



Planning Justification Report

Granite Ridge Subdivision Phase 2

Granite Ridge Estates

P/N 2361 | February 14, 2018

District of Peterborough
Municipality of Trent Lakes
Lot 8, Concession 9
Harvey Ward

SBA Skelton Brumwell
& Associates Inc.

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Planning Justification Report
Granite Ridge Subdivision Phase 2
Municipality of Trent Lakes

P/N 09-2361

February 14, 2018

1.0 Introduction

Granite Ridge Estates owns 18.99 hectares of land on the east side of Melody Bay Road, north of Adam and Eve Road as shown on Figure 1. The property comprises part of Lot 8, Concession 9, Harvey Ward. The site was a gravel pit for many years and has since remained vacant. The owner's objective is to redevelop these lands as Phase 2 of the Granite Ridge Subdivision. The proposed development includes thirty-three lots for single detached homes around the existing pond which is to be owned and managed as a Common Element Condominium.

These lands are proposed to be included in the Settlement Area of Buckhorn. The owner Mr. Jeff Chesher also owns a property at 1703 Lakehurst Road now in the Settlement Area. It is intended that 18.99 hectares of the Lakehurst Road property be removed from the Settlement Area in order that the proposed lands for the subdivision can be included in the Settlement Area and designated for residential development. Settlement

Skelton Brumwell & Associates Inc. was retained to provide planning consulting, environmental and engineering services relative to the proposed development. This report describes the physical and planning context of the site, and provides planning justification regarding applications for amendments to the Official Plan and Zoning By-law, as well as for the revision to the Draft Plan and an application for approval of a Draft Plan of Condominium.

Reports, technical and peer reviews and signoffs on the background documents are listed on Table 1.

Figure 1 – Location & Aerial



Table 1 – List of Technical Reports and Reviews

Report	Author	Report Date
Fish Habitat Impact Assessment	River Stone Environmental Solutions	April 2014
Implementation of Mitigation Measures to Avoid and Mitigate Serious Harm to Fish	Department of Fisheries and Ocean Canada (DFO)	August 26, 2014
Environmental Impact Study (EIS)	Skelton Brumwell and Associates Inc.	October 2012, Addendum February 2018
Response to Peer Review of the Response to EIS Peer Review by Stantec Consulting Ltd. dated August 8, 2014	Skelton Brumwell and Associates Inc.	September 17, 2014
Response to EIS Peer Review by Stantec Consulting Ltd. dated February 25, 2013	Skelton Brumwell and Associates Inc.	April 15, 2014
Preliminary Storm Water Management	Skelton Brumwell and Associates Inc.	June 2011
Preliminary Storm Water Management	Skelton Brumwell and Associates Inc.	March 2014
Response to Peer Review Comments, regarding Stormwater Management	Skelton Brumwell and Associates Inc.	March 12, 2014
Record of Site Condition Number 209831	Ministry of the Environment	September 13, 2013
Planning Justification Report	Skelton Brumwell and Associates Inc.	October 2012
Revised Traffic Impact Statement (Level 1)	Skelton Brumwell and Associates Inc.	June 12, 2014
Revised Traffic Impact Statement (Level 1)	Skelton Brumwell and Associates Inc.	March 1, 2017
Hydrogeologic Investigation Report	Geo-Logic Inc.	November 2010
Hydrogeologic Investigation Report	Geo-Logic Inc.	April 30, 2013
Hydrogeologic Investigation Report Peer Review Comments	Stantec	May 29, 2014
Hydrogeology Peer Review Comments – Revised Hydrogeological Update December 2016 by GHD	Stantec	April 3, 2017
Phase 1 Environmental Site Assessment	Geo-Logic Inc.	January 30, 2014
Phase 1 Environmental Site Assessment	Geo-Logic Inc.	September 2011

2.0 Physical Context

2.1 Subdivision Site

2.1.1 Existing Land Use

Most of the proposed subdivision site was a gravel pit owned and operated by the Chesher family. The site is currently vacant with a pond. Adjacent land uses include single detached residential lots to the north in Phase 1 of the Granite Ridge Subdivision and to the south and east, fronting on Adam and Eve Road. On the south side of Adam and Eve Road are waterfront properties with detached dwellings, and a marina. The land uses are shown on Figure 1.

West of Melody Bay Road there are vacant woodlands and single detached residences. There are no barns or agricultural uses, except for a pasture, within 500 metres of the site. The lands at 754 Melody Bay Road are also owned by the applicant. Until recently, the subject property was a licenced gravel pit. The easterly 9.45 hectares of the property were the subject of Official Plan and Zoning By-law Amendments, adopted by Council on October 2, 2012. These amendments re-designated and rezoned the site to permit existing uses, which include storage, offices and maintenance shops related to the remaining pit, and a landscaping and septic system installation businesses. A new self-storage facility is also permitted to be developed on the site.

2.1.2 Physiography, Topography and Soils

The physiography of southern Ontario indicates the site is within the Dummer Till Moraine, on the edge of a Georgian Bay Fringe Limestone Plain. The topography ranges from flat to steep, generally sloping from north to south toward a pond of approximately 2 hectares created by extraction of sand and gravel in the past. The soils in the area are a highly porous mix of sand, gravel and bedrock. The agricultural capability of the site is described as Class 6 limited by stoniness.

Given the former industrial use on the property, a Phase 1 Environmental Site Assessment was completed by Geo-Logic Inc. dated September 2011. This ESA report, which complies with Ontario Regulation 153/04: Schedule D for Phase One Environmental Site Assessments under Part XV.1 of the Environmental Protection Act, concludes that no areas of potential contamination were identified on the site or on neighbouring properties given their usage, and that a Phase 2 ESA is not required.

The Phase 1 ESA was peer reviewed by Stantec Consulting Ltd., with response comments provided by Geo-Logic January 30, 2014, as shown in Appendix E. Stantec identified that three groundwater monitoring wells were located at the site, a matter identified for future attention. "Prior to any future re-development activities and if no longer required, the wells should be

decommissioned/abandoned in accordance with regulation 903.” This can be implemented as a Draft Plan Condition.

2.1.3 Natural Heritage Features

The natural heritage features of the site were identified through desktop research and field visits in 2010. They are described in detail in the Environmental Impact Study prepared by Skelton, Brumwell & Associates dated May 2012, and accepted in 2014 (EIS Addendum dated February 2018). The only natural heritage feature identified was contribution to fish habitat in Buckhorn Lake.

Maternity roost habitat for two species at risk bat species was identified on the east and west portions of the site. As a result of the proposed development, approximately 6.5 ha. of that habitat will be removed. It is recommended that the Ministry of Natural Resources and Forestry (MNRF) be consulted to determine if an Overall Benefit Permit under the Endangered Species Act is required, prior to any removal of the bat maternity roost habitat on site.

The Study provided a number of recommendations to mitigate the impacts of development which will be implemented through detailed design of the development and the Subdivision Agreement.

2.2 1703 Lakehurst Road

The southerly 18.99 ha of the property at 1703 Lakehurst Road is proposed to be removed from the Buckhorn Settlement Area. These lands are generally wooded with some surface water features. Extensive contiguous forested areas are located to the south and south east. Although the natural heritage features have not been studied in detail, it is apparent that there would be constraints to development of this property for Settlement Area uses such as residential lots.

3.0 Proposed Subdivision Development

3.1 Plan of Subdivision

Phase 2 of the Granite Ridge Subdivision will include 33 single detached lots as shown on the Concept Plan (refer to Appendix B). All but one of the lots will front on new internal municipal roads which will intersect with Adam and Eve Road, or connect to Stabler’s Way in the Granite Ridge Phase 1 development. Proposed lot 1 will have access directly to Adam and Eve Road.

All of the lots will be Parcels of Tied Land (POTLS) to be responsible for the maintenance of the storm water management system and private open space. The pond and open space blocks will be a Common Element Condominium to which the Lots are tied on title. There will be an

easement in favour of the Township for the stormwater management blocks for maintenance if required.

It is the developer's intention to construct homes in Phase 2 that compliment the style of the homes in Phase 1 utilizing natural building materials, and maintaining existing trees and topography as much as possible.

3.2 Water Supply and Sanitary Servicing Options

No municipal water or sanitary collection or treatment services are available in or around Buckhorn. Therefore, the servicing options for the proposed development are communal services or private individual services.

Communal systems require the installation of water and sewer lines throughout the subdivision, and centralized treatment systems which are usually operated and maintained at the expense of the Municipality.

Individual servicing is in place in the Granite Ridge Phase 1 and the surrounding residential properties. Servicing with individual private wells and sewage treatment and disposal systems provides these facilities on a lot-by-lot basis, with systems designed for the proposed dwelling and maintained by the lot owner at no expense to the municipality.

Individual servicing for this development is supported by the "Hydrogeologic Investigation Report" prepared by Geo-logic Inc. dated November 2010 (Update December 2016). This investigation included background information review, inventory of well record data and survey of neighbouring properties, investigation of overburden and hydrogeologic conditions, installation and testing of 3 new wells and analysis of data.

Findings of the report indicated that the bedrock aquifer is capable of providing sustainable domestic water supplies. Minor interference between wells observed during 6-hour pump tests will not be a significant impact on existing or proposed wells. Water quality is generally good with no bacteria recorded in any samples and no health-related exceedances of the Ontario Drinking Water Standards.

With respect to potential impacts due to additional sewage treatment and disposal systems, the report concludes that based on the MOE dilution model the post development nitrate concentration will meet the drinking water standard calculation. In-ground tile beds may be constructed where soil conditions suit. Raised or partially raised beds will be required on some lots. The use of groundwater heat pumps that extract water from the aquifer is not recommended.

The report concludes the following;

“Provided that waste disposal systems are properly constructed, no significant impact is anticipated on down-gradient baseline water quality functions. The proposed residential development is expected to have a negligible impact on the existing baseflow conditions and on the water quality of the overburden aquifer.

The use of properly constructed drilled wells that are certified and adequately sealed, should be sufficient to provide ample quantities of potable groundwater while preserving the long-term water quality of the aquifer complex.”

Therefore, individual servicing is the preferred option for the proposed development.

3.3 Stormwater Management

The Preliminary Stormwater Report, prepared by Skelton, Brumwell & Associates Inc. concludes that that Phase II of the Granite Ridge subdivision development can be completed in accordance with accepted stormwater management practice and the requirements of the Ministry of Environment.

The report recommends that drainage be conveyed to the existing pond by open grassed swales along the roads and drainage easements which will provide infiltration and filtration of runoff. The existing pond, and outlet culvert under Adam & Eve Road enhanced with a rock check dam, will be utilized for quality and quantity control. Specified erosion and sediment controls are to be employed during the construction phase. These recommendations will be implemented through the detailed design and construction of the development.

3.4 Utilities

The utilities servicing the existing subdivision, and other residents and businesses in the area, will be extended at the developer’s expense to the proposed lots.

3.5 Traffic

The Traffic Impact Study letter by SBA of March 1, 2017, included as **Appendix F**, concludes that the additional traffic generated by 34 additional residences can be readily accommodated by the existing road system. The recommendations for signage, sight distances and driveways will be implemented on the appropriate lots of the revised 33 lot Draft Plan.

3.6 Community Services

The proposed subdivision is in close proximity to a number of existing community services such as the Buckhorn Fire Hall #1, Buckhorn Community Centre, Buckhorn Public School, Buckhorn Public Library and the Buckhorn Regional Health Centre. The opportunity for residents to access the school and other community facilities by walking or bicycling promotes healthy lifestyles for families.

4.0 Impact Assessment

4.1 Natural Environment

The Environmental Impact Study (EIS), completed in October 2012 and accepted in 2014 concluded that only one natural heritage feature, contribution to fish habitat, was identified within the property. See Section 4.2 relative to this feature and mitigation measures recommended on site to ensure protection.

An Addendum to the EIS was completed in 2018. As part of field investigations completed for the Addendum, maternity roost habitat for two species at risk bat species was identified on the east and west portions of the site. As a result of the proposed development, approximately 6.5 hectares of that habitat will be removed.

The following recommendations provided are intended to address potential impacts as a result of development.

1. Removal of trees for subdivision development should be minimized to the extent possible.
2. A 5-metre undisturbed vegetated buffer is recommended at the rear of any proposed lot abutting the pond. No structures, grading or other development will occur within the vegetated buffer with the exception of one permeable surface walkway.
3. Where the 5-metre buffer has been cleared and/or disturbed, it is to be planted with grassed/herbaceous cover containing native species endemic to the area.
4. The outlet channel from the pond to the culvert crossing Adam & Eve Road is to be rehabilitated with native shrub and tree species.
5. The recommendations of the Preliminary Stormwater Report are to be implemented.
6. It is recommended that the Ministry of Natural Resources and Forestry (MNRF) be consulted to determine if an Overall Benefit Permit under the *Endangered Species Act* is

required for the bat habitat. If required, the permit must be obtained prior to any removal of the bat maternity roost habitat on site.

Provided that development occurs in accordance with these recommendations, there are no anticipated negative impacts with the proposed development.

4.2 Fish Habitat Impact Assessment

A Fish Habitat Impact Assessment, dated April 2014 was completed by River Stone Environmental Solutions Inc. for the Granite Ridge Phase 2 Subdivision.

Appendix 4 of the report included a number of recommendations and measures based on the Department of Fisheries and Oceans (DFO) request August 26, 2014 to avoid causing harm to fish and fish habitat. These recommendations and the DFO Letter are included as **Appendix G** of this report.

The recommendations outlined in the River Stone report will be implemented as conditions of Draft Plan Approval.

4.3 Land Use Compatibility

The predominant land use in the vicinity of the subject lands is single detached residential. The Hydrogeologic Investigation Report has concluded that there will be no negative impact on local wells or the water quality of the aquifer.

