

# Book 30

## Sign Off Documents

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Ministry of Tourism, Culture  
and Sport

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Programs and Services Branch  
Culture Division  
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November 7, 2012

Mrs. Patricia Dibb  
York North Archaeological Services, Inc  
1264 Bathurst Street  
Peterborough, ON  
K9H 6X8

**RE: Entry into the Ontario Public Register of Archaeological Reports: Archaeological Assessment Report Entitled, "A Stage I-II Archaeological Assessment of the Proposed James Dick Construction Ltd. Hidden Quarry: Located in Part Lot 1 W1/2, Concession 6, Eramosa Township, County of Wellington, Ontario," Dated August 31, 2012, Revised Report Dated October 22, 2012, Revised Report Received by MTCS Toronto Office on October 24, 2012, MTCS Project Information Form Number P156-133-2012, MTCS RIMS Number 23AG067**

Dear Mrs. Dibb:

This office has reviewed the above-mentioned report, which has been submitted to this Ministry as a condition of licensing in accordance with Part VI of the Ontario Heritage Act, R.S.O. 1990, c 0.18. This review has been carried out in order to determine whether the licensed professional consultant archaeologist has met the terms and conditions of their licence, that the licensee assessed the property and documented archaeological resources using a process that accords with the 2011 *Standards and Guidelines for Consultant Archaeologists* set by the Ministry, and that the archaeological fieldwork and report recommendations are consistent with the conservation, protection and preservation of the cultural heritage of Ontario.

The report recommends the following:

YNAS recommended in Stage I that based on (i) the archaeological/heritage background research, (ii) the presence of a potable water source, and (iii) both elevated and lowland areas that possess potential for the existence of prehistoric and/or historic heritage resources, that a Stage II investigation should be conducted. The results of Stage 2 have found a mid to late 19<sup>th</sup> century farmstead likely associated with the Ramshaw family. The results of the Stage 2

assessment were inconclusive given the occupation history of the site. YNAS recommends that a Stage 3 assessment be undertaken on AjHa-50 to establish the historic significance and value of AjHa-50. The alternative option is to erect the fencing around the site at the 20-meter to protect the site and impose a 50-meter monitoring buffer out from the edge of the 20-meter buffer that must be monitored by a licensed archaeologist during any soil disturbance. The area within the 20-meter buffer is a no go zone by construction crews at any time. No activities within the confines of this site are allowed until after the Stage 3 assessment has been completed to the satisfaction of the Ministry of Tourism, Culture and Sport and the report has been entered into the Ontario Registry of Reports. A partial clearance is requested and a letter from the ministry confirming that there are no further concerns for the area outside of archaeological site AjHa-50, its 20 and 50 meter buffers and those areas characterized by any development setbacks (Section 7.8.5 –a - e).

James Dick Construction Ltd. has agreed to conduct a Stage 3 assessment of the AjHa-50 James D. site once the Ministry of Natural Resources has signed off on their application for the Category 2 Class “A” quarry (Supplementary Section). A partial clearance is requested under section 7.8.5 of the Standards and Guidelines (Supplementary Section). (a) Stage 2 has been completed for all of the property, (b) the recommendation forms part of the final report, (c) See Recommendation 6.0 above. (d)The Stage II recommends further work on all sites that meet the criteria requiring Stage 3 assessment. The following can be found in the Supplementary Section,(e) – sub section (i) development map with setbacks both 20 and 50-m buffers (Supplementary section). (e)- subsection, (ii) detailed avoidance strategy, written confirmation from the proponent regarding their commitment to implementing the strategy and that ground alterations (e.g. servicing, landscaping) will avoid archaeological sites with outstanding concerns and their protective buffers areas. (iii) Construction monitoring schedule, written confirmation from the proponent that a licensed consultant archaeologist will monitor construction in area within 50-m monitoring buffer zone, and that the consultant archaeologist is empowered to stop construction if there is a concern for impact to an archaeological site. (iv)The proponent provides a timeline for completing the remaining archaeological fieldwork.

The strategy used in Stage 3 will document the presence and extent of buried artifacts, structures, stratigraphy and cultural features and to collect a representative sample of artifacts, from across the entire archaeological site. To this end Stage 3 will result in the excavation of a series of 1 m square units, across the length and breadth of the positive test pits identified in Map. The placement of the grid will be based on the permanent datum to at least the accuracy of transit and tape measurements. All test units will be excavated by hand. Heavy machinery will not be used. Test units will be excavated in systematic levels (either stratigraphic or standardized). All excavated test units will be excavated into the first 5 cm of subsoil, unless excavation uncovers a cultural feature(s). If unit excavation uncovers a cultural feature that feature will not be excavated but will have the portion of the feature plan view recorded and the floor covered by geotextile fabric and backfilled. Screen all excavated soil through mesh with an aperture of no greater than 6mm. Unless otherwise specified in Table 6.1 and 6.2 in section 6 or in the site specific requirements

stated in section 4.2, YNAS will collect and retain all artifacts. These artifacts will be recorded and catalogued by their corresponding grid unit designation.

Since the number of test units required varies depending on the site Table 3.1 will be used. The placement of the test units will provide a uniform level of data collection across the site Section 3.1 (under "Other contexts (e.g., 19th century villages industrial complexes # 15). It will focus on testing key areas in and around the foundation, well and concrete structure and any other areas as may be appropriate. The strategy will gather a representative sample from across the site, determine the nature of subsurface deposits determine the extent of the site and support any recommendation for a Stage 4 if necessary.

The area shown in Map 10 which was not assessed and has a high archaeological potential should be assessed by Stage 2 shovel testing if and when there is any future impact to this area.

Based on the information contained in the report, the ministry is satisfied that the fieldwork and reporting for the archaeological assessment is consistent with the ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences. This report will be entered into the Ontario Public Register of Archaeological Reports. Please note that the ministry makes no representation or warranty as to the completeness, accuracy or quality of reports in the register.

Should you require any further information regarding this matter, please feel free to contact me.

Sincerely,



Andrea K. Williams  
A/ Archaeology Review Officer

cc. Archaeology Licensing Officer  
Greg Sweetnam, James Dick Construction Limited  
Gaetanne Kruse, Planning Administrator, Township of Guelph/Eramosa

***\*In no way will the Ministry be liable for any harm, damages, costs, expenses, losses, claims or actions that may result: (a) if the Report(s) or its recommendations are discovered to be inaccurate, incomplete, misleading or fraudulent; or (b) from the issuance of this letter. Further measures may need to be taken in the event that additional artifacts or archaeological sites are identified or the Report(s) is otherwise found to be inaccurate, incomplete, misleading or fraudulent.***



July 29, 2014

Ms. Kimberly Wingrove  
Township of Guelph/Eramosa  
8348 Wellington Road 124  
P.O Box 124  
Rockwood, ON  
N0B 2K0

Mr. Jason McLay  
Ministry of Natural Resources  
1 Stone Road West  
Guelph, ON  
N1G 4Y2

Dear Ms. Wingrove & Mr. McLay:

**Re: Review of Revised Materials**

**Proposed Hidden Quarry - 634745 Ontario Limited (James Dick Construction)  
Class A, Category 2 Pit and Quarry License Application and Zoning By-law Amendment  
Application ZBA 09/12 (Hidden Quarry)  
Lot 1, Concession 6, Former Township of Eramosa  
8352 Highway 7, Township of Guelph/Eramosa**

Grand River Conservation Authority (GRCA) staff has reviewed the following revised materials provided in support of the proposed Hidden Quarry:

- Response Letter to GRCA Comments, prepared by James Dick Construction Limited, dated July 10, 2014;
- Pages 1 to 5, Hidden Quarry Site Plans, prepared by Stovel & Associates, dated July 14, 2014.

Based on the submission of the above noted materials, our comments dated July 8, 2014 have been addressed as follows:

1. The notes on the revised Operations Plan now include the appropriate fisheries timing window for the culvert construction.
2. The established Trigger Levels and Contingency Measures have been added to the plans under a single table on Page 4.
3. We note that reference to White Ash species has been removed from the plans. We also note that tree protection fencing has been added under the Sediment and Erosion Control section and a note has been added to the Operations Plan indicating that no tree removals will take place during the bird breeding period of May 15-July 31.

At this time, GRCA has no further comments on the application. As such, GRCA has no objection to the application being taken forward for consideration.

GRCA would be open to review and comment on any additional information circulated by the Township.

Please contact Jason Wagler at 519-621-2763 ext. 2320 if you have any questions or require clarification of the above.

Yours truly,



Jason Wagler MCIP RPP  
Resource Planner  
Grand River Conservation Authority

- cc. MSH Planning c/o Liz Howson  
County of Wellington c/o Aldo Salis  
Regional Municipality of Halton c/o Adam Huycke  
Burnside c/o Carley Dixon  
James Dick Construction c/o Greg Sweetnam & Leigh Mugford – Box 470 Bolton ON L7E 5T4

November 6, 2013

Greg Sweetnam  
James Dick Construction  
P.O. Box 470  
Bolton, ON  
L7E 5T4

REGISTERED LETTER

**Re: Hidden Quarry – License Application for a Category 2, Class A License under the Aggregate Resources Act – Part Lot 1, Concession 6, Township of Guelph/Eramosa in the County of Wellington**

Dear Mr. Sweetnam

Thank you for the opportunity to review the information that was been submitted in reply to our April 15, 2013 comments. We sent a letter to you dated July 11, 2013 at which time Karolyne Pickett our Species at Risk Biologist reviewed the file and provided comments. Since then we have had a staff change and Graham Buck reviewed the file and reported that based on the site investigation record (Table 1) the team did a very detailed and robust study of all taxa.

**Level II Natural Environment Technical Report**

The Ministry has no further concerns with the Natural Environment Report.

**Level I and II Hydrogeological Investigation**

The Ministry has no further concerns in regards to the Hydrogeological Investigation.

**Site Plans – Rehabilitation Plans**

**Vegetation Monitoring-** the Ministry approves the details given on reforestation procedures and follow-up monitoring.

After review, Ministry staff are satisfied that the outstanding objections noted on July 11, 2013 have been satisfactorily resolved.

Respectively submitted,



Lorraine Norminton  
A/District Planner

cc. Sarah DeBortoli, MNR  
Al Murray, MNR  
Art Timmerman, MNR  
Oleg Ivanov, MNR  
Graham Buck, MNR

Leigh Mugford, James Dick Construction Ltd.



October 10, 2013

**Sent via e-mail to [sdenhoed@hardenv.com](mailto:sdenhoed@hardenv.com)**

Harden Environmental Services Ltd.  
4622 Nassagaweya-Puslinch Townline Road  
R.R. 1, Moffat, Ontario  
L0P 1J0

Dear Mr. Stan Denhoed,

**RE: Proposed Hidden Quarry – James Dick Construction Ltd.  
Part of Lot 1, Concession 6, Township of Guelph-Eramosa  
County of Wellington**

In a letter dated July 3, 2013, from C. Slater of the MOE to G. Sweetnam of James Dick Construction Ltd. (JDCL), this Ministry provided review comments on the supporting documentation to the Aggregate Resources Act License application for the proposed Hidden Quarry.

To address outstanding items in the MOE comments, Harden Environmental Services Ltd. (Harden) prepared the following:

- Letter report with Appendices A to D, dated July 15, 2013, prepared by S. Denhoed of Harden to G. Sweetnam of JDCL, RE: MOE Comments Hidden Quarry.
- Email dated October 9, 2013, from S. Denhoed of Harden to R. Stewart of MOE. RE: M16

The MOE has reviewed the above noted additional information and have the following comments:

**Surface Water Comments:**

1. It is the opinion of the MOE that the response to surface water comments from April 22, 2013 have been addressed and further comment to the aforementioned report is not required.
2. Based on the surface water evaluation provided and proposed mitigation measures, the risk for significant environmental impact in regards to Tributary B and the Northwest Wetland are perceived to be low, which is attributable to the length of hydrological and hydrogeological data that is available and the conceptual understanding of the site.



3. Further to the previous comment, the proposed monitoring program is appropriate for ascertaining and addressing potential surface water impacts attributable to quarry activities.

**Groundwater Comments:**

1. The MOE agrees with Harden's assessment of the groundwater thermal impacts of the proposed quarry on the Brydson Spring and the Blue Spring Creek.
2. Based on the information presented in Appendix B – Summary of Drilling and Testing of New Well M15 at Hidden Quarry Site – the MOE agrees with Harden's assessment that the groundwater movement in the bedrock is mainly controlled by fractures and not by karst features.
3. The Revised Monitoring Program presented in Appendix D, and the information presented in the email dated October 9, 2013, has incorporated the groundwater MOE recommendations to the monitoring program for the site. These changes should be included in the Site Plans.

In summary, the surface water and groundwater outstanding items have been addressed to MOE satisfaction.

Respectfully,



Rosa C. Stewart, P.Geo.  
Hydrogeologist  
T: (905) 521-7592  
E: rosa.stewart@ontario.ca

C G. Sweetnam, L. Mugford / James Dick Construction Ltd.  
Lorraine Norminton, Sarah DeBortoli, Ministry of Natural Resources  
L. Armour, Guelph District Office, MOE  
C. Slater, C. Fowler / Technical Support Section, MOE  
File WE GE 04/ IDS TSP Ref No: 3776-96LHPQ

From: Joknic, Sonja (MTO)  
Sent: February 3 2014 8:34 AM  
To: 'Joseph Gowrie'; 'Imugford@jamesdick.com'  
Cc: Khan, Khalid M. (MTO); gitkow,alex; Gaetanne Kruse'  
Subject: James Dick Hidden Quarry - Eramosa

Hi Joseph we have no objections with re-zoning the property from Agricultural/hazard land to Extractive Industrial to permit the establishment of a mineral aggregate operation. However, should the re-zoning be approved, all MOE, MNR, MTO and Aggregate Resources Act rules and regulation and polices must be adhered to. MTO will require written proof from municipality that the zoning has been approved or disapproved. Should the zoning be approved, MTO would than need the following for further review. This was originally sent to you on December 10, 2013.

#### SITE PLAN:

All pages; clearly show MTO property line and 14m setback.

Page 2 - Monitoring wells to be setback 14m from MTO property line.

Page 2 & 3 - Stockpile to be setback 8m from MTO property line Page 1-4, Existing westerly residential access via Hwy 7 must be shown as private residential access only, no trucks, no direct access via hwy 7 for the Quarry pit. All access to be obtained from 6th concession Line.

Berm details to show elevation, if elevation differs, show 4 cross-sections adjacent to Highway 7. Slopes a 1:1 are unstable, recommended 3:1 on both sides of the berm. Toe of slope can be located 0.3m from MTO property line.

To show all phases of excavation.

Blasting locations closest to the Highway 7 right-of-way.

#### GEOMETRIC DESIGN:

Submit geotechnical report/borehole locations for construction of the RTL. An encroachment permit will be required to undertake the borehole samples. Encroachment permit application can be found on line along with the fee. Please contact Alexander Gitkow, Corridor Management Officer for more information at 416 235-4387.

Construction staging and a Traffic Management Plan will have to be prepared and submitted for MTO review and approval.

Cross sections indicating intended widening (if warranted), step joint detail and pavement structure.

Engineering drawings showing plan, profile, cross section 1;500 scale.

Pavement markings/signage plan

Show the left turn lane at highway 7 & 6th Line with dimensions based on a 100km/h design speed storage 25m, parallel 160m and taper at 70m as presented in the TIS dated Dec 5, 2013.

Show the right turn lane of 25m storage, 85m parallel and 80m taper.

Cost estimate to be submitted to MTO for review/approval and to include removals/new construction and traffic control, staging, pavement markings and any other costs associated with the work.

Quality Assurance (QA/QC) plan and documents

Construction schedule/timing for each phase of construction

Lane closure times (if required) will be provided by MTO.

LEGAL AGREEMENT & LETTER OF CREDIT, covering all necessary highway improvements will be required.

STORM WATER MANAGEMENT REPORT with Site servicing and grading plans (4 copies)

How will well water be safe guarded, if contaminated what mitigation measures will you employ.

UPDATED TRAFFIC REPORT;

Traffic report should include but not be limited to the following:

Any negative impacts to Highway 7 ROW, structural, dust, noise, traffic

Haul rates

Haul routes

number of trucks per day

operating window

will there be any night work?

Blasting, when and how often

What measures will you employ to ensure flyrock does not enter the Hwy 7 ROW?

Property owners along Highway 7 to be notified in writing prior to any blasting operations.

Should any of the above pose a problem, the owner shall be responsible for providing measures to ensure Highway 7 and motorists are protected.



August 21, 2013

Cuesta Planning Consultants Inc.  
978 First Avenue West  
Owen Sound, ON N4K 4K5

Attn: Mr. Michael Davis

**Re: Peer Review, Acoustical Study - Hidden Quarry  
Review of Revised Aercoustics Noise Report and Response to Comments  
Novus Project No. 12-0258**

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Novus Environmental was retained by Cuesta Planning Consultants Inc. on behalf of the Township of Guelph/Eramosa to conduct a peer review of the noise and vibration assessment work conducted for the proposed James Dick Construction Ltd. "Hidden Quarry", to be located in Rockwood, Ontario.

Our peer review results were previously documented in letter entitled "Peer Review, Acoustical Study, Hidden Quarry", and dated April 8, 2013. That letter outlined a number of recommendations for updates to the noise modelling and reporting for the quarry application.

Subsequently, Aercoustics Engineering Ltd. (AEL) has conducted a re-assessment of impacts and provided a response to comments. This work is documented in:

- "Noise Impact Study, Project 11007, Hidden Quarry, Rockwood Ontario" prepared by Aercoustics Engineering Ltd. (AEL), dated May 24, 2013; and
- AEL letter to James Dick Construction entitled "Response to Peer Review from Novus Environmental Inc. for Proposed Hidden Quarry in Rockwood, Ontario, dated April 8, 2013", and dated May 24, 2013.

## 1.0 Overall Review

We have reviewed the updated noise impact assessment prepared by AEL, and their responses to our comments, and in general we are satisfied. Based on the revised information, noise levels from the proposed quarry operations will meet the applicable guideline limits at all noise-sensitive points of reception.

[novusenv.com](http://novusenv.com)

**Atmospheric Sciences | Acoustics | Human Health**

## 2.0 Additional Recommendations Not Addressed in Revised Aercoustics Work

Regardless of the above, based on the AEL report, compliance with the guideline limits is dependent on the use of noise mitigation, placement of equipment, and the use of “quiet” rock drills.

In our original peer review, Novus recommended that a third party acoustical audit be conducted during the first year of operation. The audit would ensure that:

- Noise emissions from the actual facility equipment meets NPC-115 requirements and are equal to or less than that used in the noise impact assessment;
- Noise emissions from the rock drill meet the maximum power level specification contained in Section 4 of the AEL report;
- The equipment is in good operating order, meeting the Township Noise Bylaw requirements;
- The mitigation measures, including berms and barriers, outlined in the noise report are installed and in operation; and
- The resulting noise impacts from facility operations are in compliance with NPC-205 and NPC-232 requirements.

Such acoustic audits are often agreed to as part of conditions of approval.

An acoustic audit was not discussed in any of the AEL documentation provided, and we would still recommend that such an audit be agreed to.

Should you have any questions or concerns, please feel free to contact us.

Sincerely,  
**Novus Environmental Inc.**



R. L. Scott Penton, P.Eng  
Principal





April 8, 2013

Cuesta Planning Consultants Inc.  
978 First Avenue West  
Owen Sound, ON N4K 4K5

Attn: Mr. Michael Davis

**Re: Peer Review, Acoustical Study  
Hidden Quarry  
Novus Project No. 12-0258**

---

Novus Environmental was retained by Cuesta Planning Consultants Inc. on behalf of the Township of Guelph/Eramosa to conduct a peer review of the noise and vibration assessment work conducted for the proposed James Dick Construction Ltd. "Hidden Quarry", to be located in Rockwood, Ontario. This letter presents the results of our findings.

In conducting our assessment the following information have been reviewed:

- "Noise Impact Study, Project 11007, Hidden Quarry, Rockwood Ontario" prepared by Aercoustics Engineering Ltd. (AEL), dated November 19, 2012;
- "Blast Impact Analysis, James Dick Hidden Quarry", prepared by Explotech Engineering Ltd. (Explotech), dated November 19, 2012;
- Ministry of the Environment (MOE) Publication NPC-205 noise guidelines for semi-rural areas;
- MOE Publication NPC-232 noise guidelines for rural areas;
- Township of Guelph/Eramosa Noise Bylaw 5001-05;
- County of Wellington Official Plan, 1999 (Last Revision February 24, 2011);
- Correspondence with Mr. David Grant, Aercoustics Engineering Ltd.; and
- A site visit to the area of the proposed quarry.

[novusenv.com](http://novusenv.com)

**Atmospheric Sciences | Acoustics | Human Health**

Novus Environmental Inc. | Research Park Centre, 150 Research Lane, Suite 105, Guelph, Ontario, Canada N1G 4T2  
e-mail [info@novusenv.com](mailto:info@novusenv.com) | tel 226.706.8080 | fax 226.706.8081

## 1.0 Aercoustics Noise Impact Assessment

We have reviewed the noise impact assessment prepared by AEL, and in general, are satisfied with the approaches taken. However, we do have some comments and concerns with the analysis and conclusions.

### 1.1 Criteria

Novus is in agreement with the criteria selected. MOE Publication NPC-205 “Class 2” and NPC-232 “Class 3” limits apply to the residences in the area, as outlined in **Table 1** of the AEL report.

Receptor-specific limits for residences along Highway 7 were developed, based on road traffic noise modelling, for receptors R2, R10, R14, and R16. While the report states on Page 4 that sample calculations are provided in Appendix C, the copy of the report provided does not include this information. AEL provided this information via email, and Novus is in agreement with the guideline limits proposed.

### 1.2 Receptor Height

Page 6 of the AEL report notes that a receptor height of 1.5 m was used in the assessment. This is inconsistent with both MOE NPC-205 and NPC2-232 noise guidelines.

NPC-205 defines the point of reception as “any point on the premises of a person where sound or vibration originating from other than those premises is received.” NPC-232 defines it as any “point on the premises of a person within 30 m of a dwelling or a camping area, where sound or vibration originating from other than those premises is received.”

The guidelines do not distinguish between “daytime” receptors and “night-time” receptors”. Under the definitions, points of reception include first storey windows, upper-storey bedroom windows, and ground level outdoor amenity areas within 30 m of the residence. It is important that upper storey bedroom windows be included in the analysis, as these locations receive less acoustical screening (mitigation) from berms and noise barriers, and thus can experience higher sound levels. These receptor locations are typically modelled at a 4.5 m receptor height for second-storey windows.

MOE Publication LU-131 – *Noise Criteria for Land Use Planning* is often used as a justification for using lower receptor heights. While LU-131 does identify daytime and night-time points of reception separately, it does not apply to the on-going permitting of operations at the proposed quarry, which must meet NPC-205 and NPC-232 requirements. The Ministry of the Environment has been consistently clear that “night-time” points of reception such as bedroom windows should also be investigated during daytime hours from a permitting perspective under NPC-205 and NPC-232. This was made explicit in the draft replacement NPC-300, which, while not in force, serves to illustrate the MOE’s position. In the draft guideline, which is a replacement for both LU-131 and NPC-205, no differentiation is made between daytime and night-time receptors.

This is a major issue with the AEL analysis, as receptor height plays a crucial role in the effectiveness of noise berms and barriers. However, many of the residences in the area are one storey, and therefore the conclusions of AEL analysis (that the facility will be in compliance) may be correct. This needs to be confirmed to ensure compliance with the guidelines. Based on a drive-by survey, the following receptor heights and locations should be used in the analysis:

***Receptor Heights and Locations for Noise Impact Assessment***

Receptor No.	Location	NPC Area Classification	No. Of Storeys	Receptor Height and Location Per NPC-205 / NPC-232
R1	Highway 7	Class 2	2	4.5 m at house; 1.5 m on property
R2	Highway 7	Class 2	1	1.5 m at house; 1.5 m on property
R3	6 <sup>th</sup> Line	Class 3	1	1.5 m at house; 1.5 m on property within 30 m of house
R4	6 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R5	6 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R6	7 <sup>th</sup> Line	Class 3	1	1.5 m at house; 1.5 m on property within 30 m of house
R7	7 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R8	7 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R9	7 <sup>th</sup> Line	Class 3	1	1.5 m at house; 1.5 m on property within 30 m of house
R10	Highway 7	Class 2	2	4.5 m at house; 1.5 m on property
R11	6 <sup>th</sup> Line	Class 3	1	1.5 m at house; 1.5 m on property within 30 m of house
R12	Highway 7	Class 2	1	1.5 m at house; 1.5 m on property
R13	Highway 7	Class 2	1	1.5 m at house; 1.5 m on property
R14	Highway 7	Class 2	1	1.5 m at house; 1.5 m on property
R15	5 <sup>th</sup> Line	Class 2	1	1.5 m at house; 1.5 m on property
R16	Highway 7	Class 2	1	1.5 m at house; 1.5 m on property
R17	5 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R18	5 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house
R19	6 <sup>th</sup> Line	Class 3	2	4.5 m at house; 1.5 m on property within 30 m of house

***Recommendation – the AEL analysis needs to be updated to reflect the appropriate receptor heights, to ensure that the applicable Ministry of the Environment noise guideline limits are met.***



### 1.3 Construction Activity

Novus is in agreement that noise from the “construction” aspects of the quarry operation, including stripping of overburden and rehabilitation, are exempt from NPC-205 and NPC-232 noise guideline limits.

Novus also agrees that the noise emissions from quarry equipment be restricted to meeting NPC-115 limits, as applicable. These restrictions should be listed in as part of the quarry’s operating plan.

The prohibitions of the Township of Guelph/Eramosa Noise Bylaw 5001/05 would also apply to noise emissions, and is not addressed in the AEL report. The bylaw requires that equipment be fitting with effective exhaust and/or intake muffling and be maintained in good working order.

***Recommendation – an Acoustic Audit by an independent third-party contractor be conducted during the first year of operation of the quarry, to ensure that the noise emissions from facility equipment meet NPC-115 limits.***

### 1.4 Noise Source Emission Rates

Novus has reviewed the source emission rates used in the noise modelling. The values are consistent with those typically used in these studies. It is uncertain if a tonal penalty has been applied to rock drilling noise. Noise emissions from this equipment is typically tonal in nature, and under MOE Publication NPC-104, a +5 dB tonal penalty would be applied to the assessment of impacts.

***Recommendation***

- ***AEL to confirm if tonal penalties should apply to rock drilling, or if a specific non-tonal drill type will be used.***
- ***Tonality should be confirmed through an Acoustic Audit***

### 1.5 Modelling Results

The modelling result provided in **Table 6** of the AEL report show the proposed quarry to be in compliance with the applicable guideline limits. However, these results are subject to the issues identified above (receptor height, guideline limits, tonality) and need to be updated.

The quarry will be excavated in several phases. The report does not indicate which phase was being assessed (or if the results are worst-case for all phases). The report does not indicate where source equipment is being located within the quarry for noise modelling purposes. Without this data, the accuracy of the noise modelling cannot be confirmed.

In addition, the tabular format of the data does not allow for compliance with NPC-232 to be confirmed for receptors removed from Highway 7. For these locations, the applicable limit needs to be met both at all points on the house, but also at all points at ground level within 30 m of the dwelling. This can be addressed through providing noise contours (isopleths of equal noise levels) of the noise modelling results. This can be easily accommodated using the Cadna/A noise model.

**Recommendations**

- *Update the results to address receptor height, guideline limits, etc., as discussed previously.*
- *Update the analysis to show impacts for various phases of the excavation. Ideally, provide the electronic Cadna/A noise model for peer review. Alternatively, provide drawings showing the location of modelled noise sources for each phase of excavation.*
- *Provide noise contours at a high of 1.5 m above grade to allow for confirmation of compliance with NPC-232.*
- *An Acoustic Audit by an independent third-party contractor be conducted during the first year of operation of the quarry, to ensure that the noise emissions from facility operations meet NPC-205 and NPC-232 limits.*

**2.0 Explotech Vibration Report**

Novus has reviewed the blasting vibration report produced by Explotech. We are in agreement with the guidelines used; the assessment techniques used; and with the general conclusions of the study.

We agree with the recommendations on Page 9 and Page 19 of the report, that blast monitoring should be used and that all blasts at the quarry be monitored at two locations. Novus further recommends that the blast record information be made available to the Township for its review in the presence of vibration complaints.

**3.0 Conclusions**

From our review, we conclude that:

- The Vibration Impact Assessment conducted by Explotech is adequate, and Novus agrees with the recommendations and conclusions. Novus further recommends that the blast record information be made available to the Township for its review in the presence of vibration complaints.
- The Noise Impact Assessment conducted by AEL has been reviewed. Novus is generally in agreement with the approach taken; however, several issues have been identified which will need to be addressed to ensure that the facility is in compliance with the applicable noise guideline limits.
- Novus recommended the following additional analysis be undertaken / additional information be provided by AEL:
  - Update the modelling to use 4.5 m receptor heights for daytime and night-time, in accordance with NPC-205 and NPC-232 requirements
  - Provide source locations used in the modelling for the extraction phases considered

- Provide noise contours at a 1.5 m and 4.5 m height for the various phases of extraction considered in the analysis, to allow for compliance with nPC-205 and NPC-232 to be confirmed.
  - Confirm if NPC-104 tonal penalties apply to the assessment of the rock drill
  - Ideally, provide the Cadna/A electronic noise modelling files for review
- Novus also recommends that a third party acoustical audit be conducted during the first year of operation. The audit would ensure that:
    - Noise emissions from the actual facility equipment meets NPC-115 requirements and are equal to or less than that used in the noise impact assessment;
    - The equipment is in good operating order, meeting the Township Noise Bylaw requirements;
    - The mitigation measures, including berms and barriers, outlined in the noise report are installed and in operation; and
    - The resulting noise impacts from facility operations are in compliance with NPC-205 and NPC-232 requirements.

Such acoustic audits are often agreed to as part of conditions of approval.

Should you have any questions or concerns, please feel free to contact us.

Sincerely,

**Novus Environmental Inc.**



R. L. Scott Penton, P.Eng  
Principal



**uniongas**

A Spectra Energy Company

**RECEIVED****MAY 07 2013**TO:  
GUELPH**LANDS DEPARTMENT**

Fax (519) 436-5353

May 7, 2013

SENT BY FACSIMILE 519-856-2240

The Corporation of the Township of Guelph/Eramosa  
8348 Wellington Road 124  
P. O. Box 700  
Rockwood, Ontario N0B 2K0

Attention: Meaghen Reid, Clerk

Re: Zoning ByLaw 57/1999  
W1/2 Lot 1, Concession 6 (Eramosa) Township of Guelph-Eramosa  
Hidden Quarry ZBA 09/12  
Hwy 6 & 7 Eramosa

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Further to your Notice regarding the above mentioned property please be advised as follows:

- Union Gas requires that vibrations at the pipeline remain below 50mm/sec – As per the blasting company at the proposed Quarry at Hwy 6 & 7 Eramosa, vibration is going to be limited to 12.5mm/sec.
- Union Gas requires that blasting is not proposed within 30 meters of gas pipelines – As per the blasting company the blasting will be performed 200 meters away from our pipeline.

UNIONGAS LIMITED

Yours truly

Shirley Brundritt  
Lands Support Analyst  
Lands Department  
1-800-571-8446 Ext. 2760  
[sbrundri@uniongas.com](mailto:sbrundri@uniongas.com)

P.O. Box 2001, 50 Keil Drive North Chatham, Ontario N7M 5M1 [www.uniongas.com](http://www.uniongas.com)  
Union Gas Limited

November 5, 2014

Township of Guelph/Eramosa  
8348 Wellington Road 124  
P.O. Box 700  
Rockwood, ON N0B 2K0

**Attention: Kim Wingrove, Chief Administrative Officer**

Dear Ms. Wingrove:

Re: **Review of Hidden Quarry Visual Information Package**

On behalf of Brook McIlroy Inc., I was asked by Elizabeth Howson of MSH to peer review a "Visual Information Package" (VIP) for the Township of Guelph/Eramosa

I have received the following documents and drawings:

- Visual Information Package for Guelph/Eramosa Council Hidden Quarry by James Dick Construction Limited (undated. 44 pages)
- Hidden Quarry Site Plans (dated June 6, 2014)
- Hidden Quarry Site Plans (dated August 1, 2014)

I visited the Hidden Quarry site on October 14, 2014 from approximately 11:00am to 1:00pm and was given a tour by Greg Sweetnam and Leigh Mugford of James Dick Construction. During the tour, we drove along Highway 7 and 6<sup>th</sup> Concession Road and stopped frequently at the vantage points depicted in the VIP. We entered the site at the south-west and north-east corners to view areas where a berm is proposed to be constructed.

I have reviewed the VIP and I am of the opinion that the information contained within it is reasonably accurate and that it fairly represents the ability of the public to view the proposed operation from lands around the site.

Yours very truly,

Brook McIlroy Inc.



Colin Berman, OALA, CSLA  
Associate

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Toronto, ON Canada  
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**BURNSIDE**

[ THE DIFFERENCE IS OUR PEOPLE ]

April 7, 2014

**Via: Email (kwingrove@get.on.ca)**

Ms. Kim Wingrove  
Chief Administrative Officer  
Township of Guelph/Eramosa  
P.O. Box 700  
Rockwood ON N0B 2K0

Dear Kim:

**Re: ZBA Hidden Quarry, Township of Guelph/Eramosa  
James Dick Construction  
File No.: 300032475.0000**

R.J. Burnside & Associates Limited (Burnside) has been retained by the Township of Guelph/Eramosa (Township) to compete a full technical peer review of all materials prepared in relation to the Zoning By-law Amendment (ZBA) for the subject lands (located on Part of Lot 6, Concession 1, Township of Guelph/Eramosa) herein referred to as the Hidden Quarry. The technical peer review was carried out by Dominique Evans, Environmental Technologist.

After review of the initial ZBA materials, along with the report updates, various meetings minutes, agency correspondence and updated plans, Burnside staff feel that James Dick Construction (James Dick) has adequately addressed all concerns as they related to the Natural Environment at the Hidden Quarry. Concerns included protection of wetlands, as well as Species At Risk and their habitat.

Should James Dick revise their approach, or alter their extraction plans, Township and Burnside staff reserves the right to complete additional review.

