



# Citizen's Guide to the Dufferin Aggregates Application to Extend the Acton Quarry

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## INTRODUCTION TO THE GUIDE

Dufferin Aggregates (Dufferin), has operated the Acton Quarry since 2001 although a limestone quarry has operated on this site for some 200 years (Dolly Varden). Acton Quarry operates north and south of 22nd sideroad and is approved to extract 4 million tonnes of material per year. In order to continue the supply of high quality stone, Dufferin has submitted an application to extend the Acton Quarry.

Aggregate (sand, gravel and stone) is an important element in a wide range of construction materials used for infrastructure projects, such as the construction of homes, offices, schools, roads, highways, hospitals, and public open spaces. It can also be used to address and/or solve environmental issues such as filtration in sewage plants, scrubbers to filter emissions, and stream rehabilitation.

The proposed Acton Quarry extension will make available +/- 71 million tonnes of a provincially significant aggregate resource that will help address the critical supply issue and meet the need for construction materials to support current and future infrastructure requirements.

Dufferin has worked hard to refine its application to generate significant public benefits above and beyond the rock which is extracted and to properly protect our neighbours and the natural environment from any unacceptable impacts.

Dufferin's application is consistent with the Provincial Policy Statement and conforms to the Greenbelt, Growth Plan for the Greater Golden Horseshoe, and Niagara Escarpment Plans, as well as the Region of Halton and Town of Halton Hills Official Plans. We believe it represents good planning, wise use of land, and sound management of an essential resource, while carefully balancing economic, environmental, and social considerations.



*Recognizing that the application and approval process is extremely complex this guide:*

- outlines the benefits and challenges of aggregate extraction;*
- provides an overview of the proposed Acton Quarry extension;*
- describes the application process;*
- summarizes the key application background reports; and*
- contains useful information and resources for anyone interested in knowing more about the license application.*

Additional information is available by following the links at **[www.dufferinactonquarry.com](http://www.dufferinactonquarry.com)** and/or by contacting the Quarry Extension Info Line directly at 1-866-635-6111. You can also see the Section "How You Can Provide Feedback" for email and direct staff phone numbers.



