

# PLANNING RATIONALE MACLEOD III AND V QUARRIES



Project No.: OCP-16-0280

Prepared for:

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## **1.0 INTRODUCTION**

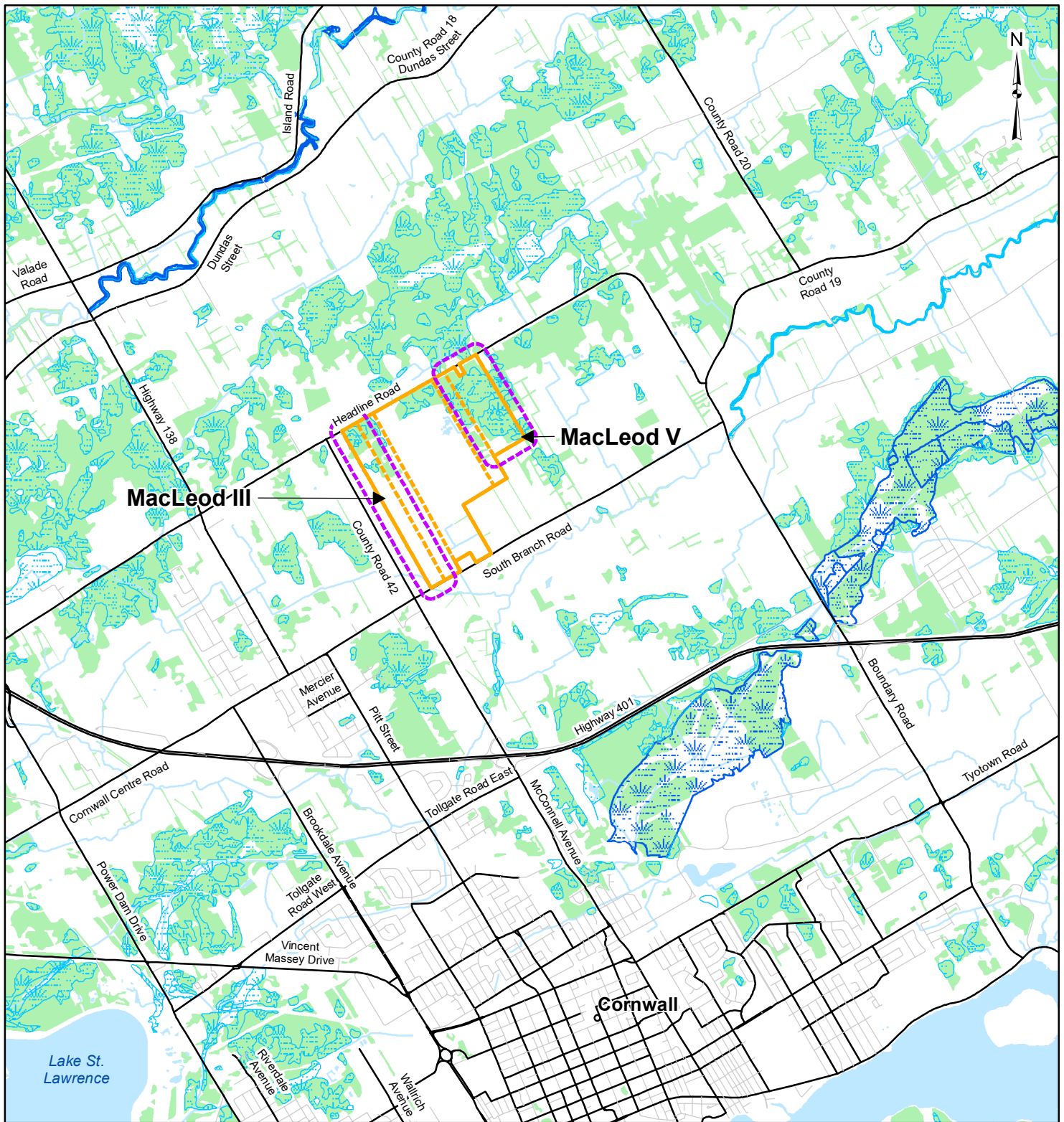
This Planning Report is submitted in support of applications for Official Plan and Zoning By-Law amendments by Cornwall Gravel Co. Ltd. (Cornwall Gravel) for the establishment of a Category 2 Class “A” Quarry Below Water and Category 1 Class “A” Pit Below Water under the Aggregate Resources Act (ARA). The Report includes an overview of the site context and characteristics of the subject property, a description of the proposed pit and quarry operations, a review of applicable provincial and local policy and regulatory controls, and a summary of pre-submission consultations with the Township, County, and agencies. A planning rationale is offered, along with a summary of the findings of studies related to environmental impacts, noise and vibration, archaeology, hydrogeology, and traffic.

## **2.0 PROPERTIES AND LOCATION**

The subject properties are situated between Headline Road and South Branch Road in the Township of South Stormont, more particularly described as the northern portion of Part Lot 2, Concession 4, and Part of the eastern half of Lot 6, Concession 4, Geographic Township of Cornwall (see Figure 1). The western property, being in Lot 6 and referred herein as the MacLeod III property, has an approximate area of 37.8 hectares (93.4 acres) with roughly 190 metres of frontage on Headline Road and 163 metres on South Branch Road. The eastern property, being in Lot 2 and referred herein as MacLeod V, has an approximate area of 40.5 hectares (100.1 acres) and frontage along Headline Road in two parts totaling approximately 318 metres (see Figure 2). South Branch Road follows the boundary between South Stormont Township and the City of Cornwall.

The MacLeod III property is bounded by a mix of woodlands and open meadow to the west, with residential and storage uses further west along McConnell Avenue, Headline Road to the north, lands owned by Cornwall Gravel and licensed for aggregate extraction to the east, and South Branch Road to the south, as well as a residential property abutting the subject lands to the southwest. The property is largely wooded in the north and open fields in the south where there is an existing dwelling and agricultural outbuildings. The land slopes gently toward the south where drainage ultimately outlets to the Eastman Drain. A portion of the croplands adjacent to the Eastman Drain lies within the 1:100 flood plain.

The MacLeod V property is bounded by lands owned by Cornwall Gravel and licensed for aggregate extraction to the west, Headline Road to the north as well as one abutting residential property dissecting the property’s frontage along Headline Road, vacant woodlands to the east, and fields and agricultural uses to the south. The property also slopes gently toward the south, with drainage ultimately outletting to the South Branch of the Raisin River.



#### LEGEND

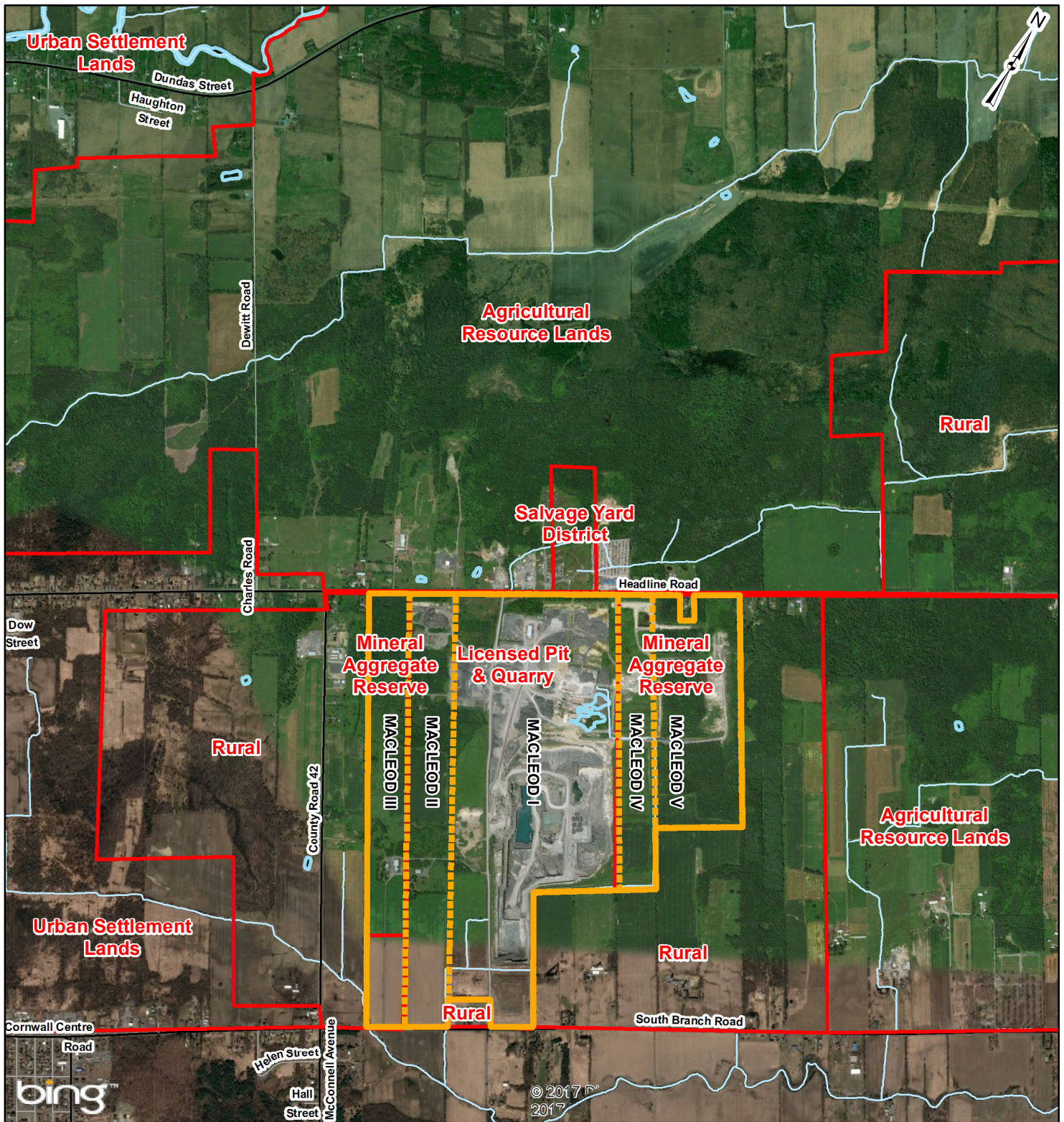
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| <span style="border: 2px solid orange; padding: 2px;"> </span> Site Location                         | <span style="color: blue;">—</span> Watercourse  |
| <span style="border: 2px dashed orange; padding: 2px;"> </span> Permit Boundary                      | <span style="background-color: lightblue; border: 1px solid blue; padding: 2px;"> </span> Waterbody                        |
| <span style="border: 2px dashed purple; padding: 2px;"> </span> Study Area and 120m Buffer           | <span style="background-color: lightblue; border: 1px solid blue; padding: 2px;"> </span> Provincially Significant Wetland |
| <span style="border-bottom: 1px solid black; width: 20px; display: inline-block;"></span> Local Road | <span style="background-color: lightblue; border: 1px solid blue; padding: 2px;"> </span> Unevaluated Wetland              |
| <span style="border-bottom: 2px solid black; width: 20px; display: inline-block;"></span> Major Road | <span style="background-color: lightgreen; border: 1px solid green; padding: 2px;"> </span> Wooded Area                    |