Yours truly,

**R.J. Burnside & Associates Limited**

Don McNalty, P.Eng.  
Vice President, Public Sector

cc: Saidur Rahman, Director of Public Works, Email (srahman@get.on.ca)  
Dominique Evans, Burnside, Email (dominique.evans@rjburnside.com)  
Leigh Mugford, James Dick Construction Ltd., Email (lmugford@jamesdick.com)



January 22, 2015

**Via: Email (kwingrove@get.on.ca)**

Ms. Kim Wingrove  
Chief Administrative Officer  
Township of Guelph/Eramosa  
8348 Wellington Road 124  
P.O. Box 700  
Rockwood ON N0B 2K0

Dear Kim:

**Re: Hidden Quarry Air Quality Report  
AirZone One's Review and RWDI's Response  
Project No.: 300032475.0000**

R.J. Burnside & Associates Limited (Burnside) has been retained to review the Air Quality Assessment related documents regarding the James Dick Construction Limited (JDCL) proposal for a quarry located in the Township of Guelph-Eramosa, Wellington County. Initially, RWDI Air Inc. (RWDI) prepared an Air Quality Assessment on behalf of JDCL. Burnside reviewed that document in November 2012. Subsequently, Airzone One Ltd. (Airzone) was retained by the Concerned Residents Coalition to prepare a review of the same Air Quality Assessment. RWDI provided a response to the Airzone review. For this review, Burnside was retained to provide a balanced review of the Airzone review and RWDI response to that review.

The relevant documents are listed in Table A:

**Table A:**

<b>File</b>	<b>Description</b>	<b>Abrev.</b>
Air Quality Report.pdf Title: "Proposed Hidden Quarry, Township of Guelph-Eramosa, Wellington County, Final Report, Air Quality Assessment" Dated: September 6, 2012	RWDI prepared an Air Quality Assessment to assess the predicted air contaminant emissions from the proposed James Dick Construction Limited (JDCL) quarry called "Hidden Quarry" in the Township of Guelph-Eramosa, Wellington County.	AQA
032475 Hidden Quarry Assess ESDM Report.pdf Title: "Memo to Dave Hopkins, Review of Hidden Quarry" Dated: November 14, 2013	Burnside's review of AQA dated November 14, 2012. As this document was not previously distributed, it has been attached in Appendix A.	RJB

File	Description	Abrev.
AirZone One Screening-level review of JDCL AQ Report.pdf Title: "Screening-level review of James Dick Construction Ltd. air quality assessment re: Proposed Hidden Quarry" Dated: April 15, 2014	Airzone One Ltd.'s review of the "Proposed Hidden Quarry, Township of Guelph-Eramosa, Wellington County, Final Report, Air Quality Assessment" on behalf of the Concerned Resident's Coalition (CRC).	AZO
rwdi response to airzone one.pdf Title: "RWDI Response to Airzone One Ltd. Screening-Level Review Air Quality Assessment for the Proposed Hidden Quarry" Dated: June 6, 2014	RWDI's response to issues raised by Airzone One Ltd in their review "Screening-level review of James Dick Construction Ltd. air quality assessment re: Proposed Hidden Quarry".	RSP

Other documents used as part of the review which were assigned abbreviations are listed in Table B.

**Table B:**

File	Description	Abrev.
Guideline A-10 Procedure for Preparing an ESDM Report (March 2009) - 3614e03.pdf	MOE guidance document directing proponents in how to prepare an ESDM in support of an Environmental Compliance Approval.	A10
O.Reg 419_05 Air Quality 1Feb2013.pdf	Ontario Regulation 419/05	OReg419

**Overall Characterization**

Burnside was retained by the Township of Guelph-Eramosa to review the documents in Table A. The position of the reviewer is that this review should follow the spirit of R.R.O. 1990, Reg. 194, S.53.03 Expert Witness which is that a technical expert will provide opinion based evidence that is fair, objective, and non-partisan regardless of the party engaging the expert.

If RWDI was deemed to have responded sufficiently to the Airzone comment, further discussion was not provided.

The RJB document as noted in Table A is an interoffice memorandum prepared by the author of this correspondence. Although a number of improvements to the AQA as prepared by RWDI were noted in the memorandum, only a summary statement was included from this memorandum in the general review letter submitted to the municipality on January 11, 2013. In hindsight, it would have been useful to include the additional detail as per the memorandum. In the RJB, Burnside provided 11 specific comments. Those comments could be summarized as identifying several places where the documentation was insufficient as previously noted

Airzone provided a large number of comments which RWDI subsequently numbered (total of 44). A summary of the AZO would appear to be similar to the RJB summary: There are numerous places in the AQA document that did not provide sufficient documentation.



RWDI has attempted to provide a substantial amount of that missing documentation in the text of the RSP.

Overall, the documents in Table A show:

- The proponent can receive an Environmental Compliance Approval for the property (as summarized in the initial general review letter of January 11, 2013),
- Including road dust, there are some exceedences of the appropriate particulate criteria,
- The number of exceedences predicted depends on the scaling factor used to predict the background values for PM<sub>10</sub> and TSP based on the PM<sub>2.5</sub> background values. Using either scaling factor, the number of exceedences is likely acceptable since the exceedences will only happen when the meteorological conditions match the model and the production is at a maximum, which the proponent indicates is unlikely. The difference between scaling factors is within the uncertainty of each factor.

Based on these points, the AQA shows that the HiddenQuarry is unlikely to cause an adverse effect to sensitive receptors in the area.

Additional detail is provided below. To make it easier for the reader, the location in the appropriate and related portion of a document is given **in bold** and the quote from the original text of that document is provided *in italics*. Burnside comments are provided in regular text.

#### **General Overview (RSP Letter) – Conservative Worst-Case**

**AZO, Section 4.1, paragraph 3:** *...The key issue in assessing those data is dealing with the range of data values from those other sites. Unless one has good reason to argue against it, it is prudent to choose the upper limit of the range, the value that will result in the highest emissions or impacts.*

**In RSP, General Overview, paragraph 3:** *... RWDI profoundly disagrees with this statement and considers it to be inconsistent with sound engineering and scientific principles. It is not appropriate to choose the upper limit of the range for every uncertain input that goes into the model. This would lead to unrealistically high results that would not be informative for decision-making purposes.*

#### **In A10, section 8.2, paragraph 3-5 (page 52 of 131):**

*In summary, the emission rate estimating must be either:*

- *“conservative”<sup>11</sup>, as represented by paragraph 1 of subsection 11(1); or*
- *as accurate as possible, as represented by the methodologies set out in paragraphs 2 and 3 of subsection 11(1).”*

*In many cases, emission rate estimating is an iterative process where estimates start out conservative and are then refined to be more accurate and less conservative when earlier iterations result in a prediction of an exceedence of a MOE POI Limit. Although the emission rate estimating methodologies described in paragraph 2 and 3 of subsection 11(1) of the Regulation can be selected at any time, they also represent the end of the iterative or refinement process.*

<sup>11</sup> *For the purpose of this Procedure Document the term “conservative” refers to an estimated emission rate that is certain to be higher than the actual emission rate.*

## **OReg419 Section 11:**

### *Source of contaminant emission rates*

11. (1) *An approved dispersion model that is used for the purposes of this Part shall be used with an emission rate that is determined in one of the following ways for each source of contaminant and for each averaging period applicable to the relevant contaminant under section 19 or 20, whichever is applicable:*

1. *The emission rate that, for the relevant averaging period, is at least as high as the maximum emission rate that the source of contaminant is reasonably capable of for the relevant contaminant.*
2. *The emission rate that, for the relevant averaging period, is derived from site specific testing of the source of contaminant that meets all of the following criteria:*
  - i. *The testing must be conducted comprehensively across a full range of operating conditions.*
  - ii. *The testing must be conducted according to a plan approved by the Director as likely to provide an accurate reflection of emissions.*
  - iii. *The Director must be given written notice at least 15 days before the testing and representatives of the Ministry must be given an opportunity to witness the testing.*
  - iv. *The Director must approve the results of the testing as an accurate reflection of emissions.*
3. *The emission rate that, for the relevant averaging period, is derived from a combination of a method that complies with paragraph 1 or 2 and ambient monitoring, according to a plan approved by the Director as likely to provide an accurate reflection of emissions. O. Reg. 516/07, s. 7 (1); O. Reg. 507/09, s. 9 (1).*

The text of the regulation above provides insight into the level of conservativeness generally expected by agencies in Ontario. Where the estimate is not “conservative”, the report would be expected to document the justification for a less conservative emission rate.

Over the last 10 years, the MOE has been requiring better and better documentation. This report was written in 2012 and so to expect 2014 levels of documentation is unrealistic; however, expecting 2012 levels of documentation is not unrealistic. The comments identified in the R.J. Burnside & Associates Limited document were intended to hold the authors to that level of documentation.

### **Table 1 (RSP Table 1) - Material Moisture Levels**

**RSP, Table 1, Material moisture levels:** *Used middle-of-the range values from published data and previous measurements by RWDI for above-water aggregate extraction; whereas, this will be predominantly an underwater extraction operation.*

The site will be “predominantly an underwater extraction operation” but the initial extraction will be above-water and so the above-water moisture levels will be representative of extraction emissions; however, the majority of the extraction over the life of the facility will “be predominantly an underwater extraction operation”.

Therefore, while the worst-case is appropriately specified, that situation will exist for a relatively short period of time relative to the life of the site.

It might be more representative to characterize the RWDI approach for this parameter as unbiased. Note that this change would not alter the final opinion of the document.

**Comment 4 (RSP Table 2) – Missing combustion By-Products Assessments.**

**AQA section 3.1.1.3 (p. 9 of 80):** *With respect to emissions of combustion by-products from on-site mobile equipment and the drag-line, the principal contaminants of interest are typically nitrogen oxides (NO<sub>x</sub>), PM<sub>2.5</sub>, PM<sub>10</sub>, and TSP and these are used as surrogates for all products of combustion.*

**AZO p.9 of 25:** *It is more reasonable to have followed the general procedure that RWDI did in their Henning Pit analysis (although some of the details of their procedure were questionable). Thus, BaP should have been included in their analysis for the present JDCL assessment. In their Henning Pit assessment, RWDI demonstrated that BaP has the highest potential to exceed the air quality standard; thus it would potentially be the contaminant of greatest concern.*

**RSP, comment 4:** *RWDI has conducted environmental assessments for highway projects throughout Ontario, and based on RWDI's analysis and experience, NO<sub>2</sub> is a suitable surrogate for examining potential impacts from diesel-fuelled vehicle emissions.*

*The primary reason for including benzo(a)pyrene in the Henning Pit assessment was due to the presence of an asphalt recycling operation. There are no plans for asphalt recycling at the proposed Hidden Quarry.*

**A10 section 7.1.1 Combustion of Natural Gas and Propane (page 36 of 131):** *The significant contaminant from the combustion of natural gas and propane is typically nitrogen oxides. Other contaminants, for this type of source, are generally emitted in negligible amounts.*

While the A10 guidance does not apply directly to emissions from the combustion of diesel, it does illustrate the methodology recommended by the MOE. Presentations by the MOE have indicated that the reason for the above guidance is that they have determined that the nitrogen oxide emission factors are the largest percent of criteria of all the contaminant emission factors for products of combustion from natural gas so that for any source of natural gas combustion, the nitrogen oxide limit will be reached before any other contaminant.

Previous MOE guidance directed the proponent to model nitrogen oxides and any other contaminant emitted by the site that is also emitted as a product of combustion which is what RWDI has done.

Since there are no other sources of the contaminants produced as products of combustion, it seems reasonable to assess the emission of nitrogen oxides against its criteria since the other contaminants will show a lower percentage of criteria.

Using the emission factors in AP-42, "3.3 Gasoline And Diesel Industrial Engines", Table 3.3-1 and comparing to the various criteria in Schedule 3 of OReg419 shows the same relationship: emission factors will always result in nitrogen oxide POI concentrations meeting criteria before any other contaminant reaches its respective criteria.

## **Comment 8 (RSP Table2) – Fugitive Road Dust and Storage Piles in ECA Application**

**AQA section 3.3.2.1 (page 12 of 80):** *JDCL will develop a Best Management Practice Plan, which will serve as a guideline for dust management practices at the facility. With the implementation of this plan, the facility is exempt from assessing particulate emissions from paved roadways, unpaved roadways, and aggregate storage piles located on-site, as per guidance in Section 7.4.1 of MOE Guideline A10.*

**AZO (p.11 of 25), paragraph 1:** *... MOE guideline s.7.4.1, which only refers to no requirement to assess metals in dust; other components still need to be assessed.*

**RSP, Table 2, comment 8:** *Mr. Di Giovanni misunderstands Section 7.4.1 of MOE Guideline A10.*

*Section 7.4.1 actually refers to a specific set of facilities (identified by the relevant North American Industrial Classification System, or NAICS Code) that must include metals from road dust emissions in their compliance assessment. An aggregate facility such as the proposed Hidden Quarry falls under NAICS Code 212315, which is not included on Table 7-2 in Section 7.4.1. Therefore, dust emissions from internal haul roads can be excluded from the compliance assessment. RWDI's interpretation of the MOE guidance has been confirmed to RWDI by the MOE on numerous occasions.*

*In any case, additional model runs were performed as part of the cumulative effects assessment that included the haul roads.*

**A10, section 7.4.1, paragraph 1:** *Fugitive particulate from on-site roadways and storage piles (that are susceptible to wind erosion) must be included in an ESDM report when the particulate contains significant quantities of contaminants (e.g., metals) that contribute to an MOE POI Limit that may cause a health effect. As set out below, in certain circumstances fugitive particulate does not have to be included in the ESDM report if the facility has implemented a best management practices approach to fugitive dust.*

**A10, section 7.4.1, Heading 2:** *Fugitive dust emitted from facilities in the sectors listed in Table 7-3 is generally not anticipated to contain significant quantities of metals. Nevertheless, fugitive particulate from on-site roadways and storage piles from facilities within the sectors listed in Table 7-3 must be included in the assessment of compliance with MOE POI Limits unless the facility:*

- 1. implements a BMP plan;*
- 2. includes a BMP plan as an Appendix to the ESDM report;*
- 3. retains a BMP plan and implementation on-site for inspection by the MOE; and ...*

*It should be noted that proponents may be asked to include sources of fugitive dust in the ESDM report if the best management practices plan is not acceptable to the MOE.*

The position in both AZO and RSP agree that JDCL's quarry would appear in Table 7-3 under the heading "2123 Non-Metallic Mineral Mining and Quarrying" so heading 2 applies.

**AQA section 3.2.1.4, paragraph 3:** *JDCL will also develop a Best Management Practice Plan (BMPP), which will serve as a guideline for dust management practices at the facility. As Section 7.4.1 of MOE Guideline A10 allows for the exclusion of stockpiles when a BMPP is in place, and given the washed nature of the aggregate, emissions from the aggregate stockpiles are expected to be insignificant.*

Therefore, while “particulate from on-site roadways and storage piles can be omitted if a BMP Plan is provided”, the AQA does not provide a BMP plan (requirement 2) and so does not meet all the requirements of A10 but does indicate that one will be prepared. The AQA indicates that the BMP can be written to achieve the mitigation suggested but does not provide the details. Burnside is confident that a BMP plan will be written for the Site that will demonstrate the level of mitigation indicated and so can be prepared at a later time.

Note that while the road dust emission is ignored as part of the ECA Application assessment portion of the AQA document, it is not ignored in the “Cumulative Effects Modelling” portion of the report.

#### **Comment 12 (RSP Table 2) – Soil Moisture Content**

**AQA section 4.2.1 (page 14 of 80):** *A moisture value of 5% was used to reflect the high moisture content of material taken directly from the working face. This is consistent with RWDI's experience at sand and gravel operations in Southern Ontario.*

**AZO (p.11 of 25), last paragraph:** *RWDI needs to explicitly prove that 5% is a reasonably conservative value to use. In this case, a conservative value would be the lowest moisture value (driest) that it could reasonably be. In this we cannot depend on “RWDI's experience at sand and gravel operations in Southern Ontario” so we cannot verify if those other experience(s) are representative of the situation at the proposed Hidden Quarry. Rather than assume “trust” in RWDI's “experience,” RWDI must, instead, provide explicit evidence of their claims. Without such explicit evidence, these claims remain uncertain and unverifiable.*

**RSP, Table 2, comment 12:** *The value of 5% for moisture content was conservatively based on previous measurements by RWDI at aggregate sites where unconsolidated aggregates were extracted. RWDI's measurements show moisture values consistently higher than 5%.*

If possible, RWDI should provide a brief summary of the results they do have, perhaps with sample analysis sheets. If not, a statement like “In the past, RWDI has measured soil moisture content more than x times with resulting values between y and z and a mean/median of a.” would provide assurance that, if required, RWDI can demonstrate that their value is defensible.

#### **Comment 14 (RSP Table 2) – Supplemental Control Efficiency**

**AQA section 4.2.3 (page 15 of 80):** *The amount of aggregate material handled at each location was assumed to be equivalent to the production rate of the material stockpiled at that location. A supplemental control efficiency of 90% was applied to reflect the washed nature of the aggregate.*

**AZO (p.12 of 25), paragraph 7:** *We require quantitative evidence of RWDI's “supplemental control efficiency of 90%” claim...*

**RSP, Table 2, comment 14:** *It is normally assumed that there are negligible emissions from handling of washed stone, and it is common practice for air quality experts to assume 100% control when dealing with aggregate sites. This practice is supported by observations made by RWDI and other respected air quality consulting firms over decades of work on aggregate sites.*

*Regardless, RWDI has used 90%, which is conservative given the washed nature of the stone.*

**AP-42 Chapter 13.2.4 Aggregate Handling and Storage Piles, section 13.2.4.2, paragraph 2:** *When freshly processed aggregate is loaded onto a storage pile, the potential for dust emissions is at a maximum. Fines are easily disaggregated and released to the atmosphere upon exposure to air currents, either from aggregate transfer itself or from high winds. As the aggregate pile weathers, however, potential for dust emissions is greatly reduced. Moisture causes aggregation and cementation of fines to the surfaces of larger particles. Any significant rainfall soaks the interior of the pile, and then the drying process is very slow.*

The washing process is intended to remove the fines from the rest of the aggregate leaving a clear stone. Based on the AP-42 quote, the majority of the emissions would be expected to occur when the aggregate is first loaded onto a storage pile. Since the washed aggregate will still be wet at that time, the expectation of dust being emitted from this source is low. Further, the AP-42 text indicates that the remaining fines will be bound because of "aggregation and cementation of fines to the surfaces of larger particles" as the pile ages and so there will be less dust released later.

This assessment of the process clearly suggests that a 90 % reduction is reasonable.

#### **Comment 18 (RSP Table 2) – Source Characterization**

**AQA, Section 6, paragraph 2 (p. 22 of 80):** *Sources were modelled as a series of volume sources with parameters based on information obtained from the Site Plan and typical dimensions of processing equipment and vehicles used at other facilities of this nature. The modelled source parameters are consistent with guidance from the NSSGA<sup>2</sup>. Internal haul roads were modelled as adjacent volume sources, also in accordance with guidance from the National Sand Stone and Gravel Association and the U.S. EPA.*

**AZO (p.12 of 25), 2<sup>nd</sup> last paragraph:** *The volume source specifications used by RWDI require a third-party check. This should be completed as part of a more detailed review.*

**RSP, Comment 18:** *This was conducted by the Township's peer reviewer and no concerns were raised. No additional action required.*

Burnside was not able to retrieve a copy of "Modelling Fugitive Dust Sources", National Stone, Sand & Gravel Association, Alexandria, VA., 2004 without paying for it as it is a copyrighted document. An earlier document<sup>1</sup> provides a detailed method for modelling haul roads using AERMOD. Where it could be determined, the method of determining parameter values in the earlier document was the same as the method used in the Lakes Environmental's "Haul Road" calculator.

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<sup>1</sup> "Analysis Of Haul Road Emission Test Data For Determining Dispersion Modeling Parameters", Arron Heinerikson, Abby Goodman, and Kathryn Anderson, Trinity Consultants, 25055 West Valley Parkway, Suite 101, Olathe, Kansas 66061, August 15, 2003.

Lakes Environmental's "AERMOD Air Dispersion Modelling Course" in the "Lakes\_AERMOD\_Course\_Slides.pdf" from the course presented in Toronto on September 16-17, 2013, on slide 292 indicates that examples of volume sources include "Examples: building roof monitors, multiple vents, conveyor belts, haul roads".

Burnside did not identify any missing sources.

#### **Comment 21 (RSP Table 2) – Sensitive Receptors**

**AQA, Section 6.1.2, paragraph 2 (p. 23 of 80):** *In addition, 18 discrete receptor locations were included in the assessment. These receptors represent residences near the quarry.*

**AZO (p.15 of 25), paragraph 2:** *As part of a more detailed review, there should be a third-party check that all appropriate human receptors have been included in the assessment, including future potential, as-of-right, land uses.*

**RSP, Comment 21:** *This was conducted by the Township's peer reviewer and no concerns were raised. No additional action required.*

Burnside used Google Earth and Google Street View to review the area for sensitive receptors. Burnside identified a number of locations<sup>2</sup> which would be considered sensitive receptors that were not identified in AQA; however, in every case, there was an identified receptor closer to the site than the omitted receptor. Given that the impact will be higher closer to the site, the existing list of receptors is expected to adequately show all the relevant impacts.

#### **Comment 22 (RSP Table 2) – Terrain Data**

**AQA, Section 6.1.4, paragraph 1 (p. 23 of 80):** *Terrain information for the area surrounding the facility was obtained from the MOE Ontario Digital Elevation Model Data web site. The terrain data is based on the North American Datum 1983 (NAD83) horizontal reference datum. These data were run through the AERMAP terrain pre-processor to estimate base elevations for receptors and to help the model account for changes in elevation of the surrounding terrain. Base elevations for sources are based on information contained on the Site Plan and are assumed to be at the elevation of the first lift.*

**AZO (p.15 of 25), paragraph 5:** *Cross reference to the Site Plan is required to verify the credibility of this assumption; further explanation may be required.*

**RSP, Comment 22:** *RWDI used the terrain data provided by the MOE for use in dispersion modelling assessments. This approach is standard practice for dispersion modelling in Ontario. Base elevations within the quarry were based on the Site Plans. The Township's peer reviewer raised no concerns with the base elevations used. No additional action required.*

Burnside agrees that the methodology described for the incorporation of terrain data is the appropriate method to incorporate height elevations.

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<sup>2</sup> 4216 Highway 7, 4248 Highway 7, 5198 Highway 7, and 14207 Fifth Line Nassagaweya.

## Comment 27 (RSP Table 2) – Background PM2.5 Levels

**AQA, Section 6.4, paragraph 7 (p. 25 of 80):** *Background PM2.5 levels were based on a 5-year average of the annual 90th percentile hourly concentration measured at the MOE monitoring station in Guelph (14.8 µg/m<sup>3</sup>).*

**AZO (p.16 of 25), paragraph 6:** *Notwithstanding the previous comment, in regards to the use of the Guelph air quality dataset, why was the average and not the maximum 5-year 90<sup>th</sup> percentile used? Significant between-year variations may lead to underestimates of base-line, background concentrations if only the average is used. Elaboration is required of year-to-year differences in the 90<sup>th</sup> percentile value (if this dataset were to be justified as appropriate). Also, does the quality of the dataset used justify use of the 90<sup>th</sup> percentile (as opposed to the maximum)?*

*Notwithstanding the previous criticism there should be a third-party check of the analysis of background data from the Guelph station used by RWDI.*

**RSP, Comment 27:** *The information used by RWDI is publicly available information through the MOE's Air Quality in Ontario Reports. With respect to the Guelph monitoring station had 8561 hours of valid observations for PM2.5 in 2011 (compared to 8760 hours the year), and a similar number of observations in previous years. The data set for this location is therefore suitable for this assessment.*

*Given the decreasing trend in PM2.5 concentrations both at the Guelph monitoring location, and throughout Ontario as a whole over the last decade, using the 5-year average of the 90th percentile is indeed conservative. In fact, the most recent MOE report (2011 Air Quality in Ontario Report) report shows a corresponding value of 13 µg/m<sup>3</sup> which is below the average value used in the AQA.*

Burnside has verified that the MOE published value<sup>3</sup> for PM<sub>2.5</sub> at the Guelph monitoring station in 2011 is 13 µg/m<sup>3</sup>. The 90<sup>th</sup> percentile values PM<sub>2.5</sub> at the Guelph monitoring station are listed in the table below.

Year	PM <sub>2.5</sub> 90 <sup>th</sup> percentile value (µg/m <sup>3</sup> )
2011 <sup>4</sup>	13
2010 <sup>5</sup>	14
2009 <sup>6</sup>	12
2008 <sup>7</sup>	15
2007 <sup>8</sup>	17
2006 <sup>9</sup>	16

Average of 2006 through 2010 values = 14.8 µg/m<sup>3</sup>.

<sup>3</sup> "Air Quality in Ontario Report & Appendix (2011) - stdprod\_104486.pdf" page 52 of 96.

<sup>4</sup> "Air Quality in Ontario Report & Appendix (2011) - stdprod\_104486.pdf" page 52 of 96.

<sup>5</sup> "Air Quality in Ontario Report & Appendix (2010) - stdprod\_095558.pdf" page 50 of 90.

<sup>6</sup> "Air Quality in Ontario Report & Appendix (2009) - stdprod\_081228.pdf" page 28 (34 of 52).

<sup>7</sup> "Air Quality in Ontario Report & Appendix (2008) - std01\_079215.pdf" page A1 (79 of 110).

<sup>8</sup> "Air Quality in Ontario Report & Appendix (2007) - std01\_079175.pdf" page 71 (79 of 118).

<sup>9</sup> "Air Quality In Ontario Report And Appendix 2006.pdf" page 66 of 81.



The 90<sup>th</sup> percentile background value is the value typically used as the background in air quality assessments for environmental assessments.

**Comment 28 (RSP Table 2) – PM10 and TSP Background Estimation Method**

**AQA, Section 6.4, paragraphs 8&9 (p. 25 of 80):** Background TSP was derived from the PM2.5 data for Guelph, based on an estimated PM2.5/ TSP ratio of 0.30. This value came from a published study of 500 monitoring sites in the US.<sup>3</sup> The resulting 90<sup>th</sup> percentile background concentration is 49 µg/m<sup>3</sup>.

Background PM10 was also derived from the PM<sub>2.5</sub> data for the Guelph, based on an estimated PM<sub>2.5</sub>/PM<sub>10</sub> ratio of 0.54 from the study noted above. The resulting 90<sup>th</sup> percentile background concentration is 27 µg/m<sup>3</sup>.

**AZO (p.16-17 of 25):** RWDI used scaling factors to derive (by calculation) estimated background levels of PM10 and TSP (based upon measurements of the PM2.5 dust size fraction) as measurements of these larger size fractions were not conducted at the chosen site. RWDI obtained these scaling factors from a study by Lall et al. (Atmos.Environ. 2004), which represented measurements from Metropolitan locations in the US. However, there is a similar Canadian version of this study, which provides different scaling factors (Brook et al. J. Air & Waste Manage. Assoc., 1997) and includes data from rural southern Ontario. The values derived in the Canadian study indicates: "On average across all sites, PM2.5 accounted for 49% of the PM10, and PM10 accounted for 44% of the TSP."

**RSP, Comment 28:** The differences to which Dr. DiGiovanni reflect some of the uncertainty in the estimates of the background concentrations of PM<sub>10</sub> and TSP. However the differences are small and are not material to the findings of the assessment.

This source of uncertainty is adequately accounted for in the conservatisms built into the analysis, such as using the 90<sup>th</sup> percentile values.

The background concentrations provided using the scaling factors provided by RWDI and Airzone One are in the table below.

RWDI value for PM2.5	90th Percentile PM2.5	Calculated PM10	Calculated TSP
AQA	14.8	27.41	49.33
AZO	14.8	30.20	68.65
Difference (µg/m <sup>3</sup> )		2.80	19.31
% increase (AZO-AQA/AQA)		10.2%	39.1%
Criterion (µg/m <sup>3</sup> )		25	120
Difference as a % of Criterion [Difference (µg/m <sup>3</sup> ) / Criterion (µg/m <sup>3</sup> )]		11.2%	16.1%

A slightly longer quote of the document referenced in AZO<sup>10</sup> says *On average across all sites, PM<sub>2.5</sub> accounted for 49 % of the PM<sub>10</sub>, and PM<sub>10</sub> accounted for 44 % of the TSP. However, there was considerable variability among sites, with the mean PM<sub>2.5</sub> to PM<sub>10</sub> ratio ranging from 0.36 to 0.65. This ratio varied substantially from measurement to measurement, but at most sites a majority (>50 %) of the ratios were within ± 10 % of the median value.*

The values presented appear to agree with all the above statements.

#### **Comment 29 (RSP Table 2) – Background O<sub>3</sub> and NO<sub>2</sub>**

**AQA, Section 6.4, paragraph 10 & 11 (p. 25 of 80):** *Background O<sub>3</sub> concentrations were obtained from the MOE monitoring station in Guelph. A 5-year average of the annual 90<sup>th</sup> percentile hourly and daily concentrations was adopted.*

*NO<sub>2</sub> concentrations were not measured at the Guelph station prior to 2010, so data from the MOE monitoring station in Kitchener were used for the years prior to 2010. NO<sub>2</sub> levels in Kitchener in 2010 were similar to but slightly higher than in Guelph, and therefore it is expected that using NO<sub>2</sub> data from Kitchener will be conservative, and is therefore appropriate. The MOE does not provide 90<sup>th</sup> percentile values of the 24-hour average concentrations, therefore, as a conservative simplification, the 90<sup>th</sup> percentile 1-hour average concentration was used as the 24-hour value.*

**AZO (p.17 of 25), paragraph 3:** *Values derived for ozone and NO<sub>2</sub> should be checked at some point in the future.*

**RSP, Comment 29:** *This was conducted by the Township's peer reviewer and no concerns were raised. No further action required.*

Burnside verified that the values in AQA, Table 6.4 (page 37 of 80) corresponded to the values in the appropriate MOE reference.

#### **Comment 33 (RSP Table 2) – RJ Burnside Review Was Inadequate**

**AZO (p.18 of 25), paragraph 8:** *I do not understand what is meant by "although the documentation took some time to interpret." RJB's focus on an MOE ECA application would seem to ignore the more fundamental study on cumulative impacts. Given these two issues it would be of interest to enquire as to the expertise and experience of the RJB reviewers.*

**RSP, Comment 33:** *Dr. DiGiovanni has questioned the credentials of the Township peer reviewer, which is a serious allegation without providing any sound substantiation.*

The author to this report is Harvey Walter Watson. I am a Professional Engineer (P.Eng.) registered in the Province of Ontario (number 90401571). I am the Technical Group Leader of the Air and Noise Group at R.J. Burnside & Associates Limited (Burnside). I have been employed at Burnside as a professional Engineer in this role since 2012 and in a similar position at DJA Environmental Consultants Inc. starting in 2002. I have an Honours Bachelors of Applied Science degree (B.A.Sc.) in Chemical Engineering, with a minor in English and a specialization in Environment, 1991.

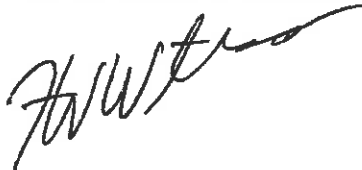
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<sup>10</sup> "Journal of Air & Waste Management - Issue 47\_1 (1997) pages 2-17.

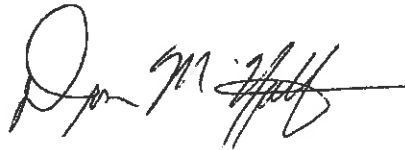
I have been actively engaged in the environmental field for over 20 years. I have been preparing Environmental Compliance Approval (ECA) Applications full time since 2003. In that time I have written and submitted to the Ministry of the Environment (MOE) more than 100 Applications all of which have been approved and I continue to prepare ECA Applications. I am a member of the Air Practitioners Group in Ontario which brings issues to the MOE of concern to the regulated community. I am a past member of the AWMA's Best Practises Committee which prepared guidance to the entire province on the best practises used for the submission of ECA Applications to the MOE. Prior to that, I spent 8 years writing software that companies used to monitor their environmental programs and subsequently assisting companies to configure that software to match their real world situation.

Yours truly,

**R.J. Burnside & Associates Limited**



Harvey Watson, P.Eng.  
Technical Group Leader, Air and Noise  
HW:sj



Don McNalty, P.Eng.  
Vice President, Public Sector

Enclosure(s)      Appendix A - 032475 Hidden Quarry Assess ESDM Report.pdf

cc:      Elizabeth Howson, Macaulay Shiromi Howson Ltd (enc.) (Via: Email –  
         howson@mshplanning.ca)

Ms. Kim Wingrove, Chief Administrative Officer  
January 22, 2015  
Project No.: 300032475.0000

## Appendix A



**BURNSIDE**

[ THE DIFFERENCE IS OUR PEOPLE ]

## Memo

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**Date:** November 14, 2012 **File No.:** 300032475  
**Project:** Review of Hidden Quarry  
**Prepared By:** Harvey Watson  
**Distribution:** Dave Hopkins

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### Comments

Dave,

In general, RWDI prepared an Emission Summary and Dispersion Modelling ("ESDM") report that was well written and followed the Ontario Ministry of the Environment ("MOE") guidance "A-10 – Procedure for Preparing an ESDM Report". The air dispersion model used (AERMOD) is an acceptable air dispersion model and produces results that are acceptable to the MOE for the foreseeable future. The older model (346) would not have been a good choice. The format of the application document titled "Proposed Hidden Quarry, Township of Guelph-Eramosa, Wellington County, Final Report, Air Quality Assessment, September 6, 2012" (the "Application") followed the recommended format as provided in the "Acme" examples which provides examples of how the MOE would like to see application documents prepared. The basic concept of the "Procedure for Preparing an ESDM Report" guidance is that the proponent must write an ESDM that describes the "worst case reasonable" operations at the location. Having done that and showing compliance, it is then reasonable to expect that the proponent will always be in compliance.

The air dispersion methodology used followed the methodology outlined in the MOE's Guideline "A-11 Air Dispersion Modelling Guideline for Ontario (ADMGO)".

The first simplifying assumption of the Application is that the only contaminant of concern at the location is particulate matter. While the dolostone collected has a large number of constituents, the majority of them have no specific criteria and the ones that do have individual criteria are found in concentrations much less than the concentration that would cause them to exceed their criterion before the particulate matter criterion is exceeded. Therefore, this simplifying assumption is reasonable.

