

**AT ISSUE: Community & Environmental Impact - Forterra Brick – New East Cell Development of North Aldershot Quarry
Review of Forterra’s letters of September 26 and November 18, 2016**

This document, prepared by TEC members, is in response to Forterra Brick’s letters that were sent to the Westhaven Dr. and Sturbridge Dr. residents on September 26, 2016 and November 18, 2016. Samples of Forterra’s letters are also attached.

Forterra’s North Aldershot operation includes– the **West Cell and brick processing plant** (Yorkton Court - near North Service Road), the **Centre Cell** (west of King Road and slightly north of North Service Road) and the newly proposed **East Cell** (adjacent to Westhaven Drive).

The North Aldershot operation quarry for the shale / clay that is used in the manufacturing of brick. Shale and clay quarrying is not without its dangers, for example, in a recent article - Forterra (2016):

“Manufacturing and mining sites can be inherently dangerous workplaces. Our sites often put our employees and others in close proximity with large pieces of mechanized equipment, moving vehicles, and manufacturing processes, and highly regulated materials and there is inherent risk of related liabilities in our operations”

The West and Centre Cells have operated for many years and are estimated to be approximately 700 meters and 1,500 meters respectively from the residential property line of Westhaven Dr in the Tyandaga neighbourhood.

On the other hand, the proposed and contentious East Cell is considerably closer to Westhaven Dr. and, in some places it is estimated to be about **30 meters** (or even less) from the Westhaven Dr. property line.



Keeping in mind the 30 meters mentioned above, we quote from another Forterra (2016) article:

“The Occupational Safety and Health Administration, or OSHA, published a final rule in March 2016 decreasing the levels of crystalline silica dust exposure to which workers can be exposed. This rule must be implemented by March 2018 and may require some of our manufacturing facilities to install new controls to reduce the levels of crystalline silica dust. Excessive, prolonged inhalation of very small-sized particles of crystalline silica has been associated with lung diseases, including silicosis...”

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FACT - even Forterra admits that the “... *risk of environmental, health and safety liability is inherent in the operation of the Company's businesses, as it is with other companies engaged in similar businesses, and there can be no assurance that environmental, health and safety liabilities will not have a material adverse effect on the Company in the future.*”

This is VERY concerning especially since the possible adverse health ramifications seem to have been TOTALLY ignored or brushed aside by the Burlington City Council and the provincial politicians!

“Quarries are good neighbors”; “... it makes economic sense to have a quarry near your community”; “having a quarry near your town adds jobs and tax dollars, and gives the local economy a boost.”

FACT - To prepare the East Cell for quarrying:

- Forterra plans to clear cut approximately 40 acres of greenspace containing a guesstimated 9,000 trees (see the triangular area in the picture above);
- This will require the removal of mature bushes, vegetation, and trees that are the known habitat for many animals, birds and insects, including potentially endangered or ‘at risk’ fauna and flora;
- The 40-acre forest currently provides a partial filter from the noise and dust pollution of the Centre Cell, the brick processing exhaust, and the West Cell;
- When these trees are destroyed this ‘filter’ will be removed;
- This will surely result in both an increase in the noise level as well as the widespread proliferation of shale dust (especially the small carcinogenic particulates);
- Because of this dust and the proximity of the East Cell to the neighborhood there is a real and well-documented potential for related health issues;
- We fully anticipate this to have a negative effect on property values;
- and there will be the creation of a unique URBAN quarry in one of the last remaining open and extensive green spaces that is nearby preserved unique natural heritage areas in Burlington.

NO, sorry Forterra, BUT quarry owners / operators are not our kind of Good Neighbour and we are not alone in this conclusion - here are a few ‘choice’ excerpts from some of the many articles that were readily available.

FACT – ‘SCORCHED’ EARTH POLICY - “Operators of pits and quarries remove virtually all vegetation, topsoil and subsoil to access the resource. In so doing, they remove any natural habitat that may have been on site, and disrupt pre-existing stream flows . . . Once the aggregate is extracted. Aggregate operations . . . are characterized by the release of significant amounts of particular matter (i.e. dust) and noise pollution from extraction and processing activities as well as smog precursors and greenhouse gases from the operation of heavy equipment and machinery.” “Ultimately, all aggregate operations have the potential for significant environmental impacts, since they require the removal of all vegetation and soil in the extraction area and have the potential to impact ground and surface water flow.”

