

Our Enduring Connections in Burlington

Dave Fryer was a self-employed, 24-year-old machinist, when one of his first jobs for Meridian Brick was performing an emergency repair to a brick plant.

"I worked 22 hours straight to complete and deliver that job on time," says Dave, owner of Halton Tool & Fabrication Ltd., recalling that fateful gig.

Out of that diligence began a fruitful 38-year relationship with Meridian Brick, that has seen Halton Tool successfully adapt and innovate to become a key Meridian partner.



Dave Fryer.

Over the years, Halton Tool has participated in consistent new product development-- with Max, CSR, Utility and Jumbo plant lines for brick production still in operation.

Dave remembers many landmark achievements on that path.

"Along with Tony Campolo, I was also involved in creating the Rolled Edge Machine, which removes the sharp edges during brick production," he says, stressing Meridian has also been an industry leader in producing a lighter, safer product for Meridian employees and others handling them.

At present, Halton Tool services all three Burlington brick plants, whenever needed. Dave's company works with Meridian's Plant Managers, Maintenance Foremen, Production Foremen, Lead Hands, and Maintenance Mechanics to get the job done - no matter how daunting the task.

"As a small business, we've had to change and adapt over the years, to ensure top service," Dave says -- and to this end, Halton Tool's equipment has evolved from manual machines to computer numerical control and a waterjet machine.

To service these Meridian plants, Halton Tool also needed continuous access to steel. That prompted Dave's in-laws to open Halton Metal Outlet in 1995, which cuts and delivers steel to Meridian operations as needed. Eventually, Dave's wife Michele began working at Halton Metal full-time, after her parents retired from there.

Meanwhile, the two Fryer Halton firms are now working with Meridian in a proposal to supply materials to build kiln cars.

"Given the general decline of manufacturing in the city of Burlington, the Aldershot East project is important to both Halton Tool and Halton Metal Outlet," Dave says. "Without that, I'd have to sell, or relocate Halton Metal elsewhere."

Dave is also mindful of his company's role in the community, and a proud supporter of the local chapter of the Tetra Society, donating materials and lending expertise to Tetra's volunteers who make customized assistive devices for people with physical challenges.

And like all businesses, continuing to thrive in Burlington means paying a decent share of local taxes that ultimately support the community.

"As a resident of Burlington for the past 42 years, I pay about \$30,000 in property taxes each year," Dave says. "And without this vital Meridian contract, it would simply be impossible to remain here."

Meridian Brick Operations Manager Rob Campolo, who is Tony's son, notes Dave's been supplying the company as a stalwart vendor for at least 40 years. "He's got a great relationship with all three plants, their maintenance supervisors and managers," says Rob.

"This is a very dedicated vendor. Dave comes in on a weekend or night shift, if needed. He's very supportive of what we do, and we appreciate everything he's been able to provide us over the years.

"It's a local business that definitely adds to our community and its prosperity," Rob says. Dave adds that his connection to Meridian also comes straight from his heart.

"Meridian Brick has been there, and supported me through brain surgery in 1985, a motorcycle accident in 2011, and cancer in 2014.

"They have been so good to me in many ways, and I can never forget that."

Building Burlington

In Burlington, Meridian operates **3 brick plants and 4 quarries**

Meridian employs about **170 people in the local area**

Meridian produces **55% of Canadian clay brick**

Our Tradition

Working at Meridian Brick is a family tradition for Pamela Marchese.

For more than 30 years, her father Frank Marchese had enduring stretches as an employee with Meridian's predecessor companies.

In the 1970s the firm was called Diamond Clay, with Frank a Packaging Foreman for the Burlington brick plant. He came back to the brick-making fold in the late 1980s after a sojourn in the retail shoe business.

There, he was Warehouse Manager and worked for the formerly-named Canada Brick and Hanson Brick, now called Meridian. Frank retired in 2006 before the company became Meridian Brick, but by then, another Marchese was making her mark.

