LANARK COUNTY

PLANNING DEPARTMENT

November 30, 2023

Jennifer Cooney
Cooney Construction & Landscape Ltd
3193 Old Perth Rd.
Almonte, ON. K0A 1A0

Via e-mail – Cooneyconst@xplornet.com

RE: Verification of Complete Application for an Official Plan Amendment
Part of Lots 22 and 23, Concession 3
Geographic Township of Darling
Township of Lanark Highlands
County of Lanark File No. 0940-OP-23009

This letter is to inform the applicant that the above noted application for the Official Plan Amendment has been determined to be complete having met the requirements of the *Planning Act*. The 'deemed complete' date is November 30, 2023

Should you have any questions or concerns, do not hesitate to contact me at 1-613-267-4200 Ext 1505 or klam@lanarkcounty.ca

Yours truly,

Koren Lam
Senior Planner
Lanark County
99 Christie Lake Rd.
Township of Tay Valley, ON
K7H 3C6

ZANDERPLAN
Your rural land planning experts

September 7, 2023

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RE: Application for Official Plan Amendment and Zoning By-Law Amendment
Part of Lots 22 and 23, Concession 3
Geographic Township of Darling
Township of Lanark Highlands
Applicant: Cooney Construction and Landscape Ltd.

Cooney Construction and Landscape Ltd. has retained ZanderPlan Inc. to file applications for Amendments to the County of Lanark Sustainable Communities Official Plan (SCOP) and to the Township of Lanark Highlands Official Plan and Zoning By-law, to permit the re-establishment of an Aggregate Pit. Milestone Aggregate Consulting Services Ltd. has been retained to complete the Summary Report for the new Pit and to submit the ARA Application. The subject property is located along Highway 511 falling in Part of Lots 22 and 23, Concession 3 in the former Township of Darling.

The property subject to the Official Plan Amendments encompasses the formerly rehabilitated 'James Pit', where aggregate extraction occurred until the early 1980s. The re-establishment of an aggregate extraction operation on the subject lands is consistent with Provincial Policy as described below. While aggregate material still exists on the subject property, the previous Pit operation fell into disuse and the Aggregate License was released in the early 1990s; subsequently, the lands were placed in the 'Rural' designation in the Township of Lanark Highlands Official Plan which was adopted by the Township in 2003. Lanark County's SCOP, developed in 2012, matches the Rural designation on the subject property.

The proposed amendments to the County of Lanark Official Plan and the Township of Lanark Highlands Official Plan and Zoning By-Law will place a portion of the subject property in the appropriate designations and zoning to support an Aggregate Pit License from the Ministry of Natural Resources and Forestry. The licenced area will be placed in the Licensed Aggregate Extraction Operation (Mineral Aggregate Resource – Licensed Pit) in the Lanark County SCOP. The licenced area will be placed in the Pit designation in the Township's Official Plan and re-zoned to Mineral Aggregate Resources Pit (MXP) zone. The lands outside the licenced area will remain in their current designations and zoning. Supporting studies have been completed to support the new Pit and an ARA application will be made to establish the new licence.

SUBJECT PROPERTY AND REGIONAL CONTEXT

The subject property comprises approximately 50.6 hectares (125 acres) in Part of Lots 22 & 23, Concession 3, in the Geographic Township of Darling and has approximately 287.7 metres of frontage along County Road 511 (see Figure 1). This road is a major artery and is viable as a transportation route for the vehicles that would enter and exit from the proposed Pit. The property contains a mixture of open fields and wooded lands, with some smaller waterbodies and wetland areas to the south and west. There is currently no built development on the subject property. The proposed licenced area will measure 23.02ha with 227.7 metres of road frontage. The remaining lands will be left with 60 metres frontage and approximately 27.6ha.

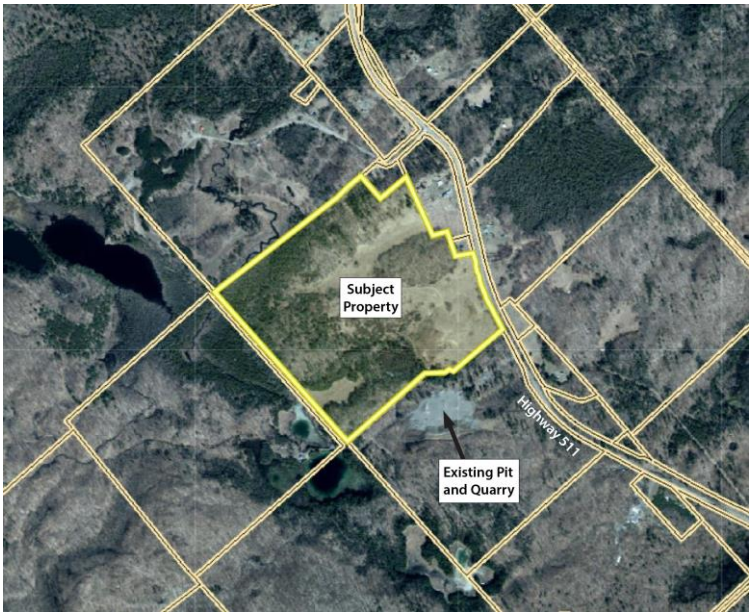


Figure 1 – Aerial Photo of the Subject Property

To the north of the area to be re-zoned and re-designated are two existing residential lots with civic addresses of 9749 and 9779 Highway 511. Additionally, a new lot fronting to Luker Road was recently severed from the property. To the northwest of the subject property is a large residential parcel recently severed into three lots located at the end of Luker Road. These lots will be buffered from the proposed Pit operation by extensive vegetation as well as a large hill, approximately fifteen metres in height. The potential for hydrogeological and other impacts on this existing sensitive land use will be considered as part of the Aggregate Pit License application to MNRF.

Lands to the south of the subject property are designated as Pit and Quarry in the Township of Lanark Highlands Official Plan, and are occupied by an active Pit operated by Cavanagh Construction and locally known as the Highway 511 Pit. The proposed Pit operation on the subject property would be compatible with this land use.

Lands to the east of the subject property are primarily rural in nature with some smaller residential lots fronting to Highway 511 with larger rural parcels behind. There is a dwelling and several outbuildings located at 9754 Highway 511. These residential lots fall closer to the existing Pit and Quarry south of the subject property then the lands to be re-zoned and re-designated. It will be necessary to demonstrate during the preparation of the studies and reports to support a Pit License that there will be no conflicts between these sensitive land uses and a licensed Pit operation and that appropriate separate distances can be achieved.

A portion of the subject property to the west of the area to be re-designated will remain in the current Rural designation extending to the unopened road allowance between Concession 2 and 3. Within the owner's lands and extending farther west across the unopened road allowance, the Township's planning documents identify an Area of Natural and Scientific Interest (ANSI). This natural feature has been indicated on the application sketch. Based on the results of the Environment Impact Assessment, described later in this report, the proposed License area would be 60 metres from the ANSI boundary at its closest point.

Overall, the proposed lands to be re-designated are appropriately located to respect the natural heritage features that are identified on the Township's Planning documents, and the proposed use is compatible with the existing Pit operation located in Lot 22, Concession 3, to the south. The studies and reports that are required under the *Aggregate Resources Act* will have to demonstrate that there will be no negative impacts between the proposed Pit operation and any existing, sensitive land uses, or, alternatively, appropriate setbacks will need to be implemented as part of the License approval.

PROVINCIAL POLICY STATEMENT (2020)

The Provincial Policy Statement (PPS, 2020), issued under the authority of Section 3 of the Planning Act, provides policy direction on matters of Provincial interest related to land use planning and development and provides for appropriate development while protecting resources of provincial interest. The Provincial Policy Statement 2020 came into effect May 1, 2020 replacing the Provincial Policy Statement issued April 30, 2014.

Section 1.0 of the PPS speaks to Building Strong Healthy Communities with policies for Managing and Directing Land Use to Achieve Efficient and Resilient Development and Land Use Patterns found under **Section 1.1**. Re-zoning and re-designating the lands to support a new aggregate extraction operation would promote efficient development compatible with the abutting aggregate operation that supports the well-being of the Province and municipalities over time (Sec. 1.1.1[a]) that will help meet the long term needs (Sec. 1.1.1[b]). The extraction area will be separated from the ANSI designation identified in the Township Official Plan with an Environmental Impact Assessment completed to ensure the proposed land use will not impact environmental or public health and safety (Sec. 1.1.1[c]). Development will front to and access Highway 511, an existing infrastructure corridor, optimizing available transit investment while minimizing land consumption and servicing (Sec. 1.1.1[e]). Allowing the re-designation and re-zoning will ensure sufficient land is made available for aggregate extraction to meet projected needs (Sec. 1.1.2). The re-zoning and re-designation will help sustain healthy, liveable and safe communities.

Section 1.1.4 of the PPS speaks to Rural Areas in Municipalities. Re-establishment of a Pit on the property to extract the remaining aggregate materials would leverage available rural resource assets (Sec. 1.1.4.1[a]) using available rural infrastructure in Highway 511 for access and transport of extracted materials (Sec. 1.1.4.1[e]). A new Pit operation will promote diversification of the economic base creating new employment opportunities relating to management of resources (Sec. 1.1.4.1[f]). Location of the proposed use is not suitable for Settlement Areas and will be directed to rural lands in accordance with the policies of Section 1.1.5 of the PPS.

Section 1.1.5 of the PPS speaks to Rural Lands in Municipalities permitting the management or use of resources (Sec. 1.1.5.2[a]). A new Pit on the subject property will show compatibility with the rural landscape and surrounding uses through the completion of several studies to support the ARA application (Sec. 1.1.5.4). The new use is appropriate for the current rural infrastructure without the need for unjustified or uneconomical expansions (Sec. 1.1.5.5) and

will support a diversified rural economy (Sec. 1.1.5.7). Re-zoning and re-designating the lands to support a new aggregate extraction operation would be a suitable use for the lands.

Section 1.2.6 of the PPS speaks to Land Use Compatibility between sensitive uses and major facilities. These policies pertain more to industrial type land uses. Aggregate policies are addressed later in the PPS.

Section 1.3 of the PPS speaks to Employment. The proposed use of a Pit on the property will result in the creation of new jobs relating to extraction of aggregate materials, transport, and overall operation of the Pit. Permitting the new Pit through re-zoning and re-designating the lands will add to the mix and range of employment opportunities (Sec. 1.3.1[a]) while diversifying the economic base to support a wider range of economic activities (Sec. 1.3.1[b]). Due to the recorded presence of aggregate materials which were not fully extracted under the previous licence the site represents a strategic site for investment (Sec. 1.3.1[c]). Permitting the re-zoning and re-designation of the property will help to promote economic development and competitiveness pursuant to Section 1.3 of the PPS.

Section 2 of the PPS speaks to the Wise Use and Management of Resources relating to natural heritage, water, agricultural, mineral, mineral aggregates, and cultural heritage & archaeological resources. Natural Heritage policies are located in **Section 2.1**. The site has an identified ANSI designation on the west side of the property. Natural features and areas shall be protected for the long term (Sec. 2.1.1). There will be no development or site alteration occurring within the ANSI designation (Sec. 2.1.5[e]). Adjacent lands are all of the lands within 120 metres of the ANSI. The licenced area is proposed as close as 60 metres to the ANSI boundary. As part of the re-zoning and re-designation the ecological function of the adjacent lands have been evaluated and an EIS report provided indicating no negative impacts on the natural features or on their ecological functions are anticipated from establishing the licenced boundary 60 metres from the ANSI at its closest point.

Section 2.2 of the PPS speaks to Water with the goal to protect, improve and restore water quality and quantity. While there are no significant water features identified within the lands to be re-zoned and re-designated the proposed use of a Pit can have impacts on groundwater sources. In support of the proposed amendments a Hydrogeological Report has been completed for the Pit by McIntosh Perry Consulting Engineers Ltd. The report concludes it is highly improbable there will be impacts on groundwater supplies in the area for the following reasons:

- There are only 5 wells (existing or proposed within 500 metres of the proposed extraction area
- All wells are completed in bedrock
- The pit will extract only unconsolidated material (overburden)
- The pit will not extract aggregate from below the water table.

A full summary of the Hydrogeological report will be provided later in this planning justification and a copy will be provided with the applications for Zoning and Official Plan Amendments.

Section 2.3 of the PPS speaks to Agriculture. There are no agricultural uses or areas identified on or abutting the subject property. Review of the Soil Capability for Agriculture shows there are no prime agricultural soils (Classes 1 – 3) on or abutting the property (See Figure 2). Soils in the area are a mix of Class 4 and Class 7 soils with some organic soils identified further north and west of the proposed licenced area.

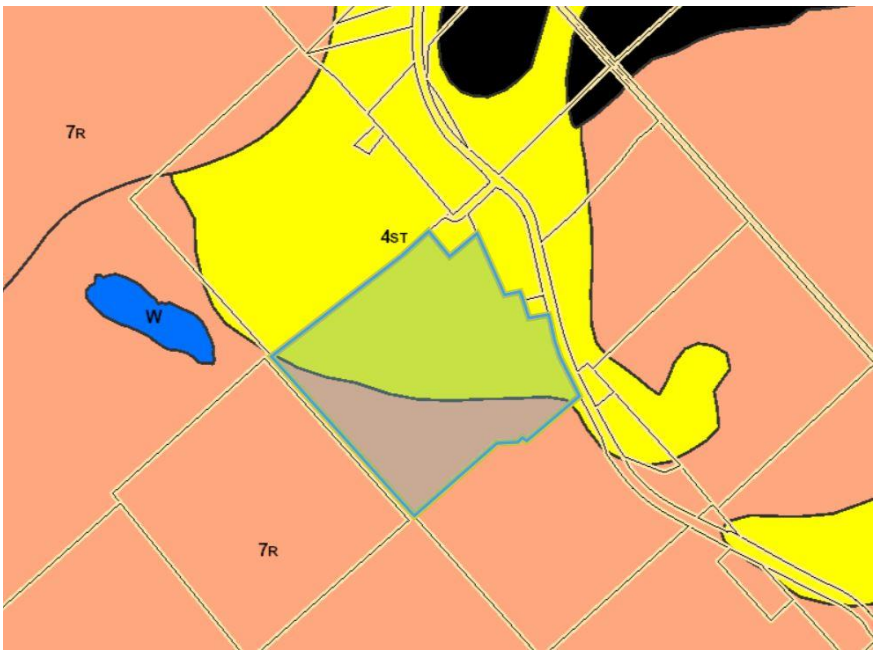


Figure 2 – CLI Soils Mapping Showing Class 4 and 7 Soils

Section 2.4 of the PPS speaks to Minerals and Petroleum, neither of which has been identified on the property.

Section 2.5 of the PPS speaks to Mineral Aggregate Resources stating they shall be protected for long-term use (Sec. 2.5.1). Existing vegetation and buffering along property lines will remain

to ensure extraction is undertaken in a manner which minimizes social impacts on surrounding properties (Sec. 2.5.2.2). The proposed re-zoning and re-designation of the land is meant to support a new extraction operation pursuant to Section 2.5.2.5. Progressive and final rehabilitation plans will be submitted with the ARA application to ensure future land uses can be accommodated once the aggregate resources are extracted (Sec. 2.5.3.1). Extraction would not occur un Prime Agricultural Areas pursuant to Section 2.5.4.

Section 3.0 of the PPS speaks to Protecting Public Health and Safety with policies for Natural Hazards found in Section 3.1 and Human-made Hazards in Section 3.2. There have been no Natural Hazards such as flooded lands, erosion hazards, or dynamic beach hazards identified on or abutting the property. Mineral aggregate operations present a 'human-made' hazard, and the appropriate design of these operations is very closely guided and regulated in the *Aggregate Resources Act* (ARA) so as to mitigate risk, and to ensure that responsible monitoring takes place through the operation of the License. As a result, this proposal will have to demonstrate during the Licensing process that there will be minimal environmental and social impacts, and extensive design considerations will have to be made to ensure compatibility with surrounding land uses.

Overall, the proposal to re-designate and re-zone a portion of the subject property to permit a Licensed Pit operation is consistent with the policies in the 2020 Provincial Policy Statement.

LANARK COUNTY SUSTAINABLE COMMUNITIES OFFICIAL PLAN (2012)

The County of Lanark released its Sustainable Community Official Plan (SCOP) in 2012, which combined an Official Plan with an Integrated Community Sustainable Plan to provide for the implementation of land use policies within the County. The subject property is currently designated Rural Area in the Lanark County Sustainable Communities Official Plan Schedule A – Land Use Designations and as seen on the County's Online Community Map (See Figure 3). Schedule A does identify the ANSI designation at the southwest end of the lot and identifies the Licenced Aggregate Extraction Operation abutting to the southeast. There are no Source Water Protection Areas identified on Official Plan Schedule B – Source Water Protection.

The proposed Amendment to the County Official Plan will seek to re-designate a portion of the subject property from Rural Area to Licenced Aggregate Extraction Operation to support the re-establishment of a Pit. The lands to be re-designated are shown in Figure 3.

Figure 3 – County of Lanark Official Plan Schedule A – Land Use

Section 3.0 of the County of Lanark SCOP speaks to Rural Area Policies. While a re-designation of the lands is proposed as seen in Figure 3 some of the property will remain in the Rural Area designation. Maintaining part of the site in the Rural Area, including the portion of the lot with the ANSI, will ensure future extraction is compatible with natural heritage features and natural resource uses (Sec. 3.3.1.3) and will maintain a buffer between abutting rural properties and the proposed extraction area (Sec. 3.3.2.3). No new lot creation of the Rural Area designated lands is proposed (Sec. 3.3.3). By maintaining a buffer between extraction and surrounding uses incompatibility between land uses will be minimized and environmental impacts mitigated (Sec. 3.3.4.1). No development is proposed within the Rural Area designation on the property. Lot frontage, depth and area of the lands remaining Rural Area will comply with local the Township's Zoning By-Law (Sec. 3.3.4.6). Maintaining a portion of the property in the Rural Area designation would be appropriate and consistent with the policies of the SCOP.

Section 5.0 of the Lanark County SCOP speaks to Natural Heritage which include ANSI designations similar to that found on part of the property. This is a mapped ANSI meaning its significance has already been determined (Sec. 5.2). Extraction is proposed on adjacent lands (within 120m) of the ANSI. A reduced setback of 60 metres at its closest point has been proposed and supported by an EIS to ensure the natural heritage features are protected from negative impacts of extraction (Sec. 5.3.1). Pursuant to Section 5.5.3.2 "Development may be permitted in significant areas of natural and scientific interest (ANSIs), or on adjacent lands within 120 metres, only if it has been demonstrated through an Environmental Impact Statement (EIS) that there will be no negative impacts on the natural features or on the

ecological functions for which the area is identified." Re-designating some of the adjacent lands to the ANSI for mineral extraction would be supported by the Plan given an EIS has been completed for the development.

Section 6.0 of the Lanark County SCOP speaks to Resources with policies for Mineral Resources found under **Section 6.2**. Section 6.2.2 states:

> *"Mineral and aggregate resources are important to all facets of development in the County as these materials are used in the construction of roads, water and sewer infrastructures, homes, schools and commercial buildings and landscaping projects. As such the identification and long term protection of aggregate resources is important to the County's well-being."*

The proposed Official Plan Amendment will seek to place part of the property in the Licenced Aggregate Extraction Operation designation encompassing the previous Pit area where known sources of aggregate material exist (Sec. 6.2.2.1). Licenced Pits and Quarries are permitted uses in areas of mineral aggregate resources (Sec. 6.2.2.2.1). No prohibited uses are proposed within the lands to be re-designated (Sec. 6.2.2.3) and no prohibitive uses are proposed on the adjacent lands remaining in the Rural Area designation (Sec. 6.2.2.4).

Section 6.2.2.5 addresses Zoning and Development Control of Mineral Aggregates. All new or expanding extraction operations require an Amendment to the County Official Plan and to the local Official Plan of the Township and zoned for extraction. Concurrent Township Official Plan and Zoning Amendments will be submitted to ensure the licenced area is recognized in local planning documents. All studies and reports required in accordance with the Aggregate Resources Act will be provided to the Ministry for review in support of the re-designation to Licenced Aggregate Extraction Operation.

Overall, only a portion of the property will undergo a re-designation under the County and Township Official Plans and re-zoning under the Township Zoning By-law. The proposed extraction operation is consistent with the policies and objectives as found in the County of Lanark Sustainable Communities Official Plan (2012).

LANARK HIGHLANDS OFFICIAL PLAN

The Lanark Highlands Official Plan, as approved by the Ministry of Municipal Affairs and Housing in 2012 and the Ontario Municipal Board in 2016, provides policy direction for the

various land use designations identified within the Plan. The subject property is designated Rural Communities on the Township's Official Plan Schedule A – Land Use and Transportation (See Figure 4). Official Plan Schedule B – Development Constraints identifies the ANSI on the southwest portion of the property and is within 1000 metres of an Abandoned Mine Hazard Site falling on the Cavanagh Pit property directly south of the subject lands (See Figure 5).

**Figure 4: Lanark Highlands Official Plan
Schedule A – Land Use & Transportation**

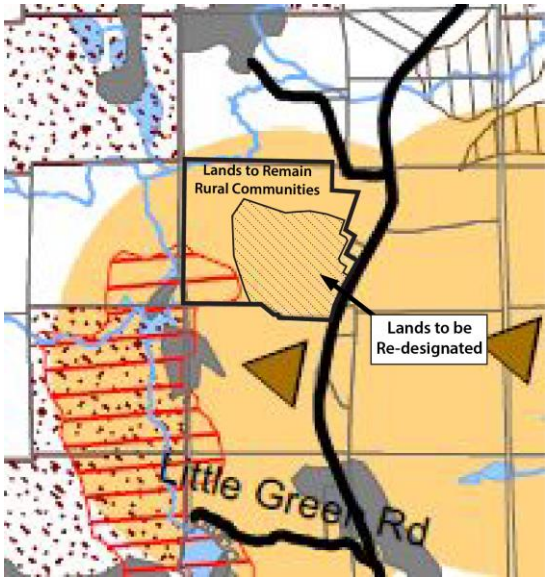


**Figure 5: Lanark Highlands Official Plan
Schedule B – Development Constraints**

The subject property originally housed the James Pit where extraction occurred up to the early 1980's. Upon the release of the Aggregate License in the early 1990s the lands were re-designated to Rural in the previous Official Plan (2003) and are now designated Rural Communities in the Official Plan (2010) Schedule A – Land Use & Transportation. The Official Plan Amendment would re-designate a portion of the subject property, including the previous James Pit extraction area, from Rural Communities to Mineral Aggregate Resource Policy Area (Pit) to permit an extraction operation. The lands to be re-designated will measure 23.02ha with 227.7 metres of frontage on Highway 511.

Section 3.0 of the Official Plan speaks to Planning Sustainable Communities with Rural Communities policies located in **Section 3.3**. Part of the lands will remain in the Rural Communities designation as part of the Official Plan Amendment. Maintaining part of the property in the Rural Communities designation will help minimize impacts on abutting uses and mitigate impacts on natural heritage features by keeping them out of the licenced area to be re-designated (Sec. 3.3.1.3). More than 0.8ha of land will remain in the Rural Communities

designation to ensure it complies with minimum lot size (Sec. 3.3.6.1) and a minimum of 60 metres of frontage will remain with the portion designated Rural Communities to meet the minimum frontage required (Sec. 3.3.6.2). Leaving greater than 0.8ha of land and 60 metres frontage will ensure once the licenced area is re-zoned under a concurrent Zoning By-Law Amendment the portion remaining in the Rural zone will meet minimum zone standards.

Section 4.0 of the Official Plan speaks to Our Resource Lands stating "*resource lands make up a significant component of land uses in Lanark Highlands. Mineral Resources and forestry are important to the overall economic base of the Township. Aggregate resources such as sand, gravel and limestone have been evaluated and appropriate land use policies have been developed to ensure the wise use and conservation of these resources for future generations*."

Section 4.1 provides Mineral Aggregates policies pertaining to the lands proposed for re-designation to support a new Pit. Both Pits and Quarries are permitted uses within the Mineral Aggregate Resource Policy Area (Sec. 4.1.1). The re-designation will ensure the new Pit is established within the proper designation (Sec. 4.1.3.1). The proponent of the Pit has completed several supporting studies including a Hydrogeology Report to ensure the new Pit area is compatible with surrounding development (Sec. 4.1.3.2). A application under the Aggregate Resources Act will be submitted.

Section 4.1.7 of the Official Plan speaks to Abandoned Mine Hazard Sites. Two such sites are located within one kilometre of subject property. The Ministry of Northern Development and Mines was consulted in February 2013 to provide an opinion on the two abandoned mines for the two previous severance applications from the property. It was determined that the abandoned mines were far enough from the severances and considered of no concern. Given an existing extraction operation is located in the abutting property to the south, in the same location as one of the abandoned mines, it could be concluded that the abandoned mine would not affect the proposed extraction operation to any measurable degree.

