AGRICULTURAL IMPACT ASSESSMENT

Part Lot 30, Concession 4 (EHS)
Part Lot 31, Concession 4 (EHS)
Part Lot 32, Concession 4 (EHS)
Township of Mono
County of Dufferin

DBH Soil Services Inc.

March 30, 2015

AGRICULTURAL IMPACT ASSESSMENT

Part Lot 30, Concession 4 (EHS)
Part Lot 31, Concession 4 (EHS)
Part Lot 32, Concession 4 (EHS)
Township of Mono
County of Dufferin

Prepared for:

Mr. Craig Laing
C.D. Aggregate Management Services

March 30, 2015

Prepared by:

DBH Soil Services Inc.

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1 BACKGROUND

DBH Soil Services Inc was retained to complete an Agricultural Impact Assessment (AIA) for an area described as Part Lot 30, Concession 4 East of Hurontario Street (EHS), Part Lot 31, Concession 4 (EHS), Part Lot 32, Concession 4 (EHS) Township of Mono in the County of Dufferin. These lands comprise 4 properties and represent a total area of approximately 166.7 ha (412.0 acres). These lands are henceforth referred to as the Subject Lands.

The Subject Lands are roughly bounded: on the north by Highway 89 and the hamlet of Violet Hill; on the west by 3rd Line East; on the east by 4th Line East; and on the south by the Lot 29/Lot 30 boundary. The majority of the Subject Lands are used for agricultural activities (common field crop production), while the remaining areas comprise woodlots and areas associated with farm buildings.

The adjacent lands to the west are wooded, while the lands to the east comprise rural residential units, woodlots and farmland. The lands to the north comprise the hamlet of Violet Hill, while the lands to the south include agricultural lands and woodlots.

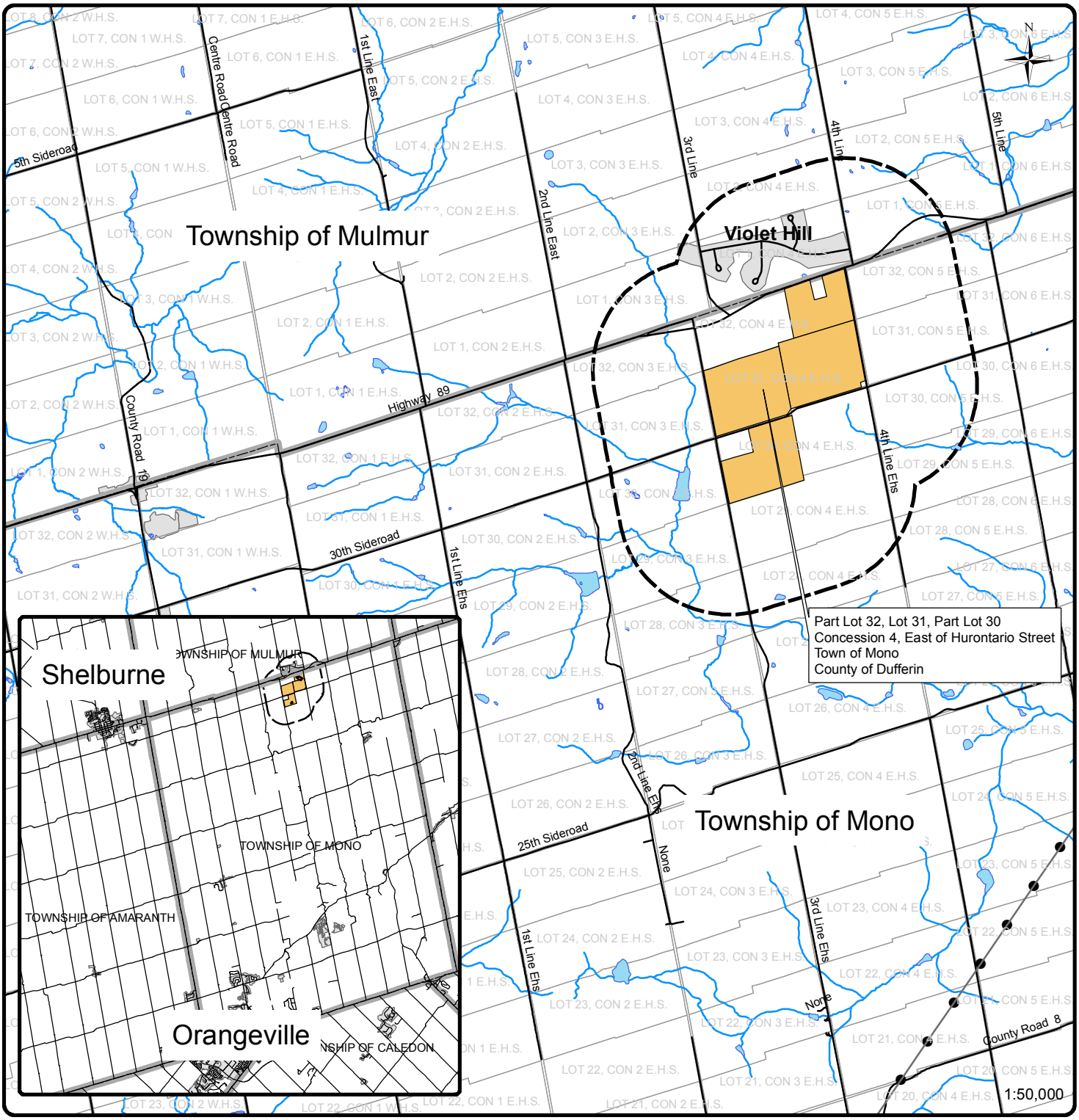
The Subject Lands are located approximately 9 km east of Shelburne and 19 km north of Orangeville.

