

PLANNING REPORT
MILLER BRAESIDE QUARRY
TOWNSHIP OF McNAB/ BRAESIDE
COUNTY OF RENFREW

P/N 05- 2033

December 7, 2007

1.0 INTRODUCTION

Miller Paving Limited is applying to expand its Braeside Quarry in Part of Lots 16 and 17, Concession A, geographic Township of McNab, Township of McNab/Braeside, County of Renfrew. Skelton, Brumwell & Associates Inc. was retained by Miller Paving Limited in October 2005 to provide planning and engineering consulting services relative the municipal planning and licence applications for the expansion. This report presents the planning background and analysis of the applications.

The existing Licensed Quarry #16173 is 29.7 ha. The area to be licenced by this application is 103.0 ha. The combined area under Licence will be 132.7 ha. The subject property is owned by Miller Paving Limited. The location of the property on Renfrew County Road 3, also known as Usborne Street, is shown on Figure 1. For the purposes of figures and descriptions within this report, a site north has been determined, using Golf Course Road running generally east-west.

1.1 Proposed Development

Miller Paving proposes to increase the area licensed for extraction of limestone to secure additional resources for its' construction operations in eastern Ontario. Miller also proposes to establish a permanent asphalt and a concrete plant in the quarry along with an operations centre of office and shop facilities which will support the quarry and related processes and uses. The maximum tonnage from the combined existing and expanded quarry is to remain at the currently licenced 1 million tonnes annually.

The proposed quarry development and related uses is shown on Figure 2 - Proposed Area Land Use and Development.

This report, the other reports and the Site Plan are intended to provide background, planning and technical references for the required applications for approval of the proposed quarry and asphalt plant. The applications for approval of the proposed quarry expansion and asphalt plant are:

1. Official Plan Amendment (OPA) Township of McNab/Braeside Official Plan for permission for an asphalt plant.
2. Zoning By-law Amendment (ZBA) Township of McNab/Braeside Zoning By-law 99-18 to permit a quarry and an asphalt plant.
3. Licence application under the Aggregate Resources Act, Ministry of Natural Resources, for extraction and related processes.

All of these documents have been prepared to address the policies and requirements of the Official Plan of the County of Renfrew, the Official Plan of the Township of McNab/Braeside, the Aggregate Resources Act, the Provincial Policy Statement (PPS), and the Planning Act regarding the applications for an amendment to the Official Plan and Zoning By-law of the Township of McNab/Braeside and for a Licence under the *Aggregate Resources Act*.

The proposed OPA and ZBA are based on studies and investigations and a proposed Site Plan which implements the technical studies and demonstrates good planning in conformity with the Township Official Plan and other relevant planning documents. This includes the requirement to be consistent with the Provincial Policy Statement.

2.0 APPROVALS REQUIRED

2.1 Municipal

Municipal approval of the proposed quarry involves re-zoning of the expansion area from the Extractive Industrial Reserve (EMR) zone to the Extractive Industrial (EM) zone and Extractive Industrial - Exception __ (EM-E_) zone to permit the asphalt plant, and Extractive Industrial Reserve - Exception _ (EMR-E_) zone to permit only conservation uses.

The proposed asphalt plant also requires approval of an Official Plan Amendment for permission of a permanent use asphalt plant in the expanded quarry area.

2.2 Ministry of Natural Resources- Aggregate Resources Act (ARA)

The ARA establishes the approval requirements for new quarries and the expansion of existing quarries on the basis of categories related to extraction above or below the water table, and whether extraction is from a pit or quarry.

The proposed expansion requires a new application for a Category 2 - Class "A" licence, which permits extraction of more than 20,000 tonnes of aggregate material per year from below the water table in a quarry. Provincial standards defines the water table as the potentiometric level, or generally the level to which water will rise in a well.

The lowest level of extraction in the expanded area will be 125 metres above sea level (masl), the same depth as permitted in the existing quarry. The Hydrogeological Investigation by Gorrell Resource Investigations (Gorrell, 2007) indicates the surface of the unconfined water table aquifer in the shallow weathered bedrock ranges between 130 and 142 masl. In the deeper bedrock aquifer, the potentiometric surface slopes from a high of 133 masl, down to 125 masl. This will not be intercepted however as the main water bearing zone is at 119±, more than 5m below the quarry floor. The quarry will and will remain dry, with the exception of collected surface water.

Applications for approval of this category of licence require a Site Plan and a number of technical reports. These requirements are addressed through the following supporting reports:

- Natural Environment Report Level I & II;
- Acoustic Assessment;
- Blast Impact Analysis;
- Hydrogeological Investigation;
- Archaeological Assessment: and
- Site Plan providing Existing Features Plan, Operational Plan and Progressive and Final Rehabilitation Plan;

Additionally, the following reports provided input for the applications and site plan design:

- Hydrological Investigation;
- Air Quality Assessment;
- Emission Summary and Dispersion Modelling Report; and
- Traffic Impact Study;

3.0 PLANNING CONTEXT

3.1 Provincial Policy Statement (PPS)

The Provincial Policy Statement (PPS) states that “as much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible,” and that demonstration of need will not be required.¹ Extraction is to be undertaken such that social and environmental impacts are minimized, and rehabilitation to accommodate future uses that are compatible with surrounding and approved land use designations is realized². These matters are addressed in Sections 4.0 through 9.0 of this Report.