Additional traffic generated by the development will be disbursed between the surrounding local roads, Adam and Eve Road, Melody Bay Road and Stabler's Way, to access County Road 37. No negative impact on the function of County Road 37 is anticipated.

The varied industrial uses west of Melody Bay Road have the potential to conflict with the proposed residential uses. However, as shown in **Table 2**, the separation distances between industrial uses and the proposed lots meet or exceed those recommended by the Ministry of the Environment. The Site Plan for the industrial site will identify and require the maintenance of the existing tree screens along Melody Bay Road. Therefore, no land use conflict is anticipated.

Table 2: Separation between Industrial Facility and Proposed Residential Lots

Category	Land Use	Recommended*	Available
Class 1	Self Storage Facility	20 m	Minimum - 35 m
Class 2	Existing Offices, outside storage, shops	70 m	Minimum -80 m
Class 3	Licensed Pit	300 m	>300 m

* Ministry of the Environment Guideline D-6 Compatibility between Industrial Facilities and Sensitive Land Uses.

The proposed development is appropriate redevelopment of this former gravel pit to a use that is compatible with the residential uses in the subdivision to the north and to the south along Adam and Eve Road and Melody Bay Road.

4.4 Natural Resource Analysis - Aggregate Resources

The policies of the Provincial Policy Statement, (PPS) include the protection of known aggregate resources. Section 2.5.2.5 states:

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

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

The subject property and the licensed pit west of Melody Bay Road are identified in the Aggregate Resource Inventory of Harvey Township, Paper 132 (1995), as a “Sand and Gravel Deposit Tertiary Significance. The old pit on the site is identified as unlicensed, and characterized as rehabilitated with water in the pit floor. The licensed pit west of Melody Bay Road is described as being rehabilitated. Map 2 – Bedrock Resources, of the Aggregate Resource Inventory, indicates the site at a transition zone between the Precambrian bedrock of

the Canadian Shield and the Palaeozoic limestone. The westerly part of the site and the licenced pit are within a Selected Bedrock Resource area known as the Gull River and Bobcaygeon formations.

Amendment #30 to the Township of Galway-Cavendish & Harvey Official Plan, which defines Mineral Aggregate Resource areas for sand and gravel and bedrock, provides related policy developed through the Aggregate Resources Policy Review (2006). The subject and surrounding lands are not identified as resource areas in this document.

Given the level of sensitive development that has occurred over a number of decades, including residential and community facilities, within and adjacent to the Buckhorn Settlement Area, additional mineral aggregate operations would not be compatible with the existing neighbourhood.

The licenced pit to the west is designated Aggregate Resource Extraction. However, the resource has been depleted on the easterly part of the pit and, as noted in Section 2.3 above, the area has recently been re-designated and rezoned to permit industrial uses, not including a pit. The Ministry of Natural Resources has agreed to remove the aggregate licence from this part of the pit. The revised licence boundary will be approximately 300 metres from the proposed subdivision development.

Therefore, the proposed adjustment to the Settlement Area and development of additional residential lots will not preclude or hinder the ongoing operation of the remaining pit, nor are negative impacts on the proposed residential uses anticipated.

4.5 Financial Impact

The proposed development will generate multiple job opportunities for local contractors and trades people during construction. The increased assessment from 33 homes will generate increased property taxes and development charges. Additional residents will help to support the community through the purchase of goods and services in the area.

The construction of the new roads and installation of the utilities will be at the developer's expense. The installation and maintenance of private wells and sewage treatment and disposal systems will be at the expense of the lot or home purchaser.

Municipal services, including road and drainage maintenance, solid waste disposal, protection services, and community facilities will be required relative to the additional homes. However, the cost of these services will be offset by development charges and the increase in property taxes.

5.0 Planning Context

5.1 Provincial Planning Policy

In Ontario, all decisions made under the Planning Act must “be consistent” with the Provincial Policy Statement (PPS), April 30, 2014. The PPS states that *efficient land use and development patterns should support sustainability by promoting strong, liveable, healthy and resilient communities, protecting the environment and public health and safety, and facilitating economic growth.*

The PPS states that healthy, liveable and safe communities are sustained by (Section 1.1.1):

- “a) *promoting efficient development and land use patterns which sustain the financial well-being of the Province and municipalities over the long term*”;
- “b) *accommodating an appropriate range and mix of residential (including second units, affordable housing and housing for older persons), employment (including industrial and commercial), institutional (including places of worship, cemeteries and long-term care homes), recreation, park and open space, and other uses to meet long-term needs*”;
- “d) *avoiding development and land use patterns that would prevent the efficient expansion of Settlement areas in those areas which are adjacent or close to Settlement areas*”;
- “e) *promoting cost-effective development patterns and standards to minimize land consumption and servicing costs*”;
- “h) *promoting development and land use patterns that conserve biodiversity and consider the impacts of a changing climate*”.

1.1.3.1 Settlement areas shall be the focus of growth and development, and their vitality and regeneration shall be promoted.

1.1.3.2 Land use patterns within Settlement areas shall be based on:

- a) densities and a mix of land uses which:
 - 1. Efficiently use land and resources;

2. Are appropriate for, and efficiently use, the infrastructure and public service facilities which are planned or available, and avoid the need for their unjustified and/or uneconomical expansion;
3. Minimize negative impacts to air quality and climate change, and promote energy efficiency;
4. Support active transportation;

1.1.3.6 New development taking place in designated growth areas should occur adjacent to the existing built-up area and shall have a compact form, mix of uses and densities that allow for the efficient use of land, infrastructure and public service facilities.

The proposed amendments are consistent with the PPS in that they will provide for an appropriate adjustment to the Buckhorn Settlement area and will permit infill residential development on a former gravel pit in an existing residential area. The proposed development is compatible with surrounding uses, will not hinder or preclude access to mineral aggregate resources or continuation of mineral aggregates operations, and is appropriate to the existing infrastructure.

The proposed development proposes to develop underutilized lands, and will contribute to housing needs and requirements in a Settlement area. It will provide a range of housing that is desirable and can be supported in the area, and will incorporate extensive open space as part of the Common Elements Condominium.

The application conforms and supports the policies as outlined in the Provincial Policy Statement.

5.2 Growth Plan for the Greater Golden Horseshoe, 2017

The Growth Plan for the Greater Golden Horseshoe provides a framework for implementing Ontario's vision for building stronger, prosperous communities by better managing growth in this region, and sets out where and how the region will grow.

Guiding Principles of the Growth Plan include:

- *“Support the achievement of complete communities that are designed to support healthy and active living and meet people’s needs for daily living throughout an entire lifetime”.*
- *“Prioritize intensification and higher densities to make efficient use of land and infrastructure and support transit viability”.*

- *“Provide flexibility to capitalize on new economic and employment opportunities as they emerge, while providing certainty for traditional industries, including resource-based sectors”.*
- *“Support a range and mix of housing options, including second units and affordable housing, to serve all sizes, incomes, and ages of households”.*
- *“Provide for different approaches to manage growth that recognize the diversity of communities in the GGH”.*
- Protect and enhance natural heritage, hydrologic, and landform systems, features, and functions.

The proposed development conforms to the guiding principles of the Growth Plan by maximizing land use, supporting a range of housing types, managing growth and directing it to a Settlement area where it can be adequately accommodated, while accommodating and protecting the natural environment.

As shown in Figure 2, the County of Peterborough is identified as an area for population and employment growth.

Figure 2 – Schedule 3 of the Greater Golden Horseshoe Plan: Distribution of Population and Employment to 2041

Distribution of Population and Employment for the Greater Golden Horseshoe to 2041 (figures in 000s)						
	POPULATION			EMPLOYMENT		
	2031	2036	2041	2031	2036	2041
Region of Durham	970	1,080	1,190	360	390	430
Region of York	1,590	1,700	1,790	790	840	900
City of Toronto	3,190	3,300	3,400	1,660	1,680	1,720
Region of Peel	1,770	1,870	1,970	880	920	970
Region of Halton	820	910	1,000	390	430	470
City of Hamilton	680	730	780	310	330	350
GTAH TOTAL*	9,010	9,590	10,130	4,380	4,580	4,820
County of Northumberland	100	105	110	36	37	39
County of Peterborough	70	73	76	20	21	24
City of Peterborough	103	109	115	52	54	58
City of Kawartha Lakes	100	101	107	29	30	32
County of Simcoe	See Schedule 7	456	497	See Schedule 7	141	152
City of Barrie		231	253		114	129
City of Orillia		44	46		22	23
County of Dufferin	80	81	85	29	31	32
County of Wellington	122	132	140	54	57	61
City of Guelph	177	184	191	94	97	101
Region of Waterloo	742	789	835	366	383	404
County of Brant	49	53	57	22	24	26
City of Brantford	139	152	163	67	72	79
County of Haldimand	57	60	64	22	24	25
Region of Niagara	543	577	610	235	248	265
OUTER RING TOTAL*	2,940	3,150	3,350	1,280	1,360	1,450
TOTAL GGH*	11,950	12,740	13,480	5,650	5,930	6,270

Note: Numbers rounded off to nearest 10,000 for GTAH municipalities, GTAH Total and Outer Ring Total, and to nearest 1,000 for outer ring municipalities.
* Total may not add up due to rounding.

5.3 County of Peterborough Official Plan

The County of Peterborough Official Plan, Consolidated January 2010, is based on a Watershed Approach with a number of Strategic Components including Natural Environment and Settlement Area Population which are relevant to the proposed development.

With respect to policies related to the Natural Environment, the proposed amendments to the Township of Galway-Cavendish and Harvey Official Plan are in conformity with the County Official Plan in that the Environmental Impact Study, prepared in accordance of the requirements of the Official Plan, has established that subject to the implementation of the recommended mitigation measures, there will be no negative impacts on the natural features or ecological functions of the site or the surrounding area.

There are no mineral aggregate resources identified in the vicinity of the site. The existing mineral aggregate operation, recently reduced in size, will not be constrained by the proposed residential development.

Section 4.3.2 County of Peterborough Official Plan states: *“A municipal comprehensive review is required in order to expand Settlement area boundaries. However, where proposals to change the Settlement area boundaries do not result in a net increase of Settlement area within a Township, planning justification shall be required for the adjustment at the time of application to ensure targets and forecasts contained in this Plan are achieved.”.*

The proposed adjustment to the Buckhorn Settlement area boundary will not result in a net increase in the Settlement area, and will provide for development of lands that have been established as suitable for development. The proposed residential subdivision will rehabilitate lands disturbed by aggregate extraction in the past and will be an asset to the community. The development will not have a negative impact on agricultural lands or operations, or natural heritage features.

Growth in the County is forecast to increase from 58,000 people in 2006 to 61,000 in 2031. The Township of Galway-Cavendish & Harvey is allocated 8.3% of this growth, or 249 residents. The proposed development would provide 33 housing units for about 55 people at 1.7 persons per unit. This will accommodate about 22% of the growth allocated to the Township.

As none of the hamlets in the Township are fully serviced with identified “Built Boundaries”, the proposed development does not affect the Township’s ability to achieve intensification targets in built-up areas.

Development serviced by private individual water and sewage systems may be permitted where communal services are not feasible, and site conditions are suitable. As discussed in the Hydrogeologic Investigation Report, the site is suitable for development based on private individual services.

Additional population will support local businesses and can efficiently access existing community services. The proposed development is in conformity with the Settlement Area Policies of the Official Plan.

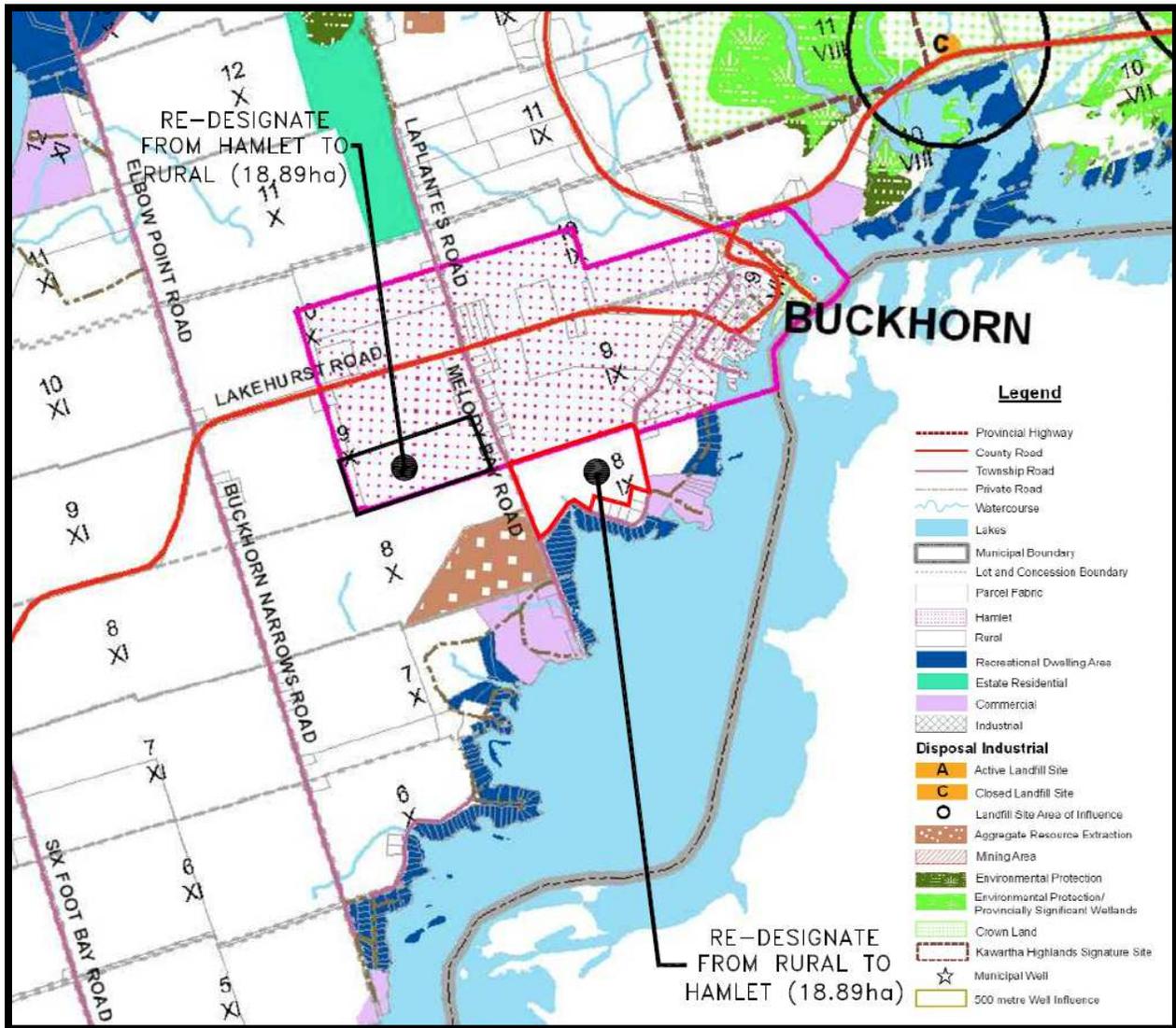
5.4 Trent Lakes/ Township of Galway-Cavendish and Harvey Official Plan

