ARA 5492) have continued through portable pumps.

Based on the annual CARs, disturbed area in Phase 4 remained, at 7.08 hectares, unchanged in 2021 and increased to 8.05 hectares as of 2022. Total progressive rehabilitation area at the developing Extension quarry was given as 1.27 hectares in 2021 and 0.25 hectares in 2022.

## **G. Assessment of the Cumulative Impact of Extraction Operations on both the Greenbelt and Regional Natural Heritage System**

Active licences require some level of rehabilitation (in accordance with the approved site plans, and policies including the Provincial Policy Statement, the Greenbelt Plan, and the Regional Official Plan, to be compatible with the surrounding land. The *ARA* and related Ontario Regulation 244/97 contain several new rehabilitation provisions established in recent years, which came into effect in 2021 and 2022.

### **G1. Policy Context**

#### **Provincial Policy Statement**

The Provincial Policy Statement, 2020 (PPS) is a consolidated statement on the Provincial government's policies on land use planning, including among other things, protecting the natural environment and natural resources. Section 2.5.3.1 of PPS indicates: "Progressive and final rehabilitation shall be required to accommodate subsequent 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."

#### **Greenbelt Plan**

Section 4.3.2.4 in the former provincial Greenbelt Plan (2005), called for the MNRF's determination of the maximum allowable disturbed area of each mineral aggregate operation (i.e. "Any excess disturbed area, above the maximum, will be required to be rehabilitated. Existing operations have 10 years of the approval of the Greenbelt Plan to complete rehabilitation, with 50 percent requiring completion within six years. For new operations, including expansions, the total disturbed area shall not exceed an established maximum allowable disturbed area,").

In the new provincial Greenbelt Plan (effective as of July 1, 2017), Section 4.3.2.5 refers to rehabilitation of new and existing operations:

"5. New and existing mineral aggregate operations and wayside pits and quarries, within the Protected Countryside shall ensure that:

- a. The rehabilitated area will be maximized and disturbed area minimized on an ongoing basis during the life-cycle of an operation;
- b. Progressive and final rehabilitation efforts will contribute to the goals of the Greenbelt Plan;
- c. Any excess disturbed area above the maximum allowable disturbed area, as determined by the Ministry of Natural Resources and Forestry, will be rehabilitated. For

new operations, the total disturbed area shall not exceed an established maximum allowable disturbed area; and

- d. The applicant demonstrates that the quantity and quality of groundwater and surface water will be maintained as per Provincial Standards under the Aggregate Resources Act.”

“6. For rehabilitation of new mineral aggregate operation sites in the Protected Countryside, the following policies apply:

- a. The disturbed area of a site shall be rehabilitated to a state of equal or greater ecological value and, for the entire site, long-term ecological integrity shall be maintained or enhanced;
- b. If there are key natural heritage features or key hydrologic features on the site, or if such features existed on the site at the time of an application:
  - i. The health, diversity and size of these key natural heritage features and key hydrologic features shall be maintained or enhanced; and
  - ii. Any permitted extraction of mineral aggregates that occurs in a feature shall be completed, and the area shall be rehabilitated, as early as possible in the life of the operation;
- c. Aquatic areas remaining after extraction are to be rehabilitated to aquatic enhancement, which shall be representative of the natural ecosystem in that particular setting or eco-district, and the combined terrestrial and aquatic rehabilitation shall meet the intent of section 4.3.2.6 (b); and
- d. Outside the Natural Heritage System, and except as provided in sections 4.3.2.6 (a), (b) and (c), final rehabilitation shall appropriately reflect the long-term land use of the general area, taking into account applicable policies of this Plan and, to the extent permitted under this Plan, existing municipal and provincial policies. In prime agricultural areas, the site shall be rehabilitated in accordance with section 2.5.4 of the PPS.”

“7. Final rehabilitation for new mineral aggregate operations in the Natural Heritage System shall meet these additional policies:

- a. Where there is no extraction below the water table, an amount of land equal to that under natural vegetated cover prior to extraction, and no less than 35 percent of the land subject to each licence in the Natural Heritage System, is to be rehabilitated to forest cover, which shall be representative of the natural ecosystem in that particular setting or eco-district. If the site is also in a prime agricultural area, the remainder of the land subject to the licence is to be rehabilitated back to an agricultural condition;

- b. Where there is extraction below the water table, no less than 35 percent of the non-aquatic portion of the land subject to each licence in the Natural Heritage System is to be rehabilitated to forest cover, which shall be representative of the natural ecosystem in that particular setting or eco-district. If the site is also in a prime agricultural area, the remainder of the land subject to the licence is to be rehabilitated in accordance with section 2.5.4 of the PPS; and
- c. Rehabilitation shall be implemented so that the connectivity of the key natural heritage features and the key hydrologic features on the site and on adjacent lands shall be maintained or enhanced.”

“11. Municipalities should ensure that all land use activities related to the post-extraction rehabilitation of mineral aggregate operations are consistent with any relevant approved source protection plan and relevant watershed or subwatershed plan.”

***Aggregate Resources Act (ARA)***

Section 48 in the *ARA* [last amendment, 2021] contains original (1990) and newer (2017) requirements concerning rehabilitation of aggregate sites, including provisions under “Duty to rehabilitate site” and “Rehabilitation report” (per Bill 39 - Schedule 1; May 10, 2017).

Specifically:

- 48(1) Every licensee and every permittee shall perform progressive rehabilitation and final rehabilitation on the site in accordance with this Act, the regulations, the site plan and the conditions of the licence or permit to the satisfaction of the Minister.
- 48(1.1) Every licensee and every permittee shall submit reports on the progressive rehabilitation and final rehabilitation of the site at the prescribed times and shall prepare and submit the reports in accordance with the regulations.

Section 50 in the *ARA* (last amendment, 2021) contains 1996 and 2017 provisions under “Rehabilitation security payments” (1996) and “Payments to Trust” (1996 and 2017).

Specifically:

- 50(1) Licensees and permittees shall make rehabilitation security payments in the prescribed amounts and within the prescribed times.
- 50(3) Rehabilitation security payments and special payments shall be paid to the Trust or to such other person or entity as may be prescribed, in accordance with the regulation.

### **Ontario Regulation 244/97**

Ontario Regulation 244/97 [amendment 466/20] established rehabilitation-related provisions in Sections 0.13 under “Control and Operation of Pit or Quarry,” which came into effect on April 21, 2021. The provisions in Section 0.13 (1), items (18) to (22), provide for some standardized rehabilitation-related requirements in regards to on-site stripping, storage and utilization of overburden and topsoil; sloping of excavation faces; erosion control in newly rehabilitated areas; and on-site drainage and soil-compaction controls. These provisions appear to formalize conditions/requirements, which had been typically specified in the *ARA* site-plans.

The 2022 amendment 395/22 to the Ontario Regulation 244/97 established provisions in Section 0.14 under “Control and Operation of Pit or Quarry” concerning excess soil in pits and quarries, which came into effect on July 1, 2022. The new provisions are to apply despite any conditions of a licence, permit or a site plan. In reference to items (1) to (7) in Section 0.14, no excess soil could be deposited unless authorized by licence, permit, or site plan, and in accordance with Sections C and D of Soil Rules, Excess Soil Standards and end use identified in the final rehabilitation of a site plan. The excess soil must meet Table 1 Excess Soil Standards, including leachate-screening levels in Appendix 3 of the standards, if excess soil may be saturated by groundwater. On crown lands, final placement of excess soil must meet quality standards for agricultural or other property use, per Excess Soil Standards. In other circumstances, site-specific excess soil quality standards developed by a qualified person within the meaning of Sections 5 and 6 of Ontario Regulation 153/04 (Record of Site Conditions – Part XV.1 of the *EPA*) or supervisee using Beneficial Reuse Assessment Tool with the Soil Rules may be used. The qualified person is required to complete a declaration and output worksheet in accordance with subsection 5 (5) of Ontario Regulation 406/19 (On-site and Excess Soil Management) made under the *EPA*. The licensee/permittee is required to keep copies of declaration and output worksheets for a duration of aggregate operations, and keep records of information concerning each load of soil deposited at the pit or quarry for seven years past rehabilitation completion. The type of information requiring retention include the source(s), quality and quantity of excess soil as well as location of excess soil placement (if derived from different sources) using Universal Transverse Mercator easting and northing coordinates measured by a global positioning system receiver. Item (8) in Section 0.14 refers to the types of records required to be provided to an inspector.

Section 0.14 (9) of the Ontario Regulation 244/97 refers to deposition (at pit or quarry) of excess soil volumes of 10,000 cubic meters or more, or at elevation at which the excess soil may be saturated by groundwater at any point in time. A qualified person is required to determine and record excess soil quality standards in accordance with this section, develop a plan for storage and final placement at a pit or quarry, and confirm in writing that storage and final placement comply with this section. Per item (10), this does not apply to aggregate permits issued by the MTO in relation to provincial road projects. Item (11) refers to terms used in this section which have the same meaning as in Ontario Regulation 406/19 (On-site and

Excess Soil Management), and specifically: Beneficial Reuse Assessment Tool, Excess Soil, Excess Soil Standards, Soil, Soil Rules, Supervisee.

## **G2. Rehabilitation Status of Sites Adjacent to/Intersecting the Regional Natural Heritage System**

All the *ARA* sites in Halton Region (Table 1) were either within or adjacent to the Regional Natural Heritage System (NHS), as shown on Map 1 of the 2009 ROP (Interim Office Consolidation, November 4, 2022), and on Map 3 in this document. Historically, rehabilitation progress was reported at most of these sites. Rehabilitation status at all the currently licensed *ARA* sites adjacent to or intersecting the Regional NHS, is provided in Appendices 1 and 2, based on the recent 2021-2022 CARs (or earlier, where no recent CARs were available). The rehabilitation end-use descriptions (Appendix 3) are based on the approved Site Plans.

During this 2021-2022 reporting period, progressive rehabilitation was reported at the six *ARA* sites in Halton Region, Bot Holdings Pit (*ARA* 5616) reported rehabilitation on 29 hectares in both 2021 and 2022. Milton Extension Quarry (*ARA* 608621) reported total rehabilitation area of about 21.3 hectares in 2022. Wilroy Brooks Pit (*ARA* 5546) identified rehabilitation on 3.5 hectares in 2021 and on 4.5 hectares in 2022. Hayward Pit (*ARA* 5507) and Leaver Pit (*ARA* 5619) reported rehabilitation on 3 hectares of each site in 2021. Acton Extension Quarry (*ARA* 625 003) reported rehabilitation on 1.27 hectares in 2021. These areas appear to be reflective of progressive rehabilitation activities and/or lake filling startup rather than completed rehabilitation hectares. Burlington Quarry (*ARA* 5499 and *ARA* 5657) reported significant reduction in the previously reported rehabilitation areas.