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FACT – NEIGHBORHOOD TRAUMA - *“The creation of a Pit or Quarry creates apprehension in the public, which makes the property less desirable and thus diminishes the prices of neighboring property. Continuing scientific uncertainty over the adverse health consequences of a neighboring Pit or Quarry only serves to perpetuate the debilitating effect of Pits or Quarries on property prices.”*

FACT - DECLINING PROPERTY VALUES – *“... the negative impacts on local property values of a new quarry operation in a community are **clear and irrefutable**. The reduction in value of properties are significant, as high as 25% or more, and are irrespective of whether a local resident sells his or her property. In extreme cases, properties dependant on wells for water can be rendered virtually worthless in the event of a total collapse of the water table. It is also important to note that these impacts are permanent.”*

In this regard, we have been in direct communications with MPAC (Municipal Property Assessment Corporation). MPAC is responsible for assessing the value of your property, a value that will be used in determining the property taxes that you pay. MPAC estimates an 9% decrease in the house values for those residents living on Westhaven Drive that back onto the quarry (the West side) and is calculated as follows:

- A 3% DECREASE since they will no longer ‘border’ a forest (removed by Forterra).
- An additional 6% DECREASE due to a reclassification of the forestry into Industrial Land

MPAC also estimate a 6% decrease in property value for those residents living on Westhaven Drive that do not back onto the quarry (East side) – of course, we would expect a similar ‘rippling’ effect of decreasing property values on the other streets in the Tyandaga neighborhood.

In other studies, the property devaluation due to ‘adjacent’ quarries have far exceeded the 9% drop indicated by MPAC and some have even been in the 25% range with again a ‘rippling’ affect that will adversely affect house prices for long distances from the quarry. Unfortunately, this is a ‘wait and see’ situation and the true property values will depend on the actual sale value – but we think it is very safe to say that the quarry will have a negative effect on property values.

FACT – QUARRY WARNING ON TITLE – if quarry owners are such Good Neighbors as suggested and are so beneficial to the community why was it stipulated by the Regional Municipality of Halton in the 1998 Westhaven Dr. Subdivision Agreement that a **WARNING clause** (not a **CONGRATULORY clause**) **MUST** be registered on Title advising future home purchasers of the Forterra quarry operation? More about this later!

“The Company operates numerous quarries in Canada and the USA, in close proximity to residential properties, with no reported health incidents related to shale dust”

FACT – DUST and QUARRIES – dust is a common by-product of quarrying. *“All dust settles eventually but if the wind intensifies it remobilises the dust back up into the air. This means, in effect, that the dust problem is injurious to health when we can see it and **even more injurious** when we can’t see it” and “the most*

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pernicious dust, the dust that is not easily seen by the naked eye - micro dust - moves over long distances and gets inhaled far from where it is created”

It is **extremely difficult** for us to contemplate a shale quarry that would be in a ‘closer proximity’ to a high density residential area than the East cell is to Westhaven Drive – surely, this is **IRRESPONSIBLE!**

FACT – HEALTH and DUST - *“Chronic simple silicosis usually resulting from long-term exposure (10 years or more) to relatively low concentrations of silica dust and usually appearing 10–30 years after first exposure. This is the most common type of silicosis. Patients with this type of silicosis, especially early on, may not have obvious signs or symptoms of disease...” “Accelerated silicosis develops 5–10 years after first exposure to higher concentrations of silica dust. Symptoms and x-ray findings are like chronic simple silicosis, but occur earlier and tend to progress more rapidly. Patients with accelerated silicosis are at greater risk for complicated disease, including progressive massive fibrosis”*

FACT – HEALTH CONCERNS - Because of the potentially latent health danger, many medical and scientific professionals who live in the immediate vicinity of Westhaven Dr recently signed a Letter of Concern that has been delivered to key people across various levels of government. This Letter clearly delineates the potentially adverse health effects due to the proximity of the homes to the proposed Forterra east cell! Shale, used in the manufacturing of bricks, has naturally occurring silica. Inhalation of silicates causes pulmonary silicosis leading to irreversible lung fibrosis, which can lead to respiratory failure. It is also a proven risk factor for the development of lung cancer and a known carcinogen. Various connective tissue diseases, such as rheumatoid arthritis, scleroderma and systemic lupus erythematosus are also caused by silicosis.