Pamela — who has been at Meridian for 21 years as of June — is the senior Quality Control Technician for the firm's two Burlington brick plants. Between her and Theoder Varma, the two carry out the QC tests at those two operations 12 hours a day, throughout the year, in a crucial task that never ends. That includes brick absorption, compressive-strength testing and raw material analysis.

"We perform these procedures daily," Pamela says. "Right now, we have two kilns running in each plant and do quality control and assurance for both Burlington plants.

"I take pride in our work, as well as the quality of our products."

Patrick Kelly, Meridian's Director of Quality Systems, says the Burlington QC team does an "incredible amount of QC testing work together. It plays a real role in delivering the very high quality of what we make here."



Pamela Marchese.



ALDERSHOT QUARRY REPORT

ISSUE 2 - WINTER 2018

Keeping You Informed November 29 Public Meeting and Project Updates

Following through on our commitment to keep the community informed about the Aldershot East project, Meridian Brick invited neighbours to a public meeting Nov. 29 to get updated on the project.

Meridian contracted independent experts to conduct noise, dust, human health and salamander studies in direct response to concerns brought forward by the neighbours. Meridian had hoped most of the studies would have been finalized well in advance of the meeting, so neighbours would have had an opportunity to review the studies and ask questions. Like many neighbours, we were disappointed this did not happen and understand the frustration.

That being said, the company believed these meetings are good opportunities to update the community on the status of the studies, so Meridian proceeded with the meeting in the hopes of remaining open and accessible to questions and concerns. The independent experts fielded questions and provided detailed updates on the studies. With a 90 per cent completion rate for virtually all the studies, Meridian felt confident the experts would be in a good position to answer questions that arose.

Since the meeting, the completed studies have been posted online at aldershotquarry.ca. In response to community interest at the meeting, the technical data have also been posted. Further, Meridian will also connect qualified experts with study authors to answer any additional questions.

There were some strong exchanges throughout the evening, particularly as it relates to Meridian's plan to begin the project and the first 1.8 hectare (5 year) phase this winter before all the studies are finalized. With well with over a 90 percent completion rate for the various studies, no "red flags" have been identified that required additional action to mitigate any issues except the archeological study, which is now proceeding to Stage 3. The initial five-year phase of the excavation is not in an area anywhere near the found artifacts, as confirmed by Dr. Robert MacDonald of archaeological consulting firm ASI during the meeting.

Meridian also fielded inquiries regarding engaging First Nations participation in the archaeological surveys. Dr. Macdonald confirmed that both the



Meridian Brick's experts are undertaking numerous studies ahead of the Aldershot East project. TOP: Archaeological Assessment, conducted by ASI. RIGHT: Salamander survey, being undertaken by Goodban Ecological Consulting and assisting independent researchers.



Mississaugas of the New Credit First Nation and the Six Nations of the Grand River have been contacted as required by current provincial policy.

Meridian is currently making arrangements with the Mississaugas of the New Credit First Nation to provide monitors during the Stage 3 Archaeological Assessment, at Meridian's expense.

As well, ecologist Anthony Goodban, who has led several searches for salamander species at risk, clearly stated that the first phase of the East Quarry project was also in an area with a habitat unsuitable for endangered salamanders.

Although not clearly stated at the event, Meridian's Patrick Kelly wants neighbours to know that if any issues do arise with the first phase as a result of the

other studies, the company will take the necessary actions required to ensure the issues are mitigated.

"We always expect to face very tough, very fair questions at these meetings," said Mr. Kelly, "but we believe both the Nov. 29 meeting and the May 25 meeting were important opportunities to share information with our neighbours, to listen and respond to their concerns. We've been adjusting our program significantly as a result of what we've heard from neighbours, whether it's conducting the new air quality, human health and noise studies, or phasing the tree removal and adding in a 150-metre buffer adjacent to the nearest homes for the first 15 - 20 years.

"We're glad to be able to be responsive to their concerns," Kelly said.

...See the Studies

Salamanders

In 2016 neighbours raised concerns about the potential for endangered salamanders to occur in the area. In 2016 Meridian Brick retained Anthony Goodban of Goodban Ecological Consulting Inc. (GEC) to complete a detailed salamander survey for the East Quarry property and the adjacent City-owned open space. GEC brought together a team of salamander experts to work collaboratively on this project.