Figure 1 illustrates the relative location of the Subject Lands with respect to the above mentioned features.

For the purpose of an Agricultural Impact Assessment (AIA) report, agricultural operations and activities are evaluated in a larger area, the Study Area (Figure 1), described as a potential zone of impact extending a minimum of 1000 m (1 km) beyond the boundary of the Subject Lands as per the Ontario Ministry of Agriculture, Food and Rural Affairs, Minimum Distance Separation I Guidelines – Publication 707 (October 2006). Specifically, the Study Area comprises a Minimum 1000 m (1 km) area outside the Subject Lands to allow for characterization of the agricultural community and the assessment of impacts adjacent to and in the immediate vicinity of the Subject Lands.

This report documents the methodology, findings, conclusions and mapping completed for this study.

An application for a proposed sand and gravel pit above water table necessitated this agricultural study.



Legend

- Electric Transmission Line
- Roads
- Watercourse
- Built Up Areas
- Lot Lines
- Study Area (1 km)
- Subject Lands
- Township Boundary
- Waterbody

Figure 1

Location

DBH Soil Services Inc.

January 2015

2 METHODOLOGY

A variety of data sources were evaluated to characterize the extent of agriculture resources and any potential existing (or future) impacts to agriculture within the Subject Lands and the surrounding Study Area.

2.1 DATA SOURCES

The following data sources were used to carry out the AIA for the Subject Lands and the Study Area:

- 1:10000 scale Ministry of Natural Resources (MNR) Aerial Photography, 1978,
- 1:10000 scale Ontario Base Map (1983 - paper) Ministry of Natural Resources:
  10 17 5700 48800
  10 17 5750 48800,
- 1:10000 scale Ontario Base Map (2009 – Digital data) Ministry of Natural Resources,
- 1:50000 scale NTS Map No 31 D/4 and 41 A/8. 1984. Ministry of Energy Mines and Resources, Canada,
- 1:50000 scale NTS Map No 31 D/4 and 41 A/8. Canada Land Inventory (CLI) Capability Mapping,
- *Agricultural Code of Practice for Ontario*, (April 1973). OMAF and OMOE,
- *Agricultural Resource Inventory*, Ontario Ministry of Agriculture and Food, 1988,
- Birds Eye Imagery,
- Bing Imagery,
- Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario. OMAFRA,
- Comprehensive Policy Statements, Implementation Guidelines, Agricultural Land Policies. OMAFRA. 1995,
- *Dufferin County Official Plan* (Issued for Council Adoption September 2014),
- Google Earth On Line imagery,
- Growth Plan for the Greater Golden Horseshoe, 2006, (Office Consolidation, June 2013) MAH,
- *Guide to Agricultural Land Use*, Ontario Ministry of Agriculture, Food and Rural Affairs, March 1995,
- *Identification of Candidate Prime Agricultural Areas Using a Land Evaluation and Area Review (LEAR) Methodology*. August 2011, Colville Consulting Inc.,
- *Minimum Distance Separation I & II (MDS I & II)*, Ontario Ministry of Agriculture, Food and Rural Affairs Publication 707, October 2006,
- *Niagara Escarpment Plan (November 13, 2014),*
- *Ontario Ministry of Agriculture and Food - Land Use Systems Mapping*,
- *Ontario Ministry of Agriculture and Food - Artificial Drainage Mapping*,
- *Ontario Ministry of Agriculture, Food and Rural Affairs – Digital Soil Mapping 2014* (Dufferin County),