There are no cultural heritage resources, natural or human-made hazards on or in the vicinity of the site. Cultural heritage is discussed in Section 6.

3.2 County of Renfrew Official Plan

The County of Renfrew Official Plan was adopted in 2002 and approved by the Minister of Municipal Affairs and Housing in 2003 with Modifications. Section 7.0, Mineral Aggregates, establishes policies which “are intended to firstly, ensure that major aggregate deposits remain available for existing and future use. Secondly, they are intended to minimize impacts on adjacent uses and the natural environment from extractive operations.”³

Section 7.3 provides the County policies for Mineral Aggregate development. This includes permission for the proposed permanent asphalt plant provided it is specified in the Zoning By-law Amendment for the project.

7.3 Policies

(1) The Mineral Aggregate designation on the Land Use Schedule(s) shall mean that the predominant use of land will be for pits and quarries along with associated manufacturing uses (e.g. crushing, screening and concrete plants). Other uses which do not preclude the future use of these lands for mineral aggregate extraction purposes such as forestry, farming activities not involving the construction of buildings or structures, conservation and outdoor recreation will also be permitted.

Asphalt plants that are portable shall be permitted in the County and only in accordance with the policies in Section 2.2 (10). Permanent asphalt plants may be permitted if specified in a local zoning by-law.”

3.3 Township of McNab/Braeside

3.3.1 Official Plan

The entire site is designated Mineral Aggregate on the Township of McNab/Braeside Official Plan. Schedule A is provided here in part as Figure 3 of the Official Plan. This designation permits *“pits and quarries along with associated manufacturing uses (e.g. crushing, screening and concrete plants).Asphalt plants shall be permitted in the municipality only in accordance with the policies in Section 12.2(24).”*⁴

Section 9.3(3) provides the policies related to rezoning and development for quarries and pits. These policies are addressed in this report.

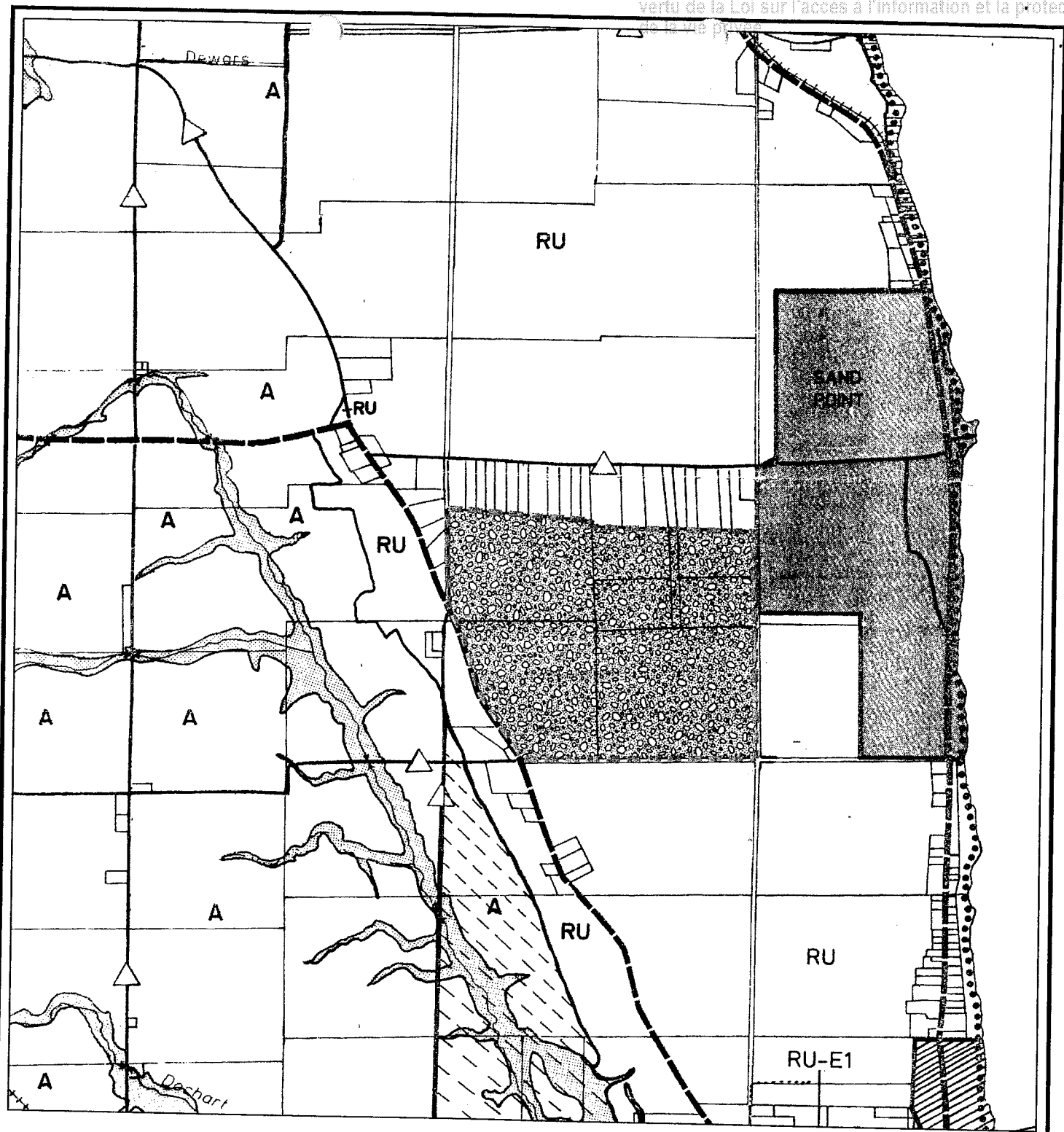
Section 12.2(24) provides permission for portable asphalt plants in the context of wayside pits and quarries and intended for temporary public road works. An Official Plan Amendment is necessary to permit an asphalt plant for permanent use.