#### REFERENCE

Basedata provided by the Ontario Ministry of Natural Resources and Forestry, 2016.

CLIENT:			CORNWALL GRAVEL CO. LTD.	
PROJECT:			PLANNING RATIONALE - MacLEOD QUARRY	
TITLE:			SITE LOCATION	
<b>McINTOSH PERRY</b> <small>115 Walgreen Road, RR3, Carp, ON K0A1L0            Tel: 613-836-2184 Fax: 613-836-3742            www.mcintoshperry.com</small>			PROJECT NO: CP-16-0280	FIGURE:
			Date	Aug., 10, 2017
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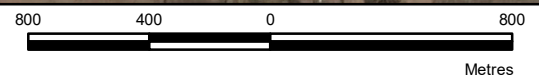


#### LEGEND

- Zoning Boundary
- Approximate Site Boundary
- Permit Boundary
- Local Road
- Major Road
- Watercourse
- Waterbody

#### REFERENCE

Basedata provided by the Ontario Ministry of Natural Resources, 2016.



CLIENT:			CORNWALL GRAVEL CO. LTD.		
PROJECT:			PLANNING RATIONALE - MacLEOD QUARRY		
TITLE:			SURROUNDING LAND USE		
McINTOSH PERRY 115 Walgreen Road, RR3, Carp, ON K0A1L0 Tel: 613-836-2184 Fax: 613-836-3742 www.mcintoshperry.com			PROJECT NO:	CP-16-0280	FIGURE:
			Date	Aug., 10, 2017	2
			GIS	JD	
			Checked By	DA	



### **3.0 PIT AND QUARRY PROPOSAL**

McIntosh Perry Consulting Engineers Ltd. (MPCE) was retained by Cornwall Gravel to provide professional services for licences under the ARA and to obtain associated development approvals. The concurrent ARA application proposes to license an area of 36.4 hectares for MacLeod III, and 40.5 hectares for MacLeod V with extraction areas of 29.8 and 32.4 hectares respectively. Specifically, the application is for a Category 2 Class “A” Quarry Below Water and Category 1 Class “A” Pit Below Water, in accordance with the ARA. Cornwall Gravel owns five large separately conveyable and abutting parcels of land, three of which are currently designated and licensed for aggregate extraction. These are known as MacLeod I, II, and IV.

Investigation of the overburden material on site demonstrates that depths range from approximately 0.4m to 17.6m for MacLeod III and 8.3m to 25.4m for MacLeod V. The material is generally composed of a dense boulder till with a silty sand matrix, to a dense and compact till with a sandy silt matrix with an intermittent gravel layer between these two units. It is estimated that there is 1,825,650m<sup>3</sup> at MacLeod III and 4,851,780m<sup>3</sup> at MacLeod V of overburden material within the proposed extraction areas. The total quantity of bedrock to be extracted is 21,940,285m<sup>3</sup> at MacLeod III and 21,088,560m<sup>3</sup> at MacLeod V. Extraction is to occur in stages beginning with the gravel overburden before limestone quarry operations, with progressive rehabilitation occurring at intervals as per ARA requirements. Final rehabilitation of the extracted quarry will include the formation of the pond, anticipated to stabilize at an elevation of approximately 58m ASL.

The haul route has been depicted on the Pit and Quarry Operations Plans (Appendix 1). The proposed operations are expected to split traffic approximately equally between the existing northern (Headline Road) and southern (South Branch Road) access and egress points along Plant Road. These roadways shall be equipped with lockable gates that shall be closed and locked outside of the hours of operations.

## **4.0 PLANNING CONTEXT**

### **4.1 Provincial Policy Statement**

Matters of provincial interest are expressed in Section 2 of the Planning Act, and through the provisions of the Provincial Policy Statement (2014) (PPS), outlined under Section 3 of the Act. Table 1 below provides a comprehensive summary of how the proposed pit and quarry operations are consistent with the policy direction provided by the Province.

Table 1: Provincial Policy Statement (2014)

Policy Section	Comments / Notes
<b>1.1.4 Rural Areas in Municipalities</b>	
1.1.5.2 On rural lands located in municipalities, permitted uses are: a) the management or use of resources; 1.1.5.5 Development shall be appropriate to the infrastructure which is planned or available, and avoid the need for the unjustified and/or uneconomical expansion of this infrastructure. 1.1.5.6 Opportunities should be retained to locate new or expanding land uses that require separation from other uses.	Aggregate extraction is a permitted resource use on rural lands.  The primary public infrastructure required is the road system for hauling aggregate material - refer to Traffic Impact Study prepared by McIntosh Perry Consulting Engineers (MPCE). The residential uses to the west and south of MacLeod III, as well as north of MacLeod V represent nearby sensitive land use; adequate separation distances for extraction are proposed, given mitigation measures recommended in the concurrently submitted technical studies related to noise, dust and vibration.
<b>1.2.6 Land Use Compatibility</b>	
1.2.6.1 Major facilities and sensitive land uses should be planned to ensure they are appropriately designed, buffered and/or separated from each other to prevent or mitigate adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term viability of major facilities.	Technical studies have been prepared to address the potential for adverse effects on sensitive land uses. The implementation of the recommendations of these studies will promote land use compatibility.
<b>1.7 Long-Term Economic Prosperity</b>	
1.7.1 Long-term economic prosperity should be supported by: b) optimizing the long-term availability and use of land, resources, ...	The subject properties are in an area of gravel and stone resources where extraction has occurred on adjacent lands for several years. Approval of the Official Plan and Zoning By-law Amendment applications will support economic prosperity by making aggregate resources available for extraction.
<b>2.1 Natural Heritage</b>	
2.1.2 The diversity and connectivity of natural features in an area, and the long-term ecological function and biodiversity of natural heritage systems, should be maintained, restored or, where possible, improved, recognizing linkages between and among natural heritage features and areas, surface water features and ground water features. 2.1.7 Development and site alteration shall not be permitted in habitat of endangered species and threatened species, except in accordance with provincial and federal requirements. 2.1.8 Development and site alteration shall not be permitted on adjacent lands to the natural heritage features and areas identified in policies 2.1.4, 2.1.5,	A Level 1 & 2 Natural Environment Assessment (NEA) report has been prepared by MPCE.  Areas of habitat for the Eastern Wood Pewee and the Monarch were identified by the NEA report and mitigative measures are proposed. Areas of suitable habitat for species at risk bats are not within the proposed extraction limits. Please refer to the NEA report prepared by MPCE.