The Application indicates that the emissions for dry extraction will exceed the emissions for underwater extraction which is also a reasonable assumption because the aggregate that is removed during the underwater extraction will be wet and not emit as much dust.

There was nothing in this ESDM to indicate that the site could not request and receive an Environmental Compliance Approval ("ECA"). The modelling appears to have taken into account all the appropriate scenarios and situations. However, the ESDM document did not always make it easy to find the information or confirm that what was done did meet the criteria.

The recommended improvements in documentation are listed below.

- 1) Section 4.1.1 Paragraph 2 (page 13 of .pdf) says "The option exists to use conveyors to move material from working face to the processing plant." However, the information in Table 2.1 and Table 5.1 do not provide sufficient information to determine whether the "Compliance" simulation used conveyors as sources of emissions to demonstrate compliance. Would it be possible to add this information to Table 5.1 to show which scenario used which sources?
- 2) Section 4.2.4 Paragraph 2 (page 15 of .pdf). The author may wish to state in the document that "intensive flushing / sweeping programs" will be employed at the Site and so the lower silt loading used is reasonable rather than just indicating that such a program would have the stated effect.
- 3) The ESDM write up in Section 4.3 does not indicate to which of the 13 tables in Appendix B each calculation relates. Would it be possible for the author to indicate specifically which table and row is the subject of each calculation described in Section 4.3? This additional information would make finding and verifying the calculations much easier.

For instance, section 4.3.1.2 shows an emission rate of 0.13 g<sub>SPM</sub>/s. That value was the first emission rate calculated but that value appeared as "1.3 E-01" in the 11<sup>th</sup> column of 15 columns in the second table in Appendix B.

- 4) Section 4.3.3.1 shows the "Material Handling Emission Factor" as  $3.2 \times 10^{-3}$  kg<sub>TSP</sub>/Mg<sub>aggregate</sub>. The corresponding emission factor in Appendix B1, "Bulk Material Handling / Transfer Emissions" on the 4<sup>th</sup> row from the bottom (LOADOUT1) shows " $3.2 \times 10^{-4}$ ". If the table shows the emission factor "(with controls if applicable)", why would the calculation in section 4.3 not show the same value?
- 5) Section 4.4 (page 20 of .pdf) paragraph 1 says "The assessment of data quality for each emission rate is provided on Table 5.1, and is generally based on the AP-42 data quality ratings. In general, the emission data quality ratings for the processing sources are equivalent to a "Marginal" rating as per Section 8.3 of MOE Guideline A10. The emission factors used, and the data quality rating assigned to those factors do reflect the best available data for these types of sources, and are accepted by the MOE for air quality assessments of this nature."

While the above is all accurate, Guideline A-10 in Section 8.3.4 says "In many cases, the use of emission rate estimating methodologies that are classified as Marginal or Uncertain Data Quality may be the only available method. Where the maximum POI concentration is not approaching the MOE POI Limit (i.e., the POI concentration is less than 10% of the respective limit), emission rate estimates of Marginal or Uncertain Data Quality, would be adequate. In most cases, where POI

concentrations are more significant, emission rate estimates that are based on Marginal or Uncertain Data Quality may also be considered acceptable provided these emission rate estimates have been altered to be sufficiently conservative.”

As a result, the author may wish to provide the justification recommended by Guideline A-10 since the POI concentrations exceed 10 % of the criterion for TSP at the property line in the compliance scenario.

- 6) Section 7.2.1 (page 27 of .pdf) indicates that “the facility is in compliance with the relevant criteria at the property line and at all receptor locations, with the exception of PM<sub>10</sub> along the property line.” Table 7.1A (page 38 of .pdf) shows a maximum value of 48 % of criterion for PM<sub>10</sub> at the property line under the heading “P3”. Does the text refer to Table 7.1A?
- 7) Table 2.1 Sources and Contaminant Identification Table (page 31 of .pdf) indicates that “C01 – Conveyer Transfer” is discussed in Section 3.2.2.3. The text on page 11 of the .pdf goes from Section 3.2.1.5 to 3.3 without any 3.2.2 in the middle.
- 8) Appendix B1 Crushed Stone Processing (page 61 of .pdf). The AP-42 factor for the primary crusher is 6.0E-04. That factor is the factor from AP 42 for a tertiary crusher. The author may wish to explain why the factor for a tertiary crusher can be used in this instance.
- 9) Appendix B1 Crushed Stone Processing (page 61 of .pdf). The AP-42 factor for the primary crusher is 6.0E-04. If the maximum processing rate is 500 tonnes/hour (Mg/h), then how was the emission rate of 0.075 g/s calculated?  $500 \text{ Mg/h} * 0.0006 \text{ kg/Mg} * 1000 \text{ g/kg} / 3600 \text{ s/h} = 0.08333 \text{ g/s}$ .
- 10) Appendix B1 Crushed Stone Processing (page 61 of .pdf). There are multiple columns which have a column title of “1”, “3”, “5”, etc. The table would be more easily understood if there was an indication that these values correspond to the wind speed used to generate the emission rate in that column.
- 11) Tables 7.1A through 7.1C may be more clear if the title “P1” through “P3” had been labelled “Phase 1” through “Phase 3”.



March 4, 2015

**Via: Email**

Ms. Kim Wingrove  
Chief Administrative Officer  
The Township of Guelph-Eramosa  
8348 Wellington Road 124,  
Rockwood, ON N0B 2K0

Dear Ms. Wingrove:

**Re: James Dick Construction Limited Proposed Hidden Quarry,  
Ecological Comments Response and Additional Studies Review  
Project No.: 300032475.0000**

**Introduction**

This letter has been compiled to summarize R.J. Burnside & Associates' (Burnside) additional technical Peer Review of the James Dick Construction application for licensing under the Aggregate Resources Act (ARA) to extract below the water table at their proposed Hidden Quarry location between Acton and Rockwood. Burnside has been retained to act as the Ecology reviewer by the Township of Guelph-Eramosa. These comments are further to Burnside comments related to the Natural Environment of April 7, 2014.

The following provides peer review comments for the Response Matrix prepared by James Dick Construction Limited (JDCL) which provided comments submitted by Adam Huycke, Acting Intermediate Planner, Community Development at the Regional Municipality of Halton, dated September 23, 2014 and respective responses prepared by GWS Ecological & Forestry Services Inc. (GWS) dated September 23, 2014 on behalf of JDCL. In addition to the JDCL Response Matrix, this letter also responds to additional studies provided by the Concerned Residents Coalition (CRC), including:

- Species at Risk Evaluation, July 4, 2014 (Bill McMartin, GAIA EcoConsultants); and,
- Aquatic Habitat and Fish Survey of Brydson Creek, January 2015 (K. Schiefer, Ph.D., Aquatic Ecologist.

**Regional Municipality of Halton Comments and JDCL Response Matrix**

The following responses have been labelled to correspond with the numbering system applied to the matrix provided by JDCL. It should be noted that the comments provided in this letter are limited to the natural heritage ecology concerns raised in items numbered 27 to 38 of the matrix.



**Comment 27:** In general, Halton Region wished to have additional detail regarding the extent of Field Surveys and Species observations conducted on adjacent lands in Halton Region. GWS responded that their normal practice is to not record off-site data by property ownership and further that Highway 7 forms a significant obstruction to wildlife movement. GWS has also made a statement that only common birds and mammals were observed utilizing properties in Halton and that all reported Species at Risk were found inhabiting lands in Wellington County (north side of Highway 7). Burnside suggests that the locations of the species documented during field data collections should be mapped, especially for species that are sensitive, rare, threatened or endangered, or field data sheets should be included as an appendix. However, we do not believe the inclusion of these resources within the report would change the findings presented.

**Comment 28:** We agree with the conclusions presented for the Significant Woodland feature located on the lands adjacent to the site. No negative impacts are predicted provided that adequate buffers are established, mitigation measures are followed and that the existing water balance is maintained. We note that there is agreement between the Halton Region comment and the GWS response.

**Comment 29:** It would appear that the GWS response to the Halton Region comment is incomplete within the matrix. We note that JDCL undertakes that quarterly monitoring of the Brysdon Spring for surface water conditions, including temperature, quality and flow will be included in the monitoring program. We suggest that more frequent monitoring may be appropriate seasonally and in the early stages of development. Monthly monitoring is a more typical monitoring standard for aggregate operations.

**Comment 30:** Halton Region notes that a Haul Route Study has been requested and notes that the Terms of Reference should include criteria for route selection to include impact minimization and avoidance of environmental features and functions. The response notes that the Highways and Arterials that will be used by the proponent have the planned function of carrying trucks and truck use as currently permitted. As such no change in use on the haul routes is proposed. The Terms of Reference for the Haul Route Study requires an assessment of anticipated truck traffic volumes and if the truck volumes attributable to this proposal will increase that the evaluation approach for reviewing the alternative routes will include environmental criteria including disruption to sensitive land uses, impacts to residents, property impacts and disturbance to built heritage features and archaeological resources. It is suggested that matters related to the Haul Route Study will be dealt with through the review of that study.

**Comment 31:** As both MNRF and GRCA are satisfied with the proposed setbacks then we have no further comment.

**Comment 32:** Regarding the Greenbelt Planning designations related to the Site, we note that the Region has provided some explanation of the policies with specific references. The comments conclude, however, that there are no external connections in the vicinity of the subject property and hence the External Connections policies of the Greenbelt Plan would not apply for this proposal. GWS on behalf of JDCL agrees with this analysis.

**Comment 33:** No comments required regarding additional documents as we understand that they have been made available to Halton Region for review.

## **Summary of Matrix Comments Responses**

In general Burnside feels based on our review that the findings of the Natural Heritage Reporting are accurate and provide appropriate recommendations for both protection (setbacks and buffers) and mitigation measures to minimize or negate any potential effects to the features and functions of the natural heritage system on and surrounding the proposed Hidden Quarry. Additional information may be helpful to the reader, as discussed above, to round out the technical reporting for this Site.

## **Species at Risk Evaluation**

This report prepared by Mr. McMartin of GAIA EcoConsultants includes additional field data collection to determine if the Site and surrounding lands provide habitat for any Species at Risk (SAR) that may be located within the study area. The potential list of SAR is determined through a desktop review and verified through site specific surveys and ground truthing of habitat features. During this site visit a list of breeding birds and other incidental wildlife observations was compiled. Mr. McMartin then assessed the habitat conditions provided both within the Hidden Quarry site and on the adjacent lands.

Mr. McMartin did not find breeding evidence of any birds listed under the Endangered Species Act 2007 as Threatened or Endangered. He assessed that the Site has potential to provide feeding and foraging habitat for a number of these species; however, this was not confirmed during his Site visit. Snapping turtle, a species listed as Special Concern was documented on and in the immediate vicinity of the Site. This species is not regulated under the ESA 2007; however, its habitat may be considered Significant Wildlife Habitat, and should be discussed in further detail. We are not suggesting additional field data collection and mapping but rather that additional mitigation measures would minimize the potential for adverse effects. Potential impacts to this habitat may be mitigated through exclusion fencing, best management practices, worker education programs and pre-construction SAR surveys, minimizing the potential for any adverse effects. Rehabilitation and mitigation plans are required under the Aggregate Resources act and are expected to be included as notes on the application (site) plans.

According to the Site Plans date July 14, 2014, tree removal will not occur during the breeding bird season. Therefore, additional mitigation measures to ensure that the proposal is in accordance with the Migratory Birds Convention Act are not required.

## **Aquatic Habitat and Fish Survey of Brydson Creek**

This survey and assessment included field classification of aquatic habitats and an opportunistic fish species inventory completed using dip nets in Brydson Creek. Through this assessment it was determined that this watercourse, originating on the lands located to the south west of the Hidden Quarry Site, provides coldwater habitat for brook trout. A number of different age classes of fish were captured using dip nets and redds (brook trout spawning beds) as noted during the survey. The frequency of redds and the health and abundance of fish specimens indicates that this watercourse provides preferred habitat for brook trout.

This report also provides landscape scale assessment of the potential significance of the aquatic habitat within Brydson Creek and the existing brook trout fishery. Much of this assessment is not referenced adequately and would require additional background study support to confirm its conclusions.

In Section 5.0 Concerns of the Schiefer Report it discusses that "...the future well-being of the stream ecosystem and brook trout population is strongly linked to maintaining the quantities and quality of groundwater discharge..." Potential impacts to the brook trout habitat include: changes to water quality and quantity and temperature. Schiefer notes that "...bedrock blasting and excavation well below the water table, raises serious concerns related to the future hydrogeological conditions in the downstream area...need for very detailed and reliable sampling, measurement, modelling and assessment of these hydrogeological features as a precondition..." However, based on Burnside's detailed peer reviews of the proposed quarry application and supporting technical studies to date, including the Hydrogeology and Hydrology Study and the Level 2 Natural Environment Report, it is our opinion that the proposed quarry operations will not cause a change that is significant enough to result in adverse effects to the resident fish population.

This assessment is based on the conclusion that the water balance to the watercourse will be maintained with no predicted decrease in flow. The existing background studies did not definitively determine if water from the open water area of the quarry will be connected through groundwater to Brydson Creek beyond incidental infiltration. The outflow from the quarry will result in a localized increase to surface water temperatures in the Creek, however the extensive groundwater discharge to the Creek will quickly mitigate that temperature change. Any change in temperature will be within the preferred range for brook trout, and any additional species for which Brydson Creek may provide habitat. Water quality will not be affected by any discharge from the proposed open aquatic features in the quarry if the water quality parameters of the license are met. Therefore, it is not expected that the proposed Hidden Quarry will result in an adverse effect to the local brook trout fishery provided that best management practices and standard Erosion and Sediment Control mitigation measures are followed.

### Summary

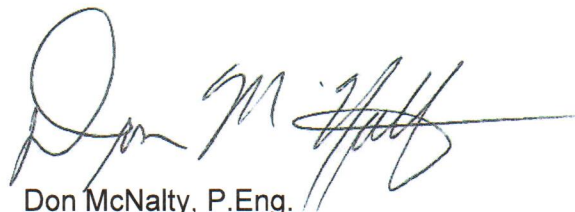
The Hidden Quarry site is located in an area that is surrounded by features that may provide habitat for a number of species; however, extraction of stone below the water table is an interim land use, which, through the application of the ARA required mitigation and rehabilitation plans, is not likely to result in a measurable impact to the natural heritage features or functions at a landscape scale.

Yours truly,

**R.J. Burnside & Associates Limited**



Nicholle Smith  
Senior Terrestrial Ecologist  
NJS/DM:sd



Don McNalty, P.Eng.  
VP - Public Sector

cc: Liz Howson, MSH Planning (enc.) (Via: Email)



June 1, 2016

**Via: Email (iroger@get.on.ca)**

Mr. Ian Roger  
Chief Administrative Officer  
Township of Guelph/Eramosa  
8348 Wellington Road 124  
P. O. Box 700  
Rockwood ON N0B 2K0

Dear Mr. Roger:

**Re: Peer Review of Traffic Impact Study  
Peer Review of Haul Route Study  
Proposed Eramosa Quarry (Hidden Quarry)  
James Dick Construction Ltd.  
Project No.: 300032475.0000**

This review provides our peer reviews of the following studies:

- Revised Traffic Impact Study, Eramosa Quarry, Township of Guelph-Eramosa; prepared by Cole Engineering; dated April 2016.
- Revised Haul Route Study, Eramosa Quarry, Township of Guelph-Eramosa; prepared by Cole Engineering; dated May 2016.

Burnside has provided review comments on a number of earlier versions of these reports, and therefore the current review is a culmination of these efforts, focusing on the items that remained outstanding at the time of the last review (i.e., August 2015). Reference should be made to the earlier review comments for the complete peer review assessment completed.

### **Item 1 – Revised Traffic Impact Study (TIS)**

The primary revisions made in the revised TIS include the following:

- a) Forecasted peak hour trips from the quarry are increased to 19 trips inbound and 19 trips outbound (i.e., as compared to the 13 trips inbound and 13 trips outbound that were forecasted in the previous TIS).
- b) The horizon year for consideration of traffic operations has been increase to 2033 (i.e., as compared to 2023 in the previous TIS).
- c) The analysis of traffic operations on Highway 7 have been revised to include a two-way left turn lane on the highway, between 6<sup>th</sup> Line and 5<sup>th</sup> Line.

The revised TIS makes the same conclusions and recommendations that were contained in the previous TIS (August 2015).

### **Burnside Comments on the Revised TIS**

1. **Upgrading of 6<sup>th</sup> Line to Accommodate Eramosa Quarry** – The revised TIS confirms that there are ongoing discussions with the Township to modify the profile on 6<sup>th</sup> Line to improve the sight distances and approach grades at the Highway 7 intersection. Details of the upgrades to 6<sup>th</sup> Line are not provided in the TIS. Final designs and approvals will be required for these upgrades, including road base improvements to accommodate the heavy truck traffic.
2. **Study Horizon Period** – The revised study period (2033) is now acceptable.
3. **Traffic Operations at the Intersection of Highway 7 / 6<sup>th</sup> Line** – The traffic operations are now forecasted to be acceptable at this intersection, due to the inclusion of the two-way left-turn lane between 6<sup>th</sup> Line and 5<sup>th</sup> Line.
4. **Left Turn Lanes on Highway 7** - The proposed left turn lanes, at 6<sup>th</sup> Line, at 5<sup>th</sup> Line and continuous between these roads, are acceptable. Final approval is required from the MTO for these external road improvements.

Based on the above considerations, the revised TIS are considered sufficient to inform the final designs and approvals for the proposed quarry development.

### **Item 2 – Revised Haul Route Study (HRS)**

The primary revisions made in the revised HRS include the following:

- a) Forecasted peak hour trips from the quarry are increased to 19 trips inbound and 19 trips outbound (i.e., as compared to the 13 trips inbound and 13 trips outbound that were forecasted in the previous HRS).
- b) Forecasted maximum daily truck traffic (total, two-way) from the quarry is increased to a maximum of 366 trucks and minimum of 34 trucks (i.e., as compared to a maximum 228 trucks and minimum 20 trucks that were forecasted in the previous HRS).
- c) Monitoring work was completed in October 2015, confirming that the existing Guelph Quarry traffic travelling through Acton averaged about 4 trucks/day (range 1 truck/day to 16 trucks/day).
- d) Collision rates were reviewed at the following intersections along the proposed haul routes: Highway 7/Eramosa Milton Townline, Highway 7/Trafalgar Road, Highway 7/Mountainview Road, Main Street/Mill Street, James Snow Parkway/Regional Road 25, and Guelph Line/Eramosa-Milton Townline. In all cases the collision rate was found to be below the critical collision rate for the intersection reviewed (i.e. critical collision rate represents typical collision rate for intersections with similar characteristics).
- e) Additional review was completed to assess the design alternatives for improving the safety for truck turning movements at the Main Street/Mill Street intersection. This review included an assessment of traffic operations (Level of Service, volume/capacity) under existing traffic conditions, as well as a review of collision rates at this intersection. Based on this review it was recommended that the existing westbound right turn lane be removed, to allow for

trucks to be better positioned to turn without encroaching onto the sidewalk in this area. It was acknowledged that this is a compromise solution that improves safety while reducing operational capacity at the intersection. Implementing improvements to the northeast corner curb radius would also improve the turning maneuverability for trucks; however this would require significant modifications to the infrastructure as well as modifications to the adjacent building and parkette at this location.

- f) Traffic operations (Level of Service, volume/capacity) were reviewed for the peak hours (AM, Midday and PM) for existing traffic conditions at the following intersections: Main Street/Mill Street, James Snow Parkway/Regional Road 25, Guelph Line/20 Sideroad, and Guelph Line/32 Sideroad. In all cases the intersections were found to operate with acceptable levels of service and to have significant reserve capacities.
- g) During peak operation it is forecasted that the Eramosa Quarry will increase the heavy vehicle volume on Regional Road 25 by approximately 28%. However, the existing collision rate on Regional Road 25 is significantly below the critical collision rate for this road.
- h) A comparison was made between using Guelph Line or using Regional Road 25 as haul routes to connect to Highway 401. The primary benefits of using Regional Road 25, over using Guelph Line, include the following:
  - Reduction of 9 km in haul route distance
  - Fewer turning movements
  - No seasonal load restrictions
  - Wider road sections (4 lanes) and wider shoulders to accommodate any truck breakdown.

Conversely the Guelph Line Haul Route travels through fewer intersections (i.e., 15 intersections as compared to 26 intersections along the Regional Road 25 route).

Based on the above considerations, the revised HRS concludes that Regional Road 25 would operate with improved safety and LOS, as compared to Guelph Line.

#### **Burnside Comments on Revised Haul Route Study**

1. **Coordination of Operations Between Guelph Quarry and Eramosa Quarry** – The traffic monitoring provided in the revised HRS confirms that in October 2015 about four trucks from the Guelph Quarry travelled through Acton (however the number ranged significantly from 1 trip per day to 16 trips per day over the October period considered). This volume of trucks would equate to about 1/3 of the truck traffic forecasted to travel through Acton from the Hidden Quarry in the October period. This supports the contention in the previous HRS that some of the trips through Acton from the new Hidden Quarry would simply supplant trips from the existing Guelph Quarry, and would not all be new traffic.
2. **Safety Issue at Intersection of Main Street / Mill Street (Highway 7, Acton)** – While the revised HRS provides additional consideration of improving the northeast curb radius, to improve the safety of truck turning movements at the Main Street / Mill Street intersection, it continues to recommend that the elimination of the westbound right turn lane will provide sufficient mitigation. Considering that the westbound left-through-right movement is forecasted to operate at 95% of its capacity under the proposed configuration and existing traffic volumes, in our opinion this mitigation is not sufficient to fully address the operational issues identified, over the life of the quarry. Therefore, we recommend that monitoring of

the traffic operations (Level of Service, capacity, collisions) at this intersection be undertaken, after commencement of quarry operations and/or after the completion of any mitigation work at this location. Further, it is our recommendation that the Town of Halton Hills continue to pursue options with respect to implementing an Acton By-pass to accommodate truck traffic and/or to implement more extensive improvements at this intersection in the interim.

3. **Forecasted Truck Traffic in the Peak Period and on a Daily Basis** – Our previous review comments had concluded that the HRS may have under-estimated the peak hour and peak day volumes of trucks generated by the Eramosa Quarry. The revised HRS has now increased the forecasted truck volumes and we now find these forecasts to be reasonable.
4. **Need for Additional Environmental Review** – Our previous review comments had noted that it was premature to conclude that additional environmental review was not warranted, pending confirmation of truck volumes and safety issues being further reviewed along the haul routes. The revised HRS has provided additional review on both of these issues. With the exception of the safety issues identified at the Main Street/Mill Street intersection, no other locations have been identified, that may have significant issues related to traffic operations or safety. Therefore, based on the above considerations, we believe that the traffic related issues have been adequately considered in the revised HRS.
5. **Consideration of Alternate Haul Routes** – The revised HRS now provides an assessment of Guelph Line as a potential haul route to connect to Highway 401, versus using Regional Road 25 as the primary haul route for this connection. Based on the information provided we would agree with the conclusion of the HRS, that Regional Road 25 offers improved safety and LOS, as compared to Guelph Line.

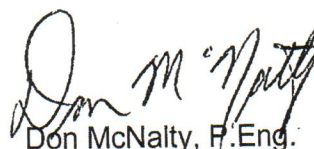
In conclusion, we believe that the revised TIS and the revised HRS have provided sufficient information to confirm the requirements for road improvements associated with the operations of the Eramosa Quarry. Ongoing monitoring is recommended at the Main Street/Mill Street intersection to confirm mitigation requirements to address safety concerns, after commencement of quarry operations.

Yours truly,

**R.J. Burnside & Associates Limited**



Henry Centen, P. Eng.  
Senior Transportation Engineer  
HBC:ls



Don McNalty, P.Eng.  
Vice President, Public Sector

cc: Elizabeth Howson, Macaulay Shiomi Howson Ltd. (Via: Email, [howson@mshplan.ca](mailto:howson@mshplan.ca))  
Eileen Costello, Aird & Berlis (Via: Email, [ecostello@airdberlis.com](mailto:ecostello@airdberlis.com))

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## PLANNING REPORT

To: Township of Guelph/Eramosa Council

From: Elizabeth Howson, MCIP, RPP, Macaulay Shiomi Howson Ltd. (MSH)

Date: September 1, 2015

Subject: Zoning By-law Amendment Application Township File ZBA 09/12  
James Dick Construction Ltd. – Hidden Quarry<sup>1</sup> Proposal

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### Executive Summary

The Township of Guelph/Eramosa received an application under the Planning Act from James Dick Construction Ltd.(JDCL) to amend the Township's Comprehensive Zoning By-law 57/1999 to permit a quarry. The Township deemed the rezoning application complete on December 7, 2012. JDCL is proposing to establish a Category 2 quarry (quarry with extraction below the proposed water table) with a Class 'A' license under the Aggregate Resources Act (ARA). JDCL also submitted an application to the Ministry of Natural Resources (MNR) under the Aggregate Resources Act (ARA) dated October 2, 2012.

The subject site is approximately 39.4 hectares (100 acres) in size and located in the northeast quadrant of Highway 7 and 6<sup>th</sup> Line. Approximately 24.8 hectares (61.3 acres) of the site is proposed to be used for extraction of aggregate material. The proposed quarry would include extraction above and below the established groundwater table at a rate of up to 700,000 tonnes of aggregate material annually.

The proposed quarry raises a number of complex technical issues which have been under review by the Township and its consultants, as well as other agencies and the public since December 2012. The Township's objective through this review was to ensure that a complete and comprehensive review of the application was carried out as a basis for any decision by Council with respect to the proposal.

At the May 19, 2015 Council meeting, JDCL informed Council that they intended to appeal the zoning amendment application to the Ontario Municipal Board (OMB), citing Council's lack of decision on the application. The OMB has received the appeal and has scheduled a Pre-hearing for November 9, 2015. In addition, the MNR has requested an OMB hearing to

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<sup>1</sup> Note: The proposed quarry has commonly been described as the "Hidden Quarry" however in some of the background reports and comments it is also referred to as the "Eramosa Quarry". Generally in this report it will be referenced as the Hidden Quarry. However, there may be some instances where quotations are referenced which use the "Eramosa Quarry" terminology.



resolve matters concerning the ARA licence application. That file has now been joined with the appeal of the zoning by-law application.

The final decision with respect to the zoning amendment application, as well as with respect to the ARA application, will now be made by the OMB. However, the Township is continuing their review of the zoning by-law amendment application as a basis for a decision by Council with respect to their position on the application and their role at the OMB hearing.

The purpose of this planning report is to make a determination as to the appropriateness of the zoning amendment application based on the information and review carried out to date. The report discusses the background to the application and the review process, and then outlines the planning status of the application; the status of the technical review of each of the technical reports submitted by the applicant, followed by a discussion of input received from the public and an evaluation of the application. The report concludes with a recommendation with respect to the application.

With respect to the policy framework which is reviewed in detail in Appendix A, the County of Wellington Official Plan (Official Plan) designates the subject lands with a Mineral Aggregate Area Overlay designation. The Provincial Policy Statement (PPS) and Official Plan, which provide the key planning policy direction for this site, recognize that:

“As much of the mineral aggregate resources as is realistically possible shall be made available as close to the markets as possible.”

At the same time, the Provincial and Official Plan policy framework makes it clear that planning decisions must properly balance all the Province's and County's competing objectives. Given this direction, the fundamental question that must be answered in evaluating the proposed quarry application is - Can the development be permitted in a manner which provides an appropriate balance between all the various goals and objectives of the Province and local community?

To address this question, a detailed technical review of the application and supporting reports was carried out by the Township. In addition, the application was reviewed by Ministry of Natural Resources and Forestry (MNRF), Ministry of Environment and Climate Change (MOECC), Grand River Conservation Authority (GRCA), the County of Wellington, Ministry of Transportation (MTO), and Union Gas with respect to their individual mandates. The Region of Halton, the Town of Halton Hills and the Town of Milton also initiated reviews of specific areas of concern particularly hydrogeology, natural heritage and the haul route. As part of this, the Township also directed that an economic impact study be carried out.

The results of these technical reviews are discussed in detail in Section 4 of this report. Generally, recognizing that final comments have not been submitted by the Region of Halton, Town of Halton Hills and Town of Milton, the results of the technical review indicate that the proposed quarry, based on revised plans which reflect the technical input, can be

permitted from a technical perspective as it would be anticipated to have minimal impacts with respect to the following issues:

- hydrogeology including water levels in up-gradient domestic wells, water quality in down-gradient domestic wells, the potential for impacts on Rockwood Well Number 4 and other related issues subject to a number of conditions including a private well survey, monitoring and refinement of the well contingency plan;
- natural environment including protection of wetlands, as well as Species at Risk and their habitat subject to a number of conditions;
- air quality;
- traffic impact subject to upgrading Sixth Line and the addition of turn lanes on Highway 7;
- haul route subject to completion of the Haul Route Study;
- noise and blast vibration subject to blast monitoring, provision of blast record information and a third party acoustical audit in the first year of operation;
- archaeology subject to a Stage 3 assessment for an area on the west side of the site;
- cultural heritage including the cultural landscape on Sixth Line;
- visual impact;
- agriculture, provided the recommendations related to the other issues are satisfactorily addressed; and,
- economic impact.

However, approval would be subject to the establishment of detailed conditions of development to the satisfaction of the Township, in consultation with respect to specific issues with the Region of Halton, Town of Halton Hills and Town of Milton and the County of Wellington, as well as other agencies if appropriate. Initial direction with respect to the key conditions has been outlined in the report. These initial directions are consolidated in Appendix B for ease of reference. The precise range and nature of the conditions, including implementation mechanisms (e.g. ARA site plan, zoning by-law) for establishment of the conditions will require additional consideration and consultation, particularly with the Region of Halton, Town of Halton Hills and Town of Milton regarding cross jurisdictional issues such as the haul route and well contingency plan.

In addition to the technical review, an extensive public review was carried out. Significant input has been received, and continues to be received, from the general public and stakeholder groups at the public meetings and in submissions/delegations to Council as well as written submissions to the Township. To date, 135 written submissions have been made to the Township from 95 individuals, as well as written submissions and 24 delegations to Council by the Concerned Residents Coalition (CRC).

Through the technical review by the Township and other agencies, all the issues identified by the general public have been reviewed and considered. These include concerns with impacts related to:

- property value;
- private wells;
- traffic including road upgrades and traffic lights;
- blasting/vibration;
- air quality;
- noise;
- natural environment including water quality, wetlands, wildlife including Species at Risk and Brydson Creek;
- damage to homes;
- taxes;
- archaeology/cultural heritage;
- karst topography;
- visual impacts;
- haul route;
- impacts on agriculture including food production and equestrian farms;
- lack of need for additional aggregate resources.

However, the CRC has also chosen to retain consultants who have made submissions with respect to the key issues identified by the public, specifically hydrogeology, Species at Risk, Brydson Creek and air quality. In addition, a submission was received on August 5, 2014 from one of the consultants which relates to a range of issues (e.g. a request for a fish community and aquatic habitat baseline survey, transportation, rock quality tests, implications for equestrian exercise tracks, increased surface and groundwater monitoring). The CRC has also made submissions with respect to a number of technical matters including risks related to mining and the Dolime Quarry, including flyrock, and an "Appraisal of the Golder "Peer Review" of Blast Impact Analysis Reports", as well the Traffic Impact Study, Haul Route Study, radon gas, natural environment, and agricultural assessment. The key CRC issues have all been reviewed by JDCL and their response in turn reviewed by the Township's consultants. Arising from this additional review, in part, a number of changes have been proposed to the application. In particular:

- **Hydrogeology**  
Modifications have been proposed to the ARA Site Plan to identify a range of water levels for the quarry pond rather than one value, and a review of the quarry floor relative to high groundwater level is to be done to make sure the working floor is not below water table and if it is the elevation is to be adjusted. In addition, methodology for trigger levels is to be established.
- **Natural Environment**  
Additional conditions of development are proposed for Species at Risk.
- **Haul Route Study**  
Additional work is required with respect to the Haul Route Study.

Based on the policy and extensive technical and public review, in my opinion, the proposed quarry can, in principle, be developed in a manner which provides an appropriate balance between all the various goals and objectives of both the Province and local community. In the case of the proposed Hidden Quarry, it is appropriate, in my opinion after considering all the technical and public input to date, to make the mineral aggregate resource available for extraction given:

- its proximity to the key GTA market; and,
- the fact that based on the technical review, together with consideration of public input, extraction can be undertaken in a manner which minimizes social, economic and environmental impacts.

In particular, the development, based on the available information, can proceed with minimal impacts anticipated on the environment and the local community. However, this result can only be achieved provided appropriate conditions of development are established through the ARA licence approval, the zoning by-law amendment and through other available mechanisms. The precise range and nature of the conditions, including implementation mechanisms (e.g. ARA site plan, zoning by-law) for establishment of the conditions will require additional consideration and consultation, particularly with the Region of Halton, Town of Halton Hills and Town of Milton regarding cross jurisdictional issues such as the haul route and well contingency plan.

### **Recommendation**

That the Planning Report re: Zoning By-law Amendment Application Township File ZBA 09/12 James Dick Construction Ltd. – Hidden Quarry Proposal dated September 2, 2015 be received;

And that the request to amend the Township of Guelph/Eramosa Zoning By-law, O.M.B. Case File No. PL140985, be recommended to the Ontario Municipal Board for approval in principle, subject to detailed conditions of development being developed to the satisfaction of the Township in consultation with the Region of Halton, Town of Halton Hills and Town of Milton and County of Wellington, as well as other agencies if appropriate, and established through the Aggregate Resources Act licence approval, an amendment to the Township Zoning By-law Amendment and through other available mechanisms;

And that Council direct the Township Solicitor and consultants to attend any Ontario Municipal Board proceeding which may take place in connection with the Planning Act and Aggregate Resources Act applications, in support of the recommendations outlined in Planning Report Re: Zoning By-law Amendment Application Township File ZBA 09/12 James Dick Construction Ltd. – Hidden Quarry Proposal dated September 1, 2015; and,

And that Council provide the Township Solicitor with authority to engage in settlement discussions with the applicant (and other parties to the Ontario Municipal Board hearing) and to make a request for mediation in this matter to the Ontario Municipal Board.