Section 5.0 of the Official Plan speaks to Our Environment – Planning for Ecosystem Balance providing policies for Areas of Natural and Scientific Interest (ANSIs) in Section 5.3.3. ANSIs are defined as "*areas of land and water containing natural landscapes or features that have been identified as having life science or earth science values related to protection, scientific study or education*." An ANSI is identified on Schedule B to the Official Plan but will fall on the lands remaining in the Rural Communities designation. Pursuant to Section 5.3.3.1 "*development may be permitted in accordance with the underlying land use designation in significant areas of natural and scientific interest (ANSIs), or on adjacent lands within 120 metres (396 feet), only if*

it has been demonstrated through an Environmental Impact Statement, in accordance with Section 8.4.5 that there will be no negative impacts on the natural features or on the ecological functions for which the area is identified." An Environmental Impact Statement has been prepared in support of the Official Plan Amendment supporting the re-establishment of a Pit on the property within 120 metres of the ANSI boundary. At its closest point the ANSI falls 60 metres from the lands to be re-designated. This reduced setback is supported by the EIS.

The proposed Official Plan Amendment to re-designate a portion of the subject property, including the previous James Pit extraction area, from Rural Communities to Mineral Aggregate Resource Policy Area (Pit) to permit an extraction operation would be consistent with the policies of the Township of Lanark Highlands Official Plan.

LANARK HIGHLANDS ZONING BY-LAW (2003-451)

The subject property is currently zoned Rural on the Township's Zoning By-law Schedule A3 Darling (See Figure 6). The property was placed into the Rural Zone upon the former James Pit having its Aggregate License released in 2000. The proposed Zoning By-law Amendment would seek to re-zone a portion of the property from Rural (RU) to Mineral Aggregate Resources Pit-Exception (MXP-X) to permit an extraction operation. The lands to be re-zoned will measure 23.02ha with 227.7m of frontage on Highway 511.

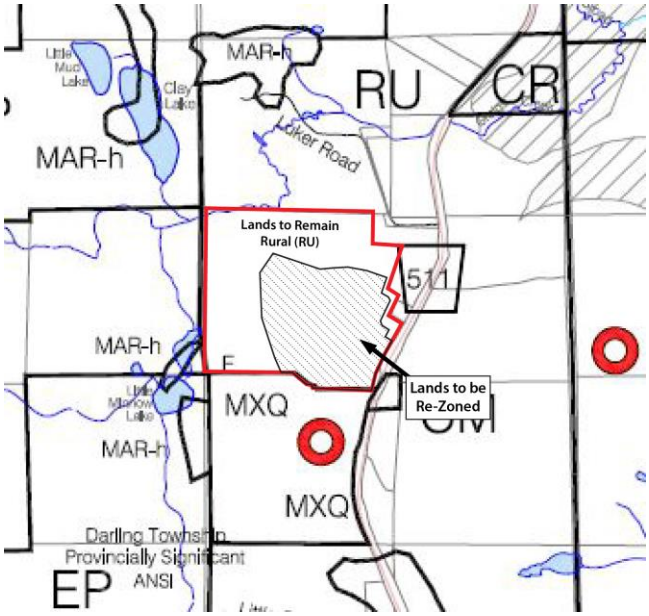


Figure 6 – Lanark Highlands Zoning By-Law Schedule A3 Darling

The abutting property to the south is zoned Mineral Aggregate Resources Quarry (MXQ), and therefore the proposed use would be fully compatible with the abutting extraction operation. The zoning Schedules also show a high concentration of Mineral Aggregate Reserve (MAR) zones in the surrounding area.

Section 4 of the Townships Zoning By-law outlines the general provisions for development. Specifically, **Section 4.32.3** deals with the Influence Areas surrounding Pits and Quarries stating:

a) *The minimum setback distances for pits and quarries from property lines shall be as set out in the Aggregate Resources Act.*
b) *Within an influence area of 150 m (492.1 ft.) of a pit excavated above the water table or aggregate reserve, or 300 m (984 ft.) of a pit excavated below the water table, measured from the zone boundary of a Mineral Aggregate (MXP or MAR) Zone, or 500 m (1,640 ft.) from the zone boundary for a quarry (MXQ Zone), or 750 m (2,460 ft.) from the zone boundary of the Tatlock Quarry respectively, the proponent of any sensitive land use shall be required to demonstrate that there will be no adverse or potential impacts (i.e. visual impacts, noise, dust, traffic or ground water quality or quantity) created on the sensitive land use, or impacts that cannot otherwise be appropriately mitigated by the proponent from an existing or proposed aggregate operation. Adverse impacts may be addressed by means of a phasing plan, rehabilitation plan, landscaping berming, specified truck routes or other measures acceptable to Council.*
c) *A pit or quarry or wayside pit or wayside quarry shall be set back a minimum of 30 m (98.4 ft.) from the high water mark of a water body or a distance prescribed or required by regulation or condition(s) of the license under the Aggregate Resources Act.*

Two dwellings, located at #9749 and #9754 would fall within 150m of the proposed Pit operation. Several supporting studies including an EIS, preliminary Hydrogeology Report and a Noise Letter have been prepared and will be detailed later in this report.

Section 6.0 of the Zoning By-Law speaks to the Rural (RU) zone which will be left on a portion of the property. No development or site alteration is proposed within the rurally zoned lands. Complying lot area and frontage will be provided pursuant to Section 6.2.1.

Section 18.0 of the Zoning By-Law speaks to Mineral Aggregate Resource Zones. Permitted uses pursuant to Section 18.1 include extractive operations including pits where licensed under the Aggregate Resources Act. Zone requirements pursuant to Section 18.2 are minimal but include a 15 metre setback for all yards from the property line. The site plan for the proposed Pit shows

the Licenced boundary at a zero metre setback from the front and south side lot lines. The proposed extraction area is setback from the front more than 15 metres but is shown at zero metres from the south side lot line as well. A reduction of the buffer distance will be requested through the ARA application. The Zoning By-Law Amendment will need to include an exception to Section 18.2 to reduce the minimum yard requirements on the south side from 15 metres to zero (0) metres. This exception is appropriate as the abutting use to the south is an extraction operation which could continue to operate if the exception is granted.

Given these factors, re-zoning a portion of the property from Rural (RU) to Mineral Aggregate Resources Pit (MXP) would be consistent with the policies of the Township's Zoning By-law concerning Mineral Aggregate Resources but would require an exception to Section 18.2 to reduce the required yard on the south side from 15 metres to zero metres.

SUPPORTING STUDIES: MINERAL AGGREGATE TESTING

Cooney Construction contacted Houle Chevrier Engineering to undertake some testing of the aggregate materials on the subject property, which is described in the attached Technical Memorandum (2013). Using six samples provided by the property owner, Houle Chevrier staff undertook grain size distribution testing. Three of the six samples taken at the site met the OPSS Granular B Type 1 grain size distribution requirements as well as the OPSS Select Subgrade Material grain size distribution requirements. The other three samples taken from the site did not meet these standards outright; however, Houle Chevrier notes that "screening and washing could be considered for these samples to meet the requirements of OPSS Granular B Type 1, Winter Sand, Mortar Sand and OBC Filter Media." Overall, the owner is satisfied that there is sufficient aggregate on the site to warrant the license application for an aggregate pit.

SUPPORTING STUDIES: NATURAL ENVIRONMENT IMPACT ASSESSMENT

A Level 1 Natural Environment Impact Assessment was completed for the property by Pinegrove Biotechnical in February, 2013 to assess potential impacts on natural heritage from the proposed extraction operation. The ANSI designation to the southwest of the proposed extraction area, which is a cold-water recharge source for the fish habitat, houses a sensitive Brook Trout stream. Further analysis of the site was conducted in 2020, and the author noted that there is an existing farm road running parallel to the ANSI and watercourse on the subject to property; this farm road is located approximately 50 - 70 metres from the ANSI boundary in

various locations. The author concluded that "extension of the westerly boundary [of the license area] to include the old farm road is not expected to harmfully impact Natural Heritage functions, and is therefore recommended." The proposed area to be re-designated and re-zoned has therefore been located at a distance ranging between 50 – 70 metres from the ANSI designation.

SUPPORTING STUDIES: HYDROGEOLOGY STUDY

A Hydrogeological Study was undertaken by McIntosh Perry Consulting Engineers (February 2014). The hydrogeological testing indicates the property would be suitable for a licensed Pit operation with respect to ground and surface water impacts. The overburden on the site consists of sand and gravel and some cobbles, material suited to construction and concrete production.

The testing involved subsurface testing including excavation of test pits. Water features, groundwater conditions, and well records for surrounding properties were examined. It was concluded the site would be suitable for a Category 3, Class A pit. Rehabilitation of the property should include grading and revegetation. The report concludes it is highly improbable there will be impacts on groundwater supplies in the area for the following reasons:

- There are only 5 wells (existing or proposed within 500 metres of the proposed extraction area
- All wells are completed in bedrock
- The pit will extract only unconsolidated material (overburden)
- The pit will not extract aggregate from below the water table.

SUPPORTING STUDIES: NOISE IMPACT OPINION

Hugh Williamson Associates Inc. was retained to provide a noise impact opinion (June 2015). Operations for the proposed pit would include extraction, screening, crushing and shipping of the aggregate material, but would not encompass any blasting of material as seen with Quarry operations. Equipment would include loaders, a screening plant, a crushing plant and shipping trucks. The consultant is of the opinion if a detailed noise assessment is conducted, a noise mitigation plan could be devised which meets the requirements set out in the current MOECC Noise Guideline NPC-300.

SUPPORTING STUDIES: STAGE 1 & 2 ARCHAEOLOGICAL ASSESSMENTS

A Stage 1 & 2 Archaeological Assessment was completed in December of 2021 by Past Recovery Archaeological Services Inc.to support the re-zoning and re-designation for the new quarry. The Stage 1 investigation evaluated the archaeological potential of the study area including searches for any significant known or potential archaeological resources. The assessment resulted in the identification of areas of archaeological potential. The Stage 2 assessment was to determine whether or not the property contained archaeological resources requiring further assessment. The Stage 2 property survey was completed October 28th, 2021, by means of a shovel test pit survey conducted at five metre intervals wherever possible. No archaeological resources were discovered.

The report concluded as the Stage 2 property survey did not result in the identification of any archaeological resources requiring further assessment or mitigation of impacts, no further archaeological assessment is required. If any additional areas are to be impacted beyond the study limits further archaeological assessment may be required. The Algonquins of Ontario requested an additional recommendation. Since the potential exists to miss important information in archaeological surveys, if any artifacts of Indigenous interest or human remains are encountered during the development of the subject property the Algonquins of Ontario should be consulted.

SUPPORTING STUDIES: TRAFFIC LETTER

A Traffic Letter was prepared by McIntosh Perry in July of 2023 to assess for any traffic related impacts for the new extraction operation. The proposed Quarry is anticipated to generate 12 total trips during the peak hour. The report states "*due to the low volume of vehicles on Highway 511 and the low generated site traffic it can be assessed that the proposed quarry will have little to no traffic impacts on the existing road network*." The report also assessed the need for a left turn lane for trucks turning into the operation. Based on anticipated traffic volumes it is not recommended that left turn or right turn lanes be required to service the operation.

Sightlines were reviewed to determine if impacts relating to trucks accessing or egressing the site were expected. There is approximately 517 m of clear sightlines to the north to the and approximately 322 m of clear sightline to the south. Based on the field and desktop review MP deemed the sightlines are sufficient to allow for both a right and left turn maneuver from the site access and into the sight access.

SUMMARY

The Provincial Policy Statement, the Lanark County Sustainable Communities Official Plan and the Township of Lanark Highlands Official Plan & Zoning By-law encourage the availability of aggregate material and recognize its importance to the local economy. The subject property is located on a major transportation route, abuts an active Pit/Quarry operation, and contains the remnants of a previously active Pit operation which has not been fully rehabilitated. Material testing on site has demonstrated that there is productive aggregate material on the site which is accessible, and there is a market demand for this material. Various studies and reports have been completed in support of the ARA Application and the amendments to the County and Township Official Plans and Zoning By-law.

The Official Plan Amendment would re-designate a portion of the subject property, including the previous James Pit extraction area, from Rural Communities to Mineral Aggregate Resource Policy Area (Pit) to permit an extraction operation. The proposed Zoning By-law Amendment would seek to re-zone a portion of the property from Rural (RU) to Mineral Aggregate Resources Pit - Exception (MXP-X) to permit an extraction operation. The exception to Section 18.2 is required to reduce the minimum yard requirements on the south side from 15 metres to zero (0) metres. The lands to be re-designated and re-zoned will measure 23.02ha with 227.7m of frontage on Highway 511.

Should you have further questions or require additional information in support of the proposed amendments please do not hesitate to contact the undersigned.

Sincerely,

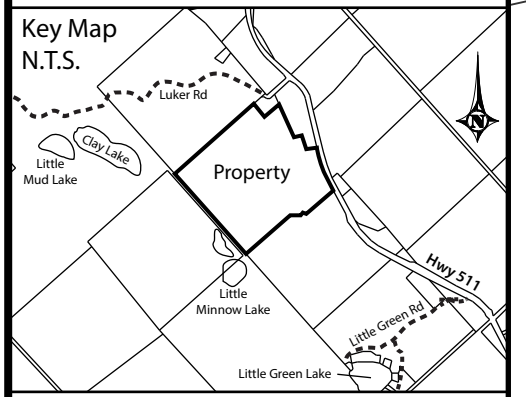
_____

Tracy Zander, M.Pl, MCIP, RPP

Cooney Official Plan Amendment Sketch

Part Lots 22 and 23, Concession 3
Geographic Township of Darling
Township of Lanark Highlands
COUNTY OF LANARK

Key Map
N.T.S.



Legend

- Lands to be Re-Designated
- Wetlands
- Waterbodies
- Pit & Quarry
- Treed Areas
- Mineral Aggregate Reserve
- Previous Extraction Area
- ANSI
- Stream

Notes:

1. Boundary and dimensions of the subject property are approximate based in part off of Plan 27R-10397 completed for the two severances identified as #9749 and #9779 on the sketch.
2. Location of all natural features including treed areas waterbodies, watercourses, spot elevations and existing roads derived from information provided by Base Mapping Company Ltd.
3. Location of the existing Pit derived from the Township's Official Plan Schedule A. Location of the ANSI and Mineral Aggregate Reserve areas derived from the Township's Official Plan Schedule B.

Version Date: September 8, 2023

File No. 12-062 | Drawn By: CC

zanderPLAN
Your rural land planning experts
40 Sunset Boulevard, Perth, ON K7H 2Y4 613-264-9600

WEST HALF LOT 24
EAST HALF LOT 24
LOT 24
LOT 23
524.2m
53.4m
54.7m
LUKERS ROAD
97.9m
109.9m
Lands to Remain Rural Communities / Rural Area 27.6ha
WEST HALF LOT 23
Treed
209.4m
4.5 Hect.
44917.1 Sq.m.
#9779
#9749
#9754
47.3m
85.2m
58.8m
60.0m
20.0m
239.0m
131.1m
76.6m
222.5m
9.2m
15.9m
71.4m
331.3m
614.3m
CONCESSION 3
ROAD ALLOWANCE BETWEEN CONCESSIONS 2 & 3
Lands to Remain Rural Communities / Rural Area 27.6ha
Area to be Re-Designated from Rural Communities to Mineral Aggregate Resource Policy Area (Pit) in the Township OP and Licenced Aggregate Extraction Operation - Pit in the County of Lanark SCOP 23.02ha (56.88ac)
Approved Entrance Location - Permit #2423
LOT 23
LOT 22
WEST HALF LOT 22
EAST HALF LOT 22
EAST HALF LOT 23
511 No.
ROAD

0 150 300 450 600
Metres

Level "1"
Natural Environmental Impact Assessment
Little Minnow Lk. Pit

for

ZanderPlan Ltd.
Planning Consultant

re: Re-Zoning for an Aggregate Extraction Licence

Pt. Lot 23, Concession III, Darling
Township of Lanark Highlands

prepared by:
Hans K. von Rosen
Pinegrove Biotechnical
1355 Pine Grove Rd; R. R. 1
Lanark, Ontario, K0G 1K0

Office Tel.: (613) 259-2847

Email: hkvonrosen@gmail.com

Date: 14. February 2013

1.

Executive Summary:

This Level 1 Natural Environment Impact Assessment discusses the possible effects of a proposed gravel extraction operation on a 38 acre property . Re-zoning from LSR (limited service rural) to MXP (mineral aggregated resources pit) or to MXQ (mineral aggregate resources quarry) would be required. The site lies immediately adjacent to a Life Science ANSI (area of natural and scientific interest) and is a cold-water recharge source for a Significan Fishery, i.e. a sensitive brook trout stream.

Issues:

(1) Impacts upon the ANSI: The proposed work site is situated near the north-eastern boundary of the *Darling Township Forest,* which is designated as a Provincially Significant Life Science ANSI. A reduction of setback from the ANSI boundary from 120 m to 80 m is requested. This would add another 3.3 acres to the extraction site, and include some additional aggregate deposits. Based on a preliminary site inspection carried out during winter conditions, it is considered that the *reduction of the setback to 80 m would have no negative impacts upon the ANSI and its functions.*

(2) Impacts upon Fish Habitat: The aggregate deposit overlays a cold-water recharge stratum for *Craigs Creek,* which is a natural Brook Trout stream. Based on the preliminary site inspection, it is considered that the aggregate extraction may reduce the cold-water storage capacity of the adjacent lands, *causing a negative impacts upon the cold-water supply for the fish habitat of Craigs* Creek, and thereby *harmfully impact the local Brook Trout population.* A reduction of the setback from 120m to 80m would increase the negative impact upon fish habitat.
A professional hydro-geological assessment and fisheries impact assessment is required to determine the expected effect of aggregate removal on stream water volumes and temperatures, if any.

(3) Impacts upon other Natural Heritage Features; particularly Species At Risk.
A series of field assessments between May through July are required to determine potentially negative habitat changes for Species at Risk, notably endangered turtles, grassland bird species and nightjars (insect feeders).

(4) Future plans for the property have not yet been identified, i.e. whether the site is to be utilized under a Class "A" Aggregate Extraction Licnese, or a
Class "B" Aggregated Extration License, or
a Quarry License.

(5) A proposed setback reduction from the ANSI can not be supported at this time, pending further field work.

Note: This assessment does not include Historical and Cultural Values.

1.1 General Project Information

1.1.1	**Project Name:**	**Potential Pit Licence Little Minnow Lk.**
1.1.2	**Location:**	**Part Lots 22 & 23, Concession III, Darling Twp. of Lanark Highlands**
1.1.3	**Proponent:**	**not identified**
1.1.4	**Inquiry by:**	**ZanderPlan Inc. P.O. Box 20148 Perth, ON, K7H 3M6 613-264-9600**

1.2 Site Location: 28.5 km north-west of the Village of Lanark on the west side of Highway 511.

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1.3 Description: Unmanaged open former pasture land, composed of rolling gravel hills, surrounded by mixed conifer and hardwood forests, bordering on an area of mixed forests and wetlands over crystalline precambrian limestone, and adjacent to a natural coldwater brook trout stream (Craigs Creek). An aggregate extraction area, licensed MXQ, is situated immediately south of the subject lands.

1.4 History: Prior to settlement by Europeans northern Lanark Count was covered by extensive climax forests of old growth white pines and hardwoods.

Lands considered arable were settled in the mid 19th century. Early settlers were British veterans, as well as Scots displaced by the Highland Clearances. The best of old-growth conifers were cut for export. Huge volumes of trees were burned for the commercial production of potash. Pioneer type agriculture rapidly exhausted the shallow soils and caused extensive sheet erosion. Crop production was replaced by low intensity pasture operations, some of which continue to the present day. An historic gravel pit exists on the land.

1.5 Importance of the Property to the Surrounding Landscape: The proposed aggregate extraction site is a part of an extensive glacio-fluvial outwash. Its gravel hills provide a cold-water reservoir for local trout lakes and trout streams, which are relatively rare in Lanark County.
Land clearing formed edge habitat where dense forests had existed. This created attractive living space for some bird and animal species with specialized habitat requirements, such as migratory grassland birds.

2.0 General Information:
Provincial Standards regarding the extraction of Aggregate Resources of Ontario stipulate that:

2.1.1 A Natural Environment <u>Level 1 Assessment</u> is required to determine whether Natural Heritage Features exist on, or within a 120 metres conservation envelope (Adjacent Lands) around a proposed site, namely:

*fish habitat,
*significant wetlands,
Note: Periodically soaked lands being used for agricultural purposes which no longer exhibit wetland characteristics are not included in this definition.
*significant portions of the habitat of endangered or threatened species,
*significant woodlands,
*significant valleylands,
*significant wildlife habitat,
*and significant areas of natural and scientific interest.

2.1.2. Where a Natural Heritage Feature on the above lands has been found
A Natural Environment <u>Level 2 Impact Assessment</u> is required to determine whether there will be any
* negative impacts upon fisheries;
* negative impacts upon the size and function of wetlands;
* significant negative impacts upon habitats of endangered or threatened plants or animal species;
* significant impacts upon critical wildlife habitat and travel lanes;
* impinging on the values for which adjacent ANSI's were created.

2.2 Natural Heritage Policy Stipulations.

The Natural Heritage Policy of Ontario stipulates in the Provincial Policy Statement of 2005

under section 2.1.3

Development *and site alteration shall not be permitted in :*

a) significant habitat of *endangered species and threatened species;*

b) *significant wetlands* in Ecoregions 5E, 6E, 7E;

c) *significant coastal marshes.*

and under section 2.1.4

Development and site alteration shall not be permitted in:

a) *Significant wetlands* in the Canadian Shield NORTH of Ecoregions 5E,6E,7E,

b) *Significant woodlands* south and east of the Canadian Shield,

c) *Significant valleylands* south and east of the Canadian Shield,

d) *Significant wildlife habitat,*

e) *Significant areas of natural and scientific Interest,*

unless it has been demonstrated that there will be

no negative impacts upon the natural features or the ecological functions for which the area is identified.

further under section 2.1.5

Development and site alteration shall not be permitted in fish habitat, except in accordance with provincial and federal requirements.

and under section 2.1.6

Development and site alteration *shall not be permitted on Adjacent Lands* *(of any of the above)* unless it has been demonstrated that there will be

no negative impact on the natural features or their ecological functions for which the area is identified. (slightly reworded, H.v.R.)

Note: The project area is situated in Site Region 5E-11, and is located ON the Canadian Shield

2.3 Waypoints: by hand held GPS, NAD 1983

station	description		easting	northing	comments
040			373866	5008007	gate
041			373657	5007814	SW bdy. jog lot 22
042			373525	5007901	N of open slew
042 B	80 m south	of 042			S side of slew
042 C	60 m W	of 042 B			W of slew, timber ridge in ANSI
043			373393	5007871	SW corner clrg, old timber road W
044			373403	5007816	ANSI tongue, mx. conif. & hdwd.
045			373354	5007952	open hill top, steep drop west
046			373534	5008074	open top ridge, 3 pegs
047			373638	5008078	single peg

2.4 Features to be identified:

Definitions and recommended setbacks.

Significant woodlands are *(designated)* treed areas that provide identified economic, social or ecologic benefits. Seback 120 m.

Significant valleylands are landscapes that have been identified for unique micro climatic characteristics or ecological functions. Setback 120 m.

Significant endangered species habitats are localized features which are essential for the reproduction and continued existence of PLANT or ANIMAL species listed under COSEWIC. Setback species dependent, minimum 120 m, but may be greater.

Significant wildlife habitat are areas which are essential for the reproduction and continued existence of mammals, birds or other wildlife not be covered under COSEWIC above. Minimum setback 120 m.

Significant Areas of Natural and Scientific Interest (ANSI) are lands which have been *identified and designated* for having characteristic *life or earth science* values.
Setback for life science ANSI 120 m. Setback for earth science ANSI 50 m.

Wetlands:
Provincially Significant Wetlands (PSW) are wetlands which have been classified as Classes 1, or 2, or 3, according to the Ontario Wetland Classification System. Wetlands other the PSW fall into Classes 4 through 7, and may be identified as **regional or local interest or significance**.
Setback 120m.

Wetlands are areas that are seasonally or permanently covered by shallow water, as well as lands where the water table is close to the surface and has favoured the presence of water tolerant plants.

