TOWNSHIP OF GUELPH ERAMOSA
PLANNING REPORT # 1

Application: **Zoning By-law Amendment**
File No.: **ZBA 09/12**
Date: **January 29th, 2013**

TO: Township of Guelph/Eramosa Council, Janice Sheppard (CAO) & Gaetanne Kruse (Planning Administrator)

FROM: Cuesta Planning Consultants Inc.

SUBJECT: Zoning By-law Amendment Application (ZBA 09/12)
James Dick Construction Ltd. – Proposed Hidden Quarry

I. REASONS FOR AND NATURE OF APPLICATION:

The Township of Guelph/Eramosa has received a complete application (ZBA 09/12) from **James Dick Construction Ltd.** to amend Comprehensive Zoning By-law 57/1999.

James Dick Construction Ltd. 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). The proposed quarry will be accessed from the 6th Line. The subject lands currently exist as a managed conifer plantation.

The proposed quarry is intended to provide high-quality sand, gravel and dolostone resources suitable for high end uses in hot-mix asphalt paving, Portland cement concrete products and other construction related uses. It is estimated that approximately 12 million tonnes of aggregate are available for extraction, including 10 million tonnes of dolostone and 2 million tonnes of sand and gravel. The proposed license would permit the extraction of up to 700,000 tonnes of aggregate material each year. A site specific zoning by-law amendment is required to permit extractive industrial uses on the 39.4 hectare (100 acre) area to be licensed, of which an area of 24.8 hectares (61.3 acres) is to be extracted.

II. PROPERTY INFORMATION SUMMARY

File No.:		ZBA 09/12
Legal Description:		Pt. Lot 6, Concession 1, (Eramosa); ARN: 2311000 004 00110 0000
Lot:	Frontage	553 metres
	Depth	607 metres
	Area	39.4 hectares
Access:	Existing	6th Line & Highway 7
	Proposed	6th Line
Uses:	Existing	Managed conifer plantation
	Proposed	Category 2 Class 'A' Quarry
County OP:		Prime Agricultural & Core Greenlands; Mineral Aggregate Area Overlay
Zoning:		Agricultural (A) and Hazard (H)
Surrounding Uses:		Agricultural, Non-farm rural residential, rural industrial, woodlands

III. PURPOSE OF APPLICATION AND CONTEXT:

The subject property is approximately 39.4 hectares (100 acres) in size and ranges in elevation from 354 to 365m masl. These lands are comprised, primarily, of coniferous forest plantation. It would appear that two former 'wayside' gravel pits exist on the lands. A single detached dwelling is also located on the southeastern portion of the site with access provided via Highway 7. The site is located approximately 2 kilometres east of Rockwood and 4.5 kilometres west of Acton along the municipal boundary of Guelph/Eramosa and the Town of Milton. (See **Appendix A** for Existing Features Plan).

Surrounding land uses include actively cultivated agricultural and agricultural operations, non-farm rural residences, rural industrial uses and vacant woodlands. A detailed overview of surrounding land uses is provided in **Appendix B**.

The application proposes to extract high quality aggregate material for construction related uses under a Category 2 Class 'A' quarry license. The license will permit extraction to occur above and below the established groundwater table at a rate of up to 700,000 tonnes of aggregate material annually. The sub-aqueous extraction noted above will be permitted to approximately 30 metres below the established water table. Extraction below the established water table is to occur by dragline excavation without dewatering in an attempt to minimize the disturbance of groundwater levels during the lifetime of the operation. The applicant estimates that up to 12 million tonnes of aggregate can be extracted.

The 24.8 hectare (61.3 acre) extraction area is proposed to be extracted in 3 phases, consisting of 2 lifts beginning towards the northwest portion of the site and progressing in a clockwise direction ending in the western portion of the site. Further information in this regard can be found on the Operations Plan attached as **Appendix C**. The first lift will involve the extraction of unconsolidated sand and gravel material above the water table while the second lift will involve extraction of consolidated dolostone material occurring both above and below the water table. Phases and lifts may be operated concurrently due to the variability in stone and sand graduations and fluctuations in market demand for various aggregate products.

Loaders, drag-lines and excavators will be used in the extraction operation. Material will be transported to an on-site processing plant for crushing, washing and screening and will be stockpiled adjacent to the processing plant before being shipped off-site via the 6th Line and Highway 7. The main processing area will be established on the southwest portion of the site, as shown in the Operations Plan. Other equipment to be used on the site includes trucks, tractors, portable drills, scrapers and dozers. This equipment will be stored in the main processing area.

Progressive rehabilitation of the site will occur, where possible. In general, the rehabilitation plan includes two primary pond areas reflective of areas where extraction has occurred below the water table. These ponds will be rehabilitated to diverse shorelines which include wetlands and deep and shallow water fish habitat. Remaining tableland areas, including setback areas, will be largely reforested with native trees and shrubs. More information regarding rehabilitation can be found on the Rehabilitation Plan attached as **Appendix D** to this report.

IV. LAND USE POLICY CONSIDERATIONS

IV.I MATTERS ARISING FROM PROVINCIAL INTERESTS, POLICY STATEMENTS OR PLANS

.i PROVINCIAL POLICY STATEMENT

Pursuant to Section 3 of the *Planning Act,* the Minister of Municipal Affairs, in consultation with other Ministries; may issue policy statements that provide direction on matters of provincial interest related to land use planning and development. The latest provincial policy statement (PPS) came into effect on March 1st, 2005 and any decision, by any authority that affects a planning matter, shall be consistent with the PPS.

The PPS contains three major policy areas relating to: 1) Building Strong Communities; 2) Wise Use and Management of Resources; and 3) Protecting Public Health and Safety. The applicable sections of the PPS in consideration of the proposed "Hidden Quarry" relate to development in rural areas, mineral aggregate resources and natural heritage. A detailed overview of the applicable sections of the PPS is provided in **Appendix E** to this report.

Section 1.1.4 of the PPS requires that, in rural areas of municipalities, development shall be appropriate to the infrastructure which is planned or available, and avoid the need for the unjustified or uneconomical expansion of this infrastructure.

Comment: *Aggregate material extracted from the proposed quarry will be hauled south along the 6th Line before heading east on Highway 7 towards the GTA. As noted, approximately 200 metres of the 6th Line will be used by trucks in the shipping of aggregate material. The applicants have submitted a Traffic Study prepared by Cole Engineering Group Ltd. which provides an assessment of the appropriateness of the available road infrastructure to accommodate the increase in traffic associated with the proposed quarry. This Study suggests a number of improvements to roadway signage along the 6th Line in order to address potential safety concerns. In their January 11th, 2013 correspondence, R.J. Burnside & Associates Ltd. suggests that the applicants should provide a more detailed review of the need to upgrade the 6th Line to accommodate the increased truck traffic. They have recommended that a geotechnical study be provided to confirm the road base and surface requirements.*

Once the technical experts reach a consensus on the extent of required road upgrades, the proponents should enter into a development agreement with the Township to ensure that required signage and road upgrades will be completed. This development agreement should clearly define the works to be completed and the cost sharing arrangement. Approval of the ZBA 09/12 will be subject to the applicant entering into a development agreement to address haul route issues.

In general, Section 2.5 of the PPS requires that aggregate resources be protected for long-term use and that as much of the aggregate resource as is realistically possible be made available as close to markets as possible. Extraction is to be undertaken in a manner which minimizes social and environmental impacts.

Comment: *The proposed Hidden Quarry will provide a close-to-market supply of high quality aggregates for construction related use primarily in the Greater Toronto Area (GTA). The proposed quarry is located within the Greater Golden Horseshoe, roughly 40 kilometres northwest of the GTA. Its location should be considered favourably in this regard.*

The applicants have submitted several technical reports which address potential social and environmental impacts of the proposed quarry. These technical reports contain operational recommendations designed to minimize the proposed quarry's impact on social and environmental features. These recommendations have been incorporated into the Quarry Site Plans and form the basis for the ARA license application. The mitigation measures/technical recommendations set out on the Site Plans, in conjunction with the prescribed conditions of the Category 2 Class 'A' serve to protect environmental resources and minimize potential social impacts. The technical review process will confirm the validity of the conclusions and recommendations contained in the technical reports and ensure conformity with the PPS in this regard.

Given the nature of surrounding development and access to a provincial highway, the site would appear to provide a suitable opportunity for the proposed extractive industrial use.

Section 2.5.3 of the PPS requires progressive and final rehabilitation to accommodate subsequent land uses, to promote land use compatibility, and to recognize the interim nature of extraction. Final rehabilitation of the quarry should take surrounding land uses and approved land use designations into consideration.

Comment: Given the interim nature of the proposed aggregate extraction activity, a Rehabilitation Plan has been submitted by the applicant in accordance with the PPS and ARA provincial standards. The rehabilitation plan provides a detailed description of the proposed use of the subject lands upon the completion of extraction.

The lands will be rehabilitated to a diverse ecosystem with two ponds. The shoreline of these ponds will be diversified to create shoals, wetlands and aquatic habitat. Remaining areas of the site will be re-forested with native vegetation.

Rehabilitation to agricultural use will not be required due to the limited agricultural capacity of the existing overburden and the quantity of aggregate material proposed for extraction below the proposed water table.

Section 2.6 of the PPS provides direction on the protection of significant cultural or heritage resources. Section 2.6 requires that development and site alteration shall only be permitted on lands containing archaeological resources or areas of archaeological potential if the significant archaeological resources have been conserved by removal and documentation, or by preservation on site. Where significant archaeological resources must be preserved on site, only development and site alteration which maintains the heritage integrity of the site may be permitted.

Comment: A Level ll Cultural Heritage Study was completed by York North Archaeological Services Inc. for the subject property. The Stage ll investigation revealed evidence of a mid to late 19th century farmstead, likely associated with the Ramshaw family, towards the northwestern boundary of the site. A 20 metre extraction setback and a 50 metre monitoring zone have been recommended by the consultant's archaeologist in order to protect this heritage resource. These setbacks have been included on the Operations Plan to the satisfaction of the Ministry of Tourism, Culture and Sport.

In order to allow for further preservation of this identified archaeological resource, the proponents may conduct a Stage lll assessment which would allow for the removal of significant artifacts. Site Plans may be further modified to allow for additional extraction in

this area if a Stage lll assessment is completed to the satisfaction of the Ministry of Tourism, Culture and Sport.

Notwithstanding the above directives, Section 2.1 of the PPS states that development and site alteration shall not be permitted in significant woodlands south and east of the Canadian Shield, significant wetlands and significant wildlife habitat unless it has been demonstrated that there will be no negative impacts on the natural heritage features or their ecological functions.

Comment: *A Level ll Natural Environment Technical Report was prepared by GWS Ecological & Forestry Services Inc. and submitted by the applicant in accordance with the Aggregate Resources Act Provincial Standards. This study contains an assessment of the proposal with regard to the seven natural heritage features to be considered under the PPS. The study identified Provincially Significant Wetlands, Significant Woodlands and Significant Wildlife habitat on or adjacent to the area to be licensed.*

Provincially Significant Wetlands

The Natural Environmental Technical Report prepared by GWS Ecological & Forestry Services Inc. identified the presence of provincially significant wetlands on and adjacent to the subject property. The NETR concludes that based on the proposed wetland extraction setbacks and the construction of a hydraulic barrier identified on the Operations Plan and supported by the Hydrogeological Investigation, that there will be no direct or indirect impacts to on-site or off-site PSW's and their significant wildlife habitat functions.

Significant Woodlands

The NETR suggests that only a small portion of the existing woodland area on-site could potentially warrant designation as significant. The NETR notes that woodlands on the subject property have not previously been identified as significant. Approximately 13.43 hectares of naturally established and confier plantation will be retained on the site throughout extraction. This residual woodland will be complemented by an additional 7.18 hectares of woodland proposed in the Rehabilitation Plan.

Significant Wildlife Habitat

As determined by the results of the NETR fieldwork, the on and off site PSW's noted above were identified as significant wildlife habitat because of their importance for amphibian breeding. The on-site wetland area, located on the northwest portion of the property, also supports a small population of snapping turtles, a species of conservation concern. The existing hydraulic function of these wetland areas provides the basis for the significant wildlife habitat.

The Hydrogeological Investigation has recommended a 30 metre extraction setback from indentified on-site wetland areas that provide habitat for snapping turtles and amphibian breeding ground. The Hydrogeological Investigation also recommends the installation of a hyrdraulic barrier around this wetland. These measures are intended to preserve its existing hydraulic function. The recommended setbacks and hydraulic barrier have been included on the Operations Plan. The NETR concludes that based on the implementation of recommendations contained in the Hydrogeological Investigation and generally noted

above, that the proposed quarry development will have no impact on the hydraulic function of the wetland and therefore no effect on the significant amphibian breeding or snapping turtle habitat.

.ii GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2006)

The PPS provides the most appropriate and comprehensive policy framework for considering aggregate resource development within the Golden Horseshoe. In general, the Growth Plan supports the wise use and management of significant resources identified in the PPS. Subject to the proposal's conformity with the PPS, approval of ZBA 09/12 will not offend the intent of the Growth Plan for the Greater Golden Horseshoe.

IV.II MATTERS ARISING FROM WELLINGTON COUNTY OFFICIAL PLAN (2006)

The subject lands are designated as Prime Agricultural and Core Greenlands within the Wellington County Official Plan. The lands are also recognized by a Mineral Aggregate Area overlay designation on Schedule 'A'.

The Mineral Aggregate Area designation is intended to indentify known significant close-to-market aggregate deposits and provide protection to these deposits from the intrusion of incompatible development. Proposals to establish new aggregate extraction operations in the Mineral Aggregate Area do not require an amendment to the Plan.

The Mineral Aggregate Area does not, however, presume that all conditions are appropriate to allow extraction or processing of the resource to proceed. Section 6.6.5 of the County Official Plan provides direction to local councils in considering applications for new aggregate operations. Specifically, Section 6.6.5 states:

6.6.5 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:

a) the impact on adjacent land uses and residents and public health and safety;
b) the impact on the physical (including natural) environment;
c) the capabilities for agriculture and other land uses;
d) the impact on the transportation system;
e) existing and potential municipal water supply resources are protected in accordance with Section 4.9.5 of this Plan.
f) the possible effect on the water table or surface drainage patterns;
g) the manner in which the operation will be carried out;
h) the nature of rehabilitation work that is proposed; and
i) the effect on cultural heritage resources and other matters deemed relevant by Council.

It is essential that extraction be carried out with as little social and environmental cost as practical. Provincial standards, guidelines and regulations will be used to assist in minimizing impacts.

In general, Section 6.6.5 of the Wellington County Official Plan is a broad reflection of the considerations relating to proposed aggregate development manifested in the Provincial Policy Statement and the Provincial Standards for Category 2 Class 'A' quarries.

The County Official Plan requires a comprehensive evaluation of the proposed operations impact on adjacent land uses and residents and public health and safety. The applicant has submitted a number of technical reports relating to noise, dust, blasting and vibration, traffic, natural environment, cultural heritage and hydrogeology. The quarry Site Plans incorporate recommendations of the various technical reports which are intended to provide measures to minimize and social and environmental impacts of the proposed quarry. The mitigation measures and technical recommendations identified in the technical studies, implemented through the site plans, coupled with the prescribed conditions of the Category 2 Class 'A' license are intended to ensure the protection of environmental resources and that potential social impacts are minimized.

The technical review process will shed more light on the validity of the proponent's technical reports. Upon the commencement of this review, we will be in a position to provide further comment of the merits of the proposed quarry with regard to potential social and environmental impacts identified in the County Official Plan.