## Report

### 1. Purpose

The Township of Guelph/Eramosa received an application under the Planning Act from James Dick Construction Ltd.(JDCL) to amend the Township's Comprehensive Zoning By-law 57/1999 to permit a quarry. The Township deemed the rezoning application complete on December 7, 2012. JDCL is proposing to establish a Category 2 quarry (quarry with extraction below the proposed water table) with a Class 'A' license under the Aggregate Resources Act (ARA). JDCL also submitted an application to the Ministry of Natural Resources (MNR)<sup>2</sup> under the Aggregate Resources Act (ARA) dated October 2, 2012.

The proposed quarry raises a number of complex technical issues which have been under review by the Township and its consultants, as well as other agencies and the public since December 2012. The process included a statutory public meeting in March 2013, as well as a Special Council meeting on August 12, 2014 at which a status report on the review of the application was presented. In addition, the Concerned Residents Coalition (CRC), a community group "formed to support a thorough and fair assessment of the Hidden Quarry application"<sup>3</sup> has made 24 delegations to Council. The Township's objective through this review was to ensure that a complete and comprehensive review of the application was carried out as a basis for any decision by Council with respect to the proposal.

At the May 19, 2015 Council meeting, JDCL informed Council that they intended to appeal the zoning amendment application to the Ontario Municipal Board (OMB), citing Council's lack of decision on the application. A notice of appeal was filed with the Township dated May 25, 2015. The OMB has received the appeal and has scheduled a Pre-hearing for November 9, 2015. In addition, the MNRF has requested an OMB hearing to resolve matters concerning the ARA licence application. That file has now been joined with the appeal of the zoning by-law application as noted in a letter to the Township from the OMB dated July 29, 2015.

The final decision with respect to the zoning amendment application, as well as with respect to the ARA application, will now be made by the OMB. However, the Township is continuing their review of the zoning by-law amendment application as a basis for a decision by Council with respect to their position on the application and their role at the OMB hearing. In finalizing their position, Council has directed that a Special Meeting of Council be held on September 10, 2015 to receive the planning report. Following this an additional Special Council meeting will be held on September 15, 2015 to receive public input and comments on the planning report.

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<sup>2</sup> Note: MNR is now the Ministry of Natural Resources and Forestry (MNRF) and will be referred to as such throughout unless a quotation uses the previous name.

<sup>3</sup> Concerned Citizens Coalition, About CRC, [www.crcrockwood.org](http://www.crcrockwood.org).

The purpose of this planning report is to make a determination as to the appropriateness of the zoning amendment application based on the information and review carried out to date. The report discusses the background to the application and the review process, and then outlines the planning status of the application; the status of the technical review of each of the technical reports submitted by the applicant, followed by a discussion of input received from the public and an evaluation of the application. The report concludes with a recommendation with respect to the application.

## 2. Background Summary

The subject site is approximately 39.4 hectares (100 acres) in size and located in the northeast quadrant of Highway 7 and 6<sup>th</sup> Line. Approximately 24.8 hectares (61.3 acres) of the site is proposed to be used for extraction of aggregate material. The remaining lands include a Provincially Significant Wetland in the northwest corner which is proposed to be protected, as well as lands associated with an intermittent stream (Tributary B) which will also be protected. The proposed quarry would include extraction above and below the established groundwater table at a rate of up to 700,000 tonnes of aggregate material annually.

There will be an on-site processing plant for crushing, washing and screening and the material will be shipped off-site via 6<sup>th</sup> Line and Highway 7. In addition, a scale, a scalehouse and a maintenance shop/office/quality lab are also proposed in the southwest corner of the site adjacent to the new main entrance. The existing Service Entrance at the north end is proposed only for the use of maintenance and service vehicles.

In support of the application, in addition to a Planning Report prepared by Stovel and Associates Inc., September 2012, the applicant submitted a number of reports regarding specific technical issues as required by the Township. Table 1 lists the issues and related reports and additional significant submissions/responses to date provided in response to comments from the Township and agencies.

Regard should also be had to the ARA application and the most recent ARA Site Plan dated June 18, 2015. In addition, an economic impact study was undertaken by a consultant, Altus Group Economic Consulting, retained by the Township.

<b>Technical Issue</b>	<b>Reports and Additional Submissions/Responses<sup>4</sup></b>
<b>Hydrogeology</b>	<ul style="list-style-type: none"> <li>• Level I and II Hydrogeological Investigation Hidden Quarry Rockwood, Ontario, Harden Environmental Services Ltd. September 2012</li> <li>• Responses to Comments included in comment matrix dated March</li> </ul>

<sup>4</sup> Note: Reports and Submissions/Responses can be found on the Township's website.

<b>Table 1</b>	
<b>JDCL Technical Reports and Related Submissions/Responses</b>	
<b>Technical Issue</b>	<b>Reports and Additional Submissions/Responses<sup>4</sup></b>
	<p>12/13</p> <ul style="list-style-type: none"> <li>• Letter to GRCA from Harden, "Response to GRCA Comments regarding Hidden Quarry", March 13, 2013</li> <li>• Letter to from Harden, Summary of Drilling and Testing of M15, June 7, 2013</li> <li>• Letter to JDCL from Harden, "MOE Comments Hidden Quarry", July 15, 2013</li> <li>• Letter to JDCL from Harden, Hydrogeological Summary Report for Township of Guelph Eramosa, September 5, 2013</li> <li>• Letter to Burnside, Response to Burnside Review of Hydrogeological Summary, January 14, 2014</li> <li>• Letter to Burnside, Response to Burnside Review of Summary of Drilling and Testing Of New Well M15 at Hidden Quarry, January, 14, 2014</li> <li>• Letter to JDCL from Harden, "Timeline for Changes to Monitoring Plan", February 5, 2014</li> <li>• Letter to GRCA from JDCL, "Response to GRCA Letter dated April 23, 2014 regarding revised materials Hidden Quarry", June 6, 2014.</li> <li>• Letter to R.J. Burnside and Associates Limited from Harden, "Letter – Response to Burnside Review of Summary of Drilling and Testing of New Well M15 at Hidden Quarry Site.Harden Response to Burnside Review of Hydrogeological Summary...", June 10, 2014</li> <li>• Letter to the Region of Halton from JDCL, "Zoning By-law Application 09/12 Hidden Quarry: Part 1, Concession 6, Township of Guelph/Eramosa, County of Wellington", August 1, 2014</li> <li>• Letter to R.J. Burnside and Associates Limited from Harden, "Hidden Quarry Burnside Letter of October 6, 2014....", December 9, 2014</li> <li>• Memorandum To: R.J. Burnside and Associates Ltd. From: Harden "Hidden Quarry: Specific Well Contingency Plans", January 8, 2015</li> <li>• Response to comments from Region of Halton in comment matrix dates May 8, 2015</li> <li>• Letter to R.J. Burnside and Associates Limited from Harden, "Hidden Quarry Burnside Letters of April 24, 2015....", June 12, 2015</li> <li>• Letter to R.J. Burnside and Associates Limited from Harden, "Hidden Quarry Burnside Letters (sic) of July 28, 2015....", August 17, 2015</li> </ul>
<b>Natural</b>	<ul style="list-style-type: none"> <li>• Level II Natural Environment Technical Report, GWS Ecological &amp;</li> </ul>

<b>Table 1</b>	
<b>JDCL Technical Reports and Related Submissions/Responses</b>	
<b>Technical Issue</b>	<b>Reports and Additional Submissions/Responses<sup>4</sup></b>
<b>Environment</b>	<p>Forestry Services Inc. in association with Gray Owl Environmental Inc. (GWS), August 2012</p> <ul style="list-style-type: none"> <li>• Responses to Comments included in comment matrix dated march 12, 2013</li> <li>• Letter to GRCA from Harden, "Response to GRCA Comments regarding Hidden Quarry", March 13, 2013</li> <li>• Letter to JDCL from GWS, "Hidden Quarry- Response to MNR Comments", May 27, 2013</li> <li>• Letter to County of Wellington from GWS, "Hidden Quarry", September 6, 2013</li> <li>• Letter to GRCA from GWS, "Hidden Quarry Site Meeting Notes", September 17, 2013</li> </ul>
<b>Air Quality</b>	<ul style="list-style-type: none"> <li>• Air Quality Assessment, RWDI, September 6, 2012</li> <li>• Responses to Comments included in comment matrix dated march 12, 2013</li> </ul>
<b>Traffic</b>	<ul style="list-style-type: none"> <li>• Traffic Impact Study, Cole Engineering, April 2012</li> <li>• Responses to Comments included in comment matrix dated march 12, 2013</li> <li>• Revised Traffic Impact Study, Cole Engineering, November 2013</li> <li>• Revised Traffic Impact Study, Cole Engineering, December 2013</li> <li>• Letter to JDCL from Cole Engineering, "Response to April 7, 2014 Comments Eramosa Quarry Township of Guelph-Eramosa, April 17, 2014</li> </ul>
<b>Haul Route</b>	<ul style="list-style-type: none"> <li>• Cole Engineering, Haul Route Study Eramosa Quarry, Township of Guelph-Eramosa, March 30, 2015</li> <li>• JDCL letter to MSH, "Comments on Town of Halton Hills – Hatch Mott Macdonald Report", July 23, 2015</li> <li>• Response to comments from Region of Halton in comment matrix dates May 8, 2015</li> <li>• Response Matrix to Burnside Letter dated June 26, 2015, July 23, 2015</li> </ul>
<b>Noise/ Blast Vibration</b>	<ul style="list-style-type: none"> <li>• Noise Impact Study, Hidden Quarry, Aercoustics Engineering Limited, November 2012</li> <li>• Blast Impact Analysis, Explotech, November 19, 2012</li> <li>• Noise Impact Study, Aercoustics Engineering Limited, May 24, 2013</li> <li>• Letter to JDCL from Aercoustics Engineering limited, "Response to Peer Review from Novus Environmental Inc. for Proposed Hidden Quarry in Rockwood, Ontario, dated April 8, 2013", May 24, 2013</li> <li>• Letter to JDCL from Explotech "Proposed James Dick Hidden Quarry Licence Application Blasting Flyrock", April 10, 2014</li> <li>• Letter to JDCL from Golder Associates "Follow up to Technical</li> </ul>



<b>Table 1</b>	
<b>JDCL Technical Reports and Related Submissions/Responses</b>	
<b>Technical Issue</b>	<b>Reports and Additional Submissions/Responses<sup>4</sup></b>
	Peer Review – Blast Impact Analysis Hidden Quarry....”, October 1, 2014 <ul style="list-style-type: none"> <li>• Email from Golder Associates to JDCL, “Blasting and Flyrock questions”, April 2, 2015</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Stovel and Associates Inc., Agricultural Impact Assessment Proposed Hidden Quarry, February 3, 2015, Revised August 5, 2015</li> </ul>
<b>Archaeology</b>	<ul style="list-style-type: none"> <li>• Stage I-II Archaeological Assessment, York North Archaeological Services Inc., August 31, 2012</li> </ul>
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Cultural Heritage Resource Assessment (1), George Robb Architect, June 2013</li> </ul>
<b>Visual</b>	<ul style="list-style-type: none"> <li>• Visual Impact Study JDCL</li> </ul>
<b>Site Plans</b>	<ul style="list-style-type: none"> <li>• Site Plans were submitted as part of the ARA application</li> <li>• Revised Site Plans submitted to the Township dated June 18, 2015</li> </ul>

**3. Planning Status**

Key applicable policies and regulations with respect to the planning status of the subject lands are those found in:

- Provincial Policy Statement 2014;
- Places to Grow: Growth Plan for the Greater Golden Horseshoe (Growth Plan); and,
- County of Wellington Official Plan (Official Plan).

Planning decisions by the Township must be consistent with the policies of the Provincial Policy Statement and conform to the policies of the Growth Plan, and Official Plan. The application requires an amendment to the Zoning By-law; as context the current regulations of the Zoning By-law applicable to the site are outlined. With respect to the Provincial Greenbelt Plan, the subject site is outside the area of the Plan and is not subject to its policies.

The following summarizes the planning policy directions and regulations relevant to the proposed quarry. A detailed review and evaluation of the application with respect to the policy framework is found in Appendix A to this report.

**3.1 Provincial Policy Statement 2014 (PPS)**

All planning decisions are required to be consistent with the applicable provisions of the PPS (Section 4.2). The subject lands have been identified in the Official Plan with a Mineral Aggregate Area overlay designation. As such the key applicable policies of the PPS are

those found in Section 2.5 Mineral Aggregate Resources. In particular, Section 2.5.2.1 states:

“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.”

Despite this direction, however, extraction must also minimize impacts as set out Section 2.5.2.2 which states:

“Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts.”

In addition, “progressive and final rehabilitation is required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible...”(Section 2.5.3.1).

Further, consideration must be given to the policies of Section 2.1 Natural Heritage which requires the protection of natural features and areas; Section 2.2 Water which requires that the quality and quantity of water be protected, improved or restored; and Section 2.6 Cultural Heritage and Archaeology which requires the conservation of significant built heritage resources and significant cultural heritage landscapes. It also prohibits development and site alteration on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.

A number of other applicable policies are found in Section 1 Building Strong Healthy Communities. The general direction in the policies in Section 1 is congruent with the policy direction in Section 2.5 - generally recognizing the need to promote efficient development and land use patterns and to accommodate a mix of uses, while ensuring any impacts are minimal.

### **3.2 Growth Plan**

All planning decisions are required to conform with the applicable provisions of the Growth Plan. The focus of the Growth Plan is on the development of settlement areas. However, the Plan does recognize that certain development must be located outside of settlement areas particularly “development related to the management or use of resources.... that cannot be located in settlement areas.” (Section 2.2.2.1 (i))

The Plan also specifically with respect to mineral aggregate identifies the need to carry out a sub-area assessment “to identify significant mineral aggregate resources in the GGH, and to develop a long-term strategy for ensure the wise use, conservation, availability and management of mineral aggregate resources in the GGH, as well as identifying opportunities

for resource recovery and for co-ordinated approaches to rehabilitation where feasible.” (Section 4.2.3). However the sub-area assessment has not yet been carried out. Nevertheless, the policy provides a general direction similar to, although much less detailed, than the policy direction of the PPS with respect to mineral aggregate.

It should also be noted that the Growth Plan puts a priority on improving corridors for goods movement (Section 3.2.4).

### 3.3 Official Plan

The Official Plan designates the subject lands with a Mineral Aggregate Area overlay designation (See Figure 1). Such lands only require approval of a rezoning and ARA licence. Based on the policies in place at the time of the application, an Official Plan amendment is not required.<sup>5</sup>

The Plan identifies a long-term vision (Part 2 of the Plan) and establishes policies to attain that vision. The basis for the vision is the need for planning decisions to properly balance all the County's competing objectives. Given this direction, the fundamental question arising from the Official Plan that must be answered in evaluating the proposed quarry is - Can the development be permitted in a manner which provides an appropriate balance between all the various goals and objectives of the local community? These include general directions set out in Sections 2.1.2, 2.1.3 and 2.1.4 as well as more specific objectives in Section 2.2 and as more precisely established through the Plan's detailed policies?

The key specific policies are found in Section 6.6 Mineral Aggregate Areas which is applicable to lands such as the subject site which are designated with a Mineral Aggregate Area overlay designation. Section 6.6.1 notes that the lands identified “only indicates that aggregate deposits are likely to be available. It does not presume that all conditions are appropriate to allow extraction or processing of the resource to proceed. The intention is to make as much aggregate resources available as close to markets as is realistically possible.” This direction reflects the general direction in Part 2 and also repeats a key policy direction from the PPS.

Section 6.6.5 provides the criteria to be considered in evaluating new aggregate operations while Section 6.6.9 provides criteria for evaluating proposals for mining below the water table which is applicable to the proposed quarry. Section 6.6.8 focuses on rehabilitation.

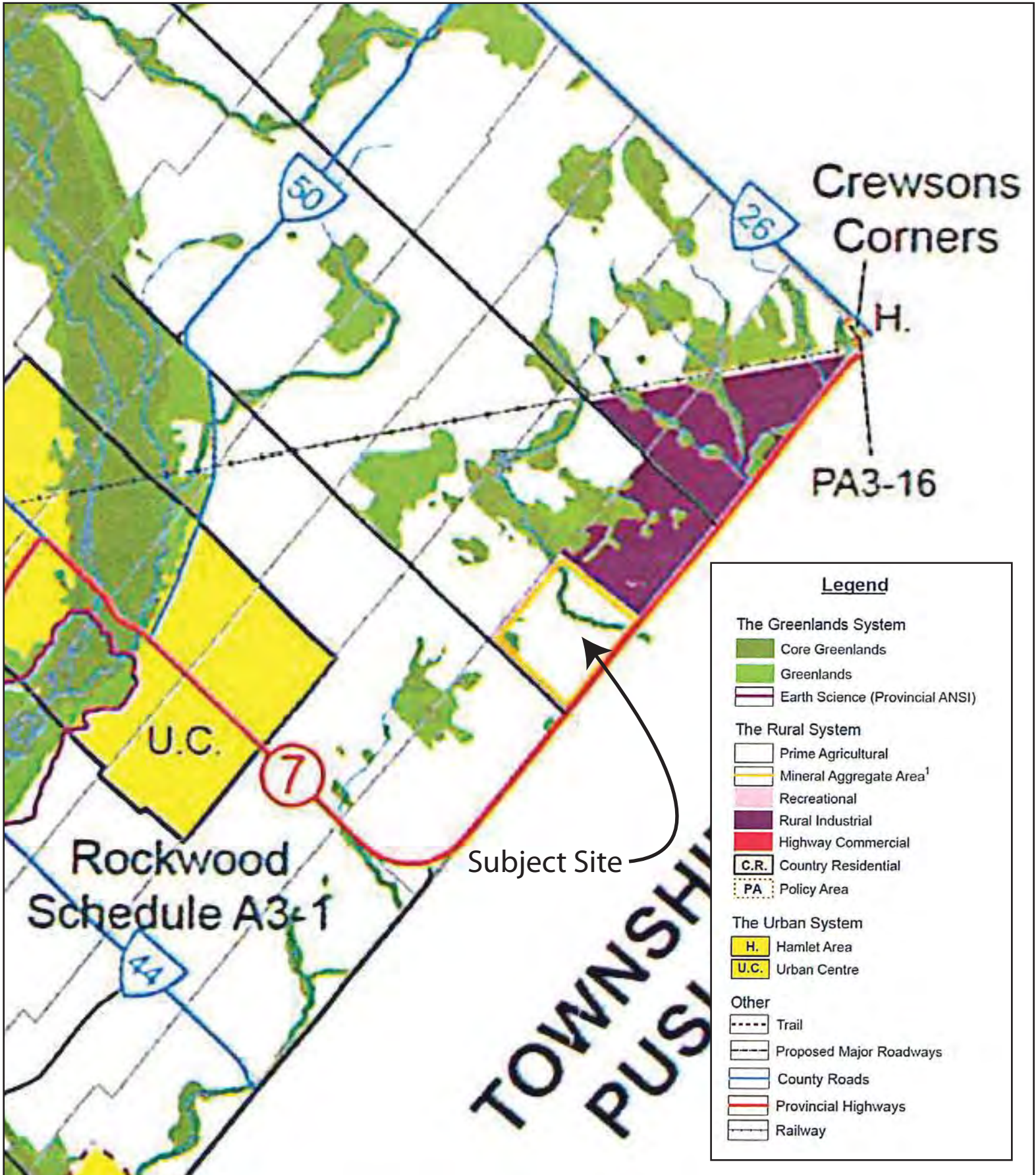
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<sup>5</sup> Note: The Official Plan as amended by Official Plan Amendment (OPA) 81 would now require an OPA despite the fact that the overlay designation still applies. However, the rezoning application was submitted before OPA 81 was adopted or approved, and in fact before changes were proposed to this aspect of the Mineral Aggregate policies. As such the Township has received a legal opinion that under The Clergy Principle which “states that every applicant is entitled to have their application evaluated on the basis of the laws and policies as they existed on the date that the application was made”, the policies of OPA 81 are not applicable and only a rezoning is necessary, in addition to the approval of the ARA licence.

Figure 1

Excerpt County of Wellington Official Plan

(Amendments made to February 12, 2013 Last Revision May 15, 2013)



The criteria seek to ensure that the manner of operation and the nature of rehabilitation, as well as impacts on adjacent land uses, residents, public health and safety, the physical (including natural) environment, agriculture, transportation, municipal water supply, water table or surface drainage patterns and cultural heritage and other matters deemed relevant by Council, are all addressed to ensure that extraction can be carried out with as little social and environmental cost as possible. With respect to mining below the water table a focus is on ensuring minimal impacts on the environment including surface and groundwater and compatibility of the after use.

Other applicable policies in the Official Plan provide additional direction on the evaluation of specific impacts related to cultural heritage (Section 4.1), water resources (Section 4.9) and natural heritage (Part 5).

### **3.4 Township Zoning By-law 57/1999, as amended (Zoning By-law)**

The Zoning By-law reflects the designations in the Official Plan prior to its amendment by OPA 81. The majority of the subject lands are zoned "Agricultural (A) Zone", while the key natural heritage features are zoned "Hazard (H) Zone". The application requests a rezoning to "Extractive Industrial (M3) Zone". The only variation to the M3 Zone regulations which is requested in the application is a reduction in the setback to a body of water from 30 meters to 20 meters.

### **3.5 Planning Policy Status Conclusions**

The Official Plan designates the subject lands with a Mineral Aggregate Overlay designation. The PPS, Growth Plan and Official Plan all recognize that:

"As much of the mineral aggregate resources as is realistically possible shall be made available as close to the markets as possible."

At the same time, the Provincial and Official Plan policy framework make it clear that planning decisions must properly balance all the Province's and County's competing goals and objectives. Given this direction the fundamental question that must be answered in evaluating the proposed quarry in the context of both the Provincial policy framework and the Official Plan is - Can the development be permitted in a manner which provides an appropriate balance between all the various goals and objectives of the Province and local community?

The specific requirements of any zoning by-law amendment, together with other development conditions established through the ARA licence approval, must be considered as part of addressing this question.

## 4. Technical Review Status

The status of the technical review of each issue by the Township and other agencies is outlined in the following sections and the most significant matters are summarized in Table 2.

<b>Table 2 Summary of Status of Technical Review</b>	
<b>Issue</b>	<b>Status</b>
<b>Hydrogeology</b>	<ul style="list-style-type: none"> <li>• Review complete by Township Technical Consultant, R.J. Burnside and Associates Limited (Burnside);</li> <li>• Review complete by Ministry of Natural Resources and Forestry (MNRF), Ministry of Environment and Climate Change (MOECC), Grand River Conservation Authority (GRCA); and,</li> <li>• Reviewed by Region of Halton. Most recent Regional comments focus on need to finalize commitments by JDCL concerning downgradient property protection, mitigation and monitoring.</li> </ul>
<b>Natural Environment</b>	<ul style="list-style-type: none"> <li>• Review complete Township (Burnside), MNRF, GRCA, and County; and,</li> <li>• Reviewed by Region of Halton, and Region's comments addressed by JDCL and reviewed by Burnside.</li> </ul>
<b>Traffic Impact</b>	<ul style="list-style-type: none"> <li>• Review of initial report completed Burnside and MTO.</li> <li>• As part of the Haul Route Study review, Burnside requested that the Traffic Impact Study be updated. Revised report dated August 20, 2015 and submitted on August 21, 2015. Revised report has been reviewed by Burnside who confirmed that the report provided sufficient information to confirm the requirements for road improvements in the area of the proposed quarry.</li> </ul>
<b>Haul Route Study</b>	<ul style="list-style-type: none"> <li>• Initial study by Cole Engineering for JDCL reviewed by Burnside;</li> <li>• Initial study by Cole Engineering for JDCL reviewed by Hatch Mott Macdonald on behalf of the Town of Halton Hills, also reviewed by Region of Halton and considered by Burnside in their review; and,</li> <li>• Revised Report submitted August 21, 2015. Revised report has been reviewed by Burnside who concluded that matters remain outstanding which need to be addressed before the study is approved.</li> </ul>
<b>Noise/Blast Vibration</b>	<ul style="list-style-type: none"> <li>• Review complete by Township Technical Consultant, Novus Environmental Inc. (Novus) and by Union Gas</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>• Review complete by Township Consultant, MSH</li> </ul>
<b>Archaeology</b>	<ul style="list-style-type: none"> <li>• Review complete Ministry of Tourism, Culture and Sport</li> </ul>
<b>Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Review complete by Township Consultant, Unterman McPhail Associates</li> </ul>
<b>Visual</b>	<ul style="list-style-type: none"> <li>• Review complete by Township Consultant, Brook McIlroy Inc.</li> </ul>
<b>Economic Impact</b>	<ul style="list-style-type: none"> <li>• Report, "Economic Impact of Proposed Hidden Quarry",</li> </ul>

Table 2 Summary of Status of Technical Review	
Issue	Status
	completed by Township Consultant, Altus Group Economic Consulting (Altus).

It should be noted with respect to the review by Provincial ministries that while a response was received to the initial submissions from JDCL from a number of key ministries (e.g. MNRF, Ministry of Environment and Climate Change (MOECC)<sup>6</sup>), no response was received to additional submissions, including submissions from the CRC. Relevant additional submissions were circulated by the Township through the Provincial one-window review process which requires that the submission be made to the Ministry of Municipal Affairs and Housing (MMAH). The following response was received by the Township from MMAH:

“Where the municipality is the approval authority for a planning application, it is responsible for co-ordinating the review, decision-making and appeal process for planning applications. This includes ensuring that appropriate reports are conducted, and peer reviews are arranged where needed. The municipality is also responsible for ensuring that any decision with respect to Planning Act application is consistent with the Provincial Policy Statement, 2014, and conforms to any applicable Provincial Plan.”

This email reiterates that partner Ministries (e.g. MOECC and OMAFRA) do not generally provide a broad review of reports related to zoning bylaw amendments, such as Agricultural Impact Studies or Noise Impact Studies. However, MMAH also states that should the Township have any specific technical questions with respect to these reports, they would direct them to the applicable Provincial Ministry for their consideration and response, as possible. Such assistance has not been requested as technical questions have been addressed by the Township’s consultants.

**4.1 Hydrogeology**

**4.1.1 Township**

**Review Summary**

Burnside, the Township’s consultant, reviewed the initial submission by Harden Environmental Services Ltd (Harden) entitled “Level I and II Hydrogeological Investigation” on behalf of the Township. The Burnside comments were provided to the Township in a letter dated January 11, 2013. A meeting was held on January 29, 2013 with the proponent and their technical representatives to discuss the technical review comments prepared by Burnside. JDCL provided response comments to the Burnside and agency comments in a planning matrix dated March 12, 2013 which was circulated by Cuesta Planning<sup>7</sup>. Burnside

<sup>6</sup> The Ministry of Environment is now the Ministry of Environment and Climate Change (MOECC) and will be referred to as such throughout unless a quotation uses the previous name.

<sup>7</sup> Cuesta Planning were the Township Planning Consultant at the time with respect to the application.



also received copies of various correspondences between JDCL, Harden and various agencies including MOECC and GRCA for information purposes.

Burnside met with representatives from JDCL and Harden on the proposed Hidden Quarry site on April 16, 2013 in order to select a location for new well M15 and also to look at existing features. Burnside was also present at the proposed Hidden Quarry site to observe portions of the drilling and testing of M15 in May 2013.

Harden submitted a report entitled "Summary of Drilling and Testing of M15" dated June 7, 2013. Burnside met with Harden, JDCL, and the Township on July 31, 2013 to review the results of Drilling and Testing of M15 and to confirm the expectations for further response to peer review comments. Harden submitted a report to JDCL entitled "Hydrogeological Summary Report for Township of Guelph Eramosa" dated September 5, 2013. This report includes a list of main issues discussed at the July 31, 2013 meeting and the Harden conclusions regarding these issues.

Burnside on behalf of the Township provided comments on the Hydrogeological Summary report and the "Summary of Drilling and Testing of M15" report in two letter reports addressed to Harden on November 12, 2013. These were in turn responded to by Harden in two letters to Burnside dated January 14, 2014.

Harden provided a proposed timeline for changes to the Monitoring Plan and attached a Revised Monitoring Program and Contingency Measures (January 2014) in correspondence to JDCL dated February 5, 2014. The revised monitoring program was included in the January 14, 2014 Harden letter and as a result, a formal review of the February 5, 2014 correspondence was not required.

A Burnside letter dated April 8, 2014 replied to the January 14, 2014 Harden letter regarding "Summary of Drilling and Testing of M15" and provided specific comments on the outstanding issues. The letter noted that the level of on-site data had been improved, but that further additional assessment and background data collection would be required to reduce the number of variables. Burnside recommended that the monitor well construction/testing/sampling and domestic well survey be completed as soon as possible to improve the understanding of the bedrock aquifer. Further correspondence forwarded by Burnside to Harden dated April 9, 2014 regarding the "Hydrogeological Summary Report" (Harden letter of January 14, 2014) noted that Burnside's primary concerns were the potential for impact on the water levels in the upgradient domestic wells, the potential for water quality impacts in the down gradient domestic wells and potential impacts to Rockwood Well 4. Although additional information had been provided, Burnside indicated that the predictions regarding the response of the fracture systems in the bedrock aquifer needed to be confirmed through ongoing data collection and a thorough investigation of nearby domestic wells.

Harden provided their response to Burnside in correspondence dated June 10, 2014. The response addressed the three primary areas of concern in the April 9, 2014 Burnside letter.



Harden then grouped the remaining Burnside comments into eight areas of interest – Karst; Groundwater Parameters – Hydraulic Connectivity – M15 intervals; Nitrate Balance; Deeper Water Sources and Water Quality; Local Well Survey; Quarry Depth Limitation; Brydson Spring and Blue Springs Creek; and Sinking Cut-Monitoring and Historical Low Water Level. The Burnside letter of October 6, 2014 responded to the eight issues addressed by Harden.

In particular, Burnside still had concerns with the potential of the proposed quarry to impact water levels and water quality in the nearby domestic wells and that the quarry might result in reduced flow in the Brydson Spring. Burnside requested the following additional data be provided as part of the application: a detailed well survey of all domestic wells within 500m of the proposed quarry; drilling and evaluation of new wells M16 and M17 in the same fashion as M15; an investigation of flow in Brydson Spring and its relationship to flow in Tributary B; and collection of water quality samples from on-site monitors and surface water features at the same time the domestic wells are sampled.

At a meeting on October 21, 2014, Harden agreed to collect water quality samples from 15 select private wells, nine on-site monitoring wells and five surface water locations “to provide baseline data to evaluate water quality impacts (if any) from the quarry (if approved).”<sup>8</sup> Harden also agreed to prepare a well specific contingency plan for each of the wells within 500m of the proposed quarry using the results of the water quality sampling and the data on well depth, pump setting and well condition that they had collected during previous visits to the domestic wells.

Harden responded to the Burnside comments on December 9, 2014 and also provided a memorandum related to Specific Well Contingency Plans on January 8, 2015. Burnside reviewed these submissions and responded in a letter on April 24, 2015. The April 24<sup>th</sup> comments indicated that Burnside was generally satisfied with the Harden responses related to the eight areas of interest that had been identified, subject to a number of conditions of development. In particular, they note the benefit of the water quality samples to provide baseline data. A number of domestic wells have elevated nitrate and Burnside indicated that it was important to identify the probable sources of elevated nitrate prior to the onset of any quarrying activities. They also note that JDCL has agreed to complete a detailed well survey and install wells M16 and M17 upon approval of the quarry. They identify a number of conditions of development related to M16/17 and M18/19. In addition, Burnside establishes the need for flow measurements to be taken as soon as possible at Brydson Spring and Tributary B so that the contribution of Tributary B to the Brydson Spring can be quantified. This additional baseline information will be useful in assessing the impact of the proposed quarry on Tributary B and the Brydson Spring.

With respect to the Specific Well Contingency Plans, Burnside had requested available information for each well be used to come up with a well-specific contingency plan to deal with potential impacts. Information on 39 wells was provided. Burnside requested that

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<sup>8</sup> R.J. Burnside & Associates Limited, Letter to Harden Environmental Services Ltd. Re: Harden Letter of December 9, 2014 and Specific Well Contingency Plan dated January 8, 2015, April 24, 2015, page 5.

additional information be provided for a number of wells related to water quantity and water quality in a second letter dated April 24, 2015. A response was provided by Harden on June 12, 2015. Burnside responded further on July 28<sup>th</sup> and Harden responded on August 17<sup>th</sup>. This correspondence relates to refining the details of the well-specific contingency plan, and work continues with the applicant regarding this matter. However, the principle of the requirement for the establishment of a specific well-contingency plan has been established.

