

Agricultural Impact Assessment

Fallis Line Residential Development

961 County Road 10, Millbrook
Part of Lot 13, Concession 5 former Township of Cavan

Prepared by:

CLARK CONSULTING SERVICES LTD.

Offices: Kingston and Port Hope, ON

www.clarkcs.com

April 2021





Agricultural Impact Assessment 961 County Road 10, Millbrook

Location: Part Lot 13, Concession 5, Geographic Township of Cavan
Township of Cavan Monaghan, County of Peterborough

Assessment Roll: 1509 010 020 18604

CCS Project: 4701

Date: March 30, 2021

Updated: April 22, 2021

Prepared for: The Biglieri Group

Prepared by: Clark Consulting Services

1. INTRODUCTION

Clark Consulting Services (CCS) was retained by Vargas Properties Inc. who are proposing an extension to the existing urban area with a residential and commercial development for the subject lands.

The site of the proposed development is located east of County Road 10 north of the developed portion of the Village of Millbrook (*Figure 1*).

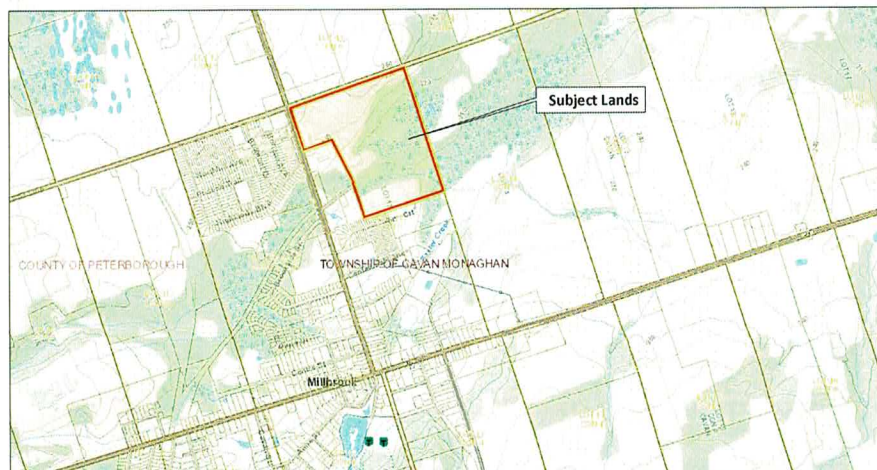


Figure 1 – Location Map



The site is approximately 30 ha with approximately 200 m of frontage on County Road 10. The proposed use is an urban development composed of residential and commercial development as shown on the concept plan shown as Figure 2. An AIA is required as the proposal converts lands currently being used for agricultural use to a non-agricultural use. The proposed development is in an area that is currently designated for Urban Development in the Township of Cavan Monaghan Official Plan. This AIA will assess the impact of the conversion of the subject lands to urban uses on the adjoining agricultural uses and suggest methods of minimizing any impacts of this change in use.

This Agricultural Impact Assessment (AIA) follows the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) Draft Agricultural Impact Assessment (AIA) Guidance Document, March 2018.

In the preparation of this AIA, CCS has completed a review of the following documents:

- the OMAFRA Draft AIA Guidance Document (March 2018)
- the Soils Report for the County of Peterborough
- the preliminary engineering plans for the proposed development
- the Provincial Policy Statement (2020)
- the Growth Plan for the Greater Golden Horseshoe (August 28, 2020)
- the Official Plans of the County of Peterborough and the Township of Cavan Monaghan
- the Zoning By-law of the Township of Cavan Monaghan
- the soils capability mapping and aerial photos from the OMAFRA Agricultural Information Atlas, and
- the Agricultural System Mapping for the Greater Golden Horseshoe.

A site visit of the area, including a windshield survey of land use within 1,500 m of the subject property and existing livestock facilities within that area, was made on February 20, 2021. Individual farm owners were not contacted, as the MDS calculations did not identify any livestock facilities in close proximity to the proposed development, and this AIA report was subsequently completed.

2. PROPOSAL

The proposed development would see a commercial and residential subdivision located on the site as illustrated in *Figure 2*. This is a preliminary concept. It illustrates the proposed development and its relationship to the environmental features located on the subject lands. The site design identifies these features as part of the Natural Heritage System and labelled on the Concept Plan as Blocks 117 and 119 to be protected.



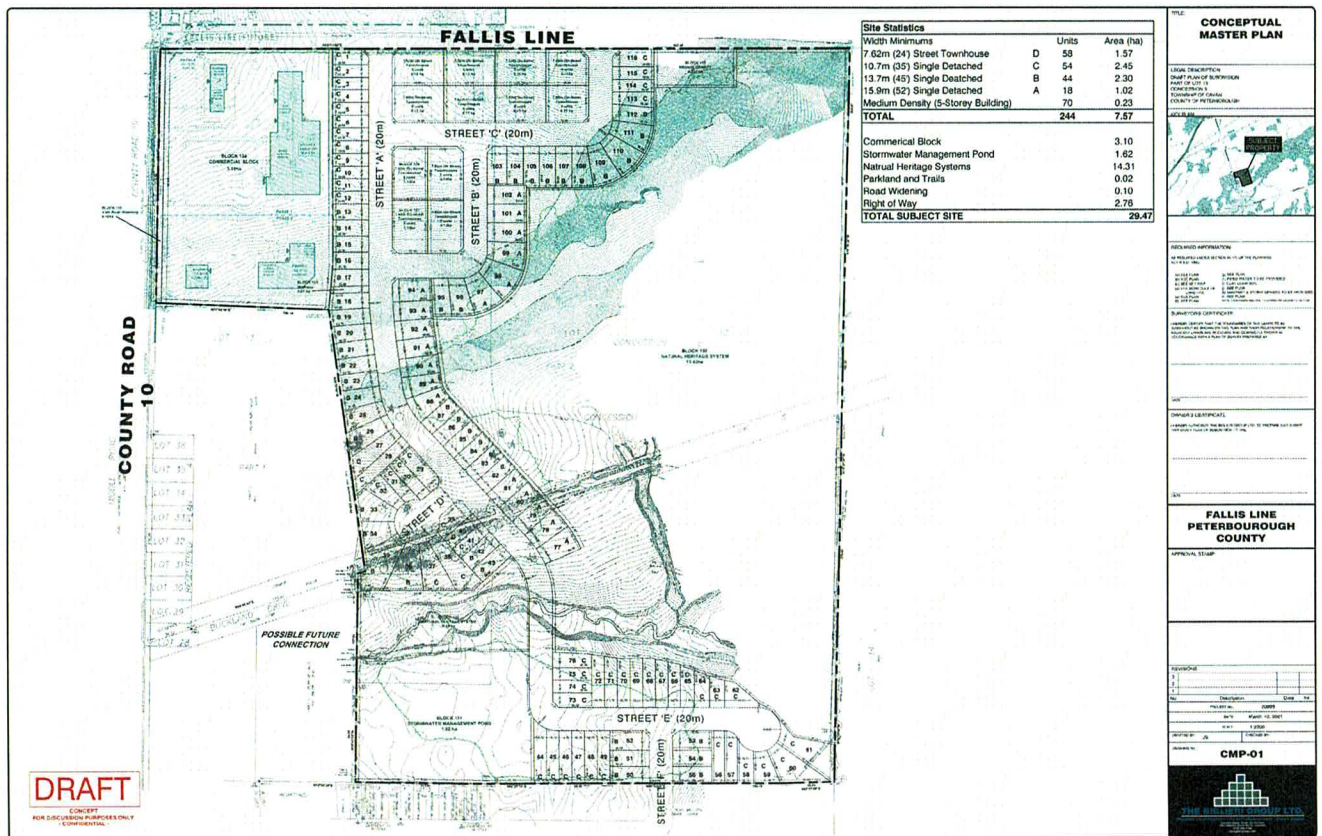


Figure 2 - Conceptual Master Plan

Our review of agriculture in the area indicated that the northern portion of the site adjacent to the County Road and the adjacent area to the north of the site is actively cultivated.