The team wants to find Species at Risk salamanders if they occur on the quarry property.

So far, four detailed surveys were completed in November 2016, April and June 2017. Conditions were too dry in September 2017 for salamander surveys, so three further surveys are planned for April and June 2018. The expert team has confirmed that the first phase of excavation of the east cell is not in an area with a habitat conducive to at-risk salamanders.

Species at Risk Update

An initial background screening for Species at Risk and contact with the provincial Ministry of Natural Resources and Forestry was completed in 2012. In-season species at risk surveys were completed in 2013 and included plants, breeding birds and butternut. Species at risk identified on the property include Eastern Flowering Dogwood (a small Carolinian tree) and American Columbo (a herbaceous plant). In 2014, the Mottled Duskywing (a butterfly) was deemed endangered, and Meridian received mapping for the butterflies' New Jersey Tea host plants from the Province in 2015. Forests in the property also provided potential habitat for four species of endangered bat.

A number of strategies are being undertaken to reduce the potential impact of the quarry, including protection of those existing endangered plants using measures including quarry setbacks, habitat management areas, butterfly

restoration areas and plants, and special bat houses in a setback area. There will be appropriate monitoring, and adjustments to the plan over time as required protecting the species at risk.

The company has committed to preserving the American Columbo found within the site. The American Columbo will be preserved in place, and a buffer will remain in place to ensure that it is not disturbed. Meridian has committed 2.4 hectares to a Species At Risk Management Area, reducing planned excavation in Stages 1 and 3 accordingly.

The creation of the Species At Risk Management Area and the Stage 2 berm will result in the reduction of the East Quarry excavation area by about 24%, from 13.5 to 10.3 hectares.

You can review completed studies in full on our website www.aldershotquarry.ca

Stay Updated. Visit aldershotquarry.ca

If you're seeking more information about Meridian Brick and Project Aldershot, visit the Aldershot Quarry Report website at aldershotquarry.ca.

It keeps visitors up to date on the most-recent information about quarry plans.

Here, you'll find published official plans, reports and notices of community meetings.

The website also provides a comprehensive question-and-answer series about Meridian, its quarry and its community engagement and addresses

issues about the quarry's development. Key findings of each study are also discussed.



On the website, you can also e-mail questions to Meridian through an online contact. People who are interested can also sign up for the company's newsletter.

meridianbrick.com is the main corporate website for Meridian Brick that incorporates its products, resources and dealers for homeowners, builders and architects/ designers.

INSIDE

Meet the Experts

See the Studies

Staged Tree Removal and Progressive Rehabilitation

Our Enduring Connections in Burlington

Our Tradition

Meet the Experts...

Archaeological Assessment

Archaeological Services Inc. (ASI) is the largest private archaeological and cultural heritage consulting company in Ontario. **Robert MacDonald, PhD**, is an archaeological anthropologist with more than three decades of experience in

the field of heritage management. Robert's experience includes the direction of hundreds of projects throughout Ontario involving all aspects of archaeological and cultural heritage.

Air Quality

Pinchin Ltd. specializes in environmental diligence and remediation, occupational health and safety, emissions reduction and compliance, and pollution abatement. **Ajay Madan**, its senior project engineer, has a B.ENG in chemical engineering from McMaster

University, post-graduate environmental engineering application at Conestoga College and 13 years experience in environmental consulting preparing air quality assessments for environmental compliance approvals and air quality studies.

Salamanders

Goodban Ecological Consulting's **Anthony G. Goodban**, B.Sc., M.E.S.(P.I.), MCIP, RPP is a professional field ecologist with 27 years' experience. He has worked on salamander-related projects for almost 20 years. GEC put together

a team of salamander experts to work collaboratively on the project including Al Sandilands (Gray Owl Environmental Inc.), Anaïs Boutin (Ecological consultant from Quebec) and Dr. Jim Bogart (Independent Researcher).