The Official Plan of The Municipality of Trent Lakes is the Official Plan of the former Township of Galway-Cavendish and Harvey. It is proposed that the Official Plan be amended to add the subject lands to the Buckhorn Settlement Area, and remove an equivalent amount of the other lands owned by the applicant. A number of Provincial and Municipal planning objectives are addressed by this proposed adjustment to the Settlement area. These include:

- a Settlement area that would be more compact;
- opportunities would be created for residents of the new development to walk or cycle to the community centre and school, library etc. on local roads;
- no additional entrances onto the County Road are required; and
- a former brown field property will be redeveloped for uses that are compatible with the surrounding land uses.

As shown on Figure 3, the lands to be added to the Settlement area are now designated “Rural” in the Township of Galway-Cavendish and Harvey Official Plan. This permits a variety of rural uses, but only limited low density residential uses. The lands to be removed from the Settlement Area are designated “Hamlet” (refer to **Appendix D** for lands to be removed).

Figure 3 – Official Plan Designation with Proposed Settlement Area Adjustment



The purpose of the requested Official Plan Amendments is to re-designate these lands to the “Hamlet” and “Rural” designations respectively. These amendments will permit the redevelopment of a former gravel pit for residential infill in an existing residential area. The site has frontage on existing public roads that are maintained year-round, and which provide appropriate connections with proposed internal roads. Adequate separation and buffering from the existing pit and industrial operations to the west is provided.

The proposed amendment conforms to the “Goals and Objectives for Residential Development” which direct future residential development to existing areas of residential development in hamlets. The proposed subdivision will be similar to the Granite Ridge Phase 1, thereby maintaining high standards for residential development.

The Environmental Impact Study, which addresses all relevant matters related to Section 5.1.10 - Protection of the Environment, concludes that provided the recommended mitigation measures are implemented, no negative impact on the natural environment is anticipated.

The proposal to service the development with private individual wells and sewage disposal systems was determined through a review of servicing options and is supported by the Hydrogeologic Investigation Report.

The proposed subdivision is also in conformity with the policies 6.1.1 and 6.2.1 New Subdivisions in that:

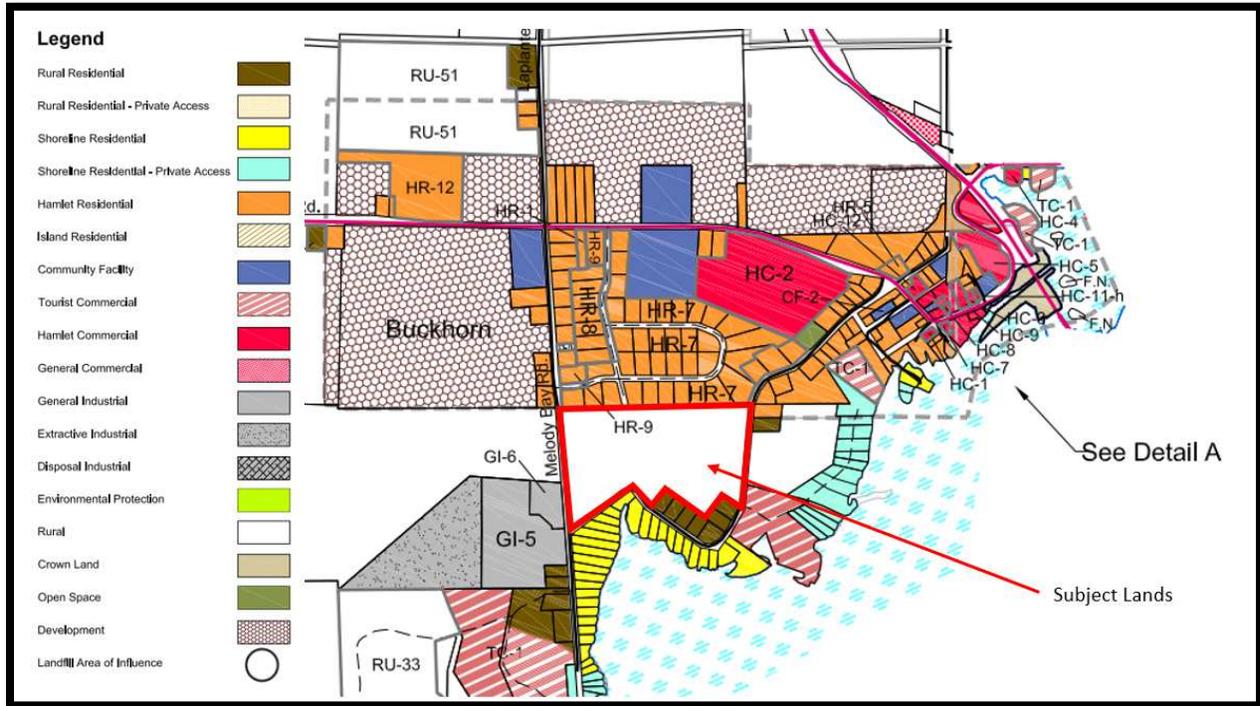
- The Draft Plan is included in this report;
- An Environmental Impact Study, Hydrogeologic Investigation Report, Preliminary Stormwater Management Report and Phase 1 Environmental Site Assessment have been submitted with the applications;
- Traffic and financial impacts have been addressed;
- Separation distances between the residential lots and the existing and proposed industrial facilities in the vicinity are in excess of those recommended by the Ministry of the Environment;
- Existing utilities and available Municipal services such as solid waste disposal, fire protection etc., are available to the existing dwellings in the neighbourhood;
- Any costs related to the extension of services will be borne by the developer; and
- A public elementary school is within walking distance of the site, and bussing for other schools is provided to the neighbourhood.

The developer acknowledges the requirement for a development agreement with the municipality.

5.5 Municipality of Trent Lakes Zoning By-law B2014-070

The proposed subdivision lands are zoned Rural (R) in Zoning By-law B2014-070 as shown on Figure 4. A Zoning By-law Amendment application was submitted in 2012 to rezone the 18.99 hectare property to the Community Residential (CR) Zone to permit and regulate the residential subdivision use.

Figure 4 – Current Zoning - Schedule A to By-law No. B2014-070, Map 6



6.0 Conclusions and Recommendations

Based on our research and analysis we conclude the following:

1. The proposed Official Plan and Zoning By-law Amendments to adjust the boundary of the Buckhorn Settlement area and permit redevelopment of a former gravel pit for single detached residential development on private services, is consistent with the Provincial Policy Statement, and in conformity with the Growth Plan for the Greater Golden Horseshoe. The planning changes also meet the objectives and policies of the Official Plans of the County of Peterborough and the Municipality of Trent Lakes.
2. The proposed development is consistent with the Provincial Policy Statement (PPS) and conforms to the Growth Plan for the Greater Golden Horseshoe.
3. The proposed rezoning of the lands to Community Residential (CR), suitably implements and regulates the OPA and Draft Plan.
4. Provided the recommendations of the Environmental Impact Study and Fish Impact Assessment are implemented through the development process, no negative impact on the natural features of the site or adjacent lands are anticipated.
5. Provided that waste disposal systems are properly constructed, no significant impact is anticipated on down-gradient baseline water quality functions. The proposed residential development is expected to have a negligible impact on the existing baseflow conditions and on the water quality of the overburden aquifer.
6. Based upon pumping tests previously completed of three wells on site, there are adequate groundwater resources available to meet the needs of the proposed development, while preserving the long-term water quality of the aquifer complex.
7. Additional traffic generated by the development is not expected to have a significant impact on local roads or County Road 37.

It is our opinion that the proposed development represents good planning for the site, the neighbourhood and the Municipality. We therefore recommend approval of these development applications.

7.0 Disclaimer of Responsibilities to Third Parties

This report was prepared by Skelton, Brumwell & Associates Inc. for the account of Granite Ridge Estates.

The material in it reflects Skelton, Brumwell & Associates Inc.'s best judgement in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. Skelton, Brumwell & Associates Inc. accepts no responsibility for damages, if any, suffered by a third party as a result of decisions made or actions based on this report.

All of which is respectfully submitted,

SKELTON, BRUMWELL & ASSOCIATES INC.

per:



Gary Bell, RPP

Principal Planner



James Hunter

Planner

Appendix A

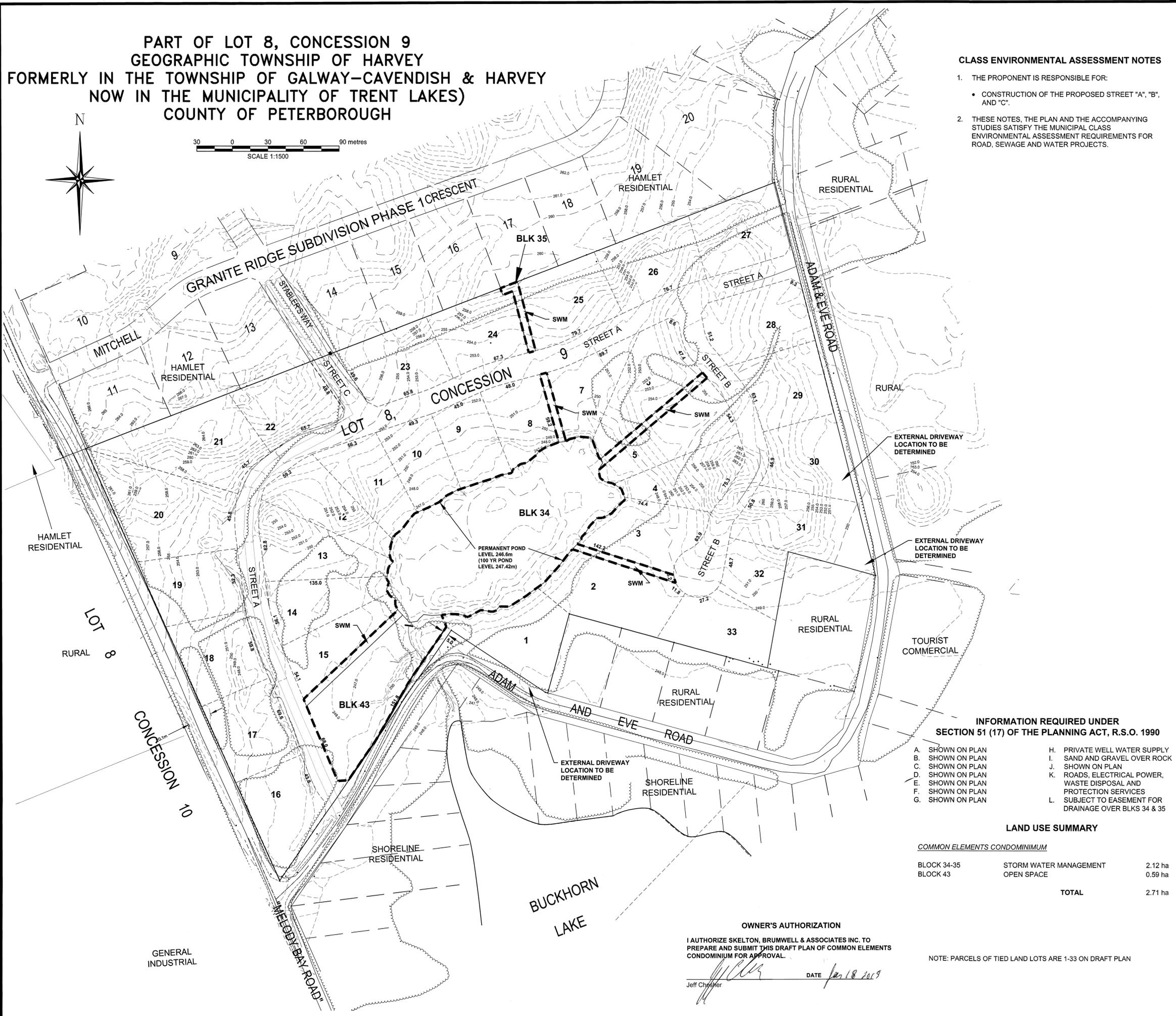
Draft Plan of Common Elements Condominium

2361-DP CEC

**PART OF LOT 8, CONCESSION 9
GEOGRAPHIC TOWNSHIP OF HARVEY
FORMERLY IN THE TOWNSHIP OF GALWAY-CAVENDISH & HARVEY
NOW IN THE MUNICIPALITY OF TRENT LAKES)
COUNTY OF PETERBOROUGH**

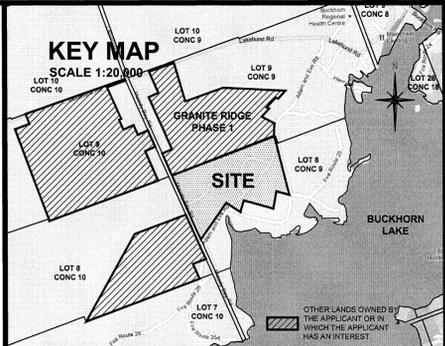


30 0 30 60 90 metres
SCALE 1:1500



CLASS ENVIRONMENTAL ASSESSMENT NOTES

1. THE PROPONENT IS RESPONSIBLE FOR:
 - CONSTRUCTION OF THE PROPOSED STREET "A", "B", AND "C".
2. THESE NOTES, THE PLAN AND THE ACCOMPANYING STUDIES SATISFY THE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR ROAD, SEWAGE AND WATER PROJECTS.