Wetland Functions: Wetlands perform a number of ecological functions and provide a variety of economic, social and ecological benefits, which are highlighted as follows:

*1: the recharge and discharge of ground water ensuring a stable, long-term supply;
*2: flood reduction through control and storage of surface water;
*3: stabilization of shorelines, erosion reduction;
*4: water quality improvements, trapping of sediments, retention of excess nutrients, immobilization and degradation of contaminants, removal of bacteria;
*5: food web support which is essential to multiple species, including humans;
*6: providing habitat for plants and animals (mammals, birds, reptiles, amphibians, fish, insects);
*7: providing corridors for the movement of species between habitats;
*8: recreational and tourism opportunities (hunting, fishing, bird watching, hiking, boating);
*9: renewable harvest opportunities for timber, fish, wildlife, wild rice, etc.
*10: climate stabilisation;
*11: carbon sequestration.

Adjacent Lands are lands adjacent to an ANSI, a PSW, or other Natural Heritage designated areas. The Natural Heritage Policy recommends 120 metres to be the width of the environment protection (EP) zone surrounding most NH areas.

Environment Protection Zones (EP)
EP zones are setbacks legislated by municiplities in their respective Official Plans (OP), to accommodated Adjacent Land rocommendations of the Provincial Policy.
EP Zones may be identified as "EP A", 120 m setback; or
"EP B", 50 m EP setback.

Fish Habitat is any area, seasonally or permanently covered by water on which fish depend directly or indirectly in order to carry out their life processes.
Setback from Inland Lake Trout Lakes 300 m.
Setback from all other fish habitats 120 m

Shore Zones: These may be broken down into 4 types, namely
- Offshore, i.e. deeper waters beyond emergent vegetation;
- Nearshore, waters in the littoral zone, the area of greatest light penetration;
- Foreshore, the beach area, land below the high water mark, land below the bank;
- Backshore, hinterland.

Flood Zones are lands which are identified by the local Conservation Authority for being subject to periodic flood events, and may be identified as:
(a) the Flood-Fringe, where development with flood proofing may be permitted depending on local conditions; and
(b) Flood-Ways or No Fill Zones, where no development is permitted.

Other Hazard Lands are lands considered unsafe for development due to natural processes, including unstable soils or rock formations.

Mineral Constraint Overlays identify lands covered by the Mineral Aggregate Resources Policy, which are identified in the Official Plans of municipalities.

Note:
(a) the latter three items are not NH features, but are covered under the Mineral Aggregate Resources Policy, or the Conservation Authorities Act.
(b) *agricultural land classifications and their protection are not within the scope of this EIS.*

Note:
According to item 2.2.3. of the Policy Statement, development may be permitted on Adjacent Lands provided it is demonstrated that there will be no negative impacts on the natural features or the ecological functions for which the are is identified.

3.0: Scoped Descriptions

3.1 Classifications and Natural Heritage Designations		Proposed Pit Area.	Adjacent Area. 120m
Conservation Lands (CLTIP)		none	none
Managed Forest Lands (MFTIP)		none	none
Certified Forest Lands (FC)		none	none
Significant Woodlands		none	present ***
Significant Valley Lands		none	undesignated
Habitat of Threatened or Endangered Species	(see under 3.2 K, below)	present	present
Significant wildlife habitat	(see 3.3, below)	present	present
Area of Natural or Scientific Interest ANSI	(see 3.4, below)	none	none **
Provincially Significant Wetland PSW		none	none
Unclassified Wetland	(see 3.5 below)	none	see below **
Fish Habitat	(see 3.6 below)	none	see below **
Flood Plain	(see 3.8 below)	none	see below **
Other Hazard Lands		none	none
Mineral Constraints Overlays	(see 3.9 below)	none	none ***

** = immediately outside of project area *** = not designated in Official Plan

3.2 Site Details

a) Residences: none

b) Access: good, directly off highway 511

c) Topography: rolling to hilly.

d) Soil Type and Depth (as per provincial soils map)**:**
deep Monteagle sandy loam with rock, well drained.

e) Bedrock: Precambrian plutonic and marble.
Quaternary geology: glaciofluvial gravel and sand deposits.
The centre portion of the proposed extraction area is a drumlin running in a NE / SW direction, with the steep slopes of the Stoss end on the south side and SW sides..

f) Septic beds: not applicable.

g) Potable water source: not applicable

h) Surface water: Run-off south-westerly toward Craigs Creek, a natural brook trout stream. Buffered by >120m adjacent setback area.

i) Ground water: Determination of ground water levels and ground water flow velocity and direction requires a hydro-geological survey in a "Level Two Natural Environment Impact Assessment". Not a portion of this E.I.S., but highly recommended.

j) Vegetation:

"A" proposed Pit Area: Wpt. # 40 through 47, excepting Wpt. 44, 42B & 42 C. Cultured and native grasses and forbs, interspersed with patches of wild raspberry, blackberry, milkweed, goldenrod, ground juniper, nannyberry, and occasional willow, basswood and red oak. Various vetches and wild strawberry are expected. There is an abandoned pioneer gravel pit situated south of Wpt. 44 .

"B" Adjacent Area: Wpt. # 42 B, 42 C, & 44 .

The adjacent lands on the south-western, western and northern downslopes are covered with mature mixed forests, containing Ta, Pw, Sw, Mh, Mr, Or, Ab, Be, Po & Iw. Crown closure is 90% to 100% and there is little understorey. White cedar increases near the bottom of the slopes.

A hilltop forest is situated NE and N of Wpts # 46 and 47. This is composed of mature and semi-mature hardwoods, Mh, Bd, Ew, Iw, Be.

k: Habitat of SPECIES AT RISK in Darling Ward of Lanark Highlands Township:

For confirmation of presence or absence of the respective species a summer assessment would be required.

(1)Species listed as Threatened (THR) or Endangered (END)

Wood Turtle: END. Although the species has not been confirmed in Lanark County, it has been found in adjacent Renfrew County. Prefers clear rivers, creeks and streams with sandy or gravelly bottom and overhanging alders. Disperses from water to woods and open fields. Hardwoods preferred.
Habitat suitable, possibly present

Blandings Turtle: THR. Known to exist in the larger general watershed.
Highly secretive. Prefers shallow waters with soft, muddy bottoms. Uses a relatively wide "adjacent uplands area" for its reproductive functions. Wanders extensively overland. Nests made in warm, sandy soils of upland areas. Habitat suitable, possibly present.

Musk Turtle: THR. A very aquatic species. Known to exist in the larger general watershed. Prefers calm bays of lakes with ample submerged aquatic vegetation. Deposits eggs in rotten stumps or sedge clumps in close proximity of the waters edge. Possibly present, but will not be impacted by an operation >40m from shore.

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Whip-poor-will: THR. A night hunting, insectivorous bird. Formerly common, the species has noticeably declined within the past two decades. Prefers dry, open, grass and shrublands, with small to large sized oaks, pines and beeches..... possibly present, need to be confirmed.

Note: Male whip-poor-wills announce their territories by calling, during moon-lit nights, between late May and early July.

Bobolink & Meadowlark: THR. Two grassland species..... expected to be present, to be confirmed.

American Ginseng . END . Inappropriate tree species composition..... not present.

Butternut. END ..... not present.

Eastern Prairie Fringed Orchid: END Needs mesic bottom lands..... not present.

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(2)Species listed as Special Concern (SC) :

Redshouldered Hawk: SC Prefers large stands of overmature upland hardwoods such as beech as nesting habitat, but will also nest in mature maple or oak. Inappropriate timber.... not present.

Black Tern: SC Open marshes and wet meadows. ..... not present

Southern Flying Squirrell: SC. Hibernates and nests in cavity hardwoods..... not expected

Small-footed Bat & Long-eared Bat: Seldom seen. Requires old conifers and hardwoods for nesting. Not present on the proposed extraction site. May be present in the adjacent forest.

Snapping Turtle: SC Relatively common, but diminishing in numbers..... present. Travels up to 400 m from water to deposit and incubate eggs. Will be negatively impacted.

Eastern Milk Snake: SC Prefers brushy or woody cover, woods or rocky hills..... possibly present.

Monarch Butterfly. SC Prefers grasslands with milkweed fringes. .....present.

Three Dragonflies: SC Ebony Boghaunter, Halloween Pennant, Horned Clubtail. Prefer open damp meadows and open wetlands. Habitat unsuitable..... not expected.

Ram's-head Lady's-slipper: SC A red-wine coloured orchid with a white centre. Found in moderately open forests with neutral soils and moist conditions..... not expected.

Purple-stemmed Cliffbrake: SC A small, fleshy fern with alternate, but almost opposite leaflets. Prefers dry, limestone rich outcroppings. Inappropriate geology..... not present

Torrey's Manna Grass. SC Requires bog conditions..... not present.
Grass-leaved Water-plantain: SC. a wetland plant..... not present

3.3 Site-specific Significant Wildlife Habitat:

type	Proposed Pit Area.	Adjacent Area. 120m
deer yards	none	none
wildlife travelling corridor	none	present, following wetland edge
raptor nests (stick nests)	none	none seen, but possibly present
snags (chicots) & cavity trees	none	present
ephemeral hardwood ponds	none	none
turtle incubation habitat	present	present
waterfowl shore nesting habitat	none	none
snake hibernacula	expected	unknown
caves	none	none

3.4: AREA of NATURAL and SCIENTIFIC INTEREST

Name: "Darling Township Forest" life science ANSI
A rich, mature tolerant calcareous hardwood forest, situated on a ground moraine underlain by marble. The presence of calcicolous floristic elements in the ground cover is reported in file data. (not confirmed due to season).

Note: The ANSI is situated 120m from the SW boundary line of the originally proposed extraction area. Extending the extraction area south-westward by 40 m will reduce the setback from the ANSI to 80m . It is considered that a reduction of the setback to 80 m will not negatively impact upon the features and functions for which the area was designated as an ANSI.

Notwithstanding the above, a reduction of the setback from 120m to 80m may negatively impact Fish Habitat. See 2.3 F below.

3.5: Wetland Area & Wetland Functions: Two unclassified wetlands lie within the general area of the proposed future gravel pit.. *Section 6.3.1 of the Natural Heritage Reference Manual page 60 outlines steps to be taken in case a wetland has not yet been classified.*

(1.) A ¾ acre wetland pothole, situated outside of the ANSI boundary, is located 40m south of Wpt. 42, and immediately north of Wpt. 42 B. This unclassified wetland is situated about 55m from the originally outlined extraction area boundary, and would be located about 15 m from the extraction area if the setback from the ANSI were reduced, as requested.
Wetland functions include the availability of uplands adjacent to wetlands for wetland-wildlife usage. A reduction of the setback around the pothole from 55m to 15m would reduce adjacent area wildlife habitat, and thereby negatively impact wetland functions.

(2.) An unclassified wetland lies along the meander belt of Craigs Creek. at a distance varying from 200m to 150m from the extraction area boundary. Water recharge into the eastern portion of this wetland may be diminished by reduced water storage and seepage capacity of the aggregate area.

While Wetland Areas of either the pothole(1) or the meander belt(2) are not reduced by the proposed 40m south-westerly reduction of the setback zone,

Wetland Functions of either wetland may be negatively impacted by the reduction of wildlife habitat and the potential loss of water re-charge cause by the proposed setback reduction.

A hydro-geological assessment is recommended.

3.6: Fish Habitat: Fish Habitat is composed of the waters of Craigs Creek in the west, and Broadbrook Creek in the north. Both of these streams contain Brook Trout populations, and have been intensively managed a Brook Trout fisheries for over 90 years.

No fish habitat is located either within the proposed extraction pit, nor within the area of the reduced setback application.

Setbacks from Craigs Creek or Broadbook Creek respectively are as follows:
South-west corner of originally proposed pit: 400m
Centre-west side of originally proposed pit: 200m
Centre-west corner of reduced ANSI setback: 160m
North-west boundary of extraction area: 300m
North boundary of the western half of the extraction pit: 150m

Notwithstanding the above, the entire extraction area is a cold-water recharge source for the two respective trout streams. A reduction of cold-water supplies can be forecast by the removal of the aggregate hills, which may harmfully impact the cold-water fish habitat of either stream.

A hydro-geological assessment is recommended.

3.7: Erosion:
SURFACE EROSION: No surface erosion concerns exist at present. Any erosion control concerns which may be caused by the proposed change of land use, from RU (rural) to MXP (aggregate extraction) can be mitigated on site by the construction of a berm..

3.8: Flood Plain: not applicable
3.9: Hazard Lands: none

4.0 Summary. Impacts and Mitigation of a Gravel Pit on Natural Heritage Values

Activity	Potential Impact	Comment	Mitigation during operation	Rehabilitation
topsoil removal	destruction of forage and cover	total within work area	impossible	replenish topsoil after pit exhaustion
gravel extraction	loss of SAR habitat and wildlife habitat	total	impossible, designate compenmsatory habitat sites.	rehabilitate upon pit closure.
	increased predation	none	n/a	
	invasion by non-native species	minor	n/a	
	decreased biodiversity	total	impossible	rehabilitate
	loss of linkage	minor	none	
	increased disturbance	extensive	impossible	
	loss of Species at Risk	Bobolink, Meadowlark	impossible, designate compenmsatory habitat sites	rehabilitate upon pit closure.
	contamination, oils, fuels, chemicals.		control through standard Best Management Practices	
surface water run-off	light	reduced after soil elevation is lowered	install berm	
hydrological changes	reduced capillary storage upon gravel removal	hydro-geological assesment needed	none possible	
habitat fragmentation	light		none possible	rehabilitate
water crossings	none			not required
ground water taking	none planned,	controlled by MOE		not required
septic tank installation	none planned			n/a
direct human activity	increase	considerable	not possible	

5. Discussion and Conclusion: The primary function of a Level 1 Assessment is to identify changes to Natural Heritage Values which may be brought about by the proposed application. It is the finding of this report that some negative impacts upon featured wildlife habitat, upon SAR habitat, and on the the cold-water recharge for the trout streams will occur.

5.1 No DESIGNATED NATURAL HERITAGE AREAS will be reduced by the change of land-use and the re-zoning applied for.

5.2 However, some of the Natural Heritage FUNCTIONS of the subject area will be destroyed. This includes habitat for some Species at Risk.
Because mitigation for this destruction is deemed impossible, compensatory land designations for the destroyed functions appears to be a desirable option, provided such other lands are set aside by the owner.

5.3 A reduction of setback from the ANSI from 120m to 80m would further increase the area subject to SAR habitat destruction. It would also increase negative impacts upon Wetland Functions to provide seasonal dryland habitats for turtles. (see Wpt's 42 , 42 B, 42 C, 43 and 44). The setback reduction can not be supported by this Level 1 Assessment.

5.4 The impact of an aggregate extraction operation on the subject lands may cause a negative impact of identified significant FISH HABITAT, by virtue of reduced cold-water re-charge capability to two Brook Trout streams. A hydro-geological assessment by a recognized engineering firm is recommended.

5.5 The presence or absence of respective SAR may have to be confirmed.
*For Meadowlarks and Bobolinks this would require three early morning field surveys, carried out between the end of May and the beginning of July.
*For Whip-poor-will this would require three night-time field surveys during moon-lit nights, carried out between the end of May and the beginning of July.
*For Blandings Turtles and Wood Turtles this would require two mid-day field surveys in late June through late July.

6.0 Level 2 Impact Assessment: Where a negative impact upon an existing Natural Heritage feature is identified, or where such an impact is identified within an Adjacent 120 metre wide buffer strip, a Level 2 Impact Assessment is mandatory. (see item 2.2.1 and 2.2.2 of the Provincial Standards Version 1.0, Aggregate Resources of Ontario)

7.0 Recommendations: In the event that

7.1 compensatory SAR habitat management areas can be designated by the owner; and

7.2 a hydro-geological assessment determines that negative impacts upon the two respective trout streams can be expected to be minimal,

the following **"conditions of licence"** should be imposed for the period of operations and following exhaustion of the site.

* Soil contamination by oil, fuels or chemical substances must be avoided.
* Topsoils should be retained in storage for eventual re-deployment after exhaustion of the pit.
* Incremental staging of removal and rehabilitation is recommended.
* Rehabilitation should be either for agricultural or forestry and wildlife purposes.

.

Signed:

.....
Hans von Rosen

Pinegrove Biotechnical
Consulting and Planning
agriculture technologist
fish & wildlife technologist
wetland classification evaluator

7.0 Municipal and / or Conservation Authority Review

Names of the Natural Heritage Areas: Darling Township Forest (ANSI)
Craigs Creek (Brook Trout Stream)
BroadBrook Creek (Brook Trout Stream)

a. Does the checklist accurately describe impacts?----------

---

b. Is additional information or study required? (Y/N) if yes specify.----------
---
---

c. The project is acceptable with the following conditions.----------
---
---

d. The project is unacceptable for the following reasons:----------
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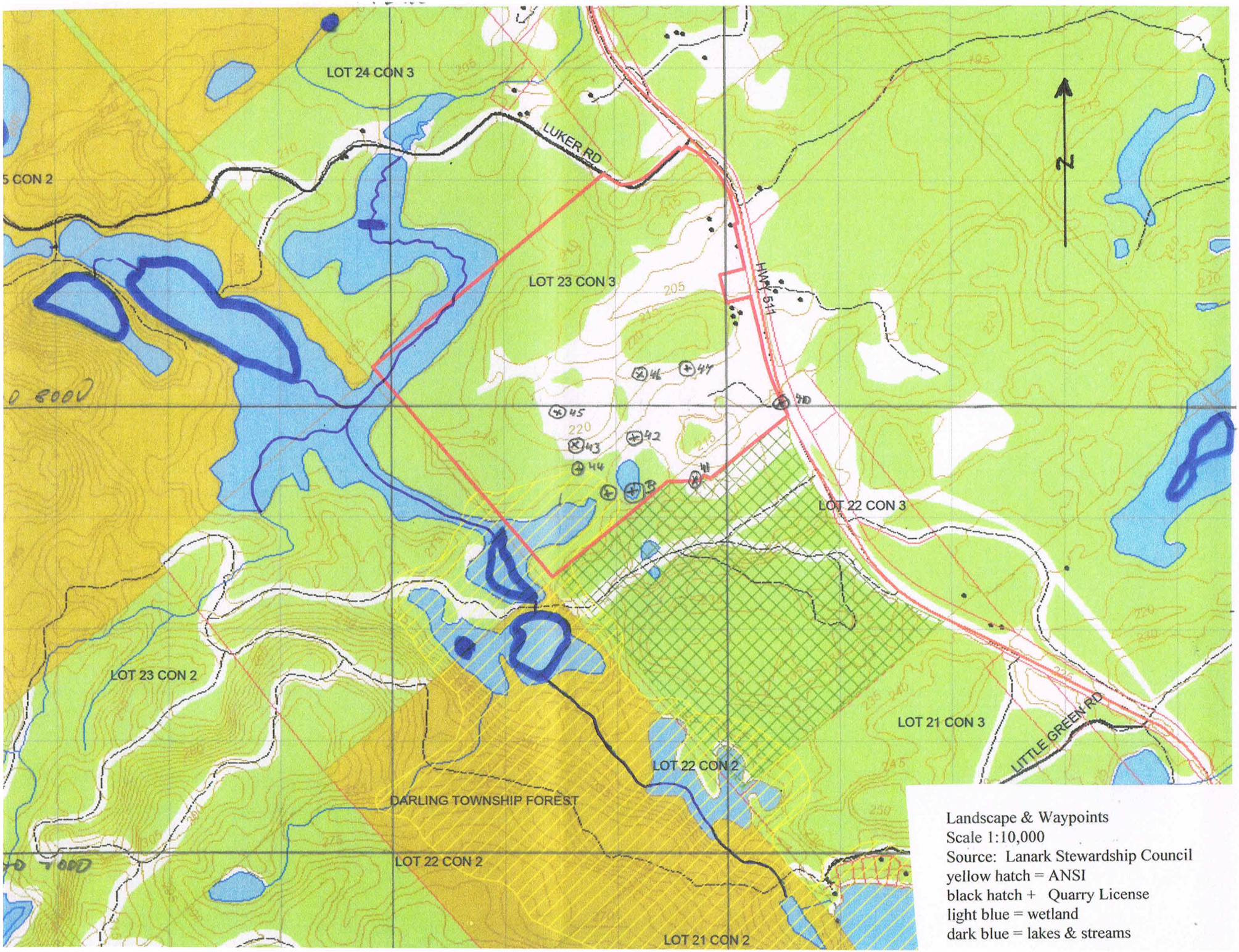
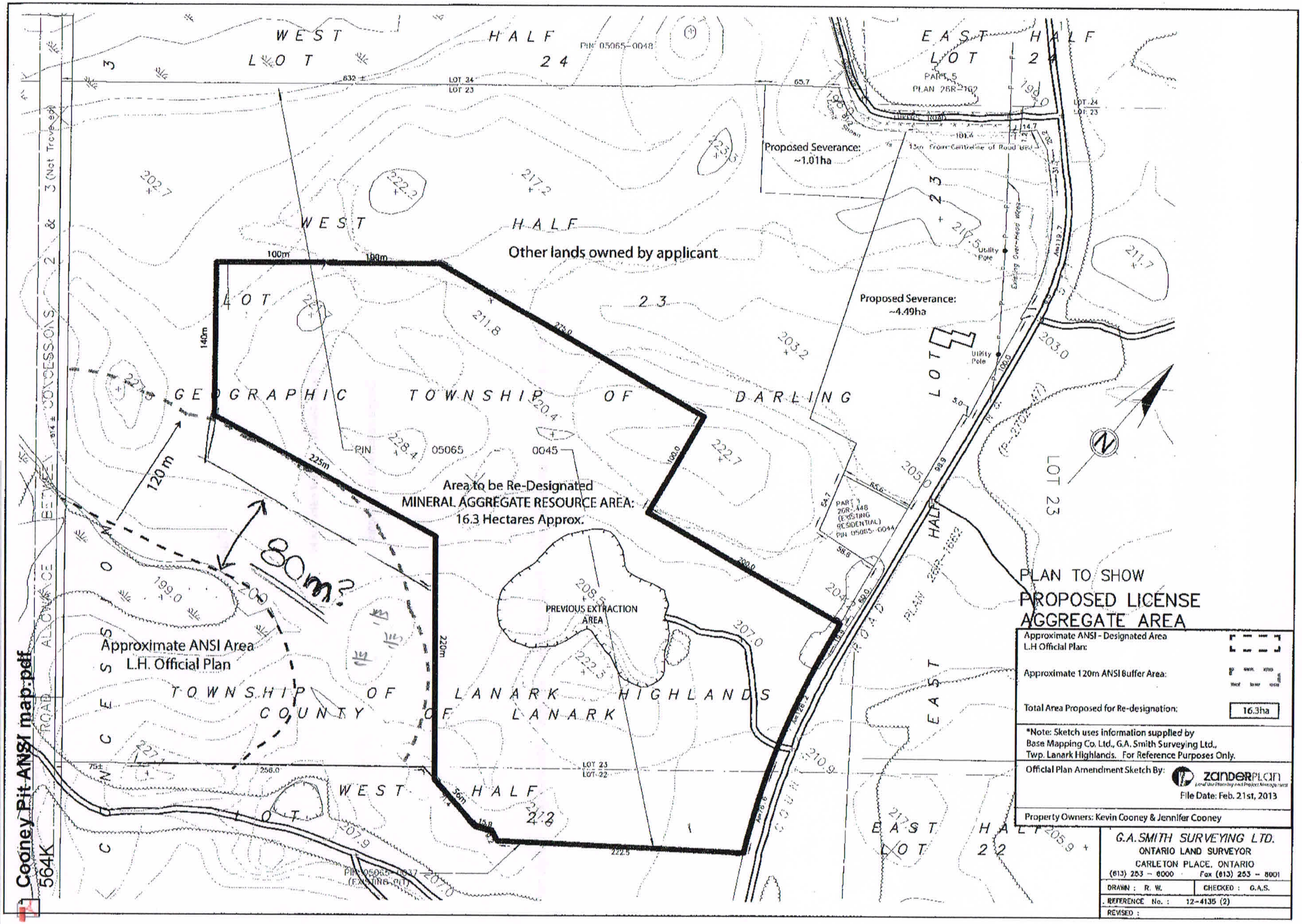
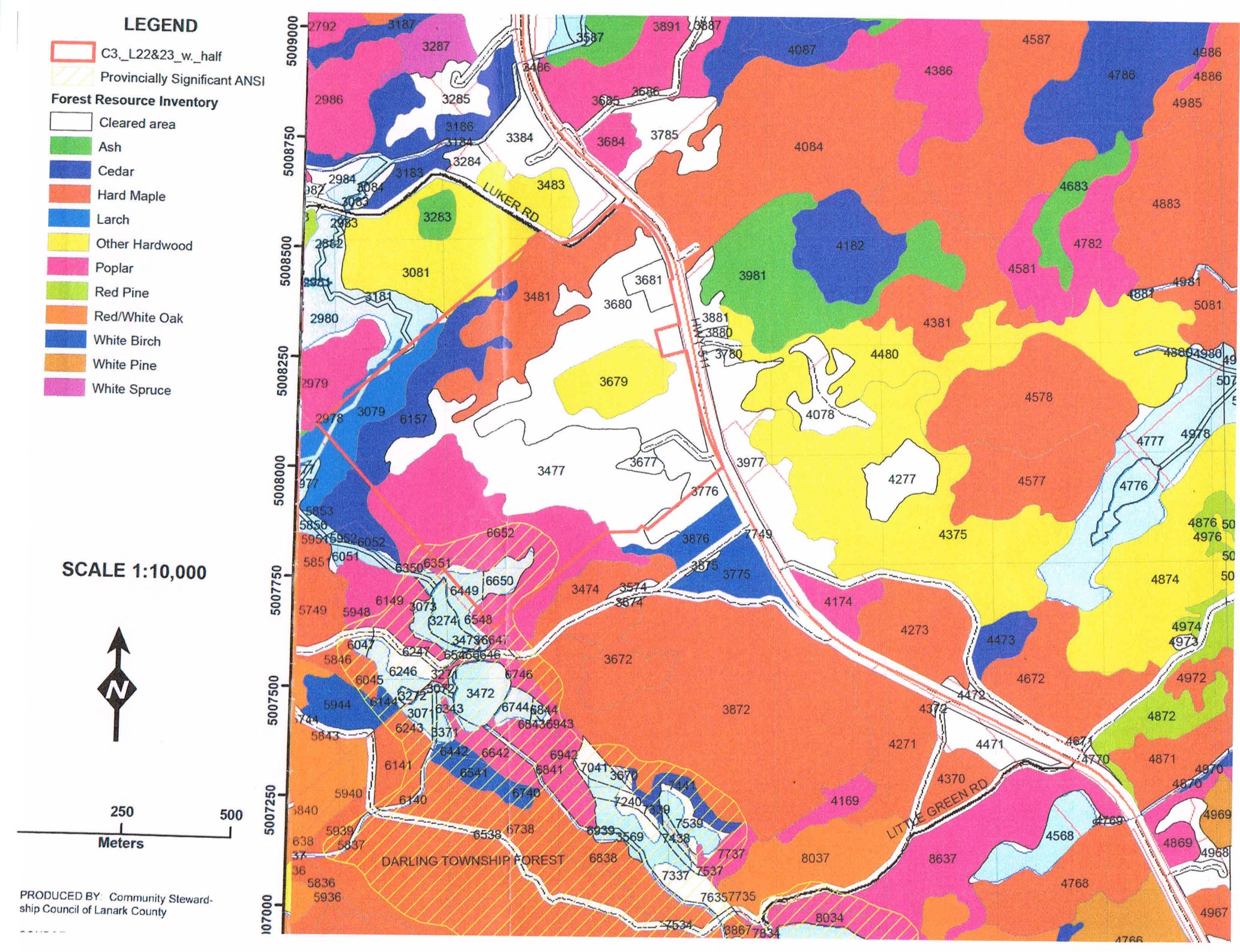
Municipal Reviewers:.....

