September 15, 2023

Office of the City Clerk
City of Burlington

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{This is an updated version of the letter submitted previously as an official objection letter to the Ministry of Natural Resources (MNRF) on December 13, 2020 and an official objection to the Ontario Land Tribunal and Participant Request dated June 17, 2023.}

To Whom It May Concern:

RE: DELEGATION TO THE COMMUNITY PLANNING, REGULATION & MOBILITY COMMITTEE – PUBLIC SEPTEMBER 18th, 2023, AGENDA NUMBER PL-51-23

We are descendants of several generations of farmers and business owners who have lived and looked after the land and preserved woodlots directly adjacent to the current and proposed Nelson open pit quarries. For the better part of two decades, I have written letters to various government agencies to protest against Nelson obtaining a new license for new quarries on the Mount Nemo Plateau including a letter on behalf of my now deceased mother, Marion Millar, to the Ministry of Natural Resources on April 2, 2008 (copy attached to the email along with an additional support letter dated March 24, 2008 from Marion and Boni Millar). Several major concerns with the current quarry operations and the previous proposed open pit south of No. 2 Side Road are still relevant to the two new open pits proposed by Nelson today. Once again, I and on behalf of my sister, Boni Millar, are writing to officially declare we are strongly opposed to the renewed application by Nelson for a new quarry extraction license adjacent to their current open-pit operation to which Nelson refers to as "Burlington Quarry Extension" and we reject the premise that this is merely an extension.

Our greatest concern is the deleterious impact on the groundwater quantity that is necessary to sustain residents and ecological systems in the area. Other concerns are:

- water quality (turbidity, potential leachate from imported fill);
- water well interference complaint protocol;
- extraction to depths beneath the Amabel into the less potable argillaceous dolostone;
- estimation of the cone of influence and 'background' water levels;
- insufficient setbacks for wetlands and affects to the local unique ecology;
- minimization of interconnectivity between wetlands and groundwater regime and potential for groundwater/surface water interaction;
- blasting damage to homes and dust, truck traffic, air pollution;
- potential impacts on property values;
- industrial land use incompatible to surrounding recreational and residential land use; and,
- distraction of a proposed park development in the distant future over already existing recreational areas and green spaces.

Since our mother's death we are more retrospective and have taken an even longer view of the ramifications for this latest proposed application and provide context of what has already been permanently lost so we can encourage a grander vision from our governmental decision makers to a more sustainable land use and convince them that this area is unique and worth preserving for

current and future Burlingtonians. If more extraction is permitted around the Nelson Quarry, no rehabilitation, park or lake promised 10 or 50 years in the future would adequately replace this unique place. The current photo of the remediated northeast corner of Nelson Quarry on their website is misleading as it does not show the current operations and the big crater.

As part of my mother's estate, the remaining 46 acres of her original property is currently a 9-hole golf course (2090 No. 2 Side Road) and may be operated as such in the future by new owners so current recognized land uses in the immediate vicinity of the proposed new quarries should include recreation in addition to agriculture and residential. The Amabel Formation (Amabel) is a regionally significant aquifer and it has been greatly depleted on the Mount Nemo Plateau already. Approximately 30 % of the thickest portions of the Amabel in this area (north of No. 2 Side Road) have been extracted by the existing quarry operations. It is commonly understood that groundwater accounts for the majority of the earth's accessible freshwater drinking water resources and the two new quarries adjacent to the existing open pit will not be a balanced use of the water resources in this region. It is not justifiable to destroy multiple natural resources for a single commodity (aggregate) at the expense of the quality of life of the surrounding community. Cheap aggregate costs the Mount Nemo community dearly. We must stop further destruction of the life-sustaining drinking water resource and the additional loss of agricultural and recreational land even though we have already lost 219 ha (540 acres) to the existing quarry. Other benefits that society gains if the land is not degraded is the natural vegetation retains rain and prevents flooding and enhances recharge during times of drought. Building resilience by protecting and restoring our natural ecological resources and functions will help us mitigate the effects of climate change and not extracting and removing it. Stating that having a quarry close to market will reduce green-house gases illustrates a narrow view that omits their other direct and indirect contributions to CO_2 emissions and an attempt at greenwashing their industrial activity.