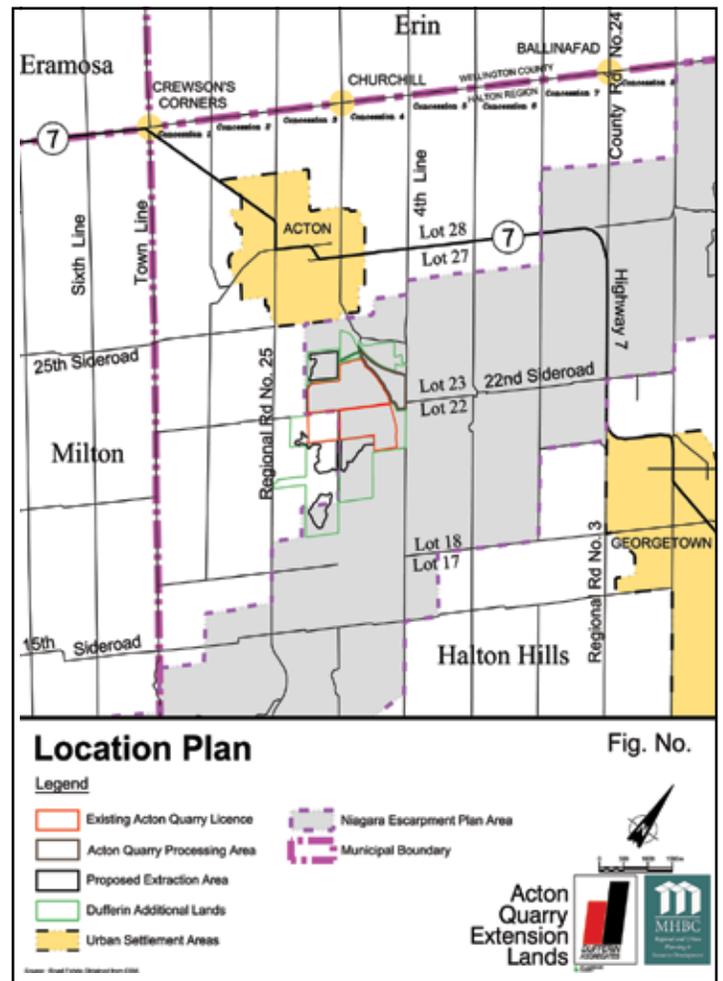
## INTRODUCTION TO THE APPLICATION

Dufferin, a business unit of St. Lawrence Cement Inc., is applying to extend its Acton Quarry, in the Town of Halton Hills, Regional Municipality of Halton. The proposed extension is located to the north and south of the existing operation, on land owned by Dufferin.

Dufferin’s land holdings in the areas of the Acton Quarry total approximately 615 ha. 265 ha is the existing quarry and processing area. The extensions proposed license area is 124.4 ha. Within the licensed area, the total proposed extraction area is 99 ha.

The remaining 225 ha of land will remain in a natural state.

- The required land use applications include:
1. **Aggregate Resources Act** license and site plans
  2. **Niagara Escarpment Planning & Development Act** amendment and development permit
  3. **Planning Act**, amendments to Halton Region Official Plan, Town of Halton Hills Official Plan and Town of Halton Hills Zoning By-law





## Importance of Aggregate



Aggregate is a non-renewable resource which Ontarians use and benefit from everyday. Almost every job in Ontario makes use of, or depends on, aggregates:

- we live and work in buildings built with aggregate;
- our children go to schools built with aggregate;
- we reach our destinations on roads and highways, and public transit ways built with aggregate;
- even the water we drink is purified with aggregate and travels through pipes made with aggregate.

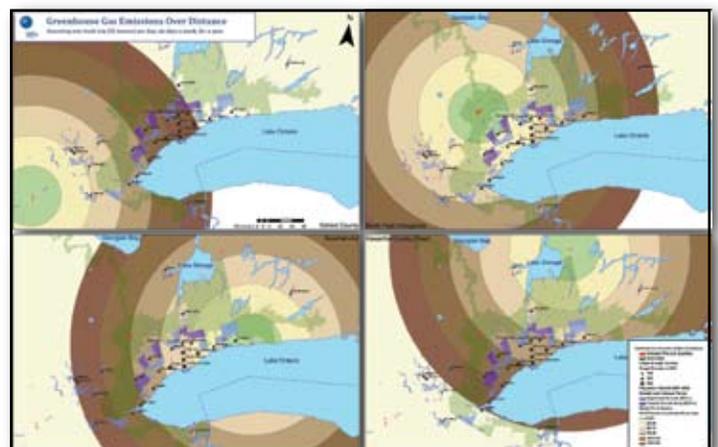
The aggregate industry is a major employer. In Ontario (2005), more than 7,000 people depended directly on aggregates for their jobs. Another 34,000 people's jobs were indirectly related to aggregates. Hundreds of thousands of jobs in the construction industry also rely on an adequate supply of aggregate products.

## Future Supply

We are using aggregate faster than we can develop available high-quality close to market aggregates. Southern Ontario faces the prospect of aggregate shortages in major growth areas (Greater Golden Horseshoe) in the not-too-distant future. Shortages in aggregate will affect industrial, commercial, and residential growth because the high quality material needed to build key infrastructure and buildings simply will not be readily available or will become more expensive.

The Acton Quarry is located within one of Ontario's most important markets, the Greater Toronto Area (GTA). The proposed Acton extension creates an opportunity to meet the growing demand for aggregate as close to market as possible. Extracting aggregate resources close to where it is being used is considered to be the most environmentally sensitive and economically sound alternative to having it shipped over long distances:

- reduced number of trucks on the road
- reduced greenhouse gas emissions
- lower construction costs





## Benefits of the Acton Quarry Extension to Halton



Government agencies at all levels consume vast quantities of sand, stone, and gravel. Municipalities are one of the biggest customers for aggregates, particularly since the upkeep for all roads, except the 400-series highways, has been made a local responsibility. This provides the advantage of preferred pricing based on purchased quantity of material and reduced transportation costs when the supply is close to the project.