MNR Reviewer.....


LOT 24 CON 3
LUKER RD
5 CON 2
LOT 23 CON 3
HWY 511
N
LOT 22 CON 3
LOT 23 CON 2
LOT 21 CON 3
LITTLE GREEN RD
LOT 22 CON 2
DARLING TOWNSHIP FOREST
LOT 22 CON 2
LOT 21 CON 2
Landscape & Waypoints
Scale 1:10,000
Source: Lanark Stewardship Council
yellow hatch = ANSI
black hatch + Quarry License
light blue = wetland
dark blue = lakes & streams


PLAN TO SHOW
PROPOSED LICENSE
AGGREGATE AREA
Approximate ANSI - Designated Area
L.H Official Plan:
Approximate 120m ANSI Buffer Area:
Total Area Proposed for Re-designation:
16.3ha
*Note: Sketch uses information supplied by
Base Mapping Co. Ltd., G.A. Smith Surveying Ltd.,
Twp. Lanark Highlands. For Reference Purposes Only.
Official Plan Amendment Sketch By:
zanderplan
File Date: Feb. 21st, 2013
Property Owners: Kevin Cooney & Jennifer Cooney
G.A.SMITH SURVEYING LTD.
ONTARIO LAND SURVEYOR
CARLETON PLACE, ONTARIO
(613) 253 - 6000
Fax (613) 253 - 6001
DRAWN : R. W.
CHECKED : G.A.S.
REFERENCE No. : 12-4135 (2)
REVISED :
Other lands owned by applicant
Proposed Severance:
~1.01ha
Proposed Severance:
~4.49ha
Area to be Re-Designated
MINERAL AGGREGATE RESOURCE AREA:
16.3 Hectares Approx.
PREVIOUS EXTRACTION
AREA
Approximate ANSI Area
L.H. Official Plan
120 m
80m?
GEOGRAPHIC TOWNSHIP OF DARLING
TOWNSHIP OF LANARK HIGHLANDS
COUNTY OF LANARK
WEST HALF LOT 24
EAST HALF LOT 24
WEST HALF LOT 23
LOT 23
EAST HALF LOT 22
WEST HALF LOT 22
CONCESSION 3
ROAD ALLOWANCE BETWEEN CONCESSIONS 2 & 3 (Not Travelled)
COUNTY ROAD
PIN 05065-0048
PIN 05065-0045
PART 3
26R-448
(EXISTING RESIDENTIAL)
PIN 05065-0044
PART 5
PLAN 26R-162
PLAN 26R-16652
Utility Pole
100m
180m
140m
225m
220m
56m
222.5
Cooney Pit ANSI map.pdf
564K


LEGEND
C3._L22&23_w._half
Provincially Significant ANSI
Forest Resource Inventory
Cleared area
Ash
Cedar
Hard Maple
Larch
Other Hardwood
Poplar
Red Pine
Red/White Oak
White Birch
White Pine
White Spruce
SCALE 1:10,000
N
250
500
Meters
PRODUCED BY: Community Steward-ship Council of Lanark County
LUKER RD
LITTLE GREEN RD
DARLING TOWNSHIP FOREST
5009000
5008750
5008500
5008250
5008000
5007750
5007500
5007250
5007000

2019 Update

of a

Level A 1
Natural Environmental Impact Assessment
dated Feb. 14, 2013

for: Cooney Construction
& Landscape Ltd.

re: Re-Zoning for an Aggregate Extraction Licence
Pt. Lot 23, Concession III, Darling
Township of Lanark Highlands

prepared by:
Hans K. von Rosen
Pinegrove Biotechnical
1355 Pine Grove Rd;
Lanark, Ontario, K0G 1K0

Office Tel.: (613) 259-2847

Email: hkvonrosen@gmail.com

Date: 27. September 2019.

8.0 Explanation:

In March 2013 an Environmental Impact Statement was prepared for re-zoning a planned Class B Aggregate Extraction Operation. The site abuts an active Class A Licence area, owned and operated by Cavanagh Construction Ltd.
It is in close proximity to an area of Natural and Scientific Interest, evaluated as a SIGNIFICANT LIFE SCIENCE ANSI, underlain by marble and covered by Mh, By, Or, Bd, Be and some BN.
A stream carrying naturally reproducing Brook Trout runs along the western and northern boundaries.
A particular question to be addressed was whether the setback surrounding the ANSI could be reduced from 120m to 80m.
The subject lands include potential habitat for species at risk (SAR).
No surveys for SAR or for lesser vegetation were conducted due to the early season.

Lacking more specific information regarding the above, a reduction of the setback could not be recommended at the time.

SAR surveys were recommended to outline mitigative measures, if needed.
A hydro-geological assessment was recommended to determine possible impacts on coldwater recharge to the stream and significant fish habitat.

The re-zoning application was not proceeded with at the time.

A subsequent hydro-geological assessment showed that the proposed gravel extraction operation is not expected to result in significant negative impacts upon the trout stream.

On September 16, 2019 a joint field inspection was carried out by Mr. Kevin Cooney, owner of the property, and Hans von Rosen of Pinegrove Biotechnical, to determine the applicability of the 6-year old report under the current Natural Heritage Policy.

9.0 GPS Site Positions, (NAD 1983)

Stn.	description	easting	northing
#1	25m north-east of SW wetland, on old trail, 100m from ANSI	373521	5007931
#2	NW trail, 90m from ANSI, young mixed conifer & intolerant hardwoods re-colonizing formerly cleared grasslands east, mixed age tol. hdwds and conifer west.	373449	5007895
#3	west loop of trail, 150m north of ANSI, 210m east of Craigs Creek old trail turns east, mixed age tol. hdwd. forest, between 2 ridges.	373131	5007950
#4	within prop. lic. area. open grassland, single free standing Bn 45 years old, showing canker	373441	5008006
#5	on proposed bdy. line, turning E. open grass area	373537	5008072

10.0 Location Reviews:

10.1 South boundary line, (section one)

This boundary abuts to an active aggregate and quarry, presently licensed Class A.
No additional setbacks for NH values required.

10.2 South-western boundary line, (section two)

This boundary more or less follows an overgrown historic farm road, starting at Stn 1, 35m north of a small wetland pond, and running at 280 deg mag. for about 120m to Stn.2. It marks the westerly edge of the glacio-fluvial outwash deposit of gravel and sand found in the centre of the subject area. At Stn.2 this road is situated approximately 9 NNE of the edge of the ANSI.

10.3 Westerly loop, (section 3)

Near Stn. 2 the road swings westerly for about 220m inn a valley between a high sandy hill to the north and a moderate rise to the south. Timber cover on both sides of the road consists of mature Mh, Aw, Or, Bd, Iw. Ground vegetation is bracken fern and ephemeral spring flowers. Particular attention was paid to confirm presence or absence of species at risk, such as American Ginseng END and orchids such as Yello Ladyslipper SC. None were sighted. The valley marks the edge of the outwash deposit. Setback from the edge of the ANSI is about 90m.

10.4 North-westerly boundary line, (section 4)

At Stn. 3 the farm road swings north-easterly at the bottom of the hill for about 200m, thence turning east-north-easterly for a further 200m. Rising steeply to the south-east of the road is a stand of Mh, Po, Bd, Bw, Ce. for a width of <100m, giving way uphill to former open grasslands which are thinly invaded by scattered Aw, Ce, Pw, Mh. Vegetation to the north-west of the old road consists of mature Bw, & Po changing to wetland Cedar and Tamarack. Craigs Creek is located more or less 150m to the north.

10.5 North-easterly boundary line, (section 5)

This section of the boundary line runs southerly on high ground. It skirts the west edge of a mature hardwood stand composed of Aw, Or, Mh, Bd, Be. After 100 m it turns easterly at Stn. 5, to continue east to the highway. Vegetation is composed entirely of grasses and forbs.

10.6 Northerly hilltop area, (section 6).

This area, which is centred by Stn. 4, lies within the proposed work area. More specificallty it is situated immediately east of a small hill top and 200m north-west of the existing historical pit.
The surrounding vegetation is grassland, interspersed with isolated pioneer hardwood copses.
No Prairie fringed orchids were sighted.

Note: A single butternut tree was sighted, located within the centre of the aggregate resource area at Stn. 4. Details below at 11.3 (a)

11.0 Issues to be resolved:

a) Anticipated impacts on coldwater recharge to the trout stream:
b) Reduction of the setback from the ANSI by 40m, from 120 to 80 m.
b) Presence or absence of Species at Risk, and mitigative measures therefor.

11.1 Coldwater recharge:

This concern was resolved by a hydro-geological assessment by McIntosh / Perry of Perth Ont.

11.2 ANSI Setbacks: note: These comments are based on the field observations made on Sept. 16, as applied to the outline of the ANSI as shown on the of the Ministry of Natural resources and Forestry.

a) For section 1: None required. (see 10.1 above).

b) For section 2 (see 10.2 above).
A reduction of the setback for the ANSI further west would encroach on the "adjacent" zone surrounding the small wetland, which is situated to the NE and outside the ANSI. It is therefore not recommended. Alternatively it is suggested that the future boundary be situated along the overgrown farm road, which starts at Stn. 1 and proceeds to Stn. 2 and beyond.

b) For section 3 (see 10.3 above).
At its easterly half of the section the presently outlined setback is located variously between 90m and 80m from the ANSI edge as shown on the MNRF map. A further reduction is not recommended.
However, at the westerly half of the loop the presently outlined pit boundary could readily by extended to the bottom of the hill, without harmfully impacting the adjacent area of the ANSI. Utilizing the overgrown farm road as demarcation is recommended See Stn. 3.

c) For section 4 (see 10.4 above).
Neither the proximity to the ANSI, the distance from Craigs Creek, nor the distance from the wetland which borders the creek are a concern of this section. It is recommended to consider the old road, which runs north-easterly as a boundary.

11.3 Species at Risk Plants: see pg. 14 and 15 of the 2013 EIS, attached.
Butternut END (endangered species) A single, free standing, mature butternut was sighted at Stn. 4. The tree, bearing a crop of nuts, is estimated 45 years of age. Die-back on the outer twigs indicates infection with butternut canker. No juvenile butternut trees were sighted in the vicinity, or in transects of the grasslands.

Mitigation: A 25m radius protective no action circle, plus a further 25m restricted activity AOC (area of concern) to be created around the standing tree.

Removal of a Butternut an endangered species, as well as the appropriate compensatory planting of young trees in an alternate location, would require the approval of the Ministry of the Environment and Climate Change, (Kemptville ON)

Ginseng none sighted.
Orchids none sighted.

11.4 Species at Risk Animals: see pg. 14 and 14 of the EIS.
a) **Whip-poor-will** THR (threatened). A night feeding and night calling insectivore, ground nesting at the forest edge. Noticeably in decline since about 1980. Presence of absence best determined by listening stations between late May and mid July. Possibly present on the subject lands, but not confirmed due to inappropriate season. Mitigative action, if found present, would consist of establishing a 50m AOC around the calling site.

b) **Bobolink and Eastern Meadowlark** END (endangered). Two grassland bird species nesting in prairie habitat, or little used or abandoned hayfields. Possibly present on the grasslands. Not confirmed due to season. Best confirmed by listening stations during early nesting season, and/or using a flushing dog.

c) **Blandings Turtle** END. A turtle of shallow clear waters, who wanders extensively onto warm, sandy nesting sites for egg incubation. Does not normally cross belts of dark cool microclimates adjacent to its home waters, such as cedar stands. Not expected on the subject lands, but possibly present. Not confirmed. Best determined in early June by transects..

12. Conclusion & Recommendation:

12.1 Boundary adjustment:
Extension of the westerly boundary to include the old farm road is not expected to harmfully impact Natural Heritage functions, and is therefore recommended. The 40m southerly adjustment as shown in the original sketch can not be supported.

12.2 Solitary Butternut:
A work exclusion AOC to be imposed around the solitary butternut spotted at Stn. 4.
Alternatively MOE&CC should be contacted regarding the removal of the tree and the compensatory planting of replacement butternuts instead.

12.3 Species at Risk:
Surveys for WPW, BBL, ML and BLT to be scheduled between late May and mid July next, to determine mitigation measures for the above species, if found to be present.

.....
Hans von Rosen
Pinegrove Biotechnical

Municipal and / or Conservation Authority Review

Names of the Natural Heritage Area: Darling Twp. Forest (ANSI)
Craigs Creek (brook trout stream)

a. Does the check list accurately describe impacts?

.....

.....

b. Is additional information required?

.....

.....

c. The project is acceptable with the following conditions.

.....

.....

d. The project is not acceptable for the following reasons.

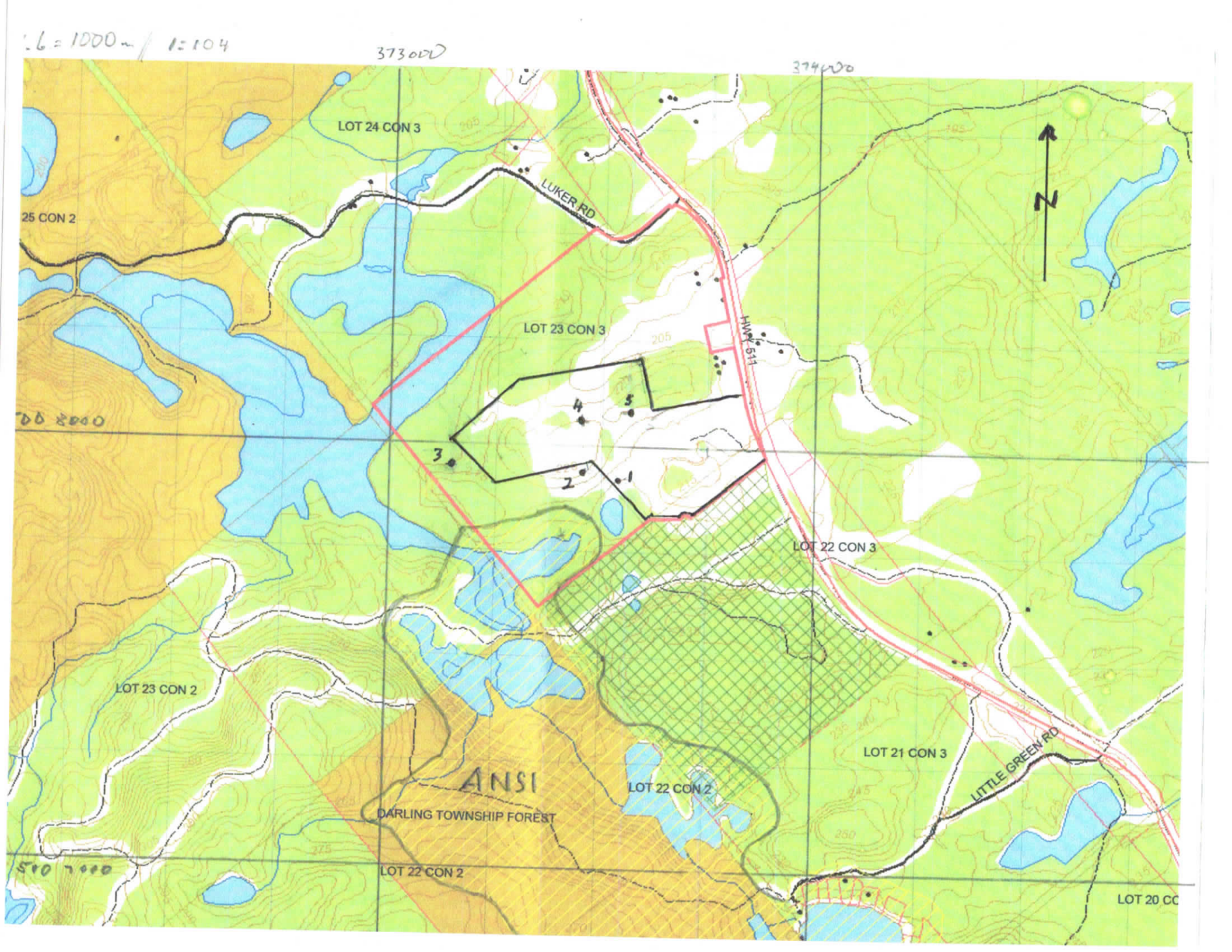
.....

.....

.....

Reviewer: .....

Date: .....


LOT 24 CON 3
LUKER RD
25 CON 2
LOT 23 CON 3
HWY 511
N
4
5
3
2
1
LOT 22 CON 3
LOT 23 CON 2
ANSI
DARLING TOWNSHIP FOREST
LOT 22 CON 2
LOT 21 CON 3
LITTLE GREEN RD
LOT 22 CON 2
LOT 20 CC

Amendment
of a
Natural Environmental Impact Assessment
dated Feb. 14, 2013

for: Cooney Construction
& Landscape Ltd.

re:
Pt. Lot 23, Concession III, Darling
Township of Lanark Highlands

prepared by:
Hans K. von Rosen
Pinegrove Biotechnical
1355 Pine Grove Rd;
Lanark, Ontario, K0G 1K0

Office Tel.: (613) 259-2847

Email: hkvonrosen@gmail.com

Date: 14. November 2020

14.0 Explanation:

This amendment covers an alteration of the western boundary line of the Aggregate Extraction Area. Purpose of the line relocation is to utilize the "natural indicator" of an already existing old farm road as a boundary marker. A field inspection on Sept. 24, 2020 established the following:

The revised line, i.e. the old farm road, is situated north and outside of of the DARLING FOREST, which is a SIGNIFICANT LIFE SCIENCE ANSI.
The old farm road lies at the foot of the glacial deposit, which constitutes the aggregate.
The road marks a noticeable change in tree species composition.
Craigs Creed, a coldwater stream west of the aggregate area, contains a naturally reproducing Brook Trout population.

The amendment will NOT impact the Darling Forest ANSI.
The amendment will NOT impact the recorded species composition of the ANSI.
The amendment will NOT impact the coldwater re-charge of the trout stream.

The amendment will reduce the "Adjacent Area" setback from a generic 120m to 70m, 55m, 50m and 70m respectively, for a lenght of 220m between the old road to the ANSI boundary.

No negative impacts upon significant Natural Heritage Values are forseen by reducing the Adjacent Area to the location of the old farm road.

Outstanding issues which were flagged in the 2013 EIS, such as Species At Risk (SAR) assessments for Meadowlark, Bobolink and Whip-poor-will and Blandings Turtles, were covered in the 2019 Addendum to the EIS.

15.0 Summary of GPS Positions, (NAD 1983)
2013, 2019, & 2020

taken in 2013 **NAD 1983**

Wpt. station	description		easting	northing	comments
040			373866	5008007	gate
041			373657	5007814	SW bdy. jog lot 22
042			373525	5007901	N of open slew
042 B	80 m south	of 042			S side of slew
042 C	60 m W	of 042 B			W of slew, timber ridge in ANSI
043			373393c	5007871	SW corner clrg, old timber road W
044			373403	5007816	ANSI tongue, mx. conif. & hdwd.
045			373354	5007952	open hill top, steep drop west
046			373534	5008074	open top ridge, 3 pegs
047			373638	5008078	single peg

taken in 2019

Stn.	description	NAD 1983 easting	NAD 1983 northing
#1	25m north-east of SW wetland, on old trail, 100m from ANSI	373521	5007931
#2	NW trail, 90m from ANSI, young mixed conifer & intolerant hardwoods re-colonizing formerly cleared grasslands east, mixed age tol. hdwds and conifer west.	373449	5007895
#3	west loop of trail, 150m north of ANSI, 210m east of Craigs Creek old trail turns east, mixed age tol. hdwd. forest, between 2 ridges.	373131	5007950
#4	within prop. lic. area. open grassland, single free standing Bn 45 years old, showing canker	373441	5008006
#5	on proposed bdy. line, turning E. open grass area	373537	5008072

taken in 2020 **NAD 1983**

Wpt. #.	description	easting	northing	latitude	longitude
1 13	truck stop NE of small wetland patch	373592	5007920	45d 12.805	076d 36.591
114	turn on road to 240 deg.mag	373533	5007931	45d 12.811	076d 36.635
115	30m n of small wetland patch	373498	5007901	45d 12.794	076d 36.662
116	on old road	373441	5007890	45d 12.787	076d 36.705
117	on old road, bottom of hill	373359	5007887	45d 12.785	076d 36.768
118	turn more northerly, SW of aggreg.	373338	5007889	45d 12.786	076d 36.784
119	wetland edge, off old road	373369	5007796	45d 12.736	076d 36.759

16.0 Boundary Amendment (see item 10.0 of the EIS)

* The amended boundary follows an historic farm road, starting from Wpt. 113, which is situated north-east of a small wetland. This wetland is not a part of the ANSI;
* proceeding westerly for about 50m, and with a 30m offset from the wetland patch to Wpt. 114,
* thence WSW on 240 deg.mag to Wpt 115,
* thence further westerly on the old road to Wpt's. 116, 117 and 118
* then north-westerly to connect with the original extraction area boundary,

(see Stn. 3 of the original EIS).

Note: Wpt's 115, 116, and 117 mark the westerly edge of the deposit.

17.0 Landscape Description

for a more detailed description of vegetation and landscape see items 10.2 and 10.3 of the EIS dated Sept. 2019, repeated below.

> ***10.2 South-western boundary line, (section two)***
> *This boundary more or less follows an overgrown historic farm road, starting at Stn 1, 35m north of a small wetland pond, and running at 280 deg mag. for about 120m to Stn.2. It marks the westerly edge of the glacio-fluvial outwash deposit of gravel and sand found in the centre of the subject area. At Stn.2 this road is situated approximately 90m NNE of the edge of the ANSI.*
>
> ***10.3 Westerly loop, (section 3)***
> *Near Stn. 2 the road swings westerly for about 220m in a valley between a high sandy hill to the north and a moderate rise to the south. Timber cover on both sides of the road consists of mature Mh, Aw, Or, Bd, Iw. Ground vegetation is bracken fern and ephemeral spring flowers. Particular attention was paid to confirm presence or absence of species at risk, such as American Ginseng END and orchids such as Yellow Ladyslipper SC. None were sighted. The valley marks the edge of the outwash deposit. Setback from the edge of the ANSI is about 90m.*

18.0 SAR concerns within the amendment:

<u>Bobolink END and E. Meadowlark END,</u> two grassland bird species..... none.

