

MINERAL RESOURCE IMPACT ASSESSMENT

For a Minor Variance, 710 Corktown Road

Prepared for: Brad Taylor in support of a consent application to sever a Lot located at 710 Corktown Road



Location of site: 710 Corktown Road
Pt. Lot 15, Conc 1
Geographic Township of Wolford
United Counties of Leeds Grenville

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Introduction:

The undersigned was retained by the landowner, Brad Taylor, to provide a technical report in support of a consent application at 710 Corktown Road, south east of the village of Merrickville. Mr. Taylor is proposing to sever 4.7 hectares (11.5 acres), containing the existing home, garage and barn from 30.6 hectares (75.5 acres), providing a 25.9-hectare (64 acre) building lot on the retained lands. The parcel is located within the 300-metre influence area of an *Aggregate Resource* designation shown on Schedule A of the Merrickville-Wolford Official Plan (OP) and shown as *Sand and Gravel Resource Area* on Schedule B of the United Counties of Leeds and Grenville O.P.

The sand and gravel resource designations on the County and Township OP schedule (see **Figures 1 and 2**) replicates the sand and gravel deposit of secondary significance outlined on the Aggregate Assessment Map (ARIP 183) for the United Counties of Leeds and Grenville (see **Figure 5**). This portion of the deposit is shown as a narrow ridge running on a northeast to south west axis. The existing century stone home and detached garage lies in the centre of the narrow gravel ridge. South of Corktown Road and west of this ridge, the deposit broadens and swings west toward a depleted pit previously licenced to Peter McGrath.

The purpose of the MRIA is to evaluate the impacts that a building lot at the west end of the retained lands would have on the adjacent sand and gravel resource designation. The County and Township OP contains a 300-metre influence area from a Sand and Gravel Resource Area designation.

In order to evaluate the potential impacts, a desktop exercise begins with the review of surficial and limestone bedrock resource mapping and review of operating pits and quarries and to what extent past operations have been operated and depleted of resource in the vicinity of the proposed building lot. This involves the review of the Official Plan and Zoning By-law policies to determine to what extent the County and local municipality has protected these geological deposits (licenses and resource areas) for future use. The report will evaluate the extent to which the proposed development would sterilize any surrounding resource or would preclude or hinder the establishment of future operations or make them uneconomical for future extraction. Once potential impacts have been identified, consideration of mitigation measures must be considered to ensure the development does not adversely impact the resource. The following is a list of social impacts for consideration to align with land use compatibility policies specified in the local Official Plan (O.P.) and zoning by-law regulations including setback requirements:

- i) Dust;
- ii) Noise;
- iii) Vibration;
- iv) Traffic;
- v) Groundwater (well interference); and
- vi) Visual

1.0 Study Scope

The scope of this study was;

- 1) To identify any resource on the subject lands and lands directly adjacent to the Sand and Gravel Resource Area designation, and
- 2) To provide a professional opinion about whether the proposed building envelope would negatively impact (“hinder” or “preclude”) the use of adjacent aggregate resources for future development.

2.0 Relevant Policies and Regulations

The 2024 Provincial Planning Statement (PPS), County of Leeds – Grenville Official Plan, the Merrickville – Wolford Official Plan and comprehensive Zoning By-law, Aggregate Resources Inventory Paper 183 for the County of Leeds – Grenville, the Aggregate Resources Act (ARA) and regulations and the policies related to implementation of the ARA, regulations, and standards are some of the references used in preparation of this report. *(a complete list of references is included at the end of the report in **section 10**).*

2.1 Provincial Planning Statement (PPS) 2024.

The PPS provides the framework for land use planning and development policies in the upper tier and local Official Plans.

Section 4.5 of the 2024 PPS discusses how **Mineral Aggregate Resources** should be protected for long-term use. The policy statements relevant to this report are;

4.5.2 Protection of Long-Term Resource Supply

- 1. As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible. Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere.*
- 2. Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.*
- 3. Mineral aggregate resource conservation shall be undertaken, including through the use of accessory aggregate recycling facilities within operations, wherever feasible.*
- 4. Mineral aggregate operations shall be protected from development and activities that would preclude or hinder their expansion or continued use or which would be incompatible for reasons of public health, public safety or environmental impact. Existing mineral aggregate operations shall be permitted to continue without the need for official plan amendment, rezoning or development permit under the Planning Act. Where the*

Aggregate Resources Act applies, only processes under the Aggregate Resources Act shall address the depth of extraction of new or existing mineral aggregate operations. When a license for extraction or operation ceases to exist, policy 4.5.2.5 continues to apply.

5. In known deposits of mineral aggregate resources and on adjacent lands, development and activities which would preclude or hinder the establishment of new operations or access to the resources shall only be permitted if:

- a) resource use would not be feasible; or*
- b) the proposed land use or development serves a greater long-term public interest;*
- and*
- c) issues of public health, public safety and environmental impact are addressed.*

The 2024 PPS is reflected in the policies of the current local Municipal Official Plans, including map schedules showing locations of established pit sites and sand and gravel deposits with accompanying influence area policies to protect mineral aggregates from encroachment of incompatible development. The County is developing an Aggregate Resources Master Plan to further identify important aggregate resource areas at the county level, especially the priority areas for bedrock protection. This will be discussed further in the next section of this report.

2.2 County of Leeds – Grenville Official Plan

The United Counties of Leeds and Grenville has an upper tier Official Plan, with the Village of Merrickville – Wolford having a complimentary lower tier Official Plan. The upper tier O.P. contains policies directing approval over consent applications, authority for approval of the 5-year lower tier O.P. review and general policies and mapping guiding the protection of sand and gravel deposits and licenced pits and quarries. The lower tier O.P. Plan policies and mapping provide direction to municipal planning decisions for the local municipality. The Local O.P. also contains mapping criteria for the protection of existing pits and quarries and bedrock reserves.

There is an abundance of quality bedrock across the County. The upper tier municipality has identified sand and gravel resources in the land use mapping Schedule B for their O.P. (See **Figure 1**). Bedrock designations have not been included as a resource designation at the county level. The County is considering an Aggregate Resource Master Plan, including a constraint mapping exercise which will assist in prioritizing the best bedrock resource areas for protection. Once completed, each lower tier municipality will consult the study for guidance in amending their OP to develop policies and best locations for bedrock resource protection mapping at the local level. Merrickville - Wolford has been progressive in identifying sand and gravel and some bedrock resources on their OP map Schedule B (see **Figure 2 and 3**).