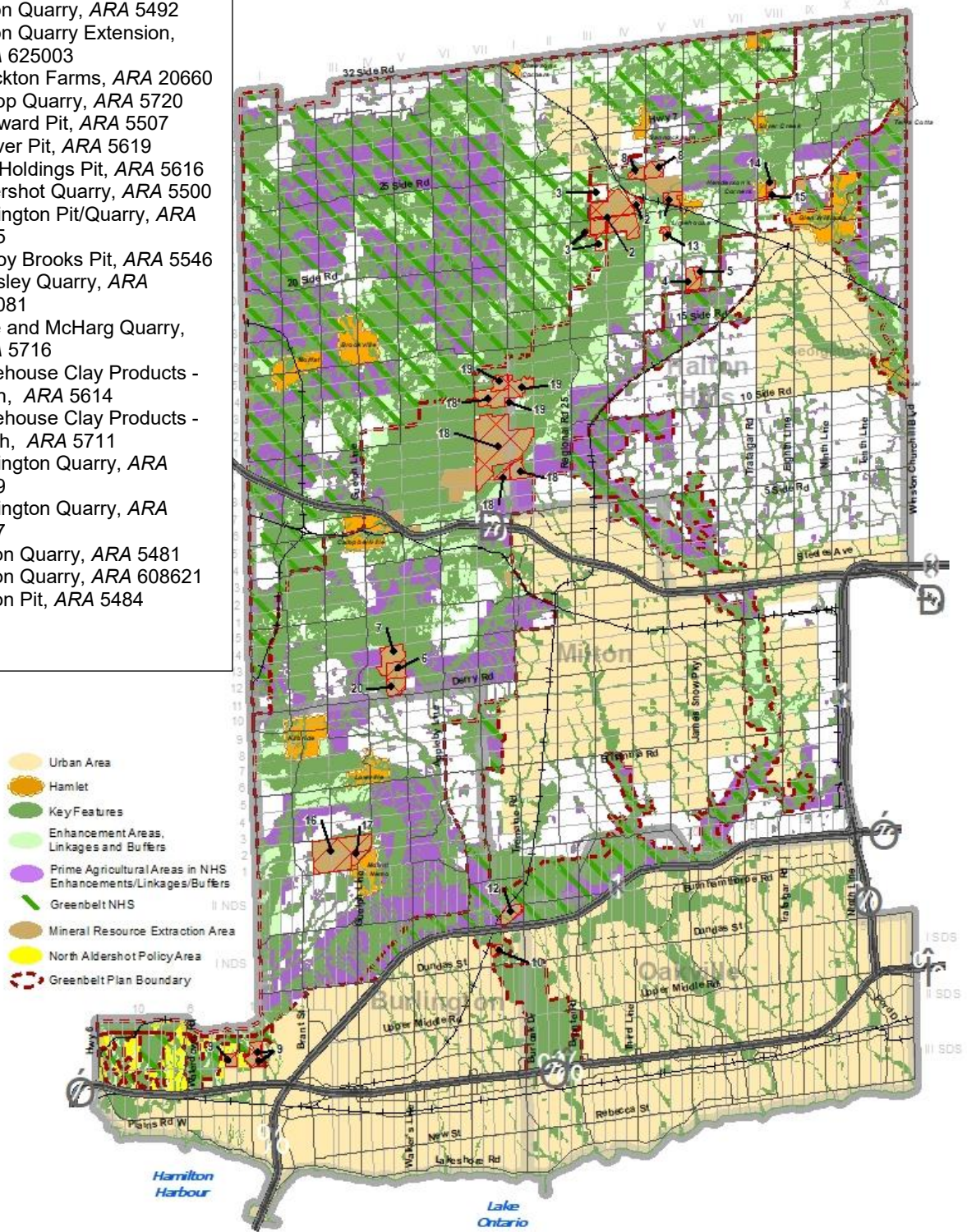
## **G3. Rehabilitation Status of Sites Adjacent to/Intersecting the Greenbelt Natural Heritage System**

The six *ARA* sites are either within or adjacent to the Greenbelt Plan NHS including Acton Quarry (*ARA* 5492), Acton Extension Quarry (*ARA* 625003), and Brockton Farms (*ARA* 20660) in Halton Hills, and the Aldershot Quarry (*ARA* 5500), Tansley Quarry (*ARA* 613081), and Burlington Quarry (*ARA* 5605) in Burlington. A total licensed area for these sites is about 442 hectares and a total permitted extraction area (as per the approved Site Plans) is about 375 ha. As of 2022, about 116.7 hectares had been rehabilitated and the total disturbed at these sites was approximately 173.1 ha. The Milton's North Quarry and Extension Quarry were not included in the total areas given the partial adjacency to Greenbelt NHS.



**Map 3: ARA Sites Located in the Greenbelt and Regional Natural Heritage System**

- Licensed Sites**
1. Acton Limehouse Pit, ARA 5480
  2. Acton Quarry, ARA 5492
  3. Acton Quarry Extension, ARA 625003
  4. Brockton Farms, ARA 20660
  5. Hilltop Quarry, ARA 5720
  6. Hayward Pit, ARA 5507
  7. Leaver Pit, ARA 5619
  8. Bot-Holdings Pit, ARA 5616
  9. Aldershot Quarry, ARA 5500
  10. Burlington Pit/Quarry, ARA 5605
  11. Wilroy Brooks Pit, ARA 5546
  12. Tansley Quarry, ARA 613081
  13. Rice and McHarg Quarry, ARA 5716
  14. Limehouse Clay Products - north, ARA 5614
  15. Limehouse Clay Products - south, ARA 5711
  16. Burlington Quarry, ARA 5499
  17. Burlington Quarry, ARA 5657
  18. Milton Quarry, ARA 5481
  19. Milton Quarry, ARA 608621
  20. Milton Pit, ARA 5484



#### G4. Rehabilitation Status at Former and Abandoned Aggregate Sites Within/Adjacent to the NHS Areas in Halton

The former *ARA* sites and abandoned aggregate sites have also been considered in relation to the Greenbelt and Regional NHS Areas. Locations of the former sites, identified through the Ontario Geological Survey's (OGS's) Aggregate Resource Inventory Papers (1982-2009), are shown in Map 2. TOARC's Surrounded Sites Reporting and Mapping (SSR&M) Tool was utilized to verify the locations and land use status of the formerly licensed sites in Halton Region.

The latest Aggregate Resources Inventory Paper No. 184 (OGS 2009) for Halton Region referred to most of the formerly unlicensed (abandoned) aggregate sites in Halton Region as "overgrown." Nine had been reported as "rehabilitated," and two quarries were noted to be "water-filled."

As of 2022, there were 11 known former pits and at least 6 former wayside pits (no former quarries) identified within/adjacent to the Greenbelt NHS in Halton Region. There are at least 29 former pits and at least 16 quarries within/adjacent to the Regional NHS. Most of the formerly licensed pits had been rehabilitated or partially rehabilitated.

The following former *ARA* pits (locations identified as P# on Map 2) are within the Greenbelt NHS:

- The former *ARA* 5462 (6.28 ha)/David Anderson Pit (P5462) - According to TOARC, the licence was surrendered in December 2017. In May 2018, the MNRF deemed final rehabilitation to be acceptable and completed in accordance with the *ARA*, the regulations, conditions of the licence and the site plans.
- The former *ARA* 5510 (6.59 ha)/1294142 Ontario Limited Pit (P 5510) - The licence was surrendered in July 2016. The MNRF deemed final rehabilitation completed in accordance with the *ARA*, the approved site plan, and the conditions of the licence. The 2017 site uses identified by TOARC included open-natural (95 percent) and residential-cottages and trailers (five percent).
- The former *ARA* 5464 (30.38 ha)/C.G. Bishop c/o Halton Sand and Gravel Ltd. Pit (P38a) - The licence was surrendered in April 2007. The 2017 site uses identified by TOARC included residential-single family housing (50 percent), natural-meadow/grassland/prairie (15 percent), natural-forest (15 percent), and multiple (20 percent).
- The former *ARA* 5477 (17.42 ha)/555816 Ontario Inc. Campbell Pit/Stull Pit (P24) - The licence was revoked in September 2006. The site was reported "rehabilitated" in the ARIP#184 (OGS, 2009). Halton Hills OPA 16, as well as the Niagara Escarpment Plan Amendment 192, apply to this site.

- The former *ARA 5495* (4.86 ha)/R. Hess Pit (28/96) - The licence was revoked in 1999. The location of this pit (OGS, 1996) is in the vicinity of the former *ARA 5510*.
- The former *ARA 5574* (83 ha)/Woodlawn Guelph Ltd. Campbellville Pit (P1) - This site was licensed as sand and gravel pit between 1976 and 2008. Sand and gravel was also extracted at this site during the 1960s. The licence was revoked in 2008. The site is currently owned by 2278082 Inc. (a subsidiary of James Dick Construction Limited (JDCL)). In 2018, JDCL filed an application for the new *ARA* licence, known as the Reid Road Reservoir Quarry proposal, to extract the remaining sand and gravel, and to extract the underlying rock (dolostone) at this site. The site is located in rural area with a mix of rural residential, agricultural, natural heritage, and industrial uses.

The following former *ARA* pits and quarries (locations identified as P# and Q# on Map 2) are within/surrounded by the Regional NHS:

- The former *ARA 5479* (22.2 ha)/Campbellville Pit-north - MNR's Inspection Report of November 6, 2020 confirmed final rehabilitation had been completed. MNR accepted the *ARA 5479* surrender on November 20, 2020. On September 24, 2021, NEC posted a proposal [ERO 019-4396] to undertake an amendment to the Niagara Escarpment Plan (NEP) to allow for a site-specific change to the Land Use Designation on the subject property at 3475 Campbellville Rd. from Mineral Resource Extraction Area to Escarpment Protection Area, consistent with the Land Use Designation Criteria and Objectives in the NEP.
- The former *ARA 5478* (15.9 ha)/Campbellville Pit-south - MNR deemed rehabilitation of the site acceptable, and accepted surrender of the *ARA 5478* on June 5, 2020. On September 24, 2021, NEC posted a proposal [ERO 019-4395] to undertake an amendment to the NEP to allow for a site-specific change to the Land Use Designation on the subject property at 4000 Campbellville Rd. from Mineral Resource Extraction Area to Escarpment Protection Area, consistent with the Land Use Designation Criteria and Objectives in the NEP.
- The former *ARA 5493* (125 ha)/Halton Crushed Stone Quarry (Q5493) - The licence was surrendered in September 2015. The MNR deemed final rehabilitation completed in accordance with the *ARA*, the approved site plan and the conditions of the licence. The site uses, as identified by TOARC (2016) include water-pond (80 percent), open-natural (10 percent), exposed sand, stone, and gravel (five percent), and multiple (five percent).
- The former *ARA 5687* (42.49 ha)/J.C. Duff Ltd. Silvercreek Gravel Pit (P21) - This site, located south of the Silver Creek Conservation Area, was rehabilitated and the licence

was surrendered in October 2008. The site uses as identified by TOARC (2017) include open-natural (75 percent), woodland (10 percent), cultural thicket (10 percent), and multiple (five percent).

- The former *ARA 5498* (41 ha)/Nelson Aggregate Burlington (Kilbride) Pit (P41) - The pit was rehabilitated and the licence was surrendered in January 1997. The site uses, as identified by TOARC (2010) included agriculture-livestock (85 percent), natural (10 percent), and rural (five percent). Satellite view (TOARC's SSR&M Tool) shows graded and vegetated slopes, and levelled pit floor (appear to be seeded/cultivated). Residential and farm buildings and several ponds are present at the site.
- The former *ARA 5496*/Conservation Halton Kelso Quarry Park; formerly Lac Properties Inc. Limestone Quarry (Q4) - This site had been rehabilitated, and the licence was surrendered in July 2006 (TOARC). The site uses as identified by TOARC (2016) include recreational/conservation area (100 percent).
- The former Milton Robertson Quarry - an unlicensed former site identified by TOARC within the current Kelso Conservation Area [CB-36 on Map 2]. The site uses as identified by TOARC (2017) include: woodland (55 percent), open-exposed sand, stone, gravel (20 percent), open-exposed bedrock (20 percent), and multiple (five percent).
- The former *ARA 5713* (14.77 ha)/2066012 Ontario Inc.; formerly Hanson Brick Milton Quarry (Q3) - This site was rehabilitated and the licence was surrendered in November 2010 (TOARC). The site uses as identified by TOARC (2017) include natural-meadow/grassland/prairie (80 percent) and water-wetland (20 percent).
- The former *ARA 5495* (4.86 ha)/R. Hess Pit (28/96) - The licence was revoked in 1999. The location of this pit (OGS, 1996) is in the vicinity of the former *ARA 5510*.
- The former *ARA 5506* (20.89 ha)/Selco Construction Sand and Gravel Ltd. Pit (P42) - This pit, located on the southeastern side of Killbride Village, had surrendered its licence in January 1990 (TOARC). The site uses as identified by TOARC (2017) include pond (35 percent), woodland (20 percent), meadow/grassland/prairie (15 percent), and multiple (30 percent).
- The former *ARA 5466* (40.5 ha)/WM. R. Barnes Co. Ltd. Quarry (Q5/83) - The licence was surrendered in November 1994. The site uses as identified by TOARC (2017) include natural-meadow/grassland/prairie (60 percent), and natural-cultural thicket (40 percent).
- The former *ARA 5505* (3.4 ha)/Rice and McHarg Quarry (Q4/83) - This licence was surrendered in April 2007. The site uses as identified by TOARC (2017) include

agriculture-field crops (40 percent), rural (20 percent), natural-meadow/grassland/prairie (20 percent), and multiple (20 percent).