**KEY MAP
N.T.S.**

LEGEND

- COMMON ELEMENTS CONDOMINIUM
- - - - PROPOSED PARCELS OF TIED LAND
- BOUNDARY DRAFT PLAN OF SUBDIVISION
- EXISTING LOTS
- EXISTING R.O.W.
- EXISTING ROAD
- - - - EXISTING MAJOR CONTOUR
- - - - EXISTING MINOR CONTOUR
- TREE LINE
- SWM POND
- CHANNELS
- OPEN SPACE

TOPOGRAPHIC MAPPING BY FIRST BASE SOLUTIONS BASED ON 2008 AERIAL PHOTOGRAPHY. LIMIT OF POND FROM TOPOGRAPHIC SURVEY BY J.B. FLEGUEL O.L.S., 2010.

SCHEDULE OF REVISIONS

NO.	DATE	DESCRIPTION	CHECKED



INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT, R.S.O. 1990

- | | |
|------------------|--|
| A. SHOWN ON PLAN | H. PRIVATE WELL WATER SUPPLY |
| B. SHOWN ON PLAN | I. SAND AND GRAVEL OVER ROCK |
| C. SHOWN ON PLAN | J. SHOWN ON PLAN |
| D. SHOWN ON PLAN | K. ROADS, ELECTRICAL POWER, WASTE DISPOSAL AND PROTECTION SERVICES |
| E. SHOWN ON PLAN | L. SUBJECT TO EASEMENT FOR DRAINAGE OVER BLKS 34 & 35 |
| F. SHOWN ON PLAN | |
| G. SHOWN ON PLAN | |

LAND USE SUMMARY

COMMON ELEMENTS CONDOMINIUM		
BLOCK 34-35	STORM WATER MANAGEMENT	2.12 ha
BLOCK 43	OPEN SPACE	0.59 ha
TOTAL		2.71 ha

OWNER'S AUTHORIZATION

I AUTHORIZE SKELTON, BRUMWELL & ASSOCIATES INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF COMMON ELEMENTS CONDOMINIUM FOR APPROVAL.

Jeff Chesler DATE 12/18/2019

NOTE: PARCELS OF TIED LAND LOTS ARE 1-33 ON DRAFT PLAN

**GRANITE RIDGE SUBDIVISION PHASE 2
MUNICIPALITY OF TRENT LAKES**

DRAFT PLAN OF COMMON ELEMENTS CONDOMINIUM

PROJECT NO. 09-2361	DRWG NO. 2361-DP CEC
DATE: JAN 2018	SCALE: 1:1500
DRAWN: BDD	CHECKED: JB APPROVED: JB



93 BELL FARM ROAD, SUITE 107 BARRIE, ONTARIO L4M 5G1 www.skeltonbrumwell.ca
TELEPHONE (705) 726-1141 FAX (705) 726-0331 TOLL FREE (877) 726-1141

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Appendix B

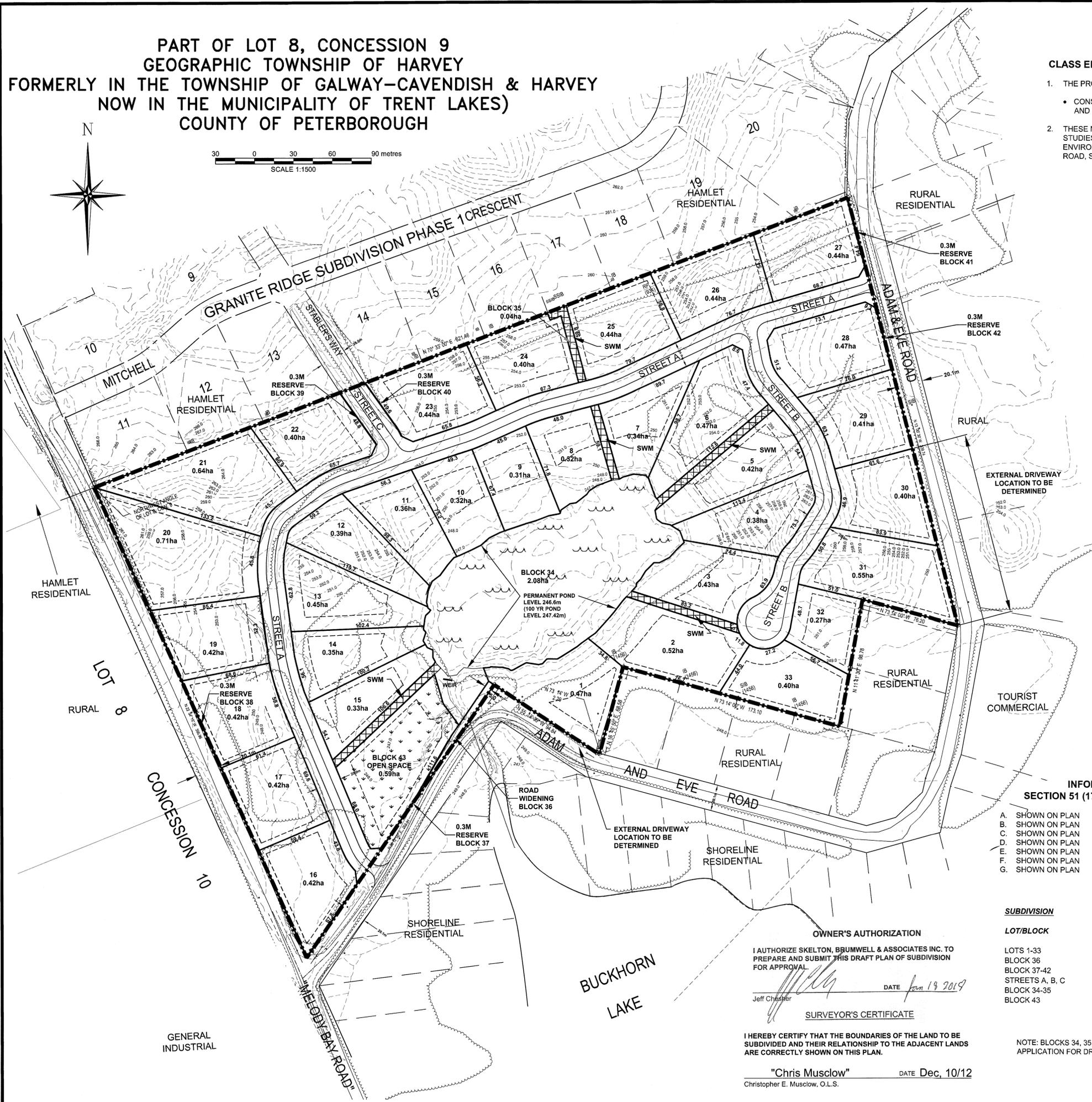
Revised Draft Plan of Subdivision

PART OF LOT 8, CONCESSION 9
GEOGRAPHIC TOWNSHIP OF HARVEY
FORMERLY IN THE TOWNSHIP OF GALWAY-CAVENDISH & HARVEY
NOW IN THE MUNICIPALITY OF TRENT LAKES)
COUNTY OF PETERBOROUGH



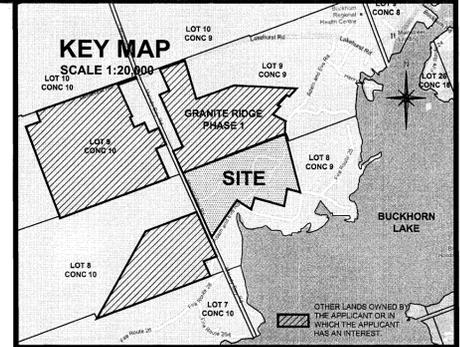
SCALE 1:1500
0 30 60 90 metres

2361-DP



CLASS ENVIRONMENTAL ASSESSMENT NOTES

- THE PROPONENT IS RESPONSIBLE FOR:
 - CONSTRUCTION OF THE PROPOSED STREET "A", "B", AND "C".
- THESE NOTES, THE PLAN AND THE ACCOMPANYING STUDIES SATISFY THE MUNICIPAL CLASS ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR ROAD, SEWAGE AND WATER PROJECTS.



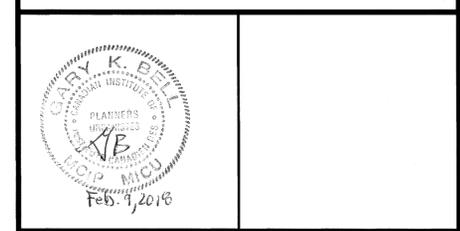
KEY MAP
N.T.S.
LEGEND

- PROPERTY BOUNDARY
- PROPOSED LOTS
- EXISTING LOTS
- EXISTING R.O.W.
- EXISTING ROAD
- EXISTING MAJOR CONTOUR
- EXISTING MINOR CONTOUR
- TREE LINE
- SWM POND
- CHANNELS
- OPEN SPACE

TOPOGRAPHIC MAPPING BY FIRST BASE SOLUTIONS BASED ON 2008 AERIAL PHOTOGRAPHY. LIMIT OF POND FROM TOPOGRAPHIC SURVEY BY J.B. FLEGUEL O.L.S., 2010.

SCHEDULE OF REVISIONS

NO.	DATE	DESCRIPTION	CHECKED
1.	NOV 2012	REVISE KEY MAP	TPP
2.	JUNE 2016	REVISED LOTS	
3.	FEB 2017	REMOVED SWM BLK 40, REALIGN INTERSECTIONS	
4.	JAN 2018	SWM AND OPEN SPACE BLOCKS	



INFORMATION REQUIRED UNDER SECTION 51 (17) OF THE PLANNING ACT, R.S.O. 1990

- | | |
|------------------|--|
| A. SHOWN ON PLAN | H. PRIVATE WELL WATER SUPPLY |
| B. SHOWN ON PLAN | I. SAND AND GRAVEL OVER ROCK |
| C. SHOWN ON PLAN | J. SHOWN ON PLAN |
| D. SHOWN ON PLAN | K. ROADS, ELECTRICAL POWER, WASTE DISPOSAL AND PROTECTION SERVICES |
| E. SHOWN ON PLAN | L. SUBJECT TO EASEMENT FOR DRAINAGE OVER BLKS 34 & 35 |
| F. SHOWN ON PLAN | |
| G. SHOWN ON PLAN | |

LAND USE SUMMARY

SUBDIVISION	LAND USE	AREA
LOTS 1-33	SINGLE DETACHED DWELLING	13.93 ha
BLOCK 36	ROAD WIDENING	0.04 ha
BLOCK 37-42	0.3M RESERVE	0.02 ha
STREETS A, B, C	RIGHT OF WAY	2.29 ha
BLOCK 34-35	STORM WATER MANAGEMENT	2.12 ha
BLOCK 43	OPEN SPACE	0.59 ha
	TOTAL	18.99 ha

OWNER'S AUTHORIZATION
I AUTHORIZE SKELTON, BRUMWELL & ASSOCIATES INC. TO PREPARE AND SUBMIT THIS DRAFT PLAN OF SUBDIVISION FOR APPROVAL.
DATE Jan 19 2019
Jeff Chester

SURVEYOR'S CERTIFICATE
I HEREBY CERTIFY THAT THE BOUNDARIES OF THE LAND TO BE SUBDIVIDED AND THEIR RELATIONSHIP TO THE ADJACENT LANDS ARE CORRECTLY SHOWN ON THIS PLAN.
"Chris Musclow" DATE Dec, 10/12
Christopher E. Musclow, O.L.S.