The Aggregate Resources Act also provides a mechanism to ensure that aggregate development proposals minimize potential social and environmental impacts. Objections to the ARA license application by agencies and members of the pubic MUST be addressed to the satisfaction of the objector prior to the issuance of a license. If certain objections cannot be resolved, the matter is referred to the Ontario Municipal Board for resolution.

IV.III MATTERS ARISING FROM GUELPH/ERAMOSA COMPREHENSIVE ZONING BY-LAW 57/1999

The property is currently zoned as Agricultural (A) and Hazard (H) within the Township's Comprehensive Zoning By-law 57/1999. Aggregate extraction operations are not permitted within the Agricultural or Hazard Zone.

In order to facilitate the issuance of a Category 2 Class 'A' quarry license under the Aggregate Resources Act, the applicant has requested the lands be rezoned to M3 - Extractive Industrial. The M3 zone permits a variety of land use and development activities related to aggregate extraction. The Township may wish to include special provisions within the proposed by-law amendment to limit the permitted uses to only those proposed at the time of application.

Of specific relevance to the Hidden Quarry application, the M3 zone requires a 30 metre extraction setback from existing natural surface water features. The applicant has requested a reduction to this standard to allow for extraction within 20 metres of an intermittent stream. The Hydrogeological Investigation prepared by Harden Environmental Services Ltd. coupled with the technical review of this report will form the basis in considering this request.

V. MATTERS ARISING FROM AGENCY CIRUCLATION

The complete application was circulated to the required public agencies on December 7th, 2012. The complete circulation list is provided in **Appendix F** to this report. Mindful of the decision timelines outlined in Section 34 of the Planning Act; agencies were directed to submit comments by January 11th, 2013.

As of the date of writing this report, comments have been received from a number of agencies. These comments have been attached as **Appendix G** for further reference. The content and intent of their comments is generally summarized below.

R.J. Burnside & Associates Ltd.
R.J. Burnside has been retained by the Township to conduct a peer-review of the majority of the technical reports and plans submitted by James Dick Construction Ltd. in support of the proposed Hidden Quarry. The correspondence received from Burnside includes a number of general comments which should be addressed by the applicant prior to the approval of ZBA 09/12. In addition, Burnside raised a number of concerns regarding the proponent's Traffic Impact Study, Natural Environment Technical Report and Hydrogeological Investigation.

Comment: The applicants have received the comments from Burnside and are in the process of coordinating a response from their technical experts. This review process should continue on an on-going basis until both parties are satisfied that technical concerns have been resolved.

The technical review process and response will ensure that technical concerns are adequately addressed and that conclusions and recommendations contained in the technical reports are valid. Any additional mitigation measures or works deemed necessary should be included on the quarry Site Plans.

From a land use planning perspective, we must rely heavily on the conclusions of various technical reports in our evaluation of the merits of the proposed quarry. Therefore, it is imperative that parties involved in the technical review are satisfied that with these conclusions. Prior to the applicants satisfying the concerns raised by Burnside, it is premature to provide a thorough planning evaluation.

Grand River Conservation Authority
The GRCA has yet to provide formal comments but expressed their intention to do so in correspondence dated January 11, 2013.

Comment: The GRCA employs technical experts which will assist in the technical review of the proponents NETR and Hydrogeological Investigation. Comments from the GRCA will be relied on in order to evaluate the proposal's conformity with the Natural Heritage policies of Section 2.1 of the PPS. As with Burnside, the GRCA's review of the proposal should continue on an on-going basis until all parties are satisfied that technical concerns of their interest have been resolved.

Ministry of Tourism, Culture & Sport
In correspondence dated November 7, 2012, Ministry Staff expressed their satisfaction with the Archeological Assessment prepared by York North Archaeological Services submitted in support of ZBA 09/12.

County of Wellington
The County of Wellington has yet to provide formal comments. Based on recent discussions with County Staff, it would appear that comments are forthcoming.

Novus Environmental
Novus was retained by the Township to conduct a peer-review of the Noise Impact Study and Blast Impact Assessment reports submitted by the applicant in support of ZBA 09/12. No comments have been received as of the date of writing this report.

Township of Guelph/Eramosa Building Department
Correspondence was received from the Township Building Department on December 13, 2012 indicating that the department had reviewed the application and has no concerns. The department notes that building permits will be required for all new structures.

Those agencies which chose not to respond to the Township's request for comment are deemed to be satisfied and have no concern with regard to ZBA 09/12.

Comment: Concerns raised by technical experts at Burnside, Novus and the GRCA will be addressed by the applicant or their consultants. This review process will involve ongoing dialogue and likely result in the revision of some aspects of the Quarry Site Plans.

VI. MATTERS ARISING FROM PUBLIC CIRCULATION

Notice of a complete application for ZBA 09/12 was provided on December 7th, 2012 in the Wellington Advertiser publication. This notice was also circulated to the required public agencies with direction to provide comments by January 11th, 2013.

At the time of writing this report, no comments in objection to or in support of the proposed zoning by-law amendment had been received from members of the public.

In order to address the public consultation requirements of the Planning Act and collect comments from members of the public for the purposes of our review of the application, the Township must hold a public meeting in accordance with the Planning Act. Given the current stage of the application review process, it is an appropriate time to provide the required notice and schedule the required public meeting.

In an attempt to consolidate the Planning Act and Aggregate Resources Act approvals process, to the greatest extent possible, it is valuable to hold the required public meeting in a joint format. In our experience, this helps eliminate confusion with regard to the approval process and commenting protocol.

VII. SUMMARY OF REVIEW PROCESS AND NEXT STEPS

In general, this report provides a summary of the application review process to date and a framework for the broader review of ZBA 09/12 in accordance with the requirements of the Planning Act.

At this point, it is somewhat premature to comment as to land use planning merits of ZBA 09/12. As noted above, the technical review process will serve to validate studies provided by the proponent and ensure appropriate measures are implemented through the quarry Site Plans that serve to minimize the social and environmental impacts of the proposed quarry. This technical review process should continue on an on-going basis until there is consensus between the relevant parties.

In accordance with the requirements of the Planning Act, the Township must also proceed to hold a public meeting. The public meeting will provide ratepayers and residents with the details of the proposal and will

provide a forum for the submission of comments. Comments received from members of the public will form another component of our overall assessment of the merits of the proposal.

Pursuant to the completion of the technical review process and the receipt of public comments, we will be in a position to provide further comment on the proposal's consistency with the policies of the PPS & Wellington County Official Plan.

VIII. RECOMMENDATIONS

Based on the foregoing submissions, it is hereby recommended that:

1) The Township of Guelph/Eramosa host a public meeting pursuant to the Planning Act on Monday March 25th, 2013 at 7:00pm at the Rockmosa Community Centre to consider the request to amend the Township of Guelph Eramosa Comprehensive Zoning By-law 57/1999;

2) That the above noted public meeting be held in conjunction with the Public Information Session required pursuant to the Aggregate Resources Act to consider James Dick Construction Ltd.'s application for a Category 2 Class 'A' quarry license; and

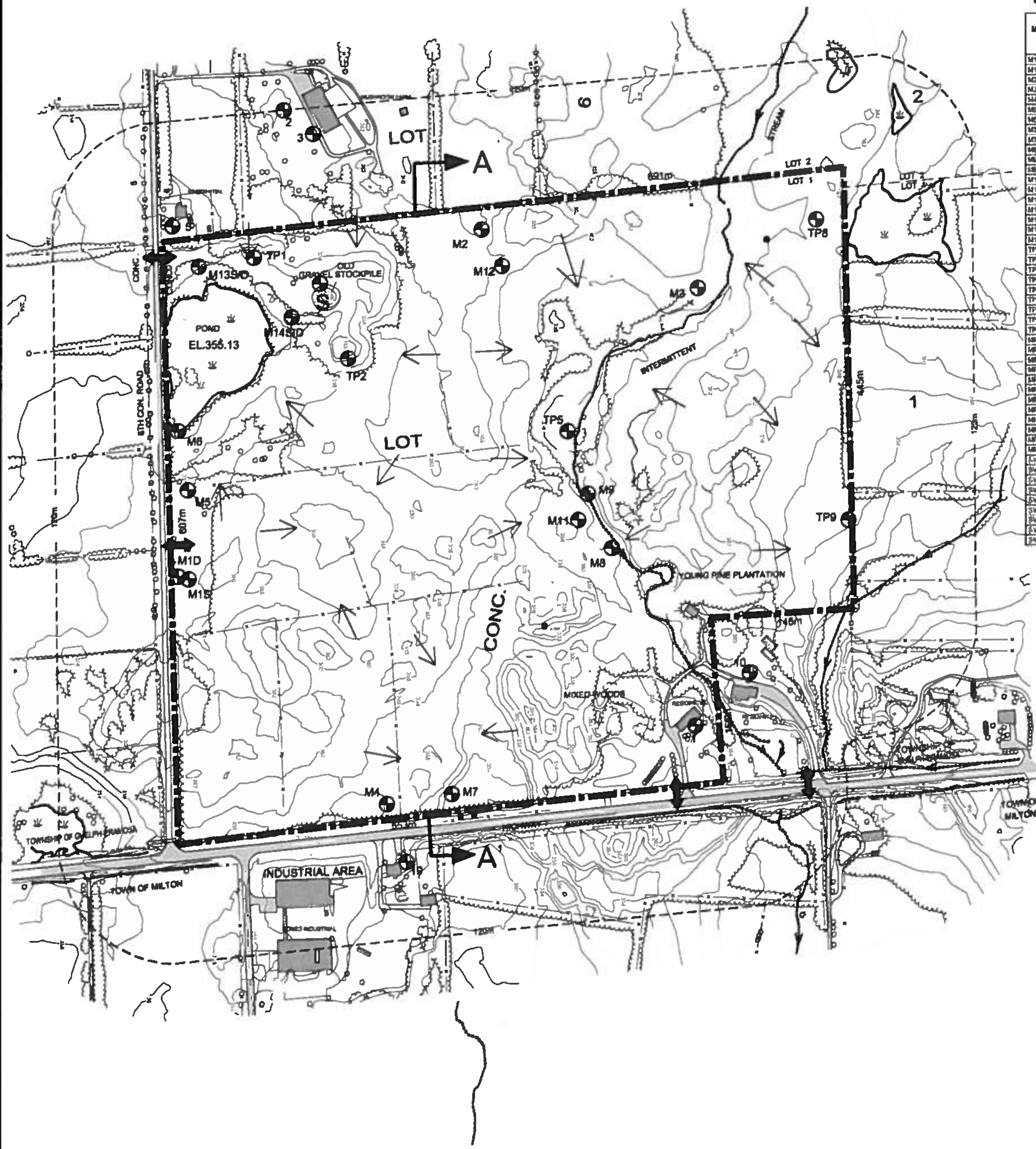
3) That the Township proceed to provide notice of the public meeting in accordance with the Planning Act and Ontario Regulation 545/06.

Respectfully submitted,

Michael Davis, Planner
Cuesta Planning Consultants Inc.

APPENDIX A

EXISTING FEATURES PLAN



Water Wells Within 120m of Subject Property

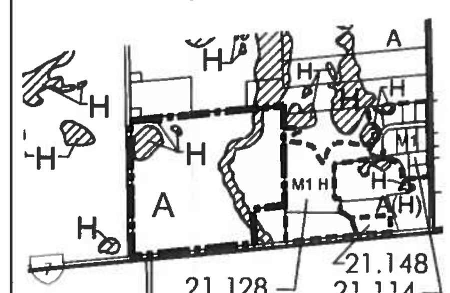
Well Location	MOE Well No.	Ground Elevation (mAMSL)	Depth of Well (mbgs)	Static Level (mbgs)	Pumped Level (mbgs)	Pumping Test Discharge (lgpm)
1	6705627	358.46	30.48	12.41	13.72	8
2	*	357.20	3.33	1.77	n/a	n/a
3	*	360.01	approx 61	6.23	n/a	n/a
5	*	360.25	n/a	n/a	n/a	n/a
10	6705424	355.97	approx 27	n/a	18.29	10
19	2802048	355.90	20.12	10.35	n/a	n/a

* No MOE Water Well Record

Monitoring Station	Type	Date Installed	Inside Diameter (in)	Stick-up (m)	Ground Elevation (mAMSL)	Reference Point Elevation (mAMSL)	Depth (mbgs)
M1D	Drilled Groundwater Monitor	May-1990	2.00	0.87	358.83	359.70	12.80
M1S	Drilled Groundwater Monitor	Dec-2010	2.00	1.00	358.84	359.84	8.35
M2	Drilled Groundwater Monitor	May-1990	2.00	0.94	[illegible]	363.39	55.47
M3	Drilled Groundwater Monitor	May-1990	2.00	0.93	359.27	360.20	11.12
M4	Drilled Groundwater Monitor	May-1990	2.00	0.74	[illegible]	356.62	18.59
M5	Drivepoint Groundwater Monitor	Nov-1996	1.25	1.07	358.64	359.71	[illegible]
M6	Drivepoint Groundwater Monitor	Nov-1996	1.25	1.12	[illegible]	366.10	[illegible]
M7	Drivepoint Groundwater Monitor	Apr-1996	1.25	1.14	352.43	353.57	2.07
M7R	Drivepoint Groundwater Monitor	Nov-2010	1.25	0.82	352.45	353.27	3.14
M8	Drivepoint Groundwater Monitor	Apr-1996	1.25	1.10	356.30	357.40	1.58
M9	Drivepoint Groundwater Monitor	Apr-1996	1.25	1.35	[illegible]	367.02	2.81
M9R	Drivepoint Groundwater Monitor	Nov-2010	1.25	[illegible]	[illegible]	356.70	2.82
M10	Drivepoint Groundwater Monitor	Apr-1996	1.25	1.14	[illegible]	[illegible]	[illegible]
M11	Drilled Groundwater Monitor	Dec-2010	2.00	0.85	358.57	359.42	9.30
M12	Drilled Groundwater Monitor	Dec-2010	2.00	0.89	[illegible]	[illegible]	8.64
M13S	Drilled Groundwater Monitor	Dec-2010	2.00	0.99	356.78	357.77	4.37
M13D	Drilled Groundwater Monitor	Dec-2010	2.00	0.90	356.75	357.65	10.06
M14S	Drilled Groundwater Monitor	Dec-2010	2.00	[illegible]	354.64	[illegible]	4.27
M14D	Drilled Groundwater Monitor	Dec-2010	2.00	0.75	[illegible]	[illegible]	7.62
TP1	Test Pit Location With Drivepoint Groundwater Monitor	Sep-1996	1.25	1.07	[illegible]	359.41	4.00
TP2	Test Pit Location With Drivepoint Groundwater Monitor	Sep-1996	1.25	1.37	[illegible]	356.03	5.00
TP3	Test Pit Location	Sep-1996	n/a	n/a	358.45	n/a	8.00
TP4	Test Pit Location	Sep-1996	n/a	n/a	n/a	n/a	8.00
TP5	Test Pit Location With Drivepoint Groundwater Monitor	Sep-1996	1.25	[illegible]	[illegible]	358.64	7.49
TP6	Test Pit Location	Sep-1996	n/a	n/a	[illegible]	n/a	7.00
TP7	Test Pit Location	Sep-1996	n/a	n/a	[illegible]	n/a	8.00
TP8	Test Pit Location With Drivepoint Groundwater Monitor	Feb-2012	1.25	0.91	[illegible]	360.36	6.07
TP9	Test Pit Location With Drivepoint Groundwater Monitor	Feb-2012	1.25	0.94	[illegible]	[illegible]	4.57
MPN-1	Mini Piezometer	Jul-2009	0.75	0.94	[illegible]	355.81	2.07
MPN-2	Mini Piezometer	Jul-2009	0.75	[illegible]	[illegible]	[illegible]	[illegible]
MPE-1	Mini Piezometer	Jul-2009	0.75	0.79	354.71	[illegible]	2.12
MPE-2	Mini Piezometer	Jul-2009	0.75	0.79	[illegible]	[illegible]	2.17
MPS-1	Mini Piezometer	Jul-2009	0.75	0.77	354.73	[illegible]	2.14
MPS-2	Mini Piezometer	Jul-2009	0.75	[illegible]	[illegible]	[illegible]	2.72
MPW-1	Mini Piezometer	Jan-2011	0.75	[illegible]	[illegible]	[illegible]	[illegible]
MPW-2	Mini Piezometer	Jan-2011	0.75	0.71	[illegible]	[illegible]	[illegible]
MP1	Mini Piezometer	Nov-2010	0.75	1.14	[illegible]	[illegible]	3.01
MP2	Mini Piezometer	Nov-2010	0.75	0.44	[illegible]	[illegible]	[illegible]
MP3	Mini Piezometer	Nov-2010	0.75	0.75	[illegible]	[illegible]	[illegible]
MP4	Mini Piezometer	Nov-2010	0.75	[illegible]	[illegible]	[illegible]	[illegible]
SW1	Surface Water Gauge	Aug-1996	n/a	n/a	n/a	356.34	n/a
SW2	Surface Water Gauge	Aug-1996	n/a	n/a	n/a	[illegible]	n/a
SW3-D	Surface Water Gauge and Streamflow Measurement	Aug-1996	n/a	n/a	[illegible]	[illegible]	n/a
SW3-U	Surface Water Gauge and Streamflow Measurement	Aug-1996	n/a	n/a	n/a	[illegible]	n/a
SW3A/SW8	Streamflow Measurement	Mar 2009	n/a	n/a	n/a	[illegible]	n/a
SW4	Surface Water Gauge and Streamflow Measurement	Aug-1996	n/a	n/a	[illegible]	[illegible]	n/a
SW5	Surface Water Gauge	Aug-1996	n/a	n/a	[illegible]	[illegible]	n/a
SW6	Surface Water Gauge	Oct-2001	n/a	n/a	n/a	[illegible]	n/a
SW7	Surface Water Gauge and Streamflow Measurement	Oct-2001	n/a	n/a	n/a	[illegible]	n/a