Noise

SS Wilson Associates, Consulting Engineers conducted a detailed noise control study on the East Quarry, released on Dec. 22, 2017. SS Wilson conducts field mea-

surements and consulting services in acoustics, noise and vibration measurements and control. It has carried out more than 4,000 projects in Ontario.

Human Health

Intrinsik is one of Canada's leading science-based, health risk consulting firms specializing in providing expert advice to a wide range of clients on toxicology issues related to human health, the environment and regulatory affairs. Dr. **Glenn Ferguson** is a Vice President and Senior Environmental Health Scientist for Intrinsik Group with

more than 25 years of experience in areas of toxicology, epidemiology, human health and ecological risk assessment, and risk communication. Glenn is also a member of the Ontario Ministry of Environment and Climate Change (MOECC) Toxicity Reference Value (TRV) Expert Review Panel.

Species at Risk

Brad Bricker M.Sc Certified Senior Ecologist and the Principal of PLAN B Natural Heritage. He has over 25 years experience in environmental planning, impact assessment and natural resource management in Southern Ontario. Brad has acted as the project manager and ecologist for the

natural heritage component of over 500 urban land use projects, including sub-watershed studies, secondary plans, environmental impact studies, environmental implementation reports, resource management plans and environmental monitoring programs.



This map illustrates Meridian Brick's Aldershot Quarry complex in Burlington. Orange boundaries indicate the three elements of the quarry: Aldershot West, Aldershot Centre and Aldershot East. Currently, Aldershot West and Aldershot Centre are almost depleted, and most of the remaining Queenston shale in the quarry complex is located in Aldershot East.

...See the Studies

Quarry Dust

Meridian commissioned new air quality monitoring and modeling studies. The final air quality assessment report delivered by Pinchin was prepared in accordance with O.Reg.419/05 and the "Procedure for Preparing an Emission Summary and Dispersion Modelling Report", published by the Ministry of the Environment and Climate Change in February 2017.

The airborne emissions analyzed include excavation, material delivery, road dust --- on-site and on King Road from the facility entrance to the North Service Road and wind erosion from piles. The airborne emissions assessed from the facility were crystalline silica and particulate matter; specifically respirable, inhalable and total particulate matter and covered three time periods, a one to five-year scenario, with the Centre Quarry only, a six-to-15-year scenario involving the Centre and East Quarries, and a 16-to-25-year scenario affecting the East Quarry only.

The results have confirmed that particulate and silica concentrations from Meridian sources and background sources including Highway 403 and the QEW are predicted to be less than accepted health-based benchmarks, even under worst-case conditions. As well, during field-testing from Meridian sources, silica was undetectable using state-of-the-art detection instruments.

Once quarrying operations begin, a dust monitoring program specific to the East site will be implemented and results from this program made available to the City of Burlington, Region of Halton, Ministry of the Environment and Climate Change and Ministry of Natural Resources and Forestry. Westhaven Drive residents will also have access to the information.

If the dust exceeds any limits, mitigation steps will be put in place to reduce the concentrations below Ministry requirements.

Health

The benchmarks that underlie the dust, silica and human health studies are based on long-term exposure, including for asthmatics and children. The locations evaluated included adjacent land surrounding the quarry that includes residential homes to the northeast, a school to the southeast, a gun club and model airplane club in a park to the southwest.

Both of these studies determined that dust and silica levels - even when measured based on double the amount of shale extraction Meridian Brick currently extracts - will be well below regulatory benchmarks.

Both studies have found that the cumulative health risks to residents at all study locations are negligible, even when background sources of dust and silica are taken into account.

Noise

The Tyandaga West developer commissioned SS Wilson Associates Consulting Engineers to conduct a noise study for the project in 1996 and 1998. In response to community concern, Meridian retained SS Wilson in 2015 to conduct a new, updated noise study based on current noise standards.

The study included environmental noise generated by operations, and impact on nearby noise-sensitive land uses. It was also to recommend appropriate noise control measures; if deemed necessary, in accordance with the applicable governmental sound level criteria. A southerly extension of the Stage 3 berm to buffer Stage 2 is recommended.