- *Provincial Policy Statement*, 2014,
- Roadside and Onsite surveys September - December, 2014,
- *Soil Survey of Dufferin County;* Report No. 38 of the Ontario Soil Survey. (Hoffman, D.W., B.C. Matthews, and R.E. Wicklund, 1964),
- *The Physiography of Southern Ontario* 3rd Edition, Ontario Geological Survey Special Volume 2, Ministry of Natural Resources, 1984,
- *The Official Plan for the Town of Mono, (Consolidation December 2009*),
- *Township of Mono Zoning By-law* (By-Law 78-1, As amended),
- *Traffic Review.* C.C. Tatham & Associates Ltd. (Draft January 2015).

2.2 FIELD DATA COLLECTION

2.2.1 AGRICULTURAL LAND USE

Agricultural land use data was collected through observations made during roadside reconnaissance surveys and field surveys conducted between September 2014 and December 2014. Data collected included the identification of land use (both agricultural and non-agricultural), documentation of the location and type of agricultural facilities, non-farm residential units and non-farm buildings (businesses, storage facilities, industrial, commercial and institutional usage).

Agricultural land use designations were correlated to the *Agricultural Resource Inventory* (ARI) (Ontario Ministry of Agriculture and Food report and maps) for the purpose of updating the Ontario Ministry of Agriculture and Food Land Use Systems mapping for the Subject Lands and the Study Area.

2.2.2 MINIMUM DISTANCE SEPARATION I

Minimum Distance Separation (MDS) formulae were developed to reduce and minimize nuisance complaints due to odour from livestock facilities and to reduce land use incompatibility.

MDS I was used for this study in compliance with the OMAFRA statement (*Minimum Distance Separation I (MDS I)*, Ontario Ministry of Agriculture, Food and Rural Affairs Publication 707, October 2006 (MDS) Formulae):

> "The objective of Minimum Distance Separation (MDS) Formulae is to minimize nuisance complaints due to odour and thereby reduce potential land use conflicts. MDS does not account for other nuisance issues such as noise and dust."
>
> "MDS I is used to determine a minimum setback distance between proposed new development and existing livestock facilities or permanent manure storages."

Minimum Distance Separation data was collected through observations made during the windshield surveys completed in September 2014 to December 2014 and through

discussions with specific landowners. Data collected included the identification of land use, identification and visual assessment of barns or any building capable of housing livestock, identification of animal types (if observed on the property or noted on signage on the property) and number of animals (if observed) and barn location with respect to other land uses.

It should be noted that road side evaluations are often limited by 'line of sight' restrictions. Therefore, topography and vegetation (density and/or height) may preclude an accurate assessment of individual agricultural facilities. With this in mind, recent aerial photography was used to assist in the identification and assessment of any partially or totally concealed agricultural facility.

Further, the field data and aerial photographic interpretation was supplemented with Assessment Roll, Assessment Mapping and Geographic Information System (GIS) data for the purposes of determining the areal area and location of property boundaries.

MDS I calculations were completed on the following assumptions:

- completed with regard to Minimum Distance Separation I (MDS I), October 2006, OMAFRA;
- completed on a Land Base Assessment (when interviews could not be completed)
- livestock type was based on either the animals seen during roadside surveys, signs indicating the farm type (i.e. Horses), or in cases where no animals or signs were noted, on the most appropriate type of livestock for the type of facility observed;
- Type 'A' Land Use was used (includes applications to rezone or redesignate agricultural lands for industrial, agricultural-related or recreational use – low intensity purposes.

3 POLICY REVIEW

Clearly defined and organized environmental practices are necessary for the conservation of land and resources. The long term protection of quality agricultural lands is a priority of the Province of Ontario and has been addressed in the Provincial Policy Statement (2014). Municipal Governments have similar regard for the protection and preservation of agricultural lands, and address their specific concerns within their respective Official Plans. With this in mind, the *Provincial Policy Statement 2014*, *Dufferin County Official Plan* (Issued for Council Adoption September 2014) and the *Official Plan for the Town of Mono, (Consolidation December 2009*) were reviewed. The relevant policies are indicated as follows.