TOWNSHIP OF GUELPH-ERAMOSA
ZONING BYLAW
(CONSOLIDATED 2009, DEC. 31)

ZONING SCHEDULE:



LEGEND:
- M1 RURAL INDUSTRIAL
- H HAZARD LAND
- A AGRICULTURAL
- BOUNDARY TO BE LICENSED

LEGEND:

- BOUNDARY TO BE LICENSED
- 120m AROUND LICENCE
- WOODED AREA
- PONDS / WETLANDS
- INTERMITTENT STREAM
- FENCELINE
- BUILDINGS (TYPE)
- EXISTING CONTOURS(METRES ABOVE SEA LEVEL)
- DIRECTION OF SURFACE RUN-OFF
- TYPICAL SECTION LOCATIONS
- MUNICIPAL BOUNDARY
- ENTRANCE/EXIT
- S EXISTING AGGREGATE STOCKPILE
- EXISTING LANE
- MONITORING WELL

NOTES:

1. This Site Plan has been prepared for submission to the MNR under the Aggregate Resources Act for a Class "A" Licence, Category 2, Quarry Below Water.
2. This Site Plan has been completed using information taken from Township of Guelph-Eramosa Zoning By-law, the 1:100,000 scale Provincial Highway Mapping and County Roads mapping, Ontario Base Mapping (1:10,000), topographic base mapping and water elevations - Harden Environmental Services Ltd, field information and recent aerial photography of the local area.
3. This site is comprised of plantation, woodlands, a former wayside pit and a small pond/wetland. Zoning for the site is Agricultural and Hazard (See Zoning Schedule). Lands to the south are zoned Rural.
4. The existing entrances to the site are shown on this plan.
5. Stockpiles of aggregate are shown on the plan.
6. Wells on the site and adjacent to the property are shown on the site. A description of wells is provided in Table 1.
7. Along the southern portion of the site, there is a house and a shed. Residences and other structures within 120 m of the site are shown.
8. There are no existing piles of scrap on the site.
9. There are no existing fuel storage areas on the site.
10. The existing surface water drainage is shown on this plan. An intermittent watercourse is shown on the Site Plans. Wetlands/ponds on the site and adjacent to the site are illustrated on the Site Plans.
11. The existing ground water table ranges from 348 to 356 (masl). All measurements shown on the Site Plans are in metres.
12. Proposed Licensed Area = 39.4 ha.

REFERENCES:

Aercoustics Engineering Limited. 2012. Noise and Blast Impact Study - Project No. 11007.

Cole Engineering Limited. 2012. Traffic Impact Assessment of the Proposed Hidden Quarry.

County of Wellington. 1999. Official Plan.

Grand River Conservation Authority. 2011. Contour Information and Aerial Photography.

GWS Ecological and Forestry Services Inc. 2012. Proposed Hidden Quarry - Level 2 Natural Environment Technical Report.

Harden Environmental Services Ltd. 2012. Level 1 and 2 Hydrogeological Investigation - Hidden Quarry.

K. W. Ingram. 1990. Borehole Records - Lot 1, Concession 6, Eramosa Township, County of Wellington.

RWDI. 2012. Air Quality Assessment - Proposed Hidden Quarry - Report # 1201429.

Township of Guelph-Eramosa. Comprehensive Zoning By-law.

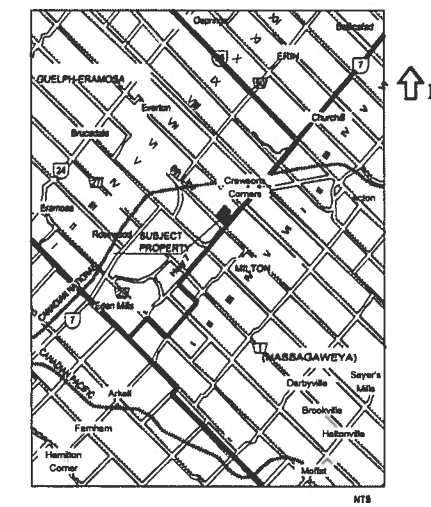
York North Archaeological Services., 2012, Stage I-II Archaeological Assessment of the Proposed James Dick Ltd. Hidden Quarry

HIDDEN QUARRY

PART OF LOT 1, CONCESSION 6
TOWNSHIP OF GUELPH-ERAMOSA
FORMER TOWNSHIP OF ERAMOSA
COUNTY OF WELLINGTON

Page 1 of 5
EXISTING FEATURES

KEY MAP



THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE, CATEGORY 2 - QUARRY BELOW WATER.

THESE SITE PLANS HAVE BEEN PREPARED UNDER THE DIRECTION OF AND CERTIFIED BY A PERSON APPROVED BY THE MINISTER OF NATURAL RESOURCES (AS PER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT).

SIGNATURE: ____________ DATE: ____________

PREPARED FOR: JAMES DICK CONSTRUCTION LTD
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Toll Free: 1-888-535-3333

APPROVED:	R.F.S.	DRAWN:	C K S
PLOTTED:	SEPTEMBER 21, 2012	FILE:	

No.	DATE	DESCRIPTION	APP'D

AMENDMENTS

Scale: 1:3000 — 0 100 200 meters

STOVEL and Associates Inc.
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N5A 7T1
PHONE (519) 273-7629

APPENDIX B

AERIAL PHOTO OF SITE AND SURROUNDING LANDS

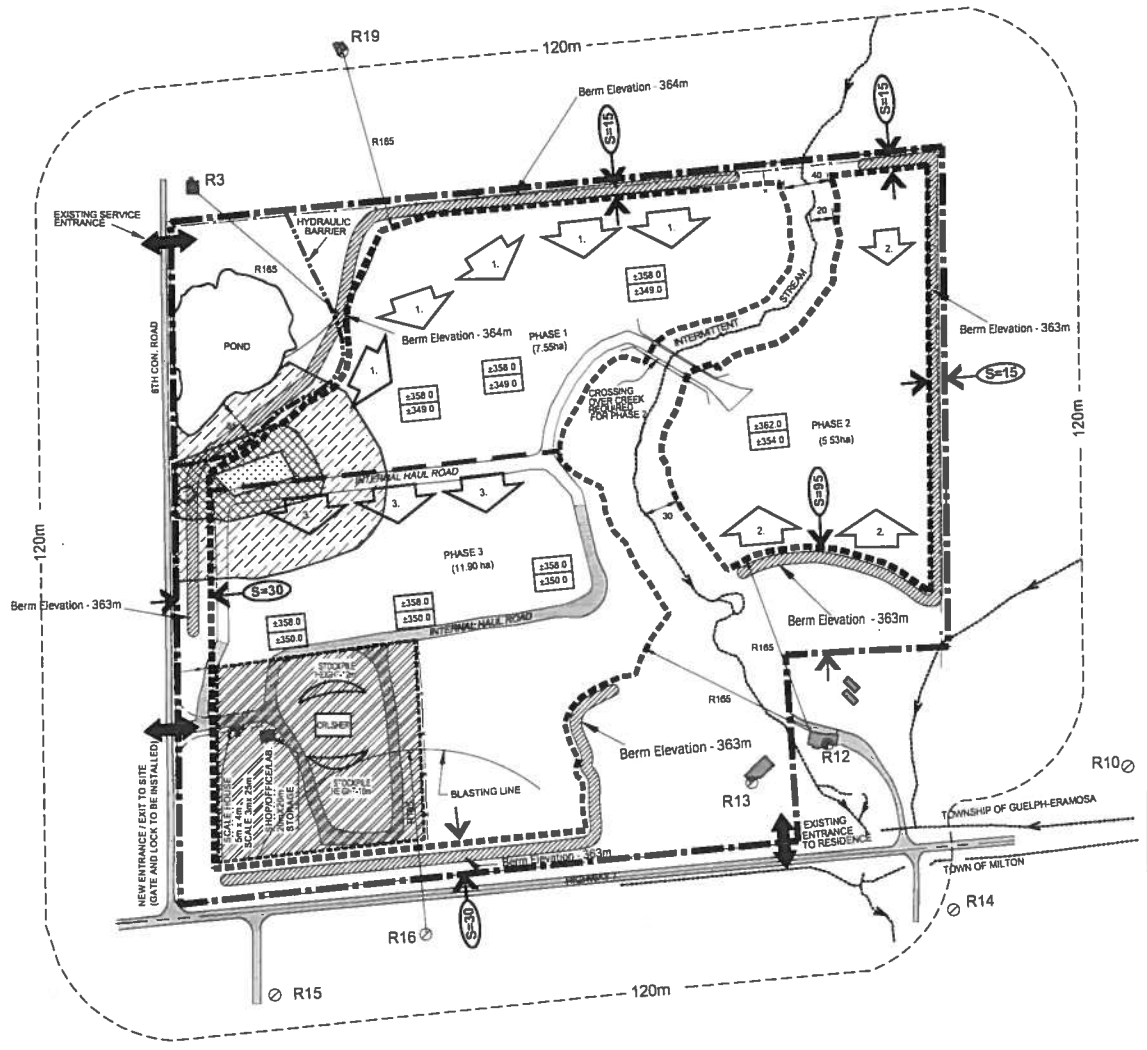
7.2

Vixman
Construction
Blue
Springs
7
Bondyn
Products Inc
7
Marzo Glove &
Hides In Hand
System
Fencing
7

APPENDIX C

OPERATIONS PLAN

7.2



TECHNICAL RECOMMENDATIONS

Water - Hydrogeological Investigation Report by Harden Environmental

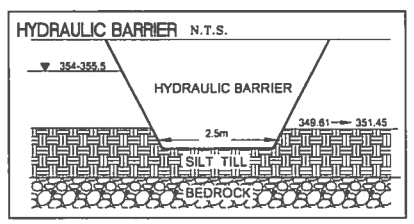
The monitoring program for this proposed pit/quarry involves the following activities:

- measuring groundwater levels,
- obtain water quality samples,
- monitoring water levels in the on-site wetland and stream, and
- stream flow measurements

Parameter	Monitoring Locations	Frequency
Groundwater Levels	M1 S/D, M2 M3, M4 M5, M13SD M14 S/D M, MPN1, MPN2, MPS1 MPS2, MPE1, MPE2 MPW1 MPW2, TP1 TP8, TP9	Monthly April to November, February
Groundwater Levels	M2, M3, TP1, M13 S/D M14 S/D	Weekly during first 3 months of extraction
Surface Water Levels	SW6	Monthly April to November
Surface Water Flow	SW4 SW6 SW3	Monthly April to November
Groundwater Quality	M2, M4	Annually
Surface Water Quality	West Pond, East Pond	Annually

A hydraulic barrier shall be installed along the southern and eastern portions of the wetland. The barrier will limit the outflow of groundwater downgradient of the wetland. The schematic of the hydraulic barrier is set out on the Site Plans.

A water well complaint protocol will be implemented. Details are contained in the Harden report.



Level II Natural Environment Technical Report by GWS Ecological Services

- A 30m buffer will be established from the limit of the PSW provided the identified Archaeological Feature is cleared. If this is not the case the hydraulic barrier will be installed approximately 20m from the PSW in this area in order to maintain buffer requirements around the Archaeological feature. This is shown in Figure 4-2 of the Hydrogeological Investigation prepared by Harden Environmental Services. A 20 to 30m buffer will be established from the banks of the intermittent stream and the edge of the locally significant wetland (MAM3-2) as shown on the Site Plans Wetland boundaries will be flagged by GWS staff.
- In the southeastern portion of the site GWS staff will flag and/or stake the dripline of trees which mark the boundary of FOM2-2 and will also assist the surveyor in staking the setback required from the existing off-site residence (i.e. minimum of 165m) which traverses portions of woodland units CUP3-12a, FOC2-2, FOD5-7 and CUP3-12d. Elsewhere on the property the surveyor must stake the required setbacks from property boundaries.
- Prior to the initiation of tree clearing operations trees which occur immediately beyond the specified setbacks will be marked with orange spray paint by GWS staff to further ensure there are no intrusions into tree protection areas. Trees to be removed will be marked with an orange dot at chest height and a slash of the butt which extends to the ground.
- Tree protection measures will be installed as required around the limit of the extraction area after all tree clearing and grubbing is completed.
- To facilitate access to the eastern extraction area an appropriately sized culvert must be installed in the intermittent stream at the location shown in the Operations Plan. Culvert installation should occur in the summer months when there is no flow in the stream.
- Topsoil and overburden will be stripped and stored separately in bermed stockpiles as illustrated on the Operations Plan. All berms will be graded to stable slopes and seeded to prevent erosion and minimize dust.
- Dust control will be implemented in accordance with the procedures described on the Operations Plan.
- Progressive rehabilitation will be implemented as specified in the Site Plans and replanting will commence as early as possible with an emphasis on the area adjacent to the PSW and northern property line (i.e. Phase 1 on the Operations Plan).
- All tree and shrub planting stock will be obtained from nurseries that utilize seed from the same genetic seed zone wherein the James Dick property is located.
- Shoreline wetlands will only be planted with native species taken from local wetlands.