## Review Status

Based on all the submissions from the applicant with respect to hydrogeology, as set out in their letter of April 24, 2015, Burnside have indicated that their concerns with the proposed quarry have been generally addressed including their concerns with water levels in up-gradient domestic wells, water quality in the down-gradient domestic wells and the potential for any impacts on Rockwood Well Number 4. Their opinion is subject to the following conditions of development being established through the ARA site plan, as well as modifications to the current ARA site plan, a zoning by-law amendment or other appropriate mechanisms:

- A private well survey completed by JDCL in accordance with Terms of Reference approved by the Township to be conducted well in advance of any quarrying activities which will include both upgradient and downgradient wells within 500 meters (or somewhat outside that area where appropriate) of the proposed quarry including in the Town of Milton. Data collected during the survey will include at a minimum well stickup, casing diameter, depth of well, depth to water, depth to pump intake and surface drainage around the wellhead. The survey will include collection of a sufficient number of water quality samples to allow for pre quarry water quality to be established for each well. For wells with elevated nitrate or detections of E.coli or total coliform, the probable source will be identified. The well will either be upgraded by JDCL so that it is no longer impacted by the source, or if upgrades are not possible, the pre-existing concentrations will be considered in the evaluation of possible quarry impacts;
- The results of the private well survey will be used to establish an off-site monitoring program in accordance with Terms of Reference approved by the Township for both upgradient and downgradient domestic wells within 500 meters, or somewhat outside that area where appropriate, of the proposed quarry, including in the Town of Milton. Wells included in the monitoring program will be upgraded by JDCL to comply with Regulation 903. The monitoring program will also include the Brydson Spring/Creek in particular the relationship of the flow in Tributary B and the flow in Brydson Spring. A copy of the annual reporting shall be provided to the Township;
- Pre-quarrying water level and water quality monitoring will continue in the wetland, on-site wells and on-site and off-site surface water features at the locations listed on Drawing 2 of the ARA Site Plan. This monitoring along with the private well survey will provide sufficient data to allow for confirmation that the monitoring program referenced on Drawing 2 is sufficiently rigorous to maintain current conditions in the

- wetland, on-site wells on-site ponds and domestic wells and will allow for trigger levels and contingency plans to be created;
- Refinement of the well contingency plan which has been established in accordance with direction provided by the Township based on results of the private well survey and results of revised groundwater modeling;
  - Installation of onsite open hole wells M16 south of the Phase 2 extraction limit, M17 between the sinking cut and the nearest domestic wells, and M18 and M19 along the southern property boundary;
  - Completion of the following at onsite wells M16/17 and M18/19:
    - Detailed core logging which includes fracture identification;
    - A pumping test on the open hole wells to assess connectivity with other wells on site;
    - A downhole video and flow profile to identify productive fracture systems;
    - Completion of a multi-level well at M16 with M17 to remain an open hole;
    - The construction of M18/M19 were not specified by Burnside, however Halton Region requested that they be constructed as multi-level wells;
    - Water quality sampling from each well to allow assessment of water quality variations with depth; and,
    - Hydraulic conductivity testing;
  - Deepening of existing onsite Well M3 to 227 masl to provide more reliable water level data;
  - Data from all automatic water level recording devices should be provided to the Township on a bi-weekly basis until the data indicates that water levels are remaining consistently above the trigger level; and,
  - Modifications to the current ARA site plan including:
    - Drawing 4-the trigger levels and contingency measures table needs to be revised to coincide with the monitoring table on drawing 2. Table 2 indicates that wells 1D, 2,13D, 14D, 15, and 16 are all to be equipped for automatic daily readings and that monthly manual water levels will be collected, yet the table on Drawing 4 indicates that if a trigger level is breached then water level monitoring will be increased to weekly. The table should be revised to indicate that manual water levels collection will be increased from monthly to weekly and data from automatic water level recorders (AWLR's) will be downloaded and reviewed on a weekly basis. The water level data from the AWLR's can then be plotted and the water level trends analysed so that the time it will take for water level recovery to above trigger levels can be predicted. Similarly, there is no note to indicate what actions will occur if a warning level is breached. The Harden letter of December 09, 2014 indicates that if a warning level is breached then bi-weekly water level measurements will be initiated. A statement similar to the one for trigger levels should be added to the table to identify the actions to be undertaken if a warning level is breached.
    - Drawing 4-Note 3 on the trigger table indicates "If quarry activities are found to be responsible, the above actions will be considered and a response

presented to the GRCA and the Township of Guelph Eramosa". The wording should be changed to "...one of the above actions will be undertaken...".

- Drawing 2- under Technical Recommendations references water well contingency protocol on page 62 of the Harden report dated December 9, 2014. This is a letter report and the details of the monitoring are actually presented in Appendix B "Monitoring Program and Contingency Measures".

#### **4.1.2 Ministry of Environment and Climate Change (MOECC)**

##### **Review Summary**

MOECC provided formal comments to JDCL on July 3, 2013 and to JDCL's consultant, Harden Environmental Services Ltd. (Harden) on October 10, 2013 with respect to the Level I and II Hydrogeological Investigation. MOECC's input was separated into surface water and groundwater review and comments and a range of matters were identified for additional review. Harden responded to the MOECC comments in a letter to JDCL on July 15, 2013. MOECC in their comments of October 10, 2013 indicated that their comments regarding surface water had been addressed, and, in particular that "the risk for significant environmental impact in regards to Tributary B and the Northwest Wetland are perceived to be low". With respect to groundwater, MOECC note that they agree with "Harden's assessment of the groundwater thermal impacts of the proposed quarry on the Brydson Spring and the Blue Spring Creek" and "that groundwater movement in the bedrock is mainly controlled by fractures and not by karst features."

##### **Review Status**

MOECC indicates in their October 10, 2013 letter that "the surface water and groundwater outstanding items have been addressed to MOECC satisfaction."

#### **4.1.3 Ministry of Natural Resources and Forestry (MNRF)**

##### **Review Summary**

The Guelph District Office of MNRF, provided formal comments to JDCL on April 15, 2013, July 11, 2013 and November 6, 2013 with respect to the Level I and II Hydrogeological Investigation, as well as the Level II Natural Environment Technical Report and the Site Plans. The MNRF comments with respect to hydrogeology did not address "any potential impact on water supply" (April 15, 2013 Letter). The comments requested clarification with respect to proposed monitoring, contingency measures and a statement regarding runoff.

## **Review Status**

In both their July and November letters, MNRF indicated that “The Ministry has no further concerns in regards to the Hydrogeological Investigation.” In a meeting between the Township and MNRF on July 23, 2014, MNRF advised that no additional comments will be submitted.

### **4.1.4 Grand River Conservation Authority (GRCA)**

#### **Review Summary**

GRCA submitted comments related to the Level I and II Hydrogeological Investigation, as well as the Level II Natural Environment Technical Report and the Site Plans. Initial detailed comments were submitted on January 31, 2013 to the Township with respect to the zoning application. Additional comments were provided to MNRF on April 15, 2013 with respect to the ARA application which also reflected the input received from Harden in a letter dated March 13, 2013. Subsequently, GRCA provided comments on November 4, 2013, March 28, 2014, April 23, 2014, July 8, 2014 related to a range of hydrogeological and natural environmental issues, as well as flooding. On July 29, 2014, GRCA indicated that they had “no objection to the application being taken forward for consideration.”

#### **Review Status**

GRCA in their letter of July 29, 2014 indicated that they had “no objection to the application being taken forward for consideration” but that they would “be open to review and comment on additional information circulated by the Township.” Additional submissions from JDCL and CRC have been circulated to the GRCA, but no additional response has been received from the GRCA to date.

### **4.1.5 Region of Halton, Town of Milton and Town of Halton Hills**

#### **Review Summary**

The Region of Halton, with the support of the Town of Milton and the Town of Halton Hills, submitted initial comments in July 5, 2013 which requested a number of additional studies including revisions to the Level I and II Hydrogeological Investigation. In a further letter dated July 28, 2014, technical comments were provided with respect to key hydrogeological matters, focusing on water resources and potential sensitive receptors within Halton Region. This letter is described as being in addition to the earlier letter. JDCL responded to the July 28<sup>th</sup> letter in a letter to the Region dated August 1, 2014.

The Region submitted further comments primarily concerned with “Natural Heritage System Related Technical Comments” on September 16, 2014. However, included in those comments was a request to undertake ongoing monitoring of the Brydson Spring.

The Region also submitted comments in April 22, 2015. These comments included additional comments on the impact of private wells and Brydson Spring/Creek in Halton Region based on a review of the applicable documents since August 2014. The focus of these comments was the need for clarification on how the monitoring program and contingency measures would be implemented specifically “it is not clear what JDCL’s approach to finalizing their commitments concerning down gradient property protection, mitigation and monitoring. In the absence of an Adaptive Management Plan (AMP) and key references identified on a site plan it is not clear how off-site monitoring and implementation matters are to be applied and fulfilled.”

### **Review Status**

Burnside reviewed the July 28, 2014 comments and the Harden response to them, on behalf of the Township, and provided comments on October 6, 2014 to the Harden comments, and on November 20, 2014 to the Region of Halton. Burnside concurred with the majority of the Regional comments, in particular those requesting monitoring of Brydson Spring and domestic wells within 500 metres of the proposed quarry in Halton, including some that might be located outside the 500 metre zone. They also advised that the well complaint protocol would apply to wells in Halton Region. The response from Burnside has been reflected in their ongoing review of the JDCL submissions.

With respect to the April 22, 2015 submission, Burnside has indicated in their comments the need as a condition of development to require ongoing monitoring and contingency plans both on and off site. The mechanism for applying and fulfilling on-site and off-site monitoring and implementation matters will be primarily through the ARA Site Plan, but also through the zoning by-law amendment and other mechanisms. As noted above, Burnside has proposed a number of conditions of development. Finalization of any conditions should be done in consultation with the Region.

#### **4.1.6 Conclusions: Hydrogeology**

With respect to issues related to hydrogeology, MNRF, MOECC and GRCA have indicated that they have no further concerns. The most recent comments of the Region of Halton focus on need to finalize commitments by JDCL concerning downgradient property protection, mitigation and monitoring. Finalization of any conditions of development should be done in consultation with the Region.

Based on all the submissions from the applicant with respect to hydrogeology, as set out in their letter of April 24, 2015, Burnside have indicated that their concerns with the proposed quarry have been generally addressed including their concerns with water levels in up-gradient domestic wells, water quality in the down-gradient domestic wells and the potential for any impacts on Rockwood Well Number 4. Their opinion is subject to extensive conditions of development being established through the ARA site plan, as well as modifications to the current ARA site plan, a zoning by-law amendment or other appropriate mechanisms.

## 4.2 Natural Environment

### 4.2.1 Township

#### Review Status

Burnside reviewed for the Township the initial submission by GWS Ecological & Forestry Services Inc., in association with Gray Owl Environmental Inc. (GWS) which was submitted on behalf of JDCL, and dated August, 2012. Burnside's original comments with respect to the Natural Environment report were included in a peer review comment letter dated January 13, 2013. JDCL submitted a response to the Natural Environment comments provided by Burnside in a Planning Comment Matrix dated March 12, 2013 and numbered 31 through 33 in that matrix. Correspondence was issued by GWS dated May 27, 2013 to JDCL which provided a response to MNRF comments regarding the Level II Natural Environment Technical Report. A site meeting including a walk through the site was arranged for June 7, 2013 and was attended by representatives of JDCL, Harden, GRCA, Wellington County, MNRF, Stovel Associates, GWS and Burnside. Site meeting notes were prepared by JDCL and circulated on July 9, 2013 and later revised to include additional comments from GRCA and Wellington County and re-circulated on August 22, 2013. GWS provided comments to the County of Wellington in correspondence dated September 6, 2013 and to GRCA in correspondence dated September 17, 2013 to address concerns raised by Wellington and GRCA respectively.

Burnside reviewed the various responses contained within the comment matrix, as well as the information gathered during the site meeting/visit and the comments provided by various agencies (Wellington, GRCA and MNRF). Based on this review, Burnside prepared correspondence dated April 7, 2014 which indicated that Burnside felt that JDCL had adequately addressed concerns related to the Natural Environment at the proposed Hidden Quarry including protection of Wetlands, as well as Species at Risk and their habitat. It is noted that Burnside has reserved the right on behalf of the Township to carry out additional review if new information is provided. CRC submitted a report related to Species at Risk and Burnside reviewed that additional information and the results of that review are reported on in Sections 5.2.1 and 5.2.2 of this report below.

#### Review Summary

Burnside indicated that in their opinion JDCL has adequately addressed concerns related to the Natural Environment at the proposed Hidden Quarry, including protection of Wetlands as well as Species at Risk and their habitat, subject to additional review if new information is provided. Burnside's recommendations based on the additional information are set out in Sections 5.2.1 and 5.2.2 below.

## 4.2.2 Ministry of Natural Resources and Forestry (MNRF)

### Review Summary

The Guelph District Office of MNRF provided formal comments to JDCL on April 15, 2013, July 11, 2013 and November 6, 2013 with respect to the Level II Natural Environment Technical Report, as well as the Level I and II Hydrogeological Investigation and the Site Plans. The MNRF initial April comments with respect to natural environment identified a number of questions and additional considerations to be addressed related to matters such as natural heritage features, amphibians, wetlands, woodlands and species at risk. In response to the MNRF comments, a further submission was provided by GWS, JDCL's consultant dated May 27, 2013 and a site visit was carried out on June 7, 2013 attended by representatives of MNRF, GRCA, County of Wellington and the Township. Additional comments were submitted by MNRF in July related to the stream status, loss of woodlands and species at risk. With respect to Site Plans – Rehabilitation Plans the Ministry comments indicate that they approve “the details given on reforestation procedures and follow-up monitoring.” Further to the July comments, MNRF undertook additional review. Through this review it was concluded that the wetland in the centre of the subject site is not part of the Eramosa River-Blue Springs Creek PSW, while the wetland adjacent to the 6<sup>th</sup> Line is part of the PSW. In addition, it was concluded that surveys of amphibians, bats, snakes, turtles, birds and insects were carried out using appropriate protocols and that the concerns related to Species at Risk had been addressed. Consequently, in their letter of November 6, 2013, MNRF identified no further concerns with the Natural Environment Report.

### Review Status

In their November 6, 2013 letter, MNRF indicated that “The Ministry has no further concerns in regards to the Natural Environment Report.” The letter also indicated that “the Ministry approves the details given on reforestation procedures and follow-up monitoring” with respect to the Site Plans – Rehabilitation Plans. In a meeting with Ministry staff on July 23, 2014, MNRF advised that no additional comments would be submitted.

## 4.2.3 Grand River Conservation Authority (GRCA)

See discussion under Section 4.1.4

## 4.2.4 Region of Halton, Town of Milton and Town of Halton Hills

### Review Summary

The Region of Halton, with the support of the Town of Milton and the Town of Halton Hills submitted initial comments in July 5, 2013 which requested a number of additional studies including revisions to the Natural Environment Technical Report to reflect the zone of



influence for the proposed quarry. The Region submitted further comments related to the natural heritage system on September 16, 2015.

JDCL responded to the Region's comments in a Response Matrix on September 23, 2014. Burnside responded to the Halton comments and the JDCL Response Matrix in a letter dated March 4, 2015. Burnside concludes:

"In general Burnside feels based on our review that the findings of the Natural Heritage Reporting are accurate and provide appropriate recommendations for both protection (setbacks and buffers) and mitigation measures to minimize or negate potential effects to the features and functions of the natural heritage system on and surrounding the proposed Hidden Quarry. Additional information may be helpful to the reader..... to round out the technical reporting for the Site."

### **Review Status**

The Region of Halton has not provided final comments, however, the Township peer reviewer has reviewed their most recent comments on the natural environment and the identified issues appear to have been addressed. However, finalization of any conditions of development should be done in consultation with the Region.

### **4.2.5 County of Wellington**

#### **Review Summary**

The County retained Williams & Associates Forestry Consultants Ltd. to review background material related to vegetation and wildlife. The consultant concluded in a letter dated June 13, 2013 that "the proposed project would have limited negative impacts" on the woodland functions. GWS responded to his comments in a letter of September 6, 2013 to the County. The County indicated their support for the measures identified in the GWS letter in an email of September 12, 2013 to GWS.

#### **Review Status**

The focus of the County's input has been with respect to the natural environment. Their email of September 6, 2013 indicated that they would be supportive of the following ecological measures being incorporated as part of the license request as proposed by JDCL. These measures are generally reflected in the most recent ARA Site Plan dated June 18, 2015, however some refinements should be considered as noted in italic:

- retain existing vegetation until just prior to extraction;
- promptly restore completed extraction areas to an ecological after-use to specified in the Progressive Rehabilitation Plan – *plans should include reference to timing of either plant removal or restoration plantings/seed application; and*

- plant a mix of coniferous/deciduous trees (with a min. spacing of 3 meters) in the area of the 6<sup>th</sup> Line to increase forest density in an attempt to provide an effective natural corridor in the north and west side of the property – *add to rehab plan drawing and also modify the plan to include reference to planting deciduous trees as currently only reference is to coniferous trees.*

#### **4.2.6 Conclusions: Natural Environment**

With respect to issues related to natural environment, MNRF and GRCA have indicated that they have no further concerns. The County of Wellington's request for certain ecological measures to be included in the ARA Site Plan are generally reflected in the most recent proposed Site Plan dated June 18, 2015 subject to refinement.

The Region of Halton has not provided final comments, however, the Township peer reviewer has reviewed their most recent comments on the natural environment and the identified issues appear to have been addressed. However, finalization of any conditions of development should be done in consultation with the Region.

Finally, Burnside, the Township's consultant, have indicated that in their opinion JDCL has adequately addressed concerns related to the Natural Environment at the proposed Hidden Quarry including protection of Wetlands as well as Species at Risk and their habitat, subject to additional review if new information is provided. Burnside's recommendations reflect the additional information received to date is set out in Sections 5.2.1 and 5.2.2 below.

### **4.3 Air Quality**

#### **4.3.1 Township**

##### **Review Summary**

Burnside, in particular their Technical Group Leader, Air and Noise, reviewed on behalf of the Township, the initial submission by RWDI which was prepared for submission with the application by JDCL.

The original submission documents supporting the JDCL application for the proposed Hidden Quarry included an Emission Summary and Dispersion Model (ESDM) which was included in a document entitled "Proposed Hidden Quarry, Township of Guelph Eramosa, Wellington County, Final Report, Air Quality Assessment", and dated September 6, 2012. It is noted that the report followed the MOECC A-10- Procedure for preparing an ESDM report. Burnside indicates that the air dispersion model used is an acceptable air dispersion model and produces results that are acceptable to the MOECC. The final report document followed the format recommended by the MOECC for similar documents. Further, Burnside indicates that the assumptions made within the document (e.g. contaminant of concern) were reasonable, represented worse case scenarios and were still within acceptable limits.

Consequently Burnside saw nothing in the ESDM which would indicate that the site could not receive an Environmental Compliance Approval (ECA) as noted in the overall review comments of January 13, 2013.

## **Review Status/Conclusions**

Burnside has indicated that that the air quality review was based on reasonable assumptions and there was nothing in the ESDM which would indicate that the site could not receive an Environmental Compliance Approval.

## **4.4 Traffic Impact**

### **4.4.1 Township**

#### **Review Summary**

Burnside reviewed on behalf of the Township of Guelph Eramosa, the submission by Cole Engineering entitled “Eramosa Quarry, Draft Traffic Impact Study” dated April 2012. The draft report generally considered traffic operation at the access onto the 6<sup>th</sup> Line, as well as the intersections of Highway 7/6<sup>th</sup> Line and Highway 7/5<sup>th</sup> Line. Initial review comments were provided by Burnside to the Township dated January 11, 2013. Issues raised at that time generally related to the need for MTO involvement and comments, traffic counts and trip generation, operational improvements at the intersections, required upgrades to the 6<sup>th</sup> Line and conformance to geometric design standards. Responses from JDCL in the planning matrix document of March 12, 2013 generally agreed with comments provided, and provided or undertook to provide additional information.

JDCL informed Burnside and the Township during August, 2013 that there had been ongoing discussions with MTO and that a revised Traffic Impact Study as well as comments from MTO would be forthcoming. Further that JDCL would be responding to issues raised by the Region of Halton.

Burnside received directly from JDCL a revised Traffic Impact Study (TIS) dated November, 2013, as well as comments from Diana Beaulne of the MTO dated September 30, 2013. Burnside later received a revised TIS dated December 2013 which corrected two typographical errors in two figures. The revised TIS document and the comments from MTO were reviewed by Burnside on behalf of the Township and comments provided in correspondence addressed to the municipality dated April 7, 2014. Generally the outstanding issues identified related to the operational improvements required to address intersection turning movements and upgrades to the 6<sup>th</sup> Line.

Subsequent to the April 7, 2014 review of the TIS, the applicant was required to submit a Haul Route Study. As part of the review of the first submission of the Haul Route Study, in a letter dated June 26, 2015, Burnside noted that the TIS should be updated to reflect

certain recommendations in the Haul Route Study. The revised TIS was submitted on August 21, 2015. Burnside reviewed the revised TIS and the additional or revised conclusions and recommendations in a letter dated August 27, 2015. Similar to their comments in April, 2014, Burnside deemed the revised TIS generally satisfactory subject to specific conditions being addressed as a condition of approval.

### **Review Status**

Burnside has indicated that the TIS has “provided sufficient information to confirm the requirements for road improvements in the area of Eramosa Quarry, which should be implemented through the detailed design and approval process.” Specifically, Burnside identifies the following conditions of development in their August 27, 2015 letter:

- **Upgrading Sixth Line**  
Upgrades to Sixth Line are required to remove the crest to provide sufficient sight distance to the intersection with Highway 7, plus upgrade the road base, including asphalt surface, to accommodate quarry traffic. These improvements should be included in detailed designs based on a twenty year operational period /agreements required for this project; and,
- **Turn Lanes on Highway 7**  
The TIS recommends a continuous turning lane on Highway 7, between 6<sup>th</sup> Line and 5<sup>th</sup> Line, to provide for an east bound left lane at 6<sup>th</sup> Line and a westbound left turn lane at 5<sup>th</sup> Line. A westbound right turn deceleration lane on Highway 7 at 6<sup>th</sup> Line and placement of truck entrance signs is also recommended. The responsibility, designs and permits for these improvements are required to be confirmed with Ministry of Transportation. These improvements should be included in detailed designs based on a twenty year operational period /MTO permits and agreements required for this project.

#### **4.4.2 Ministry of Transportation (MTO)**

##### **Review Summary**

MTO originally provided comments April 18, 2013. Additional comments were provided May 28, 2013, September 30, 2013, October 16, 2013 and December 10, 2013. On February 3, 2014, MTO advised that they had no objections to the application, “however, should the rezoning be approved, all MOECC, MNRF, MTO and Aggregate Resources Act rules and regulations and policies must be adhered to.” MTO also set out a list of additional requirements should the application be approved related to site plan, geometric design, legal agreement and letter of credit, stormwater management report and updated traffic report.

## Review Status

In an email of February 3, 2014, MTO indicated that they had no objections to the rezoning, however, implementation will require submission of additional information and other requirements for MTO approval.

### 4.4.3 Conclusions: Traffic Impact

MTO has indicated that they had no objections to the rezoning, however, implementation will require submission of additional information and other requirements for MTO approval.

Burnside has indicated that the TIS has “provided sufficient information to confirm the requirements for road improvements in the area of Eramosa Quarry, which should be implemented through the detailed design and approval process.” However, they identify a number of conditions of development related to upgrading Sixth Line and Turn Lanes on Highway 7.

## 4.5 Haul Route

### 4.5.1 Region of Halton, Town of Milton and Town of Halton Hills

#### Review Summary

The Region of Halton with the support of the Town of Milton and the Town of Halton Hills, based on an update to them on the status of the application, reiterated in an email dated July 15, 2014 an earlier request for JDCL to submit a Haul Route Study for the proposed Hidden Quarry. A haul route study is a support document, used as a basis for setting the final conditions of development. Regional Staff requested that the Term of Reference for this study be submitted to the Region, the Town of Milton, and the Town of Halton Hills for review and approval prior to the study's commencement. Discussions with the Region, Milton and Halton Hills staff indicated that the primary concern was an increase in truck traffic through urban areas (e.g. Acton). In response to this request, Burnside on behalf of the Township prepared Terms of Reference for a Haul Route Study dated October 10, 2014.

The Haul Route Study, prepared by Cole Engineering dated March 2015 was reviewed by Burnside. In addition, Burnside also considered the following related reports:

- Revised Traffic Impact Study, Cole Engineering, December 2013;
- Eramosa Quarry, Final Traffic Impact and Haul Route Assessment ,prepared for the Town of Halton Hills by Hatch Mott MacDonald, March 3, 2015;
- Letter Response to Burnside's April 7 ,2014 Comments, Eramosa Quarry, Township of Guelph-Eramosa, Cole Engineering, April 17, 2014;
- Review of JDCL Traffic Impact Study and Haul Route Study, Concerned Residents Coalition (CRC Rockwood Inc.), April 27, 2015; and,

- Letter Response to CRC Memo dated April 27, 2015, prepared by James Dick Construction Limited (Greg Sweetnam), June 26, 2015.

Based on their review, Burnside identified a number of issues and recommended that the Haul Route Study be revised and resubmitted.

A Revised Haul Route Study, as well as a Revised Traffic Impact Study were prepared by Cole Engineering dated August 20, 2015 and submitted on August 21, 2015. Burnside in carrying out their peer review of these studies also considered:

- Letter RE: Comments on Town of Halton Hills – Hatch Mott MacDonald Report, prepared by James Dick Construction (Greg Sweetnam), July 23, 2015;
- Email response matrix to Burnside Haul Route Study Comments (June 26, 2015), prepared by James Dick Construction (Greg Sweetnam), July 23, 2015; and,
- Potential impacts of Hidden Quarry on the 6<sup>th</sup> Line & Residents; presentation to Guelph/Eramosa council by Concerned Residents Coalition (Perry Groskopf, CRC Rockwood Inc.), February 3, 2015.

Burnside's conclusions with respect to the revised TIS are discussed above. With respect to the Haul Route Study (HRS), Burnside concludes that matters remain outstanding with respect to the HRS, which should be further addressed before the study is approved. In particular with respect to the key issue of safety they note:

"The revised HRS now provides a turning template analysis of the intersection of Main Street / Mill Street in Acton.... We suggest that the HRS should also include further review of the following additional potential mitigation works to address the safety issue identified at this intersection:

- Improvement of the northeast curb radius, and/or
- Reduction of the length of the westbound right turn lane (i.e. rather than elimination of the lane), to better allow for westbound trucks to take control of both lanes to make the turn, rather than being forced into the relatively narrow right turn lane in advance of the intersection.

We confirm that the safety issue identified already exists for large trucks turning at this location. The data provided forecasts that between 12 and 14 heavy vehicles per hour (vph) currently make the westbound right turn movement at this intersection during peak periods. Based on the HRS we forecast that the Eramosa Quarry may increase the volume of heavy vehicles making this turn by about 10%, adding about 10 heavy truck turning movements on a daily basis during peak operational periods at the quarry.

While the revised HRS provides some additional analysis of the truck issues along the Highway 7 connecting links (i.e. analysis of the intersection of Main Street / Mill Street in Acton), it does not confirm the magnitude of safety issues along the corridor. We understand that the Town of Halton Hills will be requesting the Minister of Transportation to partner with the Town to commence a study for long-term transportation alternatives for aggregate haul routes impacting the Town of Halton Hills, including reviewing the need for an Acton By-pass to accommodate truck traffic."

Burnside also concludes the following:

- **“Forecasted Truck Traffic in the Peak Period and on a Daily Basis** – The revised HRS forecasts a maximum of 13 truckloads shipped from the Eramosa Quarry per peak hour at peak operation during the peak season, based on average rates over the peak period (i.e. including Saturdays, which have significantly lower production rates). The monthly production data for the proxy site (Erin Pit) has now been included in the revised HRS. Based on our review of the proxy shipping data we suggest that a more appropriate design peak hour rate should be in the range of 20 vehicles per hour (vph), which is closer to the 30th highest hour that is typically used for peak hour traffic analysis purposes. The data recorded shows a maximum hourly shipping rate of 23 vph, which would be experienced on an infrequent basis.

The HRS forecasts an average daily truck shipping volume of 114 trucks per day during the peak month. The proxy data provided shows that the peak day of the peak month had a truck shipping volume of 174 vehicles per day (vpd) and that 65% of the days in that month had shipping volumes that exceeded 114 vpd. Based on this review we conclude that the forecasted daily truck volumes, used for analysis, may under-estimate typical peak period conditions.

While the HRS may under-estimate the peak hour and peak day volumes of trucks generated by the Eramosa Quarry, it is unlikely that the higher volumes will substantially change the conclusions reached in the impact assessment that has been provided to date in the HRS. “

- **“Need for Additional Environmental Review** – The HRS concludes that Sections 5 to 8 of the *Haul Route Study – Terms of Reference* need not be completed because it has been demonstrated that the additional truck traffic on the haul routes would be very low. As noted above we believe that the truck volumes may be under-estimated in the HRS. However, with the exception of the safety issues identified at the intersection of Main Street / Mill Street (Acton), there has not been sufficient information provided to identify the potential issues along the haul routes. Therefore, in our opinion, it is premature to conclude that a more holistic environmental review is not warranted.”
- **“Consideration of Alternate Haul Routes**– The response matrix provided by James Dick Construction Limited (JDCL) provides some rationale for not diverting additional traffic to Guelph Line, in lieu of sending almost all of the traffic to the east on Highway 7. The disadvantages identified for this route include the following:
  - Adds 9 km to the typical haul route;
  - Requires travel on Milton Townline (Regional Road 32) which has seasonal truck restrictions;
  - Requires additional turning movements to access Highway 401.

The revised HRS does not provide an assessment of this alternate haul route. It is recommended that the HRS be revised to include an appropriate assessment of this haul route option.”

Further comments from the Region of Halton, Town of Halton Hills and Town of Milton would also be anticipated on the HRS.

### **Review Status/Conclusions**

The Burnside review of the August 20, 2015 revised HRS concludes that matters remain outstanding with respect to the HRS, which should be further addressed before the study is approved. It is anticipated that additional comments on the HRS would also be provided by the Region of Halton, Town of Halton Hills and Town of Milton.

The primary concerns identified by Burnside relate to examination of additional options for better mitigation of the safety issue at Main Street/Mill Street in Acton and a broader examination of potential issues along the haul routes, particularly related to safety. In addition, an appropriate assessment of the potential for using Guelph Line as an alternative haul route should be undertaken.

However, it is noted, that with respect to the primary issue of safety at the intersection of Main Street/Mill Street in Acton, Burnside recognize the safety issue identified already exists for large trucks turning at this location regardless of any traffic from the proposed Hidden Quarry. This situation presumably also applies to any other safety issue identified in the corridor. Further, the broad significance of this issue has been recognized by the Town of Halton Hills who are requesting that the issue of long-term transportation alternatives for aggregate haul routes impacting the Town be examined in a joint study with MTO. Similarly, Burnside recognize that some justification have been provided with respect to the disadvantages of diverting traffic to the Guelph Line, but request that a thorough assessment be carried out.

As noted a haul route study is a support document used as a basis for setting conditions of development. Given the conclusions of the Burnside review, and the progress that has been made with the Haul Route Study, it is appropriate to require that the study be completed to the satisfaction of the Township of Guelph/Eramosa in consultation with the Town of Halton Hills, the Town of Milton and the Region of Halton, and that its recommendations be implemented as a condition of development.

## **4.6 Noise /Blast Vibration**

### **4.6.1 Township**

#### **Review Summary**

Novus Environmental (Novus) carried out a peer review of the initial Noise Impact Study prepared by Aercoustics Engineering Ltd. (AEL) and the Blast Impact Analysis prepared by Explotech Engineering Ltd. (Explotech), both dated November 19, 2012. In their initial comments of April 8, 2013, Novus concurred with the blast vibration report, including the recommendations for blast monitoring. They further recommended that the blast record information be made available to the Township for its review in the presence of any vibration complaints. With respect to the noise, Novus recommended in the April 8, 2013



comments that a number of issues be addressed. An updated report was prepared by AEL dated May 24, 2013, together with a response to the Novus comments. Novus reviewed these documents and indicated that they were satisfied that “noise levels from the proposed quarry operation will meet the applicable guideline limits at all noise-sensitive points of reception.” However, Novus recommended that as a condition of approval the development be subject to a third party acoustical audit in the first year of operation to confirm the conclusions of the study.

### **Review Status**

The review of the noise and blasting impacts analyses by Novus on behalf of the Township concluded that the analyses and conclusions were satisfactory subject to blast monitoring, provision of blast record information to the Township and a third party acoustical audit in the first year of operation.

#### **4.6.2 Union Gas**

##### **Review Summary**

Union Gas in a letter of May 7, 2013 identifies a number of conditions related to their pipeline and notes that JDCL have indicated that these conditions can be met.

##### **Review Status**

Union Gas requires that vibrations at the pipeline remain below 50mm/sec (proposed as 12.5 mm/sec) and that blasting not occur within 30 meters of the pipeline (proposed at 200 meters).

#### **4.6.3 Conclusions: Noise/Blast Vibration**

The review of the noise and blasting impacts analyses by Novus on behalf of the Township concluded that the analyses and conclusions were satisfactory subject to blast monitoring, provision of blast record information to the Township and a third party acoustical audit in the first year of operation. Union Gas also identified a number of conditions related to their pipeline.

#### **4.7 Archaeology**

##### **Review Summary**

A Stage I-II Archaeological Assessment was carried out by York North Archaeological Services Inc., August 31, 2012. The report identifies an area on the west side of the site south of the former pit (AjHa-50 James D. site) as the only area where historic archaeological resources were located. It has been identified as requiring a Stage 3

assessment. JDCL has agreed to conduct a Stage 3 assessment once MNRF has signed off on their application for the Category 2 Class "A" quarry.

The report has been reviewed by the Ministry of Tourism, Culture and Sport. In a letter dated November 7, 2012, the Ministry advises that the "ministry is satisfied that the fieldwork and reporting for the archaeological assessment is consistent with the ministry's 2011 *Standards and Guidelines for Consultant Archaeologists* and the terms and conditions for archaeological licences."

### **Review Status/Conclusions**

The Ministry of Tourism, Culture and Sport has advised that they are satisfied with the archaeological assessment. The Stage 3 assessment of the area on the west side would be carried out as a condition of approval of the license.

## **4.8 Cultural Heritage**

### **Review Summary**

A Cultural Heritage Resource Assessment was carried out by Mr. Peter Stewart of George Robb Architect. Unterman McPhail Associates, Heritage Resource Management Consultants (Unterman McPhail) reviewed the submission on behalf of the Township. They did not identify any significant issues with the report, but suggested that some of the existing information in the report be amplified. A revised report was submitted dated September 8, 2014. Unterman McPhail reviewed it and indicated in a memorandum dated August 26, 2015 that the report "does address most 'information gaps' although there are a couple of areas which could be dealt with in the future if deemed necessary." It is also noted that when the final site plan is available it should be appended to the report to allow for a better understanding of conceptual site design and the mitigation measures discussed in the Assessment.

### **Review Status/Conclusions**

Based on the review carried out by Unterman McPhail, the revised Cultural Heritage Resource Assessment addresses most information gaps and no additional work is required, subject to the addition of the final site plan when available. In the future, if deemed necessary by the Township, consideration could also be given to whether more information on family history should be provided to enhance any commemorative history relating to the study area.

The report concludes that the project will not involve or result in any potential impacts to the subject property or an adjacent property and, in particular the cultural heritage landscape represented by the rural roadscape of Sixth Line north of Highway 7 will be

preserved by retention of the treed road verge and landscaped berm beyond. This should be required as a condition of development.

## **4.9 Visual**

### **Review Summary**

JDCL submitted a “Visual Information Package” in 2012. The submission was prepared by JDCL in response to a request from the Township. Mr. Colin Berman, OALA, CSLA of Brook McIlroy Inc. (Brook McIlroy), a licensed landscape architect, undertook a review of the Visual Information Package on behalf of the Township and considered site plans from June 6, 2014 and August 1, 2014. As part of Mr. Berman’s review he also toured the site. This included driving along Highway 7 and 6<sup>th</sup> Line and stopping at the vantage points depicted in the Visual Information Package. In addition, he entered the site at the south-west and north-east corners to view areas where a berm is proposed to be constructed. Mr. Berman concluded in a letter dated November 5, 2014 that “the information contained within it is reasonably accurate and that it fairly represents the ability of the public to view the proposed operation from lands around the site.”