3.1 PROVINCIAL AGRICULTURAL POLICY

The Provincial Policy Statement (2014) was enacted to document the Ontario Provincial Governments development and land use planning strategies. The Provincial Policy Statement provides the policy foundation for regulating the development and use of land. Mineral Aggregate Policies are addressed within Section 2.5 of the Provincial Policy Statement. Sections 2.5.2 – Protection of Long-Term Resource Supply and Section 2.5.3 – Rehabilitation provide policy for Mineral Aggregate Resources and Rehabilitation.

"2.5.2 Protection of Long-Term Resource Supply

2.5.2.1 As much of the *mineral aggregate resources* as is realistically possible shall be made available as close to markets as possible. Demonstration of need for *mineral aggregate resources*, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of *mineral aggregate resources* locally or elsewhere.

2.5.2.2 Extraction shall be undertaken in a manner which minimizes social, economic and environmental impacts."

"**2.5.3 Rehabilitation**

2.5.3.1 Progressive and final rehabilitation shall be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to mitigate negative impacts to the extent possible. Final rehabilitation shall take surrounding land use and approved land use designations into consideration.

2.5.3.2 *Comprehensive rehabilitation* planning is encouraged where there is a concentration of mineral aggregate operations.

2.5.3.3 In parts of the Province not designated under the *Aggregate Resources Act*, rehabilitation standards that are compatible with those under the Act should be adopted for extraction operations on private lands.

3.2 OFFICIAL PLAN POLICY

Official Plan policies are prepared under the Planning Act, as amended, of the Province of Ontario. Official Plans generally provide policy comment for land use planning while taking into consideration the economic, social and environmental impacts of land use and development concerns. For the purpose of this report the Dufferin County Official Plan (Issued for Council Adoption September 2014) and the *Official Plan for the Town of Mono, (Consolidation December 2009*) were reviewed for issues related to agriculture.

The County municipal government is a two tier system. The County sets broad level policies while the local (township) municipalities provide more detailed policies for planning and development.

3.2.1 DUFFERIN COUNTY OFFICIAL PLAN

Dufferin County is in the process of completing their first Official Plan. For the purposes of this study, the Dufferin County Official Plan (issued for Council Adoption, September 2014) was reviewed. Draft Schedule C – Agricultural Area and Rural Lands mapping illustrates that the Subject Lands are located in an area designated as Rural Lands.

Section 4.3 provides policies for Rural Lands, while Section 4.4 provides policies on the Management of Mineral Aggregate, Minerals and Petroleum Resources. Section 4.4.2.1 provides policy on New or Expanding Mineral Resource Operations, while Section 4.4.2.2 provides policy on Rehabilitation.

Section 4.4.2.1a) states:
"New *mineral aggregate resource operations* or any expansion to an existing *mineral aggregate resource operation* that extends beyond the lands identified in the local municipal official plan will require an amendment to the local municipal official plan, and will conform to the policies of this Plan and the local municipal official plan."

Section 4.4.2.1c) states:
"In considering new *mineral aggregate resource operations* or any expansion to an existing *mineral aggregate resource operation*, the County and local municipality will be satisfied that prior to approval of a local municipal official plan amendment that impacts are minimized."

Section 4.4.2.1d) states:
"The matters identified in S. 4.4.2.1 c) will take into account the potential cumulative impacts that may result from a proposed new or expanding *mineral aggregate*

resource operation when added to other past, present and known *mineral aggregate resource* applications in the vicinity."

Section 4.4.2.2 – Rehabilitation states that:
"Progressive and final rehabilitation will be required to accommodate subsequent land uses, to promote land use compatibility, to recognize the interim nature of extraction, and to minimize impacts, to the extent possible. Final rehabilitation will take into consideration the pre-extraction land use designation and conditions, and compatibility with the character of the surrounding land uses and approved land use designations, in consideration of the County Plan and local municipal official plan, as well as the opportunity to accommodate parks and open space uses."

3.2.2 TOWN OF MONO OFFICIAL PLAN

The *Town of Mono Official Plan* (Consolidation December 2009) provides policy and land use designation to guide development in the Township.

The review of the *Town of Mono Official Plan* Schedule A illustrates that the Subject Lands are defined as Rural. Section 15 – Rural Areas provides the policies for the lands designated Rural on Schedule A.