The nature of the local land use is illustrated in Figure 3, based on our site visit and review of available aerial photos. Millbrook and the subject lands are in an area of active agriculture. The beige areas on Figure 3 represent lands under cultivation. Only the northern portion of the subject lands are currently used for agriculture. The lands to the east are wooded natural areas. These areas extend from the east onto the subject lands. The southern portion of the subject lands abut existing urban uses. Similarly, there are urban lands adjacent to the lands to the southern portion of the site that extend to the County Road also.

The existing Settlement Boundary is illustrated on Figure 3. The developable portion of the subject lands are located within the Urban Area Boundary, except for a small area in the north-east corner. This area is not actively used for agriculture.



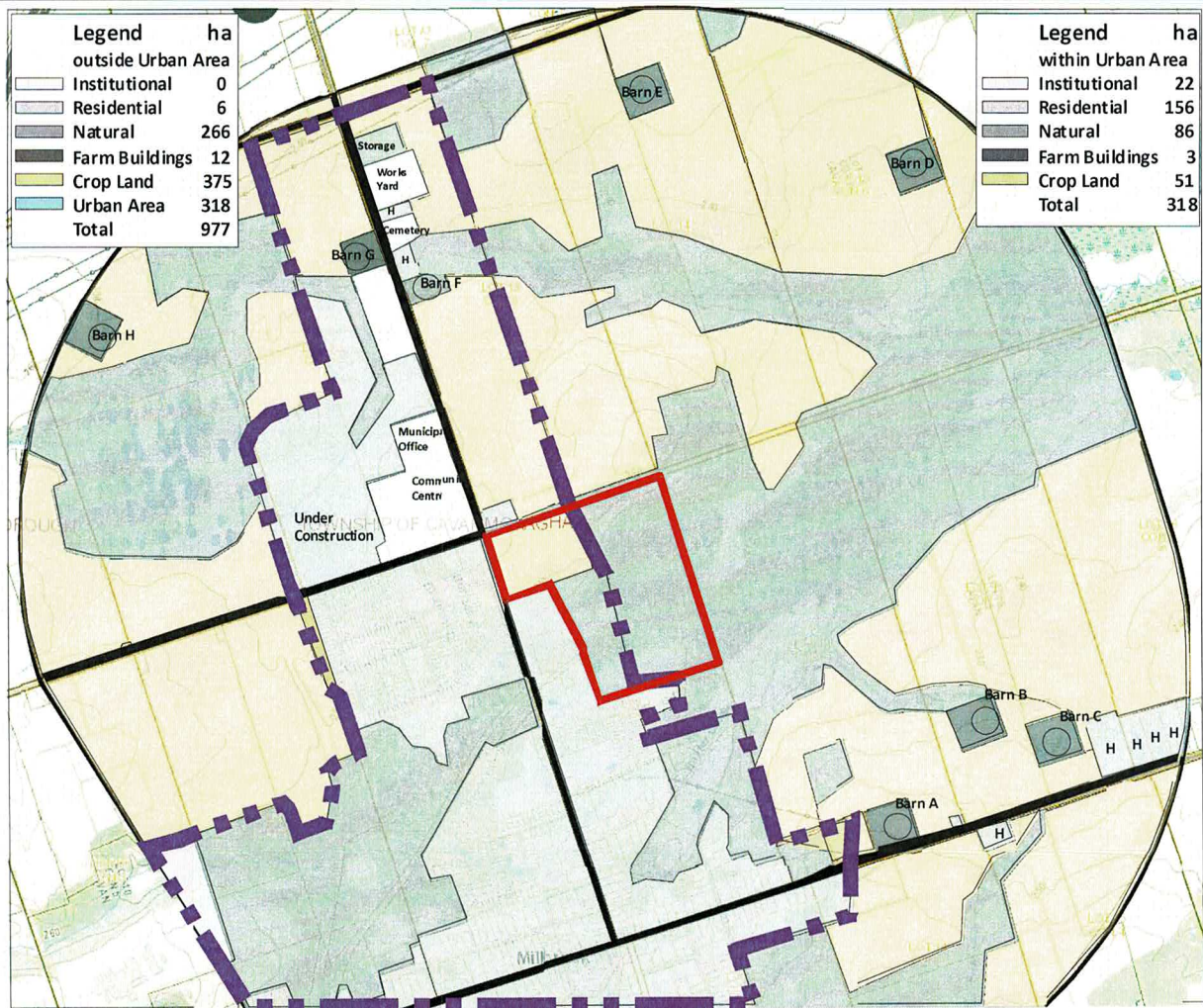


Figure 3 - Land Use Map

3. PURPOSE OF AN AGRICULTURAL IMPACT ASSESSMENT (AIA)

An Agricultural Impact Assessment is defined in the Greenbelt and Growth Plan as: "A study that evaluates the potential impacts of non-agricultural development on agricultural operations and the Agricultural System and recommends ways to avoid or, if avoidance is not possible, minimize and mitigate adverse impacts".

An Agricultural Impact Assessment:

- Identifies and assesses potential impacts from development on agriculture (including impacts to farmland, farm operations and the surrounding area, within the Greater Golden Horseshoe impacts on the Agricultural System).
- Recommends measures or strategies to avoid impacts (e.g. consider alternative locations where possible).
- Recommends measures to minimize or mitigate impacts (e.g. through design, use of buffers, etc.).
- Addresses site rehabilitation for agriculture, where applicable.



The Draft Agricultural Impact Assessment (AIA) Guidance Document (OMAFRA) provides valuable information in completing an AIA. Section 1.7 of the document recommends that individuals preparing AIAs confirm their qualification to complete the review and that they have no perceived or actual conflicts of interest in association with the AIA.

Attachment "A" to this report includes the CV of the reviewer, Bob Clark, his professional qualification, and a statement declaring he has no perceived or actual conflict of interest in the completion of this Assessment.

4. PLANNING POLICY

The following policy analysis reviews the requirements and provisions relating to the preparation of an Agricultural Impact Assessment, as well as the applicable planning policy which applies to the subject lands.

4.1. PROVINCIAL POLICY STATEMENT (2020) (PPS)

The Provincial Policy Statement (2020) (PPS) provides for the protection of prime agricultural lands and the designation of Prime Agricultural Areas. Section 2.3.5 allows planning authorities to exclude land from Prime Agricultural Areas for expansions of Settlement Areas during a comprehensive review conducted in accordance with Section 1.1.3.8. Such a review must demonstrate that (1.1.3.8):

- c) in *prime agricultural areas*:
 - 1. the lands do not comprise *specialty crop areas*;
 - 2. alternative locations have been evaluated, and
 - i. there are no reasonable alternatives which avoid *prime agricultural areas*; and
 - ii. there are no reasonable alternatives on lower priority agricultural lands in *prime agricultural areas*.
- d) the new or expanding *settlement area* is in compliance with the *minimum distance separation formulae*; and
- e) impacts from new or expanding *settlement areas* on agricultural operations which are adjacent or close to the *settlement area* are mitigated to the extent feasible.