Dufferin's Acton Quarry landholdings provide an important long term recreation, conservation and water management asset in the Town of Halton Hills. Dufferin owns more than 600 ha that are strategically located and provide a significant opportunity to enhance the Niagara Escarpment Parks and Open Space System, regional greenlands linkages and local conservation space.

The size and contiguous nature of the land holdings presents unprecedented opportunities for public use in proximity to growing population centres. Public recreation uses may include trails, biking, picnicing, playing fields, water based recreation, bird watching and more. Public conservation and stewardship uses will include among other things habitat creation (.3 ha), tree planting (55.2 ha), forest management (56.7 ha), new wetland creation (6.5 ha), new woodlands (49.4 ha) sustainability and diversity projects.

As part of the application, if approved, Dufferin is willing to convey 600 ha of this land into public ownership. This contiguous landbase is comparable in size and use to the Kelso Conservation Area and Bronte Creek Provincial Park and offers an unprecedented range of uses in within 2 hours drive of millions of Ontario residents.

The planned rehabilitated landform after extraction includes a water management system. This system will provide the flexibility to store and release water as desired to surrounding natural heritage features and/or local and regional water supply systems.

Municipalities also benefit from the strong corporate social responsibility programs of community-minded companies. Dufferin is part of the Halton Hills and is committed to ensuring that the community is vibrant, healthy and sustainable. Every year the company sponsors local sports teams and contributes to community events and initiatives including:

- construction of the Georgetown arena complex;
- restoration of the historical heritage Limehouse Kilns in Acton and the rebuilding of the old Limehouse Brie, in partnership with the Limehouse Kiln Society
- construction of a new home for the Acton Agricultural Society;
- construction of a youth skateboard park in Acton;
- construction of the outdoor classroom at Robert Little Public School;
- Halton Food for Thought breakfast programs;
- planting of tens of thousands of trees in support of earth week;
- Habitat for Humanity home builds in Halton Hills; and
- Hospital fundraising drive involving all three Halton Healthcare hospitals.



## OVERVIEW OF THE PROPOSED ACTON QUARRY EXTENSION

Dufferin has assembled 300 ha generally north and south of its existing quarry site (between Regional Road 25 and 4th Line, north and south of 22nd Sideroad). This figure does not include lands owned by Dufferin east of Phase 2 or north of the rail line. Within that area the Acton Quarry Extension is specifically located in Part of Lots 19, 20, 21, 22, and 24, Concession 3 and Part of Lots 20, 21 and 22, Concession 4, Town of Halton Hills, Regional Municipality of Halton. The proposed license area is 124.4 ha of which 99 ha is proposed for extraction. The remainder of the license area would be comprised of setbacks and monitoring activities.

The remaining 200 ha of Dufferin's lands will be maintained and protected for conservation uses. Activities in these areas will be limited to monitoring, environmental mitigation and ecological enhancement.

The proposed extension will operate as a continuation of the existing quarry. The proposed quarry will not result in an increase in permitted production levels. Dufferin will maintain the currently approved tonnage limit of four (4) million tonnes a year.