Archaeology

Technical recommendations of the archaeologist have been incorporated onto the Site Plan to ensure protection of the cultural heritage resources.

o An archaeological resource area has been identified in the north-western portion of the site.
o The extent of the archaeological site has been buffered with a 20 m setback area. A 50 m monitoring zone has also been established around the site and around a buffer zone. Site disturbance will not be permitted within the 20 m buffer zone.
o Any soil disturbance within the monitoring zone will be monitored by a licensed archaeologist who is empowered to stop construction if there is a concern for impact to an archaeological site. The area within the 20-meter buffer is a no go zone by construction crews at any time.
o 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 with regard to alterations to archaeological sites for the specified part of the project area namely AjHa-50 (Section 7.8.5 -a - e).
o A Stage 3 archaeological study and removal will be required to clear this property post licensing. The buffer zone shall not be disturbed should archaeological clearance not be granted. The acoustic berm will be relocated to the east and south of the Buffer zone if clearance is not granted. The limit of extraction will also be modified in this area.
o Should deeply buried archaeological material be found on the property during construction activities, the Ministry of Culture shall be contacted immediately (519) 675-7742.
o In the event that human remains are encountered during construction, the licensee shall immediately contact bout the Ministry of Culture and the Registrar of the Cemeteries Regulations Unit of the Ministry of Consumer and Commercial Relations (416) 326-8404.

SPILLS CONTINGENCY AND RESPONSE PROGRAM

1. Liquid petroleum products (fuels, oil) in quantities greater than 500 litres or other hazardous liquid chemical associated with the operation will not be stored onsite on a permanent basis.
2. Temporary fuel storage facilities will be inspected for leaks on a regular basis when operations are occurring. If operations are not occurring (for example on weekends or during an extended shutdown period), inspection of temporary fuel storage facilities remaining onsite will occur weekly.
3. Spills containment materials (for example, absorbency materials and portable containers) are to be available on-site as part of the temporary fuel storage equipment.
4. In the case of an accidental spill of fuel or oil, the following action is to be taken:
(a) If the spill volume is approximately 5 L or more, or the spill occurs directly to a surface water feature, contact the Township and the Spills Action Centre established by MOE (1-800-268-6060).
(b) Take reasonable measures to stop or control the spill (such as closing valves, collecting leakage in a container, applying the absorbency materials).
(c) Arrange for an inspection of the spill site and a general assessment of the environmental impact by a Qualified Person (Qualified Person means a professional engineer or professional geoscientist) and/or the Ministry of the Environment.
(d) Implement remedial measures as recommended by the Qualified Person and/or the Ministry of the Environment.
(e) Prepare a written report on the incident for review by the Township, MNR/MOE.

HOURS of OPERATION

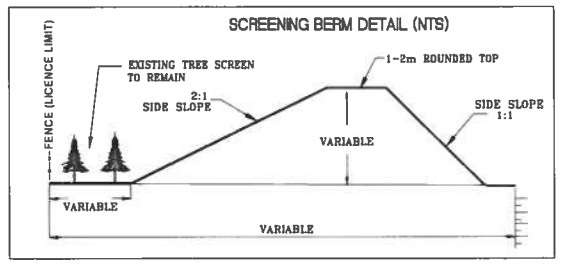
1. Shipping and Loading: 6 am to 7 pm - Weekdays and 6 am to 1 pm - Saturdays.
2. Extraction and Processing: 7 am to 7 pm - Weekdays and 7 am to 1 pm - Saturdays.
3. Drilling and Blasting: 8 am to 5 pm - Weekdays. No drilling and blasting on weekends.
4. Closed for Operations on Sundays and Public Holidays.
5. Maintenance and Rehabilitation may occur during normal weekday hours, 6 am to 7 pm, and on Saturdays from 7 am to 5 pm.

SITE PLAN OVERRIDE TABLE

THE FOLLOWING CONDITIONS ILLUSTRATED ON THIS PLAN VARY FROM THE REQUIREMENTS OF THE PROVINCIAL STANDARDS THAT APPLY TO LICENSED PITS AND QUARRIES IN ONTARIO.

OVERRIDE	STANDARD
Rehabilitation of side slopes may occur at a slope steeper than 2:1 to promote ecological diversity	5. 19.2

SCREENING BERM DETAIL (NTS)



DUST - Air Quality Assessment by RWDI

1. The quarry is limited to 12 hours of operation per day, from 7:00 am to 7:00 pm for site preparation drilling, blasting, excavation, processing operations and rehabilitation activities, and 6:00 am to 6:00 pm for shipping operations.
2. The maximum processing rate of 6,000 tonnes per day is not exceeded.
3. Equipment specific controls will be implemented including a 25km/hr speed limit, appropriate tail pipe emission tiers, and dust suppression.
4. An Environmental Compliance Approval under Section 9 of the Environmental Protection Act (EPA) will be obtained as required.
5. A Best Management Practices Plan will be developed and implemented.
6. The processing plant should be located approximately as shown on the site plans.
7. Stripping of overburden should be limited to times when extraction, production and shipping activities are well below the estimated peak rate of 6,000 tonnes per day.

LEGEND:

- BOUNDARY TO BE LICENSED
- LIMIT OF AREA TO BE EXCAVATED
- 120m 120m AROUND LICENCE
- RESIDENTIAL BUILDINGS (TYPE)
- ±358.0 / ±350.0 SPOT ELEVATION, TOP OF SAND & GRAVEL / SPOT EL., BOTTOM OF SAND & GRAVEL
- DIRECTION OF EXCAVATION
- MAIN INTERNAL HAUL ROUTE
- MAIN PROCESSING AREA
- WATERCOURSE
- HYDRAULIC BARRIER
- S=15 SETBACK
- ENTRANCE/EXIT
- BERM
- A A' TYPICAL SECTION LOCATIONS
- MUNICIPAL BOUNDARY
- R11 RECEPTOR LOCATION
- EXTENT OF ARCHEOLOGICAL SITE
- 20m BUFFER AROUND ARCHEOLOGICAL SITE
- 50m MONITORING ZONE AROUND BUFFER AREA

NOTES:

1. This plan depicts a schematic operations sequence for this property based upon the best information available at the time of preparation. Phases shown are schematic and may vary with demand and variations in the aggregate deposit. Phases do not represent any specific or equal time period. Phases and lifts may be operated concurrently. Excavation will occur above and below the water table.
2. The lands are to be rehabilitated to an ecological after-use with the incorporation of a lake (s).
3. The site will be operated in several Phases, consisting of two lifts, as shown on the Site Plan. The first lift will involve the extraction of the unconsolidated material above the water table. The second lift will involve the extraction of consolidated material above and below the water table. Due to the variability in stone and sand gradations, and with fluctuations in market demand for various aggregate products, extraction may occur simultaneously at different portions of the site, unless otherwise specified in the technical reports, i.e. noise and dust.
4. Extraction operations will use loaders, drag-lines and excavators, which will feed a processing plant(s), i.e. crushing, screening and washing plants. Other equipment to be used on the site includes: trucks, tractors, portable drill, scrapers, and dozers. Equipment will be stored in the main processing area.
5. Existing property limits are fenced. Once extraction initiated, fencing repairs and fence installation will occur along the perimeter of the site as required.
6. On site permanent fuel storage will not occur in quantities greater than 500 litres.
7. Processing equipment and aggregate stockpiles resulting from this operation shall proceed as close to the excavation face as possible, during the initial phase of operations. A main processing area will be developed in the western portion of the site once a sufficient area has been cleared.
8. It is anticipated that the only buildings or structures that will be constructed are a scale and scalehouse and a maintenance shop/office/ quality lab. The scale and scalehouse will be located close to the main entrance to the site, adjacent to the 6th Concession.
9. Scrap will not be stored permanently onsite. Temporary scrap piles will be located in the main processing area as shown on the Site Plan.
10. Onsite overburden quantities are minimal, therefore overburden and topsoil may be stored together in the stockpile locations or perimeter berms. Where there is a sufficient depth of subsoil and overburden, stripping and storage will occur separately.
11. Topsoil and overburden stockpiles will be seeded with an appropriate grass legume seed mixture to prevent erosion(See typical screening berm detail).
12. All vegetation planted during the operation of the site will be maintained in a healthy growing condition. Should any planted vegetation die, it will be replaced within one growing season.
13. One (looped) internal haul road is shown on the plan. Internal haul roads may need to be modified during the course of operations to permit efficient access to different product stockpiles. The internal haul road will be paved from the entrance to the scale. The internal haul road will be inspected daily, or more often as required, to ensure that dust and aggregate are not tracked onto the municipal road system. Dust will be controlled through mechanical sweeping and or treatment with water.
14. Aggregate will be transported from the pit to a year-round access onto 6th Concession. Trucks will use Provincial Highway 7 as the main haul route.
15. The existing ground water table occurs at +/- 348 to 356 masl.
16. There will be no proposed water diversions or points of discharge to surface water from this site. Surface drainage will be allowed to percolate through the rehabilitated pit/quarry floor and reflect the existing surface drainage as much as possible.
17. Dust control will be maintained through the use of a MOE approved dust suppressant or water as required.
18. During the early stages of operation a small pond (< 0.4 ha in size) may be temporarily established on the pit/quarry floor to permit washing operations and to provide water for dust suppression. Silt may be deposited in quarry ponds. A permit to take water will be obtained from the MOE prior to any washing operations taking place as required.
19. The location of existing vegetation/natural tree screening is shown on Page 1.
20. Any trees or stumps that are needed to be removed from the extraction area shall be harvested, mulched or used for rehabilitation purposes. The area to be extracted is 24.8 ha.
21. The maximum tonnage to be removed from this license in any calendar year shall be 700,000 tonnes.

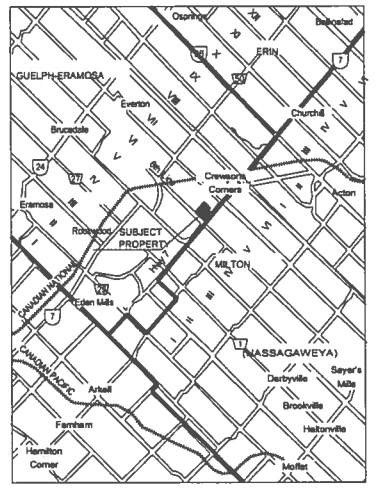
HIDDEN QUARRY

PART OF LOT 1, CONCESSION 6
TOWNSHIP OF GUELPH-ERAMOSA
FORMER TOWNSHIP OF ERAMOSA
COUNTY OF WELLINGTON

Page 2 of 5

OPERATIONS PLAN

KEY MAP



THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE, CATEGORY 2 - QUARRY BELOW WATER.

THESE SITE PLANS HAVE BEEN PREPARED UNDER THE DIRECTION OF AND CERTIFIED BY A PERSON APPROVED BY THE MINISTER OF NATURAL RESOURCES (AS PER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT).

SIGNATURE: _____ DATE: _____

PREPARED FOR:

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Toll Free 1-888-535-3333

APPROVED: R.P.S. DRAWN: C.K.S.
PLOTTED: SEPTEMBER 21, 2012 FILE: [illegible]

No.	DATE	DESCRIPTION	APP'D

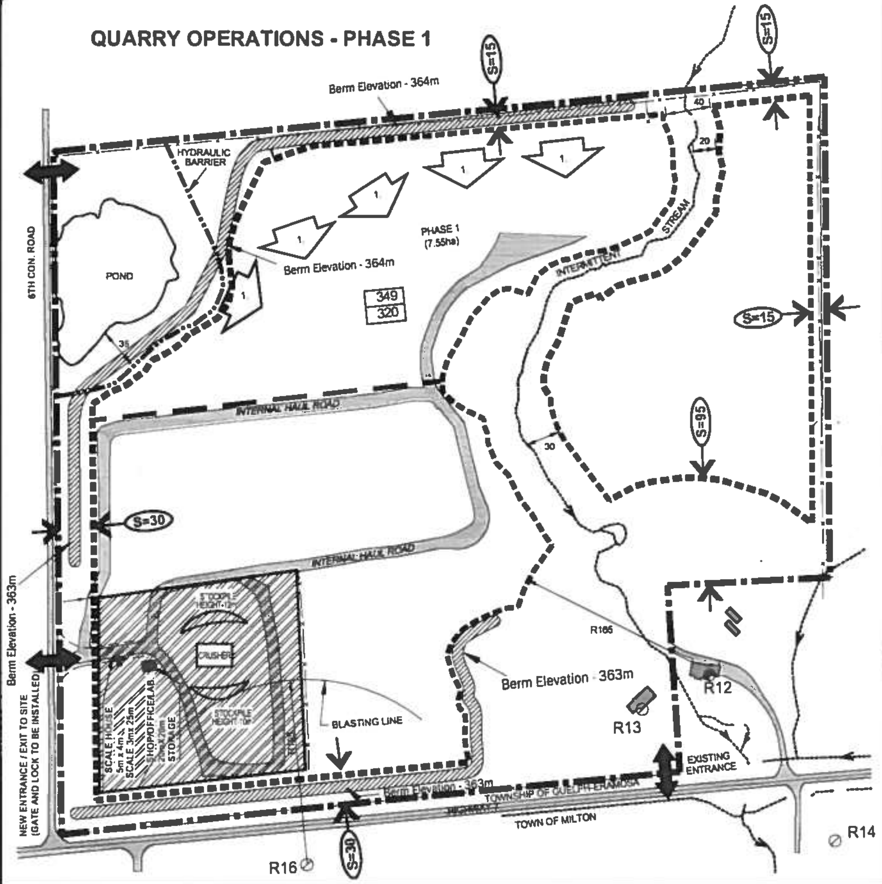
AMENDMENTS

North

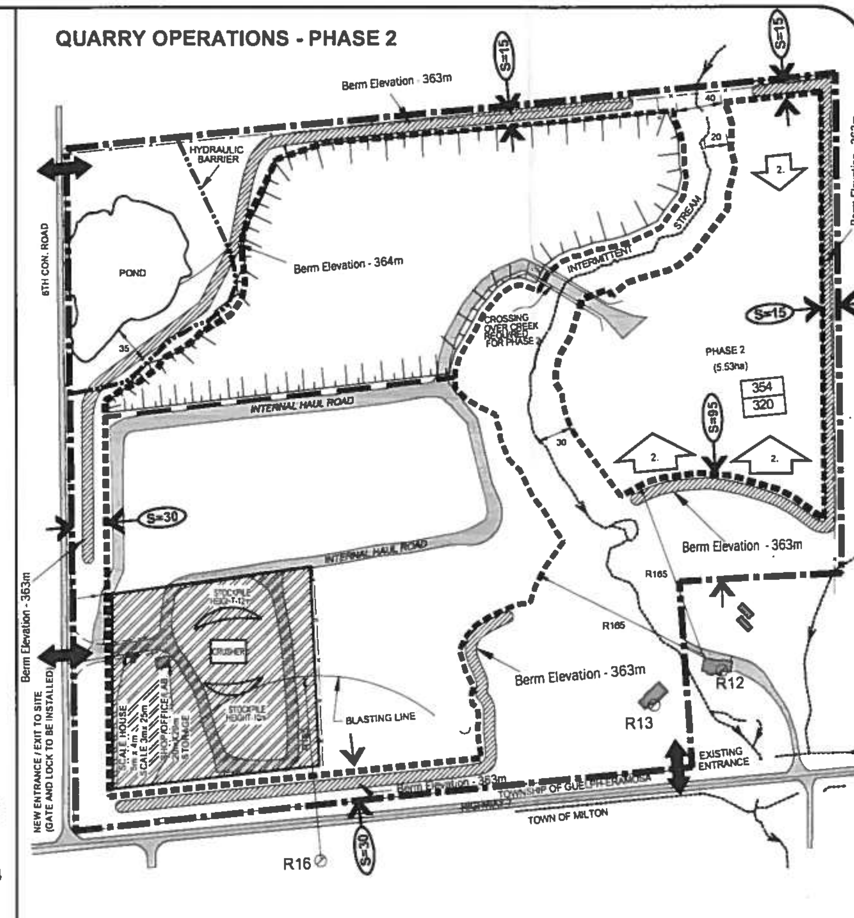
Scale: 1:3000 (0, 100, 200 meters)