With the exception of a very small area in the north-east corner of the project lands, the proposed development area of the subject lands is located within the designated Millbrook Urban Boundary and have been designated for urban development. While this development is supported by the Official Plan, the actual development may still impact adjacent agricultural areas although in this case, these areas are somewhat removed and buffered by the natural areas to the east.

4.2. GROWTH PLAN FOR THE GREATER GOLDEN HORSESHOE (2020) (GPGGH)

The entire County of Peterborough is within the GPGGH and land use within the County is subject to policies contained within this document.



Section 4.2.6 provides policies for an Agricultural System. The Agricultural System has two components: an agricultural land base and an agri-food network which includes infrastructure, services, and assets important to the viability of the agri-food sector. Although a portion of the subject lands is used agriculturally, the lands are cropped and are not intensively used. With the exception of the lands immediately to the north, there are no agriculturally used lands immediately adjacent to the lands proposed for development. It is also noted that a small area in the north-east corner of the proposed development is designated Agricultural. This area is subject to an amendment to the Municipal Official Plan to include it in the Urban Boundary. The lands to the north, while currently used for agricultural purposes, are designated for Employment Uses and are located between Employment Uses further north of these lands.

It is our opinion that the subject lands, including the north-east corner, comply with the GPGGH with respect to the applicable agricultural policies.

4.3. COUNTY OF PETERBOROUGH OFFICIAL PLAN (COP)

The County Official Plan relies upon the local Municipal Official Plan for detailed land designations. In this case, the Township of Cavan Monaghan Official Plan is reviewed in Section 4.4 below and discusses the designations within the Subject Lands.

4.4. TOWNSHIP OF CAVAN MONAGHAN OFFICIAL PLAN

The Official Plan of the Township of Cavan Monaghan includes a detailed plan of the Millbrook Urban Area as Schedule A-1. An excerpt from this Schedule is reproduced as *Figure 4*. The Subject Lands have been outlined in blue. The Schedule outlines the Millbrook Settlement Area with a grey line which includes the main portion of the Subject Lands but also excludes the north-east portion. The Urban Settlement Area extends north of the Subject Lands.

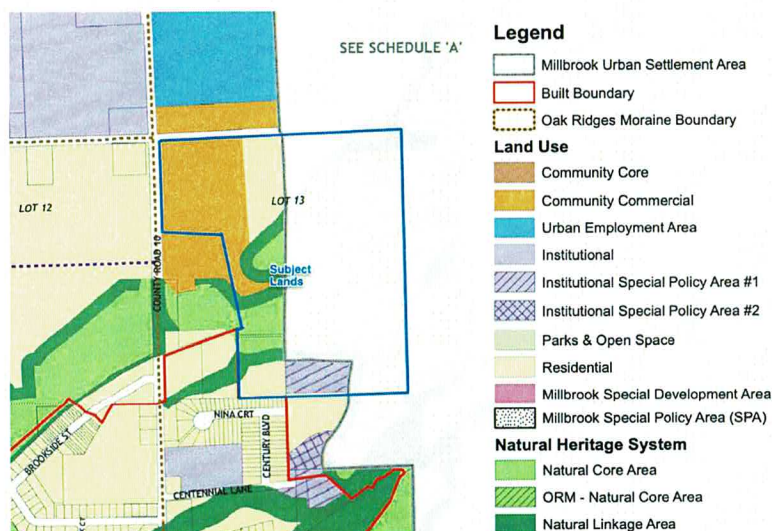


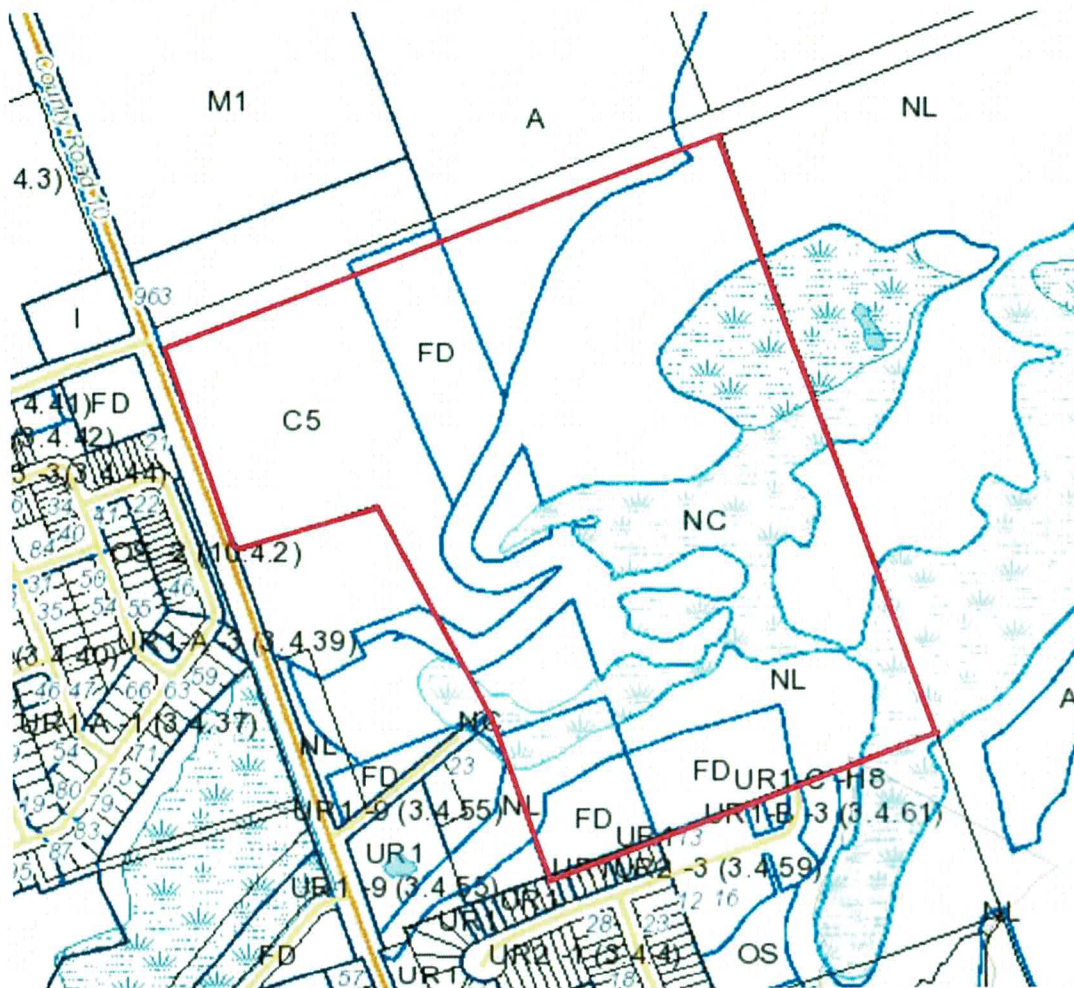
Figure 4 – Township of Cavan Monaghan Official Plan



There is a small triangle shaped portion of the subject lands which is outside the Urban Settlement Boundary and the Linkage Area. These lands are designated Agricultural. Based on the detailed site proposal, these lands are proposed to be developed residentially. This would represent an extension of the Urban Settlement Area. These lands are not part of the cultivated lands. They are separated from the lands to the north by a municipal road allowance and they are steep sloping. Tillage would result in excessive erosion. They have been used as pasture.