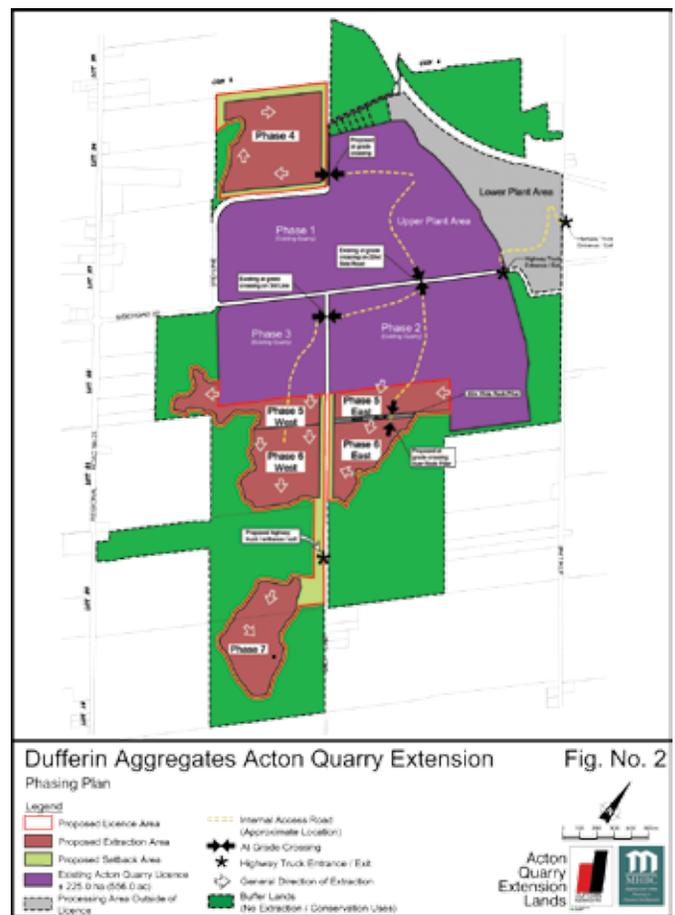
### Assuming the extension application is approved

#### Step 1

When extraction is nearing completion in the existing quarry, the extension area will be prepared for our quarrying activities. Site preparation involves stripping of the soil and overburden material that sits on top of the rock. This work is done in phases as the mine plan evolves over time. Concurrent extraction of any two phases is proposed to occur to allow for efficient operations and to maximize progressive rehabilitation of the site.

#### Step 2

As each Phase of the extension is mined, the majority of the blasted aggregate will be transported by quarry trucks to the existing processing plant. Some portable



processing may take place in Phases 5/6.” From there product will be shipped to market via the existing entrances/exits (4th Line and 22nd Sideroad) and established haul routes. When Phase 7, the southernmost cell, is extracted, it is proposed that it will operate a little differently. It is proposed that processing and shipping will occur directly from Phase 7.

#### Step 3

The quarry area is transformed to the approved land form as each Phase of mining is completed. This progressive rehabilitation takes the form of reduction and re-shaping of perimeter berms, graded side slopes, wetland and forest creation, grading of areas of potential public uses and many other landforms as indicated on the Rehabilitation Plan.



## INTRODUCTION TO BACKGROUND REPORTS



The licensing process under the *Aggregate Resources Act* requires technical reports to be prepared by third-party experts. The purpose of the technical reports is to help the Joint Agency Review Team (JART is made up of technical staff from various government agencies: Region of Halton, Town of Halton Hills, Niagara Escarpment Commission, Conservation Authorities and provincial ministries) members evaluate the appropriateness of the application from a wide spectrum of land use considerations including economic, environmental and social impacts.

Through the review process, these third-party technical experts work closely with the JART members, answering questions regarding the process of data collection, explaining technical modeling and discussing areas of interpretation.

A total of 9 technical reports were developed and submitted to the JART members as part of Dufferin's application to extend the Acton Quarry. The Reports are:

1. Planning Report
2. Geology and Water Resources Report
3. Natural Environment Report
4. Performance-Based Adaptive Management Plan (AMP)
5. Traffic Report
6. Blasting Report
7. Noise Report
8. Air Quality Report
9. Cultural Heritage Report

Individual summaries of these 9 reports are provided in this guide. Full copies of the reports are available at [www.dufferinactonquarry.com](http://www.dufferinactonquarry.com)