The following are excerpts from the Consolidated County Official Plan dealing with protection of Aggregate Resources from encroaching development:

3.5.2 Mineral Aggregate Resources

...

d) Viable deposits of mineral aggregate resources, including primary, secondary and tertiary sand and gravel resources and bedrock resources, and mineral aggregate resources and mineral aggregate resource operations will be identified in the local municipal Official Plans, and will represent a detailed interpretation of the boundaries of viable deposits of mineral aggregate resources until such time that a Counties' Aggregate Resources Master Plan is prepared.

e) Until such time that an Aggregate Resources Master Plan has been prepared and implemented through an amendment to the Counties Official Plan, local municipalities in their local municipal Official Plans may adjust or refine the extent of the sand and gravel resource areas identified on Schedule B and the bedrock resource areas identified by the Province, and the extent to which the policies associated with deposits of mineral aggregate resources apply within these areas, without an amendment to the Counties Official Plan. Refinements or adjustments to the extent of the sand and gravel resource areas and the bedrock resource areas may be based on the consideration of the viability of the local resources, the location of settlement areas and existing development, the location of natural heritage features and areas, and setbacks from waterbodies, among other matters, and will be subject to provincial approval.

f) Development and activities in known deposits of mineral aggregate resources and on adjacent lands, with the exception of any use in an Urban and Rural Settlement Area and/or Employment Area and agricultural uses, which would preclude or hinder the establishment of new mineral aggregate resource operations or access to the resources will only be permitted if:

i. resource use would not be feasible; or

ii. the proposed land uses or development serves a greater long-term public interest; and

iii. issues of public health, public safety and environmental impact are addressed.

For the purposes of this policy, 'adjacent to' will generally include lands within 300 m of sand and gravel resource areas or the licensed boundary of an existing pit, and within 500 m of bedrock resource areas or the licensed boundary of an existing quarry.

Sub Section 3.5.2 f) indicates that adjacent lands would be an influence area of 300 metres between the *sand and gravel resource (secondary)* deposit areas and the proposed development, in this case, a residential building lot.

Until the Master Plan determines appropriate aggregate resources (sand, gravel and bedrock) for preservation, the development will rely on the local OP designations for planning constraint analysis.

2.3 Village of Merrickville-Wolford Official Plan

As indicated in **Section 2.2** above (**County of Leeds – Grenville OP**), the local OP and land use schedules will guide decisions on land use planning until the County Master Plan for Aggregate Resources is approved by county council to guide the appropriate amendments to the local OP.

The policies in the local OP concerning influence areas from aggregate resource deposit areas already reflect the same 300 metre influence area policies of the upper tier OP. The following are related excerpts from the Merrickville – Wolford OP.

Policies

4. This Plan will protect aggregate operations from activities that would preclude or hinder their expansion or continued use, or which would be incompatible for reasons of public health, public safety or environmental impact. As provided in the Influence Areas policies of Section 5.6, lands adjacent to existing pits and quarries and areas reserved for future extraction are limited to uses which are compatible with aggregate extraction activities. Development which would preclude or hinder the establishment of new operations or access to resources in the Influence Area requires an Official Plan Amendment to re-designate the affected land and will only be considered if the following criteria are addressed:

- *the resource use would not be feasible;*
- *the proposed land use or development serves a greater long term public interest; and,*
- *issues of public health, public safety and environmental impact are addressed.*

5.6 INFLUENCE AREAS

5.6.1 Schedules A-3 and B-3 show Influence Areas adjacent to certain designated land uses where development, particularly residential development, may be restricted or prohibited because of the potential incompatibility with the adjacent designated land uses. These Influence Areas are in addition to the lands which are adjacent (within 120 m (394 ft.)) to the natural heritage features referred to in Section 4.1 of this Plan and include:

- *500 m (1,640 ft.) from an open or closed solid waste disposal site;*
- *500 m (1,640 ft.) from an open quarry and from the boundary of land designated Aggregate Resource Quarry;*
- ***300 m (984 ft.) from an open pit and from the boundary of land designated Aggregate Resource Pit;***
and,
- *300 m (984 ft.) from a designated Salvage Yard (also see Section 6.4.5).*

5.6.2 Development may be permitted within the Influence Areas in accordance with the policies of the underlying land use designation and in accordance with any applicable policies of the adjacent land use designation to which the Influence Area applies, subject to the following additional policies.

1. Residential and other sensitive land uses are generally prohibited, but may be permitted in consultation with the public agency having an interest in the Influence Area.

2. Prior to approving any development within the Influence Areas, Council shall require the applicant to undertake a study in order to identify the impact of the proposed development on the adjacent designated land use, and vice versa. The study shall also identify what measures can be undertaken to mitigate the impact. Any such study shall be undertaken to the satisfaction of the Village and in accordance with the requirements of the public agency having an interest in the Influence Area.

3. Where the designated land use ceases operation, either by the closing of a waste disposal site or salvage yard, or the surrendering of a license to operate a pit or quarry, the policies of this Section will continue to apply to the extent that the study referred to above shall be required, with necessary modifications, prior to the approval of any development.

5.6.3 Other separation distances between residential or other sensitive uses and potentially incompatible uses may be established in the implementing Zoning By-law.

The 300-metre influence area underlined above, is the policy that triggers the Mineral Resource Impact Assessment.

The subject property consists of 30.6 hectares partially in and adjacent to an area designated as Aggregate Resource on Schedule A map of the OP and as *Sand and Gravel Resource (secondary)* on the Schedule B map to the O.P. for the area beneath the existing home and garage. (See **Figure 2 and 3** map). The author is aware that there is a depleted sand and gravel site (P. McGrath Pit) whose licence was surrendered in 2007. There are sand and gravel resources of tertiary significance located to the north and west that appear to be beyond the influence area of the consent application and the area to the west may have been designated initially to capture the previously viable McGrath pit operation which is now depleted. The sand and gravel ridge lying below the established residence is quite narrow and needs to be further investigated to determine feasibility in terms of quality of material depth and size, but appears to adequately replicate the aggregate resource mapping.

2.4 Village of Merrickville Wolford Zoning Bylaw

The subject property is zoned **RU** on the Merrickville – Wolford Zoning By-law Schedule Map. The area to the west shown as **AP** signifies the location of the depleted and surrendered Peter McGrath pit licence which should be removed from the Zoning Schedule Map. (see **Figure 4**)

Village of Merrickville-Wolford Zoning by-law No. 23-08 November 2008 Consolidated: September 2024

SECTION 13: AGGREGATE – PIT (AP) ZONE

No person shall use any lot or erect, alter or use any building or structure within an Aggregate - Pit Zone except in accordance with the following provisions.

13.1 Permitted Uses

conservation, excluding buildings, forestry, excluding buildings general agriculture, excluding buildings, pit

13.2 Zone Provisions

1.	Lot Area (minimum)	No minimum
2.	Lot Frontage (minimum)	No minimum
3.	Front Yard Depth (minimum)	15 m (49.2 ft)
4.	Exterior Side Yard Width (minimum)	15 m (49.2 ft)
5.	Interior Side Yard Width (minimum)	15 m (49.2 ft)
6.	Rear Yard Depth (minimum)	15 m (49.2 ft)
7.	Landscaped Open Space (minimum)	10%
8.	Height of Building (maximum)	11 m (36.1 ft) as calculated in accordance with the definition and illustrations in Section 2H
9.	Accessory Uses, Waterbody Setback, Parking, etc.	in accordance with Section 3
10.	Buffering	The required yards shall be used for no purpose other than landscaped open space except where a driveway or entrance passes through the required yard.
11.	Special Provisions	No pit shall be located closer than 300 m (984.3 ft) from an existing dwelling.

13.3 Exception Zones

Section 13.2.11 speaks to pits needing to be beyond 300 metres of an existing dwelling. It seems reasonable that a reciprocal setback be considered where a proposed residential lot is being proposed in similar proximity of an established sand and gravel pit or lands zoned for that purpose in the future.