"The basic objectives which led to the designation of lands as Rural on Schedule "A" are as follows:
(a) To discourage the abandonment of viable farms on good agricultural land by halting the conversion of agricultural lands Class I, 2, 3 to non-agricultural uses;
(b) To recognize the fact that, while part of the Planning Area has reasonably good soils capability and terrain for agriculture, more of it has severe limitations or poor capability for such purposes, and to recognize that many of the latter lands will benefit their owners more, and the entire Planning Area, by development for conservation or forestry purposes;
(c) To recognize that the Planning Area's abundant natural beauty makes parts of it attractive for rural estate residences and has produced a steady demand for such development;
(d) To provide consistent policies for dealing with severance and development applications in rural areas in order to restrict any new developments which could require extended road maintenance or other municipal services, or would not encourage conservation of the natural environment and natural features; and to minimize potential adverse effects which any one group of uses could have on other use-types and which would not be compatible with the rural uses in existence;
(e) To ensure that good agricultural areas of the Town remain available on a long term basis for agriculture, farm parcel sizes should remain as large as possible to ensure that the farmers have a land base of sufficient size to adapt to changing economic circumstances or changing farm management practices.

Further, with respect to mineral aggregate or extractive industry Section 24 provides the following policy:

Section 24
"(b) THE EXTRACTIVE INDUSTRY:
If feasible and with the possible co-operation from Provincial authorities and/or the aggregate producers, it is intended that studies be made of a worked out sand or gravel pit to determine its past impact and suitable rehabilitation techniques. Such studies will consider such factors as the effect of pits on adjoining uses through ground water, surface drainage, erosion, appearance, noise and road maintenance, plus the optimum short-term and long-term land uses before and after extraction. The findings of the studies should set an example for the extractive industry in the Town and will be reflected in suitable rehabilitation agreements for all future extractive operations."

4 AGRICULTURAL RESOURCE POTENTIAL

4.1 PHYSICAL CHARACTERISTICS

The physiographic resources within the Subject Lands and the Study Area are described in this section. The physiographic resources identify the overall large area physical characteristics documented as background to the soils and landform features. These characteristics are used to support the description of the agricultural potential of an area.

4.1.1 PHYSIOGRAPHY AND CLIMATE

The *Physiography of Southern Ontario* Physiographic Unit Map indicates that the Subject Lands and the Study Area are located in an area that comprises the Horseshoe Moraine.

The Horseshoe Moraines are described as a 'horseshoe' shaped area with the toe situated in Grey County; the western side of the horseshoe extending down through Bruce, Huron, Middlesex and Lambton Counties. The eastern side of the horseshoe extends down through Simcoe and Dufferin Counties. The eastern portion, in Mono Township, extends parallel to and east of the Niagara Escarpment. The moraines in this area are separated by outwash gravel, and sand and gravel terraces.

The Study Area is located within the 2700 – 2900 average accumulated Crop Heat Units (CM – H1) available for Corn Production in Ontario. The Crop Heat Units (CHU) index was originally developed for field corn and has been in use in Ontario for 30 years. The CHU ratings are based on the total accumulated crop heat units for the frost free growing season in each area of the province. CHU averages range between <2700 east of Parry Sound to over 3500 near Windsor. The higher the CHU value, the longer the growing season and greater are the opportunities for growing value crops.

The topography of the Subject Lands is comprised of moderate sloping lands used for agricultural production of common field crops. Steep sloping lands were noted along the western portions of the subject lands. Some of these areas were cropped, while other areas were forested.

4.1.2 SOIL CAPABILITY FOR AGRICULTURE (2014)

Basic information about the soils of Ontario is made more useful by providing an interpretation of the agricultural capability of the soil for various crops. The Canada Land Inventory (CLI) system combines attributes of a mineral soil to place the soils into a seven-class system of land use capabilities. The CLI soil capability classification system groups mineral soils according to their potentialities and limitations for agricultural use. The first three classes are considered capable of sustained production of common field crops, the fourth is marginal for sustained agriculture, the fifth is capable for use of permanent pasture and hay, the sixth for wild pasture and the seventh class is for soils or