## PLANNING REPORT

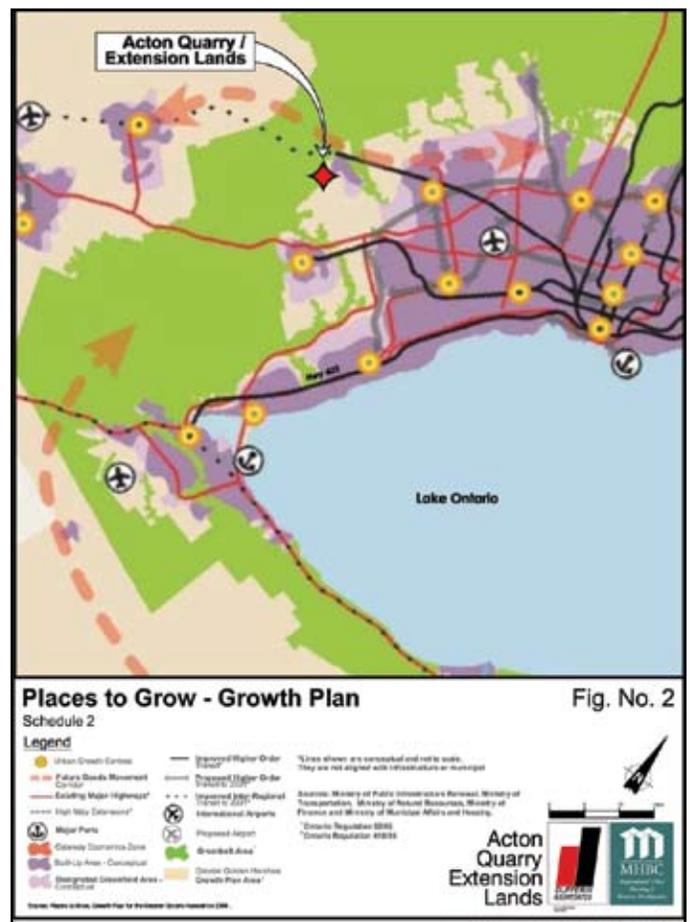
MHBC Planning was retained to complete the analysis of planning policy and land use information in support of the license application. They reviewed the following areas during their analysis:

- Surrounding land uses
- Cultural and natural heritage
- Water
- Noise
- Air quality
- Blasting
- Archaeology
- Traffic patterns
- Agriculture productivity and activity
- Mineral aggregates

The quarry extension represents an important opportunity to provide much needed high quality rock to the growing GTA market, including Halton Region. The extension makes a significant contribution to the local, regional and provincial economy. The planning analysis highlights that the extension has been designed to minimize social impacts and to protect the natural environment. In fact, the analysis describes the increases to size, diversity and function of the greenlands systems that will evolve as a result of the extension.

*The conclusion of MHBC Planning's professional review is that the proposal is consistent with and conforms to the following:*

- Provincial Policy Statement;
- Greenbelt Plan;
- Growth Plan for the Greater Golden Horseshoe;
- Niagara Escarpment Plan;
- Region of Halton and Town of Halton Hills Official Plans; and
- Aggregate Resources Act.



The proposal carefully balances economic, environmental and social considerations, represents good planning and the wise use and management of an essential provincial resource.



## GEOLOGY AND WATER RESOURCES REPORT

Conestoga-Rovers & Associates (CRA) was retained to prepare the Geology and Water Resources Assessment. The report presents the results of the geology and water resources assessment and includes a comprehensive investigation and analysis that has been integrated with the natural environment studies and other planning technical disciplines.