GRANITE RIDGE SUBDIVISION PHASE 2
MUNICIPALITY OF TRENT LAKES

DRAFT PLAN OF SUBDIVISION

PROJECT NO. 09-2361	DRWG NO. 2361-DP
DATE: MAY 2012	SCALE: 1:1500
DRAWN: BDD/CAP	CHECKED: [Signature] APPROVED: [Signature]

SBA Skelton Brumwell & Associates Inc.
ENGINEERING PLANNING ENVIRONMENTAL CONSULTANTS

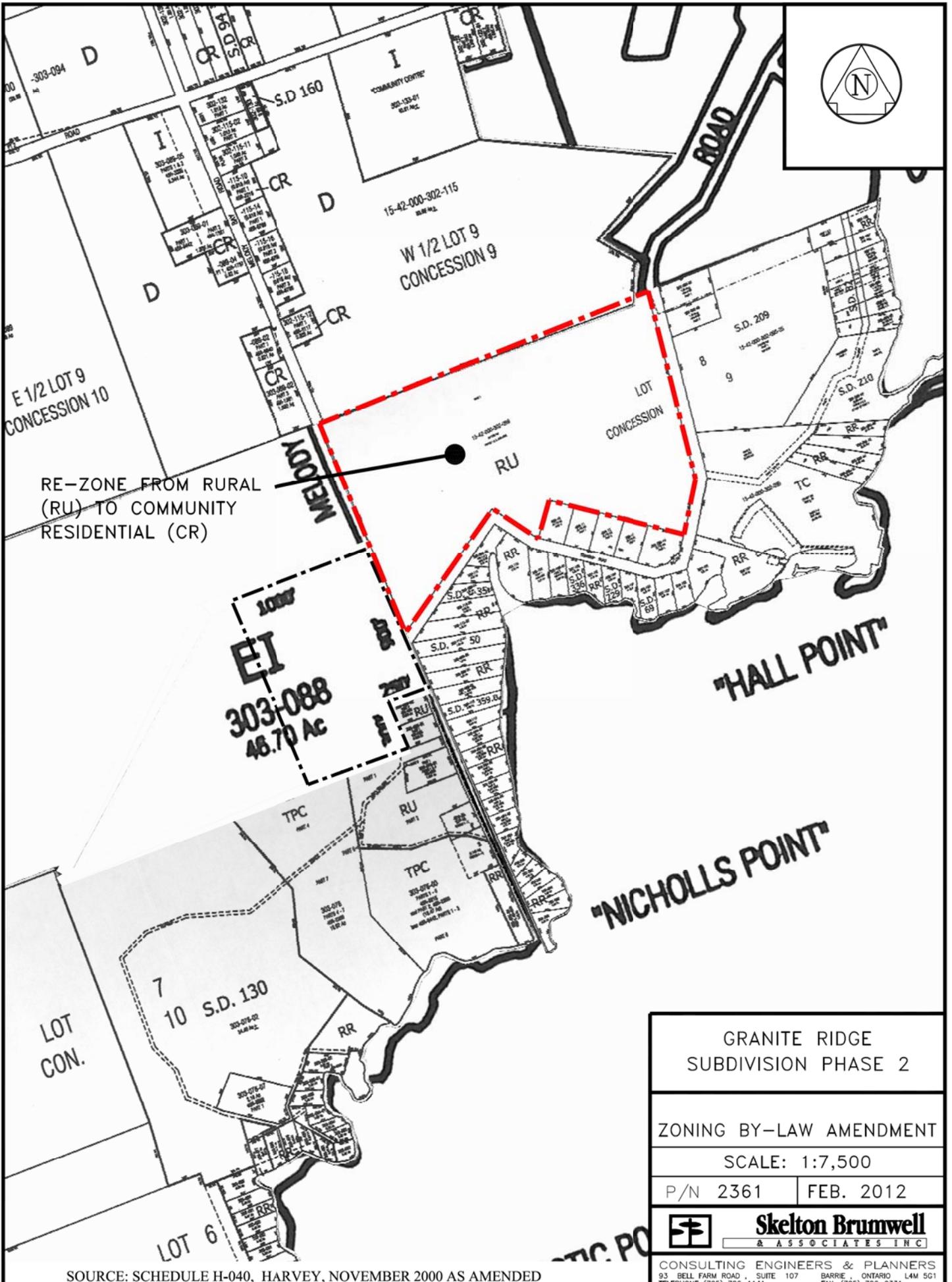
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Appendix C

Proposed Zoning By-law Schedule

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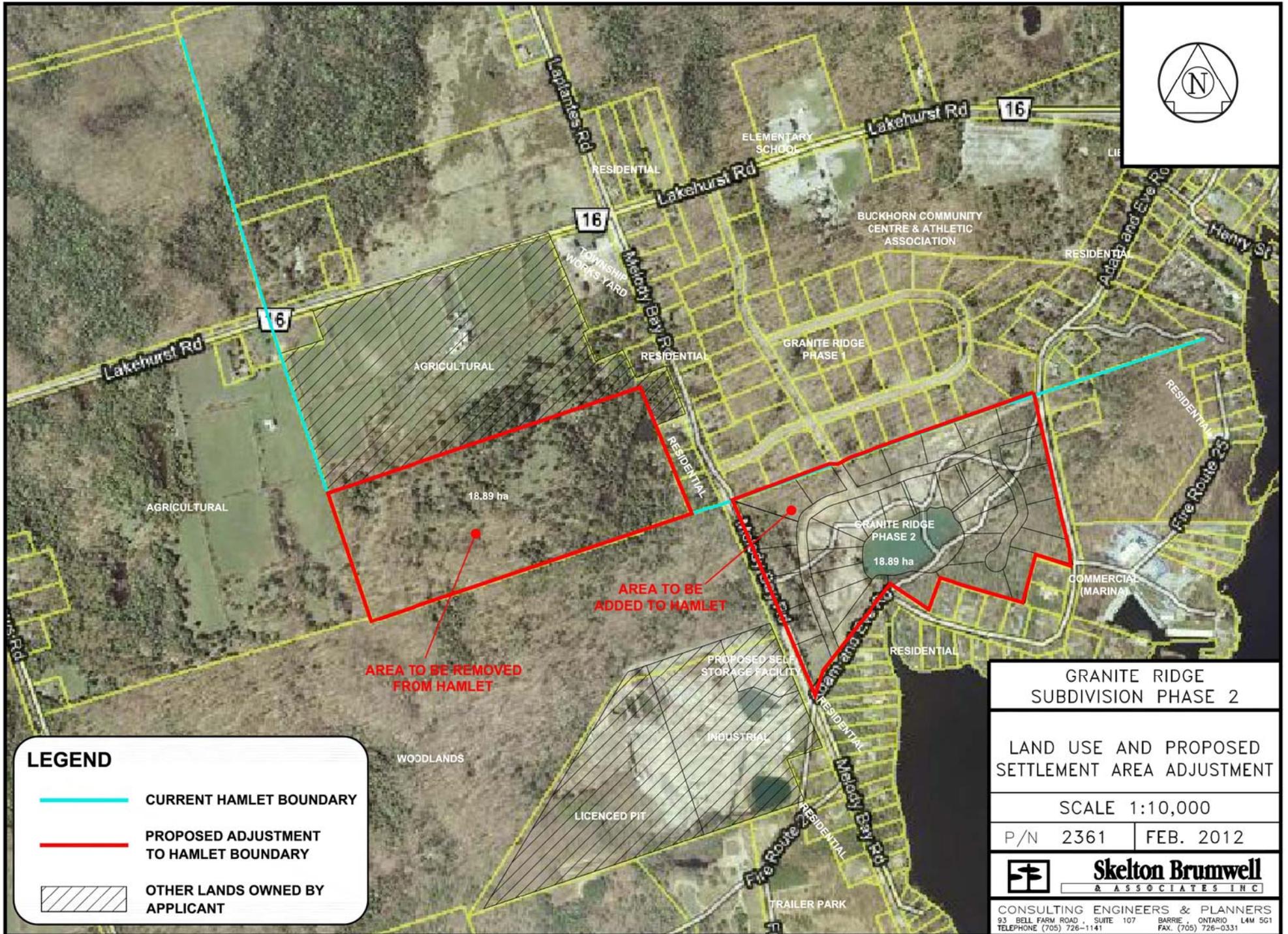


SOURCE: SCHEDULE H-040, HARVEY, NOVEMBER 2000 AS AMENDED

GRANITE RIDGE SUBDIVISION PHASE 2	
ZONING BY-LAW AMENDMENT	
SCALE: 1:7,500	
P/N 2361	FEB. 2012
 Skelton Brumwell & ASSOCIATES INC.	
CONSULTING ENGINEERS & PLANNERS 93 BELL FARM ROAD, SUITE 107 BARRIE, ONTARIO L4M 5G1 TELEPHONE (705) 726-1141 FAX. (705) 726-0331	

Appendix D

Proposed Settlement Area Adjustment



LEGEND

- CURRENT HAMLET BOUNDARY
- PROPOSED ADJUSTMENT TO HAMLET BOUNDARY
- OTHER LANDS OWNED BY APPLICANT

GRANITE RIDGE SUBDIVISION PHASE 2	
LAND USE AND PROPOSED SETTLEMENT AREA ADJUSTMENT	
SCALE 1:10,000	
P/N 2361	FEB. 2012
Skelton Brumwell & ASSOCIATES INC.	
CONSULTING ENGINEERS & PLANNERS 93 BELL FARM ROAD, SUITE 107 BARRIE, ONTARIO L4M 5G1 TELEPHONE (705) 726-1141 FAX. (705) 726-0331	

Appendix E

Geo-Logic Environmental Peer Review – Phase 1 ESA

January 30, 2014

County of Peterborough Planning Department
470 Water Street
Peterborough, Ontario
K9H 3M3

Attn: Ms. Christina Coulter, B.Sc. (Hons.) – Planner

Re: Environmental Peer Review – Proposed Residential Development
Granite Ridge Estates Subdivision Phase 2
Part Lots 8 and 9, Concession 9, County of Peterborough
Our Project No.: G024361E1

Dear Ms. Coulter:

Indicated below are the comments and conclusions forwarded to the County of Peterborough from Mr. Jason Dobbie and Mr. Randy Sinukoff of Stantec Consulting Ltd. [Stantec] regarding Geo-Logic's Phase One Environmental Site Assessment. The comments are dated November 11, 2013. Comments made by Stantec are presented in italics with responses by Geo-Logic immediately following. The reporting inconsistencies noted by Stantec occur when comparing the reporting format of O.Reg. 153/04 (adopted by Geo-Logic for our ESA work) and the CSA Standard Z-768-01.

Summary of Comments and Conclusions

1. [Stantec]: *As it is not a requirement of O.Reg. 153/04 to comment on the presence or absence of hazardous building materials such as asbestos-containing materials, polychlorinated biphenyls, lead-based paint, urea formaldehyde foam insulation and mould as well as electromagnetic frequencies and sources of noise and vibration, the February 2013 Phase One ESA did not include discussion of these topics. This omission is not considered significant since the site was undeveloped at the time of the site visit.*

[Geo-Logic]: Geo-Logic conducts its ESAs in accordance with O.Reg. 153/04, and as such does not report or discuss these types of materials (i.e. designated substances or hazardous building materials). If these materials are present, they are noted within our site inspection checklist and in circumstances where they may be part of a potentially contaminating activity (PCA) or creating an area of potential environmental concern (APEC), they are reported. If materials are present but not a PCA or APEC, we recommend that a designated substances survey be conducted to confirm the quality of the materials for future renovations and building activities. Regarding this property and as acknowledged by Stantec, the site has not been developed and therefore these materials are not of concern.

2. [Stantec]: *As indicated previously, three groundwater monitoring wells were located at the Site. Prior to any future re-development activities and if no longer required, the wells should be decommissioned/abandoned in accordance with applicable regulations.*

[Geo-Logic]: We agree that any monitoring or water wells that are no longer in use should be abandoned in accordance with Regulation 903.

3. [Stantec]: *It should be noted that the EcoLog ERIS report indicated that three 13,638 L diesel and gasoline USTs were registered to Buckhorn Sand and Gravel since 1989. However, the ERIS report did not identify the tank locations on the ERIS site diagram. It is possible that they were located at the Buckhorn Sand and Gravel property located to the southwest of the Site. As these tanks would have been downgradient of the Site and were not observed by Geo-Logic, they do not appear to represent a significant environmental concern or PCA to the Site at this time. However, it is recommended that Geo-Logic generate a site plan showing the approximate location of the USTs (if known) in relation to the site.*

[Geo-Logic]: We contacted Mr. Jeff Chesher (owner of Buckhorn Sand and Gravel). He confirmed that fueling tanks were located near the entrance of the sand and gravel pit as shown on the Site Plan, Plate 1 and he has had no leaks or spills associated with the tanks. As shown, the location of the USTs is downgradient and is not considered to be of environmental concern for the Phase One Property. No USTs have been on the Phase One Property.

We trust that the responses meet with your immediate requirements. Should you have any questions, please contact our office.