Policy Section	Comments / Notes
and 2.1.6 unless the ecological function of the adjacent lands has been evaluated and it has been demonstrated that there will be no negative impacts on the natural features or on their ecological functions.	
<b>2.2 Water</b>	
2.2.1 Planning authorities shall protect, improve or restore the quality and quantity of water by: e) implementing necessary restrictions on development and site alteration to: 1. protect all municipal drinking water supplies and designated vulnerable areas; and 2. protect, improve or restore vulnerable surface and ground water, sensitive surface water features and sensitive ground water features, and their hydrologic functions;	A Hydrogeological Level 1 and 2 Study was completed by MPCE.
<b>2.5 Mineral Aggregate Resources</b>	
2.5.1 Mineral aggregate resources shall be protected for long-term use ... 2.5.2 Protection of Long-Term Resource Supply 2.5.2.1 As much of the mineral aggregate resources as is realistically possible shall be made available as close to markets as possible. Demonstration of need for mineral aggregate resources, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of mineral aggregate resources locally or elsewhere. 2.5.2.2 Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts. 2.5.3 Rehabilitation 2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration. 2.5.3.2 Comprehensive rehabilitation planning is encouraged where there is a concentration of mineral aggregate operations.	Redesignating the subject lands for resource extraction will ensure the protection of the resource for use over the long-term.  Extraction is to occur in accordance with recommendations of technical studies as indicated on the Operations Plan to ensure that negative impacts are minimized. A Rehabilitation Plan included with the licence application indicates the site will be progressively rehabilitated and the final rehabilitation will be an open pond as noted on the Site Plan. Progressive rehabilitation will follow the direction of operations and disturbed areas will be progressively rehabilitated as the resource is depleted. All existing buildings and structures erected during the operation will be removed. No internal haul roads will remain on the site. Where possible, natural vegetation will be allowed to take root around the pond.
<b>2.6 Cultural Heritage and Archaeology</b>	
2.6.1 Significant built heritage resources and significant cultural heritage landscapes shall be conserved.	An Archaeological Assessment was undertaken by Past Recovery Archaeological Services Inc. The study identified



Policy Section	Comments / Notes
2.6.2 Development and site alteration shall not be permitted on lands containing archaeological resources or areas of archaeological potential unless significant archaeological resources have been conserved.	a cemetery on the west side the MacLeod III lands. Separation distances and other measures are proposed.
<b>3.1 Natural Hazards</b>	
3.1.1 Development shall generally be directed to areas outside of: b) hazardous lands adjacent to river, stream and small inland lake systems which are impacted by flooding hazards and/or erosion hazards; 3.1.2 Development and site alteration shall not be permitted within: c) areas that would be rendered inaccessible to people and vehicles during times of flooding hazards, ..., unless it has been demonstrated that the site has safe access appropriate for the nature of the development and the natural hazard; and d) a floodway regardless of whether the area of inundation contains high points of land not subject to flooding.	The southern portion of MacLeod III lies within the identified flood plain of the Eastman Drain, a municipal drain. Flood Plain engineering investigations by MPCE have determined that the 1:100 year flood elevation is lower than noted on flood risk mapping, and therefore the flood line is further south than depicted. A cut/fill strategy is proposed at the south end of the MacLeod III property to maximize aggregate extraction and to prevent impact on the flood plain.
3.1.4 Despite policy 3.1.2, ... site alteration may be permitted in certain areas associated with the flooding hazard along ... stream ... systems:  b) where the development is limited to uses which by their nature must locate within the floodway, including flood and/or erosion control works or minor additions or passive non-structural uses which do not affect flood flows.	The high-quality limestone resource area overlaps with an area of shallow flooding under 1:100 flood conditions, which means there are potentially differing policy interests to be regarded and addressed (see Part III of PPS as noted below). A Flood Plain Memorandum and associated engineering plans have been prepared by MPCE for a cut and fill balance in the flood plain to address health and safety concerns.
Part III: How to Read the Provincial Policy Statement  The provincial policy-led planning system recognizes and addresses the complex interrelationships among environmental, economic and social factors in land use planning. The Provincial Policy Statement supports a comprehensive, integrated and long-term approach to planning, and recognizes linkages among policy areas.  Read the Entire Provincial Policy Statement	These statements are provided in the PPS to help planning efforts balance competing interests, as in this case where both Sections 2.5 and 3.1 must be factored to determine what constitutes good planning. Understanding that the primary intent of Section 3.1 is to ensure public health and safety, a Flood Plain Memorandum and engineering plans have been prepared by MPCE to demonstrate that resource extraction can occur within the area of modified flood plain without any negative upstream or downstream impacts.

Policy Section	Comments / Notes
The Provincial Policy Statement is more than a set of individual policies. It is to be read in its entirety and the relevant policies are to be applied to each situation. When more than one policy is relevant, a decision-maker should consider all of the relevant policies to understand how they work together. The language of each policy, including the Implementation and Interpretation policies, will assist decision-makers in understanding how the policies are to be implemented. While specific policies sometimes refer to other policies for ease of use, these cross-references do not take away from the need to read the Provincial Policy Statement as a whole. There is no implied priority in the order in which the policies appear.	

## 5.0 OFFICIAL PLAN

The subject properties are currently designated “Extractive Resource Lands (Mineral Aggregate Reserve)” on the Land Use Schedule A4 to the Official Plan for the United Counties of Stormont, Dundas and Glengarry (County OP). The only exception being an area of approximately the southern one fifth of the MacLeod III lands designated “Rural District.” All lands between MacLeod III and V, also owned by Cornwall Gravel, are designated “Extractive Resource Lands (Licensed Pit and Quarry).” Lands to the west of MacLeod III, and south and east of MacLeod V are designated “Rural District.” To the north of both MacLeod III and V are lands designated “Agricultural Resource Lands.” The proposed Official Plan amendment (OPA) seeks to redesignate both properties to “Extractive Resource Lands (Licensed Pit and Quarry).”

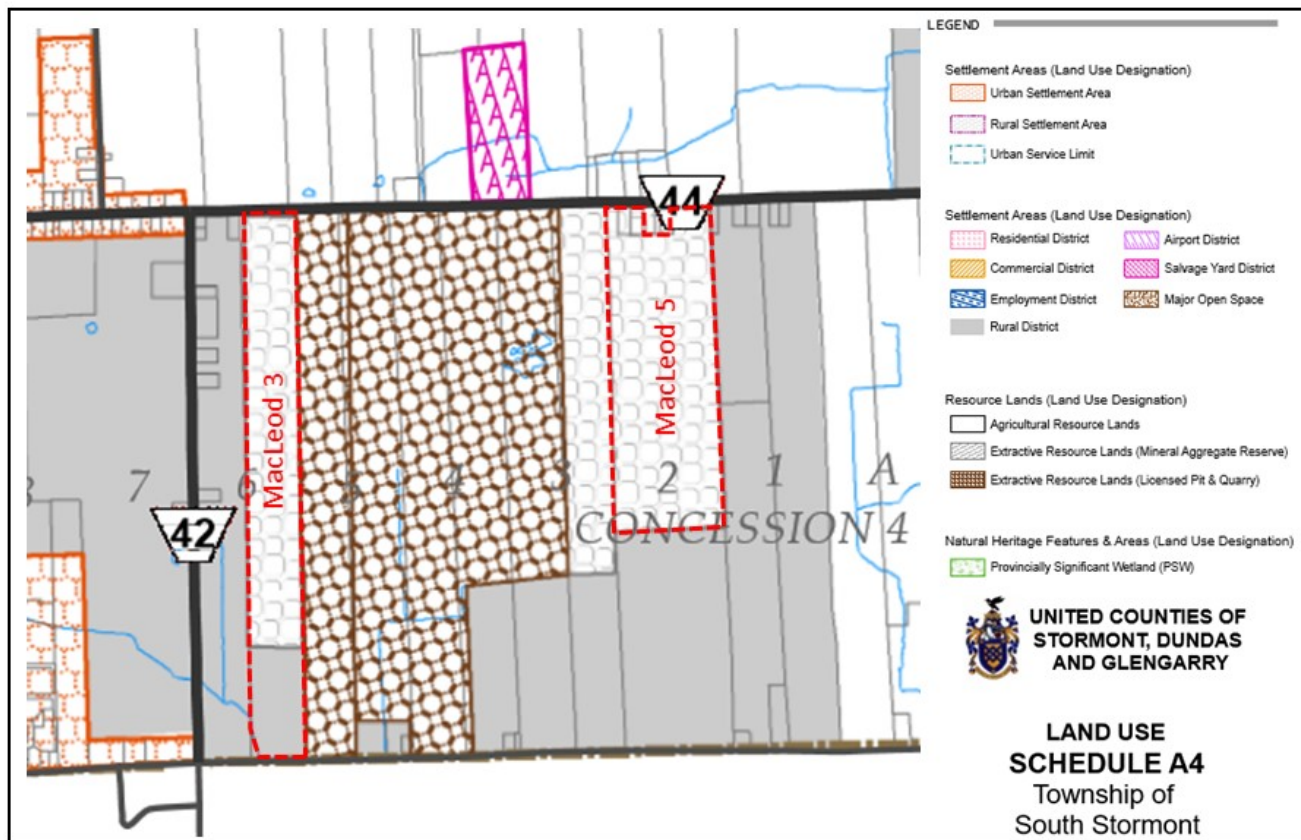


Figure 3: County Official Plan Land Use Schedule

The Constraints Plan, Schedule B4 to the County Official Plan, shows both MacLeod III and V lands as “Extractive Resource Lands (Bedrock Overlay)” except the southern approximately one fifth of the MacLeod III lands. That same portion of MacLeod III generally coincides with an area of the property lying within the “Regulatory Floodline” overlay. The large majority of the MacLeod V lands also lies with the “Woodlands” overlay.