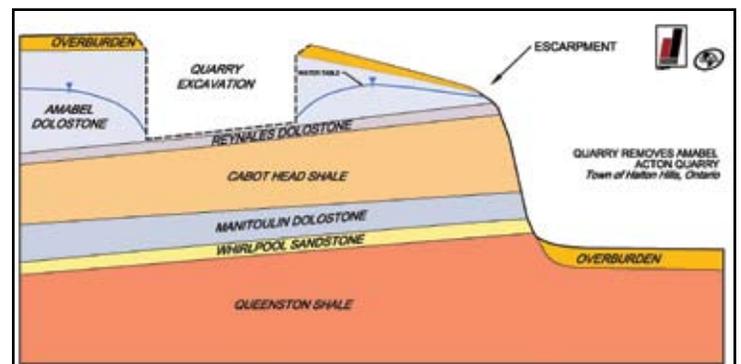
Extensive field investigations were conducted in order to ensure that adequate scientific data was available to draw informed conclusions. The more recent studies built upon the results of investigations and instrumentation that have been conducted at the Acton Quarry over the past two decades. The field investigations that have been conducted generally include:

- Geology and water resources field assessments;
- Borehole/corehole drilling and shallow overburden profiling;
- Quarry rock face assessment;
- Installation of monitoring wells, piezometers, and staff gauges;
- Regular measurement of groundwater levels and surface water levels;
- Regular measurement of surface water flows and quarry related water flows;
- Single well hydraulic conductivity testing;
- Pumping tests;
- Karst assessments including groundwater tracer testing;
- Water sampling and analysis of water quality parameters;
- Climatic (meteorological) data collection
- Flow monitoring



CRA conducted a detailed evaluation of all the available information from these investigations and other available sources. The evaluations included the characterization of geology and water resources as well as the feasibility and design of the proposed extension quarry and associated water resource management. A detailed impact assessment on the local and regional water resources was completed in conjunction with the other study team disciplines.

*CRA concluded that the proposed development of the Acton Quarry Extension will provide suitable construction aggregate resources and protect water resources on the adjacent lands, as well as opportunities for downstream water management benefits.*





## NATURAL ENVIRONMENT REPORT



*Stantec Consulting Ltd., Ecoplans Limited, and Goodban Ecological Consulting were retained to prepare a Natural Environment Report. This report meets the requirements of a Natural Environment Technical Report under the Aggregate Resources Act and Environmental Impact Statements required under the municipal official plans and Niagara Escarpment Plan.*

A thorough inventory of the natural systems and features on, and in, the general vicinity of the proposed extension lands was completed between 2001 and 2008.

The analysis of the significance of the natural heritage features was an iterative process and helped to define the quarry extraction footprint.

*Stantec, Ecoplans and Goodban Ecological conclude in the natural environment report that with appropriate mitigation, the proposed extraction areas have only minimal direct and negligible indirect impacts on significant natural heritage resources. Large blocks of land in and around the extraction area have been protected from the outset. Further they conclude that when coupled with state-of-the-art rehabilitation and enhancement plans, the quarry extension results in a net gain of habitat quantity and quality.*





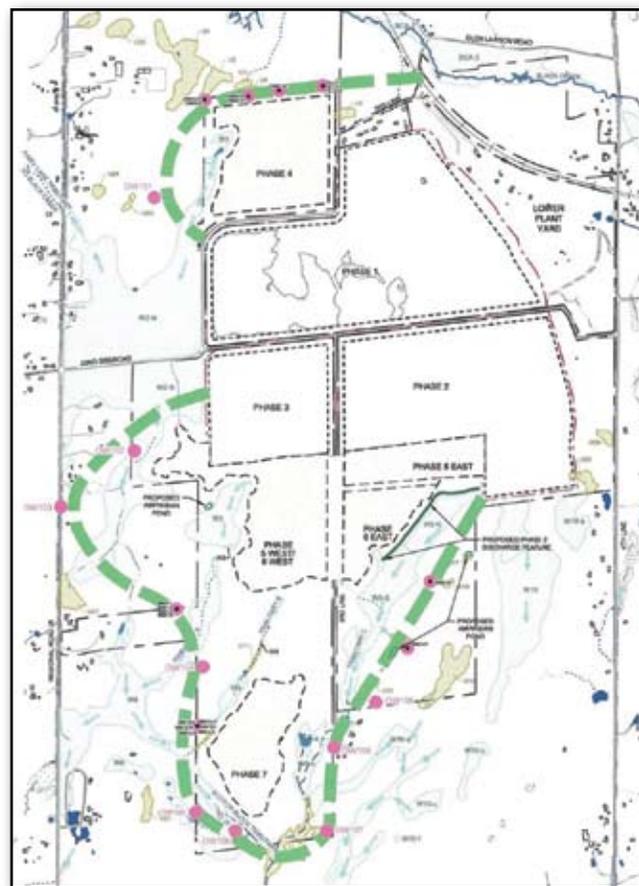
## PERFORMANCE-BASED ADAPTIVE MANAGEMENT PLAN