4.5. TOWNSHIP OF CAVAN MONAGHAN ZONING BY-LAW

The Township of Cavan Monaghan Zoning By-law No 2018-58 zones the Subject Lands as Community Commercial (C5), Future Development (FD), Natural Linkage (NL), Natural Core (NC) and Agricultural (A) as illustrated on Figure 5. These zones closely follow the designations on the Official Plan.



for agricultural uses are zoned in either a Commercial (C5) zone or in a Future Development (FD) zone. Thus not only the Official Plan, but the Zoning By-law anticipates the conversion of the bulk of the developable lands on the Subject Lands to be non-agricultural uses.

5. AIA STUDY COMPONENTS

5.1. PROCESS

In addition to the site visits, the review of the land use in the area and a review of planning documents, a series of pre-consultation virtual meetings and telephone consultations have been held with Municipal planning staff and local farmers to provide up-to-date knowledge of local matters that should be addressed in the AIA.

5.2. Study Areas

The Primary Study Area comprises the entire subject lands (i.e. the lands where the development is taking place). A design concept has been provided (*Figure 2*). This allows the direct impacts to be assessed. Although the concept may change, the development area has been defined and the portions of the site to be protected as Environmental Areas have been identified.

The Secondary Study Area includes lands that could potentially be impacted by the development. An area 1.5 km from the Subject Lands has been identified as outlined in *Figure 3* and forms the basis for the review of land use and potential impacts. The rationale for the 1.5 km as the investigation distance is tied to the size of MDS I setbacks. Generally, MDS I setbacks deal sufficiently with odour issues and therefore can be a good basis for investigating other impacts such as noise, traffic and hydrological changes. Furthermore, a 1.5 km radius will provide an appropriate area to assess community and economic impacts to the Agricultural System.

5.3. Land Use

Based on our site visit, a land use map (*Figure 3*) has been prepared.

The Subject Lands (County Road 10) are approximately 30 ha. These lands include the cultivated field in the northern area. The remainder of the Subject Lands are a natural area with some thinly wooded areas, but the bulk of the remaining lands are heavily wooded and low lying.

The bulk of the soils on the Subject Lands, including the open tilled lands, are described as Otonabee loam in the Soil Survey Report No 45 for Peterborough County prepared in 1981. There is a small area of Brighton gravelly sand in the triangle shaped lands in the north-east corner and an area of Muck soils in the south-east corner.

The Soil Report describes the Otonabee soils as being developed on glacial till comprised of calcareous loam and sandy loam and has been developed on drumlinized land form. This land form consists of elevated areas which slope down to low wet areas. On those flat areas, the soils are good soils for the production of hay and grain crops. However, the report advises that good



management practices are imperative as loss of topsoil through erosion is a real concern on soils with thin top soils and moderate to steep slopes.

The report describes the farming activity as predominantly livestock oriented with beef cattle as the major livestock type.

The Canada Land Inventory classifies the bulk of the lands as 60% Class 1 and 40% Class 4 due to topographic limitations (*Figure 6*). This capability classification corresponds to the Otonabee loam soils. The Steeper soils have a capability classification of Class 5 and the lowlying wet soils are classified as Muck.

Figure 3 presents the land use information as determined through the windshield survey and aerial review. The traditional 100-acre farmstead is evident with regular farmsteads. The associated Barns are identified with a series of letters, i.e. Barn A.

The bulk of the non-farm uses are located within the Urban Settlement Area. The Urban Settlement Area represents approximately 32.5% of the total area outlined on *Figure 3*. Tilled areas represent 16% of the Urban area and 56.9% of the area outside the Urban settlement boundary. Natural areas include wooded and low-lying lands for a significant portion of the Rural portion. There are few non-farm uses within the Rural area.

The level of tile drainage is limited according to the OMAFRA Agricultural Tile Drainage mapping. There is a significant investment in the lands south of the creek in the eastern portion of the larger study area. There are minor areas identified in the northern portion.

Our review of the farming operations through our windshield survey and our conversation with farm owners suggests that farm lands in the large study area are focused on livestock production with croplands focused on providing feed for these livestock. There was limited evidence of large scale cash cropping which is dominating agriculture in other portions of the rural agricultural areas.

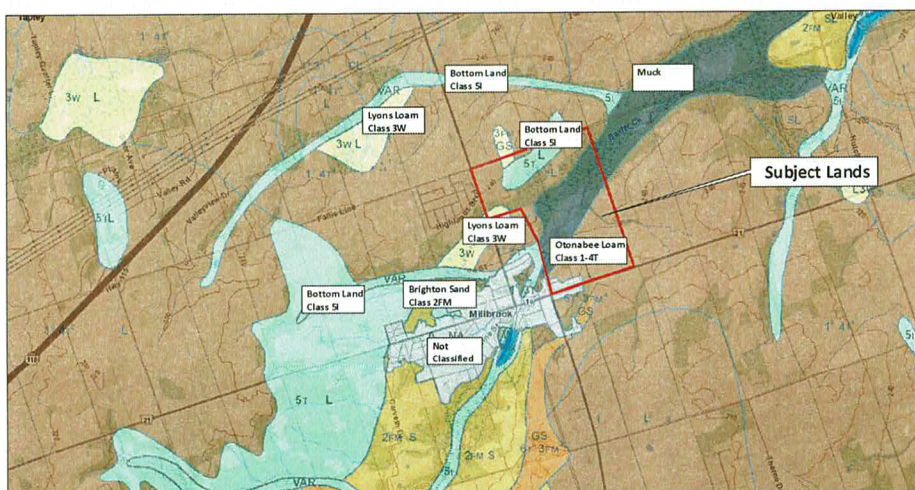


Figure 6 - Soils Mapping



5.4. Minimum Distance Separation

The introduction of non-farm uses into a Prime Agricultural Area requires consideration of compatibility with existing farming activities. One of the most controversial is the proximity to livestock facilities, which can cause concerns with adjacent land uses principally due to odour. The Ministry of Agricultural Food and Rural Affairs have established a process for determining appropriate separation distances for new non-farm uses in relation to existing livestock operations. This process is referred to as an MDS I Calculation and requires the determination of the type and size of the livestock operation and the calculation generates a recommended separation distance. This process is described in the Ministry's Publication 853. The calculation can be prepared manually or with the use of the Ministry's calculator located in the Agrisuite program.

Publication 853 contains several guidelines to assist in addressing the unique situations that do not lend themselves to calculation. Based on our review of the livestock facilities adjacent to the subject site and the presence of a number of non-farm uses, Guideline #12 has been applied. This Guideline permits a reduced MDS I setback provided there are four or more non-agricultural uses, residential use and/or dwellings closer to the subject livestock facility than the proposed development and those four or more non-agricultural uses, residential uses and/or dwellings are:

- Located within the intervening area and a 120-degree field of view between the closest part of the proposed development or dwelling and the nearest livestock facility;
- Located on separate lots; and
- Of the same or greater sensitivity as the proposed development.

If all the above conditions are met, the MDS I setback for the proposed development or dwelling may be reduced such that it is located no closer to the livestock facility than the furthest of the four non-agricultural uses, residential uses and/or dwellings.

The application to these lands would require consideration of only those livestock facilities that do not have intervening non-farm land use. Based on the application of this guideline only those livestock facilities to the east and north of the subject lands have been considered. A preliminary calculation of the MDS Setback for these livestock facilities is provided in Attachment B and the setback distances are illustrated on Figure 7.

As we were not able to confirm the livestock information, a second calculation with double the estimated capacity has been prepared to illustrate that even with double the livestock, the separation distances do not intersect the subject lands. Based on this preliminary calculation, we concluded that there were no livestock facilities located close enough to the subject lands to cause concern about compatibility.