FACT – HAZARDOUS PRODUCT - In Canada, every product that is classified as a “hazardous product” under WHMIS (Workplace Hazardous Materials Information System) and is intended for use, handling or storage in a workplace in Canada **must** have a Safety Data Sheet (SDS). The SDS tells users what the hazards of the product are, how to use the product safely, what to expect if the recommendations are not followed, how to recognize symptoms of exposure, and what to do if emergencies occur. The SDS **must** be readily available to the workers who are exposed to the hazardous product **but** it is, unfortunately, not mandatory to make this information available to the public – could it be that the WHMIS never anticipated a quarry as being SO CLOSE TO a dense populated neighborhood.

Since Forterra profess to be such a Good Neighbor, we will ask them formally for their SDS. We have, however, independently obtained several SDS documents from other companies that have the same type of operation as Forterra - Shale / Clay / Brick - for example, The Glen-Gery Corporation, Redland Brick, Belden Brick, etc.

The Safety Data Sheets for these (and others) are readily available and clearly spell out the health hazards of their operations. The SDS warnings are long, scary, and revealing, for example they include:

- Limit inhalation of clay dust;
- Do not eat, drink, or smoke when using this product;

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- Wash hands thoroughly after handling;
- Contaminated work clothing must not be allowed out of the workplace;
- Obtain special instructions before use;
- Do not handle until all safety precautions have been read and understood;
- Wear protective gloves/protective clothing/eye protection/face protection;
- Etc.

FACT – CITY RESPONSIBILITY - To put this in perspective, in some cases, Tyandaga residents will be living approximately 30 meters from the Forterra quarrying operation. What precautions must they take? Are they expected to take similar preventative measures as those taken by the Forterra quarry workers?

It seems appropriate that, the Tyandaga Community is educated/informed as to the health risks, much like the SDS of the quarry operation.

Essentially, we are asking our City Council and other elected officials to provide the same level of information to their constituents that Forterra is mandated, by the WHMIS, to provide to their employees by means of an official SDS.

You might, for example, consider calling it a TRSDS (Tyandaga Residents Safety Data Sheet) which would outline the potential health danger and the associated symptoms and actions that need to be taken - remember, at ~30 meters, we could very well be considered as being on the same 'work team' and in the same environment as a Forterra employee so don't we deserve the same health safety considerations?

This could also be viewed as a pragmatic approach by the City since it may be effective in defending future litigation resulting in any health issues that may be caused by the Forterra urban quarry!

In 1998 the Ontario Municipal Board required a warning clause about the fully approved shale quarry adjacent to the proposed subdivision.

It is interesting that Forterra mentions this 'warning clause' stipulation since it is our understanding that it goes way beyond the Hanson Brick / Forterra remit and refers to a November 20th, 1998 Residential Subdivision Agreement between The Regional Municipality of Halton and Jannock Limited – Jannock, the landowner at that time, applied for the Westhaven Subdivision Approval (note the development was subsequently sold to Branthaven). As such, it seems to be more of a City / Regional issue than a Forterra issue!

FACT – THE TITLE - The Subdivision Agreement was a 24-page convoluted document containing information that was largely relevant to the landowner (Jannock) and the home builder (Branthaven) and contained material that was basically 'technical' in nature and of little concern to the casual reader – for example, it included sections for Industrial Services, Payment of Development, Construction, Engineering, etc. Suffice to say it was a document that was intended for the 'builder / contractor' and certainly not a document meant for the 'public'.

Buried deep in this 24-page document (in fact, on the 23rd page) was the following:

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Warning Clause

6. The following warning clause shall be registered on title and included in all development agreements and Offers of Sale and Purchase or Lease of all lots:

‘The purchaser/tenants acknowledge the presence of a future extractive industrial land use to the west and that extraction may take place during the daytime only.’

FACT – THE WARNING - As you can see it was dictated to Jannock by the Regional Municipality of Halton that a warning clause with respect to the quarry expansion **MUST** be registered on Title “... **and included in all development agreements and Offers of Sale and Purchase or Lease on all Lots**”.

The intent of this warning was to advise any new homeowners as to the ‘presence of a future extractive industrial land’ – euphemism for quarry. In other words, if you were to purchase a house on Westhaven Dr. it was to be made **VERY** clear to the potential purchaser that there was a quarry in the offing – quite ironic, if quarry owners / operators are seen as such Good Neighbors and so desirable, why would there need to be a Warning Clause?