STOVEL and Associates Inc.
297 BRAHILL DRIVE
STRATFORD, ONTARIO
N5A 7T1
PHONE (519) 273-7829

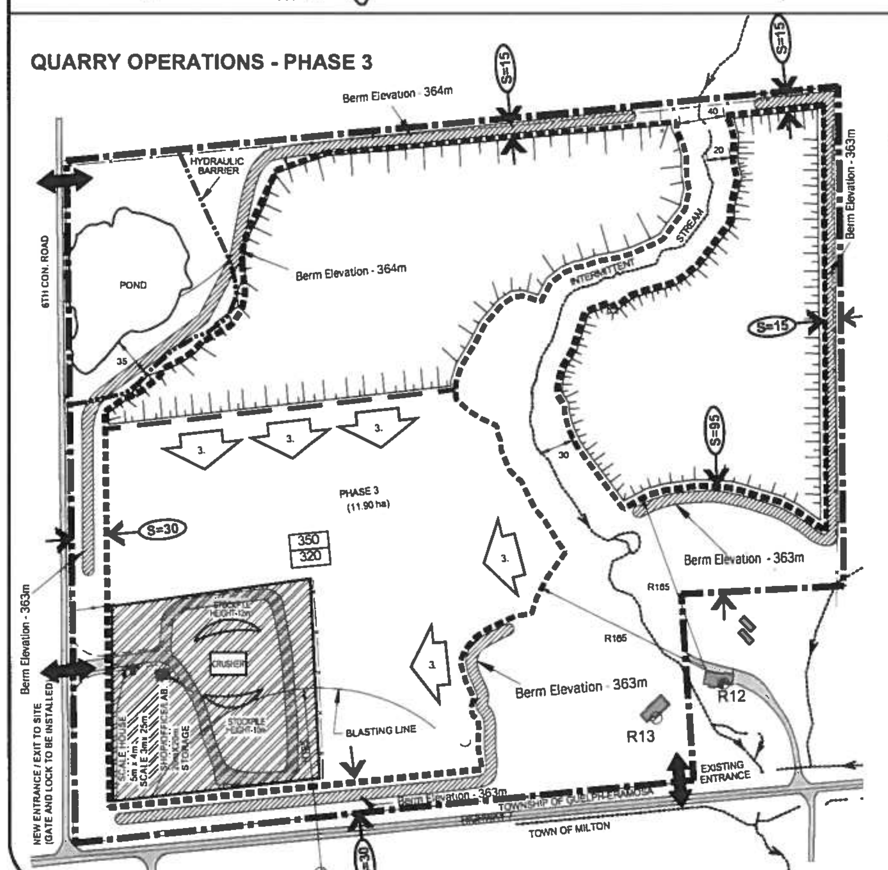
QUARRY OPERATIONS - PHASE 1



QUARRY OPERATIONS - PHASE 2



QUARRY OPERATIONS - PHASE 3



Noise and Blast Impact Study by Aercoustics

Overpressure and vibration due to quarry production blasting shall meet the specific limits outlined in MOE publication NPC-119. Provided that routine monitoring of levels is employed, the target criteria defined by this publication are 128dBLin and 12.5mm/sec. peak for overpressure and vibration, respectively.

The following recommendations are provided in order to meet the applicable criteria:

- 12m and 10m high stockpiles should be maintained in certain locations around the processing plant for each phase and stage. The stockpile peaks should be located no further than 30m from the processing plant, and should be located such that, in plan, they block line-of-sight between processing plant equipment and sensitive receptors, as described in the table below

Table 4: Recommended Stockpile Height and Position

Stockpiles Positioned to Shield Receptor IDs	Minimum Stockpile Height (m)
R1, R15, R16, R17, R18	10
R3, R4, R5, R11, R19	12

- A quiet drill with a maximum sound power rating of 112dBA should be used. This corresponds to a maximum sound pressure level rating of 75dBA at 30 meters.
- Earth berms should be constructed to the elevations shown and located as shown on the site plans.
- The recommended direction of extraction is indicated on the site plans.
- The permanent processing plant area should be established at an elevation of 349m, and a haul route trench connecting the processing plant area to Phase 1 extraction area should be excavated to the same 349m elevation.
- A blast design should be employed which limits the allowable weight of charge per minimum delay period. Typically the minimum delay period is in the order of 10 milliseconds and the weight of charge is designated accordingly depending on setback distance.
- All construction equipment used in site preparation/construction must meet the sound emission standards defined in MOE publication NPC-115. The relevant background information on non- stationary noise sources as well as publication NPC-115 is given in MOE Model Municipal Noise Control Bylaw, 1978 as well as the sound source exclusions defined in MOE publications NPC 205/232, 1995, included in the attached.

LEGEND:

- BOUNDARY TO BE LICENSED
- LIMIT OF AREA TO BE EXCAVATED
- S=15 SETBACK
- RESIDENTIAL BUILDINGS (TYPE)
- SPOT ELEVATION, TOP OF SAND & GRAVEL
- SPOT EL., BOTTOM OF SAND & GRAVEL
- SPOT ELEVATION, TOP OF DOLOSTONE
- SPOT EL., BOTTOM OF DOLOSTONE
- DIRECTION OF EXCAVATION
- MAIN INTERNAL HAUL ROUTE
- EXCAVATION FACE
- HYDRAULIC BARRIER
- ENTRANCE/EXIT
- BERM
- VERTICAL FACE
- MAIN PROCESSING AREA
- 354 EXISTING BEDROCK ELEVATION
- 320 PROPOSED QUARRY FLOOR ELEVATION

NOTES:

Quarrying Operation

- Dolostone extraction will occur above and below the water table
- Dolostone extraction will occur once overburden, including sand and gravel, is removed and the bedrock surface is prepared for drilling and blasting
- The use of under water excavation will result in the quarry being able to operate without the need to dewater the excavation area
- Underwater blasting will be used in order to reduce the blasting noise and vibration impact. The frequency and timing of blasts over the duration of the operation will be variable
- Drilling and blasting will not occur within a distance of approximately 165 m to the adjacent sensitive receptor(s). Should the blasting pattern be revised, extraction may occur within this setback.
- Once the dolostone is broken up by blasting, the quarried rock will be removed by an excavator or drag-line, and placed on the working floor of the quarry to dry.
- Quarry haul trucks will be used to transport raw material from the active quarry area to the main processing area. A looped internal haul road system has been identified on the Site Plans. The size and location of this internal road system may be adjusted by the operator
- The main processing area will include equipment such as crushing/screening plant(s) and a wash plant. Processed aggregate will be stockpiled in this area.
- Loaders will load highway trucks with finished aggregate product. Trucks will leave the site via an improved entrance on Concession 6
- The depth of dolostone extraction is anticipated to be +/- 30-35 m. The quarry floor has been established at 320 masl.
- The final blast for each respective phase will be adjusted to permit a more roughened face. This will allow for ecological diversification of the quarry face, as per the rehabilitation program
- As part of the rehabilitation program, stockpiled soil and overburden will be pushed from the perimeter berms into the quarried area. This material will be graded and planted with suitable vegetation

Phase 1 Operations:

- Phase 1 is approximately 7.5 ha in size
- Extraction of dolostone will start at the approximate elevation of 349 masl and terminate at 320 masl
- Perimeter berming, as established in the Noise and Blast Impact Study, will be established in respective phases prior to quarrying.
- A hydraulic barrier will be installed in the northwest portion of the site, prior to extraction below the water table in Phase 1
- Extraction will proceed in a southerly direction

Phase 2 Operations:

- Phase 2 is approximately 5.5 ha in size
- Extraction of dolostone will start at the approximate elevation of 354 masl and terminate at 320 masl
- Perimeter berming, as established in the Noise and Blast Impact Study, will be established in respective phases prior to quarrying.
- Extraction will proceed such that the extraction face proceeds towards the perimeter berm

Phase 3 Operations:

- Phase 3 is approximately 11.9 ha in size
- Phase 3 involves the extraction of the southwesterly portion of the site, including the Central Processing Area
- Extraction of dolostone will start at the approximate elevation of 350 masl and terminate at 317 masl
- The internal haul route will be adjusted to allow for the extraction of this area.
- Perimeter berming, as established in the Noise and Blast Impact Study, will be established in respective phases prior to quarrying.
- Extraction will proceed such that the extraction face proceeds towards the perimeter berm

General Notes.

Asphalt or concrete plants are not proposed and are not permitted in this licensed area.

Fuel, oil, radiator and hydraulic fluid, and other chemicals needed from the maintenance and functioning of on-site aggregate processing equipment shall be appropriately handled and shall meet the requirements of the Technical Standards and Safety Act (TSSA) and Liquid Fuels Handling Code, and in accordance with the Ministry of Environment's chemical storage guidelines. All refuelling shall be within a containment pad and any spill shall be removed and disposed of immediately at the appropriate MOE approved facility and in accordance with the required spills contingency program for the licensed operation

The importation and storage of snow of the subject land is not an accessory use under the Extractive Industrial zoning or deemed ancillary to an aggregate operation. As such, the importation and storage of snow is not permitted at this site.

Certificates of Approval will be obtained from the Ministry of Environment, as required

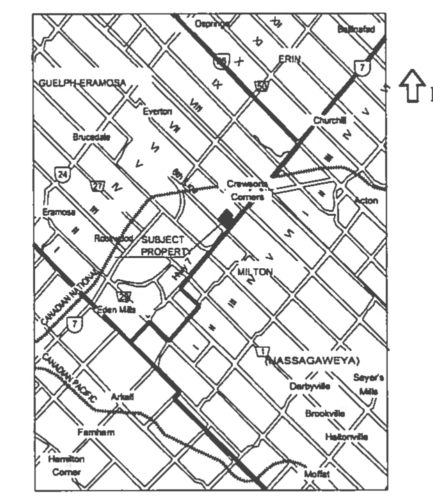
HIDDEN QUARRY

PART OF LOT 1, CONCESSION 6
TOWNSHIP OF GUELPH-ERAMOSA
FORMER TOWNSHIP OF ERAMOSA
COUNTY OF WELLINGTON

Page 3 of 5

QUARRY PHASING

KEY MAP



THIS SITE PLAN IS PREPARED UNDER THE AGGREGATE RESOURCES ACT FOR A CLASS A LICENCE, CATEGORY 2 - QUARRY BELOW WATER.

THESE SITE PLANS HAVE BEEN PREPARED UNDER THE DIRECTION OF AND CERTIFIED BY A PERSON APPROVED BY THE MINISTER OF NATURAL RESOURCES (AS PER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT).

SIGNATURE: ____________ DATE: ____________

PREPARED FOR: JAMES DICK CONSTRUCTION LTD

www.jamesdick.com
Box 470 Bolton Ontario L7E 5T4
Bolton:(905)857-3500 Fax:(905)857-4833
Toll Free: 1-888-535-3333

APPROVED: R.P.S.	DRAWN: G.K.S.
PLOTTED: SEPTEMBER 21, 2012	FILE:

No.	DATE	DESCRIPTION	APP'D

AMENDMENTS

North

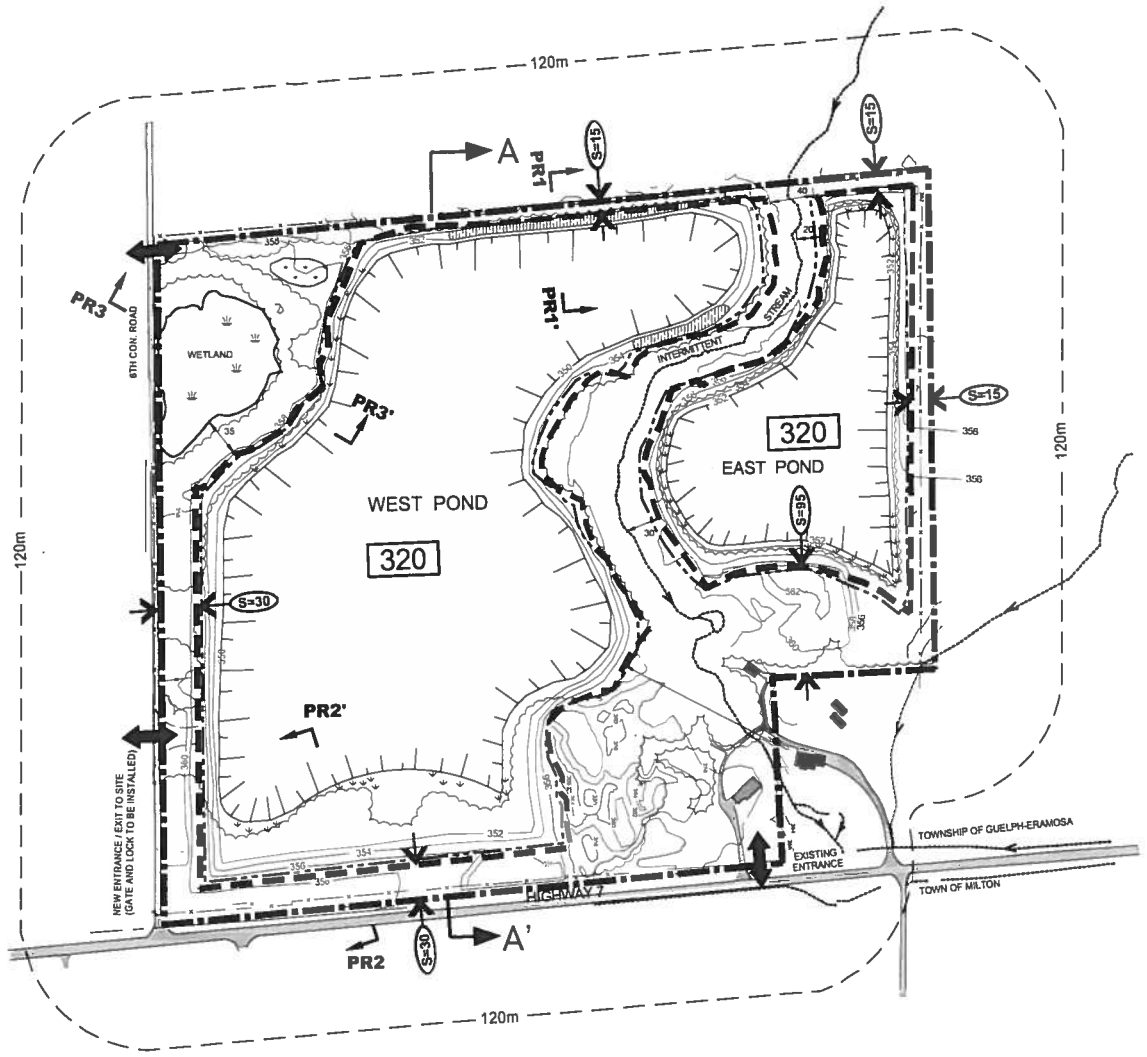
Scale: 1:3000 — 0, 100, 200 meters

STOVEL and Associates Inc.
297 BRIARHILL DRIVE
STRATFORD, ONTARIO
N5A 7T1
PHONE (519) 273-7629

APPENDIX D

REHABILITATION PLAN

7.2



Ecological Enhancement Strategy:

The goal of the ecological enhancement strategy is to create a growing environment that will provide for the long-term development of a healthy, diverse ecosystem.