Yours Truly,

Geo-Logic Inc.
Geotechnical Engineers
And Hydrogeologists



Robert Neck, M.Eng.
Project Manager

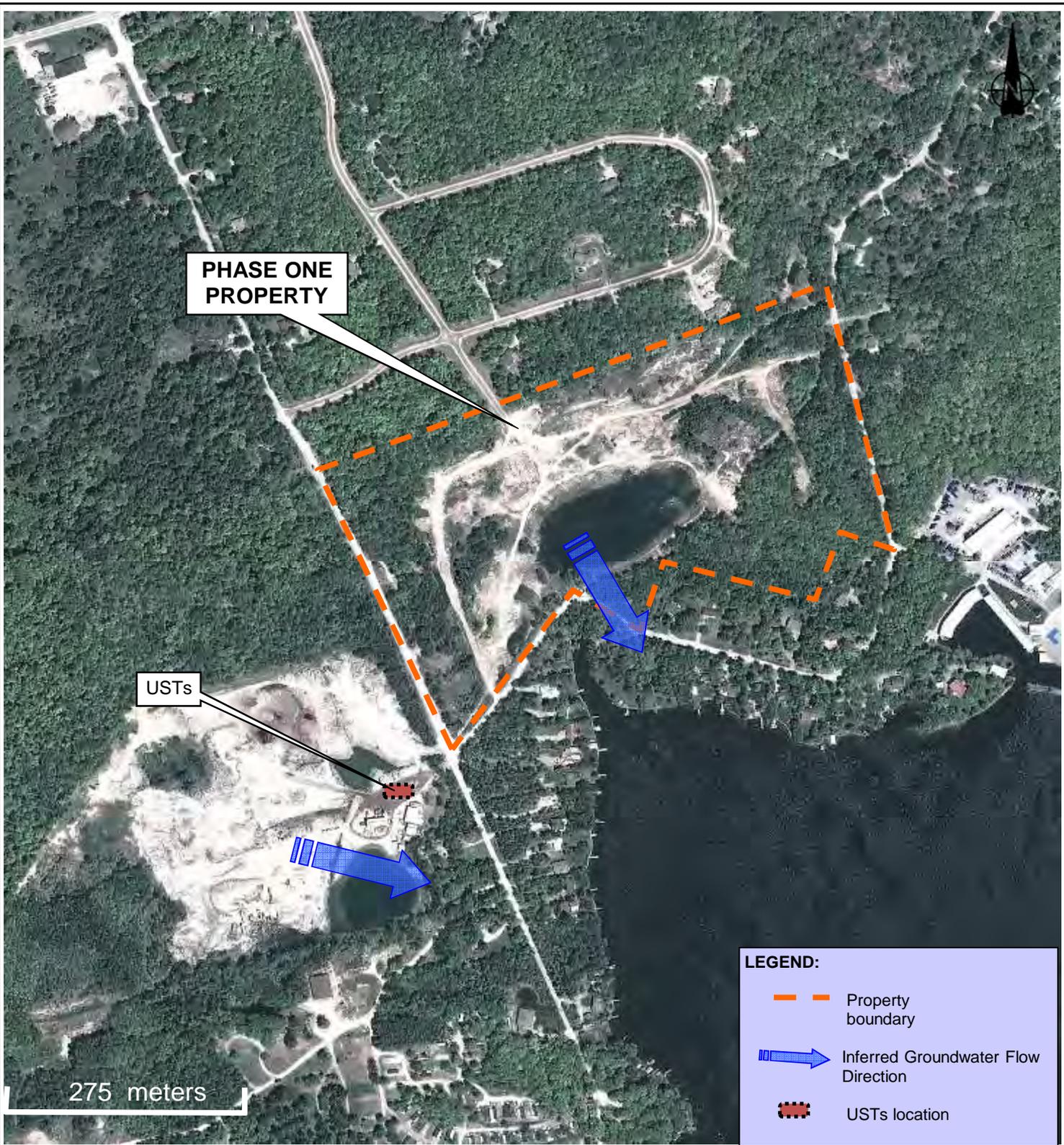


Nyle McIlveen, P.Eng.
Senior Engineer

\bn
Email: Trudy Paterson

Attachments:
Site Plan

ENCLOSURES



LEGEND:

-  Property boundary
-  Inferred Groundwater Flow Direction
-  USTs location

SITE PLAN

*Phase One Environmental Site Assessment
Granite Ridge Estates
Township of Galway-Cavendish & Harvey*

DATE: JANUARY 2014

SCALE: REFER TO SCALE BAR

JOB NUMBER: G024361E1

DRAWING NUMBER: PLATE 1a



347 PIDO ROAD, UNIT 29

PETERBOROUGH, ON K9J 6X7

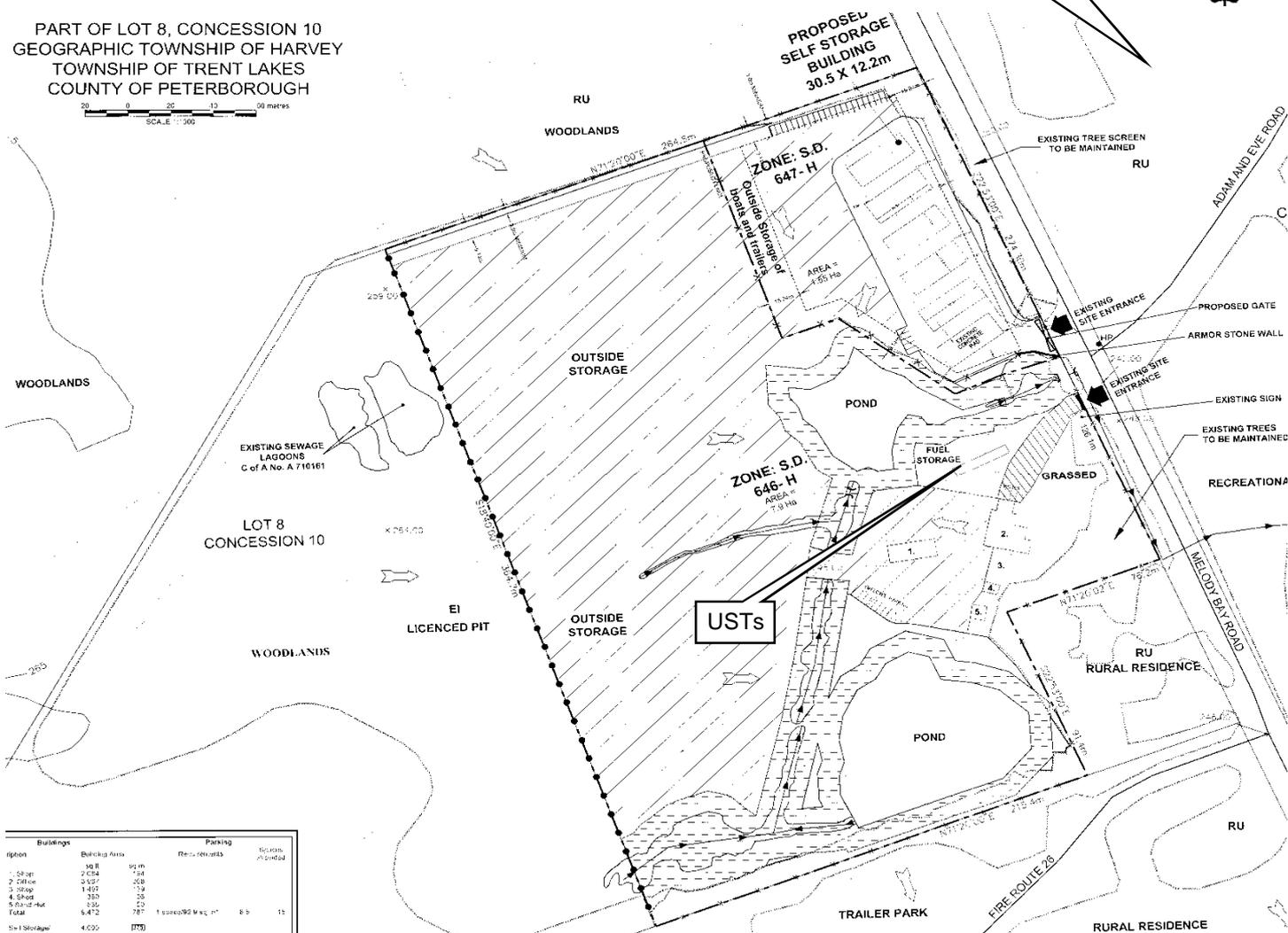
(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca

Image Obtained From Google Earth Imagery Date May 19, 2012

PART OF LOT 8, CONCESSION 10
GEOGRAPHIC TOWNSHIP OF HARVEY
TOWNSHIP OF TRENT LAKES
COUNTY OF PETERBOROUGH

SCALE 1:500
0 10 20 30 40 metres

**PHASE ONE
PROPERTY**



Buildings	Building Area	Parking	Spaces
Region	sq m	Remarks	Allocated
1. Shop	2 024		14
2. Office	3 527		26
3. Storage	1 457		13
4. Shop	750		5
5. Fuel - Hot	535		20
Total	6 472	1 space/90 sq m	83
Site Storage	4 650	(75)	

SITE PLAN

Phase One Environmental Site Assessment
Granite Ridge Estates
Township of Galway-Cavendish & Harvey

DATE: JANUARY 2014

SCALE: REFER TO SCALE BAR

JOB NUMBER: G024361E1

DRAWING NUMBER: PLATE 1b



347 PIDO ROAD, UNIT 29

PETERBOROUGH, ON K9J 6X7

(705) 749-3317 FAX (705) 749-9248 www.geo-logic.ca

Appendix F

Revised Traffic Impact Statement

March 1, 2017

County of Peterborough
310 Armour Road,
PETERBOROUGH, Ontario K9H 1Y6

Attention: Doug Saccoccia, P. Eng.
Assistant Manager, Engineering and Design

Dear Mr. Saccoccia:

Re: Revised Traffic Impact Statement (Level 1 Study)
Granite Ridge Subdivision Phase 2
Part Lots 8 and 9, Concession, geographic Township of Harvey
Municipality of Trent Lakes, County of Peterborough
Our File: P/N 06-2361

As you are aware, the Draft Plan for the Granite Ridge Subdivision has been revised to increase the number of lots from 32 to 34. In addition, the Municipality of Trent Lakes as requested some additional analysis relative to the various intersections. To address these issues, we are now providing this revised Level 1 Traffic Impact Study for your review.

1.0 Introduction

This report has been prepared in support of applications under the Planning Act to permit and regulate the development of a 19 hectare property for residential development in the community of Buckhorn. The lands are adjacent to the existing Granite Ridge Subdivision located south of Lakehurst Road/Peterborough County Road 37 east of Melody Bay Road. The proposed development will include 34 residential lots and private open space.

This report is intended to address the County of Peterborough's "Policy on Guidelines for the Preparation of Traffic Impact Studies", and specifically to address the requirements for a Traffic Impact Statement (Level 1 Study) as described in the guidelines.

Traffic generated by the development will travel to Lakehurst Road (County Road 37) by three separate routes. From the north side, Stabler's Way leads directly to Lakehurst Road through the existing Granite Ridge Phase 1 subdivision. The internal road will connect to Adam and Eve Road near the south-west corner of the development where vehicles can get to Melody Bay Road and then travel north to Lakehurst Road. The east end of the internal road will also connect to Adam and Even Road which allows access to Lakehurst Road within Buckhorn. Once drivers reach Lakehurst Road they can continue east to Buckhorn, County

Road 36 and County Road 23, or west toward Lakehurst. The site location and traffic context are shown on Figure 1.

2.0 County Road Access

County Road 37 (Lakehurst Road) through is area is paved with an asphalt wide of about 6.5 metres and roughly 2.4 metre wide gravel shoulders.

The County's Traffic Impact Study Guidelines require the available sight distances at the proposed County Road entrances to be evaluated. We note that the entrances for this proposed development will be from existing local roads, and not County Roads, so technically this requirement would not be applicable.

The available sight distances at the existing road entrances from County Road 37 were confirmed as follows:

Melody Bay Road: 483 metres to / from the west
380 metres to / from the east

Stabler's Way: 694 metres to / from the west
169 metres to / from the east

Adam and Eve Road: 100 metres to / from the west
175 metres to / from the east

The posted speed limit on County Road 37 through this area is 50 km/hr, although it does change to 80 km/hr just west of Melody Bay Road. For a 50 km/hr posted speed limit, a design speed of 60 km/hr would be applicable, while for 80 km/hr a design speed of 100 km/hr would typically be used. The Ministry of Transportation's Geometric Design Guidelines require a minimum Stopping Sight Distance of 85 metres for 60 km/hr and 185 metres for 100 km/hr. The design speed of 100 km/hr should be applied for the sight distance to and from the west at Melody Bay Road, while a 60 km/hr design speed would be reasonable for the other locations. The available sight distance at the existing intersections is therefore acceptable as it exceeds the minimum requirements in every case.

The geometrics at all of the intersections all appear to be reasonable. There are no auxiliary turning lanes present, however there an eastbound right-turn taper at Melody Bay Road.

We understand the intersection of Adam & Eve Road and County Road 37 was re-aligned in 2013 as part of a larger project which included the resurfacing of County Road 37 in this area. The work involved moving the intersection roughly 50 metres to the east so it is now located opposite William Street. This improvement would have eliminated the potential conflict between vehicles turning into and out of intersections that are offset.

The relocated Adam & Eve Road intersection is now at the east end of a small horizontal curve. While the sight distance to and from the west is adequate in our opinion, it could be improved by removing some vegetation that appears to be within the south side of the right-of-way, west of the intersection. Also, some signage could be installed to warn traffic approaching from the west about the existence of the intersection.

Staff from the County of Peterborough have advised that they have no records of vehicle collisions on County Road 37 in this area.

As a condition of approval, the County of Peterborough requires that the intersection of Stabler's Way and County Road 37 be paved with a minimum depth of 50 mm of HL8 base asphalt within the County right-of-way. The remaining asphalt would be done prior to full build-out of both phases of the subdivision. A permit will be required from the County prior to any work being undertaken within the road allowance.

3.0 Local Road Access and Internal Roads

Street 'A' is the main internal road which will connect to Adam and Eve Road at two locations. The westerly access will intersect with Adam and Eve Road about 100 metres east of Melody Bay Road, while the east access will intersect roughly 680 metres south of County Road 37. Adam and Eve Road is a paved road maintained by the Municipality of Trent Lakes. It has a posted speed limit of 40 km/hr, so a reasonable design speed would be 50 km/hr and the minimum stopping sight distance at 50 km/hr is 65 metres. The available sight distance at the two new intersections is estimated to exceed the minimum requirement for a 50 km/hr design speed and should actually be sufficient for at least a 60 km/hr design speed.

On the original Draft Plan that was submitted for approval, Street 'A' intersected with Adam and Eve Road at both locations on somewhat of an angle. The road alignment has now been revised so that it intersects with the existing road at about 90 degrees. Internally, the alignment of Street 'C' (Stabler's Way) at Street 'A' was also adjusted so it is approximately 90 degrees. Daylight triangles of about 6 metres x 6 metres are also provided at all of the intersections.

It is proposed that the access to Lots 1, 31 and 32 will be directly from Adam and Even Road. For Lot 1, it is recommended that the driveway be located toward the east side of the lot in order to maximize the distance from a sharp curve in the road and ensure that there is adequate sight distance. Similarly, the driveway for Lot 32 should be located as far north as reasonable possible in order to maximize the distance from a curve in Adam and Eve Road.