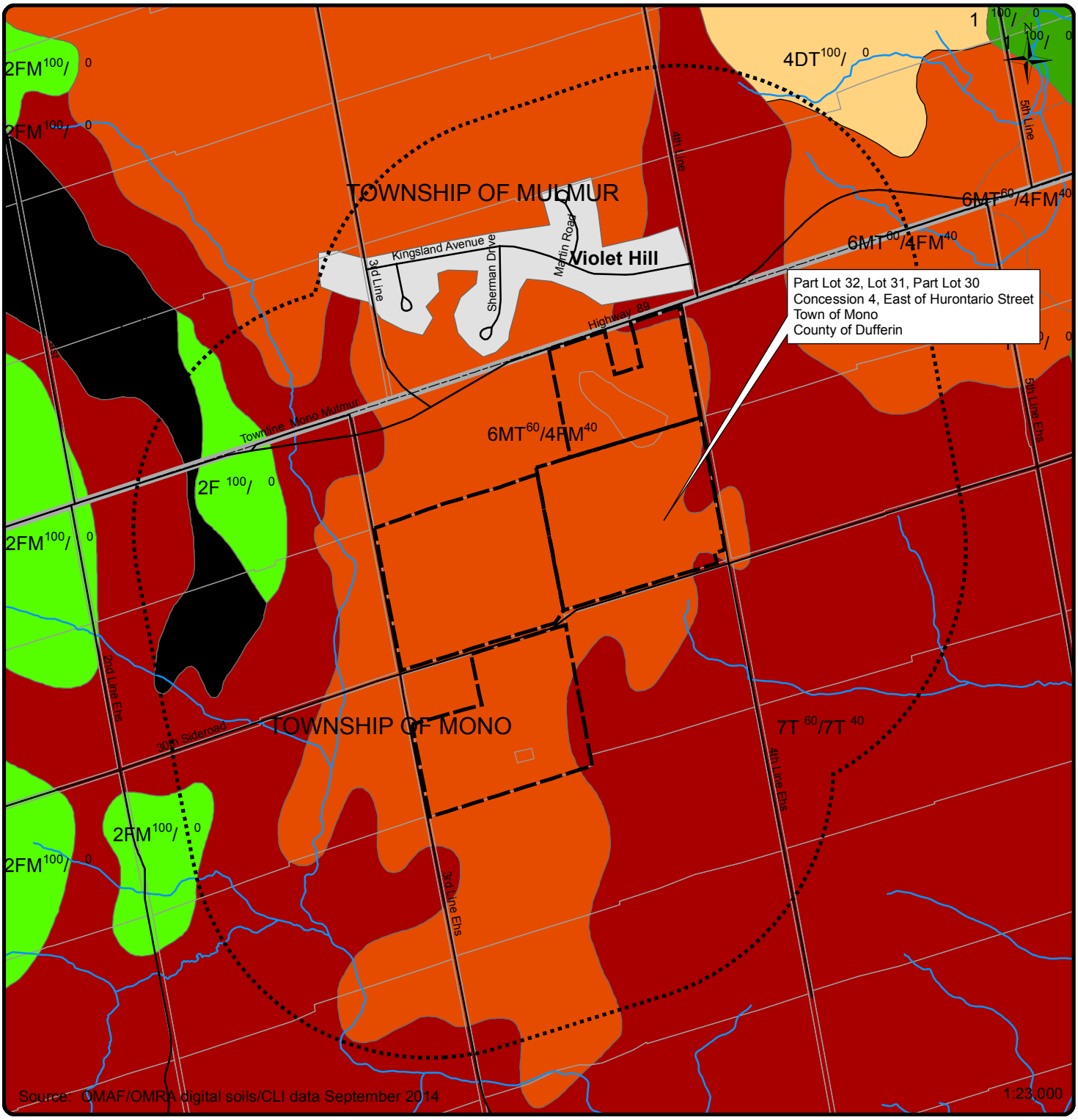
landforms incapable for use for arable culture or permanent pasture. Organic or Muck soils are not classified under this system.

The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) provided upgraded digital soil and Canada Land Inventory (CLI) mapping for the Dufferin County Area. The digital maps represent the soil boundary (polygon) information that is contained within the *Soil Survey of Dufferin County; Report No. 38 of the Ontario Soil Survey*. (Hoffman, D.W., B.C. Matthews, and R.E. Wicklund, 1964), and has been upgraded to a 1:50000 scale detail.

The digital soil mapping indicated that at a 1:50000 scale, the Subject Lands are a mix of Dumfries Loam, Hillsburgh Fine Sandy Loam, and Hillsburgh Sandy Loam soil materials. These soils were rated as Canada Land Inventory Class $6MT^{60}/4FM^{40}$ and Class $7T^{60}/7T^{40}$.

A soil polygon rated as Class $6MT^{60}/4FM^{40}$ indicates that the polygon is a complex unit comprising two proportioned Classes. Class 6MT accounts for 60 percent of the polygon, while the remaining 40 percent is Class 4FM. Where 'M' indicates a limitation due to low moisture holding capacity, 'T' indicates a limitation due to topography, and 'F' indicates a limitation due to low natural fertility.

Figure 2 illustrates the 1:50000 scale Provincially (OMAFRA) recognized Canada Land Inventory (CLI) classification for the soils within the Subject Lands, Study Area, and in the general area. It is evident that the Subject Lands and Study Area are located in an extensive area of lower capability lands (Class 4 - 7). Smaller areas of organic soils and Class 2 lands were noted to the west of the Subject Lands.