As indicated, the AP zone to the west has been depleted and the licence surrendered, and the AP zone has yet to be amended to have this land use removed. There are no other AP zones indicated within the 300-metre setback indicated by the By-law. The consent application is therefore in compliance with the RU zone.

3.0 Mineral Aggregate Resource Mapping

Provincial aggregate resource mapping, is a tool prepared by the Province to assist Municipalities in applying the Provincial policies for the protection of aggregate resources for construction needs. The mapping and description of the geology is found in the **Aggregate Resource Inventory of the United Counties of Leeds and Grenville, Southern Ontario**, the Ontario Geological Survey,

As mapped in the ARIP 183, an extensive area of sand between 3 and 6 m thick occurs at the west end of Corktown Rd. There is a narrower confined ridge lying directly under the existing home and garage which is sterilized by the structures and setback requirements. Some of this material is labelled as Secondary significance and some as Tertiary significance. (see **Figure 5** Surficial Geology).

Fig. 5. Shows the existing dwelling and proposed residential lot parcels superimposed on part of map from ARIP 183 showing secondary and tertiary sand/gravel deposits. Note that the property immediately to the west (rectangle labelled 43) was a previously licensed pit as recorded in Table 3 from ARIP 183 (see below). This pit was used extensively throughout the 1940's and to a lesser extent up to the 1990's and considered depleted and licence surrendered in 2007. Their main access to the more recent pit operation was off of Putnam Rd.

In discussions with both Kevin Tackaberry, from G. Tackaberry and Sons Construction Limited and Donald McConnell, both local pit owner/operators in this market area, who have both removed sand and gravel material from the McGrath site in the past and indicated the pit deposit has been depleted of marketable material. Mr. McConnell also indicated that there was some material in close proximity to the south side of Corktown Road shown as secondary resource between the applicant's lands and the McGrath Pit to the west, (see **Figure 5**). Mr. McConnell have done some septic bed work in this area in the past, but indicated there was not enough marketable materials to warrant a licence application based on deposit depth and extent and road and property setbacks. He also indicated that Corktown Road may need to be upgraded to a higher standard to support gravel truck traffic and there may be significant opposition from surrounding land owners and cottage owners. These discussions seem relevant and accurate to the author in considering the feasibility of a future operation on what remains of the small deposit area remaining.

1 Pit No.	2 Owner/Operator	3 Licensed Area (Hectares)	4 Face Height (Metres)	5 % Gravel	6 Remarks
41	-	-	1	-	mostly sand
42	-	-	2	-	fine sand
Village of Merrickville-Wolford					
Licensed					
43	P. McGrath Excavation	34.01	4	20	variable medium sand with some gravel
44	McAAT	2.22	4	40	variable medium sand gravel; boulders
Unlicensed					
45	-	-	-	-	-

P McGrath pit was depleted and pit licence surrendered in 2007.

The applicant, Brad Taylor, also informed the author of this report, that the depth of overburden, determined by the digging of fence post holes along the west property boundary was about ½ a metre to contact with the bedrock. This would verify that narrow ridge of gravel underlying the house and garage drops off quickly on either side of the ridge. I would conclude that the deposit in the centre and dipping to bedrock on the west side of land holdings is shallow or sterilized by the

existing buildings and setbacks identified in the By-law. I would agree with the two local aggregate producers, that the deposit is not sufficient in quantity to be feasible to warrant a licence application in the future. There are no sand and gravel deposit areas shown on the mapping on the east side of the land holdings where the building lot is being proposed. Due to the lack of depth and sterilization of the resource, a volume calculation for sand and gravel materials was not necessary.

3.1 Geology

Surficial Sand and Gravels

The surficial geology within the municipal boundary of the Leeds and Grenville is identified in ARIP 183 and classifies sand and gravel in three distinct classifications as primary, secondary and tertiary significance in the following manner:

‘Selected Sand and Gravel Resource Areas of primary significance are not permanent, single land use units. They represent areas in which a major resource is known to exist, and may be reserved wholly or partially for extractive development and/or resource protection’.

“Although deposits of secondary significance are not considered to be the best resources in the report area, they may contain large quantities of sand and gravel and should be considered as part of the overall aggregate supply of the area

The report describes tertiary deposits in this way:

Tertiary deposits are not considered to be important resource areas because of their low available resources or because of possible difficulties in extraction. Such areas may be useful for local needs or extraction under a wayside permit, but are unlikely to support large-scale development. ... The resource quantity estimate for these deposits were not calculated because the lateral and vertical extent of the usable portion of these deposits is so variable.

In **Figure 4**, the white rectangular shape labelled as No. 43, over the underlying secondary and tertiary aggregate areas, signifies a depleted pit licence area, the Peter McGrath pit which was rehabilitated and licence surrendered in 2007.

Bedrock Resource

The bedrock in this part of the county is the Middle Ordovician Oxford Formation comprising sedimentary dolomite, with shaly partings. This formation underlies much of UCLG. Unconsolidated drift lying on top of the bedrock has been mapped in the Ontario Geological Survey ARIP 183, and a digital version of this map is available for download in section 10 References. Sharpe (1977) published a drift thickness map of the Merrickville area.

The County is in the midst of an Aggregate Resources Master Plan to evaluate sand and gravel and bedrock resources. This study will help determine the best locations for potential quarry

operations in the future. At this particular time, the County has not protected bedrock reserves, however some of the local municipalities in the County have identified bedrock resources for protection. Bedrock resources will not be considered further in this assessment report as a constraint to the proposed consent application.

4.0 History and Site Investigation

The author of this report reviewed a number of background and technical reports (these are listed in **section 10, References**), google earth satellite images and the MNR regulatory site plans for the depleted McGrath Pit, to develop a better understanding of the quality and extent of the sand and gravel resources, depth of deposit and depleted areas. As the Pits and Quarries Inspector and Aggregate Resources Technical Specialist for the Brockville and Carleton Place Districts of MNR, including the county of Leeds and Grenville, from 1982 to 2009, I am familiar with the sand and gravel pits and bedrock quarries in this geographic location. I have a good knowledge of licence applications and sites that were depleted and rehabilitated and restored to their former land use or uses that support the growth plan and land uses within the County of Leeds Grenville.

The progression of land use, in this geographical location, from previous extractive operations, like the McGrath Pit, lends itself to the planning term, *“pit operations are considered interim land uses”* and the after uses developed do not conflict or constrain a good mix of residential development, rural and natural environment systems from providing a good quality of life in the rural area.

Adjacent Sand and Gravel Reserves

Assessment of this area for aggregate potential must weigh several uncertainties.

1. Sterilization or the loss of aggregate material due to existing residential land use and potential setbacks from natural features (low lying wet areas at overburden bedrock contact);
2. The uncertainty about the true thickness and extent of sand over the whole property (using an average thickness) although we know the fence post holes indicate shallow ½ metre to bedrock along west property boundary;
3. The relative amounts of gravel and boulders that may need to be separated. Although the deposit drift has been mapped as sand, it is evident from the well drilling records that some gravel and clay is present also.