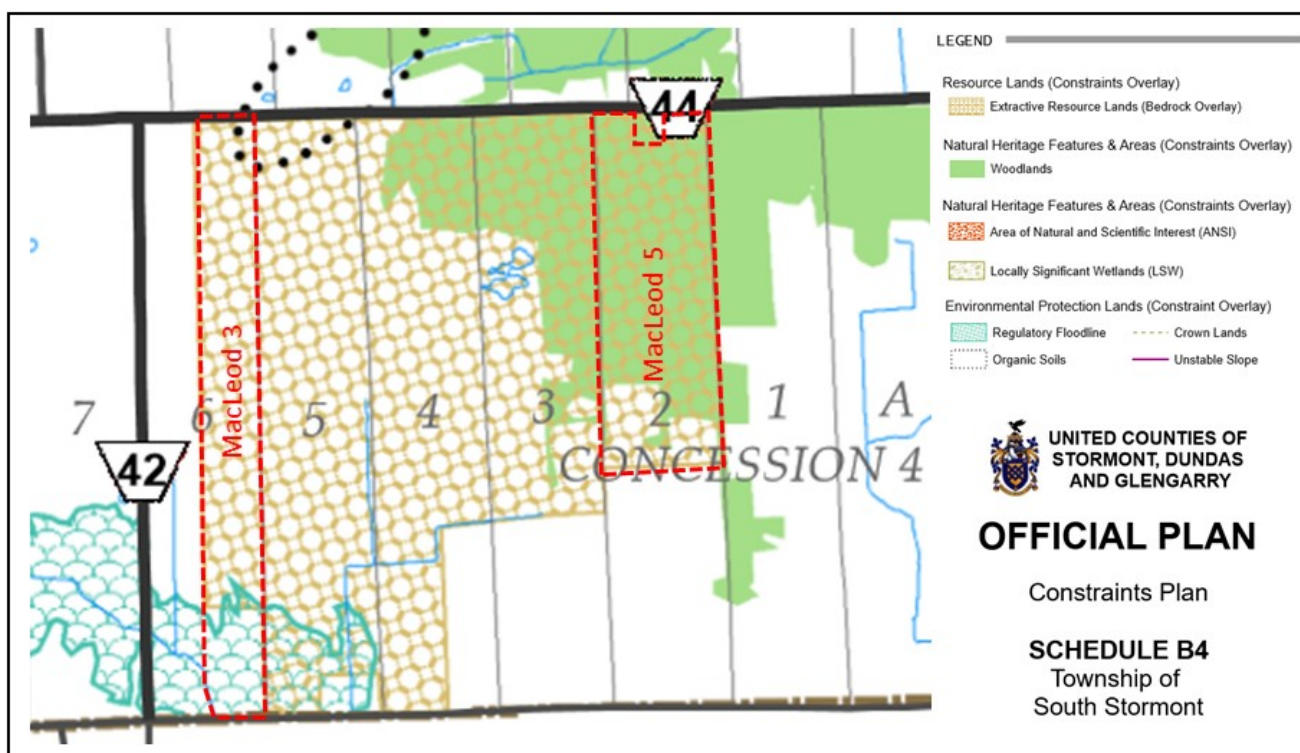


Figure 4: County Official Plan Constraints Plan

Section 2 “Purpose and Basis” of the Official Plan states in Paragraph 5 Resources that “sand and gravel resources in the County that are classified as being of primary significance [...] are considered to be limited.” The Official Plan notes that bedrock resources are estimated at 17,419 million tonnes occupying an area of 36,533 ha, however “existing settlement patterns, other natural features and significant wetlands may be a constraint to accessing the resource.” The subject lands lie within one of four physiographic regions that have been identified as the primary sources for mineral aggregates, and “...warrant foremost consideration for protection.”

Table 2: County Official Plan

Policy Summary (paraphrased)	Notes and Comments
<b>3.06.6 Planning Principles</b>	
<b>1. Adequate Lot Size</b> The lot size shall be adequate for all existing and proposed or potential future land uses including the expansion of buildings and structures. The lot shall be adequate for all setbacks, parking and loading facilities, storage and display areas, signs, lighting, landscaping, buffering or screening, infrastructure and safe access and egress, where these requirements apply. Where appropriate, the approval authority shall require appropriate studies (e.g.	<p>The two subject properties are of a sufficient size for the intended use and any necessary landscaping, buffering and screening as required by the OP, ARA, and as recommended in the various technical studies.</p> <p>All required studies by the OP and ARA have been completed, as summarized later in this report.</p>

Policy Summary (paraphrased)	Notes and Comments
<p>servicing options report, geotechnical study or hydrogeological study and terrain analysis), to support the lot size proposed and to ensure that there will be no negative impacts on groundwater quality and quantity, neighbouring wells etc.</p> <p>2. Servicing Capacity (n/a)</p> <p>3. Frontage and Access</p> <p>All uses shall have frontage on and direct access to an open and maintained year round public road. ... Any new development which proposes access to or fronts on a public road (Provincial Highway, County or Local Road) must satisfy all requirements of the authority(ies) having jurisdiction. Further, the proposed access should not negatively impact upon the safety and efficiency of any type of public or private road. (See also Section 4.06.6 - Transportation.)</p> <p>4. Measures for Landscaping, Buffering, Screening and Land Use Compatibility</p> <p>A primary planning principle is to promote land use compatibility and to encourage compatible land uses to locate adjacent to each other. ... As a measure to promote land use compatibility, landscaping, buffering, screening or other attenuation measures shall be used to mitigate adverse effects, noise, visual impacts and conflicts between land uses; and may also be used to improve aesthetics .... Landscaping, buffering screening or attenuation measures may include setbacks, berms, fencing, vegetation, natural land forms or a combination of these measures. Proper site planning will also be used to promote compatibility ....</p> <p>5. Separation Distances and Influence Areas</p> <p>Municipalities shall have regard for the recommended separation distances and/or influence areas as set out by the Ministry of the Environment (guidelines) for ... mineral aggregate reserves (Section 5.06.4.2), as they apply between such land uses and any sensitive land uses or non-compatible land uses (reciprocally), or water body. Such Separation distances shall be incorporated into any implementing zoning By-Law (see list of reference documents at the end of Section 3). Development may be permitted within any influence area where a Municipality is satisfied by a technical study or equivalent evidence that any adverse effect can be</p>	<p>A Traffic Impact Study has been completed by MPCE. Proposed operations are expected to split traffic between the existing northern (Headline Road) and southern (South Branch Road) access and egress points – along Plant Road. These roadways will have lockable gates.</p> <p>Site Plans prepared under the ARA identify various landscaping and buffering measures as determined by noise, blasting and other technical investigations. For example, berms will be constructed at the perimeter of the site for noise attenuation and visual screening. As well, the blasting studies recommend active blast monitoring and ongoing review of blast design, including the involvement of a qualified blast consultant when extraction approaches 250m from off-site structures/residences, to ensure nearby sensitive land uses are adequately protected.</p> <p>The recommendations of technical studies completed in support of the proposed pit and quarry operations will be incorporated into site-specific zone provisions, wherever practicable.</p>

Policy Summary (paraphrased)	Notes and Comments
<p>satisfactorily attenuated or mitigated or that there will be no adverse effects. ...</p> <p>6. Accessible Communities (n/a)</p> <p>7. Zoning Provisions ... to classify individual types of land use ... and to set out the zone requirements for development.... Provision may be made to govern outdoor storage and display areas and for landscaping, buffering or screening to avoid land use conflicts ...</p> <p>9. Environment Approvals</p> <p>Environmental approvals shall be obtained where required from the public authority having jurisdiction... This Plan promotes design and development which serves to protect or enhance the natural environment, the conservation of ecosystems and designing with nature or 'green' planning. Particular efforts should be made to retain significant woodlands and tree cover, wetlands, valleylands, scenic views, unique landforms, wildlife habitats in both urban and rural settings.</p> <p>10. Community Improvement (n/a)</p>	<p>Refer to the Level 1 &amp; 2 Natural Environment Assessment (NEA) report prepared by MPCE.</p>
<b>4.06.4 Stormwater Management</b>	
<p>Development in ... rural areas can change existing conditions such that the quantity and quality of stormwater run-off is altered. Stormwater management considers both water quantity and quality aspects of stormwater run-off where artificial drainage improvements or practices become necessary. The protection and rehabilitation of stream corridors and erosion control along water courses are best approached through an integrated strategy and best management practices.</p> <p>1. Stormwater management shall be integrated as a component of the development approval process,...</p> <p>2. Stormwater management shall incorporate an ecosystem approach through the design, construction and post-construction phases. Ecological functions, particularly fish habitat, will be conserved or enhanced on a local and sub-watershed basis.</p> <p>3. Stormwater management plans shall be considered as an opportunity to rectify existing nutrient, contaminant, erosion or hydraulic flow issues. Stormwater management planning should include water quality targets.</p> <p>4. In the design and construction of stormwater management infrastructure best management</p>	<p>Some areas draining to Eastman Drain will drain into the quarry sump and be pumped back into the ditch. Potential impacts on water bodies will be managed to meet municipal, conservation authority and other regulatory agency requirements. Grading will direct surface water away from the quarry, and toward surface water features.</p> <p>Interaction between local wetland features and groundwater in the bedrock unit is expected to be negligible, and impacts to off-site wetland features can be prevented by site grading and development controls.</p>