Legend

- Roads
- Watercourse
- Built Up Areas
- Lot Lines
- Study Area
- Subject Lands
- Township Boundary

Canada Land Inventory (CLI)

- Class 1
- Class 2
- Class 3
- Class 4
- Class 5
- Class 6
- Class 7
- Organic Soil
- Water

Figure 2

Ontario Ministry of Food (OMAF) and
Ontario Ministry of Rural Affairs (OMRA)
Canada Land Inventory (CLI) Classification
Dufferin County

DBH Soil Services Inc.

January 2015

4.2 DETAILED SOIL SURVEY

A detailed on-site soil survey was conducted to more accurately map and classify the soil resources of the soil materials on the Subject Lands. The soil survey included the following tasks:

- Completion of a review of published soil information *The Soil Survey of Dufferin County; Report No. 38 of the Ontario Soil Survey. (Hoffman, D.W., B.C. Matthews, and R.E. Wicklund, 1964),*).
- Conduct a review of published Canada Land Inventory (CLI) ratings for the soils of this area,
- Conduct an aerial photographic review and interpretation of the soil polygons, disturbed soil areas and miscellaneous landscape units (ie: streams, boulder pavement, wayside pits),
- Conduct an on-site soil survey,
- Completion of mapping to illustrate the location of the property, the occurrence of soil polygons and appropriate CLI capability ratings,
- Completion of a report outlining the methodologies employed, findings (including a discussion of relevant features identified) and a conclusion as to the relevance of the CLI classifications for the soil polygons on the property and how they relate to the Provincial Policy Statement.

The detailed soil survey of the Subject Lands and reconnaissance of the surrounding area was conducted between September – December 2014 (September 8, October 24, December 5 and December 19, 2014). At the time of the onsite surveys three of the four fields had been harvested. The fourth field was cropped in corn and had not been harvested at the time of the onsite soil survey (December 19, 2014). The surface soil conditions were: thawed soils in September and October; and with thin frost (2 – 4 cm) during the December surveys). A thin layer of snow was noted during the December 5 2014 survey, while a thicker layer of snow (approximately 12 cm) was noted during the December 19, 2014 survey day (corn field). While it is preferable to complete soil surveys in warmer weather and under thawed soil conditions, soil surveys completed during the colder months are completed to the same standards as detailed in the OMAFRA soil survey guidelines.

Aerial photographic interpretation was used to delineate soil polygon boundaries by comparing areas, on stereoscopic photographs, for similar tone and texture. Delineated soil polygons were evaluated for the purpose of verifying soil series and polygon boundaries. The evaluation was completed through an examination of the existing soil conditions to a minimum depth of 100 cm or to refusal. A hand held Dutch Soil Auger and/or Dutch Stone Auger was used to extract the soil material to a minimum depth of one metre (or to refusal).

Each soil profile was examined to assess inherent soil characteristics. Soil attributes were correlated with the *Canadian System of Soil Classification* (CSSC) (Agriculture Canada,

1998) and the *Field Manual for Describing Soils in Ontario* (Ontario Centre for Soil Resource Evaluation, 1993). A hand held clinometer was used to assess percent slope characteristics. Soils were assigned to a soil map unit (series) based on soil texture (hand texturing assessment), soil drainage class and topography (position and slope). Depth to free water within one metre of the soil surface was also recorded at inspection sites located on lower slope positions (where applicable). Names for the soil series were taken from *The Soil Survey of Dufferin County; Report No. 38 of the Ontario Soil Survey. (Hoffman, D.W., B.C. Matthews, and R.E. Wicklund, 1964)*,).

Canada Land Inventory (CLI) ratings were assigned to each soil polygon by correlating the soil series with soils information presented in the *Soil Survey of Dufferin County* and with the CLI information presented on the 1:50000 scale digital mapping, and through correlation to the OMAFRA document 'Classifying Prime and Marginal Agricultural Soils and Landscapes: Guidelines for Application of the Canada Land Inventory in Ontario'.

The detailed soil survey of the Subject Lands identified two soil series and one miscellaneous landscape unit on-site. The two soil series were identified as Dumfries Loam and Hillsburgh Sandy Loam. The miscellaneous landscape unit was described as Disturbed Soils. Disturbed Soils are generally associated with man-modified lands such as locations for buildings, parking/laneways, septic system layouts, heat pump and cooling systems, leveled/landformed areas, spread soil materials and boulder/stone piles. There was no standing or surface water noted onsite on any of the survey days.