(a)The mature forest habitat south of the old farm road is unsuitable for grassland birds.

(b)The meandering early morning transect carried out with assistance of a flushing dog in Sept. 2019 did not reveal either Bobolink or Meadowlarks in the semi open shrublands north of Stn. 2 (2019), which is almost identical to Wpt. 116 (2020).....
The species considered not present.

Whip-poor-will END, a nocturnal insectivorous bird..... unknown.
According to the endangered species protocol, WPW assessments are to be carried out in the prime calling season of the species; i.e. between late May to early July, about one hour after sunset or one hour before sunrise respectively, at a night when the moon is visible.
Assessments during the "shoulder season" i.e. July or August are deemed less reliable.
Since all field work on the subject lands was carried out in the "shoulder seasons" namely Sept. 2013, Sept. 2019 and October 2020, the absence of the species on the subject lands is not confirmed.

Note: WPW have declined significantly in Lanark Highlands since about 1990, and are ..... not expected to be present. *(pers. observation H.v.R.)*

Blandings Turtles END and Snapping Turtles SC: ..... not seen
Both species migrate relatively long distances from open aquatic habitat, to warm grass covered incubation areas.

Note: Travel through cool micro climates such as conifer belts are generally avoided *(personal knowledge H.v.R.).*
Since the setback of open water of Craigs Creek from the closest point of the proposed amended pit boundary is 190 m (Wpt. 118) and larger at Wpt. 117, 116, & 115 , and since the near-water side of the 60m wide ANSI Adjacent Area is predominantly cedar covered, the presence of Blandings and Snapping Turtles in the open grasslands north of the proposed new boundary line is ..... considered unlikely.

Other Species At Risk
Yellow Ladyslipper SC, Ginseng END, Butternut END..... none, covered under 11.3 EIS

19.0 ANSI Setbacks:
The amendment will shift the south-westerly boundary of the extraction area southward and onto the existing old farm road.
This will reduce the ANSI "Adjacent Area" Setback from a generic 120m,
to 60m at Wpt. 115, 50m at Wpt. 116 and 90m at Wpt. 117 respectively, over a lenght of 220m between the old road to the ANSI boundary. No negative impacts upon the ANSI or upon other significant Natural Heritage Values are forseen.

20.0 Conclusion.

Boundary Adjustment

Adjusting the south-western boundary southward to the old farm road between Wpt. 113 to 118 (of 2020), and thereafter to continue along the previously established line as outline by the land survey of G.A.Smith Surveying Ltd. is recommended.

.....

Hans von Rosen
Pinegrove Biotechnical

Municipal and / or Conservation Authority Review

Names of the Natural Heritage Area: Darling Twp. Forest (ANSI)
Craigs Creek (brook trout stream)

a. Does the check list accurately describe impacts?

.....

.....

b. Is additional information required?

.....

.....

c. The project is acceptable with the following conditions.

.....

.....

d. The project is not acceptable for the following reasons.

.....

.....

.....

Reviewer: .....

Date: .....

Ontario **Ministry of Natural Resources and Forestry**
Make A Map: Natural Heritage Areas

Looking for a Park, Reserve or Wetland? Enter the name

About Bookmarks Map Layers Find Information Markup & Printing Measure

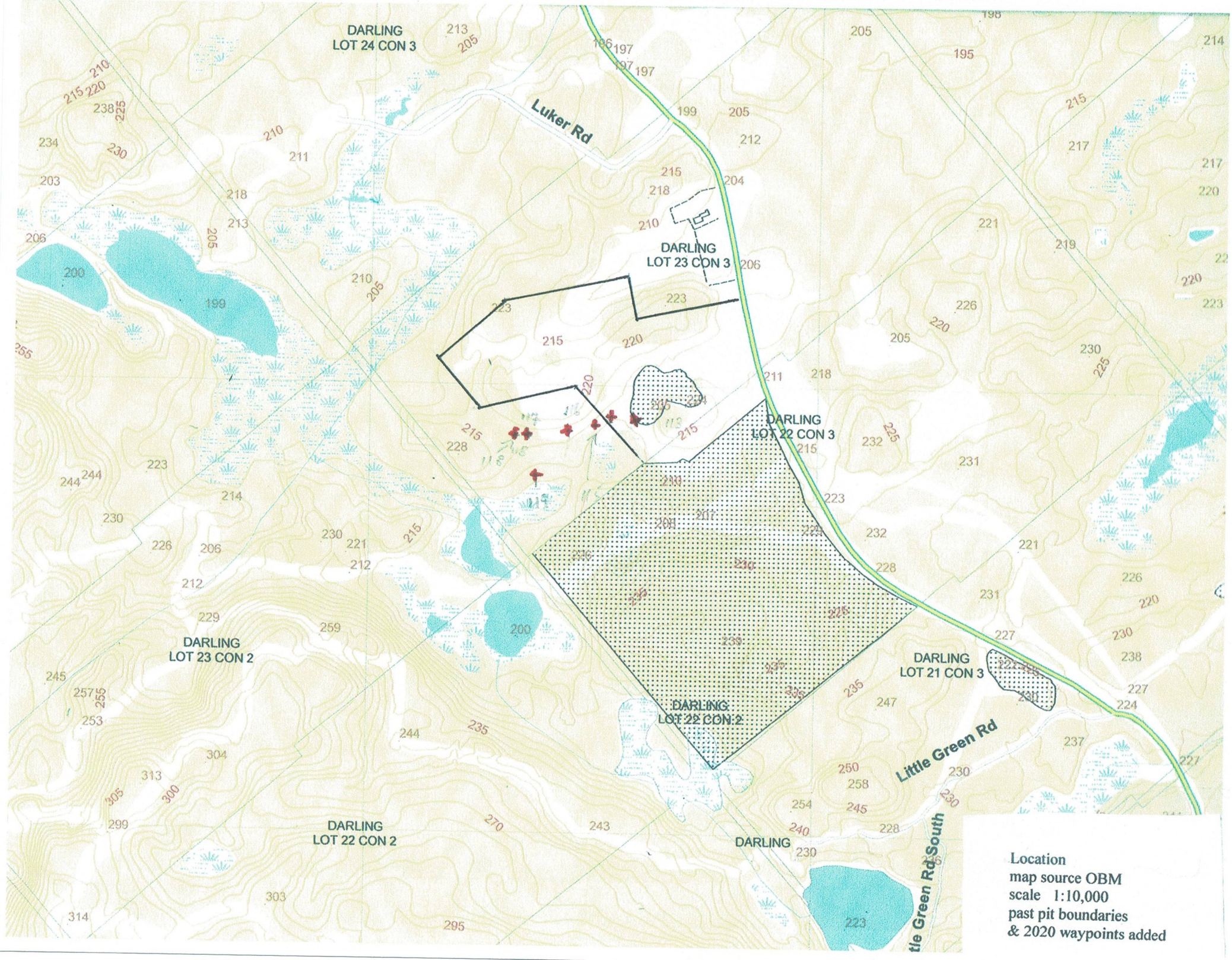
About Help

Select Map Layers

- [ ] ORM Boundary
- [ ] NEP Boundary
- [ ] NEP Parks and Open Space System
- [ ] NEP Minor Urban Centres
- [ ] Greenbelt Hamlets
- [ ] Greenbelt External Connections
- [x] Wetland
- [ ] Woodland
- [x] ANSI
- [x] Conservation Reserve
- [ ] Provincial Park
- [ ] Greenbelt Towns and Villages

3.2 = 200 m 1.0 = 62.5 m

About Search By... Select Ma...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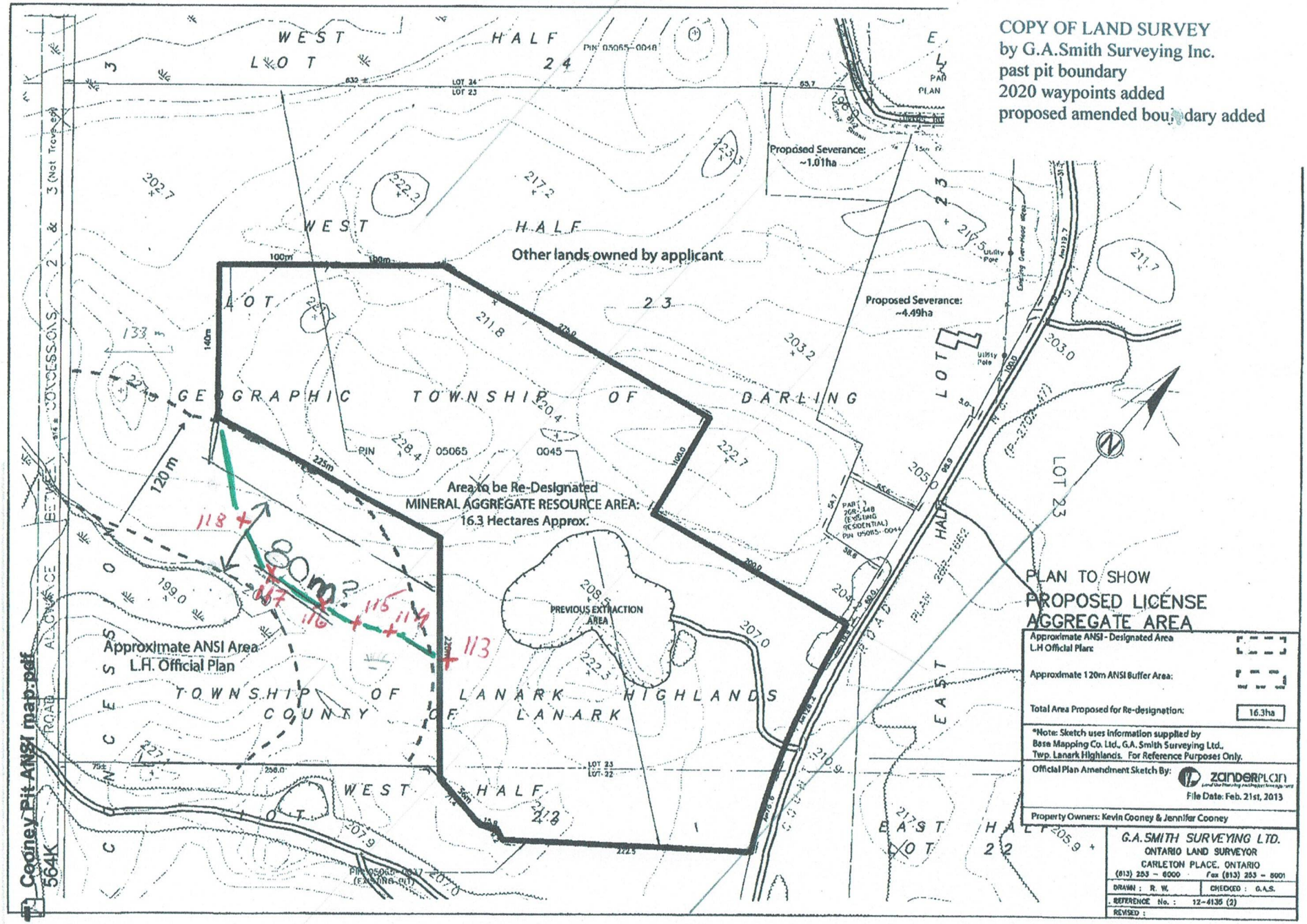
Luker Rd
DARLING
LOT 23 CON 3
DARLING
LOT 22 CON 3
DARLING
LOT 23 CON 2
DARLING
LOT 22 CON 2
DARLING
LOT 21 CON 3
DARLING
LOT 22 CON 2
Little Green Rd
Little Green Rd South
Location
map source OBM
scale 1:10,000
past pit boundaries
& 2020 waypoints added


COPY OF LAND SURVEY
by G.A.Smith Surveying Inc.
past pit boundary
2020 waypoints added
proposed amended boundary added
WEST HALF LOT 24
PIN 05065-0048
Proposed Severance: ~1.01ha
Other lands owned by applicant
LOT 23
Proposed Severance: ~4.49ha
GEOGRAPHIC TOWNSHIP OF DARLING
PIN 05065 0045
Area to be Re-Designated
MINERAL AGGREGATE RESOURCE AREA:
16.3 Hectares Approx.
120 m
118
117
116
115
114
113
80m?
PREVIOUS EXTRACTION AREA
Approximate ANSI Area
L.H. Official Plan
TOWNSHIP OF LANARK HIGHLANDS
COUNTY OF LANARK
CONCESSION 2 & 3 (Not Travelled)
ALLOWANCE BETWEEN
ROAD
LOT 23
EAST HALF LOT 22
PLAN TO SHOW
PROPOSED LICENSE
AGGREGATE AREA
Approximate ANSI - Designated Area L.H Official Plan
Approximate 120m ANSI Buffer Area:
Total Area Proposed for Re-designation: 16.3ha
*Note: Sketch uses information supplied by Base Mapping Co. Ltd., G.A. Smith Surveying Ltd., Twp. Lanark Highlands. For Reference Purposes Only.
Official Plan Amendment Sketch By: zanderPLAN
File Date: Feb. 21st, 2013
Property Owners: Kevin Cooney & Jennifer Cooney
G.A. SMITH SURVEYING LTD.
ONTARIO LAND SURVEYOR
CARLETON PLACE, ONTARIO
(613) 253 - 6000 Fax (613) 253 - 6001
DRAWN : R. W. CHECKED : G.A.S.
REFERENCE No. : 12-4135 (2)
REVISED :
Cooney Pit ANSI map.pdf
564K

13.04 = 620 m

Houle Chevrier Engineering

Houle Chevrier Engineering Ltd.
180 Wescar Lane, R.R. 2, Carp, ON, K0A 1L0
Ph: (613) 836-1422 Fax: (613) 836-9731

TECHNICAL MEMORANDUM

Date Sent: January 31, 2013 **Our Ref: 11-572**

To: Cooney Construction & Landscape Ltd.
Attention: Mr. Kevin Cooney
Fax No.: 613-256-8357

RE: MATERIAL TESTING

Total number of pages (including this cover page): 1

This memorandum summarizes the results of grain size distribution tests carried out on six (6) bulk samples that were received in our laboratory on November 14, 2011. We understand that the samples were collected on Land Parcel 9779, Hwy. 511, Ontario. The samples were received at our laboratory. As such, we can not confirm that the sampling was carried out in accordance with the standard protocol (LS-625, ASTM D75-03).

The following samples that meets OPSS Granular B Type I grain size distribution requirements would also meet OPSS Select Subgrade Material grain size distribution requirements: M1316, M1317, M1320. Samples M1318, M1319 and M1321did not meet the requirements. Screening and washing could be considered for these samples to meet the requirements of OPSS Granular B Type I, Winter Sand, Mortar Sand, and OBC Filter Media.

OTHER TESTING

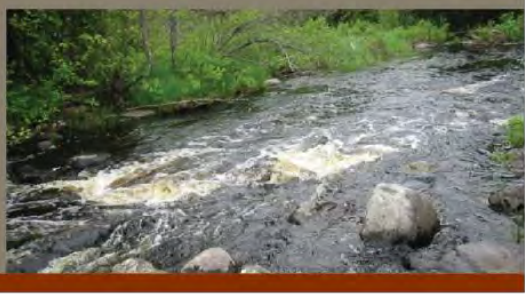
In accordance with OPSS 1010, Micro-Deval testing is required to confirm conformance with Granular B Type I and Select Subgrade requirements.

We trust that this memorandum is sufficient for your purposes. Please do not hesitate to call should you have any questions or concerns.

Yours truly,

HOULE CHEVRIER ENGINEERING LTD.

Andrei Komarov C.E.T.
Field and Laboratory Manager



Level 1 Hydrogeological Report
Proposed Cooney Pit
Lanark Highlands Township, ON

FINAL REPORT

Prepared for:

Cooney Construction & Landscape Ltd.
3193 Old Perth Road
Almonte, ON
K0A 1A0

Prepared by:

McIntosh Perry Consulting Engineers Ltd.
115 Walgreen Road
Carp, ON
K0A 1L0

February 2014

EXECUTIVE SUMMARY

This report presents the results of a hydrogeological assessment for evaluating the siting of a proposed pit in Township of Lanark Highlands, Ontario. The proposed pit property is owned by Kevin Cooney and Jennifer Cooney and is located on County Road 511 in the former Darling Township (now Township of Lanark Highlands). The legal description of the property is West Half Lot 23, Concession 3, Geographic Township of Darling, now in the Township of Lanark Highlands. The total area of the property is approximately 44 ha. The proposed extraction area for the pit is approximately 18 ha.

Overall the hydrogeological testing indicates that the site is suitable for the proposed pit with respect to potential groundwater and surface water impacts. The proposed location is predominantly cleared and has rolling topography, and has been used for grazing and other agricultural uses in the past. The overburden consists of sand and gravel as well as cobbles. This material is suitable for the use as aggregate for construction, concrete production and other purposes.

The hydrogeological testing involved an assessment of the subsurface and a review of water features and groundwater conditions. This included excavation of test pits and a review of water well records and geologic information.

The proposed pit footprint has few constraints from a hydrogeological perspective. It will be more than 120 metres from the nearest wetland and watercourse. It will be above water and a forested area will remain between the area of extraction and the nearby Area of Natural and Scientific Interest (ANSI). The overburden groundwater is not used for potable purposes in the area. The established groundwater table varies from 2 to 15 metres below the ground surface within the proposed extraction area, depending upon the season and the location on the property.

The site is suitable for a Category 3, Class “A” pit (above water table, >20,000 tonnes/year) from a hydrogeological perspective. The proposed rehabilitation of the property should include grading and some re-vegetation.

Table of Contents

FIGURES

APPENDICES

1.0 INTRODUCTION

McIntosh Perry Consulting Engineers Ltd. (McIntosh Perry) was retained by Kevin and Jennifer Cooney to conduct a hydrogeological assessment at a site in the Township of Lanark Highlands, on County Road 511 (Figure 1 and Appendix A (Photos 1 and 2)). The legal description of the property is West Half Lot 23, Concession 3, Geographic Township of Darling, now in the Township of Lanark Highlands. The total area of the property is approximately 44 ha. The proposed extraction area for the pit is approximately 18 ha. An outline of the subject property is presented on an air photo showing the surrounding area (Figure 2 and Appendix B). This study has been prepared in support of an application for approval of a proposed pit in the Township of Lanark Highlands, Ontario. The proponent is seeking a license for an open pit. Depending upon the amount of material to be extracted per year, a Class 'A' (>20,000 tonnes per year), Category 3 (pit above water) licence is being sought.

This work was conducted in general accordance with Ontario Ministry of Natural Resources (MNR) Aggregate Resources Act and pit/quarry licensing program.

The following report describes the studies that were undertaken. This work was initiated by McIntosh Perry in September of 2013. It involved the following:

- Hydrogeological assessment
- Test pit excavations
- Review of topographic survey
- Environmental data review
- Impact Assessment

The proposed development is located near the hamlet of Brightside in the Township of Lanark Highlands, Ontario (Figure 1). The subject property is located on West Half of Lot 23, Concession 3. It is bordered by County Road 511 to the east, an aggregate property to the south, a creek and wetlands to the southwest and forested and rural residential properties to the northwest and north (Figure 2). The total area of the property is approximately 44 ha, with about 18 ha proposed to be licensed (Appendix B).

The work presented herein also includes background information pertaining to the following:

- General site setting information
- Geological and Hydrogeological Background
- Site Specific Conditions
- Groundwater elevation assessment

2.0 BACKGROUND

2.1 Site Setting

The subject property is located on County Road 511 (No. 9779), in a rural area of the Township of Lanark Highlands (Appendix B).

The subject property covers an area of approximately 44 ha and is comprised of mainly open land used for grazing as well as forested areas and a former extraction area (Photos 1 and 2). There are no buildings on site. The proposed extraction area covers approximately 18 ha in the centre of the property.

This region is characterized by sand and gravel deposits, underlain primarily by gneissic rocks. The climate is humid continental with cool winters and warm summers. The mean annual precipitation is approximately 796 mm with 171 cm as snow. The mean daily temperature is approximately 5^{o}C (Environment Canada Weather Normal's (1985-2010) for Renfrew)).

The site is located at elevations between 198 and 230 m above sea level (asl). The lowest point is located at the southwestern edge of the subject property along the Creek (Figure 2 and Appendix B). The land surface is very rolling with no distinct direction of slope.

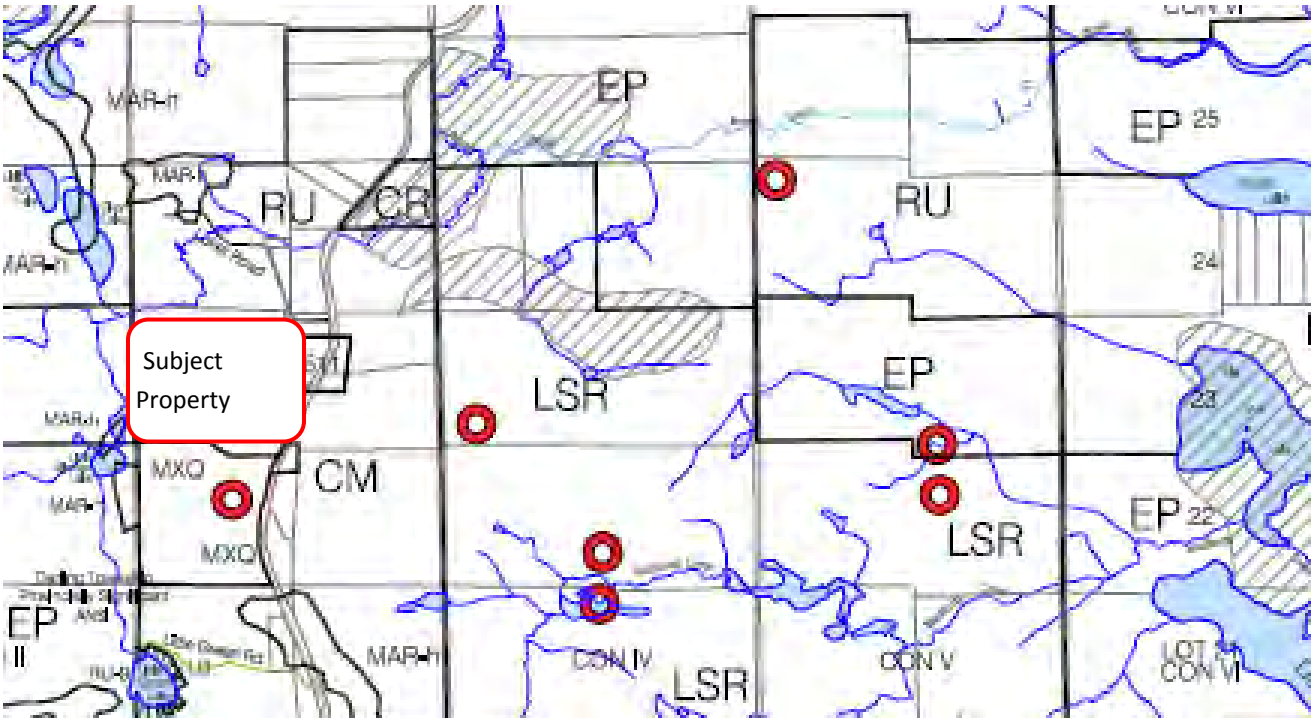
2.2 Neighbouring Properties and Land Uses

The site is located on extractive Resource Lands (Mineral Aggregate Reserve), south of Renfrew (Figure 1), on County Road 511 in a rural, generally undeveloped area of the Township of Lanark Highlands. There are three residences bordering the property to the east and northeast on County Road 511 and Lukers Road. The property to the south is already used for aggregate extraction. Land on the east side of Road 511 is forested and undeveloped. The surrounding area has no municipal services. Surrounding land uses are shown on Figure 2.

Based on the Official Plan for Lanark Highlands the present zoning of the subject property is Limited Service Residential (LSR). As noted on Figure 1 (and on the portion of the Township of Lanark Highlands Zoning By-law Map below), the neighbouring properties are zoned:

- LSR to the north, northwest, southwest and northeast
- EP (Environmental Protection) to the southwest
- CM (Commercial Industrial) to the southeast on the opposite side of County Road 511
- MXQ (Mineral Extraction Quarry) to the south/southeast

There are also two small areas to the southwest that are designated MAR-h (Mineral Aggregate Reserve (holding)).



2.3 Hydrology

The subject site occurs within the Madawaska River - Ottawa River watershed. The ground surface of the extraction area is relatively permeable and there is little overland flow. Surface water flow is generally to the west, southwest and south, towards the Area of Natural and Scientific Interest (ANSI - creek and wetland (Photo 3)). There may be some flow to the north, near County Road 511. The creek connects with Craig's Creek to the northwest of the subject property.