I consulted with both Donald O'Connor (McConnell Excavating) and Kevin Tackaberry (G.Tackaberry and Sons Construction Ltd,) about past extraction operations at the Peter McGrath Pit and development sites along Corktown Road, and they both advised that there is not enough marketable material in depth and quality of deposit in north part of the east ½ of Lot 16 abutting Corktown Road, to substantiate the investment in a commercial pit operation. All resources have been depleted in the entire south half of Lot 16 (West half was part of the McGrath Pit licence and east the half was depleted before licencing requirements in 1981). The remaining swath on the north part of the east ½ of Lot 16 along Corktown Road is too shallow to bedrock to be feasible for a future sand and gravel operation. Water table is also high at the overburden bedrock contact.

Without undertaking an expensive passive seismic survey, or drilling, or excavating a series of test pits (excavation holes) with an excavator or backhoe, the actual thickness and quality of aggregate cannot be ascertained with certainty. But, in my opinion, it appears unlikely that the adjacent

property to the west would be developed as a commercial sand pit and therefore would meet the PPS test for proving the aggregate resource is not feasible to extract.

Perceived Social impacts to the designated aggregate Resource Area:

Generally, the regulations under the ARA and the site plan issued under the licence, are the primary mechanisms to control social impacts from extraction, processing and hauling activities at a pit or quarry operation. O. Reg. 466/20, s.2 (1), section 0.12 deals with operating conditions for licenses and permits.

The MNRF Inspector, as the lead provincial agency responsible for compliance with ARA licence, usually has the ability to address such concerns or elevate them to the Ministry of Environment, Conservation and Parks (MECP) for action under a provincial accord between the two agencies (MNR/MOE Accord). Through this protocol, the MNR can investigate complaints jointly with the MECP if additional expertise is required or there is a matter that is more appropriately dealt with under the EPA or the Water Resources Act rather than the ARA. The sections below in *italics* refer to sections of the ARA regulations that would pertain to pit operations.

I) Dust: Dust control from a sand pit operation must be mitigated on the pit site at the source (excavation area, processing equipment or haul route). If visible dust is generated off site, the licensee shall take action to control the dust which is in violation of O.Reg. 466/20, s.2.1 subsection 0.12 under the ARA or general regulations under Environmental Protection Act. The main cause for dust on a pit site is generated on internal haul routes and access points which shall be treated with a water or other provincially approved dust suppressant. Internal truck routes would be watered if there is visible air bourn dust. A future commercial entrances to the sand deposit in question, would be accessed from Putnam Road and/or County Road 16 at the south end of the concession rather than using Corktown Road, in my opinion. This was the case for the access to the McGrath Pit when it was in operation.

Pertaining to Dust emissions, *O.Reg.466/20s.21, under the ARA indicates under, subsection 0.12) A licence, aggregate permit or wayside permit is subject to the following conditions:*

Subsection (2)

- 1. The licensee or permittee shall apply water or another provincially approved dust suppressant to internal haul roads and processing areas, as necessary to mitigate dust, if the pit or quarry is located within 1,000 metres of a sensitive receptor.*
- 2. The licensee or permittee shall equip any processing equipment that creates dust with dust suppressing or collection devices if it is located within 300 metres of a sensitive receptor.*
- 3. The licensee or permittee shall obtain an environmental compliance approval under the Environmental Protection Act where required to carry out operations at the pit or quarry.*

4. The licensee or permittee shall obtain a permit to take water under the Ontario Water Resources Act where required to carry out operations at the pit or quarry. (6) A licence is subject to the following condition:

Sub section (6)

1. The licensee shall mitigate the amount of dust generated at the site of the pit or quarry to minimize any off-site impact.

Dust can also occur from processing equipment such as stackers and screening equipment which shall contain water spray bars to control dust and are subject to environmental compliance approvals issued by the Province (MECP). In my opinion, any future pit operation is not feasible, but if there was a temporary approval such as a wayside permit for a public authority contract, processing areas and haul route would be located beyond 300 metres from the subject site and access the County Road 16 to the south, rather than Corktown Road.

II) Noise: According to the ARA site Plan for the previous operation of the McGrath Pit, extractive operations would involve the use of excavators, dump trucks and portable crushing and screening equipment which do generate noise. There are Provincial Technical Standards that require a Noise Study within certain separation distances from sensitive receptors, depending on the type of operation. Recommendations from the Noise Study are supported by regulations and site plans that control and regulate noise from extractive operations.

Part 2, Aggregate Resources of Ontario: Technical Reports and Information Standards does require a noise assessment report for a pit operation within 150 metres of a sensitive receptor. This Standard states the following:

“ 2.6. Noise assessment report – A noise assessment report is required if proposed excavation and/or processing facilities are:

- a) within 150 metres of a sensitive receptor, for a pit operation; or*
- b) within 500 metres of a sensitive receptor, for a quarry operation*

Based on the requirements for the noise report a number of mitigation measures would be implemented on the site plans (e.g. location of acoustical berms, setback limits, phasing and direction of operation, etc).

The author of this report has extensive experience with the review of acoustical reports and development of site plans to incorporate recommendations into enforceable site plan conditions. As a Pits and Quarries inspector, I attended joint investigations with MECP Environmental Officers responding to complaints relating to noise from extraction and processing equipment and drilling and blasting operations. These complaints are evaluated in consideration of the MECP noise guidelines, NPC-233, *Information to be Submitted for Approval of Stationary Sources of Sound*, October 1995. Noise from the facility is assessed according to MECP Documents: NPC-300, *Stationery and Transportation Sources – Approval and Planning*, August 2013. Noise levels of operating equipment are measured in decibels (dB) using hand held equipment to ensure compliance with environmental approvals on equipment and provincial guidelines for noise.

The noise restrictions for the pit site are enforced by the province pursuant to the site plans and regulations under the Aggregate Resources Act and regulations under the Environmental Protection Act. As indicated, pit operators are required to control noise limits at the source. Since there is an existing home in the center of the narrow sand ridge and a new residence to the east, a new operation would need to comply with noise guidelines for those residences. An additional building lot beyond the existing residence would add no further burden to a future pit operation, which is very unlikely to occur due to small deposit and costs associated with a new licence application under the ARA.

Some assumptions affecting noise must be considered should the resource area be further developed. Due to the availability of good quality bedrock in this geographic area, it can be assumed that most quality crushed stone will come from limestone bedrock rather than crushed gravel. Therefore, any future pit operation would involve in situ (out of the bank pit run and granular fill material) and possibly screening plant operations, which are less impactful than crushing operations and generate fewer noise complaints.

Noise Assessments and phasing of operation typically consider topsoil storage/noise attenuation berms around the perimeter setbacks of the pit for use in future rehabilitation and add to the reduce noise impacts from this site. Other barriers are recommended where needed to reduce impacts around screening equipment.

Although development of a future pit operation in the sand and gravel designation is unlikely in the future, there are provincial standards, regulations and guidelines, technical reports and site plan control that evaluate and mitigate noise impacts

III) Vibration

In addition to the ARA Regulations, the NPC-300 also contain parameters for ground vibration limits of 12.5 mm/second and air overpressure or concussion from a blast is limited to 128dBL. These limits are measured using seismograph equipment, providing print outs of the measured results. The sand and gravel designation only allow for the removal of unconsolidated aggregates (pit operations). Blasting and crushing of bedrock is not permitted under this OP designation, therefore provincial guidelines NPC-300 regarding vibration and noise are not applicable in this case. There is also no provision in the O.P. for quarry operations on lands in the vicinity of the subject site without requirements for an Official Plan Amendment.