3.3.2 Township of McNab/Braeside Zoning By-law

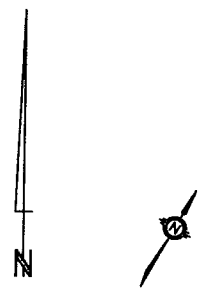
The existing quarry is zoned Extractive Industrial (EM) and the proposed expansion area is zoned Extractive Industrial Reserve (EMR) in By-law (99-18) and as shown on Figure 4.

Permitted uses within the EM zone include: concrete manufacturing plant, extractive industrial facility, forestry, limited farm, gravel pit and quarry.

G:\Projects-1\2000\2033\Cad-dwgs\Planning Report Figures\2033-Planning Report Figures.dwg, 12/10/2007 5:32:54 PM



OFFICIAL PLAN DESIGNATION
MINERAL AGGREGATE



SITE NORTH TRUE NORTH

TOWNSHIP OF McNAB/BRAESIDE
PART OF SCHEDULE A EAST HALF

**MILLER BRAESIDE QUARRY
McNAB BRAESIDE TOWNSHIP
BRAESIDE QUARRY EXPANSION**

**FIGURE 3
OFFICIAL PLAN**

Scale 1:150,000

P/N 2033 DEC 2007



**Skelton Brunwell
& ASSOCIATES INC.**

CONSULTING ENGINEERS & PLANNERS
95 BELL FARM ROAD, SUITE 107
TEL: 604-879-3737 FAX: 604-879-3738
A0087937_6-000262

McNab/Braeside

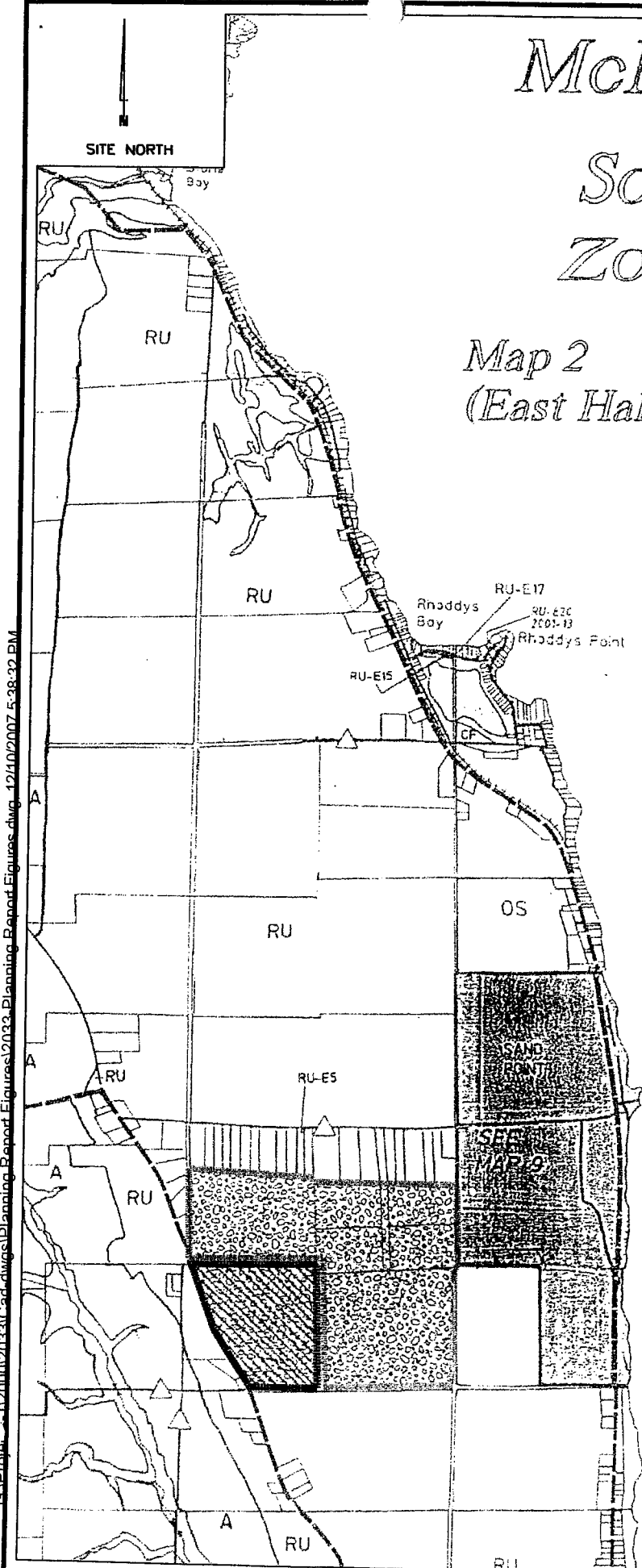
Schedule 'A' Zoning By-law

Map 2
(East Half)