The following features will be incorporated into the rehabilitation plan:
- Quarry lake areas, including the littoral zone,
- Quarry face,
- Created wetland areas, and
- Reforested tableland areas.

Quarry Lake Areas:
The extracted quarry lake areas will comprise good quality cold/cool water. The following features will be incorporated into the rehabilitation plan:

- Large boulders can be left in the bottom of the quarry
- Stone and screening piles can be left in the bottom of the quarry
- Boulders, stone and screenings piles can be dumped over the bank of the quarry
- Along the edge of the quarry, a productive littoral zone can be created by dumping soil over the edge. Stumps and logs can be strategically placed along the shoreline.

The opportunity exists to create a diversified shoreline through the extraction process. In near shore areas, on lands that will not be rehabilitated as wetlands, variable shorelines will also be considered. The area receiving this modified side sloping detail focuses on the first 2 m of the final lake water level. Side sloping and planting details similar to the wetland enhancement program will be employed.

Quarry Face:
It is recommended that the final blast for the quarry edge be rough. The quarry face below the water table may include features such as terraces and small ledges. Portions of the quarry face can receive a treatment of soil (simply by dumping a bucket of soil over the bank). As well, talus slopes can be created by dumping shot rock and other aggregate over the edge of the quarry face. Benches and terraces can be created by backfilling at the toe of the quarry face using shot rock and other aggregate that has not been sold. This material will receive a veneer treatment of soil. Native seeds and nuts can be broadcast to this area.

It is recommended, however, that at least 20 per cent of the quarry face remain barren and untreated.

Created Wetlands:
The site plans illustrate areas on the subject property where wetlands can be created. These areas are in immediate proximity to where the perimeter berming is located. The object of this process is to create wetland with a slope of approximately 5:1 to 10:1. Appropriate native vegetation should be planted in this area.

Reforested Tableland Areas:
Once the tableland areas have been graded using overburden to backfill, these areas should be treated with a layer of topsoil, and then planted with appropriate native vegetation. In general, the tableland areas will have a finished slope not to exceed 2:1. The depth of topsoil shall not be less than 10 cm.

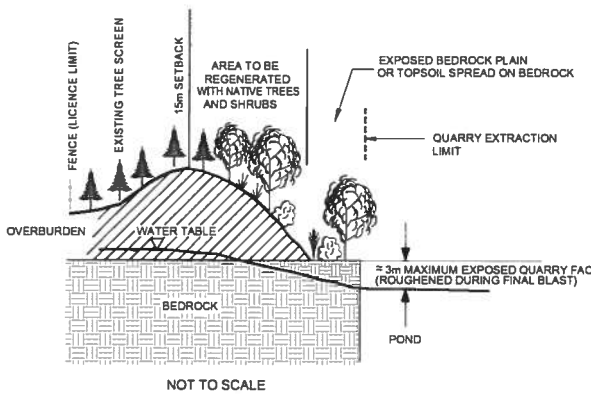
During the rough grading stage of the northwestern and southern portion of the site, the licensee shall consider creating microhabitat features such as, small depressions, mounding of soil in long, linear formations, brush piles, ephemeral pools, and small stone and screening piles. The intent of this grading program is to diversify the landscape and to create habitat opportunities for a variety of wildlife including amphibians. It is also recommended, that in portions of the rehabilitated quarry, the exposed dolostone quarry floor be left in a roughened condition without the treatment of a soil layer or planted with native vegetation.

Native species, such as white pine, white spruce, white cedar, red oak, sugar maple, red maple, white ash, red pine, white birch and bur oak, shall be used. Seedling stock from an appropriate nursery can be used with a minimum planting density of 1500 seedlings per ha, planted at a 2.4 x 2.4m spacing. Prior to reforestation common buckthorn and other invasive non-native shrubs shall be cut down low to the ground and/or treated with an appropriate herbicide. A minimum of 70% of the trees planted as part of the reforestation program will be coniferous trees. The following shrubs may be included in the replanting program, grey dogwood, red-osier dogwood, staghorn sumac, nannyberry, choke cherry and serviceberry. Forest cover should be approximately 80% of the tableland area.

To reduce undesirable competition and improve the probability of seedling survival and growth, grass and weed competition in planting areas may be scalped or controlled by other methods.

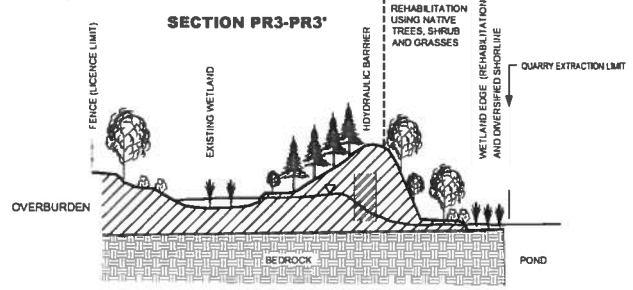
All vegetation planted shall be maintained in a healthy growing condition. Should planted vegetation die, it shall be replaced within one growing season.

SECTION PR1-PR1'



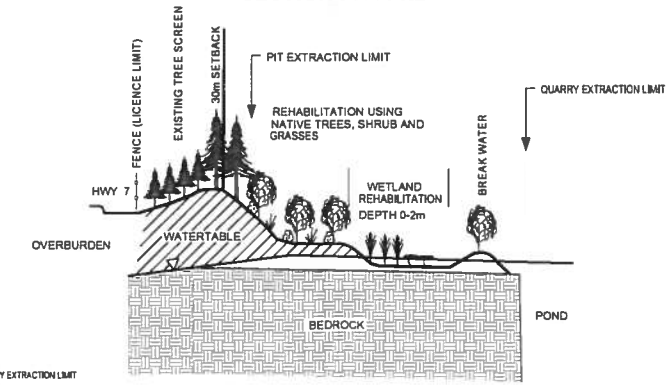
NOT TO SCALE

SECTION PR3-PR3'



NOT TO SCALE

SECTION PR2-PR2'



NOT TO SCALE

LEGEND:

- BOUNDARY TO BE LICENSED
- LIMIT OF AREA TO BE EXCAVATED
- 120m AROUND LICENCE
- A A' TYPICAL SECTION LOCATIONS
- MUNICIPAL BOUNDARY
- FENCELINE
- RESIDENTIAL BUILDINGS (TYPE)
- VERTICAL FACE
- S=15 SETBACK
- 320 FLOOR OF REHABILITATED QUARRY LAKE
- REFORESTED TABLELAND AREA
- CREATED WETLANDS
- WETLAND AREA
- CLIFF EDGE REHABILITATION
- OPEN MEADOW
- ENTRANCE/EXIT

NOTES:

General
- The site will be rehabilitated to an ecological end use, with two ponds. Wetlands will be created along the edge of the two ponds. Tableland areas will be reforested with appropriate native trees and shrubs as indicated.
- Surface runoff shall be directed toward the onsite ponds.
- The access road shall be maintained during the course of progressive rehabilitation efforts.
- Fencing shall remain around the perimeter of the quarry licence.
- All equipment and machinery within the extraction limits will be removed upon completion of extraction.
- The area to be rehabilitated is 24.8 ha.

Aquatic Rehabilitation
- The onsite ponds are approximately 13.8 ha and 3.6 ha in size.
- The predicted final water levels for the lakes are a) 348.6 masl in the west quarry lake, and b) 348.4 masl, in the east quarry lake.
- The area extracted below the water table will have a variable slope face that will range from 2:1 to vertical slopes.
- The rehabilitated lakes will be approximately 30 m in depth. The lakes will be rehabilitated for fish and aquatic habitat. Habitat enhancement measures for the lakes include the following: boulder features, shoals, and littoral zone development.
- Given the depth of the quarry ponds, it is anticipated to be suitable for walleye and smallmouth bass.
- Vertical faces can be modified during the final blast. The quarry face can remain roughened, to create ledges and crevices, thus enhancing micro-habitats.
- Available soil and large rock piles or boulders can be dumped over the quarry face to provide a diversity of habitat.

Wetland Creation
- The edges of the quarry ponds will be rehabilitated to create artificial wetlands as indicated.
- Wetland communities can be created along the pond edges within the 2 m zone where the final estimated water table is expected to occur, i.e. +/- 346 to 349 masl.
- In these wetlands, the excavation pattern will be modified to create a slope of approximately 5:1 to 10:1.
- Available overburden and soil can be used to create these slopes as well.
- Available soil can be graded to provide a medium for wetland plant communities.
- Once the wetland side slope has been graded, a minimum of 100 mm of soil will be applied to this area to permit the establishment of wetland vegetation. This area will be allowed to naturally regenerate to a wetland habitat.
- Vegetation species that are considered appropriate for the created wetland communities are listed on the Site Plan.

Terrestrial Rehabilitation
- The side slopes of the setback areas will be graded to achieve a slope of 2:1. Overburden may be applied to the side slope areas to achieve the necessary grade. A minimum of 100 mm of soil will be applied to the graded side slope areas.
- Terrestrial areas will be planted with suitable native shrubs and trees, such as white spruce, white pine and eastern white cedar. Shrubs that may be used include staghorn sumac, red-osier dogwood and raspberry. Additional plants are listed on the Site Plan.
- The sideslopes and tableland areas of the quarry floor will be covered with available overburden and topsoil and seeded with a suitable native upland meadow seed mix.
- Should seeding fail, the area shall be re-seeded as soon as possible.
- Minor grading of the setback areas may be required to permit proper final slopes for the site in areas not to be forested.

SITE PLAN OVERRIDE TABLE

THE FOLLOWING CONDITIONS ILLUSTRATED ON THIS PLAN VARY FROM THE REQUIREMENTS OF THE PROVINCIAL STANDARDS THAT APPLY TO LICENSED PITS IN ONTARIO

OVERRIDE	STANDARD
VARIANCE OF THE SIDE SLOPES FROM 2:1 IS PERMITTED TO PROMOTE ECOLOGICAL DIVERSIFICATION	5:1

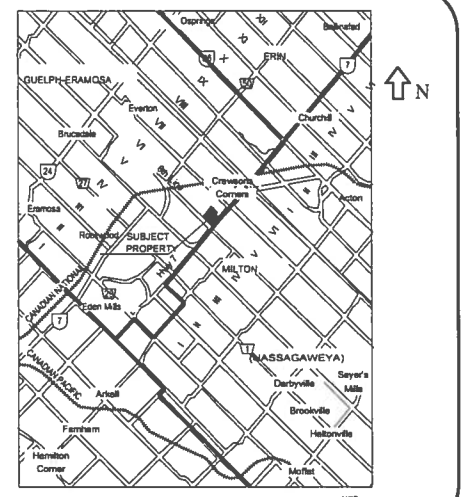
HIDDEN QUARRY

PART OF LOT 1, CONCESSION 6
TOWNSHIP OF GUELPH-ERAMOSA
FORMER TOWNSHIP OF ERAMOSA
COUNTY OF WELLINGTON

Page 4 of 5

PROGRESSIVE REHABILITATION AND FINAL REHABILITATION

KEY MAP



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THESE SITE PLANS HAVE BEEN PREPARED UNDER THE DIRECTION OF AND CERTIFIED BY A PERSON APPROVED BY THE MINISTER OF NATURAL RESOURCES (AS PER SECTION 8(4) OF THE AGGREGATE RESOURCES ACT).

SIGNATURE: _____ DATE: _____

PREPARED FOR: JAMES DICK CONSTRUCTION LTD

www.jamesdick.com
Box 470 Bolton Ontario L7E 5T4
Bolton:(905)857-3500 Fax:(905)857-4833
Toll Free 1-888-535-3333

APPROVED:	R.P.S.	DRAWN:	G.K.S.
PLOTTED:	SEPTEMBER 21, 2012	FILE:	[illegible]

No.	DATE	DESCRIPTION	APP'D

AMENDMENTS

North

Scale: 1:3000
0 100 200
metres

STOVEL and Associates Inc.
297 BRAEHILL DRIVE
STRATFORD, ONTARIO
N5A 7T1
PHONE (519) 273-7829

APPENDIX E

PPS DUE DILIGENCE CHECKLIST

	.i PROVINCIAL POLICY STATMENT	
Applicable	**Section**	**Policy**
	1.0	Building Strong Communities
x	1.1	Managing and Directing Land Use to Achieve Efficient Development and Land Use Patterns
	1.1.3	Settlement Areas
x	1.1.4	Rural Areas in Municipalities
	1.1.5	Rural Areas in Territory Without Municipal Organization
	1.2	Coordination
	1.3	Employment Areas
	1.4	Housing
	1.5	Public Spaces, Parks and Open Space
	1.6	Infrastructure and Public Service Utilities
	1.6.4	Sewage and Water
x	1.6.5	Transportation Systems
	1.6.6	Transportation and Infrastructure Corridors
	1.6.7	Airports
	1.6.8	Waste Management
x	1.7	Long-Term Economic Prosperity
x	1.8	Energy and Air Quality
x	2.0	Wise Use and Management of Resources
x	2.1	Natural Heritage
x	2.2	Water
x	2.3	Agriculture
	2.3.3	Permitted Uses
	2.3.4	Lot Creation and Adjustments
	2.3.5	Removal of Land from Prime Agricultural Areas
	2.4	Minerals and Petroleum
	2.4.2	Protection of Long-Term Resource Supply
	2.4.3	Rehabilitation
	2.4.4	Rehabilitation Extraction in Prime Agricultural Areas
x	2.5	Mineral Aggregate Resources
x	2.5.2	Protection of Long-Term Resource Supply
x	2.5.3	Rehabilitation
	2.5.4	Extraction in Prime Agricultural Areas
	2.5.5	Wayside Pits and Quarries, Portable Asphalt Plants and Portable Concrete Plants
x	2.6	Cultural Heritage and Archaeology
x	3.0	Protecting Public Health and Safety
x	3.1	Natural Hazards
	3.2	Human-made Hazards

APPENDIX F

AGENCY CIRCULATION LIST

LIST UPDATED: SEPTEMBER 22, 2011
AGENCY CIRCULATION LIST

CIRCULATION DATE:

CIRCULATED TO THE FOLLOWING:

Notice of Complete Application
STAFF / Agency Circulation Letter
(only those noted with "+ Reports/Disk" will received the additional information. If others require the information they will be advised to contact me.)