### **Review Status/Conclusions**

The review of the Visual Information Package provided by JDCL carried out on the Township’s behalf by Brook McIlroy, concluded that the information is reasonably accurate and fairly represents the ability of the public to view the proposed operation from lands around the site. The development should be controlled to ensure that it generally reflects the proposal as assessed as a condition of development through the zoning by-law and ARA site plan.

## **4.10 Agriculture**

### **Review Summary**

Stovel and Associates prepared the “Agricultural Impact Assessment Proposed Hidden Quarry”, dated February 3, 2015. It was reviewed on behalf of the Township by Macaulay Shiomi Howson Ltd. A number of issues were identified related to evaluation of impacts on the agricultural potential of the area, additional clarity on the impacts on horse farms in the area, applicability of MDS and provision of water. A revised Assessment was submitted dated August 5, 2015.

The Assessment is based on a review of relevant background information (e.g. correspondence from Ministry of Agriculture Food and Rural Affairs, soil maps, aerial photography); an agricultural inventory of the study area; an inventory of agricultural operations in the study area; a review of the Operations and Rehabilitation Plan for the

proposed quarry; an assessment of the potential impacts on agricultural resources in the study area based on an evaluation of quarry impact reports, consideration of the need for mitigation protocol and monitoring programs to protect agricultural resources and a comparative evaluation of the proposed quarry application in terms of planning policies related to the protection of agricultural resources.

The Assessment concluded that "impacts on the agricultural resource base and on adjacent agricultural operations are anticipated to be minimal. Monitoring measures are implemented in the Site Plans to ensure that adjacent sensitive land uses and farm operations are not negatively affected by the mineral aggregate operation." In particular, two agricultural operations were closely considered as part of the Assessment: the mushroom farm to the north and the horse farm to the east. The Assessment notes "the main concern related to the mushroom farm focuses on the potential for impacts related to dust. Design features are set out on the Site Plan, i.e. berm and vegetative screening, to mitigate impacts." With respect to the horse farm to the east, blasting is identified as the main concern. This would be mitigated by the "large vegetated setback/buffer between the horse farm and the proposed quarry." Similarly, the effects on other horse farms to the east/northeast were considered. "Given the technical recommendations included within the blasting, hydrogeology, dust and noise reports, impacts on these adjacent horse farms are considered to be minimal." The monitoring program and complaint protocol are also noted to ensure that any concerns are addressed.

## **Review Status/Conclusions**

The Agricultural Impact Assessment essentially concludes that if the recommendations included within the blasting, hydrogeology, dust and noise reports are followed, impacts on agriculture within the Study Area would be minimal and concerns will be addressed through the monitoring program and complaint protocol. To ensure that this conclusion is implemented as a condition of development, the monitoring program and complaint protocol should specifically identify the need to address any potential for impacts on agricultural operations.

## **4.11 Economic Development**

### **Review Summary**

Altus Group Economic Consulting was retained by the Township to carry out an economic impact study of the proposed quarry based on Terms of Reference established by the Township. Their report "Economic Impact of Proposed Hidden Quarry" is dated August 21, 2015. It provides estimates of the potential economic impact of the development and operation of the proposed quarry; an assessment of any property value impacts; and estimates the net change to the local government revenue that would occur should the proposed quarry proceed. Its key conclusions are as follows:

### **“Local Economic Impacts**

- The estimated total extra expenditure occurring within the Guelph-Eramosa Township as a result of 20 years of regular operations at the proposed quarry is \$11.9 million;
- The estimated total extra expenditure occurring within Wellington County as a result of 20 years of regular operations at the proposed quarry is \$24.3 million; and
- The estimated total extra expenditure occurring within the Halton Region as a result of 20 years of regular operations at the proposed quarry is \$2.2 million.

### **Effects on Local Property Values**

- Review of relevant literature indicates some evidence that pits and quarries are associated with modestly lower property values, but the causality of this association may be linked to other factors such as amenities and zoning, rather than being directly related to operations;
- Analysis of local existing home transaction data indicates no statistically significant price impacts, either positive or negative, resulting from proximity to the subject site as the proposed uses became known; and
- As a result, there is neither conclusive evidence nor strong reason to conclude that operation of the proposed Hidden Quarry will have a diminutive effect on local property values as the quarry goes into operation.

### **Net Change in Municipal Government Finances**

- The annual on-going government revenues (taxes, aggregate fees) generated from the proposed hidden quarry would represent a total net change from existing revenue of more than \$47,300 to the Municipality;
- The Township would be faced with around \$4,120 in additional annual operating costs as a result of the quarry on an annual basis; and
- This results in an increase of more than \$43,200 in annual net revenue to the Municipality.”

### **Review Status/Conclusions**

The report prepared for the Township “Economic Impact of Proposed Hidden Quarry”, establishes that local economic impacts from the proposed quarry would be positive and that there would be an increase of more than \$43,200 in annual net revenue to the Township. With respect to local property values the report indicates that there is no conclusive evidence, or strong reason to conclude that the operation of the proposed quarry will have “a diminutive effect on local property values”.

## **5. Public Input and Review**

Significant input has been received, and continues to be received, from the general public and stakeholder groups at the public meetings and in submissions/delegations to Council as well as written submissions to the Township. To date, 135 written submissions have been

made to the Township from 95 individuals, as well as written submissions and 24 delegations to Council by the CRC.

Through the technical review by the Township and other agencies all the issues identified by the general public have been reviewed and considered. These include concerns with impacts related to:

- property value;
- private wells;
- traffic including road upgrades and traffic lights;
- blasting/vibration;
- air quality;
- noise;
- natural environment including water quality, wetlands, wildlife including Species at Risk and Brydson Creek;
- damage to homes;
- taxes;
- archaeology/cultural heritage;
- karst topography;
- visual impacts;
- haul route;
- impacts on agriculture including food production and equestrian farms; and,
- lack of need for additional aggregate resources.

However, the CRC has also chosen to retain consultants who have made submissions with respect to the key issues identified by the public, specifically hydrogeology, Species at Risk, Brydson Creek and air quality. In addition, a submission was received on August 5, 2014 from one of the consultants which relates to a range of issues (e.g. a request for a fish community and aquatic habitat baseline survey, transportation, rock quality tests, implications for equestrian exercise tracks, increased surface and groundwater monitoring). The CRC has also made submissions with respect to a number of technical matters including risks related to mining and the Dolime Quarry, including flyrock, and an "Appraisal of the Golder "Peer Review" of Blast Impact Analysis Reports", as well the TIS and HRS, radon gas, natural environment, and agricultural assessment. The key CRC issues and input are addressed in the following section, together with the status of their review.

## **5.1 Hydrogeology**

### **5.1.1 Input and Review Summary**

A major concern of the public is with water quality and quantity, particularly as it affects private domestic wells. This was also a key focus of the Township's technical review as discussed above.

The CRC retained Mr. Garry Hunter, Hunter and Associates, with respect to these issues. A presentation and written submission was made to Township Council on behalf of the CRC by Mr. Hunter which set out a number of questions and requests for documentation. A copy of the response to the Hunter comments was provided to MSH in a memo from JDCL dated July 8, 2014. Burnside reviewed the Hunter submissions and the JDCL response on behalf of the Township and found the response to be reasonable. The response from JDCL has been made available to the CRC and the public, and was considered by Burnside in their on-going review of the application.

A further submission was made by Mr. Hunter on behalf of CRC on August 5, 2014. The CRC Hunter submission relates to the Site Plans and a variety of matters including Surface and Groundwater Monitoring and Brydson Creek Base Flow Monitoring. JDCL responded to these comments on August 15, 2015. Burnside reviewed the response and found it appropriate. Burnside indicated that many of the concerns raised in the CRC Hunter submission were related to domestic wells and that the detailed domestic well survey to be completed by JDCL would provide additional clarification.

A Peer Review was then prepared by Hunter and Associates dated May 15, 2015. JDCL's consultant, Harden Environmental Services Ltd. responded to the Peer Review in a letter dated July 16, 2015. The letter notes that, based on the Hunter and Associates analysis, "there are two areas where the site plans could be improved upon". These relate to showing a range of water levels for the proposed quarry pond elevations instead of one value and a review of quarry floor elevations relative to high groundwater level should be done in order to ensure that the working floor is not below the water table.

Burnside have reviewed the response from JDCL and found the responses appropriate. However, Burnside was not clear as to why Hunter believes that the Tributary B hydrogeological conclusions are suspect since Harden has demonstrated that bedrock water levels have no influence on Tributary B. In addition, Hunter raised concerns about the calibration of the Harden groundwater model and applies a 2x safety factor to the applicants drawdown predictions. Hunter provides a number of specific examples of how the model has been adversely affected by the data input. Burnside notes that although Harden provides a satisfactory response to the Hunter concerns, they do not respond to the specific examples raised by Hunter and do not challenge the 2x factor of safety proposed by Hunter.

The Hunter review includes detailed trigger levels for water levels and water quality. Harden proposes that trigger levels be developed once additional monitoring has been completed. Burnside concurs with Harden that the trigger levels should be set after more data is collected, but recommends that the methodology for setting trigger levels should be agreed upon.

### **5.1.2 Input and Review Status/Conclusions**

Burnside reviewed the original Hunter submissions in 2014 and the JDCL response on behalf of GET and found the response to the Hunter submissions to be reasonable.

With respect to the May 15, 2015 Peer Review, Harden on behalf of JDCL recommends two changes to the site plans with which Burnside concurs. Therefore, the following conditions of development are recommended to be established through the ARA licence application approval:

- That the ARA Site Plan identify a range of 347.6 m AMSL to 349.6 AMSL water levels for the proposed quarry pond elevations instead of one value;
- That a review of the quarry floor elevation relative to high groundwater level be done to ensure that the working floor is not below the water table, and if the quarry floor is below the high water table, that an appropriate elevation adjustment be identified on the ARA Site Plan; and,
- That trigger levels for water levels and water quality should not be set until the collection of additional data is complete, however the methodology for setting trigger levels should be determined and the trigger levels set prior to the start of any extraction.

## 5.2 Natural Environment

### 5.2.1 Input and Review Summary - Species-at-Risk

CRC retained Dr. Bill McMartin with respect to Species at Risk potential within lands adjacent to the proposed Hidden Quarry site. Dr. McMartin conducted one site visit on July 2, 2014, although he did not follow standard professional protocol in accessing the site. He identified one barn swallow<sup>9</sup>, a species which he indicates as being designated “Threatened” by Environment Canada’s Committee on the Status of Endangered Wildlife in Canada (COSEWIC) as part of his site visit. He also provides general commentary regarding other potential Species at Risk including Snapping Turtle, Blanding’s Turtle and Eastern Wood-Pewee.

Dr. McMartin’s report was reviewed by GWS on behalf of JDCL. GWS noted that, in their opinion “the mandate for endangered and threatened species in Ontario lies solely with the Ministry of Natural Resources and Forestry (MNRF).... In the case of Hidden Quarry, the Ministry has concluded that the inventory work to determine presence/absence of endangered and threatened species was adequate and that no additional fieldwork was required.” Further, GWS noted that as the site is private land “provincial designations of Species at Risk by MNRF and the Committee on the Status of Species at Risk in Ontario (COSSARO) apply to the site, not federal designations by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). GWS then go on to explain why in their opinion the Barn Swallow observed was not a breeding individual. Further, they advise that with respect to significant turtle species, GWS noted that wetland habitats on the site are being maintained and additional habitat created not lost as indicated by Dr. McMartin. Therefore,

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<sup>9</sup> Barn Swallow is listed as threatened under Ontario’s Endangered Species Act, 2007 (ESA) and has been designated as threatened in Canada by COSEWIC.



GWS indicate that turtles will not be excluded from the site, and no permit is required at any level.

The McMartin report was also reviewed by Burnside on behalf of the Township. Burnside notes in a letter dated March 4, 2015 that the report “includes additional field data collection to determine if the Site and surrounding lands provide habitat for any Species at Risk (SAR) that may be located within the study area.” Burnside notes that no breeding evidence of any birds listed under the Endangered Species Act 2007 were found, although the Site was assessed as having feeding and foraging habitat. Burnside also notes that Snapping Turtle, a Species of Special Concern was documented on and in the immediate vicinity of the Site. Burnside concludes that “we are not suggesting additional field data collection and mapping but rather that additional mitigation measures would minimize the potential for adverse effects..... rehabilitation and mitigation plans are required under the Aggregate Resources act and are expected to be included as notes on the application (site) plans. According to the Site Plans date (sic) July 14, 2014, tree removal will not occur during the breeding bird season. Therefore, additional mitigation measures to ensure that the proposal is in accordance with the Migratory Birds Convention Act are not required.”

### **5.2.2 Input and Review Status- Species at Risk**

GWS on behalf of JDCL, and Burnside on behalf of the Township, have reviewed the McMartin report and identify no need for additional field data collection or mapping. Burnside do indicate that additional mitigation measures should be considered and included in rehabilitation and mitigation plans established through the ARA licence application approval as part of the ARA Site Plan. Burnside have identified that the following should be established as conditions of development:

- Exclusion fencing should be installed prior to April to prevent turtle species from using stockpiled areas as nesting habitat;
- Worker education programs to identify and relocate turtles from hazardous areas of the site should be included in Health and Safety training;
- Stockpiling of materials should be excluded from natural heritage features, especially adjacent to wetlands;
- Wetlands should be fenced, and edge buffer to the feature should be included in the fenced area, to be determined by MNRF;
- Rehabilitation plans should include habitat creation and enhancement for species suspected to be using the site, including basking areas for turtles in wetlands, foraging habitat for grassland birds and nesting structures for barn swallow (as examples);
- Wetland features that exclude habitat for fish to enhance herpetofaunal habitat (particularly breeding habitat) should also be included as part of the wetland creation;
- A mixture of coniferous and deciduous trees should be included, with less focus on white spruce;

- Wetland plantings should include a mixture of submergent, emergent, floating and woody vegetation species, to diversify habitat; and,
- Open cliff habitat should include ledges for bird nesting and roosting.

### 5.2.3 Input and Review Summary – Brydson Creek

In addition to the McMartin report, a study was prepared by K. Schiefer, Aquatic Ecologist on behalf of CRC entitled "Aquatic Habitat & Fish Survey of Brydson Creek". The report was reviewed on behalf of the Township by Burnside. In a letter dated March 4, 2015, Burnside notes that "based on Burnside's detailed peer reviews of the proposed quarry application and the supporting technical studies to date, including the Hydrogeology and Hydrology Study and the Level 2 Natural Environment Report, it is our opinion that the proposed quarry operations will not cause a change that is significant enough to result in adverse effects to the resident fish population...Therefore, it is not expected that the proposed Hidden Quarry will result in an adverse effect to the local brook trout fishery provided that best management practices and standard Erosion and Sediment Control mitigation measures are followed."

### 5.2.4 Input and Review Status – Brydson Creek

Based on the review of the report "Aquatic Habitat & Fish Survey of Brydson Creek", by Burnside on behalf of the Township, no additional conditions of development, other than those proposed above related to hydrogeology, are required.

## 5.3 Air Quality

### 5.3.1 Input and Review Summary

CRC retained Airzone One Ltd. (Airzone) to review the report "Proposed Hidden Quarry Air Quality Assessment" prepared by RWDI AIR Inc. for JDCL. Airzone provided:

- "a "how-to" guide for AQA for aggregate operations";
- "screening-level review of RWDI report" ; and,
- answered "questions posed by CRC".

In a letter to JDCL from RWDI, "RWDI Response to Airzone One Ltd. Screening-Level Review Air Quality Assessment for the Proposed Hidden Quarry", June 6, 2014, RWDI prepared a response to the Airzone submission dated June 6, 2014 which expresses concerns with the Airzone submission.

Burnside reviewed both the Airzone submission and the RWDI review of that submission and the results of the review are reported in a letter to the Township dated January 22, 2015. Burnside concluded based on their review of all the documents that:

“Overall, the documents in Table A show:

- The proponent can receive an Environmental Compliance Approval for the property (as summarized in the initial general review letter of January 11, 2013),
- Including road dust, there are some exceedences of the appropriate particulate criteria,
- The number of exceedences predicated depends on the scaling factor used to predict the background values for PM<sub>10</sub> and TSP based on the PM<sub>2.5</sub> background values. Using either scaling factor, the number of exceedences is likely acceptable since the exceedences will only happen when meteorological conditions match the model and the production is at a maximum, which the proponent indicates is unlikely. The difference between scaling factors is within the uncertainty of each factor.

Based on these points, the AQA shows the proposed Hidden Quarry is unlikely to cause adverse effect to sensitive receptors in the area.”

### **5.3.2 Input and Review Status**

Based on the review of the Airzone submission, and the response from RWDI, Burnside has confirmed its initial conclusion that the air quality review was based on reasonable assumptions and there was nothing in the ESDM which would indicate that the site could not receive an Environmental Compliance Approval.

## **5.4 Blasting/Fly Rock**

### **5.4.1 Input and Review Summary**

Mr. William Hill of CRC made a presentation to Council with respect to the risks involved in mining on October 21, 2013 (e.g. fly rock). In addition, Mr. Hill provided a memorandum dated July 22, 2014 related to a comparison between Dolime Quarry (DQ) and Hidden Quarry (HQ). The memorandum was developed to clarify “the question of whether the two projects are similar enough to justify mining of the HQ based on the criteria derived from the proponents’ experience in the DQ”. The memorandum also addressed related issues (e.g. flyrock). JDCL submitted a response in a letter dated July 22, 2014 to the second submission.

JDCL also submitted a peer review of the Explotech report in response to a request from CRC for a peer review by Golder Associates. The initial peer review carried out by Golder related to the 2012 Explotech report. The final Golder peer review dated October 1, 2014, related to the September 5, 2014 Explotech report. Golder concluded that:

“...we are conditionally in agreement with the BIA conclusion that the “blasting operations required for operations at the proposed James Dick Construction Ltd. Hidden Quarry site

can be carried out safely and within governing guidelines set by the Ministry of the Environment.” While the empirical formulas applied are generic in nature and are to be confirmed on site through the institution of attenuation analysis and compliance monitoring programs, it is also important to apply realistic estimates so that designs, and associated costs, more closely reflect the reality to be expected. This statement should not be interpreted to mean that compliance with MOECC overpressure limits would not be possible. However, compliance may require additional effort and associated additional cost. As suggested in the BIA “the point of termination of blasting operations will be governed by the results of the on-site monitoring program and market economics.

The remainder of the report’s recommendations are reasonable and acceptable.”

Bill Hill, William Hill Mining Consultants Ltd. submitted on behalf of CRC, a delegation to Council on February 17, 2015 “Appraisal of Golder “Peer Review” of Blast Impact Analysis Reports” which identified a range of issues “addressed inadequately or not at all by BIA and Golder peer review”. These included geology and karst weathering, unique characteristics of HQ site, fly rock, drilling and blasting considerations, blasting patterns and powder factor, shockwaves and ground vibrations. CRC requested that the Township “secure its own, thorough peer review of the proponent’s blasting impact reports” and also that “the HMC Appraisal report to be submitted to the Township’s peer reviewer and responses directed to CRC”.

Further to this submission, on March 3, 2015, JDCL submitted a letter dated April 10, 2014 from Explotech regarding the potential for flyrock from the proposed quarry. The letter provides an analysis of theoretical flyrock projection distances “based on a quarry operating in the dry”, while noting that “it is critical to note that the proposed Hidden Quarry intends to operate in a wet environment. It has been our experience that the presence of water will restrict rock projection by up to 90% when compared to calculations contained below.” Explotech concludes that:

“the actual observed flyrock will be drastically restricted due to the presence of water. Portions of rock above the water level would not leverage this same benefit.

Through proper blast design and diligence in inspecting the geology before every blast, flyrock can readily be maintained within the quarry limits. It may be necessary to increase collars when blasting along the perimeter. The operational plan for the quarry has been designed to retreat towards the closest receptors thereby projecting flyrock and overpressures away from receptors.”

The letter also notes that “government regulations strictly prohibit the ejection of flyrock off of quarry property. The regulations regarding flyrock are enforced by the Ministries of Natural Resources, Environment and Labour. In the event of an incident where flyrock does leave a site, the punitive measures include suspension/revocation of licences and fines to both the blaster and quarry owner/operator. Fortunately, flyrock incidents are extremely

rare due to the possible serious consequences of such an event..... Through proper blast planning and design, it is possible to control and mitigate the possibility of flyrock."

Mr. Hill in a letter dated March 13, 2015 took issue with the letter from Explotech and states:

"In conclusion it is important to point out that Explotech has long been aware of the challenges posed by geology which is clearly pointed out in their November 16, 2012 Blasting Impact Analysis on page14.....The letter, like the previous reports (BIA 1 and in the Golder peer review) has again ignored the most important contributors to flyrock i.e. human error and geology."

JDCL submitted an email dated April 2, 2015 from Golder outlining their credentials for carrying out an impartial third party review of Explotech's impact assessment. In addition, Golder also indicates that the April 10, 2014 letter from Explotech "described the approach widely used by industry to estimate flyrock range from quarry bench blasts...we agree with the approach and flyrock range estimates contained in the letter report. The presence of water within the quarry will restrict the face burst flyrock from below the water level and not that from the bench top cratering." The Township's consultant, Novus, have also advised that they are in general agreement with the letter from Explotech.

Further to these various submissions, in an April 16, 2015 letter to CRC, Ms. Wingrove the CAO of the Township advised that JDCL was not prepared to undertake a detailed review of the issues raised by Mr. Hill. She also advised that a decision on further review of blasting impacts would be undertaken by Council once they have considered the results of the planning report. CRC indicates that in their view "the assessment of matters as serious as blasting impacts must inform the planning report." They therefore again ask the Township to retain "its own qualified blasting consultant to carry out a thorough assessment of the proponent's blasting impact reports, and that the issues raised in the Hill Report be provided as input to the review process."

#### **5.4.2 Input and Review Status**

As noted above the review of blasting impacts analysis by Novus on behalf of the Township concluded that the analyses and conclusions were satisfactory subject to blast monitoring, and provision of blast record information to the Township. This conclusion is supported by the additional input provided by JDCL including the review by Golder and the additional input on flyrock from Explotech.

## 5.5 Traffic Impact and Haul Route

### 5.5.1 Input and Review Summary

CRC submitted "Review of JDCL Traffic Impact Study and Haul Route Study" dated April 27, 2015 and CRC made a delegation to Township Council regarding the submission on May 4, 2015. The submission reviewed and provided comments on the March 30, 2015 Haul Route Study. It concluded that the "haul route study is seriously flawed and misleading". The JDCL Letter Response to CRC Memo dated April 2015 was prepared by JDCL (Greg Sweetnam) and is dated June 26, 2015. Burnside considered the CRC submission and the JDCL response in its peer review of the Haul Route Study (HRS) dated June 26, 2015. Since that time based on the peer review carried out by Burnside and other input, a revised Haul Route Study and a revised Traffic Impact Study have been submitted. The results of the peer review of these revised documents by Burnside are outlined above. Burnside continues to take into account the earlier input in their peer review comments on the revised studies.

### 5.5.2 Review Status

The Burnside review of the August 20, 2015 revised HRS concludes that matters remain outstanding with respect to the HRS, which should be further addressed before the study is approved. It is anticipated that additional comments on the HRS would also be provided by the Region of Halton, Town of Halton Hills and Town of Milton.

However, as noted a haul route study is a support document used as a basis for setting conditions of development. Given the conclusions of the Burnside review, and the progress that has been made with the HRS, it is appropriate to require that the study be completed to the satisfaction of the Township of Guelph/Eramosa in consultation with the Town of Halton Hills, the Town of Milton and the Region of Halton, and that its recommendations be implemented as a condition of development.

## 5.6 6<sup>th</sup> Line

### 5.6.1 Input and Review Summary

In a delegation to Council on February 3, 2015, "Potential Impact of Hidden Quarry on the 6<sup>th</sup> Line & Residents", CRC identifies potential impacts primarily related to traffic, and modifications to the road, but also blasting, and the cultural heritage landscape of 6<sup>th</sup> Line. Burnside advise in a letter dated August 27, 2015 that based on their peer review of the TIS, they believe that "the improvements identified for 6<sup>th</sup> line and for Highway 7 are sufficient to mitigate the traffic impacts from this development in this area. The relocation of 6<sup>th</sup> Line and 5<sup>th</sup> Line into a single signalized intersection is not justified from a traffic perspective, given the potential for less obtrusive mitigation measures being available (i.e. left turn lanes at each of the intersections, with a continuous turn lane between the intersections, plus a right turn deceleration lane at 6<sup>th</sup> Line). The background traffic using the 6<sup>th</sup> Line intersection is forecasted to be very low (i.e. 11 vehicles per hour in the peak hours), which does not justify the bridge replacement on 6<sup>th</sup> Line to the north, which would

be required to provide an alternative travel route. The improvements to Highway 7 are subject to approvals / permits being obtained from the Ministry of Transportation (MTO), since Highway 7 is under their jurisdiction. Previous comments from the MTO have not identified the spacing of 5th Line and 6th Line to be a potential concern."

Issues related to blasting and cultural heritage have also been addressed through the various studies and peer reviews.

### **5.6.2 Review Status**

The issues identified with respect to 6<sup>th</sup> Line identified by CRC in their delegation of February 3, 2015 have been addressed through the peer reviews of the TIS, Haul Route Study, blasting study and cultural heritage study and related conditions of development.

## **5.7 Mega-Quarry Application –Related Issues**

### **5.7.1 Input and Review Summary**

CRC forwarded to the Township on July 30, 2014, a document entitled "Technical Review On Behalf of Nottawasaga Valley Conservation Authority of Supporting Documentation Provided by Highland Companies in Support of Their Application to the Ministry of Natural Resources (MNR) For a Category 2, Class A License Under The Aggregate Resources Act", Melancthon Township, May 2014 prepared by SLR. This was provided to them by their consultant, Garry Hunter. The cover email indicates that "Table 1 is very important to review as many of the concerns the CRC raised about the Hidden Quarry application are also of concern in the Megaquarry application. Garry also drew our attention to Sec D.3 beginning on pg. 44 and specifically pages 50-54 with respect to blasting and fisheries. There is no similar information in the HQ application."

There are significant differences between the current application and the Melancthon application with respect to size, complexity, location and environment. It is questionable therefore how applicable the information provided is to the current application. However, the submission was been provided to Burnside and the applicant for their information.

The cover email also indicates:

"Our group is concerned that with the recent purchase of the land adjacent to the site and other aggregate applications that are being submitted to council.... we may have a megaquarry in our community."

Further, in a March 2, 2015 delegation to Council, CRC identified two properties one in the northwest quadrant of Highway 7 and 6<sup>th</sup> Line, and the other to the northeast, east of the railway on the Township boundary, which CRC asked the Township to consider "implications

for additional quarry applications for these two properties or more if Hidden Quarry rezoning approved.”

The application that is under review is specific. There is no indication of any proposed expansion or “megaquarry”. If such an expansion should be proposed it would require submission of additional applications under the Planning Act, including with the recent changes to the County Official Plan an amendment to that Plan, as well as applications under ARA, and a detailed review including full public consultation would be required. It is not possible or appropriate to evaluate something that has not yet been, and may never be, proposed.

Further, the use of the term “mega-quarry” would not appear to be applicable in the GET context given the accepted definition of such a use. The State of the Aggregate Resource in Ontario Study (SAROS), Paper 2: Future Aggregate Availability and Alternatives Analysis prepared by MHBC, includes a discussion of Mega-Quarries. It indicates that the criteria for such a quarry are reserves of at least 150 million tonnes and an annual production capacity of 5-10 million tonnes (compared with 12 million tonnes and extraction of 700,000 tonnes for the proposed Hidden Quarry). The Report goes on to indicate that one of the primary challenges for establishing a mega-quarry for Southern Ontario would be “the significant land acquisition required” given the degree of parcel fragmentation. An extraction area of 280 hectares at a 20 metre extraction depth was estimated as being required for a “mega-quarry”.

### **5.7.2 Input and Review Status**

The information submitted by CRC regarding the proposed Melancthon Quarry was provided to Burnside and JDCL for their information.

## **5.8 Other Issues**

### **5.8.1 Input and Review Summary**

#### **Radon Gas**

In a delegation to Council on July 13, 2015, CRC identified concerns regarding radon gas and asked what action the Township would take “to address the possibility that operations of Hidden Quarry will influence the increase of Radon gas release into our environment?” JDCL have advised that they will have RWDI provide additional input, but that Radon is a naturally occurring gas related to uranium decay in the rocks that make up the earth. They further advise that Radon is essentially everywhere. Further, Radon gas accumulating in basements is a function of the local geology, house construction methods and air circulation in and around the basement. Therefore, JDCL indicates that given that the quarry has been designed not to impact on any surrounding structures there should be no impact.



## **Cumulative Impacts**

At a meeting on May 22, 2014 CRC suggested that a report on cumulative impacts should be considered related to the Dolmine pit and Tri-City application. Burnside have advised that due to the distance between the sites there will be no cumulative impacts related to hydrogeology which would be a key consideration in any assessment of cumulative impacts. This would also be true for other factors such as air quality and noise. Therefore, such a study is not considered appropriate.

## **Financial Protection against damages, Third Party Bond**

With respect to the W&T Mushroom Farm, CRC has raised the issue of financial protection against damages and a third party bond including in a delegation on June 1, 2015. As part of the conditions of development, various approaches will be established to protect any landowners, including the mushroom farm, which may be impacted by the quarry operations (i.e. well contingency plan). JDCL will be responsible for any impacts and this responsibility will be enforced through MNR and MOECC and the Township. A third party bond is unlikely to address impacts, however, as it is not possible to determine security levels for possible work or damages that are unknown and unquantified and which science indicates is unlikely to happen. Further, the powers of the Township to demand bonds or other similar mechanisms are limited by the ARA.

## **Submission Natural Environment and Agricultural Impact Assessment Reviews**

A delegation was made to Council by CRC on August 10, 2015 with respect to the GWS Natural Environment Report, August 2013 and the Agricultural Impact Assessment, February 3, 2015 revised August 5, 2015. The request was:

- "Natural Environment report must be revised and third party should address significant habitat and wildlife CRC concerns.
- Agricultural assessment should be updated and extensive interviews with farmers should be completed.
- Decline rezoning of HQ site"

The GWS Natural Environment report has been subject to extensive review by Burnside on behalf of the Township and the relevant agencies. Further, additional related submissions from consultants retained by CRC have been reviewed by GWS and Burnside. The results of these reviews and related conclusions are discussed above including recommended conditions of development. Burnside has advised that no changes are required based on the CRC submission. JDCL has provided a response to the comments in a comment matrix submitted on September 1, 2015. The response also indicates that no changes are required to the report.

The Agricultural Impact Assessment has also been reviewed by Macaulay Shiomi Howson Ltd. on behalf of the Township and the report revised to respond to the comments. JDCL

has provided a response to the CRC comments in a comment matrix submitted on September 1, 2015 with comments provided by Stovel, Harden, RWDI and GWS. In summary, the comments note that:

- The study approach follows the standard approach established in the County of Wellington Official Plan;
- The type of study determines the type of survey in this case a reconnaissance level survey was adequate to gather information regarding general agricultural land uses in the area.
- Given that Minimum Distance Separation (MDS1) is not required, there is no need to conduct surveys with adjacent farmers.
- The figure presented indicates that while the sheep farm and dairy farm exist, they were outside the study area and well buffered from the proposed quarry. In any event, there is no anticipated impact on these operations.
- The reports that are referenced have been peer reviewed by a number of agencies and professionals and their conclusions signed off on by various agencies.
- The air quality assessment has been completed using the relevant MOECC standards and guidelines. These criteria are established using an effects-based process....The effects-based process is based on MOECC's understanding and interpretation of both health and environmental effects.....The MOECC bases the criteria on the most limiting of these effects, as well as potential health concerns, ensuring the criteria is broadly protective of both the environment and human health. AS a result, the use of the MOECC criteria in the assessment is considered valid and appropriate. Furthermore, agricultural operations and aggregate sites coexist in many locations around the world. These will be no impact on the agricultural operations surrounding the site.
- Background PM2.5 levels modeled were based on a 5-year average of the annual 90<sup>th</sup> percentile hourly concentration measured in the MOECC monitoring station in Guelph (14.8 ug/m<sup>3</sup>). The Guelph monitoring station is located less than 15 km upwind of the site, and is located in a more urban setting; it is expected to provide a more conservative estimate of background concentrations.
- The mushroom farm and the horse farm are the two closest operations to the site.
- The MOECC has authority to deal with dust related complaints and has broad powers to order immediate remedies.
- The proposed quarry will reduce overall trucking.
- There is no impact on the issue of raising the floor seasonally due to local high water tables. This was fully assessed by Aercoustics in their August 10, 2015 Addendum No. 1.
- The predicted water level rise beneath the kettle depression....is approximately one metre. Therefore, root zone flooding is not predicted.....In addition, the static groundwater levels in bedrock wells located along the south side of Highway 7 are all in excess of eight metres depth and therefore well below the root zone.
- There is not expected to be any significant impact of water drawdown on any agricultural property.... The drawdown predicted by Harden Environmental occurs in the bedrock aquifer and not in the rooting zone.

- There will be no change to soil drainage on lands butting the quarry..... The soil conditions were confirmed with hand auger sampling (off site) and test pits (on-site).
- Measurements obtained by Burnside and Associates confirm that there was no impact of municipal water taking observed at wells on the Hidden Quarry site.
- Any well interference, residential or agricultural, would be remedied immediately according to the well complaint protocol.
- There is no Class 2 lands present on the site based on the onsite soil survey.
- The proposed quarry will not result in significant consumption of good quality agricultural land based on the PPS definition of Prime Agricultural Land.
- No significant impacts anticipated on Mushroom operation.
- There will be no spoilage of cash crops.
- Extensive peer reviewed hydrogeology does not predict any impact on water availability to homes and farms. A robust monitoring program followed up by a well complaint response protocol will ensure that any unexpected impacts are mitigated immediately.

### 5.8.2 Review Status

- JDCL has advised that they will have RWDI respond to the issue of Radon gas, but that no impacts are anticipated.
- A study of cumulative impacts is not considered appropriate.
- As part of the conditions of development various approaches will be established to protect landowners which may be impacted by quarry operations.
- The Natural Environment report has been subject to extensive review and related conclusions are discussed above including recommended conditions of development. No changes to the report have been identified based on the CRC submission.
- The Agricultural Impact Assessment has been reviewed on behalf of the Township and revised. JDCL has provided a detailed response to the CRC comments and no changes to the report have been identified based the CRC submission.