Policy Summary (paraphrased)	Notes and Comments
<p>practices shall be used to ensure: A. That post-development flows, particularly in receiving streams, are maintained at pre-development levels and that the cumulative impacts of development (within the sub-watershed) are considered as part of stormwater infrastructure design. B. The natural characteristics and quality of water of the receiving streams are maintained or enhanced including sediment control, riparian vegetation and thermal conditions. That there will not be any new or increased downstream flooding or erosion. D. That natural habitat areas are protected or enhanced or restored. E. That a construction mitigation plan is instituted to prevent stream borne sediments, changes in flow or other adverse characteristics from affecting the ecological functions or other impacts on receiving waters during construction. F. That the post construction phase shall include rehabilitation, continued maintenance or infrastructure and preferably, a monitoring program. G. Stormwater management infrastructure may be incorporated into parks and open space or green space within and between communities or may be integrated with a wetland complex.</p> <p>5. Stormwater management shall incorporate consideration for groundwater recharge and discharge and ensure that groundwater is not negatively impacted. ...</p>	<p>Refer to Hydrogeological Level 1 and 2 Study prepared by MPCE.</p>
<b>4.06.6 Transportation</b>	
<p>3. Township Roads</p> <p>... Traffic studies may be required by a Local Municipality as a pre-requisite to the approval of any new access or a change to an existing access or intersection, or intersection spacing with a local road.</p> <p>...</p>	<p>Refer to Traffic Impact Study prepared by MPCE.</p>
<b>SECTION 5 - RESOURCE MANAGEMENT</b>	
<b>5.06.2 Scope of Uses and Application</b>	
<p>Extractive Resource Lands – Permitted Uses:</p> <ul style="list-style-type: none"> <li>• Mineral aggregate operation</li> <li>• asphalt and concrete plants, mineral aggregate processing facilities and administration buildings or structures</li> <li>• Wayside Pits or Quarries</li> <li>• Agricultural uses</li> <li>• Forestry use or woodlands</li> </ul>	<p>The proposed uses are all among the list of permitted uses.</p>

Policy Summary (paraphrased)	Notes and Comments
<ul style="list-style-type: none"> <li>• Conservation use</li> <li>• Natural heritage features and areas</li> <li>• Outdoor recreation use excluding buildings</li> <li>• Peat extraction and associated accessory uses and value-added peat resource-related industries</li> <li>• Existing dwellings</li> <li>• Legally existing uses, buildings or structures</li> </ul>	
<b>5.06.4 Extractive Resource Lands</b>	
<p>1. Scope of Permitted Uses and Land Use Designation ... Lands designated as Extractive Resource Lands on the Land Use Schedules include licensed pits and quarries, and aggregate reserves (sand and gravel). These lands shall be protected for their mineral resource value. Bedrock resources, which are identified on a separate Land Use Schedule are identified as a constraint overlay. It is the intent of this Plan that they be protected wherever feasible by directing permanent development (e.g. buildings) away from these areas. In evaluating bedrock resources, regard shall be given to delineation of bedrock resources and the rating as illustrated by the Ontario Geological Survey, Aggregate Resources Paper, 1997 i.e. Three levels of significance. Where these bedrock resource areas are proposed to be licensed for extraction, however, an amendment to this Plan shall be required. Such lands will then be considered as a land use designation and the relevant policies of this section of the Plan shall apply. The boundaries shown as bedrock resources are a general indication of where bedrock exists. ...</p> <p>2. Licensing, Operations, Separation Distances and Influence Areas Mineral aggregate operations shall be subject to the requirements and approvals provided for under the Aggregate Resources Act. This shall include any separation distance that may be imposed under a license issued under the Act or a separation distance imposed from a mineral aggregate reserve. Local Municipalities may institute additional controls, where appropriate (e.g. designating haul routes, controlling entrance and exit locations, noise</p>	<p>Bedrock resources on the subject lands are identified on the OP schedules.</p> <p>MacLeod III and V lands are the subject of concurrent OPA and ZBA applications.</p> <p>Concurrent ARA applications are being submitted to the MNRF, which will address haul routes, noise, etc.</p>

Policy Summary (paraphrased)	Notes and Comments
<p>abatement, and hours of operation) and where they are authorized under provincial statutes.</p> <p>It is a policy to establish influence areas as a means to avoid incompatible land uses. The influence area is an area where impacts may occur or be experienced from mineral aggregate operations. Consequently, the intent of the policy is to determine the impacts and to assess whether they can be mitigated to an appropriate level when measured against provincial standards. The influence area applies between a sensitive land use and an extractive operation or vice versa. Specific buffer distances or setbacks may be established after impacts are assessed within the influence area. For the purposes of this Plan, the following influence areas shall apply as a guideline between the specified land use and any sensitive land use: Land Use Influence Area Pit and sand and gravel reserve 150 m (492.1 ft.) - above the water table 300 m (984.2 ft.) - below the water table Quarry and bedrock reserve 500 m (1,640 ft.)</p> <p>... Development will not be permitted on or adjacent to Extractive Resource Lands which would preclude or hinder access to the resource, the expansion or continued use of the resource or which is incompatible for reasons of public health or safety or environmental impact. ...</p> <p>3. New or Expanding Pit or Quarry</p> <p>When considering the establishment of a new pit or quarry or the expansion of an existing licensed pit or quarry, or an amendment to the Land Use Plan to redesignate lands for a pit or quarry, the following criteria shall apply:</p> <p>A. a zoning By-Law amendment will be required for the extraction area. The applicant shall demonstrate that the amount of land proposed for the rezoning or re-designation, while meeting the needs of the industry, shall not be excessive in size.</p> <p>B. a Local Municipality shall be satisfied that off-site impacts such as noise, truck volumes, traffic safety and noise issues are effectively addressed and that measures for mitigation can be appropriately implemented.</p> <p>C. a Local Municipality shall be satisfied that off-site water quality and quantity shall not be compromised and that the cumulative impacts of adjacent extractive operations have been considered such as</p>	<p>The proposal includes separation distances between aggregate operations and sensitive land uses that are within applicable influence areas established by the Official Plan. Accordingly, the proposed separation distances have been considered within the technical studies concerning such matters as noise and vibration and mitigation measures proposed will be incorporated into the OPA and site-specific zone provisions of the ZBA wherever practicable.</p> <p>OP policies ensure future sensitive land uses are not located near the proposed pit and quarry operations such that adverse impacts may result.</p> <p>The subject lands will be appropriately zoned for the proposed pit and quarry uses. Technical studies, as summarized in this report, have been prepared to address these policy requirements as well as those of the ARA, including future site rehabilitation.</p>



Policy Summary (paraphrased)	Notes and Comments
<p>the impact on groundwater and surface water resources, natural heritage features and municipal and County road systems.</p> <p>D. Measures shall be provided for rehabilitation and/or closure plans as required under the Aggregate Resources Act. The proponent shall design the rehabilitation and/or closure plan with the objective of enhancing the natural environment, where applicable. Plans shall show provisions for landscaping, drainage, final elevations, buildings and final slope gradients. Long term monitoring plans shall be provided, where required.</p> <p>4. Zoning Pits and quarries, licensed/authorized under the Aggregate Resources Act, shall be zoned for extraction and associated accessory uses in the zoning by-law, generally, to the extent of the Aggregate Resources Act license boundary.</p> <p>The lands within the Extractive Resource Lands designation which are not zoned for a pit or quarry shall be placed in an appropriate zone category by a Local Municipality to protect the lands from sterilization by new development. ...</p> <p>... An amendment to the zoning will be required prior to the establishment of a new pit or quarry and the expansion of an existing licensed boundary under the Aggregate Resources Act...</p> <p>5. Measures for Landscaping, Buffering and Screening  Landscaping, buffering, screening or other attenuation measures shall be used to mitigate adverse effects, noise, visual impacts, improve aesthetics or to address land use conflicts between extractive resource operations and other land uses. This may include setbacks, berms, fencing, vegetation, natural land forms or a combination of these measures.</p> <p>9. Resource Conflict  Where there is a conflict between an extractive resource use and a natural heritage feature and area such as a provincially significant wetland and/or the significant portions of the habitat of an endangered species or threatened species, the conservation or protection of these specified natural heritage features and areas shall take precedence. For other types of natural heritage features and areas, an Impact Assessment shall be required as set out in Section 5.06.5.7 in determining whether and under</p>	<p>Measures are recommended in technical reports summarized below.</p> <p>Field investigations noted a small deciduous swamp on MacLeod III lands, and four unconnected wetland areas within MacLeod V. Refer to the Level 1 &amp; 2 Natural Environment Assessment (NEA) report prepared by MPCE.</p>

Policy Summary (paraphrased)	Notes and Comments
what measures, the extractive resource use may occur.	
<b>5.06.5 Natural Heritage Features and Areas</b>	
<p>2. Adjacent lands Development and/or site alteration may be permitted on adjacent lands to a natural heritage feature or area where a Local Municipality is satisfied that there will be no negative impacts on the natural features or the ecological functions for which the area is identified. ... For the purposes of this Plan, the following constitute the adjacent lands for the respective feature or area:</p> <ul style="list-style-type: none"> <li>• 50 m (164 ft.) from the significant portions of the habitat of an endangered species or threatened species</li> <li>• 15 m (49.2 ft.) from the seasonal high water mark for fish habitat</li> <li>• 50 m (164 ft.) from the boundary or limit of a significant woodland ...</li> <li>• 50 m (164 ft.) from significant wildlife habitat</li> </ul> <p>... An Impact Assessment shall apply to any development and/or site alteration [see Section 5.06.5.7] on adjacent lands. The Impact Assessment (study) shall include a professional opinion on whether negative impacts on the natural features and ecological functions will occur, the significance of such impacts, and whether ongoing monitoring is required. Planning tools e.g. zoning, site plan control, site alteration by-laws, and/or environmental approvals etc. may be used to implement measures for mitigating negative impacts, where appropriate.</p> <p>4. Woodlands A. Woodlands shown on the Land Use Schedules as a constraint overlay represent the wooded areas deemed significant ... B. ... The intent of this Plan is to conserve woodlands, wherever possible through the use of an overlay constraint approach whereby the land uses permitted in the underlying land use designation may be permitted subject to the following development criteria: I. Commercial timber operations (n/a)... II. Agricultural uses (n/a)... III. Rural uses ... will generally be directed away from woodlands except for uses which demonstrate a dependency on the resource for their business ... Where it is necessary for a nonresidential use to be located in or on adjacent lands to woodlands (within</p>	<p>Refer to the Level 1 &amp; 2 Natural Environment Assessment (NEA) prepared by MPCE</p> <p>An unnamed tributary of Eastman Drain located in the southwest corner of MacLeod III is fish-bearing. In-water timing restriction prohibits in-water works from March 15 to June 30 of any year. No fish habitat is present on MacLeod V.</p> <p>The County OP identifies Significant Woodlands in the vicinity of MacLeod III and V. Large sections of the subject areas have been previously cleared. No rare plant species or vegetation communities were observed during site visits, save Butternut as detailed in the NEA report. A total of 13 butternut trees were identified on the MacLeod V property. A notice of butternut impact form under Section 23.7 of O.Reg. 242/08 was submitted to MNRF on July 19, 2017 by Bowfin Environmental and a Confirmation of Registration was received which allows the kill, harm or take of the ten (10) Category 2 trees identified on the property. Three (3) additional trees were also assessed during the June 15, 2017 BHA conducted by Bowfin Environmental Consulting and were found to be Category 1 trees which are not</p>