MacNaughton, Hermsen, Britton, Clarkson
Planning Ltd.
Attn: Bernie Hermsen & Lana Phillips
540 Bingemans Centre Drive, Suite 200
Kitchener, Ontario N2B 3X9

Guelph Hydro
395 Southgate Drive
Guelph, Ontario N1G 4Y1

Upper Grand District School Board
Attn: Jennifer Passy, Planning Officer
500 Victoria Road North
Guelph, Ontario N1E 6K2

County of Wellington Aldo Salis
Attn: ~~Sarah Wilhelm~~, Planning &
Development Department
74 Woolwich Street
Guelph, Ontario N1H 3T9 + Reports/Disk

Union Gas Company Ltd.
Attn: Shirley Brundritt, Lands Department
50 Keil Drive North
Chatham, Ontario N7M 5M1

Conseil Scolaire de District Catholique
Centre-Sud
Attn : Andrew Aazouz, Planner
110 Avenue Drewry
Toronto, Ontario M2M 1C8

County of Wellington
Attn: Donna Bryce, Clerk
74 Woolwich Street
Guelph, Ontario N1H 3T9

Ontario Ministry of Transportation
Planning & Design Section
Corridor Control Office
659 Exeter Road
London, Ontario N6E 1L3 + Reports/Disk

Wellington Catholic District School Board
Attn: Dan Duszczyszyn, Superintendent of
Corporate Services & Treasurer
75 Woolwich Street, P. O. Box 1298
Guelph, Ontario
N1H 3V1

County of Wellington
Engineering Services, Roads Division
74 Woolwich Street
Guelph, Ontario N1H 3T9 + Reports/Disk

Canadian National Railway Properties
Attn: Nick Coleman
Mgr – Community Planning & Development
CN Business Development & Real Estate
1 Administration Road
Concord, Ontario L4K 1B9 + Reports/Disk

The French Language District School Board
for South-Western & Central Ontario
116 Cornelius Parkway
Toronto, Ontario M6L 2K5

Community Emergency Management
Coordinator
Attn: Linda Dickson
Suite 20, 474 Wellington Rd 18, RR #1
Fergus, Ontario N1M 0A1

Canadian Pacific Railway
1290 Central Parkway West, Suite 600
Mississauga, Ontario L5C 4R3

Township of Guelph/Eramosa
Mike Newark
Chief Building Official

Miller Thomson
Attn: Scott Galajda (Twp Solicitor)
Ontario AgriCentre
100 Stone Road West, Suite 301
Guelph, Ontario N1G 5L3

Bell Access Network, Grand River Region
Attn: Gayle Widmeyer
575 Riverbend Dr, 2nd Floor
Kitchener, Ontario N2K 3S3

Township of Guelph/Eramosa
Mark Robertson
Manager of Public Works + Reports/Disk

R. J. Burnside & Associates Limited
Attn: Jackie Kay (Twp Engineer)
292 Speedvale Avenue West, Unit 7
Guelph, Ontario N1H 1C4 + Reports/Disk

Bell Canada
Attn: John La Chapelle, Manager
Development & Municipal Services, Ontario
100 Borough Drive, Floor 5
Toronto (Scarborough), Ontario M1P 4W2

Township of Guelph/Eramosa
Meaghen Reid, Clerk
& Secretary of Heritage Committee

Grand River Conservation Authority
Attn: Fred Natolochny / Heather Ireland
Supervisor of Resource Planning
400 Clyde Rd, P.O. Box 729
Cambridge, Ontario N1R 5W6 + Reports/Disk

Ministry of Municipal Affairs & Housing
659 Exeter Road, 2nd Floor
London, Ontario N6E 1L3 + Reports/Disk

City of Guelph
John Osborne, Deputy Fire Chief
City of Guelph Fire Department
50 Wyndham Street South
Guelph, Ontario N1H 4E1

Mike Davis
Cuesta Planning Consultants Inc.
978 First Avenue West
Owen Sound, ON
N4K 4K5 + Report/Disk

Ontario Power Generation Inc.
Executive Vice President
Law & Development
700 University Avenue
Toronto, Ontario M5G 1X6

LIST UPDATED: SEPTEMBER 22, 2011
AGENCY CIRCULATION LIST

CIRCULATION DATE:

CIRCULATED TO THE FOLLOWING:

Township of Centre Wellington, Clerk
1 MacDonald Square, P.O. Box 10
Elora, Ontario N0B 1S0

Region of Waterloo, Clerk
150 Frederick Street
Kitchener, Ontario N2G 4J3

Ministry of Tourism, Culture and Sport
Attn: ANDREA K. Williams
Culture Programs Unit
Programs & Services Branch
Culture Division
401 Bay STREET, Suite 170
TORONTO, ON M7A 0A7
(Rec'd comment Nov 7/2012

Town of Erin, Clerk
5684 Wellington Rd 24, RR #2
Hillsburgh, Ontario N0B 1Z0

Township of Woolwich, Clerk
69 Arthur St, P.O. Box 158
Elmira, Ontario N3B 2Z6

City of Guelph, City Clerk
City Hall, 50 Carden Street
Guelph, Ontario N1H 3A1

City of Guelph, Director of Planning
City Hall, 50 Carden Street
Guelph, Ontario N1H 3A1

Ministry of Agriculture & Food
Wellington Place, RR #1
Fergus, Ontario N1M 2S3

COMBINED CIRCULATION WITH COUNTY OF WELLINGTON PLANNING APPLICATION(S). N/A

PLEASE ALSO FORWARDED TO:

Town of Halton Hills
1 Halton Hills Drive, Box 128
Georgetown, Ontario L7G 5G2

Wellington-Dufferin-Guelph Health Unit
Suite 100
474 Wellington Road 18, RR #1
Fergus, Ontario N1M 2W3

County of Wellington N/A
Attn: Aldo Salis
Planning & Development Department
74 Woolwich Street
Guelph, Ontario N1H 3T9

Region of Halton, Clerk
1151 Bronte Road
Oakville, Ontario L6M 3L1

Wellington-Dufferin-Guelph Health Unit
125 Delhi Street
Guelph, Ontario N1E 4J5

County of Wellington N/A
Attn: Gary Cousins
Planning & Development Department
74 Woolwich Street
Guelph, Ontario N1H 3T9

Town of Milton, Clerk
43 Brown Street
Milton, Ontario L9T 5H2 +REPORTS/Dick

Wellington & Guelph Housing Committee
85 Westmount Road
Guelph, Ontario N1H 5J2

Councillor Don McKay (County Ward 7)
County of Wellington N/A
84 Queen Street, R. R. 2
Puslinch, Ontario N0B 2J0

Township of Puslinch, Clerk
7404 Wellington Road 34, RR #3
Guelph, Ontario N1H 6H9

Ministry of Community & Social Services
Central West Region
6733 Mississauga Road, Suite 200
Mississauga, Ontario L5N 6J5

Canada Post Corporation N/A
Attention: Tom Zadorsky
Delivery Planning Officer
300 Wellington Street
London, Ontario N6B 3P2

Barbara McKay
84 Queen St, R. R. 2,
Puslinch, Ontario N0B 2J0

(Note: Assigned Planner and County Councillor inclusive of any additional agencies will be provided by the County of Wellington)

APPENDIX G

AGENCY COMMENTS

R.J. Burnside & Associates Limited 292 Speedvale Avenue West Unit 20 Guelph ON N1H 1C4 Canada
telephone (519) 823-4995 **fax** (519) 836-5477 **web** www.rjburnside.com

BURNSIDE
[THE DIFFERENCE IS OUR PEOPLE]

January 11, 2013

Via: Email

Mrs. Janice Sheppard, AMCT
CAO
Township of Guelph/Eramosa
P.O. Box 700
Guelph ON N1G 5B4

Dear Janice:

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

We have reviewed the above noted ZBA along with the following documentation:

- Site Plan Drawings, prepared by Stovel and Associates, plotted September 21, 2012:
  - Page 1 of 5, Existing Features
  - Page 2 of 5, Operations Plan
  - Page 3 of 5, Quarry Phasing
  - Page 4 of 5, Cross Sections
  - Page 5 of 5, Cross Sections
- Planning Report, prepared by Stovel and Associates Inc., dated September 2012;
- Stage I – II Archaeological Assessment, prepared by York North Archaeological Services Inc., dated August 31, 2012;
- Air Quality Assessment, prepared by RWDI, dated September 6, 2012;
- Traffic Impact Study, prepared by Cole Engineering, dated April 2012;
- Level II Natural Environment Technical Report, prepared by GWS Ecological & Forestry Services Inc., dated August 2012; and,
- Level I and II Hydrogeological Investigation, prepared by Harden Environmental Services Ltd., dated September 2012.

We offer the following comments.

Background
The subject site (Part of Lot 6, Concession 1 in the Township of Guelph/Eramosa) is currently zoned Agricultural and Hazard. The applicant is proposing to amend the existing Agricultural and Hazard zoning to Extractive Industrial with a special provision to provide relief from required surface water excavation setbacks. Since 1999, the Official

Plan has identified this area as an Aggregate Resource area; only a portion of the property will be used for extraction purposes. Extraction is being proposed both above (80%) and below (20%) the water table. The site will be accessed off of 6th Line. The proposed annual tonnage limit for the site is 700,000 tonnes.

General

- Details of private water and wastewater services required to service the scale house or Shop/Office/Lab building should be provide on the drawing showing location and size/footprint. CBO to confirm adequacy of services.
- A residential unit exists within the proposed site. Details regarding the intended use or removal of this residence and the associated services and entrance should be provided.
- Details should be provided for the driveway apron and should adhere to Township Design Standards within the ROW.
- A high point at the property limit of the right of way should be provided in the New Entrance/Exit to the site to ensure additional surface runoff is not being directed towards 6th Line.
- The proposed entrance to be paved from the scale house to the public road.
- Will the existing service entrance shown on the Operations Plan remain or be removed?
- Fence/Gate geometry to be such that one full truck length can be off the travelled portion of the public road with the gate closed.
- Note 5 on the Operations Plan indicates that the existing property limits are fences although also indicates that fencing and repairs will be undertaken once extraction is initiated. An inspection of the existing fence condition is recommended to confirm the condition of existing fence and to establish the municipality's requirements in this regard.
- Top of rock elevation should be added to the Operations Plan.
- The Township's By-law Enforcement Officer should confirm the activities noted below conform to the Township's Noise Control by-law:
  - extraction operations may occur between the hours of 7 a.m. and 7 p.m., Monday to Friday and 7 a.m. until 1 p.m. on Saturday;
  - hauling operations may occur between 6 a.m. and 6 p.m. Monday to Friday and 6 a,m, to 1 p.m. on Saturday; and,
  - drilling and blasting will occur between 8 a.m. and 5 p.m. Monday to Friday.
- It is understood that a small pond will be constructed for wash water. Additional details should be provided on washing operations.
- Additional details should be provided outlining how the stripped overburden will be dealt with.

Archaeological Assessment

- It is noted that a significant cultural heritage feature has been identified in the northwest portion of the site. The technical recommendations of the archaeologist (York North Archaeological Services) have been included on the site operation plan.
- It is understood that a Stage III assessment will be undertaken prior to any works being completed on site. This assessment should be completed to the satisfaction of the Ministry of Tourism, Culture and Sport.

Air Quality

- The Emissions Summary and Dispersion Modelling (ESDM) as prepared by RWDI was reviewed. Although the documentation took some time to interpret, there was nothing in the ESDM to indicate that the site could not request and receive an Environmental Compliance Approval ("ECA").

Traffic Impact Study

The Traffic Impact Study (TIS) for the proposed quarry was prepared by Cole Engineering Limited (2012) and generally considers traffic operations at the access onto the 6th Line as well as the intersection of Highway 7/6th Line and Highway 7/5th Line. Our comments in this regard are as follows:

- The TIS notes that 5th Line is under the jurisdiction of the Township of Guelph/Eramosa, however it is actually under the jurisdiction of the Town of Milton.
- Comments should be obtained from the Ministry of Transportation (MTO), for operations affecting Highway 7, and from the Town of Milton, for operations affecting 5th Line.
- No information is provided on the anticipated lifespan of the quarry, which would provide context into the potential for longer term impacts.
- The forecast of background traffic is based on traffic counts taken in February 2012. The MTO classifies Highway 7 as a commuter road, which is also confirmed by the strong directional distribution of traffic on a daily basis (i.e., high eastbound traffic in a.m. peak period and high westbound traffic in p.m. peak period). On a seasonal basis, MTO's commuter roads typically have 20 to 25% higher traffic volumes in the summer months, when compared to winter traffic (i.e., February counts). Traffic volumes should be increased to account for these seasonal variations.
- The forecast of trip generation from the proposed quarry is based on data from a proxy site (i.e., Erin Pit). On a weekly basis, the calculation assumes consistent traffic over a Monday to Saturday period, inclusive. Information should be provided to confirm this assumption. The number of working days assumed for the critical month (i.e., August) also does not appear to take into account holiday period, or any reduced operations due to weather, over the monthly period. Also the trip generation is based on average loads which are typical of tractor trailers, whereas actual trip volumes may be higher if the fleet is comprised of higher numbers of tandem or triaxle trucks. Based on the above factors, the estimates for peak period traffic may be low.
- No analysis was provided on the requirements for turning lanes at the intersection of Highway 7/6th Line and at the intersection of Highway 7/5th Line. It is recommended that turning lane warrants and requirements be reviewed for these intersections.
- The TIS does not provide any review of the need to upgrade 6th Line to accommodate the increased truck traffic. It is recommended that a geotechnical study be provided to confirm the road base and road surface requirements. Road widths should also be reviewed, to confirm sufficiency to allow two lanes.
- Analysis of stopping sight distances have been provided for the proposed access onto 6th Line, based on an assumed 50 km/h operating speed. However, since speeds are not posted, the legal speeds on this rural road should be assumed to be 80 km/h, in accordance with the Highway Traffic Act. The required stopping sight distance should be revised accordingly.

- The TIS does not analyze the available sight distances at the intersection of Highway 7/6th Line. It should be confirmed that sufficient stopping sight distances and turning sight distances are available to accommodate the significant increase in truck turning movements at this location.
- The visibility triangles (daylighting) are limited at the intersection of Highway 7/6th Line, by encroachment of existing trees. Considering the down gradient on the 6th Line approach and the type of traffic (i.e., large trucks), visibility triangles should be provided for the approaches, in accordance with the requirements of the Geometric Design Manual for Ontario Highways.
- The design and placement of truck entrance warning signs should meet the requirements of the Ontario Traffic Manual, based on a design speed of 100 km/h on Highway 7 and 80 km/h on 6th Line.

Natural Environmental Technical Report

Burnside has reviewed the report titled "Proposed Hidden Quarry Level II Natural Environment Technical Report" as prepared by GWS Ecological &Forestry Services Inc. Our comments are as follows:

- Development and site alteration are not permitted within a Provincially Significant Wetland ("PSW"). The boundary of the Eramosa River-Blue Springs Creek PSW should be staked in the field with the Ministry of Natural Resources ("MNR") or the Grand River Conservation Authority ("GRCA") with MNR's approval. The report notes that the boundary will be staked at a later date but we strongly suggest that this exercise should occur prior to acceptance of the Level II report as it could have significant implications on the limit of extraction.
- Development and site alteration are not permitted adjacent to a PSW unless it can be demonstrated that no negative effects will result. As such, additional information is required to confirm that the proposed quarry will not affect the hydrology of the wetland. Specifically, the Level II report notes that a hydraulic barrier will be required to prevent the loss of water from the wetland into the quarry bottom. However, there is no discussion of potential effects based on changes to the amount of water entering the wetland. Will the drainage area to the wetland be reduced as a result of the quarry?
- Development and site alteration are also not permitted within or adjacent to Significant Wildlife Habitat unless it can be demonstrated that no negative effects will result. It is not clear that all Significant Wildlife Habitats have been identified and, as such, it is not clear that adequate protection will be provided. We specifically note that the following types of habitats have not been discussed or addressed:
  - According to Section 4.5.5 of the report, Little Brown Bat was recorded on the property. This species is listed as Endangered federally but not provincially. As a result, its habitat would qualify as a type of Habitat for Species of Conservation Concern, in accordance with the Under the Natural Heritage Reference Manual (MNR, 2005) and the Significant Wildlife Habitat Technical Guide (MNR, 2000). The latest guidance for the MNR is that habitat may exist in naturally occurring forest stands (FOD communities) but not in plantations (CUP). It is suggested that the MNR be contacted for further guidance on identifying the significant habitat of this species and the type of protection required.