A comprehensive Performance-Based Adaptive Management Plan (AMP) has been developed as a management tool that will be used to ensure the protection of private water supply wells, water related ecological features (creeks and wetlands), and support regional groundwater levels surrounding the proposed quarry Extension.

The AMP approach includes three key elements: Performance-based Targets (PBTs), interim mitigation measures, and on-going monitoring. Implementation of these key components of the AMP will ensure that potential influences from the quarry operations are appropriately mitigated.

A “green line” boundary (see insert) has been proposed. Monitoring will be conducted inside, along, and beyond the green line (subject to available access) and mitigation implemented or adjusted as appropriate to ensure PBTs are consistently met for water-related ecological features, groundwater levels and private water supply wells.

The AMP also includes associated reporting requirements to ensure agencies are kept apprised of the monitoring, evaluation, and mitigation results.





## TRAFFIC REPORT

MMM Group was retained by Dufferin to prepare a Traffic Impact Assessment to ensure that the existing Acton Quarry haul route could continue to accommodate the truck traffic related to the Acton Quarry extension.

Acton Quarry already has permissions in place to extract and haul 4.0 million tonnes of aggregate annually. This will not change in the future. Notwithstanding this, the scope of the traffic study was extended well beyond standard requirements.



### Key assumptions include:

- *blasted aggregate will be transported by quarry trucks to the existing processing plant (Phase 1);*
- *shipping to market will remain as it is now and will use the existing entrance / exit and established haul routes; and*
- *if a portable processing plant operates in Phases 5 and 6, material will be shipped directly with trucks traveling north on 3rd Line, exiting to use existing established haul routes.*

*The MMM Group traffic impact analyses indicate that most of the boundary road intersections are forecast to operate at excellent to acceptable levels of services during the a.m. and mid-day peak hours. There are 3 exceptions which are expected to exhibit less than ideal operations under different scenarios. These can be called exception intersections. It should be noted that all three of the exception intersections are not in close proximity to the quarry, and the service level issues are not related to quarry traffic but rather other background traffic. In some cases, the required improvements are as simple as signal timing adjustments and/or slight increases in the cycle lengths. In other cases, the road improvements planned by the responsible municipality would address the matter.*





## BLASTING REPORT

*Golder Associates Ltd.* was retained by Dufferin to prepare a Blasting Impact Assessment. This assessment addresses the environmental effects from future blasting operations and specifically addresses the applicable Ontario Ministry of the Environment guidelines with respect to ground and air vibration effects and whether future blasting meet guidelines at the residential properties nearest to the proposed extension.

Blasting procedures within the proposed extension would be carried out in a manner similar to the existing blast procedure. *Golder Associates Ltd.* has been monitoring blasting operations at various sites around the Acton Quarry since 1996 and as such, there is a significant amount of information available to analyze.

*Golder concludes that blasting in the extension can occur in compliance with the current quarry blasting guidelines published by the Ministry of the Environment and Department of Fisheries and Oceans.*

## NOISE REPORT

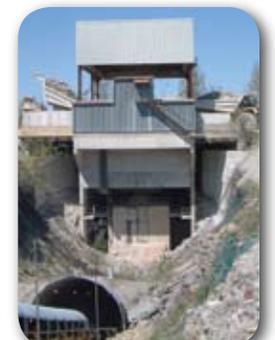
*Aeroustics* conducted the Noise Impact Study. The study assessed noise impacts and provided the noise control recommendations necessary to satisfy the Ministry of the Environment (MOE) noise guidelines.