Family History on Mount Nemo

Our families have deep roots in the Mount Nemo area. My grandmother, Annabelle Coverdale, raised her two daughters (Marion Millar and Shirley Coverdale) in the farm house and farm (now Burlington Springs Golf Course) and was well known locally for her generous hospitality during community farm threshing events and her oil paintings of the unique landscapes and area landforms of Mount Nemo area and landmarks such as the former Dakota Mill.

Our mother, Marion Millar (ne Coverdale deceased June 30, 2020) and father, Cameron Millar (deceased) were raised on farms along Cedar Springs Road within a kilometer of each other. My uncle, Harvey Millar, a World War II veteran lived his entire life in the original Millar family homestead (a Historical Marker was placed on a outcrop of the Amabel Formation along Colling Road near the corner of Cedar Springs Road marking its nearby former location). The Millar homestead became a temporary home for many immigrant families to Canada starting a new life. Our families maintained small forests or woodlots on their farms. Each spring my uncle and father made maple syrup in the 'bush' and neighborhood families and children came to watch for many years. After my parents married in 1950 they founded and operated together two family businesses on No. 2 Side Road: Camisle Outdoor Skating Rink and Camisle Golf. They landscaped their land and planted hundreds of trees and wanted to conserve the rural nature of their land. Our family has lived and worked adjacent to the quarry for three generations along with my other Millar/Coverdale/Colling relatives. In fact, the photo on the web page for the Cultural Heritage report on the Nelson Quarry website is the former home of our aunt and uncle (Jean and Bruce Millar). We feel privileged to have grown up in this beautiful rural area but we also have first-hand experience of what it is like to live next to this open pit mine.

I remember feeling the shaking of the earth after a blast while lying on our lawn in the 1960's and 1970's. During the subsequent decades our bedrock water well had to be deepened because my mother lost water in a formerly abundant aquifer after extraction expanded westward towards their property. The walls of her home sustained several cracks near the ceiling due to the intense blasting over the years. Her appliances were caked with calcium deposits from high turbidity in the groundwater probably from years of blasting and fracturing of the dolostone bedrock and numerous heavy-noisy hauling trucks and clouds of dust over large areas are a few of the negative affects experienced while living near this open pit mine. Where I often observed such abundant wildlife as

salamanders in the forest and leopard frog egg masses in our ponds in the 1960's my children only experienced the frog's life cycle in the 1990's. As our water table lowered due to dewatering of the aquifer by the quarry operation so did the wildlife abundance. We witnessed the decline of wildlife and water resources over the life span of the quarry operation. The quality of the fill currently being hauled and deposited in the existing quarry and its potential deleterious effect on groundwater quality in a highly-fractured bedrock aquifer is an additional concern. The level of uncertainty and fear of long-time residents and new recent homeowners has increased following Nelson's announcement on July 30, 2019 to renew an attempt to license bedrock extraction south of No. 2 Side Road and add an additional area to the west. The constant lingering threat of new quarries creates uncertainty and anxiety in the community and with residential homebuyers who perceive the industrial activity negatively thereby potentially adversely impacting property values.

I became interested in preventing mining and other detrimental land uses of this area at an early age ever since my mother handed me a consultant's report in the mid-1980's, which at the time reviewed the potential of using the old quarry pit as a future sanitary landfill. I was also inspired by the subsequent activism of my aunt (she went door to door to gather signatures for a petition against a proposed landfill in the existing quarry). The opposition to the quarry has been going on for decades with each new threat or exploitive proposal presented to the community and has passed on to a new generation of community activists. The original permitting of the quarry in 1953 has opened the door for other industrial land use practices such as an on-site asphalt plant, what next?