IV) Truck Traffic Impacts:

The primary entrance to the previous operating McGrath Pit, accessed County Road 16 to the south. It is anticipated that access to the market from any future pit would also be via County Road 16 rather than Corktown Road. Corktown Road would not be considered a commercial haul route for gravel trucks and was not constructed to that standard. The proposed building lot would not impact future access to the market from the area designated sand and gravel resource area.

V) Ground Water (Water Wells)

The depth of extraction for the depleted McGrath Pit to the west, was restricted to 3.0 metres or 0.5 metres above ground water table. This would be considered a dry operation.

Subsection 2 of the regulations under the ARA state:

4. *The licensee or permittee shall obtain a permit to take water under the Ontario Water Resources Act where required to carry out operations at the pit or quarry.*

Subsection 3 of the regulations under the ARA state:

A licence or aggregate permit is subject to the following conditions:

1. *The licensee or permittee shall ensure that fuel storage tanks are installed and maintained in accordance with the Technical Standards and Safety Act, 2000.*
2. *The licensee or permittee shall ensure that a spill contingency plan is developed prior to any operation of the pit or quarry, and followed during the operations.*

The site plans for the pit licence are prescriptive with equipment used and structures on the site, meaning if the plans are silent, the equipment is not permitted. This is considered a dry pit operation with no provisions for extraction below water table. Fuel Tanks were not a permitted use on this site.

VI) Visual Impacts:

Any future gravel pit would be adequately screened by maintaining existing trees and shrubs or implementing visual earth berms from stripped topsoil and subsoil. Berms have the added benefit of providing additional acoustical value to reduce noise impacts.

5.0 Potential Impact of the Building Lot on a future Pit Operation

The MNR developed guidelines for municipalities to use for assessing development impacts on potential sand gravel and stone reserves and within currently licensed pits and quarries. This guideline is referred to as the ***Mineral Aggregate Resource Reference Manual dated 2001***. The Village of Merrickville-Wolford has adequately adopted the spirit of these guidelines in their current O.P. and Zoning By-law which act as the basis for assessing compatibility for new developments on or adjacent to sand and gravel and bedrock resource areas. These guidelines were also used as a reference in the preparation of this report.

The McGrath Pit would have been considered a low impact site, consisting of sand screening, operation with little stone crushing probable. Once the site was exhausted of the remaining sand and gravel reserves, the licence was to be surrendered and other land uses for the site considered in conformity with the Official Plan. There is no opportunity for a new pit licence in the vicinity of the building lot. It is also unlikely that a wayside permit would be pursued to utilize the shallow sand deposit remaining, due to cost of technical report and site preparation. The site is not feasible to establish and operate a sand and gravel pit.

6.0 Land Use Compatibility Analysis

The concept of an influence area is recognized as a means of protecting mineral aggregate resources and/or operations from the encroachment of incompatible land uses. The influence area to be considered for the lands designated Sand and Gravel Resource Area is 300 metres. The influence area is not a strict buffer or setback area in which development is prohibited, but rather, it is an area where impacts may be assessed and mitigation measures and monitoring considered and applicable conditions developed that might allow the development.

In the context of the proposed building lot, the 300-metre influence area from sand and gravel sources stated in the O.P. and 300 zoning By-law setback are used to evaluate the possible impacts of the proposed residential dwelling. The OP and By-law map schedules have not been updated since the depletion of the McGrath Pit. The burden of amending the O.P. or the zoning, in the author's opinion, should not be on the new adjacent land owner. This correction should be made during the next comprehensive O.P. and zoning by-law review.

The consolidation should consider the depletion of the Grath site, the additional depletion of the east half of Lot 16 shown as 'abandoned pit on the McGrath site plan. With this area of the deposit removed from the equation, a further planning screening exercise would also conclude that the only remaining sand and gravel area in the north east corner of Lot 16 is not feasible to protect for future extraction and should also be removed. There may be areas of the deposit further west of the 'influence area that should be considered for protection on the Land Use Schedule.

7.0 Summary:

In summary, there are no feasible sand and gravel resources in the area indicated on the eastern portion of the Lot 16, Concession 1 and west portion of Lot 15, Concession 1. All sand and gravel in the remainder of Lot 16 to west and south have been depleted. There is not enough resource remaining in lots 15 and 16 at the north end along Corktown Road to justify the protection in the County or Local OP. The author is satisfied that he Aggregate Resource Policy section 4.0 of the Merrickville – Wolford OP has been satisfied (*Development which would preclude or hinder the establishment of new operations or access to resources in the Influence Area requires an Official Plan Amendment to re-designate the affected land and will only be considered if the following criteria are addressed:*

- **the resource use would not be feasible;**

There are no bedrock resources within 500 metres of the building sites shown of the Merrickville – Woford Land Use Map.



The proposed residential dwelling would not preclude or hinder pit operations in the future as there not enough sand and gravel remaining to warrant the economic investment in an ARA Pit Licence or Wayside Permit Application.

8.0 Recommendation

Based on the location of the proposed building lot, the review of the McGrath pit site plans, frank discussions with 2 local pit operators, the verification of depleted and abandoned portions of the adjacent pit operations, the fact that there is no feasible resource in the influence area on the OP Land Use Schedules based primarily on depth to bedrock and previously depleted areas, I conclude that the proposed building lot as proposed would have no effect or constraint on areas presently protected as aggregate resource. These designated resources do not exist in sufficient quantity to make them feasible to extract.

I would therefore support the approval of a consent application to allow the severance of the existing home and garage from existing holdings (east side of property) and to create an adjacent building Lot on the retained parcel to the west.

Yours sincerely,



Gary McLaren

President

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Mobile: 613-893-6227

Email: gmclaren@milestoneaggregate.com



9.0 Figures

Figure 1 - Schedule B – Mineral and Mineral Aggregate Resources – United Counties of Leeds and Grenville Official Plan