Residences in the vicinity of the quarry that could be affected by the extension were identified. Appropriate sound level limits were established, based on MOE guidelines.

*Aeroustics concludes that the proposed operation will meet or exceed MOE guidelines provided that the recommended noise controls are implemented.*

*These controls include:*

- mine planning to ensure that the working face of the quarry shields residences from noise;
- construction of perimeter berm/barriers;
- erection of berm/barriers close to equipment;
- modified operation times; and
- appropriate distance setbacks to residences.





## AIR QUALITY REPORT

RWDI AIR Inc. was retained by Dufferin to conduct an Air Quality Assessment. Approved dispersion modeling and the Ministry requirement for a Best Management Practices Plan to appropriately manage dust from roadways and storage piles were used to prepare the study.

There are relatively small portions of suspended particulate matter (SPM) generated at quarry operations. In addition, the limestone quarried and processed at the Acton Quarry has negligible silica content, and is not considered to be an issue.



*Based on the Emission Summary and Dispersion Modeling Report (ESDM) and assuming implementation of the dust control measures set out in the report, RWDI concludes that the proposed extension will comply with the provincial regulation on local air quality (Ontario Regulation 419/05).*



## CULTURAL HERITAGE REPORT

Dufferin retained *Archaeologix Inc.* to complete a Cultural Heritage Landscape Assessment and Built Heritage Assessment and Archaeological Assessment.

The cultural heritage landscape study of the subject area and the preliminary built heritage survey revealed the following sites that required detailed analysis:

- The farmstead, including a house and two barns, at 12712 Third Line; and
- A barn at 11762 Third Line.

The studies concluded that:

- because of the extensive alterations to the house and barn at 12712 Third Line, it is not essential that these structures be preserved;
- because of its poor condition and its 20<sup>th</sup> century renovations, it is not recommending that the barn at 11762 be preserved and;
- further observation documentation and salvage of reusable materials of a historic nature could occur if the structures are demolished.

*Archaeologix concluded that a number of locations on the north and south extension lands contain pre-contact Aboriginal cultural material and 19<sup>th</sup> century Euro-Canadian cultural material. A number of these locations required further investigation in the manner of Stages 2, 3, and 4 Assessments.*

*Through the work completed for the Stages 2, 3, and 4 assessment Archaeologix concluded that all of the archaeological resources have been conserved there is no negative impact in proceeding with the Acton Quarry Extension.*





## How You Can Provide Feedback/ Comments to Dufferin

Dufferin Aggregates values feedback and comments from the communities in which it operates. Dufferin is committed to having on-going, open and transparent discussions. We want to address your concerns through a variety of our channels:

- direct phone calls or emails;
- public information sessions; and
- community liaison committee.

### Public Information Sessions

Public Information Sessions have proven to be an important form of liaison between Dufferin Aggregates and the local community. Prior to the submission of the application, Dufferin Aggregates hosted two community information sessions to update the community about the existing Quarry and to share information about the company's plan to extend the Acton Quarry.

Additional public information sessions will be scheduled throughout the application approval process. The meeting dates and location will be posted on the website [www.dufferinactonquarry.com](http://www.dufferinactonquarry.com) You can also add your name to the mailing list and receive direct notification by email or regular mail.

### Dufferin Community Liaison Committee

The Community Liaison Committee was established in September 2008 as a forum for discussion and information-sharing between the community and Dufferin Aggregates.

Members of the Community Liaison Committee live, operate a business, or have some connection to the Acton/greater Halton Hills area. They were selected to act as a conduit for information and feedback. The Committee members serve in an advisory capacity and meet regularly to review and analyze current and new information pertaining to the Quarry and the extension application.

For detailed Terms of Reference, member list, meeting agendas and minutes of the Community Liaison Committee, please visit: [www.dufferinactonquarry.com](http://www.dufferinactonquarry.com)



## FOR MORE INFORMATION

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