Craig's Creek connects with Broad Brook about 1200m north of the subject property. Broad Brook flows into White Lake (Figure 2). The nearby creek and associated ANSI is the only permanent water body within 500 m of the proposed extraction area. There is a mature forest (Photo 4) between the proposed extraction area and the wetland.

Surface drainage on the property is mainly to the southwest towards the creek (Photo 5), located adjacent to the site to the southwest. Because of the rolling topography, runoff will occur in all directions from highpoints within the proposed extraction area (Figure 3).

2.4 Background Geology and Hydrogeology

The surficial geology at the site is coarse textured granular deposits described as sand, gravel, with minor silt and cobbles. Based on test pits (Figure 4) that were excavated within the proposed extraction area, the overburden material ranges from silt to cobbles and is generally well-sorted. Well-sorted sand appears to predominate. The material is predominantly ice-contact stratified deposits with some bedrock drift complexes in the Precambrian terrain (OGS, 2013). As expected there are organic deposits in the low-lying areas to the south that form the ANSI and streambed area.

The bedrock beneath the site consists of tectonites, straight gneisses, porphyroclastic gneisses, unsubdivided gneisses in major deformation zones, mylonites and protomylonites (OGS, 2013). Based on test pits and visual observations, the depth to bedrock varies from 0m (i.e. exposures) to >5m.

Water supply for domestic purposes in the area is provided from drilled wells completed in the bedrock. There are no wells on the subject property, but neighbouring properties are all serviced by private bedrock wells.

2.4.1 Recharge/Discharge Areas

Information from topographic/geological maps and field observations indicates that the site is probably a groundwater recharge zone. Recharge occurs by precipitation and infiltration, and is of a dispersed nature, in that it occurs over a wide area by means of diffuse inter-granular infiltration through soil. Recharge will occur over much of the property at most times of the year.

The ANSI area is a groundwater discharge area.

2.4.2 Hydrogeologically Sensitive Features

The primary factors that determine the relative 'hydrogeological sensitivity' of an area are the type of recharge and the way that groundwater moves in the subsurface. The rate of recharge is controlled by seasonal variations in precipitation and infiltration. Recharge in the area is dispersed over a wide area (i.e. precipitation infiltrates over a wide area in more or less the same way and at the same rate). The rate of infiltration is relatively slow due to the finer-grained overburden material. The 'sensitivity' associated with this type of recharge is relatively low compared to areas where infiltration is controlled by structural elements such as sinkholes, karst features or open faults. There are bedrock outcrops on, and within 500 m of, the subject property.

Hydrogeologically sensitive features such as wetlands, or areas that limit or promote infiltration, are located in the vicinity of the site. The ANSI area is a sensitive feature as its hydrologic function is controlled to some extent by groundwater discharge, whose source is partly infiltration of precipitation on the subject property, including the proposed extraction area.

2.4.3 Potential Sources of Contamination

A windshield survey of the area was conducted in combination with a review of maps, and zoning information for the subject property and surrounding area. The site is located in rural area and is designated 'Rural'. The surrounding lands are zoned Rural or Mineral Extraction. Most of the surrounding land is unused (forested), used for agriculture or aggregate extraction, or used for residential properties.

The only three potential sources of contamination were therefore limited to farming operations, the presence of above ground fuel storage tanks on neighbouring properties and septic systems. None of these potential sources of contamination is significant with respect to potential water supply well impact or long-term groundwater impact.

3.0 HYDROGEOLOGICAL ASSESSMENT

McIntosh Perry conducted this hydrogeological assessment in support of an application for a Pit Licence, as required by the Aggregate Resources of Ontario, Provincial Standards, Version 1.0; Category 3 – Class "A" Pit Above Water. The objective of this assessment was to determine the requirements for the operation of a pit at this site in accordance with the Aggregate Resources Act with respect to the protection of groundwater resources. In particular, the following were evaluated:

- Impact on water resources (groundwater and surface water)
- Depth to water table
- Setback requirements (property boundaries, waterways, etc.)

3.1 Results

3.1.1 Water Level Assessment

Four test pits were excavated within the proposed extra area. All were located at lower ground surface elevations within this area. These data are presented in the test pit logs (Appendix C).

3.1.2 Water Well Record Review

McIntosh Perry requested a search of the Ontario Ministry of the Environment (MOE) well record database (i.e. the Water Well Information System) for wells in the vicinity of the subject property. Ten records that occur within 1000m of the proposed extraction area were identified (Appendix D, Figure 4 and Table 1). It is noted that the locations of the wells on this figure are not considered accurate as some of the historical input data in the MOE Well Record database are incorrect.

The well depths range from 22.9 to 152.4 meters below ground surface (m bgs). The depth to bedrock at these locations varied from 0 m bgs to 4.9 m bgs. All the wells were completed in bedrock. The average depth to bedrock was 2.7m.

Table 1
Summary of Well Record Search

Well ID	Date Completed	Total Depth (m)	Depth to Bedrock (m)	Static Water Level (m bgs)
3500669	27/10/1958	22.9	4.6	4.6
3504550	26/05/1976	22.9	4.3	4.9
3505798	10/07/1976	27.4	3.0	3.7
3505799	10/07/1976	27.4	0.3	3.0
3507180	16/08/1985	73.2	3.7	12.2
3508517	23/09/1988	54.9	2.1	12.2
3508836	11/04/1989	56.1	0.9	10.7
3513178	25/11/2000	30.5	3.0	9.8
3514583	18/06/2004	50.0	4.9	6.8
7115722	17/10/2008	152.4	0.0	11.5
	Minimum	22.9	0.0	3.0
	Maximum	152.4	4.9	12.2
	Mean	51.8	2.7	7.9

Total of 10 bedrock wells within 1 km of proposed pit boundary

4.0 SUMMARY OF CONDITIONS

McIntosh Perry prepared this report to present the results of a hydrogeological assessment for evaluating the siting of a proposed pit in Township of Lanark Highlands, Ontario. The proposed pit property is owned by Kevin Cooney and Jennifer Cooney and is located on County Road 511 in the Township of Lanark Highlands. The legal description of the property is West Half Lot 23, Concession 3, Geographic Township of Darling, now in the Township of Lanark Highlands. The total area of the property is approximately 44 ha. The proposed extraction area for the pit is approximately 18 ha.

4.1 Hydrogeology

The surficial geology at the site consists predominantly of coarse-textured ice contact deposits described as sand, gravel, with minor silt and cobbles. This material is saturated over most of the extraction area and is relatively permeable. Since these deposits are discontinuous, being interrupted by bedrock outcrops, flow directions are difficult to define. It is expected that groundwater flow is predominantly to the south and west except near County Road 511, where there will be flow to the north

The bedrock beneath the site consists predominantly of gneiss. It is expected that this material is fractured based on observations of outcrops. Groundwater flow in the bedrock will be through these fractures. The predominant shallow bedrock flow direction will be to the north (White Lake).

4.2 Impact Assessment

The two potential impacts from the operation of the pit are potential negative effects on nearby groundwater users (residential wells) and on water quality in the nearby ANSI (wetland and coldwater stream).

4.2.1 Potential Well Impacts

It is highly improbable that there will be any negative impact on groundwater supplies in the area for the following reasons:

- There are only 5 wells (existing or proposed within 500 metres of the proposed extraction area
- All wells are completed in bedrock
- The pit will extract only unconsolidated material (overburden)
- The pit will not extract aggregate from below the water table.

As such, aggregate extraction above water in the proposed area not on Figure 1 will not impact nearby water supply wells.

4.2.2 Potential ANSI Impacts

The proposed extraction area represents less than 10% of the watershed of the ANSI from Little Green Lake to the confluence with Craig's Creek near the western corner of the subject property. At the present time, the proposed extraction area is less than 20% treed. Overall the proposed extraction of aggregate from above the water table will result in a less than 2% reduction in the forested area of the immediate watershed. There will be no change in the vegetative conditions (area noted in Photo 6) within 120 metres of the ANSI. The effect of the extraction will be to remove overburden resulting in a minor decrease in the depth of material above the water table. This may have a marginal impact on the temperature of infiltrating water during the summer, but no impact on the overall temperature of water in the nearby wetland and watercourse. At the time of the site investigations, the wetland area was very dry already (Photo 3).

The surface runoff directions are noted on Figure 4. After extraction, these are not expected to change significantly as the high points within the proposed extraction area are bedrock knobs. As such, they will not be disturbed and the ground surface will be lowered in most areas, but the relative elevations will not change significantly. It is expected that infiltration of precipitation will be slightly increased after extraction compared to the present conditions.

The overburden material will only be disturbed above the water table and this will have no impact on the quality of groundwater which will eventually discharge to the ANSI. Normal construction precautions are required within the extraction areas to protect water quality during work at the pit. These include a prohibition on equipment fuelling and the use of road salt on the property. A spill kit on-site is to be kept on site along with an environmental emergency response plan. These will be detailed in the approve Site Plan for the proposed pit.

Re-vegetation of the extracted area as part of the rehabilitation of the worked out pit will also be required to stabilize material and prevent erosion. Vegetation will also promote infiltration and moderate temperatures.

5.0 CONCLUSIONS AND RECOMMENDATIONS

A hydrogeological assessment was conducted for a rural property located in in the Township of Lanark Highlands. This study has been prepared in support of a proposed development of an aggregate pit on the subject property (Figure 3). The proposal is for a pit above water.

This assessment shows that a pit can be developed under the following conditions:

- A 120 metre separation between extraction area and water bodies is maintained
- Vegetation in this 120 metre buffer is not removed
- Pit remains above water (floor of pit is more than 1.5 metres above established groundwater table)
- Prohibition on equipment fuelling and the use of road salt within the extraction area
- A spill kit is on-site any time operations are underway
- An environmental emergency response plan is developed for the site
- There is no consumptive water taking or transfer without a Permit to Take Water
- Two monitoring wells are to be installed – one between the pit and Creek and one on the north side of the extraction area.
- There is no extraction within 60 metres of any domestic water supply wells

It is recommended that regular water level and temperature monitoring be conducted at the two overburden monitoring wells on a quarterly basis (four times per year) during the course of active operations. Active is defined as extraction of more than 2,000 tonnes of aggregate per year. The water level and temperature should also be measured in the Creek, downstream of the pit, on a quarterly basis during active operations as well.

The data are to be reviewed annually by a qualified professional (P.Geo. or P.Eng.) to assess possible impacts to groundwater/surface water regime during active operations. Wells within the extraction area should be abandoned as per O.Reg. 903 when extraction at the water table occurs within 15 metres or they otherwise interfere with aggregate extraction.

6.0 QUALIFICATIONS AND SIGNATURES

Field assessment and reporting for this report was undertaken by Mark Priddle of McIntosh Perry. Mr. Priddle is a senior hydrogeologist with McIntosh Perry. Over the past twenty years, he has conducted over one-hundred hydrogeological studies for rural developments such as pits and quarries, subdivisions, commercial operations for government agencies, corporations and individuals.

Mr. Priddle is a Professional Geoscientist in Ontario and a Qualified Person (QP) under O.Reg. 153/04, as amended. At present, Mr. Priddle is the manager of Environmental Science and Engineering with McIntosh Perry.

McIntosh Perry is licensed to practice engineering and geoscience in the Province of Ontario. McIntosh Perry holds Certificates of Authorization with the Professional Engineers of Ontario (PEO) and the Association of Professional Geoscientists of Ontario (APGO) and is a full member of the Consulting Engineers of Ontario (CEO).

We trust that this information is satisfactory for your present requirements. Should you have any questions or require additional information, please do not hesitate to contact the undersigned.

Respectfully submitted,
McIntosh Perry Consulting Engineers Ltd.

Mark Priddle, P.Geo.
Project Manager and Senior Hydrogeologist

Ref.: 0CP-13-0289_Cooney - Hydrogeo_rpt Final 26.feb.14.doc

7.0 LIMITATIONS

This report has been prepared, and the work referred to in this report has been undertaken by, McIntosh Perry Consulting Engineers Ltd. for Kevin and Jennifer Cooney. It is intended for the sole, and exclusive use of Kevin and Jennifer Cooney, any affiliated companies and partners and their respective financial institutions, insurers, agents, employees and advisors (collectively, 'Kevin and Jennifer Cooney'). The report may not be relied upon by any other person or entity without the express written consent of McIntosh Perry Consulting Engineers Ltd. (in the form of a Reliance Letter).

Any use which a third party makes of this report, or any reliance on decisions made based on it, without a Reliance Letter are the responsibility of such third parties. McIntosh Perry Consulting Engineers Ltd. accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

The investigation undertaken by McIntosh Perry Consulting Engineers Ltd. with respect to this report and any conclusions or recommendations made in this report reflect McIntosh Perry Consulting Engineers Ltd.'s judgment based on the site conditions observed at the time of the site inspection on the date(s) set out in this report and on information available at the time of the preparation of this report.

This report has been prepared for specific application to this site and it is based, in part, upon visual observation of the site, subsurface investigation at discrete locations and depths, and specific analysis of specific chemical parameters and materials during a specific time interval, all as described in this report. Unless otherwise stated, the findings cannot be extended to previous or future site conditions, portions of the site which were unavailable for direct investigation, subsurface locations which were not investigated directly, or chemical parameters, materials or analysis which were not addressed. Substances other than those addressed by the investigation described in this report may exist within the site, substances addressed by the investigation may exist in areas of the site not investigated and concentrations of substances addressed which are different than those reported may exist in areas other than the locations from which samples were taken.

If site conditions or applicable standards change or if any additional information becomes available at a future date, modifications to the findings, conclusions and recommendations in this report may be necessary. Some of the information presented in this report was provided through maps, air photographs, and interviews. Although attempts were made, whenever possible, to obtain a minimum of two confirmatory sources of information, McIntosh Perry Consulting Engineers Ltd., in certain instances, has been required to assume that the information provided is accurate.

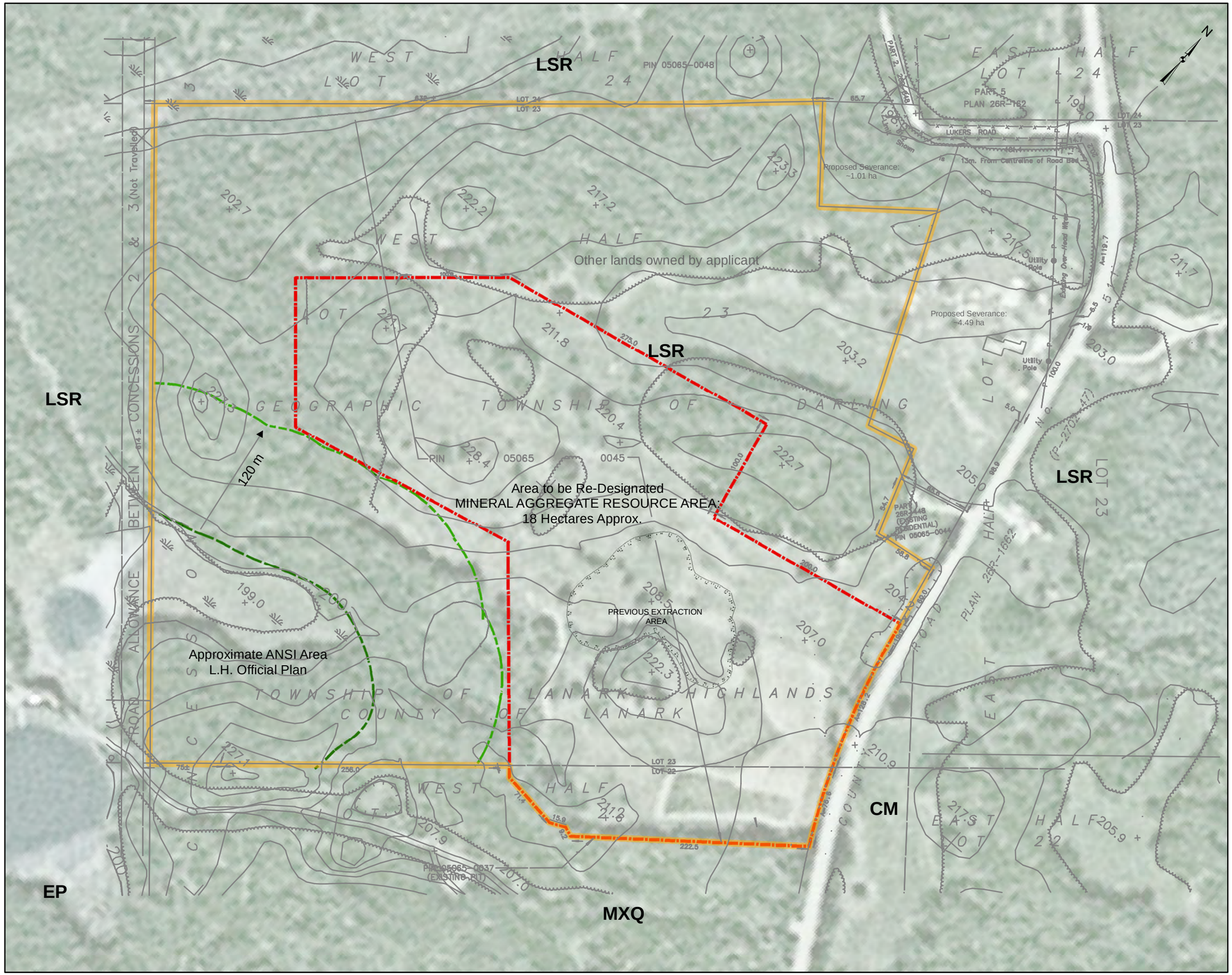
Should additional information become available, McIntosh Perry Consulting Engineers Ltd. requests that this information be brought to our attention so that we may re-assess the conclusions presented herein.

8.0 REFERENCES

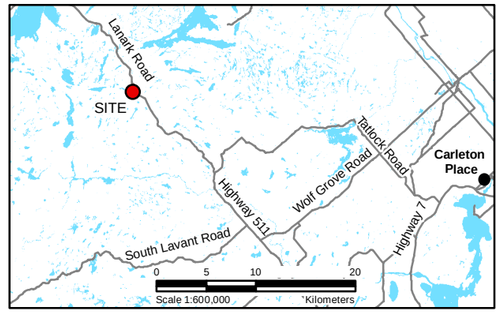
- Canadian Climate Normals, Environment Canada, 2014. http://climate.weather.gc.ca/climate_normals/index_e.html

- Ontario Geological Survey (OGS) – Google Earth™ website (2013): http://www.mndmf.gov.on.ca/mines/ogs_earth_e.asp

FIGURE 1
SITE LOCATION AND LAND USES



SITE LOCATION PLAN



LEGEND

- Proposed Area for Re-designation
- Limit of lands owned by applicant
- Approximate ANSI Designated Area
- Approximate 120 m ANSI Buffer Area
- Previous Extraction Area
- Source CAD data (G. A. Smith Surveying Ltd.)

ZONING

LSR - Limited Services Road
MXQ - Mineral Aggregate Resources Quarry
EP - Environmental Protection
CM - Commercial Industrial

REFERENCE

Digital Data provided by the Ontario Ministry of Natural Resources, 2013.
Imagery provided by Google Earth, 2009

NOTE: TO BE READ IN CONJUNCTION WITH CONTRACT DOCUMENTS

0 50 100 200
Scale 1:3,500 Metres

CLIENT: COONEY CONSTRUCTION

PROJECT: LEVEL 1 HYDROGEOLOGY

TITLE: SITE LAYOUT AND LAND USES

McINTOSH PERRY
115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP13-0289	FIGURE: 1
Date	Dec.30, 2013
GIS	ED
Checked By	MP

J:\GIS\Data\Templates\Basedata11x17.mxd

FIGURE 2
TOPOGRAPHY AND DRAINAGE

Broad Brook

To: White Lake

Craig's Creek

3505799

3507180

3505798

3514583

3504550

Luker Road

3500669

3513178

3508517

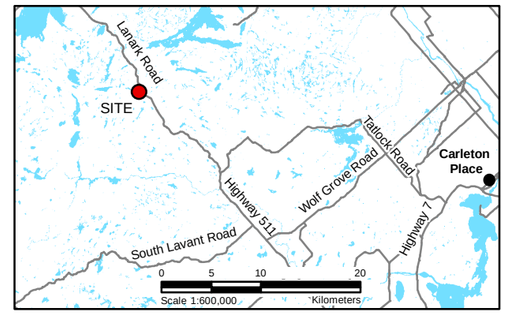
Highway 511

7115722

3508836

Little Green Road

SITE LOCATION PLAN



LEGEND

- MOE Well Record Location
- Proposed Extraction Area
- 1 km Radius
- Approximate ANSI Designated Area
- Approximate 120 m ANSI Buffer Area
- Building
- Spot Elevation (masl)
- Contour (masl)
- Wooded Area
- Wetland
- Waterbody
- Watercourse
- Flow Direction

WELL DATA

Well ID	Date Completed	Depth	Depth Bedrock	Static Level
3500669	27/10/1958	22.9	4.6	4.6
3504550	26/05/1976	22.9	4.3	4.9
3505798	10/07/1976	27.4	3	3.7
3505799	10/07/1976	27.4	0.3	3
3507180	16/08/1985	73.2	3.7	12.2
3508517	23/09/1988	54.9	2.1	12.2
3508836	11/04/1989	56.1	0.9	10.7
3513178	25/11/2000	30.5	3	9.8
3514583	18/06/2004	50	4.9	6.8
7115722	17/10/2008	152.4	0	11.5

REFERENCE

Digital Data provided by the Ontario Ministry of Natural Resources, 2013.
Well Data provided by the Ontario Ministry of Environment, 2013
Flow Data provided by Natural Resources Canada, 2013

0 100 200 400 600
Scale 1:10,000 Metres

CLIENT: COONEY CONSTRUCTION

PROJECT: LEVEL 1 HYDROGEOLOGY

TITLE: TOPOGRAPHY AND DRAINAGE

McINTOSH PERRY
115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP13-0289	FIGURE: 2
Date	Dec.30, 2013
GIS	ED
Checked By	MP

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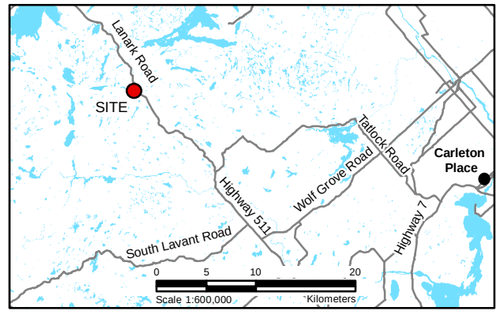
FIGURE 3
SURFACE RUNOFF

Luke Road

Highway 511

EXISTING
AGGREGATE
EXTRACTION
AREA

SITE LOCATION PLAN



LEGEND

- Proposed Extraction Area
- Building
- Spot Elevation (masl)
- Contour (masl)
- Wooded Area
- Wetland
- Waterbody
- Watercourse
- Surface Water Runoff Direction

REFERENCE

Digital Data provided by the Ontario Ministry of Natural Resources, 2013.