Policy Summary (paraphrased)	Notes and Comments
<p>50 m/164 ft.), such uses shall be required to undertake an Impact Assessment which includes consideration for the significance of the vegetative communities, age, height and species composition, tree health, potential for water table changes, the value to wildlife habitat, the protection of wildlife corridors, maintaining uniqueness of the woodland stand and sets out measures, where applicable, for sustaining the woodland ecosystem.[see Section 5.06.5.7]. As a condition of development, this assessment may include the preparation and implementation of a tree conservation plan. The tree conservation plan and other forest conservation measures may be implemented through the use of site plan control and a site alteration by-law.</p> <p>7. Impact Assessment</p> <p>An Impact Assessment (IA) shall be prepared in support of a planning application ... for an Official Plan amendment, zoning By-Law amendment... Where the impact of the development and/or site alteration cannot be mitigated, it will not be permitted.</p>	<p>afforded protection under the ESA and its regulations. Based on this, it is not anticipated that development of this site will result in impacts to the species or its habitat.</p>
<b>SECTION 6 – PUBLIC HEALTH AND SAFETY</b>	
<b>6.06.1 Natural Hazards</b>	
<p>1. Introduction</p> <p>...In general, development on hazardous lands will only be permitted in exceptional circumstances ... and only where adequate study has been undertaken and provisions are made to meet the applicable requirements of Sections 6.06.1, 3-6, 8 and 10. Specifically, development proposals located in or adjacent to an environmental constraint should be accompanied by a site plan, which in addition to the requirements of Section 8.14.10 should include: the location of any fill imported onto the site; the existing and final contours at 0.5 m (1.64 ft.) intervals; erosion and siltation control procedures; and, the exact location of the engineered flood line and flood line elevations.</p> <p>3. Fill, Construction and Alteration to Waterways</p> <p>Regulations under the Conservation Authorities Act shall be used to govern the placing or dumping of fill, the straightening, changing, altering, diverting or interfering with an existing channel, stream or waterway or the construction of any buildings or structures within the areas defined by those regulations for the Raisin Region Conservation</p>	<p>MPCE flood plain engineering investigations, completed in consultation with the Raisin River Conservation Authority, determined that the precise flood plain elevation applicable to MacLeod III lands is lower than shown on regulatory flood risk mapping. A cut/fill strategy is proposed at the south end of the MacLeod III property to maximize aggregate extraction and to prevent impact on the flood plain. Please refer to the concurrently submitted technical reports.</p> <p>Accordingly, the proposed OPA will include an amendment to the Land Use Schedule A4 to redesignate a portion of the “Rural District” lands to “Extractive Resource Lands” to generally follow the revised flood line. In addition, the Constraints Plan Schedule B4 is proposed to be amended to more accurately delineate the “Regulatory Floodline.”</p>



Policy Summary (paraphrased)	Notes and Comments
<p>Authority and the South Nation Conservation Authority. A permit shall be obtained from the respective authority prior to the issuance of a building permit.</p> <p>6. Access Standard</p> <p>In the design and development of any hazardous lands provision shall be made to ensure that people and vehicles can access and exit or be safely evacuated in times of an emergency ...</p>	
<b>SECTION 7 - HERITAGE</b>	
<b>7.06 Implementation</b>	
<p>1. Development Applications and Infrastructure Works (Public Works)</p> <p>In reviewing an application for a zoning amendment, ... consideration shall be given to the possible effects and impacts of such works on a known heritage resource or on an area of archeological potential ...</p>	<p>Stage 1 Archaeological Assessments were completed by Past Recovery Archaeological Services. For MacLeod III, the study found a small graveyard in the east half of Lot 6, and evidence of 19th century quarrying for building stone. The cemetery area will be excluded from lands designated and zoned for extraction. For MacLeod V, the study determined the area does not exhibit characteristics conducive to archaeological resources.</p>

## 6.0 ZONING BY-LAW

The MacLeod III property is zoned “Mineral Extraction, Reserve Special Exception Two (MXR-2).” The special exception provisions prohibit new buildings within 150 metres of lands zoned “Mineral Extraction, Quarry Special Exception One (MXQ-1)”. Part of MacLeod III at the south end next to the Eastman Drain is zoned “Flood Plain (FP).” There is also a small area on the west side of the property that is zoned “Rural (RU)” recognizing the small cemetery noted in the Archaeological study. MacLeod V lands are currently zoned “Mineral Extraction, Reserve (MXR).” Lands surrounding both properties are generally Rural to the south, east and west, and “Agricultural” to the north (refer to Figure 5).

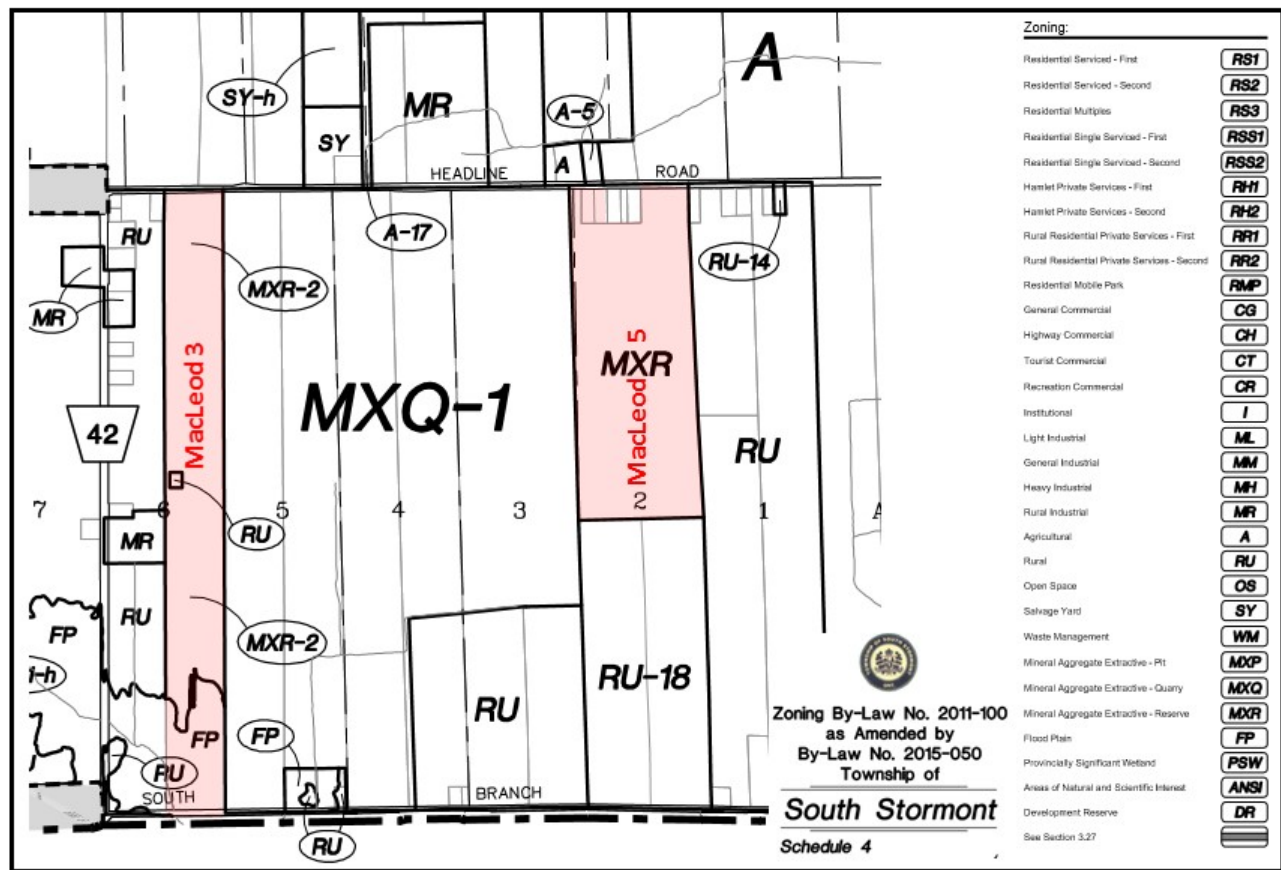


Figure 5: Township of South Stormont Zoning

To implement the proposed OPA, a concurrent application to amend the Township's Zoning By-Law is being made to rezone the property from MXR-2 on MacLeod III and MXR on MacLeod V, to both being zoned Mineral Aggregate Extractive – Quarry Special Exception @ (MXQ-@). The special exception is to establish unique setback requirements in the By-Law to implement recommendations of technical studies. The proposed amendment also proposes to amend Schedule 4 to the By-Law redrawing the Flood Plain (FP) zone boundary to reflect the recent flood plain engineering investigations that have established a lower flood elevation (refer to Flood Plain Memorandum), together with the proposed cut/fill strategy. In addition, the western zone boundary for the MacLeod III lands will be modified slightly to more accurately exclude an existing historic cemetery currently zoned Rural (RU).