It is also noted that Guideline 36 identifies that MDS I setbacks are not required for proposed land use changes as it is understood that the use of these lands is intended to be for non-farm uses. This would further reduce the importance of MDS Setbacks.



We conclude that there are no issues with compatibility of the proposed development from proximity to existing livestock facilities. The establishment of new livestock facilities will be restricted near the area proposed to be developed outside the Urban Settlement Boundary. However, due to the access limitations, it is highly unlikely that the area affected would be the site of a new livestock facilities.

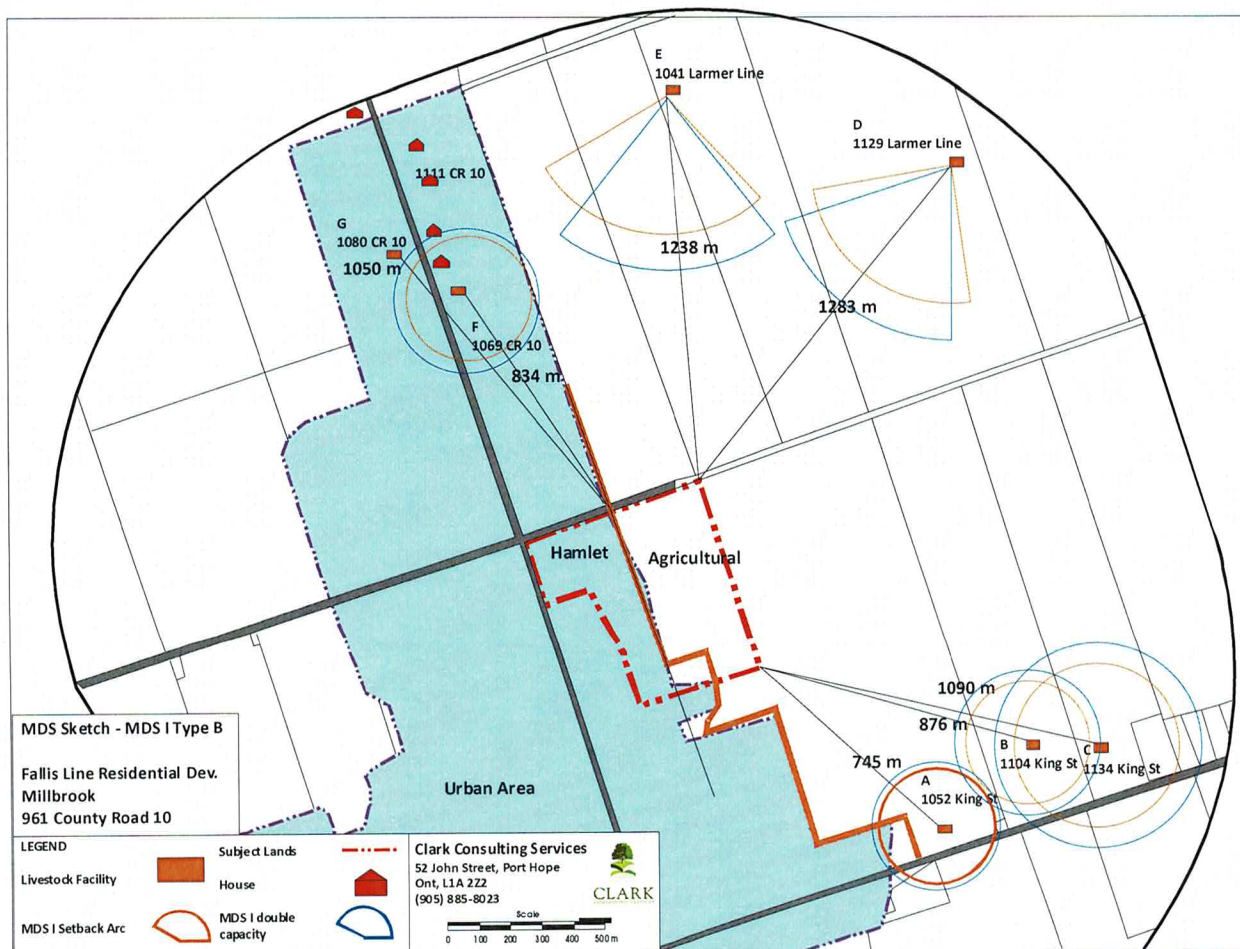


Figure 7 - MDS Sketch

5.5. Farm and Crop Type

The comparison of 2016 and 2011 Census of Agriculture for the Township of Cavan North Monaghan confirms that the trend in number of farms declined with an increase in larger size farm operations. One of the largest declines was in grain farming corresponding to the increase in size of the remaining farms.

5.6. Economic and Community Benefits of Agriculture

Agriculture forms an important component of the local economy, the trends which are evident both in the municipal wide agricultural statistics and in particular in the agricultural uses in the



immediate area confirm that agriculture has remained focused on livestock production. The absence of non-farm agricultural uses has allowed local agricultural community to maintain and expand individual farm production. Recent trends show a modest reduction in the number of livestock operations with a focus on beef cattle production. The Provincial Policy Statement recommends the protection of Prime Agricultural land, the subject lands have few competing land uses. The development proposed is focused on the area designated as part of the Millbrook Urban Settlement Area and therefore does not represent an intrusion into the existing agricultural area with the exception of the conversion of the currently cropped area in the northern section. The loss of productive capability will be minor, when compared to the crop area in the remainder of the Review Area and the larger Municipality.

5.7. Assessment of Impacts

In considering the potential impacts of the conversion of the Subject Lands to a non-farm use, the most obvious impact will be the restriction on adjacent agricultural land uses. This impact is viewed as minor. There is potential for impact from the immediately adjacent area which will continue as cultivated cropland. Provision to avoid impacts from cropping operations such as application of fertilizer, pesticides and herbicides will need to be monitored. Tillage and harvesting activities may generate issues from noise and there is also the potential for trespass and damage to crops.

The establishment of buffers in the form of fencing and vegetation are recommended to provide an obvious boundary and to mitigate the impacts outlined above.

5.8. Study Conclusions and Recommendations

In conclusion, the conversion of the Subject Lands to residential and commercial uses will have a minimal impact due to the location of Natural Heritage Features and the minimal length of the abutting agricultural lands. The presence of existing non-farm uses in the immediate area of the subject lands have already initiated a transition in land use to the urban area.

While considering the broader implications of urban development to the lands within the Settlement Area Boundary, it is understood that the Municipality has identified in the existing planning documents, an extensive area for urban development to the north. The bulk of the proposed development outlined in the Conceptual Draft Plan (Figure 2) is already located within this Urban Settlement Area.

Clark Consulting Services (CCS) respectfully submits this Agricultural Impact Assessment. It has been prepared in accordance with the requirements of the OMAFRA Draft AIA Guidelines and this has been prepared by a 'Qualified Person', Robert K. Clark, with appropriate qualifications and experience in the Province of Ontario. Mr. Clark has no perceived or actual conflicts of interest in preparing this AIA. Mr. Clark maintains membership in good standing with the Ontario Institute of Agrologists (P.Ag.). Mr. Clark is available for further comment where appropriate.