Legend

R1	Residential One
RR	Rural Residential
LSR	Limited Service Residential
MHP	Mobile Home Park
HAC	Hamlet Commercial
HC	Highway Commercial
TC	Tourism Commercial
[Stippled]	Disposal Industrial
[Diagonal Lines]	Extractive Industrial
[Dotted]	Extractive Industrial Reserve
GM	General Industrial
LI	Light Industrial
RU	Rural
A	Agriculture
CF	Community Facility
[Wavy Lines]	Environmental Protection
OS	Open Space
[Wavy Lines]	Provincially Significant Wetland
[Dashed]	Crown Land
[Thick Solid]	Provincial Highway
[Thin Solid]	County Roads
[Thin Dashed]	Municipal Roads
[Star]	Former Waste Disposal Site

C:\Projects\12000\2033\Cad.dwg\Planning Report Figures.dwg_12/10/2007 5:38:32 PM



PROPOSED QUARRY EXPANSION
ZONED EXTRACTIVE INDUSTRIAL RESERVE

LICENCED QUARRY ZONED EXTRACTIVE INDUSTRIAL

**MILLER BRAESIDE QUARRY
McNAB BRAESIDE TOWNSHIP
BRAESIDE QUARRY EXPANSION**

**FIGURE 4
EXISTING ZONING**

Scale 1:150,000

P/N 2033 DEC 2007

Skelton Brunwell
A ASSOCIATES INC.

CONSULTING ENGINEERS & ARCHITECTS
93 B A0087937_7-000263
TELEPHONE

The development provisions of the EM zone are:

- Lot frontage (minimum) 35 metres;
- Open Storage: In accordance with the provisions for Open Storage in Section 3- General Provisions;
- Parking and Loading: In accordance with the provisions for Parking and Loading in Section 3 - General Provisions of this By-law.
- Separation Distance: In accordance with the provisions for Separation Distance in Section 3- General Provisions;
- Setbacks: In accordance with provisions for Setbacks in Section 3- General Provisions; and
- Accessory Uses, Buildings and Structures: Notwithstanding any Zone Provision of this Zone to the contrary, uses, buildings and structure that are accessory to the permitted uses of this Zone shall be permitted in accordance with the requirements of Accessory Uses, Buildings and Structures in Section 3- General Provisions.⁵

4.0 PHYSICAL CONTEXT

4.1 Physiography and Topography

The subject lands are located within the Ottawa Valley Clay Plain. The physiography of Southern Ontario describes an outcrop of the underlying Trenton Black River limestone formation located northwest of Arnprior⁶. The site is located on this outcrop which rises approximately 30 metres above the clay plain to the south west and 70 metres above the Ottawa River to the north.

4.2 Soils and Agricultural Capability

The report "Soil Associations of Southern Ontario" described the soil of the subject lands as Renfrew clay loam with imperfect drainage characteristics.⁷ The soil is thin over the limestone bedrock.

The site and area has an agricultural capability classification of Class 6. Class 6 lands are capable of producing only perennial forage crops and cannot feasibly be improved.⁸ There is no requirement due to the low class capability, to rehabilitate to agriculture.

4.3 Area Land Use

The site is located on the northeasterly side of Renfrew County Road 3, Usborne Street, approximately 9 kilometres west of Arnprior. As shown on Figure 5 - Existing Land Use, the lands to be zoned and licenced for the expansion of the quarry are vacant woodlands. The natural features and functions of the site are described in the Natural Environment Report Level I and II, and summarized in Section 5.0 of this report.

To the east is the unopened Road Allowance between Lots 15 and 16, then vacant woodlands extending to the east and north. There is a well defined recreational trail located east of the Road Allowance that extends into the subject property.

Along Renfrew County Road No. 3, there are a number of rural residences north and south of the quarry entrance, and north of the quarry, along Golf Club Road. A Golf Course is located north west of the site.

4.4 Aggregate Resource

The site geology is described within the Hydrogeological Investigation (Gorrell, 2007). The surficial material is flaggy limestone consisting of nodular pieces of limestone with a silty sand matrix. The bedrock is the lower member of the Bobcaygeon Formation. Part of the formation consists of medium to light grey limestone. Of all the bedrock units of the Ottawa Formation, the lower portion of the Bobcaygeon will most consistently pass the specifications required for concrete.⁹

Based on the Site Plans, it is estimated that approximately 35 million tonnes of rock can be extracted from the total quarry extraction area as proposed.