- The former *ARA 5501* (0 ha)/Old Martin Quarry (Q21) - The licence for this site, located at Tenth Line near the Escarpment edge, was reported as surrendered in January 1990 (TOARC). The site uses as identified by TOARC (2017) include natural-forest (90 percent) and water-wetland (10 percent).
- The former *ARA 5700* (2.03 ha)/Halton Ceramics Pit/Quarry (Q22) – The licence for this site, located on Part Lots 11, 12, Concession 1 in Burlington/East Flamborough [location identified in TOARC’s SSR&M Tool as East Flamborough/Hamilton], was reported surrendered in July 1999. The site uses as identified by TOARC (2017) include open-natural (60 percent), water - stormwater management (10 percent), natural - cultural thicket (10 percent), and multiple (20 percent)

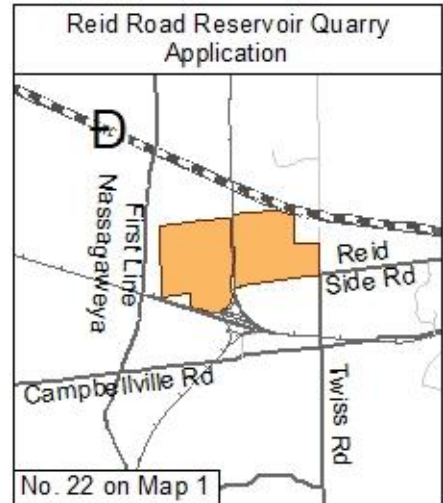
## H. Number and Status of Active and Potential Applications for Mineral Resource Extraction Areas

During this 2021-2022 reporting period, Halton staff were involved in reviewing three active applications in Halton Region; one on-going since 2018, one on-going since 2020, and one commenced in 2021.

### H1. Reid Road Reservoir Quarry (Town of Milton), James Dick Construction Limited

In August 2018, the Region became aware of an *Aggregate Resources Act* application to the Ministry of Northern Development, Mines, Natural Resources and Forestry by James Dick Construction Limited (JDCL) for a new quarry at Reid Side Road and Twiss Road, west of the Hamlet of Campbellville in the Town of Milton. This would reactivate the former Woodlawn Guelph Campbellville Pit, for which there is no current *Aggregate Resources Act* licence. JDCL has applied for a Class A Category 1 & 2 licence covering 29.4 hectares (73 acres) with an extraction area of 25.7 hectares (63.5 acres) for sand, gravel, and bedrock. The maximum annual tonnage is proposed to be 990,000 tonnes. No corresponding *Planning Act* applications have been filed.

The latest update on the status of this application was provided in LPS78-21, which included a detailed summary of the scope of the future environmental assessment and the future “Government Review Team” that would include Halton Region, the Town of Milton, and Conservation Halton.



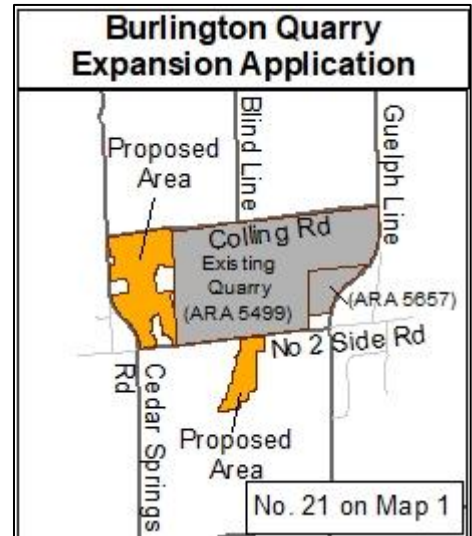
The proponent’s two-year notification and consultation period under the *ARA* application process ended on January 29, 2021. On June 30, 2021, MECP posted a decision regarding ERO No. 019-2876 (originally posted on January 29, 2021 for 45-day commenting period), requiring the Reid Road Reservoir Quarry to be subject to a project-specific environmental assessment under the *Environmental Assessment Act (EAA)*, per Ontario Regulation 539/21 – Designation and Exemption, Reid Road Reservoir Quarry), which came into force on June 30, 2021. According to the Ministry, this assessment will provide additional opportunity to assess potential impacts to the environment, including local groundwater, and ensure that local concerns are considered, and effects can be mitigated or managed.

In reference to the [MECP’s project information page](#), “the proponent submitted a report documenting how issues and concerns have been addressed and considered, and the Minister [MNRF] may make a decision under the *Aggregate Resources Act*, which may include approving or refusing the licence application or referring the application to the Ontario Land Tribunal (OLT) for a hearing.”

Halton Region, the Town of Milton, and Conservation Halton had been invited to participate in the Government Review Team to provide comments and input on technical information that would be produced by JDCL. The ARA process has been on hold, awaiting the outcome of the environmental assessment process. The environmental assessment had not been launched by James Dick Construction Limited as of early 2023—although it is expected that could occur in fall 2023.

## H2. Burlington Quarry Expansion (Town of Burlington), Nelson Aggregates Co.

The Burlington Quarry expansion application, filed by Nelson Aggregates Co. (Nelson) in May 2020, was subject to additional information reviews during this reporting period. Overall, the Burlington Quarry expansion application went through three technical circulations with JART agencies between 2020 and 2022. JART concluded the review with the release of Technical Summary Report (June 2023), which is available on [Halton Region's webpage](#). The latest update on the status of this application was provided in LPS28-23, which included the June 2023 Technical Summary Report as an attachment.



Concerns identified as part of first circulation (per objection letters filed in December 2020) were informed by the preliminary review of technical reports and studies received as part of the application in May 2020. The initial responses from JART agencies were supplemented with a full set of technical comments provided in installments from December 2020 to February 2021. A second circulation from Nelson arrived in stages between September 2021 and May 2022. A third circulation was in regards to updated information submitted by Nelson Aggregates on June 27, 2022. Agencies reviewed the third circulation by August 15, 2022 due date.

Other related reviews, which occurred during this reporting period, included Nelson's application for a site plan amendment concerning the existing Burlington Quarry (November 4, 2021), and related postings from Niagara Escarpment Commission (NEC) of February 24, 2021 and March 15, 2022:

- On November 4, 2021, Nelson filed site plan amendments to their current ARA licences (ARA 5499 and ARA 5657) for integration of operations across the existing and proposed expansion boundaries. On December 6, 2021, NEC commented to the MNRF that until NEC's Development Permit is issued, any approval of an amendment to a Site Plan under the ARA would be premature. On December 8, 2021, Halton Region outlined a series of concerns to the MNRF, as informed by the review of technical reports and studies submitted by Nelson in support of the application. Halton Region posted the same comments to ERO No. 019-4921 on February 8, 2022. The City of

Burlington also issued a number of concerns in a December 2021 letter addressed to the MNRF and the applicant's representative.

- On February 24, 2021, NEC posted the Proposed Niagara Escarpment Plan Amendment (NEPDA) on the Environmental Registry of Ontario (ERO) with a request for comments by April 26, 2021 (a 61-day commenting period). On March 15, 2021, NEC circulated the proposed NEPDA and requested comments from relevant Indigenous communities, Ministries, affected municipalities, interested parties, neighboring property owners and the public. Objection letters were provided by the Region of Halton, City of Burlington, and Conservation Halton. Halton Regional staff identified a number of concerns with the application, concluding that the application as submitted does not have appropriate regard for the development criteria listed in Part 2 of the Niagara Escarpment Plan (NEP), or support objectives listed in Policy 1.9.1 of the NEP.
- On May 10, 2022, NEC circulated Development Permit Application and requested comments from relevant Indigenous communities, Ministries, affected municipalities and non-governmental organization. Local agencies and public reiterated their prior comments made on the proposed Niagara Escarpment Plan Amendment (former ERO 019-3215 of February 24, 2021).

Nelson Aggregate Co. provided reply letters to the agencies' objection letters (and other public objectors) of December 2020 in late June/early July 2022. Nelson provided approximately 40 days to the agencies to respond by August 15, 2022. On August 3, 2022, while technical review of Nelson's responses was being completed on some parts of the third circulation, Nelson filed appeals with Halton Region for non-decision on the application for a Regional Official Plan Amendment, and the City of Burlington for non-decision on the application for a Local Official Plan Amendment. The appeal packages for both applications, as well as the *Niagara Escarpment Planning and Development Act* and *ARA* applications, have been sent to the Ontario Land Tribunal (OLT).

The review of the third technical circulation was completed by JART staff and peer reviewers by August 15, 2022 due date. The NEC's reply of August 12, 2022, confirmed the objection remained. NEC stated the *ARA* application should not be approved until further public consultation and technical review had occurred, NEP Amendment had been approved, and the Development Permit had been issued. Halton Region's reply of August 12, 2022 confirmed the objection remained. The Region's letter acknowledged progress made by Nelson in resolving some of the initial concerns raised. The most significant outstanding concerns relate to the protection of water resources and natural heritage features and functions that depend on them. The City of Burlington's reply of August 15, 2022 confirmed the objection remained. The City noted many issues remaining in the original five thematic areas (operational/coordination,



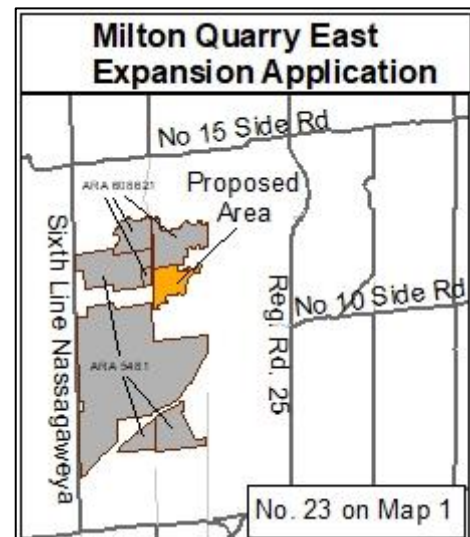
effects on water quantity and quality, natural heritage, agricultural effects, and human health/air quality).

Prior to the introduction of Bill 23 by the Province in fall 2022, Conservation Halton (CH) also provided technical advice through the JART on natural heritage and water resources matters through the technical review process. On January 1, 2023, Ontario Regulation 596/22: Prescribed Acts – Subsections 21.1.1 (1.1) and 21.1.2 (1.1) of the *Conservation Authorities Act* (O. Reg. 596/22) came into effect. As part of CH's review of the most recent submission to JART (i.e., Nelson's third submission), CH had limited its responses to comments related to natural hazards, and wetland matters, per Ontario Regulation 686/21 and Ontario Regulation 162/06.

On December 8, 2022, the MNRF referred the ARA licence application to the OLT, noting that the Ministry did not intend to be a party in any hearing. On April 27, 2023, the NEC referred the application for a NEP amendment and a development permit to the OLT. The application is now in litigation.