Sincerely,



Bob Clark, *P.Eng., P.Ag., MCIP, RPP, OLE*
Principal Planner

Figures:

- Figure 1 - Location Map
- Figure 2 - Conceptual Master Plan
- Figure 3 - Land Use Map
- Figure 4 - Township of Cavan Monaghan Official Plan
- Figure 5 - Township of Cavan Monaghan Zoning By-law
- Figure 6 - Soils Mapping
- Figure 7 - MDS Sketch

Attachments:

- A – CV of Robert K Clark
- B – List of References
- C – MDS Calculations

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ATTACHMENT A
Curriculum Vitae - Robert K. (Bob) Clark





Education

1972

Master of Science,
Resource Development and
Resource Economics,
University of Guelph

1970

Bachelor of Science (Eng.)
Water Resources Engineering,
University of Guelph

ROBERT K. CLARK

Bob's career in the field of planning spans 46 years. He approaches each project with creativity and a strong intent to meet and exceed the client's expectations. The Planning Field is changing rapidly to address the changing needs of our communities. While financial viability remains an important consideration in all projects, increasingly, sustainability, impact on the environment, the health of the community and the individual are key aspects of successful projects. Clark Consulting Services was created to give Bob the freedom to take on projects that he found interesting and challenging as well as work in an atmosphere guided by the principles of honesty and integrity.

Professional Qualifications and Associations

Canadian Institute of Planners (MCIP)
Ontario Professional Planning Institute (RPP)
Ontario Institute of Agrologists (P.Ag.)
Professional Engineers of Ontario (P.Eng.)
Association of Ontario Land Economists

Professional Background

1994-Present – Clark Consulting Services
Principal Planner, President

Expert Testimony

Qualified by the OMB to give expert testimony in the fields of:

- Land Use Planning
- Agricultural Land Evaluation
- Municipal Finance
- Land Economics
- Environmental Impact Assessment

CONTACT



T 905-885-8023
F 905-885-4785
bob@clarkcs.com
www.clarkcs.com

CURRICULUM VITAE

Selected Experience

Agricultural Land Assessments/Analysis (Project Manager and Senior Professional Agrologist/Pedologist on all projects)

- Agricultural Lands Review, United Counties of Stormont, Dundas and Glengarry
- City of Kingston - Agricultural Study
- Stormont Dundas and Glengarry: Review of Prime Agricultural Area for Official Plan Update
- Capital Region Resource Recovery Centre, Agricultural Land Assessment (as part of Environmental Assessment) Russell and Boundary Road Sites
- Vale Agricultural Land Assessment Prince Edward County
- Dafoe Agricultural Assessment, City of Quinte West
- Desjardine, Agricultural Assessment, Township of Elizabethtown Kitley
- Sills Agricultural Assessment, City of Quinte West
- Lafleche Agricultural Assessment, Stormont, Dundas and Glengarry
- McQuillan Land Assessment, Haldimand Township
- Pepper/Hamilton Township
- Espie Agricultural Assessment Beckwith Township
- White Tail Golf Course Agricultural Assessment and Professional Evidence OMB
- Wesleyville Land Assembly, Municipality of Port Hope
- Baulch Road Land Review, Municipality of Port Hope
- Midtown Corridor Hamilton Township Land Evaluation
- Cavan Millbrook North Monaghan OP Prime Agricultural Land Evaluation
- Hamilton Township OP Prime Agricultural Land Evaluation
- Frontenac Islands OP Prime Agricultural Land Evaluation
- Campbellford Seymour Agricultural Land Evaluation
- Sidney Township OP Agricultural Land Evaluation
- South Fredricksburgh OP Agricultural Land Evaluation
- Agricultural Land Use Analysis, Former Township of Hope

Agricultural Impact Assessment

- Fenelon Falls Baptist Church
- Cation Ag Impact Assessment
- Brown Planning Justification including Agricultural Impact Assessment
- May Agricultural Assessment
- Peer Review of Agricultural Viability for planning applications, City of Oshawa
- White Tail Golf Course, City of Kawartha Lakes
- Snug Harbour, City of Kawartha Lakes
- Murray Hills Subdivision former Murray Township

Contact



T 905-885-8023

F 905-885-4785

bob@clarkcs.com

www.clarkcs.com

CURRICULUM VITAE

Agricultural Land Assessments for Solar Installations

-Agricultural Land Capability Assessment for Potential Solar Farm Installations to meet requirements of OPA FIT Program, (over 340 projects to date)

Environmental Assessment

-Public Works Garage, Class EA, Town of Gananoque,
-Wilson Island Bridge (Socio-economic Assessment), County of Northumberland,
Environmental Impact Assessment, private owners including Michael Lash, Eithery/Buttery Lands, Vanden Hoek site; Three Strand Development Group – Communal Sewage System.

Environmental Impact Study/Statement

Based on experience and training as a water resource engineer and pedologist, Mr. Clark has prepared Environmental Impact Studies/Statements for situations in which the primary issues relate to site grading, drainage and building location. Examples include:

- Lash Cottage addition (minor variance)
- Hog Island EIS (consent application)
- Eberle Farm lot creation ORMCP

Official Plans, Official Plan Updates and Amendments

Township of Cavan-Millbrook-North Monaghan, Township of Haldimand, Township of Hamilton, Township of Smith, Township of Lochiel, Township of Charlottenburgh, Town of Brighton, Township of Burleigh and Anstruther, Township of Sidney, Township of Frontenac Islands, Township of Hope, Town of Gananoque.

Secondary Plans

Fraserville Secondary Plan - Township of Cavan- Millbrook-North Monaghan; South Sidney Secondary Plan, Township of Sidney; Alcan District Area Study - City of Kingston; Shasta Secondary Plan - Town of Westminster, Baltimore-Creighton Heights Community Plan, Township of Hamilton, Southwest Industrial Sector Plan, Township of Hamilton, Jackson Creek West Secondary Plan, City of Peterborough.

Growth Strategy Studies

Township of Hamilton, Township of Manvers, Town of Cobourg/Township of Hamilton, Village of Stirling, Village of Cochrane, Township of Smith.

Development Charges Studies

Township of Murray, Township of Hamilton, Township of Smith, Township of Manvers, Town of Brighton, Township of Alnwick, Township of Haldimand, Township of Somerville, Township of Woodville, Townships of Anson, Hindon, Minden, Village of Omemee, Township of Galway, Cavendish & Harvey, Township of Fenelon, Township of Verulam, Township of Emily, Township of Eldon, Village of Fenelon Falls, Township of Smith-Ennismore, Township of Cavan-Millbrook-North Monaghan, Village of Bobcaygeon, Township of Brighton, Township of Centre Hastings,

Contact



T 905-885-8023

F 905-885-4785

bob@clarkcs.com

www.clarkcs.com

CURRICULUM VITAE

Town of Greater Napanee, County of Victoria, Township of Cramahe, Municipality of Campbellford/Seymour, Village of Colborne, City of Kawartha Lakes, The Township of Frontenac Islands, The Township of Alnwick/Haldimand, Municipality of Trent Hills, Township of Rideau Lakes, Township of Asphodel Norwood, County of Peterborough, Municipality of Trent Lakes.

Municipal Financial Impact Assessments

Sandy Point Recreation Development, Harvey Township, Reference Plan Development, Cavan Township, Township of Manvers, Township of North Monaghan.

Zoning By-laws/By-law Amendments

Township of Cavan-Millbrook-North Monaghan; Township of Frontenac Islands; Township of Percy, Township of Alnwick, Town of Campbellford, Town of Brighton, Village of Madoc, Town of Picton

Aggregate Resource Planning

Review of Aggregate Potential for Official Plans and Zoning By-laws

Howe Island Gravel Pit – review of proposal; prepare report to Council with planning documents; provide professional opinion evidence at OMB Hearing; Stonescape II Quarry Appeal – review of proposed quarry, preparation of planning review, attendance at OMB Hearing; Codrington Pit Proposal – review of proposed pit, advice to adjacent land owner, monitor approvals

Official Plans, Official Plan Updates and Amendments

Township of Cavan-Millbrook-North Monaghan, Township of Haldimand, Township of Hamilton, Township of Smith, Township of Lochiel, Township of Charlottenburgh, Town of Brighton, Township of Burleigh and Anstruther, Township of Sidney, Township of Frontenac Islands, Township of Hope, Town of Gananoque.