## 6. Evaluation

The Official Plan designates the subject lands with a Mineral Aggregate Area Overlay designation. The PPS and Official Plan, which provide the key planning policy direction for this site, recognize that:

“As much of the mineral aggregate resources as is realistically possible shall be made available as close to the markets as possible.”

At the same time, the Provincial and Official Plan policy framework makes it clear that planning decisions must properly balance all the Province’s and County’s competing objectives. Given this direction the fundamental question that must be answered in evaluating the proposed quarry application is - Can the development be permitted in a

manner which provides an appropriate balance between all the various goals and objectives of the Province and local community?

To address this question, a detailed technical review of the application and supporting reports was carried out by the Township. In addition, the application was reviewed by MNRF, MOECC, GRCA, the County, MTO, and Union Gas with respect to their individual mandates. The Region of Halton, the Town of Halton Hills and the Town of Milton also initiated reviews of specific areas of concern particularly hydrogeology, natural heritage and the haul route. As part of this, the Township also directed that an economic impact study be carried out.

The results of these technical reviews are discussed in detail in Section 4 of this report. Generally, recognizing that final comments have not been submitted by the Region of Halton, Town of Halton Hills and Town of Milton, the results of the technical review indicate that the proposed quarry, based on revised plans which reflect the technical input, can be permitted from a technical perspective as it would be anticipated to have minimal impacts with respect to the following issues:

- hydrogeology including water levels in up-gradient domestic wells, water quality in down-gradient domestic wells and the potential for impacts on Rockwood Well Number 4 and other related issues subject to a number of conditions including a private well survey, monitoring and refinement of the well contingency plan;
- natural environment including protection of wetlands, as well as Species at Risk and their habitat subject to a number of conditions;
- air quality;
- traffic impact subject to upgrading Sixth Line and the addition of turn lanes on Highway 7;
- haul route subject to completion of the Haul Route Study;
- noise and blast vibration subject to blast monitoring, provision of blast record information and a third party acoustical audit in the first year of operation;
- archaeology subject to a Stage 3 assessment for an area on the west side of the site;
- cultural heritage including the cultural landscape on Sixth Line;
- visual impact;
- agriculture provided the recommendations related to the other issues are satisfactorily addressed; and,
- economic impact.

However, as noted, approval would be subject to the establishment of detailed conditions of development to the satisfaction of the Township, in consultation with respect to specific issues with the Region of Halton, Town of Halton Hills and Town of Milton and the County of Wellington, as well as other agencies if appropriate. Initial direction with respect to the key conditions has been outlined in the report. These initial directions are consolidated in Appendix B for ease of reference. The precise range and nature of the conditions, including implementation mechanisms (e.g. ARA site plan, zoning by-law) for establishment of the

conditions will require additional consideration and consultation, particularly with the Region of Halton, Town of Halton Hills and Town of Milton regarding cross jurisdictional issues such as the haul route and well contingency plan.

In addition to the technical review, an extensive public review was carried out. Significant input has been received, and continues to be received, from the general public and stakeholder groups at the public meetings and in submissions/delegations to Council as well as written submissions to the Township. To date, 135 written submissions have been made to the Township from 95 individuals, as well as written submissions and 24 delegations to Council by the CRC.

Through the technical review by the Township and other agencies all the issues identified by the public have been reviewed and considered. These include concerns with impacts related to:

- property value;
- private wells;
- traffic including road upgrades and traffic lights;
- blasting/vibration;
- air quality;
- noise;
- natural environment including water quality, wetlands, wildlife including Species at Risk and Brydson Creek;
- damage to homes;
- taxes;
- archaeology/cultural heritage;
- karst topography;
- visual impacts;
- haul route;
- impacts on agriculture including food production and equestrian farms; and,
- lack of need for additional aggregate resources.

However, the Concerned Residents Coalition (CRC) has also chosen to retain consultants who have made submissions with respect to the key issues identified by the public, specifically hydrogeology, Species at Risk, Brydson Creek and air quality. In addition, a submission was received on August 5, 2014 from one of the consultants which relates to a range of issues (e.g. a request for a fish community and aquatic habitat baseline survey, transportation, rock quality tests, implications for equestrian exercise tracks, increased surface and groundwater monitoring). The CRC has also made submissions with respect to a number of technical matters including risks related to mining and the Dolime Quarry, including flyrock, and an "Appraisal of the Golder "Peer Review" of Blast Impact Analysis Reports", as well the TIS and HRS, radon gas, natural environment, and agricultural assessment. The key CRC issues have all been reviewed by JDCL and their response in turn reviewed by the Township's consultants. Arising from this additional review, in part, a number of changes have been proposed to the application. In particular:

- **Hydrogeology**  
Modifications have been proposed to the ARA Site Plan to identify a range of water levels for the quarry pond rather than one value, and a review of the quarry floor relative to high groundwater level is to be done to make sure the working floor is not below water table and if it is the elevation is to be adjusted. In addition, methodology for trigger levels is to be established.
- **Natural Environment**  
Additional conditions of development are proposed for Species at Risk.
- **Haul Route Study**  
Additional work is required with respect to the Haul Route Study.

Based on the policy and extensive technical and public review, in my opinion, the proposed quarry can, in principle, be developed in a manner which provides an appropriate balance between all the various goals and objectives of both the Province and local community. In the case of the proposed Hidden Quarry, it is appropriate, in my opinion after considering all the technical and public input to date, to make the mineral aggregate resource available for extraction given:

- its proximity to the key GTA market; and,
- the fact that based on the technical review, together with consideration of public input, extraction can be undertaken in a manner which minimizes social, economic and environmental impacts.

In particular, the development, based on the available information, can proceed with minimal impacts anticipated on the environment and the local community. However, this result can only be achieved provided appropriate conditions of development are established through the ARA licence approval, the zoning by-law amendment and through other available mechanisms. The precise range and nature of the conditions, including implementation mechanisms (e.g. ARA site plan, zoning by-law) for establishment of the conditions will require additional consideration and consultation, particularly with the Region of Halton, Town of Halton Hills and Town of Milton regarding cross jurisdictional issues such as the haul route and well contingency plan.

## 7. Recommendation

That the Planning Report re: Zoning By-law Amendment Application Township File ZBA 09/12 James Dick Construction Ltd. – Hidden Quarry Proposal dated September 2, 2015 be received;

And that the request to amend the Township of Guelph/Eramosa Zoning By-law, O.M.B. Case File No. PL140985, be recommended to the Ontario Municipal Board for approval in principle, subject to detailed conditions of development being developed to the satisfaction of the Township in consultation with the Region of Halton, Town of Halton Hills and Town of Milton and County of Wellington, as well as other agencies if appropriate, and established through the Aggregate Resources Act licence approval, an amendment to the Township Zoning By-law Amendment and through other available mechanisms;

And that Council direct the Township Solicitor and consultants to attend any Ontario Municipal Board proceeding which may take place in connection with the Planning Act and Aggregate Resources Act applications, in support of the recommendations outlined in Planning Report Re: Zoning By-law Amendment Application Township File ZBA 09/12 James Dick Construction Ltd. – Hidden Quarry Proposal dated September 1, 2015; and,

And that Council provide the Township Solicitor with authority to engage in settlement discussions with the applicant (and other parties to the Ontario Municipal Board hearing) and to make a request for mediation in this matter to the Ontario Municipal Board.

**Appendix A**  
**Policy Analysis**



<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<b>Provincial Policy Statement</b>	
<b>Section 2.5 Mineral Aggregate Resources</b>	
<p>2.5.2.1: "As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible.</p> <p>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."</p>	<p>The subject lands have been identified through the County of Wellington Official Plan with a Mineral Aggregate Area overlay designation recognizing the potential mineral aggregate resource. Given the location of the site close to the major markets for aggregate in the Greater Toronto Area, this policy, indicates that a priority should be given to extraction of the resource. Further, no demonstration of need is required.</p>
<p>2.5.2.2: "Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts."</p>	<p>Despite the priority given to extraction in Section 2.5.2.2, however, extraction must also minimize impacts as set out Section 2.5.2.2. The review of the studies submitted as part of the application by the Township and agencies, as well as consideration of input from the public including the CRC submissions, indicate that extraction can be undertaken in a manner that minimizes social, economic and environmental impacts subject to the recommended conditions of development including on-going monitoring.</p>
<p>2.5.3.1: "Progressive and final rehabilitation is required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration."</p>	<p>The ARA Site Plan (June 18, 2015) includes a quarry phasing plan and a plan for the progressive rehabilitation and final rehabilitation of the site. These plans illustrate how progressive and final rehabilitation will occur and recognize the interim nature of extraction. The site will be rehabilitated to an ecological land use which should be compatible with the surrounding rural land use and natural features. This use also recognizes the current land use designations in the County of Wellington Official Plan which are primarily "Greenlands" or "Core Greenlands".</p>
<p>2.5.4.1: "...on prime agricultural land extraction of mineral aggregate resources is permitted as an interim use provided the site will be</p>	<p>The site does not appear to be prime agricultural land although it was primarily designated as such in the County Official Plan prior to OPA 81. It is now primarily designated "Greenlands" or "Core Greenlands" in the County Official Plan as amended by OPA 81, although</p>

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<p>rehabilitated back to an agricultural condition. Complete rehabilitation to an agricultural condition is not required if:</p> <p>a) Outside of a specialty crop area, there is a substantial quantity of mineral aggregate resources below the water table warranting extraction, or the depth of planned extraction in a quarry makes restoration of pre-extraction agricultural capability unfeasible;....</p> <p>“Prime agricultural land: means specialty crop areas and/or Canada Land Inventory Class 1, 2 and 3 lands, as amended from time to time, in this order of priority for protection.”</p> <p>“Prime agricultural areas: means areas where prime agricultural lands predominate.....”</p>	<p>there are some small areas designated “Prime Agricultural”.</p> <p>As part of the Agricultural Impact Assessment prepared for the site by Stovel and Associates Inc. a detailed soil survey was carried out. It indicated that there were no Class 1 or 2 soils on the site. There is some Class 3 soils, but of the 15.01 ha only 7.9 ha will be removed as a result of the proposed quarry operation based on the Stovel assessment. The remaining lands consist of a mix of lower agricultural potential soils. Therefore, there is no requirement to rehabilitate back to an agricultural condition. Further, complete rehabilitation to an agricultural condition would not be required given that a substantial quantity of the mineral aggregate is below the water table.</p>
<b>Section 2.1 Natural Heritage</b>	
2.1.1 Natural features and areas shall be protected for the long term.	<p>The Township's peer reviewer, Burnside has advised that, in their opinion, the background work has adequately addressed concerns related to the Natural Environment at the proposed Hidden Quarry including protection of Wetlands as well as Species at Risk and their habitat, subject to additional review if new information is provided. MNRF and GRCA have also indicated that they accepted the background work. The Region of Halton has not issued a final position; however, based on a review by Burnside, the issues identified by the Region of Halton appear to have been addressed.</p> <p>Burnside do indicate, based additional information provided through a study conducted on behalf of CRC that</p>
2.1.2 “The diversity and connectivity of natural features in the area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface	

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
water features and ground water features."	<p>additional mitigation measures should be considered and included in rehabilitation and mitigation plans established through the ARA licence application approval as part of the ARA Site Plan. Burnside have identified that the following should be established as conditions of development:</p> <ul style="list-style-type: none"> <li>• Exclusion fencing should be installed prior to April to prevent turtle species from using stockpiled areas as nesting habitat;</li> <li>• Worker education programs to identify and relocate turtles from hazardous areas of the site should be included in Health and Safety training;</li> <li>• Stockpiling of materials should be excluded from natural heritage features, especially adjacent to wetlands;</li> <li>• Wetlands should be fenced, and edge buffer to the feature should be included in the fenced area, to be determined by MNRF;</li> <li>• Rehabilitation plans should include habitat creation and enhancement for species suspected to be using the site, including basking areas for turtles in wetlands, foraging habitat for grassland birds and nesting structures for barn swallow (as examples);</li> <li>• Wetland features that exclude habitat for fish to enhance herpetofaunal habitat (particularly breeding habitat) should also be included as part of the wetland creation:</li> <li>• A mixture of coniferous and deciduous trees should be included, with less focus on white spruce;</li> <li>• Wetland plantings should include a mixture of submergent, emergent, floating and woody vegetation species, to diversify habitat; and,</li> <li>• Open cliff habitat should include ledges for bird nesting and roosting.</li> </ul> <p>In addition, the consultant for the County of Wellington indicated that they were supportive of the following ecological measures being reflected in the ARA Site. The measures are generally reflected in the current ARA Site Plan dated June 18, 2015 subject to some refinements identified in italic:</p> <ul style="list-style-type: none"> <li>• retain existing vegetation until just prior to</li> </ul>
2.1.3 "Natural heritage systems shall be identified in Ecoregions 6E and 7E....."	
2.1.4 "Development and site alteration shall not be permitted in: a) significant wetlands in Ecoregions 5E, 6E and 7E...."	
2.1.5 "Development and site alteration shall not be permitted in:.... b)significant woodlands.... d)significant wildlife habitat....."	
2.1.6"Development and site alteration shall not be permitted in fish habitat except in accordance with provincial and federal requirements."	
2.1.7 "Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements."	
2.1.8 "Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5 and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be not negative impacts on the natural features or on their ecological functions."	

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
	<p>extraction;</p> <ul style="list-style-type: none"> <li>• promptly restore completed extraction areas to an ecological after-use to specified in the Progressive Rehabilitation Plan – <i>plans should include reference to timing of either plant removal or restoration plantings/seed application; and</i></li> <li>• plant a mix of coniferous/deciduous trees (with a min. spacing of 3 meters) in the area of the 6<sup>th</sup> Line to increase forest density in an attempt to provide an effective natural corridor in the north and west side of the property – <i>add to rehab plan drawing and also modify the plan to include reference to planting deciduous trees as currently only reference is to coniferous trees.</i></li> </ul>
<b>Section 2.2 Water</b>	
<p>2.2.2: "Development and site alteration shall be restricted in or near sensitive surface water features and sensitive ground water features such that these features and their related hydrologic functions will be protected, improved or restored. Mitigative measures and/or alternative development approaches may be required in order to protect, improve or restore sensitive surface water features, sensitive ground water features and their hydrologic functions."</p>	<p>Based on all the submissions from the applicant with respect to hydrogeology, as set out in their letter of April 24, 2015, Burnside, the peer reviewer for the Township, have indicated that their concerns with the proposed quarry have been generally satisfied including their concerns with water levels in up-gradient domestic wells, water quality in the down-gradient domestic wells and the potential for any impacts on Rockwood Well Number 4. However, their opinion is subject to a number of conditions of development being established through the ARA site plan including a private well survey, a monitoring program and refinement of the well contingency plan, and modifications to the current ARA site plan (See Appendix B).</p> <p>Further, the MOECC, MNRF and GRCA have indicated that they have no further concerns with respect to hydrogeology. The Region of Halton has not issued a final position; however, Burnside concurred with the majority of the Regional comments and the response from Burnside to the Region's comments in November 2014 has been reflected in their ongoing review of the JDCL submission.</p>
<b>Section 2.5 Cultural Heritage and Archaeology</b>	
<p>2.6.1 "Significant built heritage and significant cultural heritage landscapes shall be conserved."</p>	<p>A Cultural Heritage Resource Assessment was carried out in support of the application. It assessed the built heritage resources and cultural heritage landscapes on or adjacent to the proposed quarry site. Unterman McPhail, the Township's peer reviewer determined that the report is satisfactory and no additional work is required. The</p>

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
	report concludes that the project will not involve or result in any potential impacts to the subject property or an adjacent property and, in particular the cultural heritage landscape represented by the rural roadscape of Sixth Line north of Highway 7 will be preserved by retention of the treed road verge and landscaped berm beyond. This should be required as a condition of development.
2.6.2 "Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved."	<p>A Stage I-II Archaeological Assessment was carried out by York North Archaeological Services Inc., August 31, 2012. The report identifies an area on the west side of the site south of the former pit (AjHa-50 James D. site) as the only area where historic archaeological resources were located. It has been identified as requiring a Stage 3 assessment. JDCL has agreed to conduct a Stage 3 assessment once MNR has signed off on their application for the Category 2 Class "A" quarry.</p> <p>The Ministry of Tourism, Culture and Sport has advised that they are satisfied with the archaeological assessment. The Stage 3 assessment of the area on the west side would be carried out as a condition of approval of the license.</p>
<b>Section 1 Building Strong Healthy Communities</b>	
<b>1.1 Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns</b>	
<p>1.1.1. Healthy, livable and safe communities are sustained by:</p> <p>a) Promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term;</p> <p>b) Accommodating an appropriate range and mix of residential...., employment...., institutional...., recreational, park and open space and other uses to meet long term needs;</p> <p>c) Avoiding development and land use patterns which may cause environmental</p>	<p>This general policy direction is congruent with the policy direction in Section 2.5 Mineral Aggregate Resources. It recognizes the need to promote efficient development and land use patterns (i.e. 2.5.2.1 "As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible") and that the need to accommodate a mix of uses, while ensuring that any impacts of such development are minimal (ie. 2.5.2.2 "Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts."). As discussed above, the proposed quarry is consistent with this approach.</p>

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
or public health and safety concerns;	
<b>1.1.4 Rural Areas in Municipalities</b>	
<p>1.1.4.1 Healthy, integrated and viable rural areas should be supported by:</p> <p>a) building up rural character, and leveraging rural amenities and assets;...</p> <p>f) promoting diversification of the economic base and employment opportunities through goods and services, including value-added products and the sustainable management or use of resources;....</p> <p>h) conserving biodiversity and considering the ecological benefits provided by nature....”</p> <p>1.1.4.4 Growth and development may be directed to rural lands in accordance with policy 1.1.5.....</p>	<p>These policies recognize that leveraging rural assets including the sustainable management or use of resources is important to support viable rural areas. At the same time conserving natural environment is important. The proposed quarry achieves these objectives by providing for use of the aggregate resource while protecting key natural features and allowing for the eventual rehabilitation of the site for an ecological end use.</p>
<b>1.1.5 Rural Lands in Municipalities</b>	
1.1.5.1 When directing development on rural lands, a planning authority shall apply the relevant policies of Section 1:....Section 2... and Section 3.	As required all relevant policies have been reviewed and considered.
1.1.5.2 On rural lands located in municipalities, permitted uses are: a) management or use of resources....	The proposed quarry is consistent with the permitted uses.
1.1.5.3 Recreational, tourism and other economic opportunities should be promoted. 1.1.5.4 Development that is compatible with the rural landscape and can be sustained by rural service	These policies reflect the theme that a diversified rural economy is promoted by supporting resource related uses, while ensuring development is compatible with the rural landscape. The proposed quarry achieves in a manner which minimizes impacts on the surrounding area.

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<p>levels should be promoted.</p> <p>1.1.5.6 Opportunities should be retained to locate new or expanding land uses that require separation from other uses.</p> <p>1.1.5.7 Opportunities to support a diversified rural economy should be promoted by protecting agricultural and other resource-related uses and directing non-related development to areas where it will minimize constraints on these uses.</p>	
<p>1.1.5.9 New land uses.... shall comply with the minimum distance separation formulae.</p>	<p>As noted in the Agricultural Impact Assessment, MDS 1 provisions do not apply to aggregate extraction applications, and MDS 2 provisions are not impacted negatively by the presence of an adjacent mineral aggregate operation. This is confirmed by the list of key changes proposed to the MDS Formulae and Implementation Guidelines identified by OMAFRA (<a href="http://www.omafra.gov.on.ca/english/landuse/mds_review.htm">www.omafra.gov.on.ca/english/landuse/mds_review.htm</a>) which states that a proposed key change is "Clarifying that MDS does not apply to the extraction of minerals(sic) aggregates and petroleum resources, infrastructure, and landfills."</p>
<b>1.2 Coordination</b>	
<p>1.2.1 A coordinated, integrated and comprehensive approach should be used when dealing with planning matters within municipalities, across lower, single and/or upper-tier municipal boundaries, with other orders of government, agencies and boards including:</p> <p>a) managing and/or promoting growth and development;....</p> <p>c) managing natural heritage, water, agricultural, mineral, and cultural heritage and archaeological resources;</p> <p>d) infrastructure....multi-modal transportation systems....;</p>	<p>The proposed quarry is on the boundary with the Town of Milton and the Region of Halton and truck traffic from the proposed quarry will travel through the Town of Halton Hills. Consequently, the Township has been aware of the need to coordinate their review with those municipalities. In addition, the Township has worked closely with the relevant agencies including MNRF, MOECC and GRCA, as well as liaising with the County of Wellington regarding a number of issues including wells.</p>

<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
e) ecosystem, shoreline, watershed....issues....	
<b>1.2.6 Land Use Compatibility</b>	
<p>1.2.6.1 <i>Major facilities and sensitive land uses</i> should be planned to ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long term viability of major facilities.</p> <p>"Major facilities: means facilities which may require separation from sensitive land uses, including.....mineral extraction activities."</p>	<p>The issues of land use compatibility has been addressed through all the studies submitted on behalf of JDCL particularly those related to air quality, noise/blast vibration, traffic, agriculture, visual impact and cultural heritage. Based on the results of the studies and the input from the peer reviewers for the Township and agencies, the design and operation of the proposed quarry has been designed, buffered and/or separated from adjacent sensitive uses in a manner consistent with this policy.</p>
<b>1.6.7 Transportation Systems</b>	
1.6.7.2 Efficient use shall be made of existing and planned infrastructure.....	The proposed quarry abuts Provincial Highway 7 which will allow it to directly access the Highway from the 6 <sup>th</sup> Line.
1.6.7.5 Transportation and land use considerations shall be integrated at all stages of the planning process.	The TIS was prepared as one of the initial required background studies and reviewed by the Township and agencies including the MTO. The HRS was a later requirement but has been under review since it was submitted in March 2015.
1.6.8.3 .....New development proposed on adjacent lands to existing or planned corridors and transportation facilities should be compatible with, and supportive of, the long-term purposes of the corridor and should be designed to avoid, mitigate or minimize negative impacts on and from corridor and transportation facilities.	The TIS has been reviewed by MTO who control Highway 7. They have indicated that they have no objections to the application. They, however, also provided a list of additional requirements which must be met should the application be approved. Burnside, the peer reviewer for the Township, has also concluded that the TIS provides sufficient information to confirm the requirements for road improvements in the area of the quarry and have identified specific conditions of development. Based on this input, the proposed development would be considered compatible with and supportive of the long term purposes of the Highway 7 corridor.
<b>1.7 Long-Term Economic Prosperity</b>	
1.7.1 Long-term economic prosperity should be supported	These policies reflect the theme noted above that a diversified rural economy is promoted by supporting



<b>Appendix A.1 Provincial Policy Statement (2014) (PPS)</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<p>by:</p> <p>a) promoting opportunities for economic development and community investment readiness;</p> <p>b) optimizing the long-term availability and use of land, resources, infrastructure....</p> <p>d) encouraging a sense of place, .....by conserving features that help define character, including built heritage resources and cultural heritage landscapes;.....</p>	<p>resource related uses, while ensuring development is compatible with the rural landscape. The proposed quarry achieves this objective in a manner which minimizes impacts on the surrounding area. In particular, as discussed above it will be designed to maintain the cultural heritage landscape on the 6<sup>th</sup> Line.</p>
<b>1.8 Energy Conservation, Air Quality and Climate Change</b>	
<p>1.8.1 Planning authorities shall support energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and climate change adaptation through land use and development patterns which:....</p> <p>d)focus freight-intensive land uses to areas well served by major highways, airports, rail facilities and marine facilities;....</p>	<p>The proposed quarry is located on a Provincial highway.</p>
<b>4.0 Implementation and Interpretation</b>	
<p>4.2 In accordance with section 3 of the Planning Act, a decision of council of a municipality.....including the Municipal Board, in respect of the exercise of any authority that affects a planning matter, "shall be consistent with" this Provincial Policy Statement.</p>	<p>This establishes the "test" to be used in evaluating the application in relation to the PPS.</p>
<p>4.4 The Provincial Policy Statement shall be read in its entirety and all relevant policies are to be applied to each situation.</p>	<p>This provides direction on the interpretation of the PPS.</p>

<b>Appendix A.2</b>	
<b>Growth Plan for the Greater Golden Horseshoe(Growth Plan) Review</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<b>1. Introduction</b>	
<b>The Provincial Policy Statement and Provincial Plans</b>	
As provided for in the Places to Grow Act, 2005, this Plan prevails where there is a conflict between this Plan and the PPS.....	
<b>2. Where and How to Grow</b>	
<b>2.2.2 Managing Growth</b>	
1. (i) directing development to <i>settlement areas</i> , except where necessary for development related to the management or use of resources, resource-based recreational activities, and rural land uses that cannot be located in <i>settlement areas</i> .	The Growth Plan recognizes the necessity of resource-based development including mineral aggregate, occurring where the resource is located despite the fact that generally the Plan encourages development to locate in settlement areas.
<b>2.2.9 Rural Areas</b>	
2. Development outside of settlement areas, may be permitted in rural areas in accordance with Policy 2.2.2.1 (i)	This policy reflects the direction in 2.2.2.1(i).
<b>3. Infrastructure to Support Growth</b>	
<b>3.2.4 Moving Goods</b>	
2. The Ministers of Transportation and Infrastructure, other appropriate Ministers of the Crown, and municipalities will work with agencies and transportation service providers to – a) co-ordinate and optimize goods movement systems b) improve corridors for moving goods across the GGH consistent with Schedule 6 of this Plan.....	The Growth Plan reflects a direction to improve corridors for goods movement.
3. The planning and design of highway corridors, and the land use designations along these corridors, will support the policies of this Plan.....	As noted, the TIS has been reviewed by MTO who control Highway 7. They have indicated that they have no objections to the application. They, however, also provided a list of additional requirements which must be met should the application be approved. Burnside, the peer reviewer for the Township, has also concluded that the TIS provide sufficient information to confirm the requirements for road improvements in the area of the quarry and have identified specific conditions of development. Based on this input, the proposed development would be considered compatible with and supportive of the long term purposes of the Highway 7 corridor.
4. Municipalities will provide for the	The Growth Plan reflects a direction to

<b>Appendix A.2</b>	
<b>Growth Plan for the Greater Golden Horseshoe(Growth Plan) Review</b>	
<b>Policy</b>	<b>Analysis and Conclusions</b>
establishment of priority routes for goods movement, where feasible, to facilitate the movement of goods in and out of areas of significant employment, industrial and commercial activity and to provide alternate routes for connecting to the provincial network.	improve corridors for goods movement.
<b>4. Protecting What is Valuable</b>	
4.2.3 Through sub-area assessment, the Ministers of Infrastructure and Natural Resources will work with municipalities, producers of mineral aggregate resources, and other stakeholders to identify significant mineral aggregate resources for the GGH, and to develop a long-term strategy for ensuring the wise use, conservation, availability and management of mineral aggregate resources in the GGH, as well as identifying opportunities for resource recovery and for co-ordinated approaches to rehabilitation where feasible.	The sub-assessment has not been completed, however this policy reflects the direction in the PPS with respect to mineral aggregate.
<b>5. Implementation and Interpretation</b>	
<b>5.4.1 General Implementation and Interpretation</b>	
1. This Plan..... should be read in its entirety and all relevant policies are to be applied to each situation.	This provides direction on the interpretation of the Growth Plan.
9. Where this Plan indicates that further analysis and assessment will be carried out but the analysis has not been completed, all relevant policies of this Plan continue to apply and any policy that relies on information that will be available from further analysis should be implemented to the fullest extent possible.	This policy is applicable to Section 4.2.3.

<b>Appendix A.3 County of Wellington Official Plan</b> (Amendments made to February 12, 2013 Last Revision May 15, 2013)	
<b>Policy</b>	<b>Analysis and Conclusions</b>
<b>Part 1 Introduction</b>	
<b>1.3 The Plan</b>	
<p>This Official Plan is a legal document intended to give direction over the next 20 years, to the physical development of the County, its local municipalities and the long term protection of the County's resources.</p> <p>All land use and servicing decisions must conform to the policies of this plan.</p> <p>Through this Plan, County Council will outline a long-term vision for Wellington County's communities and resources.</p> <p>The Plan provides policy to attain the long – term vision.</p> <p>It is expected that the policies of this Plan will be the basis on which County and local councils and government agencies make decisions on land use planning matters. Public and private initiatives will be required to conform with County policy.</p>	<p>This section outlines the status of the Plan and the interrelationship between the vision and the policies.</p>
<b>Part 2 Wellington Planning Vision</b>	
<b>2.1 Fundamental Beliefs</b>	
<p>2.1.2 Sustainable Development ....Wellington County will make planning decisions which properly balance:</p> <ul style="list-style-type: none"> <li>• Protecting and enhancing the natural environment;</li> <li>• Enhancing economic competitiveness;</li> <li>• Fostering a healthy, safe and socially responsible society.</li> </ul>	<p>As noted in Section 1.3, the Plan identifies a long-term vision and establishes policy designed to attain that vision. Part 2 of the Plan outlines the long-term vision. The basis for the vision as identified in Section 2.1.2 is the need for planning decisions to properly balance all the competing objectives. The achievement of the proper balance underlies the other sections of Part 2 which further articulate the Vision. It provides general guidance with respect to the approach to evaluating the proposed quarry – Can the development be permitted in a manner which provides an appropriate balance between all the various goals and objectives of the community including general directions set out in Sections 2.1.2, 2.1.3 and 2.1.4 as well as more specific</p>
<p>2.1.3 Land Stewardship Land Stewardship recognizes that preserving natural features and protecting the environment is a shared value between government, community groups and landowners. County Council believes that all landowners are entitled to reasonable use and enjoyment of their land but they are also stewards of the land with responsibility</p>	

<p>to the community for the long term health of their land.</p>	<p>objectives in Section 2.2 and as more precisely established through the Plan's detailed policies?</p>
<p><b>2.1.4 Healthy Communities</b>                  Healthy communities are those which:</p> <ul style="list-style-type: none"> <li>• Foster physical, mental, social and economic well being;</li> <li>• Provide residents with a sense of control over decisions which affect them;</li> <li>• Are designed to reduce the stress of daily living and meet the life-long needs of its residents;</li> <li>• Make accessible employment, social, health, educational and recreational opportunities to all segments of the community.</li> </ul>	
<p><b>2.2 Our Commitment to the Future</b></p>	
<p>2.2.12 Require development to pay its fair share of growth related costs and to demonstrate compliance with the County's planning policies;</p>	<p>Section 2.2 sets out specific objectives which are to be pursued in the planning policies. Section 2.2.18 is most relevant to the proposed quarry application and it provides for wise management of the County resources including mineral aggregates. Wise management implies a balanced approach which is also reflected in the fact that while calling for protection and management of resources, the objectives also seek the protect and enhance the natural heritage areas, ensure the quality and quantity of groundwater and surface water and requires that development pay its fair share of growth related costs.</p>
<p>2.2.15 Protect and where reasonable enhance features and functions within natural heritage areas....</p>	
<p>2.2.18 Protect County resources such as farmland, minerals, mineral aggregates and forests and provide for wise management practices;</p>	
<p>2.2.24 Ensure the quality and quantity of groundwater and surface water are protected as an essential resource for urban and rural water supplies, agricultural production, the maintenance of the Greenland system and future growth.</p>	
<p><b>2.3 Urban, Rural and Greenland Systems</b></p>	
<p>In order to clearly articulate the County's vision, lands within Wellington will be placed in broad categories – urban, rural and greenland systems..... rural systems will be the focus of resource activities and greenlands will be the focus of natural heritage protection.</p>	<p>This policy reinforces that the policies are intended to articulate the vision. It identifies the rural systems as the focus for resource activities such as the proposed quarry.</p>
<p><b>2.4 The Province</b></p>	
<p>.... The County recognizes and accepts the value of provincial policy statements to provide a common planning framework for Ontario and its planning decisions shall be consistent with the Provincial Policy</p>	<p>The Plan recognizes the need for planning decisions to be consistent with the PPS, and the Growth Plan (although it should be noted that in fact the test is conformity with the Growth Plan). The proposed quarry has</p>

Statement.....The decisions of the County will be consistent with the Growth Plan for the Greater Golden Horseshoe.....	been reviewed with respect to consistency and conformity respectively with respect to the Provincial policies.
<b>2.5 Our Neighbours</b>	
....The County recognizes and welcomes the need to work co-operatively with our neighbours to ensure our common interests are achieved.	The Plan identifies the need to work with neighbouring municipalities, a commitment which the Township has acknowledged and acted upon in the processing of the proposed quarry application.
<b>2.6 County-Local Partnership</b>	
The County and the local municipal governments in Wellington share responsibility for wise management of our resources and the betterment of the community. The County will work co-operatively with local governments to provide a land use planning system which is thorough and efficient and which promotes the County's overall planning vision.....	These sections articulate the relationship between the County and the local municipalities with respect to management of resources and the land use planning system.
<b>2.7 Local Planning</b>	
The County's Official Plan attempts to provide a consistent set of policies across Wellington. These policies are developed in sufficient detail to provide appropriate official plan coverage for the entire County, while still responding to local conditions.....	
<b>3.1 General Strategy</b>	
.... As a general strategy, Wellington will encourage development patterns which: <ul style="list-style-type: none"> <li>• are cost efficient</li> <li>• are environmentally sound</li> <li>• are compatible with existing uses</li> <li>• maintain small town character</li> <li>• maintain resource land</li> <li>• provide access to community services and facilities</li> </ul>	This general strategy reflects the Vision as it encourages a balanced approach to development patterns.
<b>Part 4 General County Policies</b>	
<b>4.1 Cultural Heritage Resources</b>	
<b>4.1.5 Policy Direction</b>	
a) significant built heritage resources and significant cultural heritage landscapes shall be conserved..... e) in order to conserve a cultural heritage resource, a Heritage Impact Assessment and/or Conservation Plan may be required.	The proposed quarry conforms with this policy as Heritage Impact Assessment has been prepared which has been determined to be complete by the Township's peer reviewed. It addresses the preservation of the cultural heritage landscape along 6 <sup>th</sup> Line.
g)Where development and site alteration is	A Stage I-II Archaeological Assessment has