### H3. Milton Quarry East Expansion; Dufferin Aggregates, a Division of CRH Canada Group Inc.

On December 20, 2021, Dufferin Aggregates filed applications for Milton Quarry East Expansion: to MNRF for the ARA licence, to the NEC for Niagara Escarpment Plan Amendment (NEPA) and Development Permit, to Halton Region for Official Plan Amendment (OPA), and to the Town of Halton Hills for Town's Plan Amendment (PA). Halton Region and the Town of Halton Hills deemed the applications concerning OPA and PA complete on January 18, 2022. The MNRF deemed the ARA applications complete on January 28, 2022. The NEPA process was initiated through a staff report received by the NEC on April 21, 2022.



Halton Region has been a lead agency on a JART process concerning application-related technical reviews. The application went through two complete technical circulations with JART agencies: a first circulation from January 2022 that was completed in November 2022 (most work was complete by September 2022), and then a second circulation arriving in stages from October 2022 through to March 2023, which was completed in June 2023. Review involved detailed assessment of the submitted reports, internal discussion meetings to review findings, and discussion meetings with the proponent to work through issues. Many of the reports provided as part of the application submission were prepared as comprehensive studies covering both the existing site and the proposed site plan amendment. Additional information was received from Dufferin in the form of replies to JART

comments, addendum reports, memoranda, and email correspondence. The completed review includes a technical report summarizing the content as well as tables with detailed comments on the review. A copy of the Technical Summary Report (JART Report) and its appendices is available on [Halton Region's webpage](#).

The latest update on the status of this application was provided in LPS55-23, which includes the Technical Summary Report (JART Report) as Attachment #3. The JART Report was released in July 2023 to allow the applicant and public to review its findings and provide any final comment or respond to its findings. Any final technical inputs will be considered prior to providing a final recommendation to Regional Council (anticipated in fall 2023).

A chronology of the JART reviews is summarized next:

- Letters of Objection pertaining to the December 20, 2021 application were provided by the JART agencies in May 2022, within the initial (and formal) 60-day review window. The NEC issued an objection letter on April 25, 2022. Concerns identified in these letters were informed by the preliminary review of technical reports and studies submitted in support of the application. The initial responses were supplemented with a full set of technical comments from JART provided in installments from August 2022 to December 2022.
- Dufferin held a Public Information Session on April 7, 2022, as requested by Halton Region at the pre-consultation meeting. Halton Region hosted its statutory public meeting under the *Planning Act* on May 17, 2023. Issues raised included well water concerns; noise, blasting and vibration concerns; and, protection of the natural environment. The Town of Halton Hills held its Statutory Public Meeting on February 13, 2023. Comments raised included impacts to homes and nuisance effects (noise, blasting and vibration), flooding and water storage, and inspection of the operation.
- At its meeting on April 21, 2022, NEC adopted the staff recommendation to circulate the proposed NEPA for comments from the public, non-governmental organizations (NGOs), and partner agencies including municipal, provincial, and federal organizations. The proposed amendment was posted on the ERO on September 1, 2022, with a request for comments by October 31, 2022 (a 60-day commenting period). Objection letters were received from the Region of Halton, Town of Halton Hills, Town of Milton, and Conservation Halton. Halton Regional staff identified numerous concerns with the application, concluding that the application as submitted did not have appropriate regard for the development criteria listed in Part 26. 2.7, 2.8, 2.9 of the Niagara Escarpment Plan (NEP), or support objectives listed in Policy 1.9.1 of the NEP. In separate correspondence, both the Town of Halton Hills and Town of Milton staff observed that further studies and data were outstanding and until these shortfalls were addressed, the applications could not be supported based on the data provided to date.

- In January 2023 correspondence, the MECP identified the need for further testing sites and data related to air quality, noise, surface water and groundwater.
- The NEC's Public Interest Advisory Committee (PIAC) will convene on August 30, 2023, to provide their advice on the Proposed Amendment to the NEC.
- Conservation Halton (CH) staff identified that clarification was needed regarding the potential impacts the proposed quarry may have on the surrounding wetlands including the Halton Escarpment Provincially Significant Wetlands and sensitive surface water and groundwater features. Further, there would be a need to expand the existing groundwater and surface water monitoring network and proposed monitoring program to ensure the protection of CH's regulated wetlands form and function. It was also identified that additional information was needed regarding the continued operation of the water management system post extraction of the expansion area. As part of CH's review of the most recent submission to JART, CH had focused its responses to comments related to natural hazards, and wetland matters, per Ontario Regulation 686/21 and Ontario Regulation 162/06.

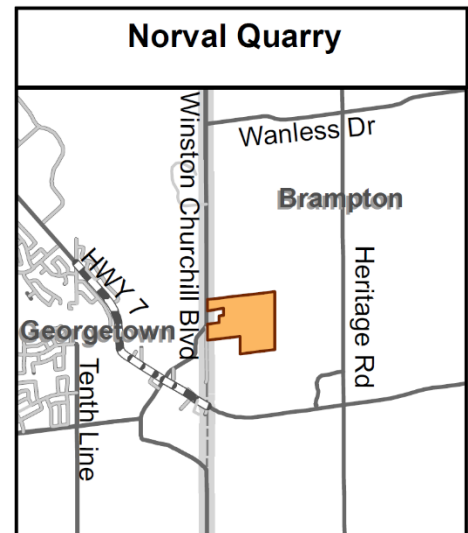
JART technical reviewers considered technical information provided to JART by the public as part of their review of the application. A summary of consultation and input received was included in LPS42-23 re: "Regional Official Plan Amendment Statutory Public Meeting for the Proposed Expansion to the Milton Quarry (Dufferin Aggregates)." In total, staff had received two written comments on the proposed Regional Official Plan Amendment, as well as the four delegations received at the Public Meeting. No additional comments have been received since the Statutory Public Meeting.

In reference to Section 4 of the 2023 Technical Summary Report and LPS55-23, JART had completed its technical review of the plans, studies, reports, and comments provided by Dufferin. The detailed record of JART's work is contained in the various appendices to that report. The majority of technical issues with the proposal have been addressed. Dufferin Aggregates has made some adjustments from its initial submission to respond to questions raised through JART. Staff anticipate bringing forward a recommendation report on the Regional Official Plan Amendment in fall 2023.

#### H4. Proposed Norval Quarry; Brampton Brick Ltd.

The subject lands are located in the City of Brampton on the east side of Winston Churchill Boulevard, north of Highway 7 with an approximate area of 34.9 hectares. The subject site is outside of Halton Region and is located in Peel Region just east of the Halton/ Peel border. Brampton Brick is proposing a quarry on the subject lands with an area of 9.35 hectares for shale excavation. The proposal also includes an upgraded bridge crossing for truck access, a stockpiling area, floodplain and open space. The excavated materials would be stockpiled and shipped to a brick plant on Wanless Drive in Brampton.

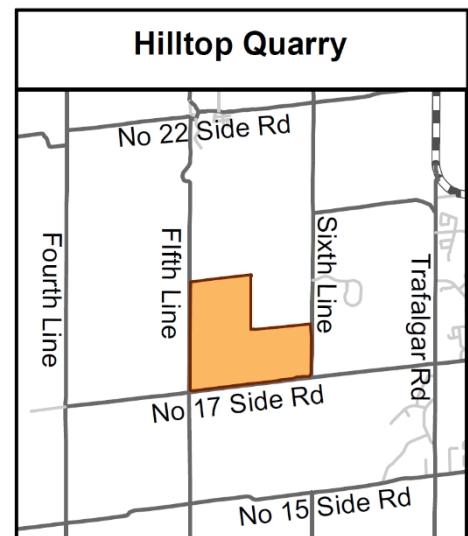
A preconsultation meeting facilitated by the City of Brampton took place on September 29, 2021. The proposal will not require any applications with Halton Region. The applicant has not yet filed an application for this proposal.



#### H5. Proposed Hilltop Quarry/ Brockton Quarry Expansion; Hilltop Stone and Supply/ Brockton Farms

The subject lands are located on the 17 Side Road in Halton Hills and there are existing ARA licences for this property (ARA 5720 and ARA 20660). The proposal includes an outdoor storage and loading area of aggregate materials from the licensed portion of the property.

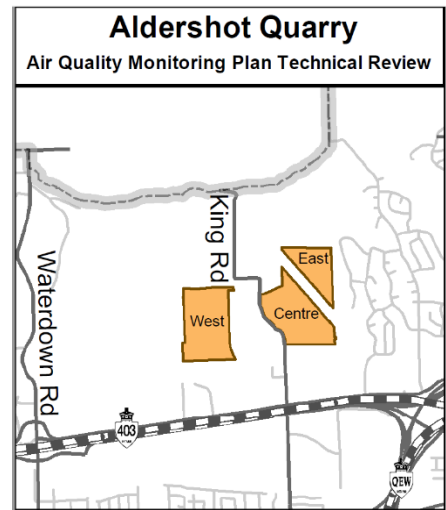
A preconsultation meeting was facilitated by the Town of Halton Hills on May 25, 2023. Discussion confirmed application requirements, including requisite technical studies and approvals from agencies and jurisdictions in Halton Region. The application as presented at the preconsultation meeting would require a Regional Official Plan Amendment as well as approvals from other agencies. The applicant had anticipated needing only a site plan application for the approvals and as such, the preconsultation request was made only for the site plan. A further preconsultation process for a Regional Official Plan Amendment will be required if the applicant decides to pursue the application as it is currently proposed.



## H6. Aldershot Quarry – Air Quality Management Plan Circulation

A unique technical review occurred on Meridian Brick's Aldershot Quarry, where the proponent is readying to extract in the East Quarry cell. MNR staff circulated Halton Region on a proposed Air Quality Management Plan, prepared by Wood, to fulfill one of the conditions of approval for the development of the east cell.

Halton's peer review was completed by SLR. The initial review notes that two fixed dustfall stations were required along the east lot line. The Air Quality Monitoring Plan only included one such station, and in a location "not necessarily downwind" from likely emission sources from the quarry. SLR recommended three dustfall monitoring stations in a traditional upwind-downwind monitoring location: one upwind (west side of the property) and two downwind (east side of the property) adjacent to the residential area. Meridian/Wood opted to make those revisions, and the revised locations were incorporated into the site's Air Quality Monitoring Plan.



## Appendix 1: Definitions

### Active Licence

A licence that has been issued, transferred, or under suspension prior to the end of the calendar year. (Definition adopted from TOARC's Aggregate Resource Statistics Reports.)

### Adaptive Management Plans (AMP)

The objective of Adaptive Groundwater Management Plans (AMPs) is to protect water resources and ecological features and functions. The AMP provides for local control through a direct Agreement between an Agency (or Agencies) and the Owner-Operator and includes mechanisms for enforcement of the AMP through Dispute Resolution/Arbitration Process, with securities held by an Agency in case of default by the Owner.

### Abandoned Sites

Abandoned sites are pits and quarries for which a licence or permit was never in force at any time after December 31, 1989 (as defined by TOARC). Where the landowner has granted permission, these sites can be rehabilitated by The Ontario Aggregate Resources Corporation (TOARC) under the Management of Abandoned Aggregate Properties Program (<https://toarc.com/legacy-pits-quarries-maap/>).

### Aggregate

In the Region of Halton, the primary aggregate sources include sand, gravel, clay, shale, limestone, dolostone, and sandstone (refer to Mineral Aggregate Resources for expanded definition).

### **Aggregate Resources Act (ARA) R.S.O 1990, Chapter A.8**

The *Aggregate Resources Act* (<https://www.ontario.ca/laws/statute/90a08/>), requires licences for pits and quarries in designated parts of Ontario, wayside permits for extraction involving public construction projects, and permits for pits and quarries on Crown Land. The legislation and policy framework under the ARA comprises the Act itself, General Regulation 244/97, provincial standards, and provincial policies and procedures.