This investigation found that the operations will achieve applicable sound criteria, with predicted sound levels to be in compliance with the Ministry of the Environment and Climate Change's applicable sound level criteria.

In a voluntary assessment for tree-removal construction noise, it was predicted operations would not exceed recommended best management practices during the life of the East Quarry.

With the application of recommended noise-control measures, the operation of shale excavation will result in acceptable sound levels that are at or below recommended sound-level criteria. The original study was approved by the Ministry of Environment.

Continued on Next Page...

These studies are based upon the Company's plan to excavate shale only within the Centre Quarry during Years 1 to 5; to excavate 50% from the Centre Quarry and 50% from the East Quarry during Years 6 to 15; and to excavate shale only within the East Quarry during Years 16 to 25.

Phased Tree Removal and Progressive Rehabilitation

Meridian Brick's phased tree removal plan for the East Quarry ensures that there will be no clear-cutting of trees on the site.

Having heard the concerns of residents regarding the removal of the trees on the East Quarry, Meridian has committed to a staged tree removal process, together with the progressive rehabilitation and reforestation required by the Greenbelt Plan. Rather than clear-cutting, the subject trees will instead be cut in 6 phases of approximately 1.8 hectares each. The centre and east cells will also be progressively rehabilitated.

This staged approach to tree removal and replanting means there will be 30-year-old trees from the first rehabilitation phase by the time the last phase is complete and more than 25,000 trees are planted.

The first step in Phase 1 of this process is slated for early 2018, in which some trees from Phase 1 will be removed from a 1.7-hectare section of the property. By the fifth year, the next 1.3-hectare section of trees will be removed.

Excavation of the north corner of the East site - the corner closest to the Tyandaga West neighbourhood - will not take place until late in the site's life, in approximately 15 to 20 years.

"Every operation in the quarry is part and parcel of moving materials around. Everything that's taken stays in the quarry, except for the shale," says Jack Hewitt, Meridian Brick's Projects and Environmental Manager.

Hewitt - a professional engineer who has worked with Meridian for over 45 years - said the material removed in Phase 1 of the project will be reused to rehabilitate the Centre Quarry.

Hewitt said a 2.4-hectare section of the East Quarry will not be excavated. Instead, this area has been contained and set aside for species at risk, including eastern flowering dogwood, American columbo and New Jersey tea. "It'll be contained so we're not walking over it with equipment," Hewitt said.

The area identified by the archaeological survey as meriting further study is not included in Phase 1 of the project, and no work will take place there until further surveys are completed.

The Phase 1 area has been identified by the ongoing studies and salamander surveys as being unsuitable for at-risk salamanders. "It's a very dry type of forest," said Anthony Goodban of Goodban Ecological Consulting.

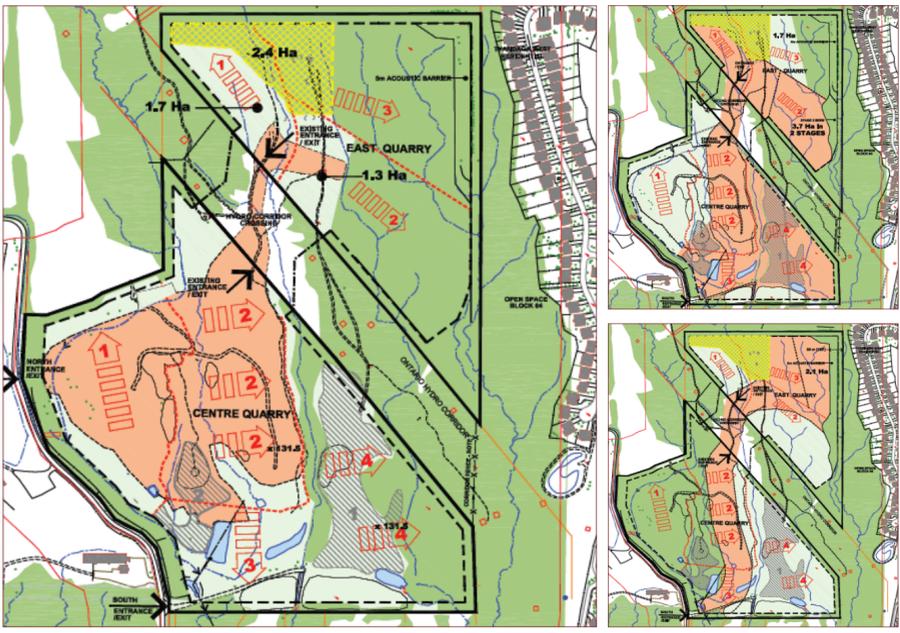
"The salamander study team looked at this area in detail," said Goodban. "In our opinion, it's not suitable habitat for the Jefferson Salamander or the unisexuals. You wouldn't find stream salamanders there because there are no streams. However, Stage 1 will still be managed as a potential dispersal habitat for salamander species at risk."