As the initiator of this ‘warning’ clause one would assume that the Regional Municipality of Halton and the City of Burlington was responsible (legally and morally to their constituents) for ensuring that the ‘warning’ directive was performed in a **forthright and transparent manner**. HOWEVER, this was NOT to be the case for all homebuyers. The ‘warning’ compliance was, in our view, questionably achieved by including the 24-page Subdivision Agreement with the warning hidden in a subparagraph on the 23rd page! It is our contention that this ‘devious’ approach taken by Jannock / Branthaven and presumably approved and endorsed by the City did not meet the intent of the Regional directive and certainly made it extremely unlikely for future homeowners to discover the potential quarry expansion during a due diligence process – which, in retrospect, may have been their intent!

NOTE: *we are currently considering our legal options with respect to the Title issue and if you are a Westhaven Drive homeowner and you were NOT made aware of the potential quarry expansion either by the Real Estate Agent or by your lawyer or were given inaccurate information by the City please contact the TEC so that we can present you with our status and options – this is an independent legal directive.*

Another mandate of the Subdivision Agreement was the successful acceptance of a Noise and Dust Study for the proposed East Cell quarry development - these were submitted by SS Wilson and AGRA respectively. Suffice to say it is our view that these studies, conducted some 20 years ago, were, totally theoretical using, by today’s standards, outdated modeling techniques and were ‘fed’ poorly guesstimated and, in some cases, relevant/important missing data.

We also point out that a quarry extension ‘warning clause’ similar to the one directed by the Regional Municipality of Halton was also stipulated in the SS Wilson Noise Study since there was a real concern

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expressed by the consultant that the conditions of noise acceptability due to the closeness of the East Cell operation to the Westhaven Drive property line may **not** be met.

It is also of considerable concern that, to our knowledge, the Regional Municipality of Halton did NOT stipulate, as part of the Subdivision Agreement, that there should also be an environmental assessment including archaeological finds and endangered species – fauna and flora - on the 40-acre forested area that will be clear cut to make way for the proposed East Cell quarry. This is especially ‘noteworthy’ since there is well documented evidence of endangered species in the immediate area surrounding the proposed quarry expansion – the closing of King Road for the annual Jefferson salamander migration being one example. In fact, we know of NO official environmental study that has EVER been performed and published on ANY of the land that is now part of the original North Aldershot quarry!

Because of the many ‘question marks’ on the previous studies the TEC has asked Forterra for permission to have independent experts conduct their own environmental study (endangered species, hydrological, archaeological, etc.). Unfortunately, access to the subject land was flatly refused by Forterra – again another BIG ‘question mark’ with respect to the ‘Good Neighbor’ persona that the quarry owners / operators seem determined, for some intangible reason, to postulate yet don’t seem to live up to!

The key document that specifies how a quarry is to be operated is the Site Plan

It is important to define our relative positions here. The original Site Plan was developed in 1972 (or thereabouts) at a time when Burlington’s population was approximately 90,000 - the population of Burlington is now estimated to be around 185,000 to 190,000 in 2017 - in other words there has been significant growth not only in population but also in the associated infrastructure – homes, businesses, education and faith based institutions, etc. and all that goes with them traffic, noise, pollution, congestion, increased tax base, etc.

In this regard, the TEC strongly believes that, over time, new factors, for example, medical advances, updated ecological considerations, environmental findings, cancer concerns, health issues, overall well-being, etc., may emerge that make a previously accepted decision become TOTALLY unacceptable in the ‘here-and-now’ world of today (a good example of this re-evaluation process is the annual closing of King Road for salamander migration - a decision that was directed in 2012 based upon updated endangered species findings – the Jefferson Salamander).

Other examples of updated legislation resulting from updated information are the many laws and by-laws that limit public smoking; the compulsory use of seat belts; stricter drinking and driving laws; noise abatement; cancer awareness due to industrial pollution; car emissions and the green house effect; environmental (tree / water) protection; etc. - and, as you can imagine, the list goes on and on! In another pertinent example, the City of Oakville passed a Private Tree Protection by-law (remember the 9,000 trees that Forterra will decimate for the quarry):

“The by-law was adopted by Council to support a greener community and a healthier environment. It exists to preserve significant trees on all private properties within the town and to sustain Oakville's urban forest. The town recognizes the ecological and aesthetic value of trees and would like to reduce the destruction and injury of trees, particularly large trees and trees of heritage interest.”