The right-of-way for the internal roadway will be 20 metres throughout the subdivision. We suggest that the roadway have a pavement width of 6.6 metres and 1.2 metre wide shoulders, although this can be confirmed at the detailed design stage. Items such as radii at the intersections and signage (if necessary) to recommend reduced speeds at horizontal curves can also be dealt with at the detailed design stage.

Street 'B' will terminate in a cul-de-sac, with a proposed asphalt radius of 14.05 metres. This was analyzed using AutoTurn to confirm that the radius is adequate for a heavy Single Unit Truck with a turning radius of 14.1 metres. A copy of the turning analysis is attached for reference.

4.0 Background Traffic

The most recent traffic count data on County Road 37 was provided by the County of Peterborough at a location west of Adam and Eve Road for 2014.

The summer 24 hour count was taken on Thursday, July 3rd 2014 and the total two-way volume was 3,273 vehicles. A peak hour volume of 319 vehicles per hour occurred from 12:00 to 1:00 p.m., which represents 9.7% of the total daily volume.

Based on discussions with staff from the County of Peterborough, an annual growth rate in the background traffic volumes of 2% was assumed. Based on this, the 2017 volume would be 6.1% higher than 2014, which results in a total daily volume of 3,473 vehicles and a peak hour volume of 338 vehicles.

Applying the 2% growth rate to a 5 year planning horizon at 2022, the increase from 2014 would be 17.17% which would result in a daily volume of about 3,835 vehicles and a peak hour volume of 374 vehicles.

Using methodology from the Highway Capacity Manual, we estimate the capacity of County Road 27 to be roughly 1,600 vehicles per hour in each direction. This means that in 2022 the road will be operating at about 11.7% capacity at the estimated volume of 374 vehicles per hour.

5.0 Traffic Generation and Distribution

According to the Institute of Transportation Engineers "Trip Generation" 9th Edition Volume 2, a single detached house in a suburban setting is predicted to generate about 9.52 vehicle trips per day on week days, 9.91 vehicle trips per day on Saturdays, and 1.02 vehicle trips in the weekday P.M. peak hour.

Therefore, the total trips generated from the development at full build out of 34 dwellings would be in the order of about 324 per day on a weekday and 35 in the weekday P.M. peak hour (64% entering, 36% leaving). The volume on a Saturday would be a bit higher at 336 trips. The weekday volume represents an increase of about 9.3% over the estimated daily traffic volume on Lakehurst Road for 2017. In 2022, it would increase the peak hourly traffic volume to about 409 vehicles per hour, which would be about 12.8% of the estimated road capacity of 3,200 vehicles per hour.

It is assumed that vehicles entering and exiting the development will be more or less equally divided between the three connecting roads. On this basis, about 11 vehicles per hour will enter and exit the site at each entrance.

At Lakehurst Road it is assumed that traffic from each connecting road will be split and that overall 75%, or 26 vehicles per hour, will travel to and from the east toward Buckhorn. The remaining 25% or 9 vehicles per hour will be going to and from the west toward Lakehurst.

6.0 Conclusions and Recommendations

The County of Peterborough "Policy on Guidelines for the Preparation of Traffic Impact Studies" requires a Level 2 Study for developments generating traffic of 50 to 100 vehicles per hour, and a Level 3 Study for more than 100 vehicles per hour. Given that the anticipated traffic volume for the Granite Ridge Phase 2 subdivision will be 35 vehicles per hour, no further study is required.

The sight distances that exist on County Road 27 at the intersections with Melody Bay Road, Stabler's Way and Adam and Eve Road exceed the minimum stopping sight distances prescribed by the Ministry of Transportation's Geometric Design Guidelines. The sight distance to the west of Adam and Eve Road, though adequate, could be improved somewhat by removing some vegetation from within the right-of-way. Signage could also be installed to advise approaching traffic of the existence of the intersection.

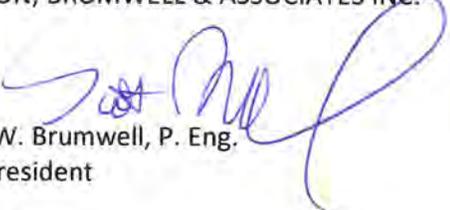
The available sight distances at the intersections of the internal Street 'A' with Adam and Eve Road also exceed the minimum stopping sight distance requirements. The radius of the cul-de-sac at the end of Street 'B' has been confirmed to be adequate for a Heavy Single Unit truck with a turning radius of 14.1 metres.

The traffic volume generated by the development of the subject lands is predicted to increase the 2017 daily traffic volume on County Road 27 by about 9.3%. In 2022 the peak hourly traffic on Lakehurst Road will increase by 35 vehicles trips to about 409, which is anticipated to have a minimal impact on the existing traffic conditions in the area. Lakehurst Road, County Road 37, at an estimate two-way capacity of about 3,200 vehicles per hour has more than adequate capacity to accommodate the increase in traffic anticipated from the proposed development.

It is recommended that the driveway from Adam and Even Road into Lot 1 be located as close as possible to the east side of the lot in order to maximize the available sight distance. Similarly, it is recommended that the driveway into Lot 32 be located as close as possible to the north side of that lot.

Should you have any questions in relation to this reporting letter, please contact the undersigned.

All of which is respectfully submitted,
SKELTON, BRUMWELL & ASSOCIATES INC.
per:

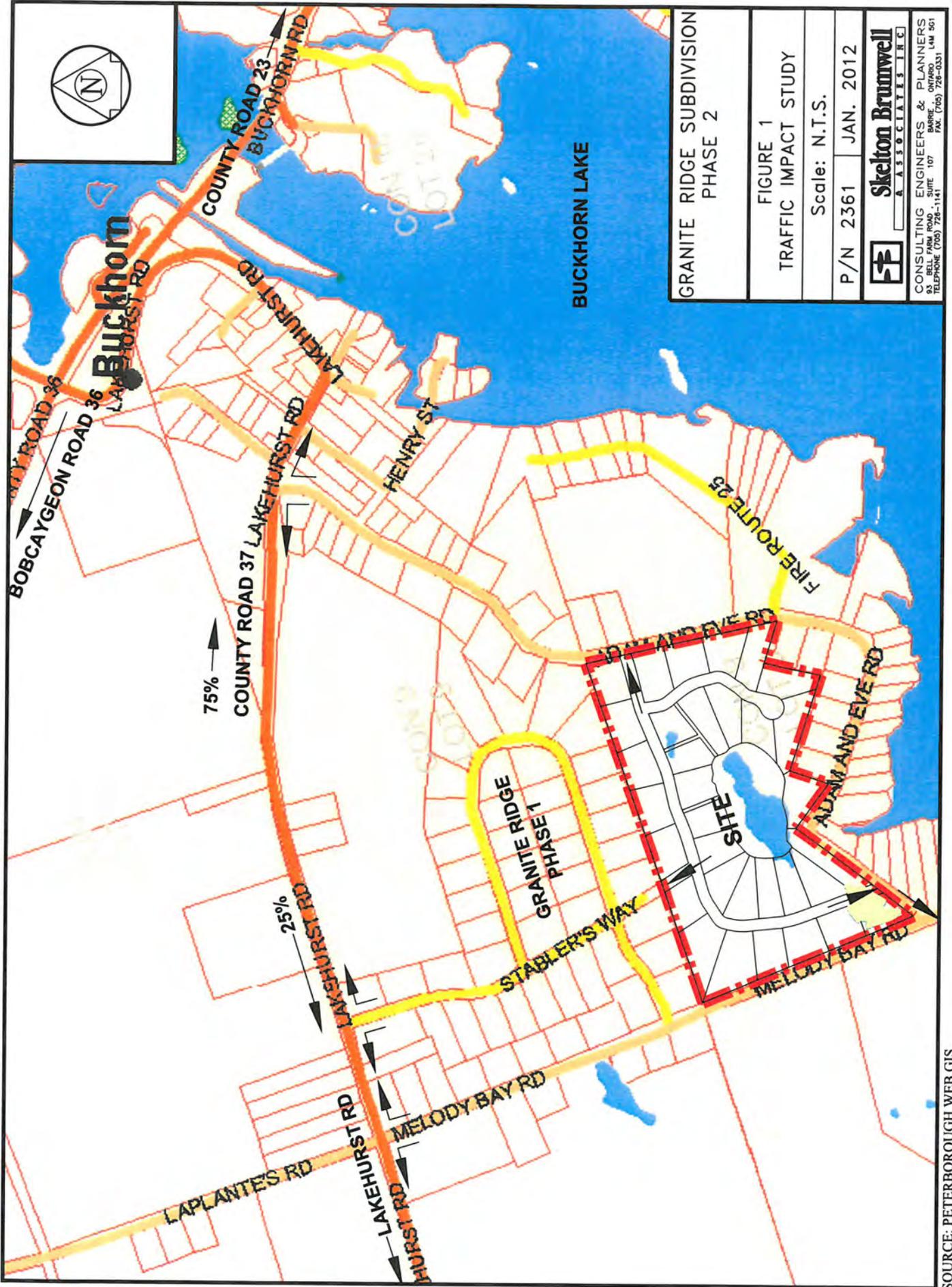

Scott W. Brumwell, P. Eng.
Vice President

SWB/lah
Attachment – Traffic Impact Study Figure 1

C-17-088

cc: Kari Stevenson, Amanda Warren – Municipality of Trent Lakes

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GRANITE RIDGE SUBDIVISION
 PHASE 2

FIGURE 1

TRAFFIC IMPACT STUDY

Scale: N.T.S.

P/N 2361 JAN. 2012

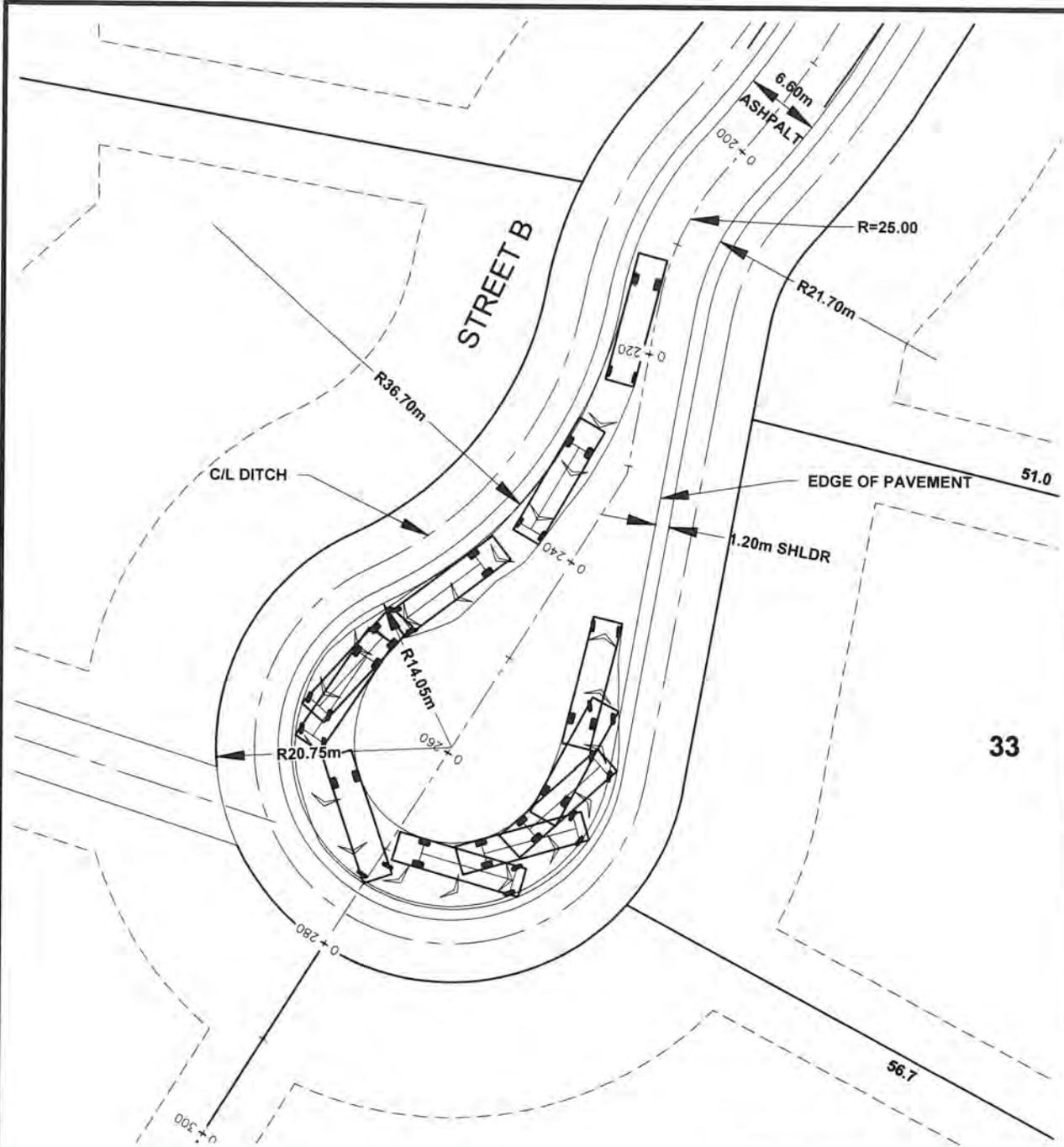


Skelton Brumwell
 A ASSOCIATES INC.