The Aggregate Resources Policies and Procedures Manual provides guidance on how to implement the *Aggregate Resources Act* (<https://www.ontario.ca/page/aggregate-resources-policies-and-procedures/>). This includes supporting regulations, including the Aggregate Resources of Ontario Provincial Standards. The policies assist aggregate operators, members of the public, municipalities, consultants, stakeholders and government staff.

### **Aggregate Resources Act Reform**

Changes to Ontario Regulation 244/97 and the provincial standards under the *Aggregate Resources Act* (<https://www.ontario.ca/page/ontarios-aggregate-reform/>).

### Aggregate Licence

Aggregate licence is required to operate a pit or quarry, in a part of Ontario designated under Section 5 of the ARA, on land that is not under water and the surface rights are not the property of the Crown.

### Aggregate Permit

Aggregate permit is required to (i) operate a pit or quarry on land the surface rights of which are the property of the Crown, (ii) to excavate aggregate that is the property of the Crown from land under water, and (iii) that is the property of the Crown in a part of Ontario not designated under Section 5 of the ARA; or (iv) to excavate aggregate that is not the property of the Crown from land under water.

### **Agreement between MNR and MOE Re. Aggregate Matters**

This refers to an Agreement to Address the Roles and Responsibilities of the MNR and the MOE [now MNRF and MECP] Regarding Aggregate Extraction Operations within the Province of Ontario (May 2008). Key principles and steps are outlined in Operational Procedure 1 and 2 of the Agreement (<https://files.ontario.ca/environment-and-energy/aggregates/269665.pdf>).

### **Alvar**

An alvar is a biological environment based on a limestone plain with thin or no soil and, as a result, sparse grassland vegetation. Often flooded in the spring and affected by drought in midsummer, alvar supports a distinctive group of prairie-like plants, which provide habitat to some species of birds.

### **Beneficial Reuse Assessment Tool**

Per O. Reg. 406/19, “Beneficial Reuse Assessment Tool” means the data file entitled “Beneficial Reuse Assessment Tool” and dated November 19, 2019, as amended from time to time, that is maintained by the Ministry [MECP] and is available on a website of the Government of Ontario (<https://www.ontario.ca/page/handling-excess-soil>).

### **Bill 39**

*Aggregate Resources and Mining Modernization Act*, 2017 (Royal Assent of May 10, 2017), where Schedule 1 made various amendments to the *Aggregate Resources Act*, while Schedule 2 amended provisions of the *Mining Act* (<https://www.ola.org/en/legislative-business/bills/parliament-41/session-2/bill-39/>).

### **Class A Licence**

A licence under the *Aggregate Resources Act* to allow excavation of more than 20,000 tonnes of aggregate annually from a pit or quarry within parts of Ontario that have been designated under the *Aggregate Resources Act* (Definition adopted from TOARC’s Aggregate Resource Statistics Reports).

### **Class B Licence**

A licence under the *Aggregate Resources Act* to allow excavation of less than 20,000 tonnes of aggregate annually from a pit or quarry within parts of Ontario that have been designated under the *Aggregate Resources Act* (Definition adopted from TOARC’s Aggregate Resource Statistics Reports).

### **Clay**

Earthy, extremely fine-grained sediment, composed of clay-size or colloidal particles, having high plasticity and a considerable content of clay minerals (i.e. primarily aluminum silicates).

### **Compliance Assessment Report (CAR)**

The Compliance Assessment Report is an annual reporting requirement under sections 15.1 and 40.1 of the *Aggregate Resources Act*. Aggregate permit and licence holders are required to submit the form annually to the MNRF to report on compliance with the Act, the regulation, their site plan, and the conditions in their approved permit or licence (<https://www.ontario.ca/page/aggregate-resources#section-11/>).

### **Disturbed Area**

The amount of land area (in hectares) that remains excavated as a result of the operation of a pit or quarry. Areas of the site where processing equipment, offices, stockpile areas, or other structures still exist on the site are also

considered disturbed. Exceptions may be where an office is shown on the Site Plan as remaining when the rehabilitation is complete (Ref.: Policy A.R. 5.00.04, MNR, March 20, 2006).

### **Dolostone**

A term used for sedimentary rock dolomite in order to distinguish it from the mineral of the same name. Dolomite rock contains more than 90 percent mineral dolomite [CaMg(CO<sub>3</sub>)<sub>2</sub>] and less than 10 percent mineral calcite [CaCO<sub>3</sub>]. The latter (mineral calcite) is the chief constituent of limestone.

### ***Environmental Assessment Act (EAA)***

The *Environmental Assessment Act (EAA)* sets out a planning and decision-making process so that potential environmental effects are considered before the project begins. On July 21, 2020, the COVID 19 *Economic Recovery Act, 2020* (Bill 197) received Royal Assent. The changes introduced by Bill 197 mean that EAA would only be required for projects (public or private) that are specifically designated [definition subject to future follow up/revision as applicable]. In December 2021, “a minor amendment” to the EAA was made “to make it clearer that the Act’s authority includes changing the types of projects that can follow a class environmental assessment process” as well as “changes that would eliminate duplication and reduce delay for projects that have other planning and consultation processes, or for which the EA process can be further streamlined (<https://www.ontario.ca/page/modernizing-ontarios-environmental-assessment-program/>).

### ***Environmental Protection Act (EPA)***

The *Environmental Protection Act (EPA)* is a key legislation for environmental protection in Ontario. It grants the Ministry of Environment, Conservation and Parks (MECP) broad powers to deal with the discharge of contamination, which can cause or are likely to cause negative effect, into the environment. It requires that any spills of pollutants be reported and cleaned up in a timely fashion. The Act has an authority to establish liability on the party at fault (<https://www.ontario.ca/laws/statute/90e19#BK4/>).

### **Excess soil**

Excess soil is soil, crushed rock or soil mixed with rock, excavated as part of a development project that is removed from the construction site. Mineral aggregate operations are one of many locations where excess soil is placed, often as part of approved rehabilitation efforts (<https://www.ontario.ca/page/handling-excess-soil/>).

On July 1, 2022, changes to Ontario Regulation 244/97 (General) and related policies under the *ARA* came into effect. These changes inform how the beneficial reuse of excess soil is managed at pits and quarries to facilitate rehabilitation. The regulatory changes made under the *ARA* are consistent with MECP’s On-Site and Excess Soil Management Regulation (Ontario Regulation 406/19) under the *EPA*.

### **Excess Soil Management Regulation**

In December 2019, Ontario made a regulation under the *EPA*, titled “On-Site and Excess Soil Management” to support improved management of excess construction soil. Ontario Regulation 406/19 – “On-site and Excess Soil Management,” and “Rules for Soil Management and Excess Soil Quality Standards” include risk-based quality standards for the reuse of excess soil, and outline requirements related to on-site processing of excavated soil or crushed rock, and the reuse and disposal of excess soil from project areas. The regulation is being phased in over time (<https://www.ontario.ca/page/handling-excess-soil#regulation/>).

### **Excess Soil Reuse Regulation**

Excess Soil Reuse Regulation primarily pertains to a “source site” that generates excess soil. The rules for reuse of excess soil are specified in sections 3, 4 and 5 of the Ontario Regulation 406/19, which then refer to other key sections of the regulation and both parts of the “Rules for Soil Management and Excess Soil Quality Standards.”



In December 2020, MECP issued amendments to the Excess Soil Reuse Regulation. The amendments clarify that the exemption in Section 2 pertains to any material leaving the aggregate operations and it does not apply to excess soil imported to rehabilitate the site or to be used for other beneficial reuse purposes, including the use and production of recycled aggregate in the pit or quarry. However, the section of the Excess Soil Reuse Regulation on Large Reuse sites will pertain to aggregate producers if more than 10,000 m<sup>3</sup> of excess soil are imported. The quality and quantity of excess soil imported is regulated by the MNRF through the ARA.

### **Gravel**

An unconsolidated natural accumulation of rounded rock fragments, mostly of particles larger than sand, such as boulders, cobbles, pebbles, granules, or any combination of these.

### **Greenbelt Plan (GBP)**

Under Section 4.3.2.4 of the Greenbelt Plan (2005), MNRF is to pursue to minimize disturbed areas and maximize rehabilitated areas on an on-going basis during the life-cycle of aggregate operation. The Greenbelt Plan calls for MNRF's determination of the maximum allowable disturbed area of each mineral aggregate operation indicating that any excess disturbed area, above the maximum, will be required to be rehabilitated. Existing operations had 10 years of the approval of the Greenbelt Plan to complete rehabilitation, with 50 percent requiring completion within six years. For new operations, including expansions, the total disturbed area shall not exceed an established maximum allowable disturbed area.

Under Section 4.3.2.5 of the new provincial Greenbelt Plan (2017): "New and existing mineral aggregate operations and wayside pits and quarries, within the Protected Countryside shall ensure that: a) The rehabilitated area will be maximized and disturbed area minimized on an ongoing basis during the life-cycle of an operation; b) Progressive and final rehabilitation efforts will contribute to the goals of the Greenbelt Plan); c) Any excess disturbed area above the maximum allowable disturbed area as determined by the Ministry of Natural Resources and Forestry will be rehabilitated. For new operations, the total disturbed area shall not exceed an established maximum allowable disturbed area; and d). The applicant demonstrates that the quantity and quality of groundwater and surface water will be maintained as per Provincial Standards under the ARA.

### **Inactive Licence**

A licence that has been revoked or surrendered prior to the end of the calendar year (Definition adopted from TOARC's Aggregate Resource Statistics Reports).

### **Inspection Notice**

Inspector's notice can be served by MNRF's Aggregate Inspector for remedial work concerning minor violations, with no immediate need to cease activities.

### **Local Planning Appeal Tribunal (LPAT)/Ontario Land Tribunal (OLT)**

The Local Planning Appeal Tribunal (LPAT) had been designated as an adjudicative tribunal to hear cases in relation to a range of land use matters, heritage conservation and municipal governance. Appeals that came before LPAT have been identified through policies found in the *Planning Act*, *ARA*, *Heritage Act*, *Municipal Act*, *Development Charges Act* and *Expropriations Act*. These have included matters such as official plans, zoning by-laws, subdivision plans, consents and minor variances, land compensations, development charges, electoral ward boundaries, municipal finances, aggregate resources and other issues assigned by numerous Ontario statutes. LPAT was formerly known as the Ontario Municipal Board (OMB).

On June 1, 2021, LPAT, Environmental Review Tribunal, Board of Negotiations, Conservation Review Board and the Mining and Lands Tribunal were merged into a single tribunal called the “Ontario Land Tribunal” (<https://olt.gov.on.ca/tribunals/mlt/decisions/aggregate-resources-act/>).

### **Memorandum of Understanding (MOU): MNR and TOARC**

This refers to The Memorandum of Understanding between the MNR (now MNRF) and The Ontario Aggregate Resources Corporation (TOARC) Regarding Administration of the *Aggregate Resources Act*. The MOU establishes new functions of the Trust as specified in the ARA.

### **Mineral Aggregate Resources**

Gravel, sand, clay, earth, shale, stone, limestone, dolostone, sandstone, marble, granite, or other material prescribed under the ARA, suitable for construction, industrial, manufacturing purposes, and that does not include materials prescribed under the *Mining Act*.

### **Mineral Aggregate Operations**

- Lands under licence or permit, other than wayside pits and quarries, issued in accordance with the *ARA*.
- For lands not designated under the *ARA*: established pits and quarries that are not in contravention of municipal zoning by-law [...] (ROP, 2009).

### **Ministry of Environment, Conservation and Parks (MECP)**

The Ministry of Environment, Conservation and Parks (MECP) administers Permit to Take Water (PTTW) for aggregate washing and dewatering, Environmental Compliance Approval (formerly Certificates of Approval) [ECA/C of A] for water discharges and other emissions, and Fill Protocols for material importation to the sites under the *Ontario Water Resources Act (OWRA)* and the *Environmental Protection Act (EPA)*.