The permitted uses and provisions of the general MXQ zone are noted in the excerpt below from the By-Law:

## SECTION 12

## MINERAL RESOURCE ZONES

### 12.2 Mineral Extraction, Quarry (MXQ) Zone

(a) Permitted Uses:

- aggregate recycling facility;
- agricultural uses excluding buildings or structures;
- asphalt batching plant
- concrete batching plant;
- conservation use, excluding buildings;
- forestry uses, excluding buildings or structures;
- pit;
- portable asphalt plant;
- quarry;

(b) Zone Requirements:

Lot Area (minimum)	10 ha	(24.7 ac.)
Lot Frontage (minimum)	30 m	(98.43 ft.)
Yard Requirements (minimum)		
All Yards adjacent to public roads	30 m	(98.43 ft.)
All Other Yards	15 m	(49.21 ft.)
Lot Coverage (maximum)	10%	
Building Height (maximum)		
Main Building	20 m	(65.62 ft.)
Accessory Building	5 m	(16.4 ft.)

(c) Any new MRQ Zone shall be established with regard to Section 3.31 of this By-law

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Township of South Stormont Zoning By-Law No. 2011-100

The proposed MXQ-@ zone will maintain the same list of permitted uses and development standards as the general MXQ zone.

The licensed lands owned by Cornwall Gravel that lie between MacLeod III and V are in a site-specific MXQ-1 zone. The MXQ-1 permitted uses and regulatory standards are the same as the general MXQ zone. The special exception provision is a unique separation distance applicable to sensitive land uses within 150 metres of the MXQ-1 lands, notwithstanding the provisions of Section 3.31 of the By-Law to the contrary. The MXQ-1 zone details where the separation distances are to be measured from to ensure a distance of at least 150 metres from a sensitive land use is maintained. Given the precise descriptions given, the MXQ-1 zone cannot be further applied to, or expanded to include, MacLeod III and V lands to achieve the same objective. Section 3.31, part of the By-law's General Provisions section, restricts development within 500 metres of lands zoned MXQ, with some exceptions, including development on existing lots of record, for example. It is important to point out that the intention of Section 3.31 is to *restrict* development within the specified area of influence – it is not to *prohibit* development. This interpretation is consistent with the overarching County OP Policy 5.06.4.2, which establishes that the "influence area is an area where impacts may occur or be experienced from mineral

aggregate operations.” The intent of the policy is to “determine the impacts and to assess whether they can be mitigated to an appropriate level when measured against provincial standards.” Given that the proposal involves establishing the MXQ zone on lands in close proximity to existing development, technical assessment of impact and compatibility – as undertaken in relation to the proposal – is warranted.

The extraction limits proposed on the Operations Plan to be approved under the ARA were established to ensure that a minimum separation distance of 110 metres would be maintained from adjacent roadways (Headline Road and South Branch Road) and nearby dwellings, including 17555 South Branch Road and 17550 Headline Road, 17764 Headline Road, and 17820 Headline Road.

To ensure that these separation distances will be captured within the amending zoning by-law, provisions referencing both the ARA Operations Plan and describing the limits of extraction are suggested:

**MacLeod III:** *The 110 m separation distance shall be measured from and to a line 110 m south of the Headline Road allowance for a distance of 103.8 m westerly from the Lot 5/Lot 6 boundary, then in a generally southwesterly direction for a distance of 87.2 m to a point on the line dividing the east and west halves of Lot 6 and located 159.5 m south of the Headline Road allowance, and then southward along a line 15 m east of and parallel to the line dividing the east and west halves of Lot 6, and then to a line corresponding to the boundary of the MXQ-@? zone where it abuts the lands zoned Flood Plain (proposed new FP boundary) of the Eastman Drain. For the purposes of illustration and interpretation, the 110m setback on the north, west, and south sides is measured from the extraction limit as identified on the Operations Plan approved under the Aggregate Resources Act.*

**MacLeod V:** *The 110 m separation distance shall be measured from and to a line 175 m south of the Headline Road allowance, and from a line 15 m west of and parallel to the line between Lots 1 and 2, and from a line 15 m north of and parallel to the line dividing the north and south halves of Lot 2. For the purposes of illustration and interpretation, the 110m setback on the north, east, and south sides is measured from the extraction limit as identified on the Operations Plan approved under the Aggregate Resources Act.*

As expressed within the suggested provisions, the minimum separation distances would also apply to any proposed off-site dwellings.

The extraction limits permit extraction to occur within the 150 metre objective of the MXQ-1 zone. According to the Blast Impact Assessment, advances in technology and approaches to blasting and quarry operations in recent years will ensure that negative impacts are minimized at these closer distances.

## 7.0 PRE-SUBMISSION CONSULTATION

A pre-submission consultation meeting was held August 16, 2016. Participants included County and Township Planning staff, Ministry of Transportation (MTO) staff by phone, Raisin River Conservation Authority staff, representatives for Cornwall Gravel, and MPCE staff acting as agents for Cornwall Gravel. The purpose of the meeting was to outline Cornwall Gravel’s intentions for development, present preliminary findings of technical studies, and confirm expectations in terms of additional studies and reports for deeming planning applications



complete. The process for coordinating municipal planning and ARA approvals was also discussed, including the coordination of public meetings.

## **8.0 TECHNICAL REPORTS**

### **8.1 Natural Environment Assessment Level 1 and 2 Report:**

MPCE has conducted a Level 1 & 2 Natural Environment Assessment of the subject properties, which included a comprehensive desktop analysis, and field investigations on September 13, 2016 and November 1, 2016. Background information was collected from the Ministry of Natural Resources and Forestry (MNRF). The unnamed tributary of the Eastman Drain located in the southwest corner of MacLeod III is known to contain a variety of fish species. In-water timing restriction for this watercourse prohibits works from March 15 to June 30 of any year. Field investigations verified that no fish or fish habitat were present on MacLeod V; some species were identified within the unnamed tributary to the Eastman Drain within MacLeod III.

As noted, the County OP identifies Significant Woodlands within the general vicinity of the MacLeod III and MacLeod V. Much of these areas have been previously cleared. No rare plant species or vegetation communities were observed on MacLeod III or V lands during site visits, except Butternut as detailed in the report.

Significant Wildlife Habitat has not been identified by the MNRF on or within 120m from the MacLeod III or MacLeod V, however MNRF requested that an evaluation of Significant Wildlife Habitat be completed and mapped accordingly. Two provincially listed species of Special Concern, the Eastern Wood Pewee and the Monarch, were observed during field investigations. Suitable habitat for the Monarch is limited to the area of Meadow habitat present within MacLeod III which is expected to remain intact as it lies within the setback areas of the quarry. The Eastern Wood-Pewee is known to use edge habitat, but forest parcels containing interior forest habitat are generally considered higher quality habitat for the species. At this time it is unknown whether Significant Woodlands within this parcel represent Candidate Significant Wildlife Habitat for the species.

MNRF identified several unevaluated wetlands on and within 120 metres of the MacLeod III and V sites. MNRF requested wetland evaluations for all unevaluated wetlands, or for all unevaluated wetlands to be treated as Provincially Significant Wetlands. Field investigations noted a small (0.22 hectare) wetland area in the northern portion of the MacLeod III study area. Four separate wetland habitat areas exist within the MacLeod V lands that are separated from one another and are all identified as deciduous swamp habitat. Two of the wetland areas are entirely within the subject lands, while the other two are along the eastern boundary. Investigations also revealed that suitable habitat for numerous species at risk exists within the study area boundaries as noted in the report. If present, suitable mitigation measures will be prescribed and all current legislative requirements will be followed to ensure impacts to species at risk bats are avoided or minimized.

## **8.2 Hydrogeology Study Hydrogeological Level 1 and 2 Study**

A Hydrogeological Level 1 and 2 Study was prepared by MPCE for the subject properties to determine the suitability of the site for the proposed aggregate extraction operation from a hydrogeological perspective. Impacts to surrounding water supply wells, natural features, surface water bodies, and drainage patterns were considered. Mitigation measures for the protection of surface water and groundwater quality were considered based on the findings of the study. The study found most surrounding water supply wells in the area are in the upper fractured bedrock, considered hydraulically connected to the lower glacial till. Monitoring wells were drilled at various depths and pumping tests were completed at one location on MacLeod III and one location on MacLeod V. Results indicated that the influence of pumping from wells completed in the deep bedrock aquifer will have a minimal effect on wells completed in the shallow bedrock aquifer.