In 2019, it was necessary for my 89-year old mother to move from her matrimonial home adjacent to the existing quarry and when I told her that Nelson had bought Burlington Springs Golf Course (her father's old farm), she became very agitated and disturbed to think her former childhood home could become another quarry and the community will have to endure decades more years of mining. She then recounted a story (that I heard her tell before) about her father, my grandfather born in 1902, who complained of the quarry blasts and worried about the boulders on the fields with his cows. My now deceased aunt, Shirley Coverdale formerly of 5245 Cedar Springs Road would have been appalled to know that if she had lived longer she could have been living adjacent to another open pit mine where her family's farm once existed. An active community member in her own time, she lamented to me in a letter about the threats to the Mount Nemo area where she lived stating "*'They' go on as if we don't exist*".

There is a reason the Cedar Springs Road area, was so named by early farmers and that was for the multiple springs in the area and abundant, accessible potable water for agriculture and domestic consumption. The high-water table and abrupt changes in ground elevation resulted in many springs in the area. In the attached old newspaper clipping (date and publisher unknown) a 200 m stretch of Cedar Springs Road was closed near the entrance to my grandfather, Gordon Coverdale's, farm (currently Burlington Springs Golf Course entrance) for over three weeks and as a result my grandfather had difficulty-transporting cans of milk. Perhaps this phenomenon could have been explained by karst-related flooding? My mother told me a story that many years ago in the 1930's or 1940's the Town of Burlington drilled test wells for a potential municipal water supply well near her father's property. She spent almost her entire life in this area and told me about her own Huck Finn-type adventure as a child by attempting to navigate the nearby creek with a friend on a hand-built raft. She told me of regularly observing redwing blackbirds in the small wetlands, long since dried up, in farmer's fields. I remember the loud chorus of frogs during the first warm and wet days of spring and the sudden feeling of cold water on my feet as I walked across the bottom of our spring fed pond where I swam as a youth. Now the same pond does not hold as much water past the spring melt. Down the road, the Dakota Mill with its 18-foot water wheel (named after a band of Dakota who camped nearby with government surveyors when this area was the frontier and referred to as 'Canada West'[1]) built around 1840 had plenty of water to mill lumber and grain until it was destroyed by fire in 1979. I remember my father was able to irrigate greens and fairways on his golf course only using a spring fed pond. My father was not able to do that in the later decades and had to rely on seasonally fluctuating discharge to his irrigation pond from Nelson. Burlington Springs Golf Course in 2001 applied for and was granted approval to excavate several irrigation ponds for the purpose of collection and storage of runoff for irrigation purposes and I assume also dependent on the quarry discharge directed to their irrigation ponds.

[1] Brass Tacks, Volume 1, No. 1 Winter, 1978 Burlington Central High School, Burlington, Ont.

Mount Nemo and surrounding area is often referred to as Burlington's backyard and the home of many golf courses and recreational areas. As the Covid-19 pandemic reminded us, we need green space preserved now not 50 years in the future and golf courses and parks in the area provide a respite for cooped-up urban dwellers. Recently, the preserved rural area has also been a desirable location setting for the film industry.

We are rapidly losing the generation that remembers what the area was like before the quarry commenced operations in 1953 and in keeping with a historical retrospective, the attached 1877 Nelson Township map[2] helps to show what we have already lost due to dewatering of the Mount Nemo outlier and urban expansion below the escarpment. It illustrates that this proposal has indirect effects on more than the rural residents of the Mount Nemo area. The historical map depicts the Mount Nemo outlier, a regional recharge zone, and details at least 10 streams and creeks emerging from its base that eventually stretched out across what is now the City of Burlington and drained eventually into Lake Ontario. Dundas Street built to connect York (Toronto) to London in the late 1790's was located far north from Lake Ontario to avoid 'swamps and marshes which extended across much of the area between the escarpment and the'[3] lake. We have lost much of the intact watershed due to the expansion of the City of Burlington and highways, but we should do our part to protect the remaining watershed that has been drastically reduced over two centuries. The City of Burlington and surrounding area benefits more from preserving what is left of this area than from removing the center of this outlier located in North Burlington by permitting another two quarries. With less absorption upstream, more runoff and flooding to residents downstream will occur especially during the increased frequency of extreme precipitation events of the past 20 years, or, alternatively cushioning the effects of a lower water table in times of extreme drought; both consequences of climate change.