...See the Studies

Archaeological Surveys

The Stage 2 Archaeological Survey team conducted a test pit survey in areas deemed to have archaeological potential. Survey intervals were conducted primarily at five metres but judgemental survey intervals were done in the valley lands where low and wet conditions were encountered. Intensification of the test pit survey at intervals of 2.5 metres and the excavation of a one-metre-square test unit were also employed in one location where cultural material was recovered. This assessment resulted in the identification of a pre-contact Indigenous site.

The survey has identified a small area where 6 flakes of chert were found indicating as is



These diagrams detail the phasing process for the Aldershot East and Centre Quarries. Buff areas highlighted on the map indicate areas being actively quarried, while pale green areas indicate those areas being cleared. These pale green areas will undergo progressive rehabilitation and reforestation. The area bounded in yellow demarcates the 2.4-hectare Species at Risk protection zone, which will remain unexcavated. Dark green areas indicate forested areas, setbacks and final rehabilitated areas. LEFT: Phase 1. This phase will take place over approximately the first five years of the project. TOP RIGHT: Phase 2. The actively-quarried area will proceed southeast, while a buffer between the homes nearest the quarry will remain in place. This phase should be carried out between years 6 to 15. LOWER RIGHT: Phase 3. Progressive reforestation will begin in the southwest part of the East cell. By now, much of the Centre cell will be rehabilitated. This will be the final phase of the quarry project.

Staging Timelines

- Meridian plans to stage the East Quarry excavation through the following phases over the next 25 years:
- Fall 2017:** Completion of initial mitigation plan.
- Winter-Spring 2018:** Opening of access corridor to Stage 1. Protective fencing for species at risk. Initial removal of a small number of trees, enabling vehicle access for this work.
- Fall 2018:** Initial transplanting of New Jersey Tea to Species At Risk Management Area.
- Winter 2018-19:** Clearing of remaining trees within Stage 1 prior to site preparation.
- 2019-2023:** Site preparation. Stripping of Stage 1 and initial rehabilitation of the Centre Quarry. **Buffer: 215 metres.**
- 2019-2038:** Continued species-at-risk mitigation.
- 2023-2033:** Stage 2 preparation and excavation. **Buffer: 165 metres.**
- 2033-2038:** Stage 3 preparation and excavation. **Buffer: 55 metres.**

QUARRY ANSWER

Q: According to the SDS safety sheet for clay brick, there are negative health effects associated with unprotected exposure to brick dust in the workplace. Does this pose a risk to homeowners?

A: No. SDS safety sheets cover occupational exposures, within the brick plant, under the most extreme circumstances - for example, a worker working in an enclosed space with no protective equipment. Neighbours living half the length of a football field away from the site, as Westhaven Drive residents will be even during the closest point of the excavation, will not experience anything like the kind of exposures levels identified in the SDS safety sheet.

Q: Will Meridian Brick rehabilitate the Aldershot Centre cell before excavating the East cell?

A: Our progressive rehabilitation plan incorporates gradual rehabilitation of the Centre cell as excavation of East begins. With every step Meridian Brick moves into the East cell, material will be brought back and used to progressively rehabilitate the Centre cell.



The archaeological site identified by ASI.

Continued on Next Page...