Hydrogeological Investigation
Burnside has reviewed the report prepared by Harden Environmental Services Ltd entitled "Level 1 and 11 Hydrogeological Investigation Hidden Quarry, Rockwood, Ontario as dated September 2012 and have the following comments:

- We raise some caution with respect to the water level information provided from standpipes installed in open pit excavations.
- TP9 has no description of the dolostone rock. Since the basal till layer has been removed, it is possible that the rock could be acting as an underdrain. Many intervals in the test pit logs do not include descriptions of soil colour and, as a result, it is not clear whether there was any evidence of colour changes associated with saturated conditions.
- Borehole logs for M5 to M10 were missing from the report.
- It is noted that wells M1D to M4 do not include a surface seal and, as a result, the water levels reported may not be accurate.
- Multi-level wells are located only on the west side of the site. The overburden geology changes from primarily sand at M3 to primarily silty sand till at M11. An understanding of the change in geology and variations in water levels between M3/M9 and M11 is needed so that the impacts of extraction on Tributary B can be fully understood.
- Table C1 provides flow data. It is not clear from the table whether data with no values are due to no measurement being taken or whether flows were below the sensitivity of the flow meter. The data should be compared with precipitation data. This should be clarified. Continuous flow measurements would provide an additional level of understanding since spit flows are highly variable.
- An in-situ hydraulic assessment was completed using falling head testing and using a pump to remove water at constant rate (M2, M4). Table D1 indicates that a falling head test was completed at M2 and a short term pumping test was completed in both M2 and M4. A comparison of hydraulic conductivity values obtained with the two methods at M2 should be provided.
- Both MW1D, M2 and M4 have a silica sand pack above the lower bentonite seal whereas the other two bedrock wells (M13-D, M14-D) have a bentonite seal above the sand pack to surface. Wells M1D and M13D have lower hydraulic conductivity values. Is it possible that the minimal annular seal and substantial sand pack in M2 and M4 is impacting the results of hydraulic conductivity testing?
- A good job was done in documenting wells near the site. The two nearby overburden wells are either no longer used (No. 6) or are used occasionally for cleaning purposes (No. 2). Well No. 2 is shallow (3.97 mbtoc) and should be monitored.
- Viewlog™ and Modflow™ were used to create a model of groundwater potentials for the bedrock aquifer.
  - The model uses three layers to represent the bedrock aquifer. How does the model consider the overburden at the site?
  - Hydraulic conductivity values of 5.8 v10^{-7} m/sec (M1D) and 4.0 x 10^{-7} m/sec (M13D). How were these lower k values utilized in the model?
  - Appendix D does not contain any hydraulic conductivity data for M3 and the highest k value is 2.0 x 10^{-4} m/sec at MpN-1. What is the rationale for assigning a value of 1.8 x 10^{-4} m/sec to the bedrock and what is the thickness of this layer?

  - Is the recharge value of 150 mm realistic given the hummocky nature of the site, the relatively coarse deposits that overlie the bedrock in some areas and the closed drainage areas (D5, D6 and D7)?
  - How does the recharge used in the model created for the site compare to values used in the Source Water Protection work completed for the area by Golder and Aqua Resource?
  - Figure H10 provides the predicted groundwater flow in the bedrock. How does this compare to the current flow direction (there is no north arrow on the map)?
  - The model is used to predict changes in bedrock water levels as a result of extraction in two areas of the site (east pond and west pond). What will the impacts be in the overburden?
  - Many of the figures (H4, H5, H6 and H7) do not have legends and, as a result, the significance of the colours used is not always apparent.
  - Tributary B is an ephemeral stream which was assigned a recharge value of 0.154 m/day. How was this value calculated? How was limited flow data for SW5/SW7 considered in the calculation?
  - Burnside recommends that a thorough review of the model be completed by a groundwater modeller with experience in fractured rock geology.
- The infiltration rates used in the groundwater model are less than the rates in the Gartner Lee model (2004) which seems reasonable given the till layer overlying the bedrock. However, it is not clear if higher recharge rates in micro drainage area D7 would affect the interpretation of future impacts. Based on the 1 m contours in Figure 3.4 it is also not clear why D5 and D6 are not considered as one micro-drainage area.
- The bedrock surface is shown in Figure 3.5. The proposed extraction area should be added to this map. It appears that there are few (if any) bedrock monitoring wells within the two extraction areas. Given the heterogeneity of the bedrock, it is recommended that monitoring wells be installed within the extraction areas.
- The report indicates that in general the basal silt till is thin or absent above the bedrock near Tributary B. It is our opinion that there is insufficient information to conclude that the basal till is thin or absent near Tributary B. TP3, TP5 and TP11 did not encounter bedrock but did have finer grained materials. There is no discussion about the difference in effective "k" values between the till and the finer grained materials. This suggests that the water "lost" by Tributary B is may be remaining in the overburden and may not reach the bedrock.
- It is noted in the report that the Brydon Spring likely represents discharge directly from the bedrock and can be considered to be the re-emergence of Tributaries B and C. There are limited bedrock wells on the proposed quarry site and there is no data that confirms that the tributary loses water to the bedrock. Tracer testing should be considered to confirm this statement.
- It is indicated that some monitors have up to 17 years of records and provides groundwater potentials for overburden and bedrock in Figures 3.16 and 3.17. Although there are numerous monitors on site, few (if any) are actually within the extraction area. Only one bedrock well (M2) extends to the bottom of the proposed extraction depth. This well is screened near the top of the bedrock and, as a result, only provide information for a small portion of the bedrock. Water level data from TP8 and TP9 is from a different date than the remainder of the data that was used to prepare Figure 3.16. There also appears to be limited data to support the contours between MW1 and M7. Similarly, there does not appear to be sufficient data

presented in the report to support the assertion that "groundwater occurring within the overburden does so above the silt till as a silt layer generally in the northern portion of the site and percolates into the bedrock within the southern portion of the site. An isopach map of silt thickness would assist in demonstrating the limit of the till unit.

- An estimate of hydraulic conductivity and transmissivity based on data collected during short term pumping tests and falling head tests is provided. Based on the mapping provided, it appears that none of the bedrock wells tested are within the two proposed extraction areas. Onsite in-situ testing was completed in wells with limited screened intervals. The lack of data within the extraction areas results in several concerns:
  - Given the heterogeneity of the bedrock, is there the potential for zones of higher or lower hydraulic conductivity to be present. There are significant variations in flow (400 L/min at mushroom farm vs. 82 L/m in TW2).
  - The excavation will behave as a large diameter well open through the bedrock sequence. The onsite wells are screened over discrete intervals and hydraulic testing will not be representative of the entire bedrock sequence.
  - The Guelph/Eramosa Study used significantly higher hydraulic conductivity values. Since the bedrock is heterogeneous significant variations in hydraulic conductivity can be expected. Additional data from within the extraction areas is needed to confirm on-site conditions.
- Figure 3.18 shows the relationship between water levels in the tributary and MP2, M9 and MP1. The water levels in the tributary are consistently higher than levels in the monitors, however, this may simply demonstrate a lack of connection between the base of the tributary and the fine grained till. Adding stratigraphy to Figure 3.18 would assist in the interpretation of water levels.
- It is agreed that there does not appear to be any groundwater contribution to the Northwest wetland from the bedrock. The water level data in Figure 3.19 and information in cross section B-B' suggests that upward gradients in the overburden west of the wetland may provide discharge to the wetland in the spring when water levels are highest. Please comment.
- It is indicated that Allen wetland is supported by direct precipitation runoff and interflow from the north. Streamflow enters the wetland from the De Grandis Pond. There does not appear to be any relationship between water levels in the Allen wetland and the bedrock wells on the Hidden Quarry Site with diffuse groundwater seepage into the pond interpreted as interflow along the contact between the relatively permeable surficial till found on the De Grandis property and there silt till identified beneath the wetland. The water level in bedrock well 6707545 on cross section A to A' are is the overburden. This well appears to be unconfined. There do not appear to be any bedrock wells in the vicinity of the De Grandis Property. If similar conditions exist on the De Grandis property, is there the potential that the maximum predicted drawdown of 0.6 m shown in Figure 4.3 could impact the Pond?
- Elevated nitrate concentrations (>5 mg/L) were present in samples from bedrock wells M2 and M3. Both M2 and M3 are bedrock wells located at the north end of the Hidden Quarry site. The top of screen at M3 is near the bedrock/till contact and the top of screen at M2 is about 7 m below the bedrock/till contact. Neither well has a surface seal. As a result, it is not certain if there was a conduit created through the till when the wells were constructed. The current level of information does not allow the following concerns to be addressed:

  - What is the source of the nitrate?
  - If the elevated nitrate is currently present in only the shallow bedrock, excavation of the bedrock will create a vertical connection between the shallow and deep fracture systems. What will be the impact to nearby domestic well quality?
  - The final depth of extraction is not indicated. What are the impacts of mixing water from the underlying shale with the water from the dolostone?
- The bedrock below the water table will be blasted and the broken rock will be removed with excavators or draglines stationed above the water table without dewatering (Note: should dewatering be required additional review of the detailed operations will be required). The proposed mining area is shown in Figure 4.1. The proposed depth of extraction should be shown on all the cross sections with an additional cross section created to show the extraction area east of Tributary 5.
- The construction of a hydraulic barrier along the downgradient side of the onsite wetland is proposed. The proposed barrier is to be 2.5 m wide and keyed into the silt/silt till layer.
  - It is not clear from Figure 4.2 how the location of the proposed barrier corresponds to the limits of micro drainage areas on Figure 3.4. The scale of the contours on Figure 3.4 suggests that D5 and D6 are connected. The addition of the limits of extraction and the location of the proposed barrier to this Figure would assist in confirming that runoff to the wetland will not change.
  - The addition of wells and water level data to Figure 5.1 along with observed lithology is needed to ensure that the barrier is placed at the optional location.
  - Additional detail on how the width of the barrier was calculated should be provided.
- There does not appear to be any wells which are located in the two extraction areas that penetrate the entire bedrock sequence. As a result, the bulk hydraulic conductivity and the depths of fracture are not reliably known. The extraction of the bedrock may result in the connection of horizontal fractures that are currently separated by zones of relatively impermeable bedrock. This could result in the alteration of current groundwater flow in the bedrock. The statement that the creation of a waterbody will result in increased storage and will benefit downstream wells, springs, ponds or streams during drier conditions suggests that there is a connection between the bedrock beneath the site and downstream resources. As a result, any decrease in available water onsite or changes in water quality will potentially impact downgradient features.
- There is not sufficient information on the bedrock in the extraction areas to allow for a reliable prediction of drawdown to be made. The vertical spacing and contribution of the water bearing fractures is not known and as a result, inflow into the pit may result in temporary dewatering of shallow fractures. The length of time for water levels to stabilize is not estimated. There is also a potential that bedrock water quality will be affected if cascading occurs within the extraction area.
- The report indicates that there is downgradient of the Northwest Wetland (southeast of M1), groundwater flow in the silty sand layer and sand and gravel layer ceases and there is only groundwater found in the bedrock. There are no overburden monitoring wells downgradient of M1S/D and as a result, there is no evidence to confirm that there is no water in the overburden.
- Northwest Wetland water balance should address the following:
  - There is a difference between the flux of groundwater upgradient and downgradient of the wetland. Is the increase unsaturated thickness due to

variations in the elevations of the top of the till or is it a result of contribution by the wetland?
  - The design hydraulic conductivity of the barrier 1 x 10^{-7} m/s in Section 5.1.1.2 which is different than the value of 5 x 10^{-8} m/s in Section 4.2.1.
- The predicted water level change in the aquifer for the nearest well will be 1.6 m. However, there are no wells within the proposed extraction areas that penetrate to the proposed depth of the quarry. As a result, the potential for a connection with nearby domestic wells is not known.
- The extraction of the bedrock has the potential to connect shallow fractures with deeper fractures and as a result, there is the potential to cause changes in water quality in nearby domestic wells. Please comment.
- There are no wells that provide an indication of water levels in the bedrock within the extraction areas. Wells in test pits are not considered to provide reliable water levels. The monitoring network needs to be modified to provide additional information on water levels in the overburden south of the wetland and to provide a better understanding of where the significant water bearing fractures occur in the bedrock. We concur with the need to compete a well survey. Contingency measures should be tied into trigger levels for both water levels and water quality.

Summary
It is recommended that the above noted technical issues be addressed prior to approving the zone change application.

Please feel free to contact me or Don McNalty if you have any questions regarding the above noted comments. This review has been carried out by staff with specific areas of expertise. Consequently questions or comments may be passed on to the appropriate individuals who have carried out the initial reviews

Yours truly,

R.J. Burnside & Associates Limited

Jackie Kay

Jackie Kay, P.Eng. MBA
JK/jw

Cc: Gae Kruse, Township of Guelph/Eramosa (Email)
Mike Davies, Cuesta Planning Consultants (Email)
Heather Ireland, GRCA (Email)

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Grand River Conservation Authority

400 Clyde Road, P.O. Box 729 Cambridge, ON N1R 5W6

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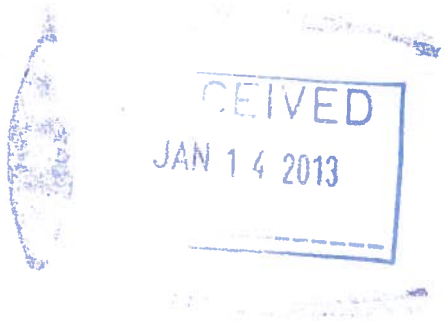

January 11, 2013

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

Attention: Janice Sheppard, AMCT

Re: Zoning By-law Amendment Application ZBA 09/12 (Hidden Quarry)
8352 Highway 7, Township of Guelph/Eramosa
634745 Ontario Limited (James Dick Construction)

The GRCA is not in a position to comment on the proposed zoning by-law amendment application at this time. Technical staff are currently reviewing the reports which were included with the application submitted to the GRCA. We will provide comments upon the completion of that review.

Should you have any questions or require further information, please do not hesitate to contact Heather Ireland at 519-621-2763 ext. 2320.

Yours truly,

F. Natolochny

Fred Natolochny MCIP RPP
Supervisor of Resource Planning
Grand River Conservation Authority
FN/hi

cc. Township of Guelph-Eramosa c/o Meaghen Reid (clerk)
County of Wellington c/o Aldo Salis
Cuesta Planning Consultants Inc. c/o Mike Davis – 978 First Avenue West, Owen Sound ON N4K 4K5
James Dick Construction c/o Greg Sweetnam & Leigh Mugford – Box 470 Bolton ON L7E 5T4
Ministry of Natural Resources Guelph District

Ministry of Tourism, Culture and Sport

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Ontario

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 19th 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. Theses 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

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.

The Corporation of the Township of Guelph/Eramosa

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Michael Newark
Chief Building Official
Email: mnewark@get.on.ca

MEMORANDUM

To: Gaetanne Kruse

From: Michael Newark, Chief Building Official

Date: December 13, 2012

Re: Zoning By-Law Amendment Application (ZBA 09/12)
8352 Highway 7 (Hidden Quarry)
Assessment Roll No. 2311000 004 00110 0000

This is to confirm that the Building Department has reviewed the subject application and have no concerns.

Please note that building permits will be required for any new structures

Michael Newark

Michael Newark
Chief Building Official