Recent Renewable Energy Projects

Planning Approvals, Wolfe Island Wind Farm, Township of Frontenac Islands; Gas fired Peaking Plant Location study; Epcor, Skypower; Solar Farm; Algonquin Power. – Wind Farm

Watershed Plans

South Sidney Watershed, Lower Trent Region Conservation Authority; Storm Water Management Plan, Town of Delhi; Oshawa Creek Watershed Master Plan, City of Oshawa.

Waterfront Studies

Town of Deseronto, Town of Deep River, City of Kingston.

Tourism Development Studies

Ministry of Industry and Tourism, Tourism Development Strategy Trenton Cornwall and Renfrew

- Kingston Zones, County of Northumberland Tourism Planning Study.

Contact



T 905-885-8023

F 905-885-4785

bob@clarkcs.com

www.clarkcs.com

CURRICULUM VITAE

Socio-Economic Assessments

TransCanada Pipelines Transco Project, Brampton to Burlington Gas Pipeline, TransCanada Pipelines, Eldorado Nuclear Hexafluoride Refinery, Hope Township site, Wilson Island Bridge, County of Northumberland, Three Strand-Communal Sewage System EA.

Recreational Studies

Riverwalk-Minden, Georgian Trail, Township of Collingwood, Recreation Master Plan, Township of Cavan, Beavermead Park Redevelopment Plan, City of Peterborough,; Rail Corridor Study, County of Victoria; Pangman Conservation Area Master Plan, Lake Simcoe Region Tourism Study, ESI - Sir Sandford Fleming College, provided Social-Economic Impact Assessment for the Millennium Trail Master Plan, County of Prince Edward.

Advisory Services including Planning Appraisals

Township of Cavan-Millbrook-North Monaghan; Township of Frontenac Islands; Township of North Monaghan, Township of Smith, Township of Burleigh and Anstruther, Municipality of Sherbourne McClintock and Livingstone, Township of Stanhope, Township of Lutterworth, Township of Hope, Township of Hamilton, Township of Alnwick, Township of Percy, Township of Seymour, Town of Campbellford, Town of Gananoque, Village of Hastings, Township of Haldimand, Municipality of Trent Hills, County of Prince Edward

Industrial Development Studies

City Owned Industrial Land Study, City of Kingston; Lucas Point, Town of Cobourg, Township of Charlottenburgh, Town of Brighton, Great Lakes Deep Water Port Industrial Site Development Plan, Township of Hallowell; Draft Plan of Subdivision; Cataraqui Business Park, City of Kingston.

Economic Development Studies

Accommodation Evaluation, Township of Asphodel-Norwood; South Dundas Economic Development Study, South Dundas Economic Development Commission, Almonte Economic Development Study, Town of Almonte and Township of Ramsay; Best Use Study, Douro-Dummer Township.

Housing Policy Statements

Town of Cobourg.

Solid Waste Management Studies

County of Haliburton, Township of Hallowell, County of Northumberland, Seymour Township, National Capital Region, Lanark County, Snow Disposal Study, National Capital Region.

Private Development/Projects

Assist developers in the design and approval of both residential and industrial/commercial projects. References available upon request.

Contact



T 905-885-8023

F 905-885-4785

bob@clarkcs.com

www.clarkcs.com

CURRICULUM VITAE

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Contact



T 905-885-8023

F 905-885-4785

bob@clarkcs.com

www.clarkcs.com

CURRICULUM VITAE

ATTACHMENT B

List of References

- Guidelines of Permitted Uses in Ontario's Prime Agricultural Areas, 2016, Ontario Ministry of Agriculture Food and Rural Affairs (OMAFRA), Publication 851
- Minimum Distance Separation (MDS) Document Formulae and Guidelines for Livestock Facility and Anaerobic Digester Odour Setbacks, 2016, OMAFRA Publication 853
- Implementation Procedures for the Agricultural System in Ontario's Greater Golden Horseshoe, February 2018, OMAFRA Publication 856
- Agricultural System Mapping Method, January 2018, OMAFRA, Technical Document
- Draft Agricultural Impact Assessment (AIA) Guidance Document, OMAFRA
- County Official Plan, County of Peterborough
- Preliminary Agricultural Impact Assessment,
- Official Plan, Township of Cavan Monaghan
- Zoning By-law, Township of Cavan Monaghan
- Planning Justification Report



ATTACHMENT C

MDS I Calculations



Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Description: Development Millbrook
Application Date: Friday, March 12, 2021
Municipal File Number:
Proposed Application: New or expanding settlement area boundary
 Type B Land Use

Applicant Contact Information
 a a

Location of Subject Lands
 County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 13
 Roll Number: 150901002018604

Calculation Name: **Barn A**
Description: 1052 King

Farm Contact Information
 a a
 1052 King St East
 Millbrook, ON, Canada

Location of existing livestock facility or anaerobic digester
 County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 14
 Roll Number: 150901002018400

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn [Livestock barn is currently unoccupied]	15	5.0	56 m ²



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 5.0

Potential Design Capacity (NU): 5.0

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 150	X 0.7	X 2.2	= 185 m (606 ft)	745 m (2444 ft)

Storage Base Distance 'S' (minimum distance from manure storage)	(actual distance from manure storage)
185 m (606 ft)	745 m (2444 ft)

Calculation Name: **Barn B**
Description: 1104 King

Farm Contact Information
 a a
 1104 King East
 Millbrook, ON, Canada

Location of existing livestock facility or anaerobic digester
 County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 15
 Roll Number: 150901002018200

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Feeders (7 - 16 months), Confinement Bedded Pack [Livestock barn is currently unoccupied]	25	8.3	116 m ²

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 8.3

Potential Design Capacity (NU): 8.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 5' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 161.11	X 0.7	X 2.2	= 198 m (651 ft)	876 m (2874 ft)
Storage Base Distance 'S'					(actual distance from manure storage)
					198 m (651 ft) 876 m (2874 ft)

Calculation Name: *Barn C*

Description: 1134 King

Farm Contact Information

a a
1134 King East
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 5, Lot: 15
Roll Number: 150901002018000

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Feeders (7 - 16 months), Confinement Bedded Pack	80	26.7	372 m ²



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 26.7

Potential Design Capacity (NU): 26.7

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 5' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 213.33	X 0.7	X 2.2	= 263 m (862 ft)	1090 m (3576 ft)
Storage Base Distance 'S'					(actual distance from manure storage)
					281 m (923 ft) 1090 m (3576 ft)

Calculation Name: *Barn D*

Description: 1129 Larmer

Farm Contact Information

a a
1129 Larmer Line
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 6, Lot: 15
Roll Number: 150901003009400


The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Dairy, Milking-age Cows (dry or milking) Large Frame (545 - 658 kg) (eg. Holsteins), 3 Row Free Stall	150	214.3	1,463 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 214.3

Potential Design Capacity (NU): 214.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	Storage Base Distance 'S' (minimum distance from manure storage)
0.7	X	0.7	X	2.2	=
	412.28				
	X				
				444 m (1458 ft)	1283 m (4209 ft)
					458 m (1504 ft)
					1283 m (4209 ft)

Calculation Name: *Barn E*
Description: 1041 Larmer

Farm Contact Information
a a

Location of existing livestock facility or anaerobic digester
County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 6, Lot: 14
Roll Number: 150901003009401

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Dairy, Milking-age Cows (dry or milking) Large Frame (545 - 658 kg) (eg. Holsteins), 3 Row Free Stall	150	214.3	1,463 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 214.3

Potential Design Capacity (NU): 214.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	Storage Base Distance 'S' (minimum distance from manure storage)
0.7	X	0.7	X	2.2	=
	412.28				
	X				
				444 m (1458 ft)	1238 m (4062 ft)
					458 m (1504 ft)
					1238 m (4062 ft)

Calculation Name: *Barn F*
Description: 1069 CR 10

Farm Contact Information
1069 CR 10
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester
County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 6, Lot: 13
Roll Number: 150901003005700

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.



Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn [Livestock barn is currently unoccupied]	25	8.3	93 m ²



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 8.3

Potential Design Capacity (NU): 8.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 161.11	X 0.7	X 2.2	= 198 m (651 ft)	834 m (2736 ft)

Storage Base Distance 'S'
(minimum distance from manure storage) (actual distance from manure storage)

219 m (717 ft) 834 m (2736 ft)

Preparer Information

Hugh Stewart
Planner
Clark Consulting Services
52 John Street
Port Hope, ON, Canada L1A 2Z2
Phone #1: 9058858023
Email: bob@clarkcs.com

Signature of Preparer:

Hugh Stewart, Planner

Date: March 12, 2021

NOTE TO THE USER:

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) has developed this software program for distribution and use with the Minimum Distance Separation (MDS) Formulae as a public service to assist farmers, consultants, and the general public. This version of the software distributed by OMAFRA will be considered to be the official version for purposes of calculating MDS. OMAFRA is not responsible for errors due to inaccurate or incorrect data or information; mistakes in calculation; errors arising out of modification of the software, or errors arising out of incorrect inputting of data. All data and calculations should be verified before acting on them.

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Description: Development Millbrook
Application Date: Friday, March 12, 2021
Municipal File Number:
Proposed Application: New or expanding settlement area boundary
 Type B Land Use

Applicant Contact Information
 a a

Location of Subject Lands

County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 13
 Roll Number: 150901002018604

Calculation Name: **Barn A**

Description: 1052 King

Farm Contact Information

a a
 1052 King St East
 Millbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 14
 Roll Number: 150901002018400

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn [Livestock barn is currently unoccupied]	30	10.0	111 m ²



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 10.0

Potential Design Capacity (NU): 10.0

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 5' (minimum distance from livestock barn)	Storage Base Distance 'S' (actual distance from livestock barn)
0.8	X	166.66	X	0.7	X
				2.2	
				=	
				205 m (674 ft)	745 m (2444 ft)
				205 m (674 ft)	745 m (2444 ft)

Calculation Name: **Barn B**

Description: 1104 King

Farm Contact Information

a a
 1104 King East
 Millbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan
 CAVAN, Concession: 5, Lot: 15
 Roll Number: 150901002018200

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Feeders (7 - 16 months), Confinement Bedded Pack [Livestock barn is currently unoccupied]	50	16.7	232 m ²

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: V3. Solid, outside, no cover, >= 30% DM

Design Capacity (NU): 16.7

Potential Design Capacity (NU): 16.7

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 5' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 188.88	X 0.7	X 2.2	= 233 m (763 ft)	876 m (2874 ft)

Storage Base Distance 'S' (minimum distance from manure storage)	(actual distance from manure storage)
233 m (763 ft)	876 m (2874 ft)

Calculation Name: *Barn C*

Description: 1134 King

Farm Contact Information


a a
1134 King East
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan
CAVAN, Concession: 5, Lot: 15
Roll Number: 150901002018000

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Feeders (7 - 16 months), Confinement Bedded Pack	160	53.3	743 m²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 53.3

Potential Design Capacity (NU): 53.3

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 5' (minimum distance from livestock barn)	(actual distance from livestock barn)
0.8	X 266.67	X 0.7	X 2.2	= 329 m (1078 ft)	1090 m (3576 ft)

Storage Base Distance 'S' (minimum distance from manure storage)	(actual distance from manure storage)
345 m (1133 ft)	1090 m (3576 ft)

Calculation Name: *Barn D*

Description: 1129 Larmer

Farm Contact Information

a a
1129 Larmer Line
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester

County of Peterborough, Township of Cavan-Millbrook-North Monaghan
CAVAN, Concession: 6, Lot: 15
Roll Number: 150901003009400


The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Dairy, Milking-age Cows (dry or milking) Large Frame (545 - 658 kg) (eg. Holsteins), 3 Row Free Stall	300	428.6	2,927 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 428.6

Potential Design Capacity (NU): 428.6

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	Storage Base Distance 'S' (minimum distance from manure storage)
0.7	X	525.47	X	0.7	X
				2.2	
				=	
				566 m (1858 ft)	1283 m (4209 ft)
					577 m (1894 ft)
					1283 m (4209 ft)


Calculation Name: *Barn E*
Description: 1041 Larmer

Farm Contact Information
a a

Location of existing livestock facility or anaerobic digester
County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 6, Lot: 14
Roll Number: 150901003009401

The barn area is an estimate only and is intended to provide users with an indication of whether the number of livestock entered is reasonable.

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Dairy, Milking-age Cows (dry or milking) Large Frame (545 - 658 kg) (eg. Holsteins), 3 Row Free Stall	300	428.6	2,927 m ²

 The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 428.6

Potential Design Capacity (NU): 428.6

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	Storage Base Distance 'S' (minimum distance from manure storage)
0.7	X	525.47	X	0.7	X
				2.2	
				=	
				566 m (1858 ft)	1238 m (4062 ft)
					577 m (1894 ft)
					1238 m (4062 ft)

Calculation Name: *Barn F*
Description: 1069 CR 10

Farm Contact Information
1069 CR 10
Milbrook, ON, Canada

Location of existing livestock facility or anaerobic digester
County of Peterborough, Township of Cavan-Millbrook-North
Monaghan
CAVAN, Concession: 6, Lot: 13
Roll Number: 150901003005700



Minimum Distance Separation I

Worksheet 1

Prepared By: Hugh Stewart, Planner, Clark Consulting Services

Manure Type	Type of Livestock/Manure	Existing Maximum Number	Existing Maximum Number (NU)	Estimated Livestock Barn Area
Solid	Beef, Backgrounders (7 - 12.5 months), Yard/Barn [Livestock barn is currently unoccupied]	50	16.7	186 m ²



The livestock/manure information has not been confirmed with the property owner and/or farm operator.

Existing Manure Storage: L1. Solid, outside, no cover, 18-30% DM, with uncovered liquid runoff storage

Design Capacity (NU): 16.7

Potential Design Capacity (NU): 16.7

Factor A (Odour Potential)	Factor B (Size)	Factor D (Manure Type)	Factor E (Encroaching Land Use)	Building Base Distance 'B' (minimum distance from livestock barn)	Storage Base Distance 'S' (minimum distance from manure storage)
0.8	X	188.88	X	0.7	X
				2.2	
				=	
				233 m (763 ft)	834 m (2736 ft)
					252 m (826 ft)
					834 m (2736 ft)

Preparer Information

Hugh Stewart
Planner
Clark Consulting Services
52 John Street
Port Hope, ON, Canada L1A 2Z2
Phone #1: 9058858023
Email: bob@clarkcs.com

Signature of Preparer:

Hugh Stewart, Planner

Date: March 12, 2021

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