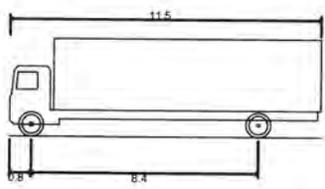
CONSULTING ENGINEERS & PLANNERS
 93 BELL FARM ROAD, SUITE 107 BARRÉ, ONTARIO L4M 5G1
 TELEPHONE (705) 728-1141 FAX (705) 728-0331

SOURCE: PETERBOROUGH WEB GIS

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33



HSU - Heavy Single Unit Truck
 Overall Length 11.500m
 Overall Width 2.600m
 Overall Body Height 3.650m
 Min Body Ground Clearance 0.445m
 Track Width 2.600m
 Lock-to-lock time 4.00s
 Curb to Curb Turning Radius 14.100m

GRANIT RIDGE SUBDIVISION PHASE 2 TRENT LAKES	
VEHICLE TURNING ANALYSIS STREET B CUL-DE-SAC	
1:500	
P/N 2361	FEB 2017
 ENGINEERING PLANNING ENVIRONMENTAL CONSULTANTS	
<small>30 BELL FARM ROAD, SUITE 107 BARRIE, ONTARIO L4M 5G1</small>	<small>TELEPHONE (705) 726-1141 FAX (705) 726-0331</small>

Appendix G

River Stone Fish Impact Assessment Recommendations,

DFO Letter August 2014

The following measures to avoid causing harm to fish and fish habitat were developed by Fisheries and Oceans Canada (DFO) to aid in project planning, design, and completion in a manner that will avoid causing harm to fish and fish habitat. These recommendations have been adapted from DFO's website (<http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>)

1. PROJECT PLANNING

1.1. Timing

- Time work in water to respect timing windows to protect fish, including their eggs, juveniles, spawning adults and/or the organisms upon which they feed.
- Minimize duration of in-water work.
- Conduct instream work during periods of low flow, or at low tide, to further reduce the risk to fish and their habitat or to allow work in water to be isolated from flows.
- Schedule work to avoid wet, windy and rainy periods that may increase erosion and sedimentation.

1.2. Site Selection

- Design and plan activities and works in waterbody such that loss or disturbance to aquatic habitat is minimized and sensitive spawning habitats are avoided.
- Design and construct approaches to the waterbody such that they are perpendicular to the watercourse to minimize loss or disturbance to riparian vegetation.
- Avoid building structures on meander bends, braided streams, alluvial fans, active floodplains or any other area that is inherently unstable and may result in erosion and scouring of the stream bed or the built structures.
- Undertake all instream activities in isolation of open or flowing water to maintain the natural flow of water downstream and avoid introducing sediment into the watercourse.

1.3. Contaminant and Spill Management

- Plan activities near water such that materials such as paint, primers, blasting abrasives, rust solvents, degreasers, grout, or other chemicals do not enter the watercourse.
- Develop a response plan that is to be implemented immediately in the event of a sediment release or spill of a deleterious substance and keep an emergency spill kit on site.
- Ensure that building material used in a watercourse has been handled and treated in a manner to prevent the release or leaching of substances into the water that may be deleterious to fish.

2. EROSION AND SEDIMENT CONTROL

- Develop and implement an Erosion and Sediment Control Plan for the site that minimizes risk of sedimentation of the waterbody during all phases of the project. Erosion and sediment control measures should be maintained until all disturbed ground has been permanently stabilized, suspended sediment has resettled to the bed of the waterbody or settling basin and runoff water is clear. The plan should, where applicable, include:
 - Installation of effective erosion and sediment control measures before starting work to prevent sediment from entering the water body.

- Measures for managing water flowing onto the site, as well as water being pumped/diverted from the site such that sediment is filtered out prior to the water entering a waterbody. For example, pumping/diversion of water to a vegetated area, construction of a settling basin or other filtration system.
- Site isolation measures (e.g., silt boom or silt curtain) for containing suspended sediment where in-water work is required (e.g., dredging, underwater cable installation).
- Measures for containing and stabilizing waste material (e.g., dredging spoils, construction waste and materials, commercial logging waste, uprooted or cut aquatic plants, accumulated debris) above the high water mark of nearby waterbodies to prevent re-entry.
- Regular inspection and maintenance of erosion and sediment control measures and structures during the course of construction.
- Repairs to erosion and sediment control measures and structures if damage occurs.
- Removal of non-biodegradable erosion and sediment control materials once site is stabilized.

3. SHORELINE RE-VEGETATION AND STABILIZATION

- Clearing of riparian vegetation should be kept to a minimum: use existing trails, roads or cut lines wherever possible to avoid disturbance to the riparian vegetation and prevent soil compaction. When practicable, prune or top the vegetation instead of grubbing/uprooting.
- Minimize the removal of natural woody debris, rocks, sand or other materials from the banks, the shoreline or the bed of the waterbody below the ordinary high water mark. If material is removed from the waterbody, set it aside and return it to the original location once construction activities are completed.
- Immediately stabilize shoreline or banks disturbed by any activity associated with the project to prevent erosion and/or sedimentation, preferably through re-vegetation with native species suitable for the site.
- Restore bed and banks of the waterbody to their original contour and gradient; if the original gradient cannot be restored due to instability, a stable gradient that does not obstruct fish passage should be restored.
- If replacement rock reinforcement/armouring is required to stabilize eroding or exposed areas, then ensure that appropriately-sized, clean rock is used; and that rock is installed at a similar slope to maintain a uniform bank/shoreline and natural stream/shoreline alignment.
- Remove all construction materials from site upon project completion.

4. FISH PROTECTION

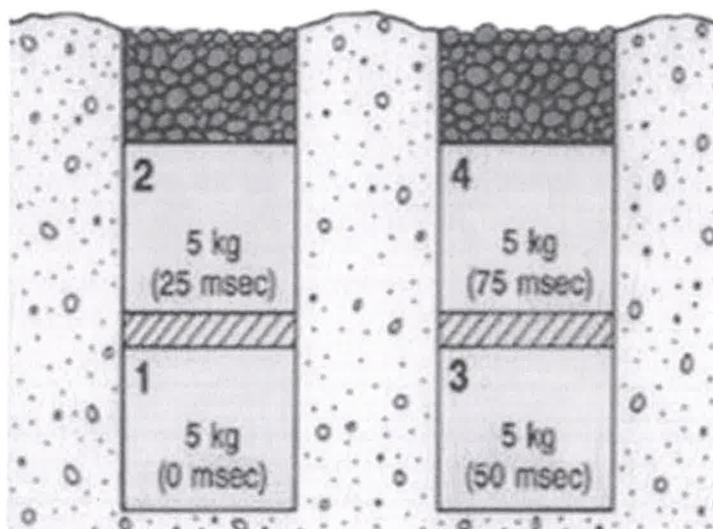
- Ensure that all in-water activities, or associated in-water structures, do not interfere with fish passage, constrict the channel width, or reduce flows.
- Retain a qualified environmental professional to ensure applicable permits for relocating fish are obtained and to capture any fish trapped within an isolated/enclosed area at the work site and safely

relocate them to an appropriate location in the same waters. Fish may need to be relocated again, should flooding occur on the site.

- Screen any water intakes or outlet pipes to prevent entrainment or impingement of fish. Entrainment occurs when a fish is drawn into a water intake and cannot escape. Impingement occurs when an entrapped fish is held in contact with the intake screen and is unable to free itself.
 - In freshwater, follow these measures for design and installation of intake end of pipe fish screens to protect fish where water is extracted from fish-bearing waters:
 - Screens should be located in areas and depths of water with low concentrations of fish throughout the year.
 - Screens should be located away from natural or artificial structures that may attract fish that are migrating, spawning, or in rearing habitat.
 - The screen face should be oriented in the same direction as the flow.
 - Ensure openings in the guides and seals are less than the opening criteria to make “fish tight”.
 - Screens should be located a minimum of 300 mm (12 in.) above the bottom of the watercourse to prevent entrainment of sediment and aquatic organisms associated with the bottom area.
 - Structural support should be provided to the screen panels to prevent sagging and collapse of the screen.
 - Large cylindrical and box-type screens should have a manifold installed in them to ensure even water velocity distribution across the screen surface. The ends of the structure should be made out of solid materials and the end of the manifold capped.
 - Heavier cages or trash racks can be fabricated out of bar or grating to protect the finer fish screen, especially where there is debris loading (woody material, leaves, algae mats, etc.). A 150 mm (6 in.) spacing between bars is typical.
 - Provision should be made for the removal, inspection, and cleaning of screens.
 - Ensure regular maintenance and repair of cleaning apparatus, seals, and screens is carried out to prevent debris-fouling and impingement of fish.
 - Pumps should be shut down when fish screens are removed for inspection and cleaning.
- Avoid using explosives in or near water. Use of explosives in or near water produces shock waves that can damage a fish swim bladder and rupture internal organs. Blasting vibrations may also kill or damage fish eggs or larvae.
 - If explosives are required as part of a project (e.g., removal of structures such as piers, pilings, footings; removal of obstructions such as beaver dams; or preparation of a river or lake bottom for installation of a structure such as a dam or water intake), the potential for impacts to fish and fish habitat should be minimized by implementing the following measures:

- Time in-water work requiring the use of explosives to prevent disruption of vulnerable fish life stages, including eggs and larvae, by adhering to appropriate fisheries timing windows.
- Isolate the work site to exclude fish from within the blast area by using bubble/air curtains (i.e., a column of bubbled water extending from the substrate to the water surface as generated by forcing large volumes of air through a perforated pipe/hose), cofferdams or aquadams.
- Remove any fish trapped within the isolated area and release unharmed beyond the blast area prior to initiating blasting
- Minimize blast charge weights used and subdivide each charge into a series of smaller charges in blast holes (i.e., decking) with a minimum 25 millisecond (1/1000 seconds) delay between charge detonations (see Figure 1).
- Back-fill blast holes (stemmed) with sand or gravel to grade or to streambed/water interface to confine the blast.
- Place blasting mats over top of holes to minimize scattering of blast debris around the area.
- Do not use ammonium nitrate based explosives in or near water due to the production of toxic by-products.
- Remove all blasting debris and other associated equipment/products from the blast area.

Figure 1: Sample Blasting Arrangement



Per Fig. 1: 20 kg total weight of charge; 25 msec delay between charges and blast holes; and decking of charges within holes.

5. OPERATION OF MACHINERY

- Ensure that machinery arrives on site in a clean condition and is maintained free of fluid leaks, invasive species and noxious weeds.
- Whenever possible, operate machinery on land above the high water mark, on ice, or from a floating barge in a manner that minimizes disturbance to the banks and bed of the waterbody.
- Limit machinery fording of the watercourse to a one-time event (i.e., over and back), and only if no alternative crossing method is available. If repeated crossings of the watercourse are required, construct a temporary crossing structure.
- Use temporary crossing structures or other practices to cross streams or waterbodies with steep and highly erodible (e.g., dominated by organic materials and silts) banks and beds. For fording equipment without a temporary crossing structure, use stream bank and bed protection methods (e.g., swamp mats, pads) if minor rutting is likely to occur during fording.
- Wash, refuel and service machinery and store fuel and other materials for the machinery in such a way as to prevent any deleterious substances from entering the water.



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Central & Arctic Region
Fisheries Protection Program
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Burlington, ON
L7R 4A6

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Programme de protection des pêches
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Burlington, ON
L7R 4A6

PN 2361
Received Sept 23/14

August 26, 2014

Your file Votre référence

Our file Notre référence
14-HCAA-00457

1447147 Ontario Inc.
Jeff Chesher
P.O. Box 100
Buckhorn, Ontario
K0L 1J0

Dear Mr. Chesher:

Subject: Implementation of mitigation measures to avoid and mitigate serious harm to fish – Granite Ridge Subdivision

The Fisheries Protection Program (the Program) of Fisheries and Oceans Canada (DFO) received your proposal on April 10, 2014.

Your proposal has been reviewed to determine whether it is likely to result in serious harm to fish which is prohibited under subsection 35(1) of the *Fisheries Act*.

The proposal has also been reviewed to determine whether it will adversely impact listed aquatic species at risk and contravene sections 32, 33 and 58 of the *Species at Risk Act*.

Our review considered the following:

- Request for Review, dated April 10, 2014.
- Telephone conversation with MNR August 8, 2014.

We understand that you propose to:

- Convert an existing fish bearing 1.5 ha quarry to a Storm Water Management Facility for the Granite Ridge Subdivision.

Provided that you follow the mitigation measures in your plans, and the guidance provided on the DFO website at <http://www.dfo-mpo.gc.ca/pnw-ppe/measures-mesures/index-eng.html>, the Program is of the view that your proposal will not result in serious harm to fish. The Program is also of the view that your proposal will not contravene sections 32, 33 or 58 of the *Species at Risk Act*. No formal approval is

required from the Program under the *Fisheries Act* or the *Species at Risk Act* in order to proceed with your proposal.

If your plans have changed or if the description of your proposal is incomplete, or changes in the future, you should consult our website (<http://www.dfo-mpo.gc.ca/pnw-ppc/index-eng.html>) or consult with a qualified environmental consultant to determine if further review is required by the Program.

Please be advised that it is also your *Duty to Notify* DFO if you have caused, or are about to cause, serious harm to fish that are part of or support a commercial, recreational or Aboriginal fishery. Such notifications should be directed to fisheriesprotection@dfo-mpo.gc.ca

A copy of this letter should be kept on site while the work is in progress. It remains your responsibility to meet the other requirements of federal, provincial, territorial and municipal agencies.

If you have any questions, please contact Gary Cooper at our Burlington office at 905-336-6248, or by email at (gary.cooper@dfo-mpo.gc.ca). Please refer to the file number referenced above when corresponding with the Program.

Yours sincerely,



Jennifer Thomas
A/Regional Manager, Regulatory Review