Water is more precious for life than rock. The benefits of two new quarries are small in comparison to the cumulative effects and major irreparable harm caused by the extraction of more than 78.3 hectares of green space, bedrock and groundwater not to mention the effects on surrounding land. We can't prevent mass extinction, all groundwater depletion and pollution or turn back the clock on green-house gas emissions on a global scale but we can make a positive contribution to lessen these impacts locally. Obviously, as caring former residents of the area and in memory of our mother, a life-long steward of her land, our job is never finished and we remain opposed to this second attempt to further mine the aquifer that served our ancestors for over 100 years. The decision you make now will impact the City of Burlington residents for generations to come.

Hydrogeology and Hydrology

We disagree with Nelson's recent assertions that 'Nelson has operated the current quarry since 1953 without impacts to local wells' and 'not have a noticeable impact on water quality and quantity' based on my mother's past experience in the early 2000's and her neighbour's have had their bedrock water wells deepened. We reject their premise that they are merely a 'water handler' more than 'a water taker'; their required Permit To Take Water from the MECP states otherwise. Removing a bedrock aquifer and collecting the resultant groundwater inflows to later discharge to offsite downstream surface watercourses disrupts and local flow system and its dependent ecological functions and intercepts groundwater that would be otherwise be available to bedrock water wells. Their corpulent water taking impacts and limits what other adjacent property owners can do with their land. Nelson indirectly acknowledges these impacts by reducing their original 'southern extension' proposal by 60 % and by moving the extraction limit from 30 to 100m from Cedar Springs Road in the Burlington Springs Golf Course section. Previous consultant's report that their maximum groundwater level drawdown induced by the quarry was 21 m and its radius of influence to be approximately 1 km.

A partial reading of the 566 page 2020 Level 1 and Level 2 Hydrogeological and Hydrological Impact Assessment Report revealed that only 11 of the 156 homes visited in July, 2019, as part of

[2] Illustrated Historical Atlas of Halton County, 1877

[3] John Lawrence Reynolds written for a publication of the Burlington Committee for the Ontario Bi-Centennial in 1984

the private door-to-door water well survey, "were interested in participating in the water well monitoring program". This indicates to me how unpopular Nelson's two new proposed mines are to the current residents of the area (Page 118). I disagree with the statements on page 190 that "*at any location in the vicinity of the quarry, a private water well could be" deepened "…and it would have up to 22 m of available drawdown. Near the existing quarry that available drawdown is reduced, but many existing wells are in close proximity to the quarry, and yet have been providing suitable water supply for many years*." One should also rely on nearby resident's actual experience and not just computer modeling especially if the real-life experience is different from model scenarios thus rendering the modeling unreliable.

My mother experienced lack of water in the mid-1990's in her bedrock well, which previously sustained our family of 6 for almost 50 years without interruption, when the south extraction face of the existing quarry advanced to within a few hundred metres from her well. She required a new well drilled to almost twice the depth of her original well, and for the rest of her life was careful using water. Based on historical aerial photographs and first reports of water well interference as the active face moved south towards the southwest corner of the existing quarry and the dates of redrilling on the water well records significant water declines were experienced as early as 1995 when the quarry was approximately 400m from my mother's former house well located at 2102 No. 2 Side Road. The new drilled deeper well was about 168m south of the final quarry face and experienced significant water supply problems in about 1999 and the early 2000's when the active face was approximately 300m from the well.

Well-calibrated models may predict possible scenarios but nothing compares to the actual observed effects of mining an approximately 18 m-thick fractured bedrock aquifer with karst features. My mother's past experience could well be the future of nearby neighbors on Cedar Springs Road if this application is approved. In my opinion using data from 2004 to present does not accurately represent 'baseline' conditions because it doesn't incorporate the cumulative impacts from the dewatering the aquifer and its environs from mining operations between 1953 and 2004. Baseline conditions as proposed by the consultant are relatively recent and if I recall correctly may be anomalously lower than normal due to widespread drought in the early 2000's and do not seem to incorporate the already impacted water table from over 50 years of extraction in the existing quarry.