### **MECP Spills Action Centre**

- 1) MECP’s Public reporting hotline: 1-866-MOE-TIPS (663-8477) - toll-free, 24 hours a day, 7 days a week.
- 2) Owners or pollutants report spills to Spills Action Centre (24/7) at 416-325-3000; Toll-free: 1-800-268-6060; TTY: 1-855-889-5775.

### **Ministry of Natural Resources and Forestry (MNRF)**

The Ministry of Natural Resources and Forestry (MNRF) regulates aggregate operations in Ontario in accordance with the *ARA* and the *Planning Act*. Under the *ARA*, MNRF receives and considers aggregate applications, issues aggregate licences and permits, monitors and enforces compliance matters, and performs scheduled inspections of pits and quarries.

### **MNRF’s Information and Support Centre**

The Natural Resources Information and Support Centre can be reached at 1-800-667-1940 or 1-800-387-7011 or [NRISC@ontario.ca](mailto:NRISC@ontario.ca).

### **Ministry of Transportation (MTO)**

The Ministry of Transportation (MTO) has delegated authority under the *ARA* to administer wayside permits and aggregate permits.

### **Ministry of Northern Development and Mines (MNDM)**

Through Aggregate Resources Inventory Papers (ARIPs), authored by Staff of Ontario Geological Survey (OGS), the MNDM provides geological information and an assessment of aggregate resources in selected Regions of Ontario. ARIPs also identify former and existing pits and quarries.

### **Niagara Escarpment Commission (NEC)**

NEC administers the Niagara Escarpment Plan (NEP) through promoting the objectives of the plan; processing and making decisions on development permit applications; and making recommendations on plan amendments.

### **Ontario Municipal Board (OMB)**

The Ontario Municipal Board (OMB) was an independent adjudicative tribunal that conducted hearings and made decisions on land use planning issues and other matters. The OMB was also Ontario's first independent, quasi-judicial administrative tribunal. Originally named the Ontario Railway and Municipal Board (ORMB), it was renamed to the OMB in 1932. The OMB later became Local Planning Appeal Tribunal (LPAT), which became part of the Ontario Land Tribunal (OLT) on June 1, 2021.

### **Ontario Water Resources Act (OWRA)**

The *Ontario Water Resources Act (OWRA)* governs groundwater and surface water quality and quantity in Ontario. The OWRA, which is administered by the MECP, contains a number of mechanisms to protect water resources; for instance: it prohibits discharge of polluting material in or near water; regulates sewage disposal and sewage works; enables issuance of orders to prevent, reduce or alleviate impairment of water quality; regulates water taking in excess of 50,000 L/day; enables designation and protection of public water supply sources; regulates well drilling and construction; requires approval of water and sewage works, etc. There are a number of regulations enacted under the OWRA on a variety of water-related matters.

### **Pit**

Pit refers to land/land under water from which unconsolidated aggregate material (e.g. sand, gravel, clay, earth) is being/has been excavated, and that has not been rehabilitated.

### **Pits and Quarries Control Act (P&QCA)**

An Act applicable between 1971 and 1990 to manage and regulate aggregate extraction in Ontario before it was replaced by *Aggregate Resources Act* as of January 1, 1990.

### **Public Complaints**

Ministry of Natural Resources and Forestry (MNRF) is the first responder in accordance with an Agreement to Address the Roles and Responsibilities of the MNR and the MOE Regarding Aggregate Extraction Operations within the Province of Ontario (May 2008). If the complaint relates to air quality or noise under the *Environmental Protection Act (EPA)*, or water under the *Ontario Water Resources Act (OWRA)*, then the Aggregate Inspector passes the information to the MECP to carry out an investigation.

### **Quarry**

Quarry is land/land under water from which consolidated aggregate (e.g. sandstone, dolostone, limestone, shale) is being/has been excavated, and that has not been rehabilitated.

### **Rehabilitation (General)**

Rehabilitation means restoring the land from which aggregate has been excavated to its former use or condition, or to change to another use or condition compatible with adjacent land.

### **Rehabilitation (Progressive and Final)**

Under the ARA, aggregate operators are required to complete progressive rehabilitation of the site to the satisfaction of the Minister of Natural Resources and Forestry. Final rehabilitation is to be performed in accordance with the ARA and Site Plan conditions after the excavation of aggregate and the progressive rehabilitation are completed. Section 48 (1.1) of the ARA (2021) requires reports on progressive and final rehabilitation at prescribed times and in accordance with the regulations.

### **Rehabilitation Order**

Rehabilitation order can be served by MNRF's Aggregate Inspector where progressive rehabilitation is not being undertaken in accordance with the plan. It provides for progressive rehabilitation of a licence or permit within specified timeframe.

### **Reuse Site**

Per O. Reg. 406/19, "reuse site" means a site at which excess soil is used for a beneficial purpose and does not include a waste disposal site.

### **Revocation (of Licence)**

Revocation can be served by MNRF [now MNDMNRF] in regards to the ARA licences and permits in cases involving bankruptcy, site abandonment, infraction where past charges and suspensions had no effects/situations where previous enforcement tools were not effective, and sites where rehabilitation was not the primary concern.

### **Rock**

Per O. Reg. 406/19, "rock" means a naturally occurring aggregation of one or more naturally occurring minerals that is 2 millimeters or larger in size or that does not pass the US #10 sieve.

### **Sandstone**

Sedimentary rock composed of grains of sand set in a matrix of silt or clay and firmly united by a cementing material (commonly silica, iron oxide, or calcium carbonate) - the consolidated equivalent of sand.

### **Shale**

Fine-grained sedimentary rock formed by the compaction of clay, silt or mud. It has a finely-laminated structure.

### **Soil**

Per O. Reg. 406/19, "soil" means unconsolidated naturally occurring mineral particles and other naturally occurring materials resulting from the natural breakdown of rock or organic matter by physical, chemical or biological processes that are smaller than 2 millimeters in size or that pass the US #10 sieve.

### **Soil Rules**

Per O. Reg. 406/19, "Soil Rules" means the document entitled "Part I: Rules for Soil Management," published by the Ministry and as amended from time to time, available on a website of the Government of Ontario as Part I of the document entitled "Rules for Soil Management and Excess Soil Quality Standards."

### **Supervisee**

Per O. Reg. 406/19, "supervisee" means an individual who is supervised by a qualified person.

**Surrender (of Licence)**

The MNRF may accept the surrender of a licence if the Ministry is satisfied that all applicable fees (e.g. annual licence, rehabilitation security, etc.) have been paid and the rehabilitation was completed in accordance with the ARA, the Site Plan and licence conditions.

**Suspension (of Licence)**

Suspension can be served by MNRF's Aggregate Inspector in regards to violations of active licences, waysides and aggregate permits to obtain immediate compliance (i.e. to correct infraction) where there is no immediate need to stop site activity.

**The Ontario Aggregate Resources Corporation (TOARC)**

The Ontario Aggregate Resources Corporation (TOARC) was established by MNR [now MNRF] in 1997 to administer the Aggregate Resources Trust and manage rehabilitation of abandoned pits and quarries. TOARC is responsible for, among other things, collection and disbursement of aggregate resource charges, collection and publishing of production statistics, production auditing, research, and training of persons engaged/interested in management of aggregate resources in Ontario (<https://toarc.com/>).

**TOARC's Management of Abandoned Aggregate Properties (MAAP)**

TOARC's MAAP program is dedicated to rehabilitation of abandoned pits and quarries (i.e. former sites that have not had a valid licence issued under the ARA since 1990) in the ARA-designated areas of the province and is funded by the aggregate industry. Where the landowner has granted permission, these sites can be rehabilitated under the MAAP Program (<https://toarc.com/legacy-pits-quarries-maap/>).

**TOARC's Surrendered Sites Reporting and Mapping**

TOARC's Surrendered Sites Reporting and Mapping tool <https://toarc.com/what-is-e-surrender/> provides information on the end- use of rehabilitated aggregate sites. The online tool contains information on a site-by-site basis detailing the current and surrounding land-uses as well as information on the licence/permit itself, including operation type, licence/permit class, licensed area, location, and surrendered date.

**Wayside Permit**

Wayside permit refers to a permit issued to any person who has a contract with a public authority that required aggregate for a temporary project (road construction or road maintenance) from a source in a part of Ontario designated under Section 5 of the ARA.

Appendix 2: Summary and Status of the ARA Licences in the Region of Halton (2021-2022)							
ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
1	5480; Acton Limehouse Pit (Fountain Green South Inc., since May 31, 2018; St. Mary's Cement Inc. [prior])	L - 26.33 E - 22.6	Class A, sand and gravel pit (below water ▼)	unlimited [no apparent activities]	6.9 (2020) 6.9 (2019)	6.75 (2022) 6.75 (2021)	CARs contain limited information on the site activities. The 2021 and 2022 CARs reported "no pit operations since last inspection." All items under "operational details" denoted in compliance or not applicable. Total disturbed area of 6.9 hectares has not changed since 2018.
2	5492; Acton Quarry - Phases: 1, 2, 3 (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	L-222.28 E-193.25	Class A, dolostone quarry (below water ▼)	4,000,000 together with the ARA 625003 [site near depletion; extraction was on hold]	112.06 (2022) 112.45 (2021)	83.02 (2022) 85.85 (2021)	No extraction activities occurred in 2021. Operations re-commenced in early 2022 to remove minor remaining reserves on the floor of Phase 2 and in the ramp area of Phase 3. Total 2022 disturbed area was reported at 112.06 ha. Dewatering at Phases 2 and 3 continued with all flows directed to Phase 1 Reservoir. Dewatering flow was discharged through 4th Line weir to the Black Creek watershed, and through diffuse discharge to Tributary A of 16 Mile Creek. Mitigation to the Phase 2 seeps continued.
3	625003; Acton Extension Quarry – Phases: 4, 5E, 5W/6 (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	L – 65.6 E – 49.3	Class A, dolostone quarry (below water ▼)	4,000,000 together with the ARA 5492 [extraction was on hold]	8.05 (2022) 7.08 (2021)	0.25 (2022) 1.27 (2021)	No extraction activities occurred in 2021. Minor extraction occurred above the bedrock groundwater table in Phase 4a in 2022 [no dewatering occurred]. Total disturbed area, as of 2022, was reported at 8.05 ha. No quarrying activities in Phase 5W/6. Region continued oversight of agreements and reviews of the AMP-related technical submissions (refer to extended summary in Section F of this Document).

ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNR notices and/or other available information [2021- 2022])*
4	20660; Brockton Farms Quarry (Brockton Farms)	L - 36.8 E - 25.7	Class B, sandstone quarry (above water)	20,000 [low extraction]	1.4 (2022) 1.4 (2021)	1.3 (2022) 1.3 (2021)	Quarry has been operated as one phase in conjunction with licensee's adjacent Hilltop Quarry (ARA 5720). Beds of stone are drilled and blasted for removal, using excavators, drills, etc. Total disturbed area, as of 2021/2022, was reported at 1.4 ha.
5	5720; Hilltop Quarry (Hilltop Stone and Supply Inc.)	L - 9.36 E - 1.5	Class B, sandstone quarry (below water▼)	20,000 [active sandstone quarry]	5.9 (2022) 5.3 (2021)	0.8 (2022) 0.8 (2021)	Quarry has been operated as one phase in conjunction with licensee's adjacent Brockton Farms Quarry (ARA 20660). Quarried stone is removed by excavators, drills, etc. In 2022, topsoil was removed from 1 acre (0.40 ha). Total disturbed area as of 2022 was 5.9 ha.
6	5507 Hayward Pit (Springbank Sand and Gravel Ltd.)	L - 52.0 [per ARA Licence] L- 42.3 and E - 19.5 per Site Plan	Class A, sand and gravel pit (above water)	unlimited [operations completed; pit depleted]	20.2 (2022) 20.9 (2021)	20.2 (2022) 20.2 (2021)	Site was subject to on-going rehabilitation. Based on CAR notes: importation of soil for rehabilitation, seeding, and tree planting. The 2021/2022 disturbed and rehabilitation areas were given as 20.2 hectares.
7	5619 Leaver Pit (Springbank Sand and Gravel Ltd.)	L - 54.27 [per ARA Licence] L - 61.8 E - 52.6 per Site Plan	Class A, sand and gravel pit (above water)	1,500,000 [operations completed; pit depleted]	52.6 (2022) 52.6 (2021)	52.6 (2022) 52.6 (2021)	Site was subject to on-going rehabilitation Based on CAR notes: importation of soil for rehabilitation, seeding, and tree planting. The 2021/2022 disturbed and rehabilitation areas were given as 52.5 ha.

ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
8	5616; Bot-Holdings Pit (Bot Holdings Ltd.; formerly Bot-Duff Pit)	L - 58.6 E - 49.2	Class A, sand and gravel pit (above water)	750,000 [no extraction since 2006; rehabilitatio n was in progress]	38.1 (2022) 38.1 (2021)	33 (2022) 33 (2021)	Site was subject to rehabilitation in 2021/2022. Importation of material occurred, for on-site slopes and “east pit” as approved in a letter from MNRF. Per the 2022 CAR, final rehabilitation was completed that year and included application of topsoil and seeding at approved setback in the West Pit, and rehabilitation of south slope (1:3 slope seeding, as approved).
9	5500; Aldershot Quarry (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	L - 62.4 E - 62.1	Class A, shale quarry (above water)	unlimited [active extraction]	22.1 (2022) 22.1 (2021)	8 (2022) 8 (2021)	In 2021, Meridian Brick imported approximately 70,000 metric tonnes of material from site digs in Burlington and Oakville, and was blending this material with material mined from the West quarry for brick making purposes. In 2021, extraction occurred in the West quarry (Phase 4) and Centre quarry (Phases 2 and 3). In 2022, mining occurred in the West quarry only. Meridian Brick was in the process of submitting an updated plan for the East quarry to include phasing, adjusted setbacks [SARS management area], an extended mitigation berm, and an updated dust-monitoring plan [submitted to the MECP for approval].
10	5605; Burlington Pit (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	L - 17.1 E - 16.0	Class A, shale quarry (below water▼)	195,000 [extraction ceased before 2009; rehabilitate d [per CARs]	12.3 (2022) 12.3 (2021)	12.3 (2022) 12.3 (2021)	Mining operations had ceased a number years prior. According to Meridian Brick, the quarry had been rehabilitated, including reforestation of 1 hectares adjacent to Bronte Creek. Based on the 2022 CAR, Meridian Brick was in discussion with MNRF, HR, CH and the City of Burlington to surrender the licence and backfill the quarry. Meridian Brick was drafting plans for approval.



ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
11	5546; Wilroy Brooks Pit (Fountain Green North Inc.; formerly St. Mary's Cement Inc. (Canada)	L - 79.18 [original] E - 28.3 [original]; reduced to 7 hectares in 2020	Class A, sand and gravel pit (above water)	363,000 [no extraction since about 2005]	7 (2022) 7 (2021)	7 (2022) 7 (2021)	Partial surrender of ARA 5546 and reduction in the licensed area from 79.18 hectares to 7 hectares occurred in 2020. The 2021/2022 activities referred to progressive rehabilitation only. In 2021, "current year" disturbed was given as 3.5 hectares [7 hectares in total]. . In 2022, "current year" disturbed area was given as 4.5 hectares [7 hectares in total]. [Note: as of 2020, licence area was reduced from 79.18 hectares to 7 ha, and conditions on site plan were updated including no further aggregate extraction].
12	613081; Tansley Quarry (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	L – 37.8 E - 28.9	Class A, shale quarry (below water ▼)	300,000 [1/2 limit permitted until Tremaine Road widening is completed]	17.2 (2022) 17.2 (2021) [includes 8.6 hectares of excavated area and 8.4 hectares berm]	8 (2022) 8 (2021)	Per CARs, excavation continued in Zone A [Ref: Site Plan]. Disturbed area of 17.2 hectares had not changed since 2014. Per the 2021 CAR: Meridian "have registered activity under O. Reg. 242/08 of the RSA, 2007 re. Barn Swallow," "have constructed an alternative nesting structure approved by consulting ecologist, Plan B heritage, and MNRF." Annual extraction limit of 150,000 tonnes applies until Tremaine Rd. is upgraded. Region continued reviews of technical submissions concerning AMP and PCWS Agreements (Refer to Section F of this Document).
13	5716; Rice and McHarg Quarry (Rice and McHarg Quarries Ltd.)	L -12.85 E - 1.9	Class B sandstone quarry (below water ▼)	20,000 [resource almost depleted]	3.35 (2022) 3.35 (2021)	6.25 (2022) 6.25 (2021)	No stripping and no change in disturbed area had been reported since 2017. General note indicates: "very limited amounts of sandstone had been extracted from the site in recent years." Quarried stone removed using forklift, hand tools, compressors, and drills, etc. Quarried sandstone is stored on wooden pallets for pick up.

ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
14	5614; Limehouse Clay Products Ltd. Pit – north (Limehouse Clay Products Ltd.)**	L - 12.8 E - 10.6	Class B, shale quarry (above water)	20,000 [active shale quarry]	NA (2022) NA (2021) [a total of 2.7 hectares last reported in 2020]	NA (2022) NA (2021) [a total of 0.3 hectares last reported in 2020]	No activity notes provided in annual CARs as the site had not been active for several years. Aside from comments related to signage, boundary demarcation and fences, no other site-related matters were noted in the 2021 and 2022 CARs.
15	5711; Limehouse Clay Products Ltd. Pit - south (Limehouse Clay Products Ltd.)**	L - 3.24 E - 3.2	Class B, shale quarry (above water); 2013 Site Plan permits quarry deepening by 5m on 1hectares ▼	20,000 [no apparent active extraction in 2017/ 2018]	NA (2022) NA (2021) [a total of 1.7 ha last reported in 2020]	NA (2022) NA (2021) [a total of 0.8 ha last reported in 2020]	No activity notes provided in the 2021/2022 CARs as the site had not been active for several years. Aside from comments related to signage and boundary demarcation (fences, stakes, etc.) no other site-related matters were noted in the 2021 and 2022 CARs.
16	5499; Burlington Quarry – The Majority (Nelson Aggregate Co.)	L-202.5 E-193.8	Class A, dolostone quarry (below water▼)	unlimited [extraction, stockpiles and some reserves]	102.8 (2022) 123.8 (2021)	9 (2022) 121.5 (2021)	Based on the 2021 and 2022 CARs, extraction occurred in Phase 2 on the southeast side of the site. Main shop and old scalehouse were removed to extract the rock underneath. Concrete and asphalt allowed in for aggregate recycling as per site plans. Monitoring as per site plan. Dust suppression ongoing; water and calcium chloride used as required. The 2022 reported decrease in total disturbed area [by about 20 hectares relative to 2021] is not clear as total rehabilitation area was decreased from 121.5 hectares (2021) to 9 hectares (2022).

ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
17	5657; Burlington Quarry – The Minority (Nelson Aggregate Co.)	L- 16.2 E- 16.2	Class A, dolostone (quarry below water▼)	up to 2,722,000 [operation completed]	16.2 (2022) 16.2 (2021)	0 (2022) 16.2 (2021)	Extraction had been completed a number of years ago, and the site had been consistently reported as rehabilitated until 2021. Per the 2019 CAR, 1 hectares area was reclaimed along the haul road/abutting licence 5499. Per the 2021/2022 CARs, a haul route runs through the west section of the licence; water and calcium chloride are used for dust suppression as required; no plants or buildings on-site. In 2021, imported some clean fill for building some berms to help noise and dust suppression. In 2022 CAR, previously reported rehabilitated area of 16.2 hectares was reported as “0.” Site operated jointly with ARA 5499.
18	5481; Milton Quarry - Main and North (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	L – 467.7 E - 382	Class A, dolostone quarry (below water▼)	Unlimited [extraction in North Quarry (since early 2000s) near completion]	206.12 (2022) 193.69 (2021)	177.72 (2022) 187.81 (2021)	In 2021 and 2022, minor extraction occurred in the Main Quarry [i.e. south of the primary crusher, and west of the scalehouse]. Ongoing cleanup of remaining reserves to continue until rehabilitation is complete within the processing area. Stockpiling areas in the Main Quarry include aggregate, asphalt and recycled concrete as per site plans.
19	608621; Milton Quarry Extension: Phases 1, 2, 3 (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	L - 84.5 E – 70.6	Class A, dolostone quarry (below water▼)	unlimited [extraction: completed in Phase 1 [NQ]; continued in Phases 2 and 3 (West and East Cells)]	49.36 (2022) 66.28 (2021)	21.28 (2022) 4.32 (2021)	In 2021, extraction occurred in Phases 1, 2 and 3 of this licence; stripping took place in Phase 3. In 2022, extraction occurred in the East Cell [i.e. upper bench extraction finished; lower bench extraction was advanced in the central and northeastern parts; floor extraction started in the southwest corner of this cell and had proceeded eastward. Region continued oversight of agreements and reviews of the AMP-related technical submissions and monitoring data (refer to extended summary in Section F of this Document).

ID # On Map 1	ARA Licence No; Site Name (owner, where not part of site name)	Licensed Area and Extraction Area (hectares)	Licence Class, Type (below/ above water) and Material Extracted	Extraction Limit/ Annum (tonnes) [extraction status]	Total Disturbed Area* (hectares)	Total Rehabilitat ed* Area (hectares)	Operational Status/Recent Activities (as per Compliance Assessment Reports [CARs], MNRF notices and/or other available information [2021- 2022])*
20	5484; Milton Pit (368574 Ontario Ltd. and 579813 Ontario Inc.; Formerly, The Warren Paving and Materials Inc.)	L - 40.74 E - 25.5	Class A, sand and gravel pit (above water)	unlimited [extraction completed]	NA (2022) NA (2021) [a total of 5 hectares last reported in 2020]	NA (2022) NA (2021) [a total of 2.5 hectares last reported in 2012]	Extraction at this site was deemed completed a number of years prior. No specific comments in the 2021 and 2022 CARs aside from “minor fence repairs on east boundary.”
<p>Notes: CAR – Compliance Assessment Report; L- licensed area; E – permitted extraction area; NA – information not available; n/a – not applicable; ▼ – extraction permitted below water. * Refer to LPS69-17, LPS96-15, LPS06-12, LPS103-19, and LPS67-21 for earlier information on State of Aggregate Resources in Halton Region; ** ARA 5614 and ARA 5711 licences were transferred to Zamparo Industries Inc. as of April 26, 2023.</p>							