4.5 Surface Water

A Hydrological Investigation was undertaken by Skelton, Brumwell & Associates. The subject lands are in the Dochart Creek watershed. The Ottawa River, being the main waterbody in the vicinity of the subject lands, is found approximately 915 metres north of the property. All surface runoff within the existing quarry is contained and pumped out of the quarry, usually during the spring or following storm events. This surface water is directed to a man-made ditch which drains to Osborne St. It then drains south to a tributary of Ryan Creek. Ryan Creek drains to Dochart Creek and then the Ottawa River. Undisturbed areas within the proposed expansion area will continue to follow the natural contours. Surface water captured within the proposed expansion area will continue to be contained within the quarry and pumped out as described above.

The area is identified in mapping for the draft County of Renfrew Official Plan (September 2006), as being in a potential recharging area.

Conclusions of the study found that:

- the deep bedrock aquifer would have a negligible impact on de-watering operations;
- the quarry expansion will result in a negligible reduction in the drainage area (runoff and base flow) of the local marsh or swamp land, unnamed drain, Ottawa River and Ryan Creek;
- the ultimate quarry de-watering operations will not result in harmful alteration or destruction of fish and aquatic habitat; and
- The ultimate off site discharge from de-watering operations will not result in local or County road flooding.

The report provided a number of recommendations that would provide mitigation of impacts and monitoring of results. These recommendations have been implemented on the Site Plan.

4.6 Ground Water

The Hydrogeological Investigation was completed by Gorrell Resource Investigations. The summary and conclusions of that report state the following:

- “thirteen wells were drilled and tested to assess the hydrogeological regime on and around the site. The testing and data collection identified three potential aquifers in the area. The

analysis of the site conditions shows that the proposed excavation will not impact the local groundwater setting due to the natural topography and geology.

- The escarpment on which the property is situated is a major influence on the hydrogeological regime of the area, controlling the potentiometric surface at 125 masl. The expansion of the quarry, which will remain at least 5 m above the main water bearing zones in the area will not have additional impact.
- The continued management of discharge from the quarry in the manner currently used at the site will maintain the natural surface water and shallow groundwater flow regime.
- A groundwater monitoring program is proposed that will provide protection to surrounding groundwater users against perceived or actual impact from the proposed quarry operation, even though no additional impacts are predicted.
- The comprehensive hydrogeological assessment will be re-evaluated on a 10 year cycle.
- Upon completion of the excavation of the quarry, the pumps will be turned off and the quarry will be allowed to fill with the water surplus associated with the quarry and infiltration/runoff through the shallow weathered bedrock aquifer that drains to the quarry. The final lake level in the excavation will be approximately 132 masl, and the groundwater flow regime will be re-instated to the pre-development setting (Gorrell Resource Investigations, 2007).

The report provided a number of recommendations that would provide mitigation of impacts and monitoring. These recommendations have been applied to the site plan.

5.0 NATURAL HERITAGE

The Natural Heritage Features of the site and surrounding lands were assessed and are described in the "Miller Braeside Quarry Expansion: Natural Environment Report, Level I & II". The following significant features were identified on or adjacent to the site:

- significant woodlands on and adjacent north, east and south of the property;
- significant wildlife habitat relative to species of concern (rare species), rare vegetation communities (alvar), deer wintering yard and interior habitat; and
- contribution to fish habitat.

Based on the findings of Level II of this report, the following recommendations were made:

- Preservation of the identified Significant Wildlife Habitat area with appropriate zoning to ensure its protection;
 - The wildlife corridor remain undisturbed and vegetated;
 - swamp communities in the northwest corner of the property within the 300 m zoning setback remain undisturbed and vegetated; and
 - a monitoring plan be implemented for the edge of the significant Wildlife Protection Area.
- ↳ is it sufficient?
boundary determined*

These recommendations were applied to the design of the Site Plan.

Through the implementation of mitigation measures in the Level II Report and the Hydrological Investigation, the proposed quarry expansion will have no negative impacts on natural heritage features and functions.

6.0 CULTURAL HERITAGE

There are no built cultural heritage features on the site. This site is removed from surface water or other features which may have supported early settlement use or aboriginal use. The Ministry of Culture advised in a letter January 4, 2007, that the site is within an area with low potential for archaeological features, and have no further concerns for the application. A copy of this letter is included in Appendix A.

• IT WE go thru route (licence whole property) who delineates the SWIT? agreement w/ proponent?

INR more control enforcing Site plan than leaving For MUN to enforce EP zoning

7.0 PROPOSED QUARRY EXPANSION

7.1 Site Plan

→ could still go zoning route (diff. boundaries?) - Zone it EP win the licence - not an extraction zone - protect w/ buffers

The results and recommendations from the technical studies for the expansion of the Miller Braeside Quarry have had a significant impact on design, operation controls and mitigation and monitoring requirements. Recommendations from reports are all incorporated into the Site Plan, which is the primary tool for ensuring compliance with provincial legislation.