In the hydrogeological report the wetlands are described as 'perched' implying they are not connected to the groundwater regime. In an area of uneven glacial till cover and numerous bedrock outcrops of the Amabel exposed at surface, I find this assertion too optimistic and based on selected data, after all in 2007, Golder Associates also stated potential groundwater/surface water interaction were minimal. If the wetlands are now not connected to the groundwater regime it may be because of the over 60 years of dewatering from the existing open pit operations which lowered the water table substantially from the natural historical high-water table. It is my opinion that groundwater plays a very important role in the natural environment of this unique area and the wetlands are not as "isolated from the groundwater regime" as Nelson's consultants interprets them to be, especially during the annual higher water table conditions of the early spring of each year. Local experience suggests evidence that there is significant groundwater/surface water interaction in the area. Based on the observations of my aunt, Shirley Coverdale and my mother, the wetland across the road from 2090 No. 2 Side Road "dried up" as the quarry face advanced southward along the west side of the existing quarry resulting in the decline of characteristic flora and fauna ("redwing blackbirds and cattails").

The proposed Water Well Interference Complaint Protocol includes mitigation measures in the event of loss of water supply due to quarry interference such as deepening a landowner's water well. This may entail drilling into the argillaceous dolostone or shaley beds yielding poor water quality and less desirable groundwater than what the landowner had previously obtained for free from the Amabel aquifer. If all other mitigation measures are not appropriate the landowner may have to agree to have a cistern installed although Nelson states only at the request of the landowner would a cistern be installed.

It would be useful if the chemical analysis of imported fill into the existing quarry be made available to the public to determine if there are potential contaminants in the fill that could migrate with groundwater outwards from the quarry to nearby water wells when the existing quarry ceases

operations and when flow is no longer directed towards the pit. Also, as part of monitoring of wells, turbidity and other water quality parameters are measured to determine if there were any "blast induced ground vibration affects" on water quality.

Conclusion

In keeping with our mother's legacy and conservationist principles, who thought one should conserve land given to them for future generations and try to leave the land in better shape than when one found it, we strongly reject Nelson's proposal of two more new open pit mines. It is time for the landowners surrounding the current open pit mine to receive environmental justice and not more proposed industrial land use. Prior to the existing 500-acre quarry, this area had abundant water resources. Just like the original approval in the early 1950's led to the application for a new license to extract south of No. 2 Side Road in 2004; so might the approval of this 2020 application probably lead to an another license to extract in the future, when the proposed 78.3 acres of extraction is complete; the application, if approved, mining will become the predominant land use in the area and a self-fulfilling prophecy.

Government road signs designate the area where Nelson wants to blast two new mines as a "World Heritage Biosphere" and "Green Belt". The value of this kind of natural environment is immense to the growing population of the region. In the fifty plus years of the quarry operation, we have witnessed wetlands, spring fed ponds and water wells dry up on my parent's 46 acres of land. Water flows down-hill and in this case into a huge hole on No. 2 Side Road. The water table is the inevitable casualty of such an intrusive activity and individuals who live nearby and the "green heritage" touted on the signs will bear the brunt of a decision to allow more mining. Please do not allow Nelson to further decimate our green heritage and avoid compounding on the impacts residents have already endured from the existing quarry operation for seventy years. This area has had its fair share of industrial activity. Please protect this portion of the Niagara Escarpment from further open pit mining and even more applications in the future to prevent more adverse impacts on the water resources and the quality of life of long-standing property owners in the area, some of which owned land prior to the current quarry operations. Set the area on a new course of sustainable development and ecological preservation to help the area withstand and be resilient to the stresses of climate change. We ask that the City of Burlington use its available resources to oppose Nelson's renewed application at the OLT hearing. They were denied once already and the reasons are still applicable to this new application.

Thank you for reading our letter and for the opportunity to comment and for considering our concerns of the two new proposed quarries.

Sincerely,

Wendy Diaz

[redacted]

Boni Millar

[redacted]

Attachments

OUSE
GE FARM