Appendix 3: Status of Implementation of Approved Rehabilitation Plans ARA Sites in Halton Region (2021-2022)			
ID # on Map 1	ARA Licence No., Site Name (owner, where not part of site name)	Rehabilitation/End-use Description	Status of Implementation of Approved Rehabilitation Plans based on 2021-2022 CARs
1	5480; Acton Limehouse Pit (Fountain Green South Inc., since May 31, 2018; formerly St. Mary's Cement Inc. (Canada))	Seven features including ponds, protected dabbling area, meadow and deep water aquatic habitat etc.	Total rehabilitated area of 6.75 hectares has not changed since 2018. Based on aerial photograph, the west-central area is occupied by a pond. Based on the prior CARs, most of the pit faces above water had been sloped and rehabilitated and had self-sustaining vegetation growth.
2	5492; Acton Quarry - Phases 1, 2, 3 (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	Conservation and/or Recreation	Total rehabilitation area at the Acton Quarry [Phases 1, 2, 3] declined to 83.02 from of 85.85 hectares reported between 2018 and 2021. Based on the 2021/2022 CARs, no rehabilitation occurred during these years, though, the 2022 "phasing/sequencing" notes indicate: "Extraction and progressive rehabilitation ongoing in Phase 2 and 3. Progressive rehabilitation ongoing in Phase 1." The 2022 CAR notes indicate: "Fill material being imported for rehabilitation purposes as per Acton Quarry Soil Importation Protocol and note 1 on pg. 3 of 5 of site plan."
3	625003; Acton Extension Quarry - Phases 4, 5E, and 5/6W (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	Lakes, shoreline wetlands, cliffs, and terrestrial (i.e. wooded slopes)	Total rehabilitation area at the Acton Extension quarry [Phase 4] was reduced to 0.25 hectares from 1.27 hectares reported in the 2019-2021 CARs. Based on the 2021/2022 CARs: "No rehabilitation activities completed in the previous calendar year" and "No fill importation during assessment period." In 2021, tree planting took place outside the licensed limits. As this site is under early development stages [i.e. above-water extraction recommenced in Phase 4a in 2022], rehabilitation in this licence area had been limited.
4	20660; Brockton Farms Quarry (Brockton Farms)	Agricultural	Total rehabilitation area increased to 1.3 hectares relative to 0.6 hectares reported between 2004 and 2020. Annual CARs indicate that most of the worked areas had been filled with waste rock and overburden; slopes/grades are established as part of excavation activities; previously rehabilitated areas are vegetated; and no material has been imported to the quarry.
5	5720; Hilltop Quarry (Hilltop Stone and Supply Inc.)	Agricultural	Total rehabilitated area increased to 0.8 hectares relative to 0.7 hectares reported between 2007 and 2020. Annual CARs indicate: quarry faces are backfilled with waste rock and overburden from stripping; grades/contours/elevations are established during excavation/stripping operations, and no material has been imported to the quarry.

ID # on Map 1	ARA Licence No., Site Name (owner, where not part of site name)	Rehabilitation/End-use Description	Status of Implementation of Approved Rehabilitation Plans based on 2021-2022 CARs
6	5507; Hayward Pit (Springbank Sand and Gravel Ltd.)	Potential after uses include recreation/conservation. The pit floor grading to incorporate "mounds" and "depressions" that will increase the sites' potential for wildlife habitat.	Progressive rehabilitation increased by 3 hectares in 2021/2022 to a total of 20.2 hectares [relative to a total of 17.2 hectares reported between 2017 and 2020]. The same area [i.e. 20.2 ha] was reported as total disturbed in 2022. CAR notes under "Importation of soil for rehabilitation" refer to seeding and tree planting. The following rehabilitation activities were check-marked in the 2020/2021 CARs: backfilling slopes/pit floor, rough grading, and cultivating. CARs' check marks for intended end-use included: agricultural, natural and water.
7	5619; Leaver Pit (Springbank Sand and Gravel Ltd.)	Potential after uses include recreation/conservation	Additional 3 hectares were reported rehabilitated in 2021; however, total rehabilitation area of 52.6 hectares had not changed since 2017. The same area [i.e. 52.5 ha] was reported as total disturbed in 2021 and 2022. CAR notes under "Importation of soil for rehabilitation" refers to seeding/tree planting. The following rehabilitation activities were check-marked in the 2021/2022 CARs: backfilling slopes/pit floor, rough grading, and cultivating.
8	5616; Bot-Holdings Pit (Bot Holdings Ltd.; Formerly Bot-Duff Pit; Bot-Duff Resources Inc.)	Agricultural	Total rehabilitation area, reported at 33 hectares in 2021 and 2022, increased by about 7 hectares relative to 2020, though both CARs reported progressive rehabilitation occurring on 29 hectares of the site. The 2021 CAR referred to backfilling of south slope to a 1:3 slope in preparation for application of topsoil and seeding. The 2022 CAR indicated: final rehabilitation (topsoil and seeding) of approved setback area of west pit, and rehabilitation of south slope (1:3 slope seeding as approved) was completed in accordance with MNRF letter.
9	5500; Aldershot Quarries (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	Final after use to be determined upon completion of the extraction operation. Interim use will be open space. The Greenbelt Plan area (4.7 ha) is to be rehabilitated to 100 percent forest cover; all watercourse diversions and remaining SWM ponds to be rehabilitated to aquatic enhancement representative of the local natural ecosystem.	The ARA 5500 consists of West, Centre, and East Quarry Cells. Total rehabilitated area of 8 ha, within the previously extracted cells (West and Centre Quarry areas) has not changed since 2008. East Quarry is under early development stages. The 2021/2022 CARs had all rehabilitation items denoted in compliance. CAR notes indicated: grades/contours as per rehabilitation plans, areas of West and Centre Quarry have been backfilled and slopes seeded. No further rehabilitation-related specifics were provided in CARs.

ID # on Map 1	ARA Licence No., Site Name (owner, where not part of site name)	Rehabilitation/End-use Description	Status of Implementation of Approved Rehabilitation Plans based on 2021-2022 CARs
10	5605; Burlington Pit/Quarry (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	Originally Pond; however, the site had been largely filled with waste brick and soil, sloped and grassed, and 1 hectares of the Greenbelt area adjacent to the Bronte Creek had been reforested.	Per annual CARs, mining operations had ceased at this site many years prior. Licensee maintained that the quarry had been rehabilitated to MNRF's requirements, including reforestation of 1 hectares adjacent to Bronte Creek. Based on the 2022 CAR: Meridian Brick was in discussion with MNRF, HR, CH and the City of Burlington to surrender the licence and backfill the quarry. Meridian Brick was drafting plans for approval.
11	5546; Wilroy Brooks Pit (Fountain Green North Inc. based on MNRF's Pits and Quarries Online; formerly St. Mary's Cement Inc.)	Rural Residential and Agricultural	CAR comments indicate "progressive rehabilitation only." The 2021/2022 CARs indicate that 3.5 hectares were under rehabilitation during that period, with a total rehabilitation area at 7 ha. No rehabilitation specifics were provided in CARs. [Note: as of 2020, licence area was reduced from 79.18 hectares to 7 ha, and conditions on site plan were updated including no further aggregate extraction].
12	613081; Tansley Quarry (Meridian Brick Canada Ltd.; Formerly Forterra Brick Ltd. and Hanson Brick Ltd.)	The site is to be rehabilitated to upland habitat with future lake of 18.2 ha	Total rehabilitated area of 8 hectares has not changed since 2015 [this site, which was licensed in 2007, is under active development]. The 2020/2021 CARs indicated: grades/contours/elevations "as per rehabilitation plan" and that no importation of material for rehabilitation had occurred at this site.
13	5716; Rice and McHarg Quarry (Rice and McHarg Quarries Ltd.)	To be seeded	Total rehabilitated area of 6.2 hectares has not changed since 2009. CARs indicate that: progressive rehabilitation occurs when stripping of soil is required to expand working area; quarry faces have been progressively backfilled and sloped when stripping operations occurred; grades are established as excavation proceeds and is dependent on the volume of waste rock available for backfilling; previously rehabilitated areas are well vegetated; and areas of previously disturbed land is naturally revegetating.
14	5614; Limehouse Clay Products Pit - north (Limehouse Clay Products Ltd., a subsidiary of Jazbrick)	Estate Residential, Agricultural (Pasture Land)	No rehabilitation-related activities identified in the 2021/2022 CARs as the site had not been active during this reporting period. For inactive sites, only Part B of CAR needs to be completed.
15	5711; Limehouse Clay Products Pit - south (Limehouse Clay Products	Estate Residential, Agricultural (Pasture Land)	No rehabilitation-related activities identified in the 2021/2022 CARs as the site had not been active during this reporting period. For inactive sites, only Part B of CAR needs to be completed.

ID # on Map 1	ARA Licence No., Site Name (owner, where not part of site name)	Rehabilitation/End-use Description	Status of Implementation of Approved Rehabilitation Plans based on 2021-2022 CARs
	Ltd., a subsidiary of Jazbrick)		
16	5499; Burlington Quarry - The Majority (Nelson Aggregates Co.)	Lake with vegetated slopes, residential, public and/or private recreational uses (i.e. sports fishing, swimming and boating).	Total rehabilitation area of more than 100 hectares was reported for this site between 2009 and 2021. The rehabilitation area was decreased from 121.5 hectares in 2021 to 9 hectares in 2022. Progressive rehabilitation notes indicate: continued rehabilitation of quarry faces by sloping gradually; slopes are vegetated as required, not at final limits. Importation of Table 1 fill is allowed (brought in for rehabilitation as required; also subject to Nelson's fill protocol). The types of rehabilitation activities check marked in CARs included rough grading and re-spreading topsoil/overburden. General comment indicates: topsoil added to some of the rehabilitated areas to encourage vegetation growth.
17	5657; Burlington Quarry - The Minority (Nelson Aggregates Co.)	Lake with vegetated slopes, residential, public and/or private recreational uses (i.e. sports fishing, swimming and boating).	The site was deemed fully rehabilitated prior to 2021, with total rehabilitated area reported at 16.2 hectares between 2002 and 2021. The 2022 rehabilitation area was reported at "0" ha. Based on the 2021/2022 CARs, rehabilitation was an ongoing process; however, no rehabilitation took place during this period. In 2021, the on-site activities included "building berms for noise and dust suppression." CARs indicate that Table 1 fill is allowed as per site plan (brought in as required for progressive rehabilitation) - also subject to Nelson's internal fill protocol. Sloping of faces denoted sloped; vegetated as required, not at final limits.
18	5481; Milton Quarry - Main and North (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	In 2000, Dufferin developed Final Rehabilitation Plan (FRP) superseding prior alternatives. Key components of the FRP for the Main Quarry are reservoir, lake and wetland on the west side, and dry land after-uses on the east side. Rehabilitation lake to occupy the North Quarry.	Total rehabilitated area reported as 187.81 hectares in 2021 and 177.72 hectares in 2022. Progressive rehabilitation continued in the Main Quarry (southwest side/lower yard); vegetation management occurred in the Main Quarry (meadow area). The following rehabilitation activities (type) were check marked in the CARs: backfilling slopes/pit floor, rough grading, re-spreading topsoil/overburden, seeding/tree planting. General note indicates: Hydro seeding occurred in the Main Quarry - west side. Importation of clean fill for rehabilitation; MNRF notified as per site plans.
19	608621; Milton Quarry – Extension: Phases 1, 2, 3 (Dufferin Aggregates, a Division of CRH Canada Group Inc.)	Two lakes in the two extension areas [West and East] as an after-use, and 5 hectares of wetlands. The adjacent North Quarry is also to become a lake.	Total rehabilitation area reported at 4.32 hectares as of 2021 and 21.28 hectares as of 2022. Based on the 2021 CAR, progressive rehabilitation continued in the West Cell along the east-west pillar. Per the 2022 CAR: West Cell buttress construction was completed and lake filling had started. The following rehabilitation activities (type) were check marked in the



ID # on Map 1	ARA Licence No., Site Name (owner, where not part of site name)	Rehabilitation/End-use Description	Status of Implementation of Approved Rehabilitation Plans based on 2021-2022 CARs
			2021/2022 CARs: backfilling slopes/pit floor, rough grading, re-spreading topsoil/overburden, and seeding/tree planting. Lake filling in Phase 2 started in 2022; occasional dewatering occurs.
20	5484; Milton Pit (368574 Ontario Ltd. and 5798813 Ontario Inc.; formerly The Warren Paving and Materials Group Ltd.)	Agricultural, Reforestation or Recreation	All items under Section B of the 2021/2022 CARs were denoted in compliance or not applicable. The new CAR form does not require filling in other sections if site had been inactive in the last 2 years [as is the case with this licence] and, as such, no disturbed /rehabilitated area was provided in these CARs.