The Site Plan for the Miller Paving Braeside Quarry expansion application consists of five drawings:

- 1) Site Environs - an air photo base to provide background information of the existing quarry and surround lands;
- 2) Existing Features and Cross Sections - required by the ARA, this drawing shows the conditions in place at the time of the application, detailed references that input to the creation of the site plans and detailed cross sections showing existing and final grades;
- 3) Operational Plan - required by the ARA, this drawing identifies the proposed operations of the quarry and covers issues such as hours of operations, drainage and siltation control, fencing, site preparation, extraction sequence and details, equipment and permanent plant structures, fuel storage and auxiliary uses of the site;
- 4) Progressive and Final Rehabilitation Plan - required by the ARA to show the phasing of extraction and rehabilitation while extraction is ongoing, and final rehabilitation; and,
- 5) Monitoring and Mitigation - this drawing identifies all the specific requirements for monitoring and mitigation that resulted from the technical studies. A plan view is included, with details on Hydrogeology, Blasting, Emissions, Acoustics, Hydrology and Natural Environment.

A reduced version of the Site Plan is included as Appendix B.

7.2 Operations

The Licence Application covers the remaining Miller Paving Limited property designated Mineral Aggregate. The licence application does not include the existing Licensed quarry. Once licenced, the existing licence and the expansion application will be incorporated into one Site Plan and one licence. A narrow strip of land to Golf Course Rd, that Miller owns, will not be licenced. This land is now zoned EMR Extractive Industrial Reserve.

The Limit of Extraction shown on the Site Plan defines the maximum horizontal extent of the area to be extracted in the Licensed Area. The proposed limit is determined based on the results of the studies of the project and other setbacks regulated by the ARA and/or by Municipal Zoning provisions. Limits of extraction were developed to protect the Significant Wildlife Protection Area and the Wildlife Corridor. In addition, a 300 m planning setback was required from residences. The horizontal and vertical extent of extraction may vary based on the quality of material encountered, but can not exceed the Limit of Extraction shown on the Site Plan.

The site will continue to utilize the existing entrance from County Road 3. Internal haul roads will be temporary and will be developed to provide access to the extractive operations within the licenced area.

The sequence of extraction will provide for completion in the southern part of the existing quarry as the first phase, the second phase is easterly to the eastern limit of extraction. The third phase moves to the north to eventually establish a long east-west face, with the fourth phase continuing full width to the northern boundary. The area under the Asphalt Plant in the north-west corner will be the fifth phase to be extracted. The area will be prepared and used in earlier phases for the asphalt plant.

The quarry will be extracted in 2 lifts, labelled A & B. There is no connection in timing between the lifts. The lower lift may follow the upper lift, or the upper lift may be extracted in full first, before extraction starts in the lower lift. The sequence for both lifts will be the same.

The Site Plan and the quarry licence are legally binding on the quarry operator. The operator must submit an annual report assessing their compliance (CAR) with the licence and Site Plan. Non-compliance can result in suspension of the licence.

7.3 Progressive Rehabilitation

Progressive rehabilitation will follow the direction and sequence of extraction. As the horizontal limits of extraction of each lift is reached in any part of each phase, progressive rehabilitation will commence. The site plans identify where partial sloping and cliff faces (varying between 1-6 m) or full sloping will be created. Slopes will vary between 2:1 and 3:1 (horizontal:vertical). The ARA requires a slope no steeper than 2:1, however, for access to the lake, some slopes will be gentler.

Slopes will be created by backfilling with rock, pond fines, or overburden from berms or newly stripped areas. Slopes will be covered with available topsoil and seeded with a native grass seed mix.

Ledges, that will eventually be both wet or dry will be created at the toe of talus slopes. The ledge at the waters edge will be blasted to graduate access to the final lake level. Dry ledges will be left as bare rock or covered in soil and left to naturally seed. Other ledges will be rough blasted between the toe of slope and the waters edge to a depth of 1-2 m to allow water from the lake to wash onto the ledges to create shallow pools. Rough rock and soil will be left or placed in areas of the ledges to provide varied shallow habitat at the shores' edge.

Where exposed cliff faces are left as part of rehabilitation, the last blast will be designed to provide a "rough", uneven face. In select locations, topsoil will be dumped from the top of the cliff face to aid in natural revegetation of pockets on the face.

7.4 Final Rehabilitation

The final rehabilitation of the site will involve removal of all equipment, buildings and aggregate stockpiles from the site. Roads will remain to access the property and its' perimeter. Once equipment is removed, pumping of collected surface water will cease and the quarry will gradually fill with water. It has been predicted to take 21 years based on precipitation and runoff, with a final water elevation of 132 masl. The final end use is anticipated to be a naturalized area surrounding a lake.

8.0 HAUL ROUTES AND TRAFFIC

The market area for materials from the Miller Braeside Quarry has in the past been generally about half toward the Renfrew area with the other half toward Arnprior and Ottawa. It is anticipated that this will continue and that the current haul routes will be used.

Quarry traffic travelling westward toward the Renfrew area utilizes Highway 17 via Usborne Street and McLean Road (County Road 54). Trucks heading east toward the Arnprior and Ottawa areas travel west on Usborne Street then south on Campbell Drive to Highway 17.