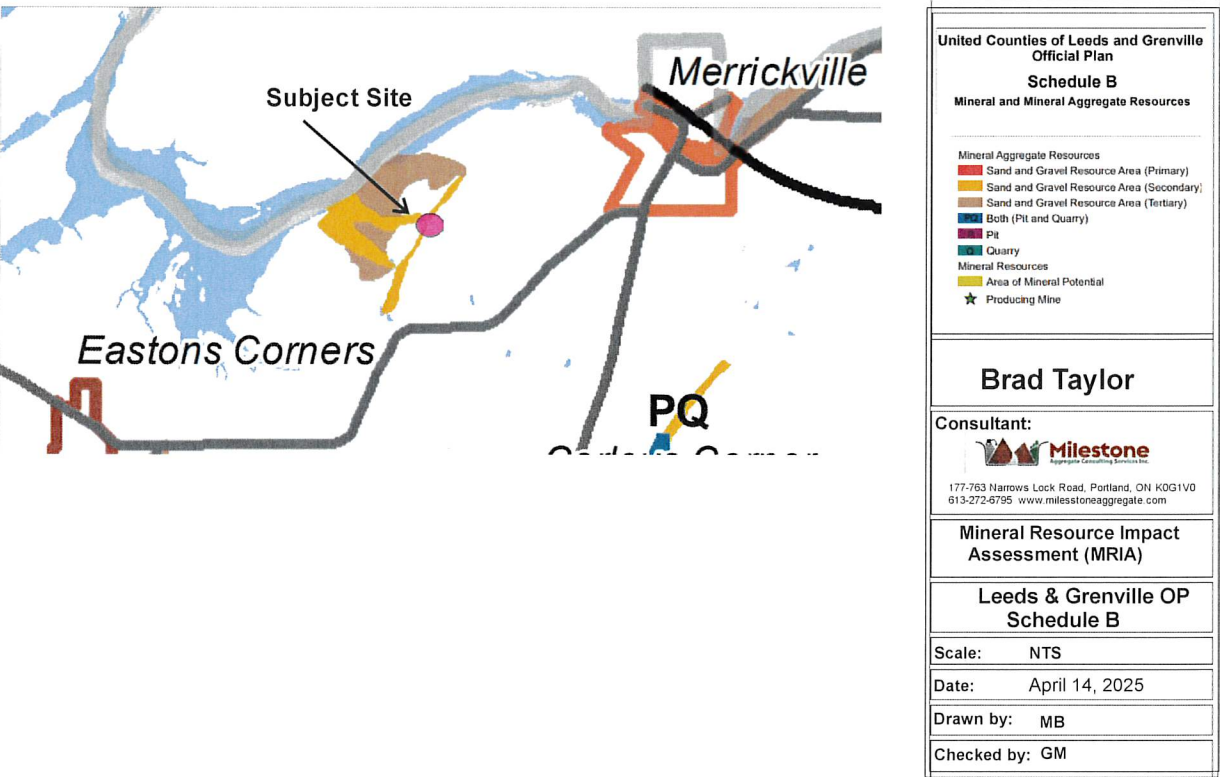


Figure 2 - Schedule A-1 – Land Use Plan, Township of Merrickville-Wolford

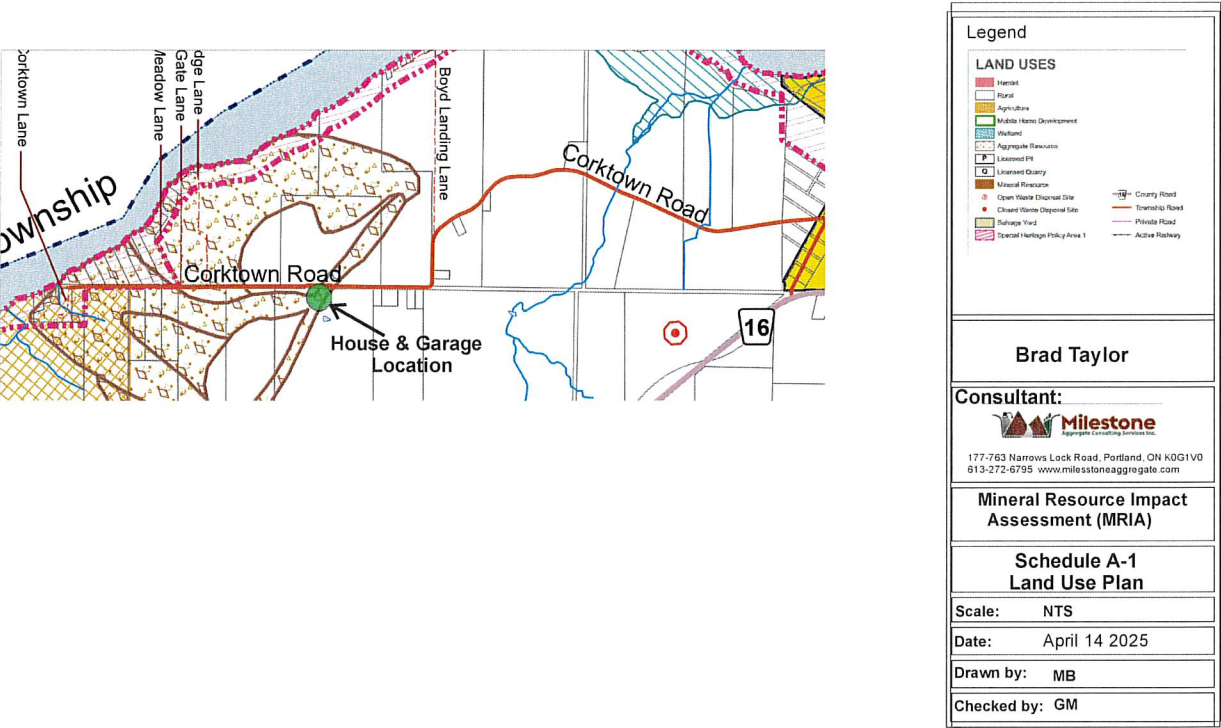




Figure 4 - Zoning Bylaw 23-08 Schedule A, Merrickville-Wolford

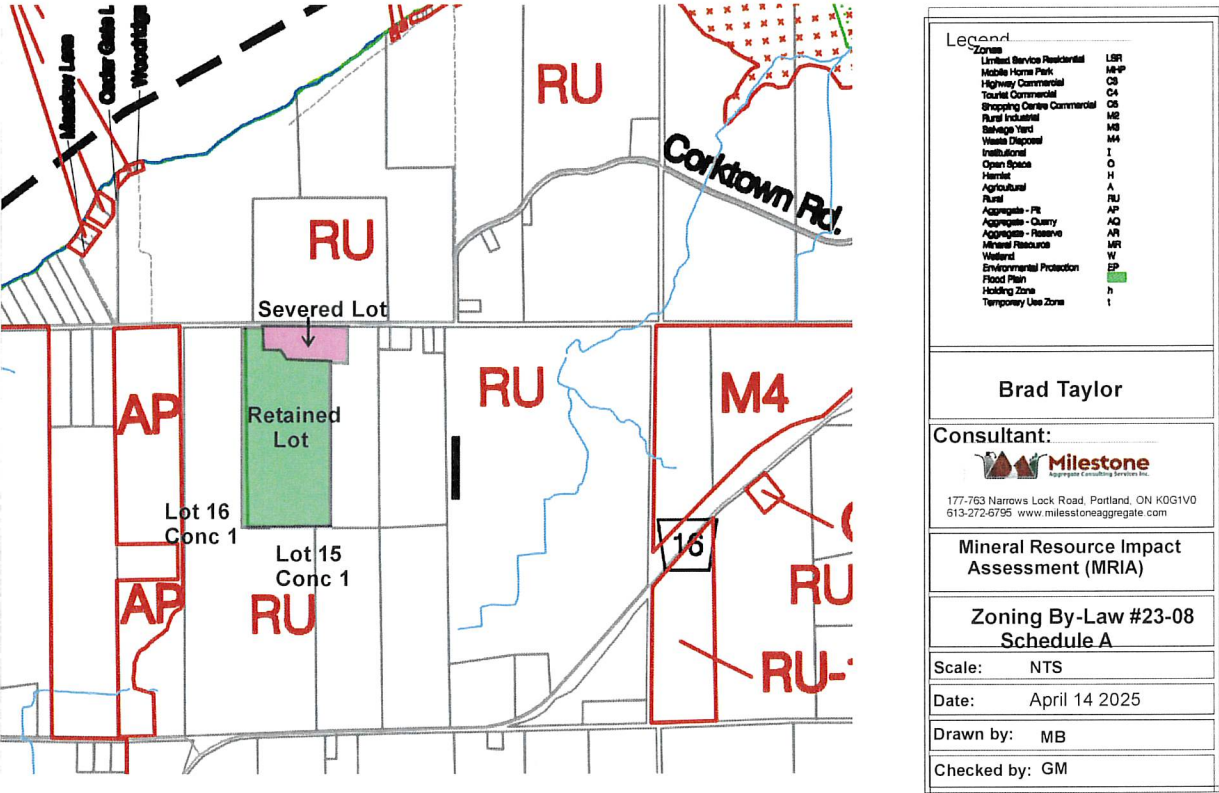
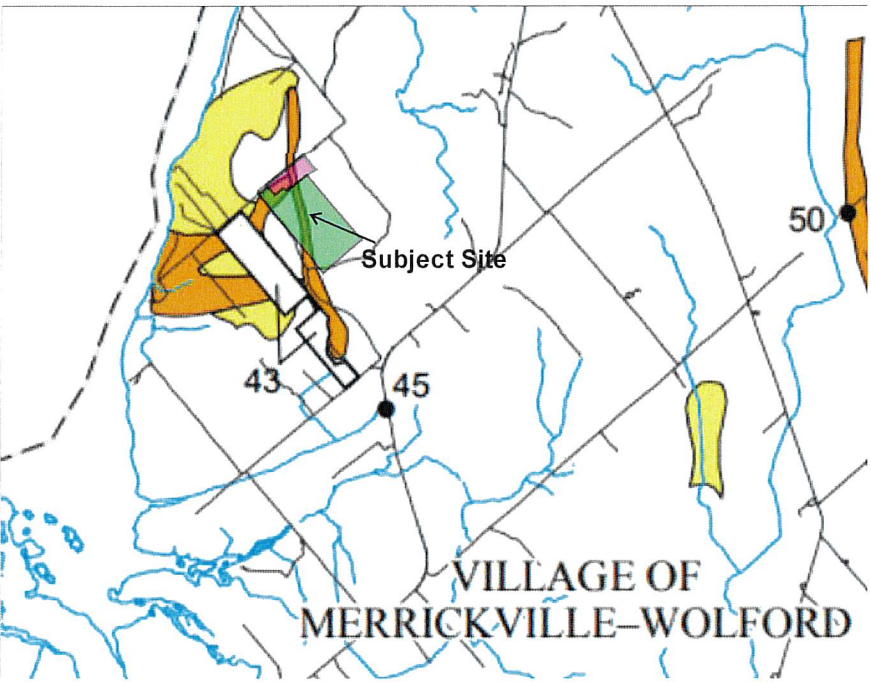


Figure 5 - Surficial Geology – ARIP 183 Leeds & Grenville




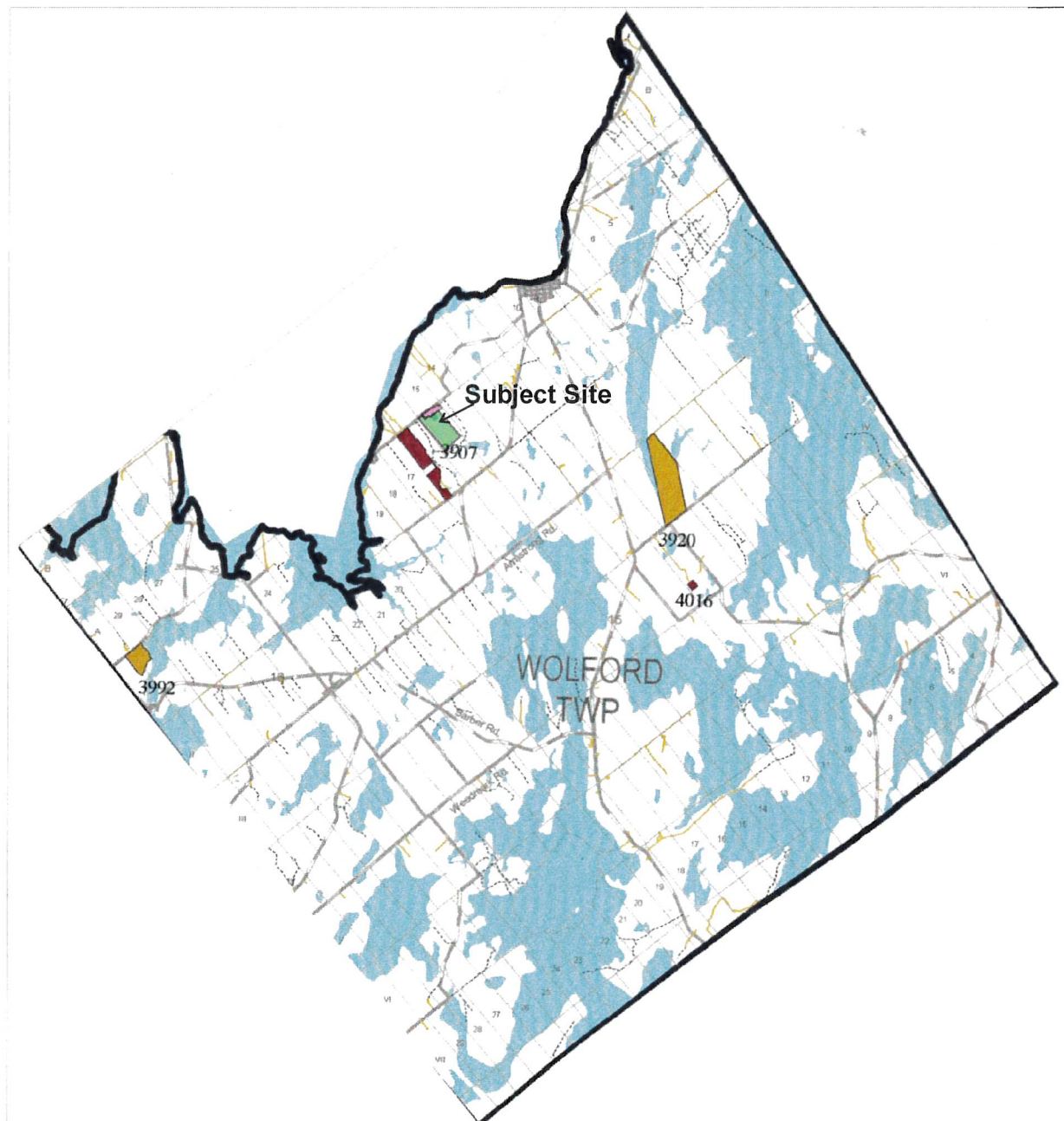
<p>Legend</p> <p>SAND AND GRAVEL RESOURCES</p> <ul style="list-style-type: none"> Selected Sand and Gravel Resource Area (primary significance) (shaded number (see Table 2)) Selected sand and gravel resource area, secondary significance Sand and gravel deposit, tertiary significance Other surficial deposits on exposed bedrock <p>SYMBOLS</p> <ul style="list-style-type: none"> Unincorporated property boundaries (property number (see Table 2)) Unincorporated sand or gravel pit (i.e. abandoned pit or way-side pit) (property number (see Table 2)) Geological unit (shaded) (thickness boundary of sand and gravel deposits) Administrative boundary
<p>Brad Taylor</p>
<p>Consultant:</p> <p> Milestone Aggregate Consulting Services Inc.</p> <p>177-763 Narrows Lock Road, Portland, ON K0G1V0 613-272-6795 www.milestoneaggregate.com</p>
<p>Mineral Resource Impact Assessment (MRIA)</p>
<p>ARIP 183 Sand & Gravel</p>
<p>Scale: NTS</p>
<p>Date: April 14 2025</p>
<p>Drawn by: MB</p>
<p>Checked by: GM</p>