0 100 200 400
Scale 1:5,000 Metres

CLIENT: COONEY CONSTRUCTION

PROJECT: LEVEL 1 HYDROGEOLOGY

TITLE: SURFACE RUNOFF

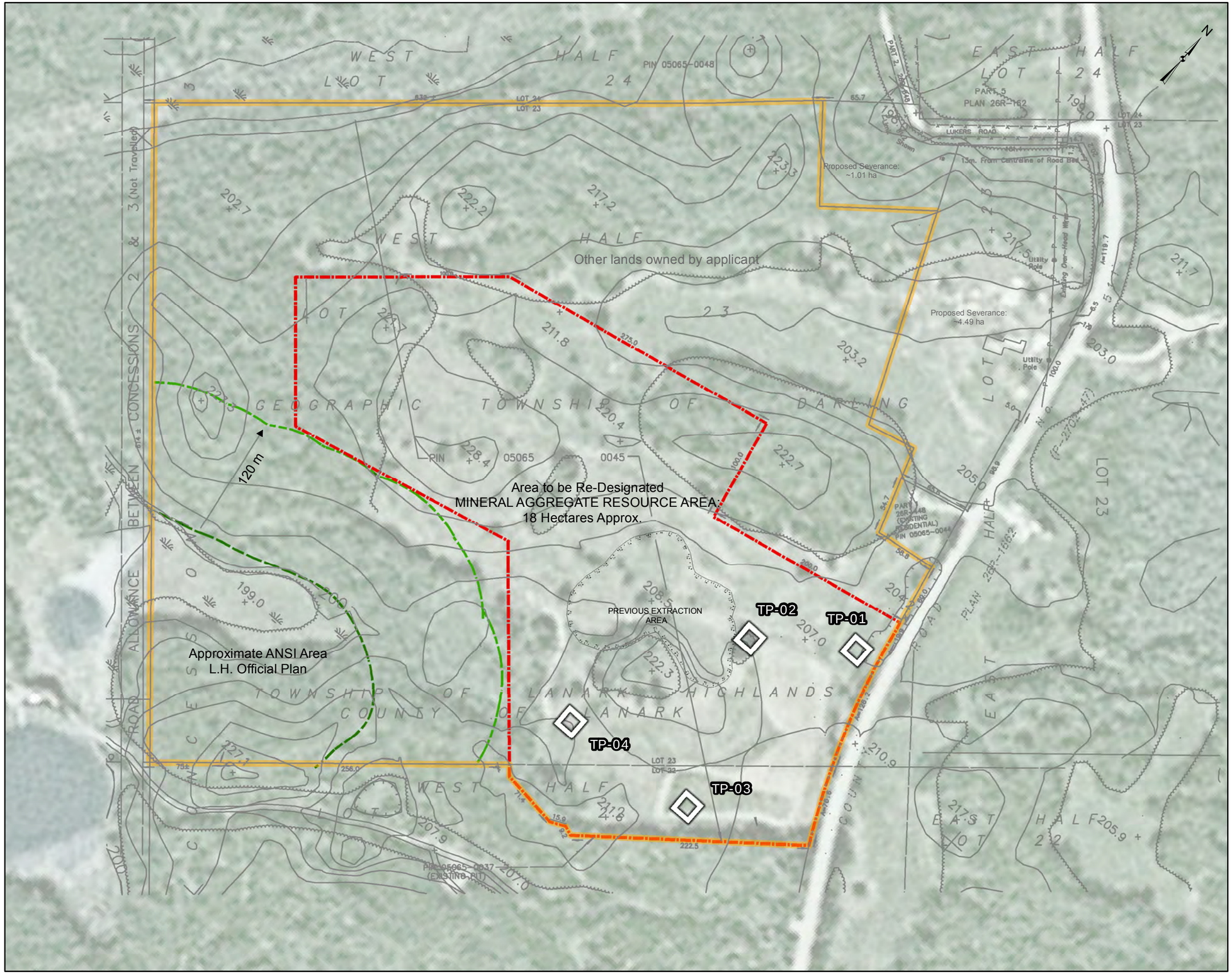
McINTOSH PERRY
115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP13-0289	
Date	Dec.30, 2013
GIS	ED
Checked By	MP

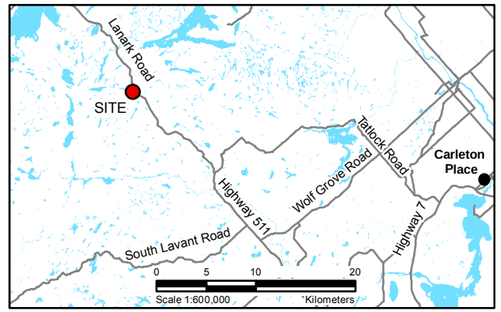
FIGURE: 3

Document Path: H:\01 Project - Proposals\2013 Jobs\0CP-13-0289 Cooney_Proposed Pit_ Lanark Highlands\GIS\mxd\CP130289_SurfaceRunoff.mxd

FIGURE 4
TEST PIT LOCATIONS



SITE LOCATION PLAN



LEGEND

- Proposed Area for Re-designation
- Limit of lands owned by applicant
- Approximate ANSI Designated Area
- Approximate 120 m ANSI Buffer Area
- Previous Extraction Area
- Source CAD data
- Test Pit Location

TEST PIT DATA

	Total Depth (m bgs)	Approx. Ground (m asl)	Depth to water (m bgs)
TP-1	3.9	207	3.6
TP-2	3.7	210	>3.7
TP-3	3.9	210	>3.9
TP-4	3.1	205	2.1

REFERENCE

Digital Data provided by the Ontario Ministry of Natural Resources, 2013.
Imagery provided by Google Earth, 2009

NOTE: TO BE READ IN CONJUNCTION WITH CONTRACT DOCUMENTS

0 50 100 200
Scale 1:3,500 Metres

CLIENT: COONEY CONSTRUCTION

PROJECT: LEVEL 1 HYDROGEOLOGY

TITLE: TEST PIT LOCATIONS

McINTOSH PERRY
115 Walgreen Rd., RR#3, Carp, ON K0A1L0
Tel: 613-836-2184 Fax: 613-836-3742

PROJECT NO: CP13-0289	
Date	Dec.30, 2013
GIS	ED
Checked By	MP

FIGURE: 4

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APPENDIX A
SITE PHOTOGRAPHS

Photo 1: Looking south over centre of proposed extraction area

Photo 2: Looking north from subject property to nearest residence and County Road 511

Photo 3: View of former wetland area forming part of the ANSI

Photo 4: Deciduous forest between ANSI and proposed extraction area

Photo 5 Creek to the south of the subject property

Photo 6 Mixed forest at the south edge of the proposed extraction area

APPENDIX B
SURVEY PLAN OF PROPERTY
From G.A. Smith Surveying Ltd.

Other lands owned by applicant

Proposed Severance:
~1.01ha

Proposed Severance:
~4.49ha

Area to be Re-Designated
MINERAL AGGREGATE RESOURCE AREA:
~18 Hectares

Approximate ANSI Area
L.H. Official Plan

PREVIOUS EXTRACTION AREA

120 m

PLAN TO SHOW
PROPOSED LICENSE AGGREGATE AREA

Approximate ANSI - Designated Area L.H Official Plan:	
Approximate 120m ANSI Buffer Area:	
Total Area Proposed for Re-designation:	~18.0 ha

*Note: Sketch uses information supplied by Base Mapping Co. Ltd., G.A. Smith Surveying Ltd., Twp. Lanark Highlands. For Reference Purposes Only.

Official Plan Amendment Sketch By: ZanderPlan Land Use Planning and Project Management

File Date: Feb. 21st, 2013

Property Owners: Kevin Cooney & Jennifer Cooney

G.A. SMITH SURVEYING LTD.
ONTARIO LAND SURVEYOR
CARLETON PLACE, ONTARIO
(613) 253 – 6000 Fax (613) 253 – 6001

DRAWN : R. W.	CHECKED : G.A.S.
REFERENCE No. :	12–4135 (2)
REVISED :	(ZP. VERS. DATE: 19-09-13)

APPENDIX C
TEST PIT LOGS

Test Pit Log

Proposed Cooney Pit, Lanark Highlands
McIntosh Perry No. 0CP-13-0289
Site Visit: September 17, 2013
Personnel: Mark Priddle. P.Geo. (McIntosh Perry)

	Total Depth (m bgs)	**Approx. Ground Surface Elev.** (m asl)	**Depth to bedrock** (m bgs)	**Depth to water** (m bgs)	**Stratigraphy**		
					From (m bgs)	*To (m bgs)*	*Material*
Test Pit TP1	3.9	207	Not encountered	3.6	0.00	0.20	Topsoil
					0.20	2.20	beige silty fine sand, some gravel/cobbles & roots
					2.20	3.50	beige fine-medium sand
					3.50	3.90	beige to grey medium sand

Test Pit Log

Proposed Cooney Pit, Lanark Highlands
McIntosh Perry No. 0CP-13-0289
Site Visit: September 17, 2013
Personnel: Mark Priddle. P.Geo. (McIntosh Perry)

	Total Depth (m bgs)	**Approx. Ground Surface Elev.** (m asl)	**Depth to bedrock** (m bgs)	**Depth to water** (m bgs)	**Stratigraphy**		
					From (m bgs)	*To (m bgs)*	*Material*
Test Pit TP2	3.7	210	Not encountered	dry	0.00	0.20	Topsoil
					0.20	0.80	beige silty fine sand, some roots
					0.80	1.80	beige-grey sand, gravel and cobbles
					1.80	3.70	beige to grey medium sand with gravel

Test Pit Log

Proposed Cooney Pit, Lanark Highlands
McIntosh Perry No. 0CP-13-0289
Site Visit: September 17, 2013
Personnel: Mark Priddle. P.Geo. (McIntosh Perry)

	Total Depth (m bgs)	**Approx. Ground Surface Elev.** (m asl)	**Depth to bedrock** (m bgs)	**Depth to water** (m bgs)	**Stratigraphy**		
					From (m bgs)	*To (m bgs)*	*Material*
Test Pit TP3	3.9	210	Not encountered	dry	0.00	0.20	Topsoil
					0.20	0.90	beige silty fine sand
					0.90	3.50	grey fine-medium sand
					3.50	3.90	grey medium sand

Test Pit Log

Proposed Cooney Pit, Lanark Highlands
McIntosh Perry No. 0CP-13-0289
Site Visit: September 17, 2013
Personnel: Mark Priddle. P.Geo. (McIntosh Perry)

	Total Depth (m bgs)	**Approx. Ground Surface Elev.** (m asl)	**Depth to bedrock** (m bgs)	**Depth to water** (m bgs)	**Stratigraphy**		
					From (m bgs)	*To (m bgs)*	*Material*
Test Pit TP4	3.1	205	Not encountered	2.1	0.00	0.15	Topsoil
					0.15	0.70	beige silty fine sand; some gravel and roots
					0.70	2.50	beige-grey sand, gravel and cobbles
					2.50	3.10	caving sand, gravel and cobbles

APPENDIX D
WELL RECORD SEARCH RESULTS

Well ID	Date Completed	Depth	Depth Bedrock	Static Level
3500669	27-10-1958	22.9	4.6	4.6
3504550	26-05-1976	22.9	4.3	4.9
3505798	10-07-1976	27.4	3	3.7
3505799	10-07-1976	27.4	0.3	3
3507180	16-08-1985	73.2	3.7	12.2
3508517	23-09-1988	54.9	2.1	12.2
3508836	11-04-1989	56.1	0.9	10.7
3513178	25-11-2000	30.5	3	9.8
3514583	18-06-2004	50	4.9	6.8
7115722	17-10-2008	152.4	0	11.5

HUGH WILLIAMSON ASSOCIATES INC.
Ottawa, Ontario, Canada

MEMORANDUM

To: **Cooney Construction and Landscape Ltd.**
Almonte, Ontario, K0A 1A0

Attention: **Jennifer Cooney** **cooneyconst@xplornet.com**

From: **Hugh Williamson** **hugh@hwacoustics.ca**

Date: **16th June 2015** **No. Pages: 6 (including attachments)**

NOISE IMPACT OPINION FOR A PROPOSED AGGREGATE PIT AT LOT 23, CONCESSION 3, GEOGRAPHIC TOWNSHIP OF DARLING

It is understood that Cooney Construction and Landscape Ltd., Cooney Construction, intend to develop an Aggregate Pit to be located at Lot 23, Concession 3, Geographic Township of Darling, Township of Lanark Highlands, County of Lanark, Ontario. The attached Plan shows the location of the proposed Aggregate Pit. This property is located on Highway 511 just south of Lukers Road.

It is also understood that Cooney Construction are in the process of applying to the Township of Lanark Highlands for changes to the Official Plan and Zoning By-law so as to permit the development of an aggregate pit on the land. To support this application, Cooney Construction has engaged acoustical consultants Hugh Williamson Associates Inc. to provide this Noise Impact Opinion.

Hugh Williamson Associates Inc. is an Ottawa based acoustical consulting firm with more than 15 years of experience in preparing noise impact assessments of aggregate and other industrial projects. We have prepared many noise impact assessments of aggregate pits and quarries in

Ontario and are very familiar with the Ontario Ministry of Environment and Climate Change, MOECC, Noise Guideline as applicable to industrial operations. The resume of Dr. Hugh Williamson, P. Eng. is attached for information.

The current MOECC Noise Guideline is NPC-300.

> MOECC Document NPC-300, *Stationary and Transportation Sources – Approval and Planning*, August 2013

NPC-300 sets sound level limits at noise sensitive points of reception such as residences, schools, hospitals, etc. which must be met by industrial operations in Ontario. NPC-300 is the applicable Provincial standard for noise impact under the Aggregate Resources Act and the Environmental Protection Act.

It is understood that if the application for changes in the Official Plan and Zoning By-laws are successful, Cooney Construction will apply to the Ministry of Natural Resources for a license for the proposed Aggregate Pit under the Aggregate Resources Act. It is also understood that Cooney Construction will have a full acoustic assessment and an Acoustic Assessment Report prepared by a qualified acoustical consultant in conjunction with the application for a license for the Proposed Pit. A full acoustic assessment involves a detailed study of noise generated by proposed pit operations and an assessment of the noise compliance at all nearby noise sensitive points of reception according to NPC-300. The outcome of such a study will be the specification of specific noise mitigation measures which are normally incorporated into the Sit Plans for the proposed Pit and form part of the License conditions.

Noise Impact Opinion

Cooney Construction has stated that the operations to be conducted at the proposed Aggregate Pit will encompass extraction, screening, crushing and shipping of aggregate material. The operational equipment involved will consist of loaders, a screening plant, a crushing plant and trucks for shipping. By definition under the Aggregate Resources Act, aggregate material is not extracted by blasting at a Pit.

Hugh Williamson Associates Inc. has not visited the site and has not conducted a detailed noise assessment of the proposed Aggregate Pit. However, after reviewing the attached plan and reviewing the proposed operations, it is our opinion that should a detailed noise assessment be carried out, an acceptable noise mitigation plan could be devised which meets the noise impact requirements set out in NPC-300. This opinion is based on our extensive experience in carrying out noise assessments and developing noise mitigation plans for pits under similar circumstances in Ontario.

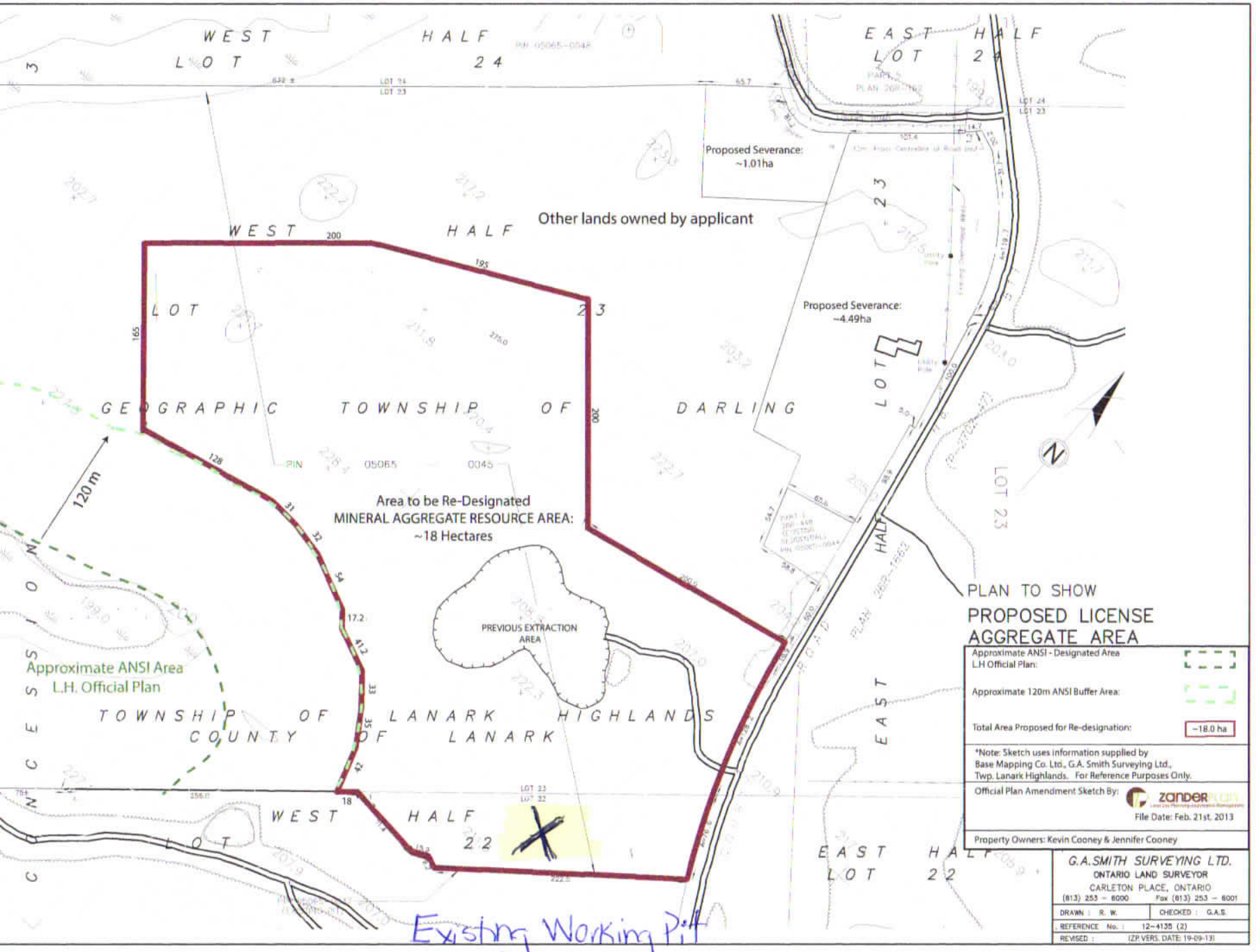
Please contact me if you have any questions.

Yours sincerely

Hugh Williamson, Ph. D., P. Eng.
Member, Canadian Acoustical Association

Attachments:

Plan of Proposed Pit at Lot 23, Concession 3, Geographic Township of Darling (1 page)
Resume, Hugh Williamson (2 pages)



Existing Working Pit

HUGH WILLIAMSON ASSOCIATES INC.
Ottawa, Ontario, Canada

RESUMÉ: Dr. HUGH WILLIAMSON, P.Eng.

QUALIFICATIONS:

Ph.D. Mechanical Engineering, University of New South Wales, 1972
B.Sc. Mechanical Engineering, (with Distinction), University of Alberta, 1967
Member, Professional Engineers, Ontario
Member, Canadian Acoustical Association

KEY COMPETENCIES:

- Environmental noise and vibration assessments, Environmental Compliance Certificates. Noise assessment for land use planning
- Noise impact assessments for the Aggregates Industry.
- Architectural and building acoustics, acoustics of office spaces, meeting rooms, auditoriums and studios, noise and vibration control of building mechanical services.
- Industrial noise and vibration assessment and control.
- Noise and vibration aspects of Occupational Health and Safety (OH&S).

PROFESSIONAL EXPERIENCE:

Hugh Williamson is a professional engineer with many years of experience in the measurement, assessment, analysis and control of noise and vibration. Hugh Williamson Associates was incorporated in 1997 and provides consulting services in architectural, industrial and environmental acoustics and vibration. Dr. Williamson has many years of specialist experience in noise assessment for the aggregates industry in Ontario. Clients include aggregate producers, architects, engineering firms, industrial firms and government departments. Prior to establishing Hugh Williamson Associates, his career included extensive periods in industry as well as university level research and teaching. He is a former Director of the Acoustics and Vibration Unit at the Australian Defence Force Academy. He has published over 50 engineering and scientific papers and has been an invited speaker on noise and vibration at national and international conferences. He has more than 20 years of experience as a consultant.

CLIENT LIST:

Hugh Williamson Associates provides consulting services to a wide variety of clients. In the aggregates industry this includes: R. W. Tomlinson Limited, Miller Paving, Lafarge, Tackaberry Construction, Drain Brothers and Cavanagh Construction. Other clients include HOK Architects, Lalande & Doyle Architects, J. L. Richards, Goodkey Weedmark, PWGSC, National Arts Centre, National Research Council Canada.

Postal Address: PO Box 74056, RPO Beechwood, Ottawa, Ontario, K1M 2H9, Canada
Phone/Fax: 613 747 0983, Email: hugh@hwacoustics.ca, Web: http://www.hwacoustics.ca

Aggregates Industry Experience

Dr. Hugh Williamson has more than 15 years experience undertaking noise impact assessment for the aggregates industry in Ontario. Projects typically involve assessing the noise impacts of aggregate operations on nearby residential and rural properties. Noise impacts area assessed according to Ontario Ministry of Environment and Ministry of Natural Resources Guidelines and regulations. Some recent projects are listed below.

1. Miller Paving Limited. *Acoustical Study of the Expansion of the Braeside Quarry*
2. R. W. Tomlinson Limited. *Noise Impact Assessment of the Rideau Road Quarry*
3. Thomas Cavanagh Construction. *Noise Impact Assessment of Asphalt Plant at the Henderson Quarry*
4. Thomas Cavanagh Construction. *Noise Impact Assessment of Mobile Crushing Equipment*
5. Cruickshank Construction. *Noise assessment of the asphalt plant at Kemptville Quarry*
6. R. W. Tomlinson Limited. *Acoustical Study of the Proposed Brechin Quarry*
7. Upper Canada Minerals, *Acoustical Study of the Chocolate Limestone Quarry*
8. Lafarge Limited. *Acoustical Study of the Asphalt Plant at the Boyce Quarry*
9. George Tackaberry Construction. *Acoustical Assessment of the O'Reilly II Pit*
10. George Tackaberry Construction. *Acoustical Assessment of the Fox Pit*

Other Recent Environmental Noise Assessment Projects

1. Township of Greater Madawaska. Peer review of acoustical study of *Calabogie Motorsports Park*. Assisting the Township to develop suitable by-laws for the control of noise.
2. National Research Council Canada. Various projects for the assessment of community noise impacts and the control of noise from equipment and facilities.
3. Queensway Carleton Hospital. Noise impact assessment and advice on noise control. Assessment report for a Certificate of Approval for the hospital.

McINTOSH PERRY

July 13, 2023 *MP File: CCO-24-0765*

Kevin and Jennifer Cooney
Cooney Construction and Landscape Ltd.
3193 Old Perth Road,
Almonte, ON
K0A 1A0

Re: 9665 Highway 511 Lanark County – Quarry Access

Dear Mr./Mrs. Cooney,

This letter is written in response to the request for traffic opinion supporting the proposed pit / quarry to be located at 9665 Highway 511 Located in Lanark County. This investigation will outline the traffic related impacts that the proposed pit and quarry operation will have on the abutting roadway system to determine if auxiliary turn lanes are warranted at the access. The site is located approximately 43 km northwest of the Town of Perth on Highway 511. See Figure 1, below, for more information. Site plan can be found in Appendix A.

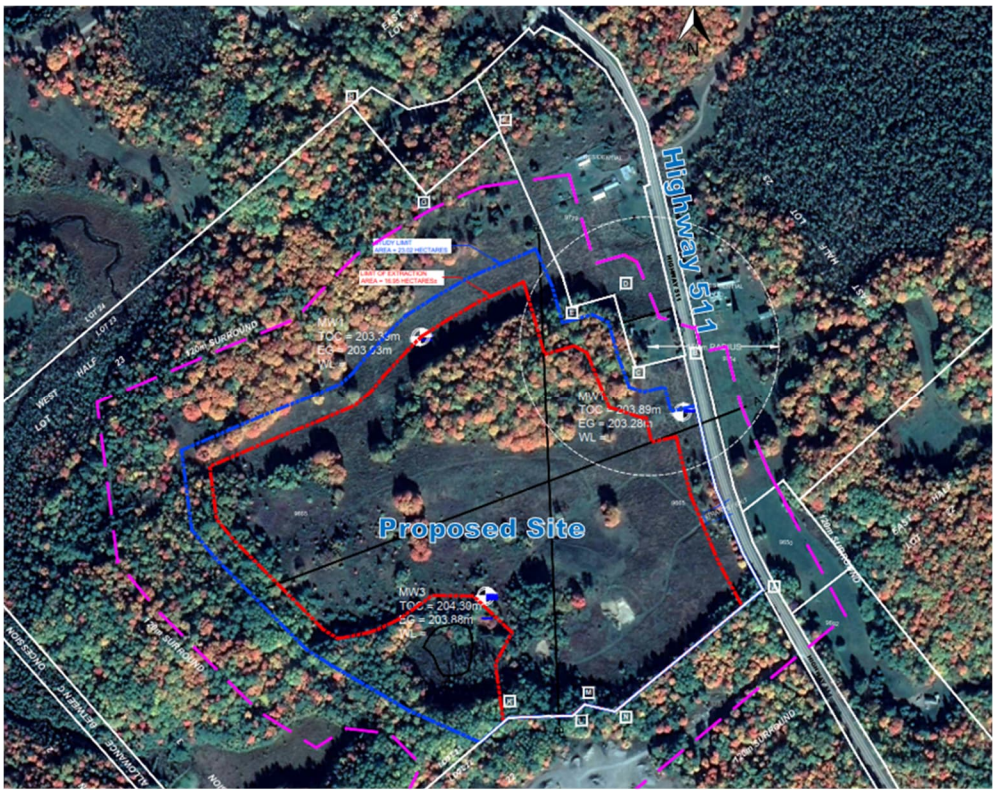


Figure 1 Proposed Site Location

MP obtained existing seasonal ATR volume with directional peak hour split data for September 27, 2022 – October 4, 2022 as well as for July 28 to July 31st, 2015. Provided traffic data can be found in Appendix B. MP applied a Growth Rate of 1% compound annually to the counts based on the Town of Perth TMP, to remain conservative in the site access calculations. As such, the highest volumes noted during a typical weekday were noted on the Friday with an AM peak of 62 vehicles travelling south on Highway 511 and 26 vehicles travelling north. During the pm peak hour, it was noted that there were 79 and 56 vehicles travelling southbound and northbound on Highway 511, respectively.