The Traffic Impact Study Skelton Brumwell and Associates, October 2007 concludes that:

- the expansion of the Miller Braeside quarry and installation of an asphalt and concrete plant will not significantly change the traffic volume or patterns of the existing operation;
- the maximum annual production from the quarry over the past seven years of 155,000 tonnes is anticipated to be the average annual production rate through the study period;
- at a production rate of 155,000 tonnes, the total peak traffic volume of the quarry is estimated to be 9 trips per hour;
- the installation of the asphalt and concrete plants will generate 1 additional vehicle trip per hour for a total traffic volume of 10 trips per hour;
- at the maximum permitted annual production rate of 1,000,000 tonnes, with asphalt and concrete plants at full production, the total peak traffic volume is estimated to be 63 trips per hour;
- an increase in production, even to the maximum permitted tonnage, will not have a significant negative impact on the level of service of the intersections at the quarry entrance/Usborne Street, and McLean Road and Campbell Drive both at Highway 17; and
- planned interchanges at McLean Road and Campbell Drive will, when constructed, address the issues related to turning movements at these intersections.

Therefore, no traffic mitigation measures are warranted or proposed.

9.0 SOCIAL IMPACT

The potential social impacts of a quarry and related uses are those resulting from noise, air emissions, vibration/blasting and visual observation.

9.1 Noise

A noise impact study, prepared by Hugh Williamson Associates was conducted on the operations proposed for the Miller Braeside Expansion. The assessment was based on sound source measurements of operations at the existing Miller Braeside Quarry and sound source measurements by Hugh Williamson Associates of similar equipment operating under similar conditions to the proposed operations.

The study concludes "Compliance has been assessed using conservative assumptions, both with respect to the noise sources and with respect to propagated sound levels at receptors. It is concluded that on-site noise generated by the proposal will be in compliance with the MoE noise limits as set out in Publication NPC-205, *Sound Level Limits for Stationary Sources in Class 1 7 2 (Urban) Areas*, October 1995 provided that the mitigation measures set out in Section 5 are observed."

The recommended mitigation measures, including berms will be implemented through the Site Plan to mitigate sound levels at the nearby residences.

9.2 Air Emissions

An Air Quality Assessment Report has been prepared by Church and Trought Inc. They conclude:

- Based on the results of the Regulation 346 dispersion model all air emissions meet MOE criteria and therefore it is appropriate for approval;
- MOE Guideline D-6 classifies the quarry site as a Class III industrial facility. The minimum separation distance for Class III facilities is 300 metres and the potential influence area is

1000m. The separation distance between the area of extraction at the expanded quarry and the existing residences is 300 metres or greater.

- Based on the AERMOD model assessment of all particulate matter emission sources on the site, the 24-hour MOE POI limit for particulate matter is met at the closest residences. The particulate emissions from the quarry operations, including blasting, meet the MOE criteria at the property line. When the HMA and RMC plant operations are modelled with the quarry operations the particulate emissions meet the MOE criteria at the property line with the exception of only six days in a five year period. These exceedences occur at night near the entrance primarily due to truck traffic. No further mitigation is required beyond the requirements of the dust management plan, summarized in Appendix B.
- The impact on air quality from the site operations would not constitute an adverse effect at the property line, at the residences, within or beyond the 1000m area of influence.”

The Dust Management Plan has been incorporated on the Site Plan.

Furthermore, the following prescribed conditions will be placed on the pit licence and must be adhered to by the licensee to ensure the Ministry of Environment’s Guidelines on Dust are met:

1. Dust will be mitigated on-site.
2. Water or another provincially approved dust suppressant will be applied to internal haul roads and processing areas as often as required to mitigate dust.
3. Processing equipment will be equipped with dust suppressing or collection devices where the equipment creates dust and is being operated withing 300 metres of a sensitive receptor.

9.3 Visual Impact

The existing quarry is not observed from County Road 3 or Golf Club Road or from existing residences along these roads due to the existing extensive vegetation and the change in elevation.

The quarry entrance is at a location where there are no residences opposite and a rise in elevation

of the driveway to the gate allows no direct views into the quarry. The cross sections of the Site Plan demonstrate that the site will be unobserved.

Views to the area of the expanded quarry will be screened by existing vegetation in the setbacks on site to be maintained in a natural condition. The quarry expansion area will not be observed from off site viewers due to distance, topography and vegetation. No negative visual impact is anticipated.

9.4 Blasting

A Blasting Impact Assessment was completed by Explotech Engineering Ltd. for the proposed extension of the Miller Braeside quarry. They conclude that:

- “We have inspected the site and reviewed the available site plans. Explotech is of the opinion that the planned mineral extraction extension on the site can be carried out safely and within MOE guidelines as set out in NPC 119 of the By-Law.
- Recommendations are included in this report to ensure that blasting operations in all phases of this project are carried out in a safe and productive manner to ensure that no possibility of damage exists to any buildings or residences surrounding the site.”

All recommendations have been incorporated on the Site Plans, drawing 5 - Monitoring and Mitigation.

10.0 ECONOMIC IMPACTS

The proposed quarry expansion will provide additional reserves for continued protection of high quality aggregate resources for local and regional markets. The combined quarry and asphalt and concrete plants will increase and extend local employment opportunities. The property assessment will increase based on extended areas of extraction and increased investment on the site. This will result in higher municipal tax revenue.

The Township of McNab/ Braeside will receive \$0.06 for each tonne of aggregate produced from the annual licence fee paid by the licensee. The maximum annual tonnage of 1,000,000 would generate \$60,000 in annual revenue. The County of Renfrew will receive \$0.015 per tonne of aggregate extracted which at maximum production will generate \$15,000 annually.