Figure 6 - Pits and Quarries Licence Map – Depleted and Surrendered McGrath Pit
Lic.3907



KEY PLAN
 SCALE: 1:1000
 TOWNSHIP OF WOLFORD

PROPOSED LAYOUT
 APPROVED SITE PLAN
 RESIDENTIAL ACT
 SIGNATURE: [Signature]
 DATE: 1998

PROPOSED LAYOUT
 APPROVED SITE PLAN
 RESIDENTIAL ACT
 SIGNATURE: [Signature]
 DATE: 1999

Figure 8 - Location of Consent Application, Building Lot and Sand and Gravel Deposit



10.0 References

County of Leeds – Grenville Official Plan, Consolidated Policies and Land Use Schedules
[Official Plan for the United Counties of Leeds and Grenville - Office Consolidation](#)

County of Leeds-Grenville Map Schedules
[Official Plan Schedules](#)

Village of Merrickville – Wolford Official Plan, Consolidated Policies and Land Use Schedules
[Merrickville-Wolford Official Plan](#)

Village of Merrickville – Wolford Zoning By-law, Consolidated Policies and Land Use Schedules
[Merrickville-Wolford Zoning By-laws](#)

Lee, V .L. 2013. Aggregate Resources Inventory for the County of Leeds Grenville, Southern Ontario;
Ontario Geological Survey, Aggregate Resources Inventory Paper 183
[ARIP 183](#)

Aggregate Resources Act Ontario Regulation 244/97
[ARA Ontario Regulation 244/97](#)

[ARA of Ontario Technical Reports and Information Standards](#)
[ARA of Ontario Site Plan Standards](#)

Ministry of Natural Resources Mineral Aggregate Resources Reference Manual 2001
[Aggregate Resources Policies and Procedures](#)

[Leeds and Grenville Public Map Viewer](#)

MNR Kemptville - Kingston District Licenced Pits and Quarries Map – Leeds Grenville County

ARA, “Surrendered” Pit Licence Site Plan for Class A Pit, Licence Reference Number 3907

Ministry of Environment, Conservation & Parks Noise Guidelines – NPC/300
[NPC/300 Provincial Noise Guidelines](#)

Note of particular interest is the following;

C7.1 Noise control Measures;

C7 .6 Stationary Source Control Measures

C7.7 Combination of Transportation and Stationary Sources of noise.

11.0 Photographs



1 .Entrance to the garage of existing home looking toward Corktown Rd.
Photo Taken by G, McLaren, Nov 30, 2024



2. Back of home looking toward Corktown Road
Photo Taken by G. McLaren, Nov 30, 2024



3. Garage south of existing stone home
Photo taken by G. McLaren, Nov 30, 2024



4. East side of fenced yard. ½ metre deep fence posts to bedrock
Photo taken by G. McLaren, Nov 30, 2024



5. Looking at the east property boundary beyond yard fence. Bedrock visible at surface. Proposed Building Lot on retained parcel.
Photo taken by G. McLaren, Nov 30, 2024



6. Looking west toward residence and garage.
Photo taken by G. McLaren, Nov 30, 2024



7. Looking east vineyard of grapes and crop field (area to be severed with house and garage).
Photo taken by G. McLaren, Nov 30, 2024



8. Looking east toward east property boundary along tree line (proposed severed lot)
Photo taken by G. McLaren, Nov 30, 2024

12.0 Appendices

Appendix A – Curriculum Vitae

GARY D. MCLAREN

President, Milestone Aggregate Resources Consulting Services Inc.

Gary McLaren brings decades of experience and unparalleled expertise to his role as President of Milestone Aggregate Resources Consulting Services Inc. His career in the aggregate resources sector has been defined by leadership, innovation, and a commitment to sustainable development.

Professional Experience

President, Milestone Aggregate Resources Consulting Services Inc. (2015 - Present)

- Established the company to provide expert consulting services for pit and quarry operations, focusing on regulatory compliance and sustainable resource management.
- Supports clients in navigating licensing and permitting processes to meet the growing demand for mineral aggregates while minimizing environmental and social impacts.

Acting Senior Program Adviser, Aggregates (September 2013 - December 2013)

- Directed operational changes following the 2013 Aggregate Resources Act Review.
- Developed a performance matrix for provincial aggregate inspectors.
- Designed a training program for risk-based compliance for supervisors and inspectors.

Aggregate Resources Coordinator, Southern Region (January 2008 - September 2013)

- Provided leadership and expert advice on all aspects of the Ministry of Natural Resources' aggregate resources program.
- Represented the ministry in resolving complex issues, including acting as an expert witness at provincial tribunals.
- Collaborated on inter-ministry policy initiatives related to aggregate resources and regulations.
- Led training programs for ministry staff and participated in provincial policy development teams.

Mineral Resource Administrator and Pits and Quarries Inspector (April 1977 - December 2008)

- Enforced the Aggregate Resources Act and related regulations across Southern Ontario.
- Managed pit and quarry license and permit applications, including compliance monitoring and approval processes.
- Oversaw rehabilitation projects for abandoned pits and quarries.
- Coordinated cross-jurisdictional compliance with provincial and municipal legislation, including environmental protection and occupational health and safety standards.

Career Highlights and Accomplishments

Leadership and Policy Development:

- Co-chaired task teams for the Provincial Policy Statement review and aggregate inspector initiatives.
- Led the planning and approval of the Mississippi River Water Management Plan.
- Contributed to the development of the Cornwall Sediment Strategy to protect the St. Lawrence River waterfront.

Recognitions and Contributions:

- Member of the Ontario Stone, Sand & Gravel Association (2016 - Present).
- Key contributor to the Aggregate Resources Program Policy and Procedures Manuals (1986, 2006).
- Peer reviewer for Source Water Protection Plans in Eastern Ontario.
- Recognized for promoting workplace excellence as a member of the MNR Southern Region Operational Forums, which earned the Canada Award for Excellence.

Community Engagement:

- Member of the Health and Safety Committee for Nepean Relay for Life.



- Chair of the Joint Health and Safety Committee at multiple MNR offices.
- Active participant in inter-ministerial committees and municipal planning reviews.

A Commitment to Excellence

Gary's extensive career reflects his passion for balancing economic development with environmental stewardship. His leadership at Milestone Aggregate Resources Consulting Services Inc. continues to support the sustainable growth of the aggregate industry while fostering collaboration and innovation across the sector.

Prepared by:



Gary McLaren

President

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