<p>allowed, significant archaeological resources must be conserved.....</p> <p>h) Where the County has determined a proposed development has areas of archaeological potential, an assessment of the property will be required to identify the archaeological resources. Resources identified and determined to be significant will be conserved. The County may also required parts of the site to be excluded from development in order to maintain the heritage integrity of the site.</p>	<p>been prepared and accepted by the Ministry of Tourism, Culture and Sport. A Stage 3 assessment for an area on the west side of the site south of the former pit is required. This is to be carried out as a condition of approval of the license.</p>
<p><b>4.2 Economic Development</b></p>	
<p><b>4.2.5 Rural Opportunities</b></p>	
<p>.... The main employment generator in the rural system will be resource based industries such as agriculture, aggregate operations and forestry.....</p>	<p>This policy acknowledges that aggregate operations are an employment generator in the rural area.</p>
<p><b>4.3 Farmland Protection</b></p>	
<p><b>4.3.3 Policy Direction</b></p>	
<p>a) Class 1, 2 and 3 agricultural soils, associated Class 4 to 7 soils and additional areas where there is a local concentration of farms which exhibit the characteristics of ongoing agriculture, and specialty crop land will be designated as prime agricultural area unless:</p> <p>i) Studies demonstrate that the land would more appropriately be placed in greenlands or secondary agricultural designation,</p> <p>ii) The lands are to be used on an interim basis for mineral aggregate extraction.....</p>	<p>The subject lands are primarily designated "Prime Agricultural" on Schedule A3 of the County Official Plan in place at the time of the submission of the application. However, the Agricultural Impact Assessment prepared on behalf of the applicant has demonstrated that the "property does not contain any CLI – Soil Capability for Agriculture Class 1 or 2 soils and the balance of the property consists of a mixture of lower agricultural potential soils, i.e. Classes 4, 5, 6 and 7 soils." There are 15.01 hectares of Class 3 soils but "it is estimated that approximately 7.9 ha of Class 3 soils will be removed as a result of the proposed quarry operation." In addition, the subject lands are subject to a "Mineral Aggregate Area" overlay on Schedule A3, and the current Official Plan as amended designates the majority of the lands "Core Greenlands" or "Greenlands" supporting the finding that the subject lands should not be considered prime agricultural area.</p>
<p><b>4.6 Impact Assessment</b></p>	
<p><b>4.6.1 General</b></p>	
<p>In order to assess the merit of planning applications, the County or local municipality may require studies to be undertaken to</p>	<p>The applicant has submitted a full range studies to address the various anticipated impacts as required by the Township. These</p>

<p>measure the various impacts and to propose methods of reducing or eliminating the negative impacts. These studies shall be prepared by qualified professionals and will include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• planning impacts</li> <li>• environmental impacts</li> <li>• traffic impacts</li> <li>• agricultural impacts</li> <li>• fiscal impacts .....</li> </ul>	<p>studies have been the subject of review by the Township’s consultants, as well as by agencies, and have been revised in accordance with the input received.</p>
<p><b>4.9 Water Resources</b></p>	
<p><b>4.9.2 Surface Water</b></p>	
<p>Streams, lakes, ponds and wetlands normally will be protected through their inclusion in the County’s Greenlands System.</p>	<p>The subject lands include surface water resources which are designated “Core Greenlands” on Schedule A3.</p>
<p><b>4.9.3 Groundwater</b></p>	
<p>.... It is the intent of this Plan that all development shall be subject to the following policies to ensure water quality and quantity are not adversely affected. Specifically, it is the County’s intent that the development of public and private uses will not:</p> <ul style="list-style-type: none"> <li>• significantly alter groundwater recharge or discharge</li> <li>• impair groundwater or surface water quality</li> <li>• negatively impact municipal groundwater supply</li> </ul> <p>..... Groundwater is not confined to municipal boundaries. As such, the County will work collaboratively with local municipalities and municipal neighbours to ensure effective groundwater protection.</p>	<p>The proposed quarry conforms with this policy as a Level I and II Hydrogeological Investigation, which has been revised to address input by Township and agency reviewers, has been prepared which addresses these concerns. In addition, related work has been carried out at the request of the Township peer reviewer. The Township’s peer reviewer is generally satisfied subject to a number of conditions of development being established through the ARA licence application approval. MNR, MOECC and GRCA have also indicated they have no further concerns. The most recent Region of Halton comments focus on the need to finalize commitments by JDCL.</p>
<p><b>4.9.4 Policy Direction</b></p>	
<p>Wellington County commits to pursuing the following directions relating to water resources:.....  e) ensure development does not alter groundwater levels to the detriment of surrounding users and resources;.....  g) protect wetlands and areas that make significant contributions to groundwater recharge;....  l)ensure the base flow needed to protect streams, fisheries and wetlands are</p>	<p>See discussion under 4.9.3 above. Also it should be noted that the reference in subsection p) to Section 4.9.5.8 is applicable to aggregate operations in a WHPA which is not applicable to the subject site.</p>



<p>maintained;....                  k)maintain and enhance water quantity and quality through the retention of vegetation or through revegetation;                  l) maintain and enhance fish habitat;....                  p)require mineral aggregate operations to use best management practices to protect groundwater resources as set out in Section 4.9.5.8;                  q)require impact studies when development proposals have the potential to affect water or water related resource.</p>	
<p><b>Schedule A-3 Guelph Eramosa</b></p>	
<p>The subject lands are designated:</p> <ul style="list-style-type: none"> <li>• Prime Agricultural</li> <li>• Mineral Aggregate Area</li> <li>• Core Greenlands</li> </ul>	<p>The Mineral Aggregate Area designation is an overlay designation. The majority of the lands are designated “Prime Agricultural” with key water resources (e.g. Provincially Significant Wetlands, intermittent stream) designated “Core Greenlands”.</p>
<p><b>Part 5 The Greenlands System</b></p>	
<p><b>5.4 Core Greenlands</b></p>	
<p>Within the Greenlands System certain areas have greater sensitivity or significance. These areas will be identified in policy and protected. These areas have been included in the “Core” Greenlands designations and include:</p> <ul style="list-style-type: none"> <li>• provincially significant wetlands</li> <li>• habitat of endangered or threatened species</li> <li>• floodway or hazardous lands</li> </ul>	<p>The proposed quarry conforms with this policy as a Level II Natural Environment Technical Report, which has been revised to address input by Township and agency reviewers, has been prepared which addresses these concerns. The Township’s peer reviewer has indicated that the report adequately addressed concerns related to the natural environment related to the proposed quarry including the protection of wetlands, specifically a Provincially Significant Wetland in the northwest area of the subject site, as well as Species at Risk and their habitat. The peer reviewer has indicated that development would be subject to a number of conditions of development being established through the ARA licence application approval. MNRF and GRCA have also indicated they have no further concerns. The Region of Halton has not provided final comments, however, the Township peer reviewer has reviewed their comments and the identified issues appear to have been addressed.</p>
<p><b>5.4.1 Wetlands</b></p>	
<p>Development and site alteration will not be permitted in wetlands considered provincially</p>	<p>See discussion under 5.4 above.</p>

<p>significant....All other wetlands will be protected in large measure and development that will seriously impair their future ecological functions will not be permitted.</p>	
<p><b>5.4.2 Habitat of Endangered or Threatened Species and Fish Habitat</b></p>	
<p>Development and site alteration will not be allowed in significant habitat of endangered or threatened species. Development and site alteration shall not be allowed in fish habitat expect in accordance with provincial and federal requirements.</p>	<p>See discussion under 5.4 above.</p>
<p><b>5.4.3 Flooding Hazards and Hazardous Lands</b></p>	
<p>.... Generally development shall be directed away from areas in which conditions exist which would pose a threat to public health and safety.....</p>	<p>See discussion under 5.4 above.</p>
<p><b>5.6 Development Control</b></p>	
<p><b>5.6.1 Permitted Uses</b></p>	
<p>Within the Core Greenlands designation, no development or site alteration is permitted within Provincially Significant Wetlands or in provincially significant habitat of threatened or endangered species. In other areas, permitted uses include conservation, forestry, aggregate extraction within Mineral Aggregate Areas, open space, passive recreation, agriculture and existing uses....</p> <p>The above uses for both, the Core Greenlands and Greenlands designations, as well as accessory buildings and structures, shall only be permitted if:</p> <ul style="list-style-type: none"> <li>• there are no negative impacts on provincially significant features and functions and not significant negative impacts on other greenland features and functions;</li> <li>• any natural hazards present can safely be overcome;</li> <li>• the development conforms to policies of applicable adjacent or underlying designation.</li> </ul>	<p>As discussed under 5. 4 above, the proposed quarry will be developed in accordance with the directions in Section 5.6.1 with respect to Permitted Uses. Negative impacts are not anticipated based on background work and the conditions of development.</p>
<p><b>5.6.2 Zoning</b></p>	
<p>Core Greenland areas shall be placed in a restrictive zone which prohibits buildings, structures and site alterations.....Zoning by-laws may also establish setbacks from greenland areas in which no buildings or</p>	<p>The implementing zoning bylaw should reflect the directions in the Level II Natural Environment Technical Report particularly with respect to the zoning of the lands in the Provincially Significant Wetland and</p>

structures shall be permitted.	associated buffers, and along the stream.
<b>5.6.3 Development Impacts</b>	
<p>Where development is proposed in the Greenland system or on adjacent lands, the County or local municipality shall require the developer to:</p> <ul style="list-style-type: none"> <li>a) identify the nature of the natural heritage resource(s) potentially impacted by the development</li> <li>b) prepare, where required, an environmental impact assessment to address potential impacts;</li> <li>c) consider enhancement of the natural area where appropriate and reasonable;</li> <li>d) demonstrate that there will be no negative impacts on the natural heritage resources or feature or on its ecological function.</li> </ul> <p>No development shall be approved unless the County is satisfied that the Greenland policies are met.</p>	See discussion under 5.4 above.
<b>5.6.4 Adjacent Lands</b>	
<p>.... adjacent lands are considered to be:</p> <ul style="list-style-type: none"> <li>a) lands within 120 meters of provincially significant wetlands;</li> <li>b) lands within 30 meters of all other Core Greenlands and Greenland areas.</li> </ul>	See discussion under 5.4 above.
<b>5.6.6 Mineral Aggregate Areas</b>	
<p>Areas of high potential for mineral aggregate are shown as an overlay over the Greenland System. Mineral Aggregate operations are not allowed in provincially significant wetlands or in significant habitat of threatened or endangered species but may be considered in other areas subject to the policies of this Plan.....</p>	See discussion under 5.4 above.
<b>5.6.7 Greenlands Mapping</b>	
<p>The mapping identifying Core Greenlands and Greenlands on the various schedules to the Plan may need to be refined by more detailed mapping on individual sites. Where more detailed mapping is available, minor adjustments may be made without an amendment to this Plan and the land use policies of the adjacent designation will apply as determined by Council.</p>	See discussion under 5.4 above.

<b>5.6.8 Conservation Authority Regulations</b>	
.... Where development or site alteration is proposed within a regulated area.... the Conservation Authority should be consulted before development....	The GRCA has reviewed the application and provided input.
<b>6.1 Defined</b>	
<p>The Rural System is primarily natural resource land and some other uses typically found in non-urban areas.</p> <p>The Rural System includes:</p> <ul style="list-style-type: none"> <li>• prime agricultural areas</li> <li>• secondary agricultural areas</li> <li>• mineral aggregate areas</li> <li>• seasonal and recreational use areas</li> <li>• rural housing</li> <li>• rural industrial areas</li> <li>• highway commercial areas</li> <li>• waste management sites</li> <li>• special use areas</li> </ul>	As noted, the subject lands have been identified with a Mineral Aggregate Area overlay designation. The majority of the lands are designated "Prime Agricultural" with key water resources (e.g. Provincially Significant Wetlands, intermittent stream) designated "Core Greenlands".
<b>6.2 Purpose</b>	
<p>The Rural System, for the most part, is a relatively stable part of the County landscape devoted to economic activities based on natural resources.</p> <p>The Rural system policies are intended to maintain the essential character of these areas and to ensure that the economic activities and employment opportunities which depend on Wellington's natural resources are maintained and enhanced.</p> <p>The Rural System is a large and diverse area. Opportunities exist for a variety of resource, employment and community uses which need to be accommodated.</p>	This introductory statement establishes the context for the Rural system policies – to establish a balance between maintaining "the essential character" of the area and ensuring "that economic activities and employment opportunities which depend on Wellington's natural resources are maintained and enhanced."
<b>6.3 Planning Approach</b>	
<p>Prime agricultural areas will be protected for farming uses.</p> <p>Secondary agricultural areas of non-prime farmland will be identified. While farming will be the main land use activity in these areas, a broader range of residential, employment and community uses will be allowed then in prime agricultural areas so long as the use does not adversely impact</p>	As noted above under Section 4.3.3, while designated as "Prime Agricultural", the subject lands do not meet the criteria to be recognized as such. However, regardless, Section 6.3 recognizes that significant mineral aggregate deposits will be identified in prime agricultural areas and that provision should be made for appropriate extraction activities. In this case, the site is recognized in the Official Plan with a Mineral

<p>existing agricultural operations and is in keeping with the rural character of the area. While existing Country Residential and Lifestyle Community areas in the rural system are recognized, they will not be allowed to expand and new locations will not be permitted.</p> <p>Significant mineral aggregate deposits will be identified and policies established to protect the resource and provide for appropriate extraction activities.</p> <p>Areas of existing seasonal and recreational use will be identified. Many of these uses were established to take advantage of the rural setting or the proximity to natural heritage features.</p> <p>Rural housing primarily supports natural resource activities such as farming. Non-farm related housing may be considered in areas which do not conflict with resource related or other rural uses.</p> <p>Rural industrial and highway commercial lands are intended to provide locations for business activities that may be better served by sites outside urban areas.</p> <p>New locations for Country Residential and Lifestyle Communities are not allowed in the Rural system unless specifically provided for by an existing policy in this Plan. Existing Country Residential and Lifestyle Communities in the Rural System may be recognized but will not be expanded unless provided for by an existing policy in this plan.</p> <p>Waste management Facilities may be allowed in the Rural System subject to the Environmental Assessment Act or the Environmental Protection Act and the Environmental Services policies of this plan.</p> <p>A variety of special purpose areas will be identified to recognize the diverse character</p>	<p>Aggregate Area overlay designation. The policies for that overlay designation are the main policies which should be considered in evaluating the proposed quarry.</p>
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and history of the rural system. Some of these areas reflect environmental concerns or existing development patterns.	
<b>6.4 Prime Agricultural Areas</b>	
<b>6.4.1 Defined</b>	
Class 1, 2 and 3 agricultural soils, associated Class 4 to 7 soils and additional areas where there is a local concentration of farms which exhibit the characteristics of ongoing agriculture, and specialty crop land will be designated as prime agricultural areas. These areas will be protected for agriculture.	See discussion under Section 4.3.3. and 6.3 above.
<b>6.4.2 Agriculture First</b>	
In Prime Agricultural Areas, agricultural uses and normal farm practices will be promoted and protected.  As a general rule, land use activities which support agriculture will be encouraged and land use activities which do not support agriculture will be discouraged.	See discussion under Section 4.3.3. and 6.3 above.
<b>6.4.3 Permitted Uses</b>	
Permitted uses and activities in Prime Agricultural Areas may include: <ul style="list-style-type: none"> <li>a) agricultural uses</li> <li>b) secondary uses including home businesses and farm businesses</li> <li>c) agriculture-related uses</li> <li>d) existing uses</li> <li>e) single detached homes</li> <li>f) accessory residential uses</li> <li>g) forestry uses</li> <li>h) wayside pits and quarries, portable asphalt plants and portable concrete plants used on public authority contracts</li> <li>i) licensed aggregate operations</li> <li>j) community service facilities</li> <li>k) group homes on existing lots of records</li> <li>l) kennels on existing lots of record</li> </ul> All uses permitted by this section must be compatible with and not hinder surrounding agricultural uses.	See discussion under Section 4.3.3. and 6.3 above.
<b>6.4.9 Mineral Aggregate Areas</b>	
Areas of high potential for mineral aggregate are shown as an overlay over the Prime	The subject lands are subject to the Mineral Aggregate Area overlay designation and as

Agricultural Areas. Mineral aggregate operations may be allowed in these areas subject to the more detailed policies of this Plan.	such are subject to the policies of Section 6.6.
<b>6.6 Mineral Aggregate Areas</b>	
<b>6.6.1 Mineral Aggregate Areas</b>	
<p>Mineral Aggregate Areas are areas of high potential for mineral aggregate extraction and are shown as an overlay on Schedule "A". These lands have been identified using information provided by the Ministry of Natural Resources. The overlay for mineral aggregate areas only indicates that aggregate deposits are likely to be available. It does not presume that all conditions are appropriate to allow extraction or processing of the resource to proceed. The intention is to make as much aggregate resources available as close to markets as is realistically possible.</p> <p>There are no known mineral deposits or petroleum deposits of significance that warrant inclusion in this Plan. Should any deposits be identified, the County will develop policies to govern their protection and development.</p>	<p>The subject lands are subject to the Mineral Aggregate Area overlay designation and as such are subject to the policies of Section 6.6. The application for the proposed quarry has been subject to detailed review and analysis to ensure that all conditions are appropriate to allow for extraction or processing of the resource.</p>
<b>6.6.2 Protection</b>	
<p>In areas adjacent to or in Mineral Aggregate Areas, development which would preclude or hinder new aggregate operations or access to the resource will only be allowed if:</p> <ul style="list-style-type: none"> <li>a) resource extraction use would not be feasible;</li> <li>b) the proposed development serves a greater long term public interest; in this case, reasonable efforts should be made to use the resource wherever practical;</li> <li>c) issues of public health, public safety and environmental impact are addressed.</li> </ul>	<p>The proposed quarry is designed to allow for access to the resource and is in conformity with this policy.</p>
<b>6.6.3 Existing Aggregate Operations</b>	
<p>Existing licensed mineral aggregate operations are permitted and shall be recognized in Municipal zoning by-laws. Licensed aggregate operations are shown in Appendix 2 of this Plan. Expansion of an</p>	<p>The proposed quarry is not an existing operation and requires a rezoning.</p>

<p>existing operation shall be subject to all policies of this Plan which would apply to new aggregate operations. These operations will be protected from new uses which would preclude or hinder their expansion or continued use, or which would be incompatible due to public health, public safety or environmental concerns.</p>	
<p><b>6.6.4 Permitted Uses</b></p>	
<p>In addition to the uses allowed by the underlying designation, the following uses may be allowed in Mineral Aggregate Areas through rezoning:</p> <ul style="list-style-type: none"> <li>a) aggregate extraction;</li> <li>b) associated uses such as stripping, berm construction, screen planting, landscaping, drilling, blasting, haulage, crushing, screening, washing, stockpiling, storage, loading, weighing, equipment parking, repair and maintenance, office facilities, importing and blending materials, environmental and safety control features and rehabilitation uses;</li> <li>c) ancillary uses such as asphalt plants, concrete plants, aggregate transfer stations, stockpiling and blending of aggregates with materials such as salt, sand-salt mixture and recycled road material.</li> </ul>	<p>The re-zoning application is for aggregate extraction and associated uses. The ARA application is for a Class A – Category 2 licence with extraction permitted both above and below the established water table. As specifically indicated in the Planning Report submitted by Stovel and Associated Inc., “the proposed zoning application does not seek approval for the following land uses: Ready-mix concrete plant, asphalt plant, aggregate transfer station or a waste recycling depot”.</p>
<p><b>6.6.5 New Aggregate Operations</b></p>	
<p>New aggregate operations may be established within the Mineral Aggregate Area subject to the appropriate rezoning and licensing. New operations proposed outside of this area shall require an amendment to this Plan. In considering proposals to establish new aggregate operations, the following matters will be considered:</p> <ul style="list-style-type: none"> <li>a) the impact on adjacent land uses and residents and public health and safety;</li> <li>b) the impact on the physical (including natural) environment;</li> <li>c) the capabilities for agriculture and other land uses;</li> </ul>	<p>The proposed quarry is to be solely contained in lands in the Mineral Aggregate Area overlay designation. Therefore, while a rezoning is needed, an Official Plan Amendment is not required. It should be noted that the Official Plan as amended by Official Plan Amendment (OPA) 81 would now require an OPA despite the fact that the overlay designation still applies. However, the rezoning application was submitted before OPA 81 was adopted or approved, and in fact before changes were proposed to this aspect of the Mineral Aggregate policies. As such the Township has received a legal opinion that under The Clergy Principle which “states that every applicant is entitled</p>



<ul style="list-style-type: none"> <li>d) the impact on the transportation system;</li> <li>e) existing and potential municipal water supply resources are protected in accordance with Section 4.9.5 of this Plan;</li> <li>f) the possible effect on the water table or surface drainage patterns;</li> <li>g) the manner in which the operation will be carried out;</li> <li>h) the nature of rehabilitation work that is proposed; and</li> <li>i) the effect on cultural heritage resources and other matters deemed relevant by Council.</li> </ul> <p>It is essential that extraction be carried out with as little social and environmental cost as practical. Provincial standard guidelines and regulations will be used to assist in minimizing impacts.</p>	<p>to have their application evaluated on the basis of the laws and policies as they existed on the date that the application was made”, the policies of OPA 81 are not applicable and only a rezoning is necessary, in addition to the approval of the ARA licence.</p> <p>With respect to the evaluation criteria, the application has been subject to detailed technical review which has considered all of the criteria in detail as discussed above particularly under Sections 4.1.5, 4.3.3 and 6.3 above and in Sections 4 and 5 of the main report. In particular, a focus of the studies and review has been to ensure that impacts will be minimal and that development is carried out with as little social and environmental cost as practical. Based on extensive review, the Township’s reviewers are satisfied, subject to conditions of development, that this objective can be achieved.</p>
<p><b>6.6.6 Public Information</b></p>	
<p>When planning approvals are being considered for new or expanded mineral aggregate operations, the following information shall be made available to the public.</p> <ul style="list-style-type: none"> <li>a) Detailed site plans which provide a description of the proposed aggregate operation including location, size, contours, topography, existing and proposed buildings and structures, setbacks, screening, buffers, entrances, exits, haul routes, drainage facilities, water table, any water diversions or storage, existing and anticipated final grades, excavation depth, stockpiles, and the sequence of operations and rehabilitation;</li> <li>b) The estimated quality and quantity of the resource;</li> <li>c) A description of the surrounding lands including land uses, locations and use of buildings and structures, fences, significant natural features and wells and other lands owned by</li> </ul>	<p>The Township has made extensive efforts to ensure that all information on the proposed development and the review process is available to the public. In addition, to a number of public meetings and delegations to Council, all available information has been posted on the Township website.</p>

<p>the applicant;</p> <ul style="list-style-type: none"> <li>d) Any related reports prepared by the proponents; and</li> <li>e) Any other information deemed relevant by Council.</li> </ul>	
<p><b>6.6.7 Ancillary Uses</b></p>	
<p>Ancillary uses may only be established if the following matters are addressed:</p> <ul style="list-style-type: none"> <li>a) The protection of adjoining lands from the negative effects of a reduced water supply, noise, dust, odour, lighting and unsightly storage;</li> <li>b) The protection of the environment from negative effects of dust, chemical spills, run-off, or contaminated surface or ground water; and</li> <li>c) Ensuring that access can be obtained directly to a road capable of carrying the anticipated truck traffic.</li> </ul>	<p>The applicant does not propose any ancillary uses.</p>
<p><b>6.6.8 Rehabilitation</b></p>	
<p>All proposals for new aggregate extraction shall include a plan for eventual rehabilitation. The plan shall:</p> <ul style="list-style-type: none"> <li>a) Provide for progressive rehabilitation whenever feasible;</li> <li>b) Be prepared in detail by a recognized expert;</li> <li>c) Be compatible with the long term uses permitted by the surrounding official plan designations;</li> <li>d) On lands designated Prime Agricultural Areas, provide a detailed agricultural rehabilitation plan which restores substantially the same areas and average soil quality for agriculture as before extraction occurred; and</li> <li>e) On lands designated Secondary Agricultural Areas, provide an agricultural rehabilitation plan which, whenever feasible, restores substantially the same areas and average soil quality for agriculture as before extraction occurred.</li> </ul>	<p>The ARA site plan includes Quarry Phasing Plan, and Progressive Rehabilitation and Final Rehabilitation Plan, which address criteria a), b), and c). With respect to criteria d) and e), while the subject lands are designated "Prime Agricultural" in the Official Plan prior to its amendment by OPA 81, they do not actually meet the criteria to be considered as such. Rather they are more appropriately considered as greenlands as designated in the Official Plan as amended by OPA 81. As such an ecological end use is proposed and is appropriate.</p>
<p><b>6.6.9 Mining Below Water Table</b></p>	
<p>Extraction below the water table may only</p>	<p>The subject lands have a substantial</p>

<p>be allowed and complete rehabilitation is not required under 6.6.8 if it is demonstrated that:</p> <ul style="list-style-type: none"> <li>a) There is substantial quantity of mineral aggregates below the water table warranting extraction or the depth of planned extraction in a quarry makes rehabilitation unfeasible;</li> <li>b) On lands designated Prime Agricultural Areas, other alternatives have been considered by the applicant and found unsuitable, and rehabilitation in remaining areas will be maximized;</li> <li>c) Impacts on the environment, including quality and quantity of surface and groundwater resources, will be minimal; and</li> <li>d) The intended after use will be compatible with the long term uses of adjacent areas.</li> </ul>	<p>quantity of mineral aggregate below the water table and such extraction is proposed in that area after extraction of unconsolidated material above the water table.</p> <p>As noted while the subject lands are designated "Prime Agricultural" in the Official Plan prior to its amendment by OPA 81, they do not actually meet the criteria to be considered as such. Therefore, criteria b) is not applicable.</p> <p>With respect to the evaluation criteria c), the application has been subject to detailed technical review which has considered all of the criteria in detail as discussed above particularly under Sections 4.3.3 and 6.3 above and in Sections 4 and 5 of the main report. In particular, a focus of the studies and review has been to ensure that impacts on the environment will be minimal. Based on extensive review, the Township's reviewers are satisfied, subject to conditions of development, that this objective can be achieved.</p> <p>With respect to criteria d), the ecological end use as proposed and is compatible with the surrounding rural development including agricultural uses.</p>
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**Appendix B**  
**Initial Proposed Development Conditions**

## Appendix B Initial Proposed Development Conditions

### Hydrogeology

- A private well survey completed by JDCL in accordance with Terms of Reference approved by the Township to be conducted well in advance of any quarrying activities which will include both upgradient and downgradient wells within 500 meters (or somewhat outside that area where appropriate) of the proposed quarry including in the Town of Milton. Data collected during the survey will include at a minimum well stickup, casing diameter, depth of well, depth to water, depth to pump intake and surface drainage around the wellhead. The survey will include collection of a sufficient number of water quality samples to allow for pre quarry water quality to be established for each well. For wells with elevated nitrate or detections of E.coli or total coliform, the probable source will be identified. The well will either be upgraded by JDCL so that it is no longer impacted by the source, or if upgrades are not possible, the pre-existing concentrations will be considered in the evaluation of possible quarry impacts;
- The results of the private well survey will be used to establish an off-site monitoring program in accordance with Terms of Reference approved by the Township for both upgradient and downgradient domestic wells within 500 meters, or somewhat outside that area where appropriate, of the proposed quarry, including in the Town of Milton. Wells included in the monitoring program will be upgraded by JDCL to comply with Regulation 903. The monitoring program will also include the Brydson Spring/Creek in particular the relationship of the flow in Tributary B and the flow in Brydson Spring. A copy of the annual reporting shall be provided to the Township;
- Pre-quarrying water level and water quality monitoring will continue in the wetland, on-site wells and on-site and off-site surface water features at the locations listed on Drawing 2 of the ARA Site Plan. This monitoring along with the private well survey will provide sufficient data to allow for confirmation that the monitoring program referenced on Drawing 2 is sufficiently rigorous to maintain current conditions in the wetland, on-site wells on-site ponds and domestic wells and will allow for trigger levels and contingency plans to be created;
- Refinement of the well contingency plan which has been established in accordance with direction provided by the Township based on results of the private well survey and results of revised groundwater modeling;
- Installation of onsite open hole wells M16 south of the Phase 2 extraction limit, M17 between the sinking cut and the nearest domestic wells, and M18 and M19 along the southern property boundary;
- Completion of the following at onsite wells M16/17 and M18/19:
  - Detailed core logging which includes fracture identification;
  - A pumping test on the open hole wells to assess connectivity with other wells on site;
  - A downhole video and flow profile to identify productive fracture systems;
  - Completion of a multi-level well at M16 with M17 to remain an open hole;
  - The construction of M18/M19 were not specified by Burnside, however Halton Region requested that they be constructed as multi-level wells;
  - Water quality sampling from each well to allow assessment of water quality variations with depth; and,
  - Hydraulic conductivity testing;
- Deepening of existing onsite Well M3 to 227 masl to provide more reliable water

### Appendix B Initial Proposed Development Conditions

- level data;
- Data from all automatic water level recording devices should be provided to the Township on a bi-weekly basis until the data indicates that water levels are remaining consistently above the trigger level; and,
  - Modifications to the current ARA site plan including:
    - Drawing 4-the trigger levels and contingency measures table needs to be revised to coincide with the monitoring table on drawing 2. Table 2 indicates that wells 1D, 2,13D, 14D, 15, and 16 are all to be equipped for automatic daily readings and that monthly manual water levels will be collected, yet the table on Drawing 4 indicates that if a trigger level is breached then water level monitoring will be increased to weekly. The table should be revised to indicate that manual water levels collection will be increased from monthly to weekly and data from automatic water level recorders (AWLR's) will be downloaded and reviewed on a weekly basis. The water level data from the AWLR's can then be plotted and the water level trends analysed so that the time it will take for water level recovery to above trigger levels can be predicted. Similarly, there is no note to indicate what actions will occur if a warning level is breached. The Harden letter of December 09, 2014 indicates that if a warning level is breached then bi-weekly water level measurements will be initiated. A statement similar to the one for trigger levels should be added to the table to identify the actions to be undertaken if a warning level is breached.
    - Drawing 4-Note 3 on the trigger table indicates "If quarry activities are found to be responsible, the above actions will be considered and a response presented to the GRCA and the Township of Guelph Eramosa". The wording should be changed to "...one of the above actions will be undertaken...".
    - Drawing 2- under Technical Recommendations references water well contingency protocol on page 62 of the Harden report dated December 9, 2014. This is a letter report and the details of the monitoring are actually presented in Appendix B "Monitoring Program and Contingency Measures".

### Natural Environment

- Exclusion fencing should be installed prior to April to prevent turtle species from using stockpiled areas as nesting habitat;
- Worker education programs to identify and relocate turtles from hazardous areas of the site should be included in Health and Safety training;
- Stockpiling of materials should be excluded from natural heritage features, especially adjacent to wetlands;
- Wetlands should be fenced, and edge buffer to the feature should be included in the fenced area, to be determined by MNRF;
- Rehabilitation plans should include habitat creation and enhancement for species suspected to be using the site, including basking areas for turtles in wetlands, foraging habitat for grassland birds and nesting structures for barn swallow (as examples);
- Wetland features that exclude habitat for fish to enhance herpetofaunal habitat (particularly breeding habitat) should also be included as part of the wetland creation;
- A mixture of coniferous and deciduous trees should be included, with less focus on

## Appendix B Initial Proposed Development Conditions

white spruce;

- Wetland plantings should include a mixture of submergent, emergent, floating and woody vegetation species, to diversify habitat; and,
- Open cliff habitat should include ledges for bird nesting and roosting.

The following measures are generally reflected in the most recent ARA Site Plan dated June 18, 2015, however some refinements should be considered as noted in italic:

- retain existing vegetation until just prior to extraction;
- promptly restore completed extraction areas to an ecological after-use to specified in the Progressive Rehabilitation Plan – *plans should include reference to timing of either plant removal or restoration plantings/seed application*; and
- plant a mix of coniferous/deciduous trees (with a min. spacing of 3 meters) in the area of the 6<sup>th</sup> Line to increase forest density in an attempt to provide an effective natural corridor in the north and west side of the property – *add to rehab plan drawing and also modify the plan to include reference to planting deciduous trees as currently only reference is to coniferous trees.*

### Traffic

- Upgrading Sixth Line  
Upgrades to Sixth Line are required to remove the crest to provide sufficient sight distance to the intersection with Highway 7, plus upgrade the road base, including asphalt surface, to accommodate quarry traffic. These improvements should be included in detailed designs based on a twenty year operational period /agreements required for this project; and,
- Turn Lanes on Highway 7  
The TIS recommends a continuous turning lane on Highway 7, between 6<sup>th</sup> Line and 5<sup>th</sup> Line, to provide for an east bound left lane at 6<sup>th</sup> Line and a westbound left turn lane at 5<sup>th</sup> Line. A westbound right turn deceleration lane on Highway 7 at 6<sup>th</sup> Line and placement of truck entrance signs is also recommended. The responsibility, designs and permits for these improvements are required to be confirmed with Ministry of Transportation. These improvements should be included in detailed designs based on a twenty year operational period /MTO permits and agreements required for this project.

### Haul Route

Completion of the Haul Route Study to the satisfaction of the Township of Guelph/Eramosa in consultation with the Town of Halton Hills, the Town of Milton and the Region of Halton, and implementation of its recommendations as a condition of development.

### Noise and Blast/Vibration

- Blast monitoring,
- Provision of blast record information to the Township; and,
- A third party acoustical audit in the first year of operation.

### Cultural Heritage

The cultural heritage landscape represented by the rural roadscape of Sixth Line north of Highway 7 will be preserved by retention of the treed road verge and landscaped berm

<b>Appendix B Initial Proposed Development Conditions</b>
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beyond.
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<b>Archaeology</b>
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A Stage I-II Archaeological Assessment was carried out by York North Archaeological Services Inc., August 31, 2012. The report identifies an area on the west side of the site south of the former pit (AjHa-50 James D. site) as the only area where historic archaeological resources were located. It has been identified as requiring a Stage 3 assessment. JDCL has agreed to conduct a Stage 3 assessment once MNRF has signed off on their application for the Category 2 Class "A" quarry.
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<b>Visual Impact</b>
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The development should be controlled to ensure that it generally reflects the proposal as assessed as part of the Visual Impact analysis as a condition of development through the zoning by-law and ARA site plan.
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<b>Agriculture</b>
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The monitoring program and complaint protocol should specifically identify the need to address any potential for impacts on agricultural operations.
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