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Oakville went even further with a ‘Health Protection Air Quality by-law’:

“The town's (Oakville) new Health Protection Air Quality bylaw puts air-polluting industries on notice that the Town may not be a welcoming new home. It also makes Oakville the first Ontario jurisdiction to regulate fine particulate matter.”

*“Under the new rules, Town Councilors will have the right to reject incoming new industries judged to be major emitters of pollutants that cause unacceptable health impacts. The Town will also be able to deem **existing industries and facilities that are major pollution emitters as "public nuisances"** and refuse them approval to continue to operate unless they cut emissions.”*

Succinctly, situations, circumstances, and by-laws can dramatically change based upon information that was not available when the initial decision was made – it’s called evolution and it is an educated and ongoing progress. For Forterra to consistently quote and try to justify their position based on outdated ‘grandfathered’ arguments whilst not considering the volumes of updated information that would seriously question that position is tantamount to living in the past, ignoring reality, and becoming the proverbial ostrich!

The removal of an estimated 9,000 trees (nature’s natural filter) and the emergence of an urban quarry **SO** close to the high-density Tyandaga neighbourhood does, in our view, verge on recklessness and certainly demands an URGENT re-evaluation - times have changed and so must we – it’s called progress. The possible long term effect of shale / silica dust (viz., silicosis) is well understood and the symptoms may not develop until **5, 10, or even 20 years** after the initial exposure – surely this must be a cause of concern for potential litigation. To ‘hang your hat on a statement’ that there have been “...no reported health incidents related to shale dust” ignores ALL the relevant literature - including Forterra’s own industry publications (“*risk of environmental, health and safety liability is inherent in the operation of the Company’s businesses*”) – that seems to point in a totally different direction and lead to a substantially different conclusion.

Dust emissions will be constantly monitored

This statement brings back vivid memories of Forterra’s September, 2015 information meeting between the Westhaven Dr. residents and the then Hanson Brick (before the name change to Forterra) in which Forterra described their ‘approach’ to the quarry dust monitoring process. It was essentially described as being a pole in the ground that supported, above the ground (not sure about the height), a plastic bottle with a ‘side’ hole in it. Periodically, a Forterra employee would evaluate the dust collected in the plastic bottle and use this visual ‘value’ to assess the severity, or otherwise, of the dust situation.

The volume of dust is obviously a VERY important measure and presents a clear and present ‘visual’ danger but we wish to make it VERY clear that the chemical and particulate content of the dust is equally if not more important.

1. “the likelihood of getting lung cancer from silica exposure follows a significant risk at levels around 0.2 mg/m³ over many years, or higher exposures in a shorter period”
2. “Heavy dust is unhealthy to animals and plants **but** the most pernicious dust, the dust that is not easily seen by the naked eye - micro dust - **moves over long distances** and gets inhaled far from where it is created”

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Perhaps the 'stick-and-bucket-with-a-hole-in-it' approach may need to be rethought and refined - "... *the dust problem is injurious to health when we can see it and **even more injurious when we can't see it***".

FACT – THE MEETING – TEC representatives and their lawyers (Donnelly Law) have been in communication with and have also recently met with Forterra and their lawyer. During this meeting, TEC made several proposals to Forterra to enter what was hoped would be meaningful discussions (even on a 'without prejudice' basis) but the approach was flatly refused by Forterra whose position of intransigence seems to be based on the perceived intractability of a site license that was issued in ~1972 and hence cannot, in their view, be 'questioned' – a position we vehemently contest.

In these discussion, we also recommended having a Community Meeting to openly debate the East cell quarry development so that we could express our relative positions and concerns in a structured and civil environment. We are therefore somewhat encouraged that Forterra's recent letters to the community seems to be supporting the TEC proposition and we look forward to firming up a date, time, location, and agenda.

The Forterra quarry development IS A REAL ISSUE FOR OUR COMMUNITY. It is important that we act to ensure that the planned deforestation of such a substantial area does not happen. We encourage all to participate in helping us to question and deal with Forterra's plans and continue to voice your objections and concerns to the leaders in our City, Regional and Provincial governments.

Please contact us for more information. As always, any offers of assistance are greatly appreciated.

Sincerely

Tyandaga Environmental Coalition team

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Please check out WWW.TECBURLINGTON.COM for updates.