The expanded quarry and proposed asphalt plant is anticipated to require additional local employees in McNab/Braeside for:

• quarry operation	1
• asphalt plant operation	2
• concrete plant operation	3
• business management of site operations	<u>4</u>
Total employment	10

11.0 PLANNING CONFORMITY

11.1 Township of McNab/Braeside Official Plan

The Official Plan Section 9.0 Mineral Aggregate expresses the municipal goals, objectives and policies “*intended to ensure that major aggregates deposits remain available for use and to minimize impacts in adjacent uses and the natural environment from extractive operations*”(9.1).

Conformity with the Official Plan is described for each policy in the following sections:

Objectives

(1) To protect known, significant deposits of aggregates, including existing pits and quarries, for future extraction.

The site is a known deposit of high quality limestone aggregate and is the location of an existing quarry.

(2) To prevent any change in land use that could conflict with legally existing pits and quarries.

The existing zoning, with a setback of 300m from existing residences and a reciprocal provision, for the location of new residences, will assist in preventing conflicts with the future expanded quarry. Compliance with the 300m zoning provision is recommended and shown on the Site Plan.

(3) To regulate all pit and quarry operations so that disturbances to the environment is limited to the site, social disruption is prevented and rehabilitation to an acceptable after-use is achieved.

The proposed zoning and Site Plan limit the quarry expansion and operation, and protect a portion of a significant wildlife area. The operational mitigation and monitoring requirements ensure that the provincial guidelines will be met.

Policies

(1) The Mineral Aggregate designation on the Land Use Schedule(s) shall mean that the predominant use of land will be for pits and quarries along with associated manufacturing uses (e.g. crushing, screening and concrete plants). Other uses which do not preclude the future use of these lands for mineral aggregate extraction purposes such as forestry, non-intensive farming, conservation and outdoor recreation, will also be permitted. Asphalt plants shall be permitted in the municipality only in accordance with the policies in Section 12.2(24).

There is a need for a permanent operation and use for an asphalt plant. Thus an Official Plan Amendment is required because of this policy.

(3) Existing operations shall be recognized in the implementing zoning by-law. Areas designated Mineral Aggregate which are not currently used for pits and quarries or associated manufacturing uses shall be placed in a non-development type of zone in the implementing zoning by-law. The expansion or opening of a new commercial pit or quarry will require an amendment to the zoning

by-law with full public notice and opportunities for appeal.

The following location and development policies have been examined for the proposed Site Plan and Zoning By-law amendment:

- (a) degree of exposure of the operation to the public;*
 - (b) the haulage routes and the resultant traffic density;*
 - c) the progressive rehabilitation and final rehabilitation plans, and the stability of these plans having regard to the character of the surrounding lands:*
 - (d) the water table, existing and proposed drainage facilities, and setbacks from watercourses;*
 - (e) effects on adjacent land uses, nearby communities, and environmentally sensitive areas;*
 - (f) hydrology, wildlife or such studies as may be required due to special concerns related to a specific site; and*
 - (g) Council and the public have been and will be consulted.*
- (4) Hours of operation and measures for dust control are provided on the Site Plan.*
- (6) The concept of an influence area is recognized as a means of protecting against incompatible land uses in the vicinity of Mineral Aggregate designations and to protect existing pits and quarries from the encroachment of other incompatible land uses.*

**Influence areas, in which studies may be required to assess impacts, are generally identified as being: 150m from a pit to determine noise and dust impacts on groundwater supplies and 500m from quarries to determine the impact of noise, dust and groundwater interference. **

The 500 m influence area is shown on Figures 2 and 5.

*(7) All pit and quarry uses must satisfy the requirements of the Ministry of the Environment ** with respect to pumping and de-watering, water supply, wastewater, solid and liquid waste disposal and all emissions to the atmosphere including noise and vibration.*

11.2 Provincial Policy Statement (PPS)

The proposed Zoning By- law Amendment for the quarry expansion and the site specific Official Plan Amendment and Rezoning for the proposed asphalt plant are consistent consistent with the PPS in that:

- a) it will permit the expansion of a permitted resource based use in the rural area (1.1.4.1a)
- b) it supports long term economic prosperity by optimizing the use of land and resources at an established site with suitable access to a County Road thus no extension of municipal infrastructure is required (1.1.4.1b)
- c) long term economic prosperity is supported as the quarry will optimize the availability of aggregate resources at an existing extraction operation in a location with suitable design and buffers to prevent adverse effects (1.7.1 a and e)
- d) natural heritage features on site will be protected by enhanced setbacks and buffers (2.1.6)
- e) ground water and surface water resources will be protected (2.2.1)
- f) these mineral aggregates are protected for long term use and made available to the market to supply mineral resource needs close to the market (2.5.1 and 2.5.2.1)
- g) the quarry location and Site Plan, which implement the recommendations of the background studies, provide that the extraction will minimize social and environmental impacts (2.5.2.2)
- g) rehabilitation will restore the site to natural area surrounding a lake, compatible with adjacent Rural land uses (2.5.3)
- h) the quarry will not have an impact on any known cultural heritage features (2.6.1).