PROPOSED SITE GENERATED TRAFFIC

Traffic Generation

As described above, the proposed development will consist of a new quarry with an extraction area of 16.95 hectares. Based on information available at the time of preparing this letter, the subject site is seeking approval for a maximum annual production of 250,000 tonnes of material per year. It is acknowledged that the actual extraction tonnage will be lower; however, the maximum extraction of 250,000 tonnes per year was used in the calculation of trip generation to keep the estimate conservative. The nature of quarry / pit operation is generally variable, and is dictated by local market demand. If the operations are found to be satisfactory assuming maximum extraction amounts in the analysis, any extraction below the maximum is expected to be satisfactory as well.

To estimate the number of trips generated by the site during regular operation, it is assumed that 100% of trucks exiting the pit will carry 20 tonnes of material. Based on past experience of other similar jobs, is has been assumed that the site will be in operation for approximately 220 working days per year. This translates to a total of approximately 57 outbound trips (114 total trips) each day. To account for additional employee trips and peaks in production from time to time, an additional 20% has been added to the average daily trips in order to maintain a conservative approach in estimating the site generated traffic. As such, the pit can be expected to generate approximately a maximum of 68 outbound trips (136 total trips) daily.

The majority of the production will occur during the daytime operating hours, resulting in a steady stream of traffic throughout the day with the largest increase in trips occurring during the time of shift change. To remain conservative in the estimate of the trips generated, it has been assumed that this shift change will occur during the adjacent road network weekday a.m. and p.m. peak hours.

It is assumed that all generated trips would be contained within a 12-hour workday, the approximate peak-hour traffic volumes (including employee trips) has been assumed to be 8.3% of the total daily site generated traffic. This 8.3% is based on a steady flow of truck traffic throughout the 12 hours. However, as previously discussed it is to be expected that the quarry can operate more than the allotted 12 hours a day which would result in less hourly traffic than assumed. To remain conservative and to ensure the larger percentage of site generated traffic is captured MP utilized the rate of 8.3 % of total trips generated during both he a.m. and p.m. peak hours as this is the average rate for as 12 hour work day (100%/12). The site is therefore expected to generate approximately 12 total trips (6 inbound, 6 outbound) during both the weekday a.m. and p.m. peak hours. Consideration should be given to the fact that this figure is based on a number of conservative

assumptions, and in reality, the production level of the proposed development is anticipated to generate lower volumes of truck traffic on a daily basis. Trip calculations can be found in Appendix C.

The quarry is anticipated to be either the origin or destination of all trips generated.. Due to the operational nature of a pit / quarry, it was assumed that the majority of generated traffic would be classified as heavy vehicles. Quarry staff are expected to access the site via passenger auto. As such, it was assumed that 80% of all site generated traffic would be heavy vehicles and 20% would be passenger cars.

Traffic Distribution

For the purpose of this investigation, the origin-destination distribution was based on the existing split, northbound and southbound on highway 511, shown in the 2022 fall ATR counts provided by Lanark County (sent through the client). The critical volume was noted to occur during the pm peak hour;79 and 56 vehicles per hour travelling southbound and northbound on Highway 511, respectively. As such, 41% of the generated trips were assumed to travel northbound and 59% southbound. Figure 2 illustrates the Peak Hour traffic distribution at the proposed access onto Highway 511, and Figure 3 illustrates the total peak hour traffic.

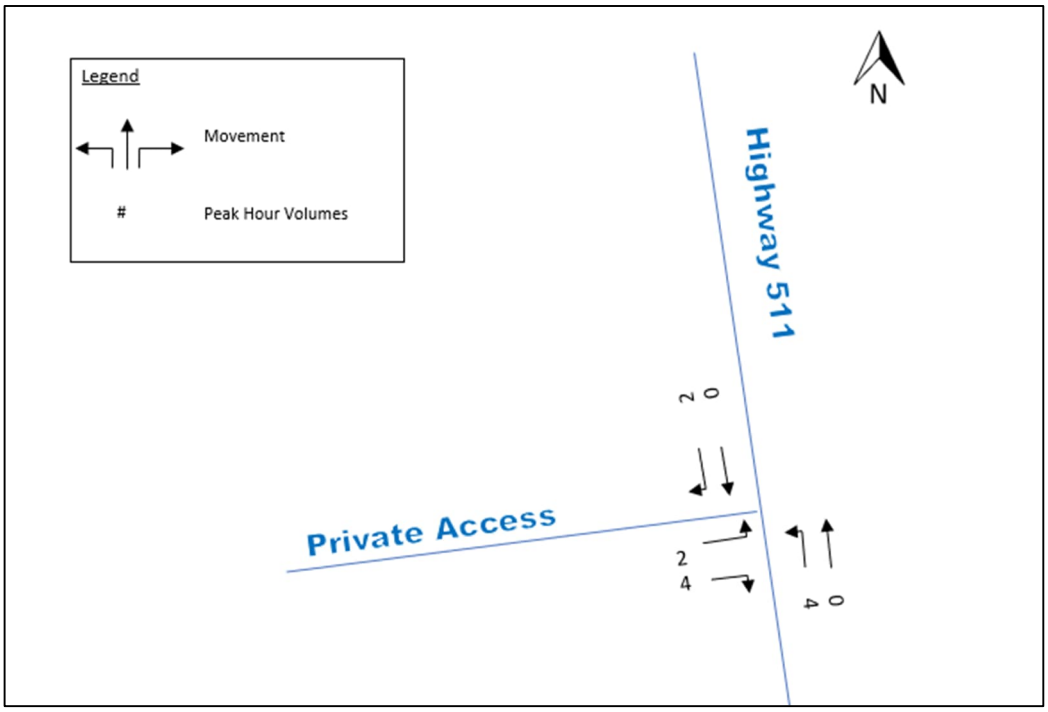


Figure 2 Site Generated Traffic

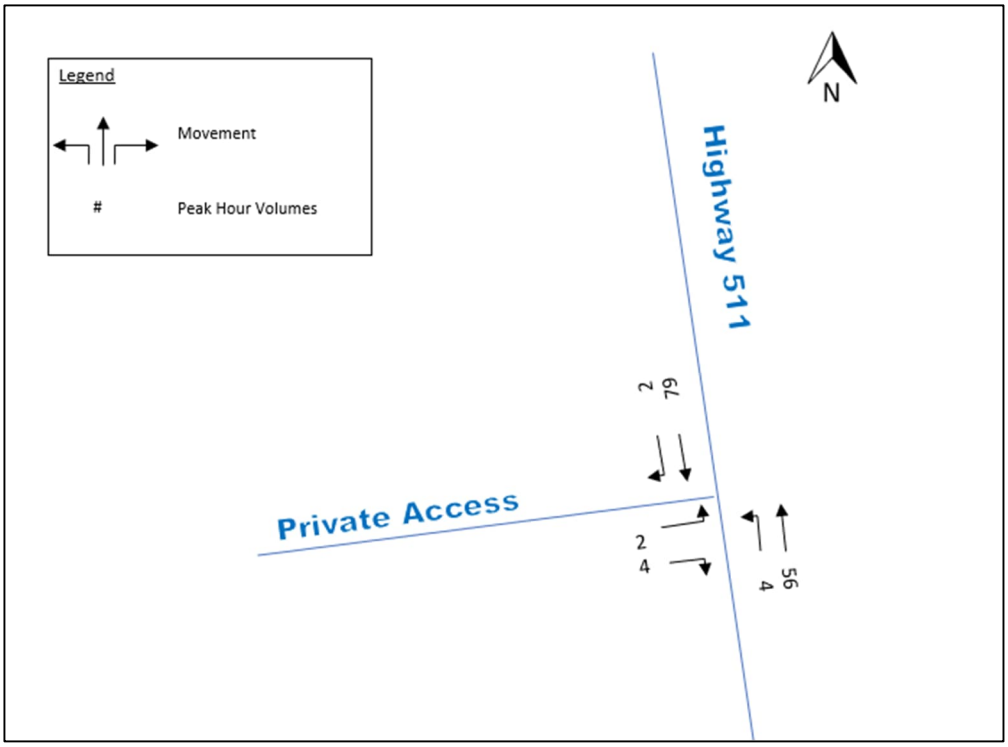


Figure 3 Total Peak Hour Traffic

Turning Lane Warrant Review

MP reviewed the potential need for left turning lanes into the proposed development and found that a left turning lane is not warranted at the location due to the low volumes. The warrant for a left turning lane is attached in Appendix D.

MP reviewed the suitability for a right turn lane into the proposed development from the southbound direction of Highway 511. Based on TAC Chapter 9, section 9.14.2 a right turn taper and auxiliary lane are warranted when the volume of decelerating or accelerating vehicles compared with the through traffic volume causes undue hazard. Based on the anticipated site generated volumes, it is anticipated that 2 vehicles during the peak hour will turn right from Highway 511 into the site access and 4 vehicles will turn right onto Highway 511 from the site access. As the anticipated volume is low, it is anticipated that the right turning movements into and out of the proposed site will not cause undue hazard to the through traffic on Highway 511. As such, a right turn lane is not warranted.

Sightlines

MP completed a field review on June 8th 2023 and desktop review of the available sightlines for the proposed access of the quarry onto Highway 511. At the time of the field visit performed by MP, heavy smoke was noted in the area due to the wildfires in the area of Calabogie and Quebec. As such sight distances and photos were unable to be taken. TAC Geometric Design Guide for Canadian Roads, June 2017, was used to determine the required sight distance. Section 9.9.2, equation 9.91 in combination with; Departure Sight Triangles (Stop

Controlled) Case B1 – Left turns from the minor road (Table 9.9.3) and Case B2 Right turns from the minor road (Table 9.9.5) was used in order to determine the sightlines required for the heavy vehicles.

Table 5.1 shows the minimum required Length of Sight Triangle Leg. Highway 511 has a posted speed of 60 km/h, as such a design speed of 80 km/h was used in the sightline analysis.

Table 5.1 Length of Sight Triangle Leg – Case B, Stop Control

Design Speed (km/h)	Case B1 (Left Turn)		Case B2 (Right-Turn)	
	Calculated Length of Leg (m)	Measured Sightline Length (m)	Calculated Length of Leg (m)	Measured Sightline Length (m)
110	255	322	234	517

A desktop review of the sight distances were done due to the smoke present during the field review performed by MP hindering the visibility in the area. There is approximately 517 m of clear sightlines are available to the north to the horizontal curve that obstructs the view. To the south of the proposed access there is approximately 322 m of clear sightline to the apex of the vertical curve that obstructs the view. As such, based on the field and desktop review performed by MP it is deemed that the sightlines are sufficient to allow for both a right and left turn maneuver from the site access and into the sight access. Figures 4 and 5 illustrate the sight lines based on the desktop review.

Figure 4 Northbound Sightline

Figure 5 Southbound Sightline

CLOSURE

MP reviewed the anticipated peak hour trip generation of the proposed quarry based on the anticipated yearly tonnage to be removed. As such, the proposed Quarry is anticipated to generate 12 total trips during the Peak hour of the adjacent roadway. Due to the low volume of vehicles on Highway 511 and the low generated site traffic it can be assessed that the proposed quarry will have little to no traffic impacts on the existing road network.

MP reviewed both the sight distances as well as a turning lane warrant for the quarry access onto Highway 511 and found that the sightlines were acceptable based on TAC standards and a turning lane was not warranted.

Prepared by,

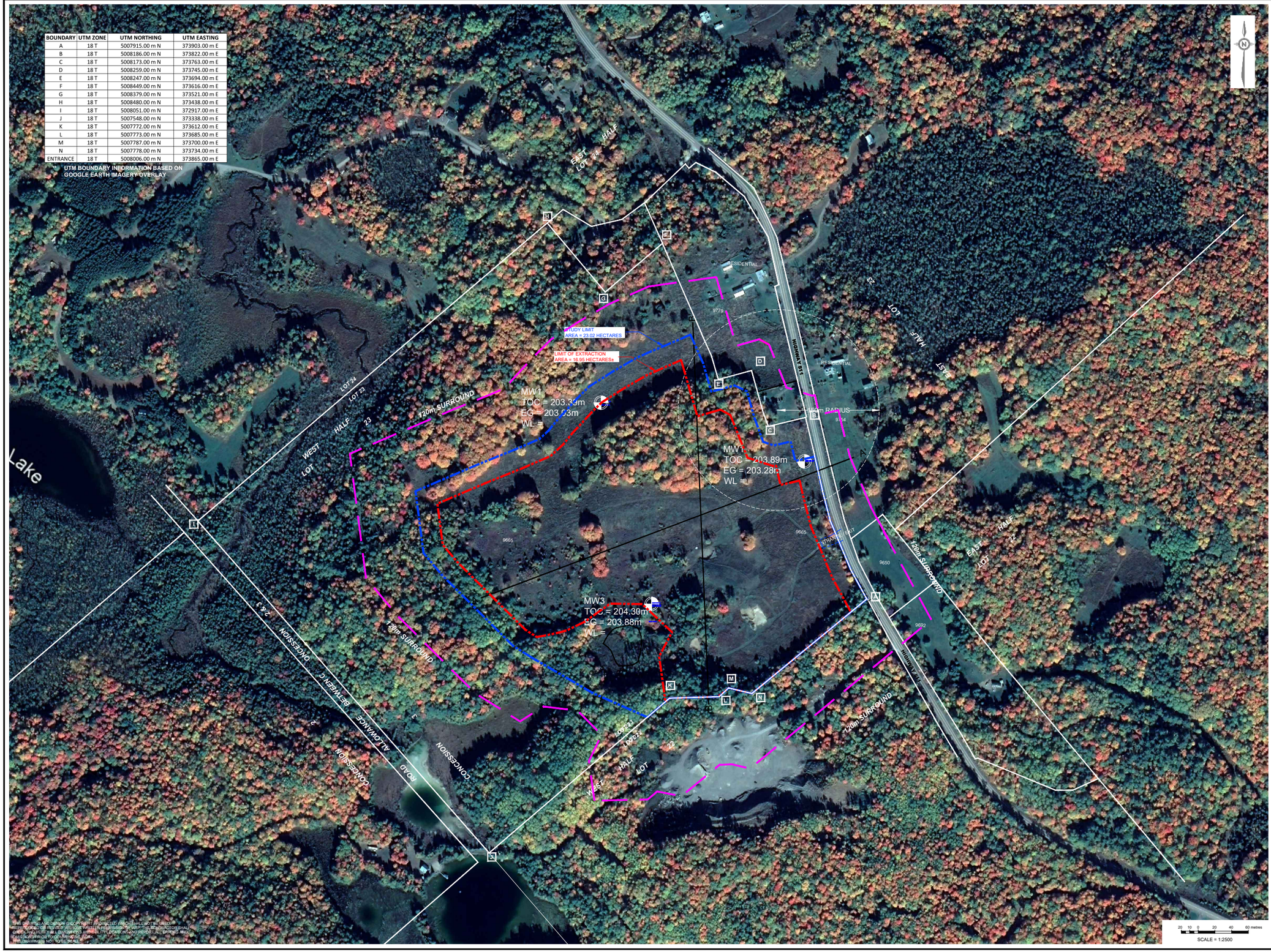
William Sherwin, EIT
Transportation and Traffic Engineering Intern
w.sherwin@mcintoshperry.com
613.714.5929

Thomas Gryz, M.A.Sc., P.Eng.
Transportation and Traffic Engineer
t.gryz@mcintoshperry.com
613.903.5772

APPENDIX A – SITE PLAN

BOUNDARY	UTM ZONE	UTM NORTHING	UTM EASTING
A	18 T	5007915.00 m N	373903.00 m E
B	18 T	5008186.00 m N	373822.00 m E
C	18 T	5008173.00 m N	373763.00 m E
D	18 T	5008259.00 m N	373745.00 m E
E	18 T	5008247.00 m N	373694.00 m E
F	18 T	5008449.00 m N	373616.00 m E
G	18 T	5008379.00 m N	373521.00 m E
H	18 T	5008480.00 m N	373438.00 m E
I	18 T	5008051.00 m N	372917.00 m E
J	18 T	5007548.00 m N	373338.00 m E
K	18 T	5007772.00 m N	373612.00 m E
L	18 T	5007773.00 m N	373685.00 m E
M	18 T	5007787.00 m N	373700.00 m E
N	18 T	5007778.00 m N	373734.00 m E
ENTRANCE	18 T	5008006.00 m N	373865.00 m E

UTM BOUNDARY INFORMATION BASED ON GOOGLE EARTH IMAGERY OVERLAY



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20 10 0 20 40 60 metres
SCALE = 1:2500

wsp
126 DON HILLOCK DRIVE, UNIT 2
AURORA, ONTARIO CANADA L4G 0G9
TEL.: 905-750-3080 | FAX: 905-727-0463 | WWW.WSP.COM

Milestone Aggregate Consulting Services Inc.
177-763 NARROWS LOCK ROAD
PORTLAND, ON K0G1V0
613-272-6795
GMCLAREN@MILESTONEAGGREGATE.COM

LEGEND

- PROPERTY BOUNDARY
- PARCEL LINE
- EXTRACTION BOUNDARY
- 120m SURROUND LINE
- 9665 PARCEL NO
- LICENSED BOUNDARY
- MW3 MONITORING WELL

SEAL:

Aggregate Resources Act Section 12 (2) G. McLaren Certified ONT.

CLIENT:

COONEY CONSTRUCTION & Landscape Ltd.

APPLICANTS SIGNATURE: _____

PROJECT:

COONEY PIT
9665 HIGHWAY 511

PT. WEST HALF LOTS 22 AND 23, CONCESSION 3, GEOGRAPHIC TWP. OF DARLING, MUNICIPALITY OF LANARK HIGHLANDS, COUNTY OF LANARK;

ISSUED FOR - REVISION:

IS.	RV.	DATE	DESCRIPTION
0		2023/03/22	ISSUED FOR LICENSING

PROJECT NO: 2161621
DATE: --
ORIGINAL SCALE: AS SHOWN
DESIGNED BY: BA
DRAWN BY: CGN
CHECKED BY: RAP

IF THIS BAR IS NOT 25mm LONG, ADJUST YOUR PLOTTING SCALE.
25mm

DISCIPLINE: **ENVIRONMENT**

TITLE:

SITE PLAN

DRAWING NUMBER:

FIGURE 01

SHEET #: 1 OF 5

ISSUE: **LICENSE**
DATE OF: **2022/12/09**
RV. # 0

Arch D, C:\Users\CABA0751427\Desktop\2021 Projects\9665 Highway 511\2022\9665 Highway 511 Lanark County_extraction area_2023.03.22.dwg, 3/22/2023 4:39:39 PM

APPENDIX B – TRAFFIC DATA

McINTOSH PERRY

Lanark County
99 Christie Lake Road, Perth Ontario K7H 3C6
Tel: 613 267 1353 Fax: 613 267 2793

Traffic Summary

Station # - HG46Z0J5, 511402 Radley Lane to White Lake Road
Date - 0:00 Tuesday, July 28, 2015 to 0:00 Friday, July 31, 2015 (3 days of data)

Volume

	Total	Weekday	Weekend	ADT	AWDT	AWET
Combined	1978	1978	0	659	659	0
North	973	973	0	324	324	0
South	1005	1005	0	335	335	0
Days	3	3	-	3	3	-

Speed

	All Days	Weekdays	Weekend	
Mean speed	89.5	89.5	-	km/h
Median speed	89.3	89.3	-	km/h
85% speed	100.1	100.1	-	km/h

PSL = 60 km/h

Class

Class (*Scheme F3*)	All Days	%	Weekdays	Weekend
1 - CYCLE	118	6.0%	118	0
2 - PC	1190	60.2%	1190	0
3 - 2A-4T	497	25.1%	497	0
4 - BUS	12	0.6%	12	0
5 - 2A-6T	84	4.2%	84	0
6 - 3A-SU	31	1.6%	31	0
7 - 4A-SU	3	0.2%	3	0
8 - <5A DBL	0	0.0%	0	0
9 - 5A DBL	12	0.6%	12	0
10 - >6A DBL	25	1.3%	25	0
11 - <6A MULTI	0	0.0%	0	0
12 - 6A MULTI	1	0.1%	1	0
13 - >6A MULTI	5	0.3%	5	0

Average Daily Volume

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
North	0	312	321	340	0	0	0
South	0	318	375	312	0	0	0
Combined	0	630	696	652	0	0	0
AM Pk North	-	22	33	31	-	-	-
PM Pk North	-	38	38	33	-	-	-
AM Pk South	-	23	29	33	-	-	-
PM Pk South	-	36	41	31	-	-	-
Days	-	1	1	1	-	-	-

Report created 10:36 Wednesday, February 17, 2016 using MTE version 4.0.6.0

Lanark County
99 Christie Lake Road, Perth Ontario K7H 3C6
Tel: 613 267 1353 Fax: 613 267 2793

Traffic Summary

Station # - FP771PAC, Cr 511 511402 Radley Lane to White Lake Road
Date - September 28, 2022 to October 4, 2022 (6 days of data)

Volume

	Total	Weekday	Weekend	ADT	AWDT	AWET
Combined	4945	2904	2041	824	726	1021
North	2807	1712	1095	468	428	548
South	2138	1192	946	356	298	473
Days	6	4	2	6	4	2

Speed

	All Days	Weekdays	Weekend	
Mean speed	96.3	96.5	96.0	km/h
Median speed	95.8	96.1	95.8	km/h
85% speed	106.6	106.9	106.6	km/h

PSL = 60 km/h

Class

Class (*Scheme F3*)	All Days	%	Weekdays	Weekend
1 - CYCLE	301	6.1%	136	165
2 - PC	2928	59.2%	1662	1266
3 - 2A-4T	1329	26.9%	814	515
4 - BUS	52	1.1%	45	7
5 - 2A-6T	190	3.8%	128	62
6 - 3A-SU	60	1.2%	56	4
7 - 4A-SU	20	0.4%	5	15
8 - <5A DBL	2	0.0%	2	0
9 - 5A DBL	27	0.5%	22	5
10 - >6A DBL	33	0.7%	31	2
11 - <6A MULTI	0	0.0%	0	0
12 - 6A MULTI	0	0.0%	0	0
13 - >6A MULTI	3	0.1%	3	0

Average Daily Volume

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
North	344	0	299	412	657	630	465
South	277	0	253	275	387	432	514
Combined	621	0	552	687	1044	1062	979
AM Pk North	33	-	28	36	61	74	58
PM Pk North	32	-	35	48	78	102	65
AM Pk South	15	-	18	18	26	26	31
PM Pk South	32	-	28	33	55	55	77
Days	1	-	1	1	1	1	1

Report created 11:37 February 7, 2023 using MTE version 4.0.6.0

APPENDIX C – TRIP GENERATION

McINTOSH PERRY

TRIP GENERATION CALCULATIONS

"x" = Number of 20 tonnes outbound trips

250,000 tonnes of material per year to be removed, number of Trips per year:

$$20x = 250,000$$

$$x = 12,500 \text{ trips per year}$$

As there are assumed 220 working days per year, number of trips per day:

$$x = 12,500 / 220$$

$$x = 56.8 \text{ outbound trips per day.}$$

Additional 20 % to the number of trips to represent employees:

$$x = 56.8 * 1.20$$

$$x = 68.1 \text{ outbound trips per day.}$$

Assumer a 12 hour work day with 8.3 % of traffic during the am and pm peak hours respectively:

$$x = 68.1 * 0.083$$

$$x = 5.65 \text{ outbound trips per peak hour (am and pm)}$$

Assume same number of inbound trips as outbound trips results in 12 total trips, 6 inbound and 6 outbound.

APPENDIX D – LEFT-TURN LANE WARRANTS

McINTOSH PERRY

McINTOSH PERRY

1-1329 Gardiners Road
Kingston, ON
K7P 0L8
www.mcintoshperry.com

LEFT TURN LANE WARRANTS

GENERAL INFORMAITON

Project Title	9665 Highway 511 - Quarry Access
Project #	CCO-24-0765
Agency or Company	McIntosh Perry
Intersection	Proposed Quarry Access and Highway 511
LT Movement Approach	Northbound Highway 511
Design Speed	80 km/hr
Scenario and Year	2023 Existing Traffic Conditions

	Peak Hour
V_L =	4
V_A =	60
V_O =	81
LT % =	7%

AM Peak Hour - Exhibit 9A-4