Quarry development will affect drainage patterns, however controls and ongoing pumping from the quarry sump to surrounding drainage ditches will minimize impacts to surface water bodies. Based on observations from the existing quarry face, the shallow bedrock aquifer is being recharged on a localized scale from a drainage ditch into which water pumped from the quarry sump is being discharged. On a larger scale, recharge to the shallow bedrock aquifer is interpreted to occur in upland areas, and the low-permeability overburden deposits on the site are interpreted to limit localized recharge in areas of thicker overburden. Following quarry extraction, site grading and the capping of seepage faces with lower permeability soils will serve to preserve baseflow in surrounding surface water features and recharge into the shallow bedrock aquifer unit. Therefore, the site is considered suitable for the proposed development, provided it is developed under the terms and conditions of the Site Plans as approved by the MNRF. Recommendations for semi-annual monitoring of on-site wells, the development of an off-site monitoring program, site operations, and contingency measures as summarized in the hydrogeological report will be reflected on the site plans.

## **8.3 Stage 1 Archaeological Assessment**

A Stage 1 Archaeological Assessment of the MacLeod V study area was conducted by Past Recovery Archaeological Services in the fall of 2016 to evaluate the archaeological potential of the study area, and present recommendations for mitigation of significant known or potential archaeological resources. A Stage 1 report was completed in February 2000 for the MacLeod III property.

The Stage 1 Archaeological Assessment of MacLeod V found the area does not exhibit characteristics that indicate potential for the presence of archaeological resources. There are no topographic or physiological features, waterbodies or favourable soil deposits on or adjacent to the property that would trigger a determination of First Nations archaeological potential. Nor does the area have potential for archaeological resources associated with Euro-Canadian settlement and/or land uses. Therefore, no further archaeological assessment is required.

The Stage 1 Archaeological Assessment completed on MacLeod III found the site was first settled in the 1780's. Two significant historical developments occurred on the east half of Lot 6. The first was the establishment of a small graveyard in the late 18th century. The second historical development was the 19th century quarrying for building stone, however it is doubtful further investigations would yield meaningful insight into the nature

of these operations. The proposed extraction limits of the quarry maintain a 15 m separation from the surveyed limits of the graveyard.

#### **8.4 Noise Impact Study**

A Noise Impact Study was prepared by Aeroustics Engineering Ltd. The report identifies operations associated with the proposed quarry including excavation, rock drilling, aggregate haulage/shipping, and processing with a portable processing plant (crushing, screening and washing) that possess acoustical significance, based on an annual tonnage limit of 3,400,000 tonnes. The report identifies thirty eight (38) noise sensitive receptors in the vicinity of the proposed quarry area. Points of noise reception were found to be located in acoustical environments consistent with either the Class 2(Urban) designations or Class 3(Rural) designation, as defined by MOECC Publication NPC-300. In Class 2 areas, the background sound levels during the day are primarily defined by man-made sources, whereas in the nighttime periods, dominant sounds are natural in occurrence. In Class 3 areas, the prevailing acoustical environment is one dominated by natural sounds, with little to no man made sound. Using the locations of these receptors, and their designations, a series of sound level limits were developed and summarized throughout the Report.

A noise prediction model was generated. The basis of this model was a design case where the quarry was running at full capacity with all equipment operating simultaneously and at locations where noise impact would prove highest for each receptor. The noise prediction model assumes a worst case scenario for the allowable equipment, including existing topography under downwind propagation, with hard ground in the quarry and soft ground conditions near the points of reception. The noise impact of the operation was predicted; where the MOECC sound level limits were calculated to be exceeded, noise control measures were modelled and the noise impact recalculated. This process was repeated until the sound level limits were satisfied.

With the incorporation of the recommended noise controls, the predicted noise impact will satisfy the MOECC sound level limits.

#### **8.5 Blast Impact Assessment**

Blast Impact Assessments were prepared by Explotech Engineering Ltd. to provide an assessment of potential effects of the sound waves (overpressure) and ground vibration that will be produced by the proposed quarries' blasting operations on nearby receptors. The assessments found that the impact of sound and vibration from blasting can be successfully controlled by optimizing the blast design parameters, specifically by controlling the maximum allowable weight of charge per minimum delay period within specific setback distances. Subject to the adherence to the study's recommendations, the authors' calculations determine that blasting operations can be performed throughout the property within the extraction boundary while maintaining compliance with the MOECC guidelines. Acceptable setback distances were provided to correspond with maximum allowable charge weights per delay for various distances to receptors.

#### **8.6 Traffic Impact Study**

A Traffic Impact Study was prepared by MPCE to determine the traffic-related impacts of the proposed pit and quarry operations. Once fully operational, the site is expected to produce approximately 126 additional trip

ends, consisting primarily of truck traffic, for a regular 12-hour work day during both the weekday a.m. and p.m. peak hours. MPCE determined that the project will have minor impacts on the surrounding road network, given the reasonably low number of trips expected to be generated, and because the existing background traffic conditions in the immediate area are relatively light relative to the surrounding road network which appears capable of accommodating much larger volumes of traffic. Therefore, MPCE conclude that intersections within the immediate area of the proposed pit and quarry, as well as the proposed site access, will operate at acceptable levels of service during both the weekday a.m. and p.m. peak hours to the horizon year of 2020.

### **8.7 Flood Plain Memorandum**

A review of the flood plain limit north of South Branch Road in the Township of South Stormont, County of Stormont, Dundas and Glengarry has been carried out as part of the technical review for the proposal. The existing flood plain elevations developed in the 1980s by Crysler & Lathem Ltd. in this immediate area appeared to extend a significant distance from the watercourse, which, based on the Owner's previous knowledge of the site, appeared to be conservative.

The assessment consisted of a review of existing flood plain modelling and the modification of the HEC-RAS model for the Eastman Drain in the vicinity of the Site, as provided by the Raisin River Conservation Authority. Based on the results of the modelling, the 100-year flood plain elevation was calculated as 57.92 m, revised from the regulatory flood limit of 58.22 m.

A cut/fill strategy is also proposed at the south end of the MacLeod III property to move the limits of the flood plain for the purpose of maximizing aggregate extraction area, while ensuring that there are no upstream or downstream impacts. The details of the proposed cut/fill and associated stormwater management measures within the flood plain are shown on the Site Plans.

## **9.0 PLANNING RATIONALE AND CONCLUSIONS**

This Planning Report provides a comprehensive review of applicable provincial and municipal planning policies and zoning standards affecting proposed pit and quarry operation on the subject lands in the Township of South Stormont. The Report offers a planning rationale in support of the official plan and zoning By-Law amendment applications. The following summarizes the findings and conclusions stemming from this report as well as specialized studies provided in support of the development:

- A concurrent submission is being made for a Category 2 Class "A" Quarry Below Water and Category 1 Class "A" Pit Below Water under the Aggregate Resources Act;
- There is an estimated 1,825,650m<sup>3</sup> of overburden at MacLeod III and 4,851,780m<sup>3</sup> at MacLeod V within the proposed extraction area. The total quantity of bedrock to be extracted is 21,940,285m<sup>3</sup> at MacLeod III and 21,088,560m<sup>3</sup> at MacLeod V;
- Progressive rehabilitation will occur at intervals as per ARA requirements and final rehabilitation will be an open pond and natural revegetation;



- The proposed use is consistent with the PPS (2014) with regard to matters of provincial interest, including land use compatibility, long-term economic prosperity, natural heritage, water impacts, mineral aggregate resources, and cultural heritage;
- Adequate justification has been provided for the proposed redesignation of the subject lands in the County's Official Plan from Extractive Resource Lands (Mineral Aggregate Reserve) to Extractive Resource Lands (Licensed Pit and Quarry) through technical studies that address environmental and land use compatibility policies;
- MacLeod III lands are currently zoned Mineral Extraction, Reserve Special Exception Two (MXR-2) and Flood Plain, and MacLeod V lands are zoned Mineral Extraction, Reserve (MXR);
- Both MacLeod III and V lands are proposed to be rezoned Mineral Aggregate Extractive – Quarry Special Exception @ (MXQ-@), including a small area of Flood Plain on MacLeod III that will be rezoned to recognize more current flood risk mapping, and to more accurately delineate the limits of a cemetery;
- Special exception MXQ-@ zone will apply unique setbacks to provide adequate separation distances from nearby sensitive land uses, notwithstanding applicable general provisions to the contrary;
- A Level 1 & 2 Natural Environment Assessment of the properties undertaken by MPCE concludes that pit and quarry operations may proceed provided environmental mitigation measures are addressed as proposed in the NEA report;
- Hydrogeological testing and modelling undertaken by McIntosh Perry indicate that the sites are suitable for proposed pit and quarry operations with respect to potential groundwater and surface water impacts;
- A Stage 1 Archaeological Assessments undertaken by Past Recovery Archaeological Services found a cemetery on a small part of the MacLeod III property that will be excluded from the area to be designated and licensed and buffered – no other archaeology finds of consequence were discovered;
- A Noise Impact Study undertaken by Aeroustics Engineering determined that normal quarry operations will satisfy the MOECC sound level limits with the incorporation of recommended noise controls;
- Blast Impact Assessments by Explotech Engineering Ltd. assessed the potential effects of sound waves and ground vibrations from blasting to establish measures and controls to ensure compliance with MOECC guidelines;
- A Traffic Impact Study undertaken by MPCE concludes that traffic generated by the extraction operation will not cause the intersections within the immediate area of the proposed pit and quarry to operate at unsatisfactory levels of service.

Provided recommended mitigative measures and controls are incorporated into land use planning mechanisms and MNR licensing requirements, the proposed Official Plan and Zoning By-Law amendments are consistent with matters of provincial interest and satisfy the intent and purpose of the Official Plan for the County of Stormont, Dundas and Glengarry.

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