Stone piles were noted in many locations within the Subject Lands. The stone piles were generally located along the edges of the fields (see photo on next page), in fence rows or lower areas (fill material). A few stone piles were noted in the middle of the field (see photo on next page).

Dumfries loam soils are characterized as soils that have developed from stony calcareous loamy materials. The topography is generally hilly (with steep slopes). Surface drainage is rapid, and the soils are well drainage internally.

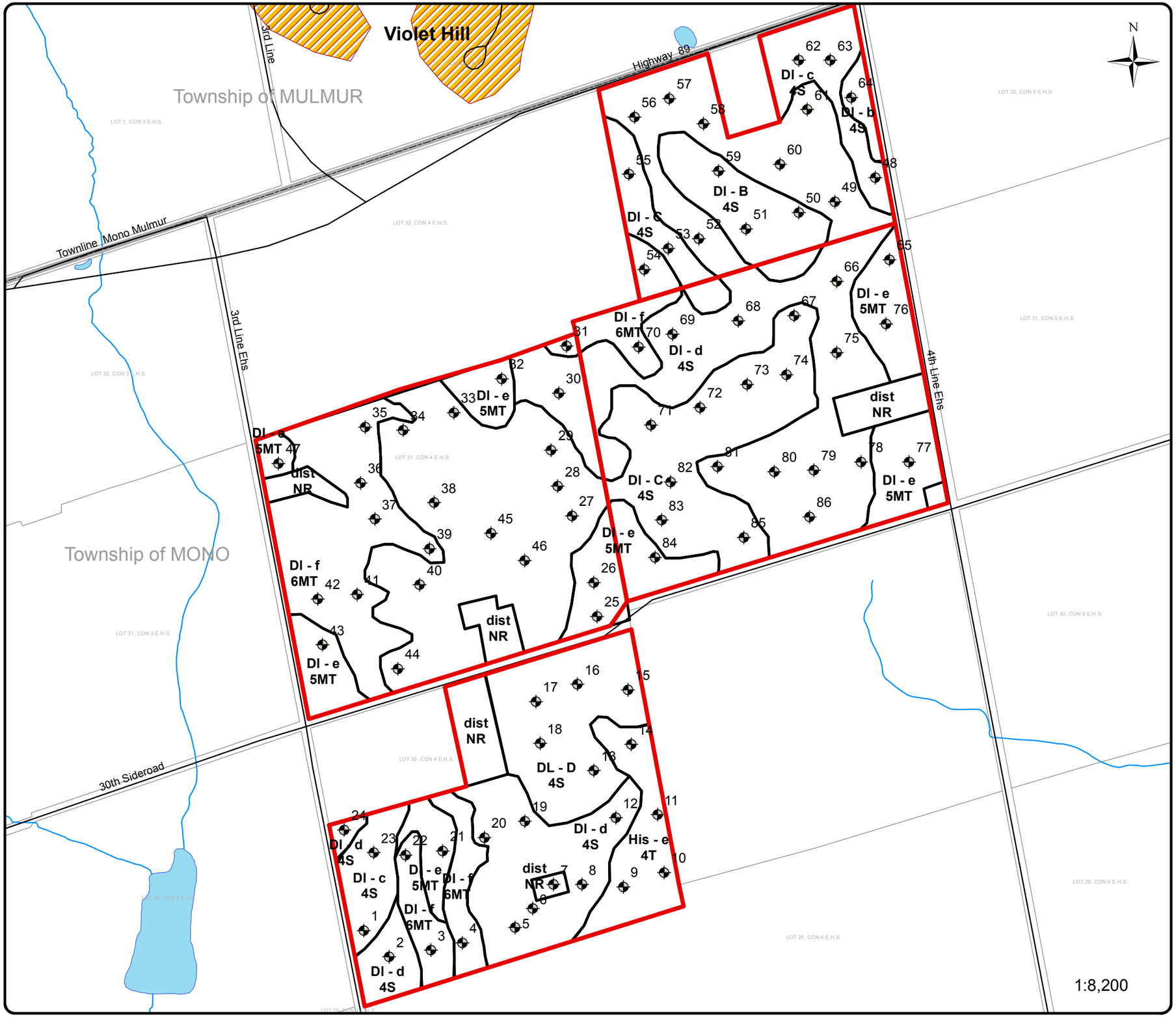
Hillsburgh Loam soils are characterized as well drained soils that developed on rough topography. These soils developed from fine sandy material with overlies the coarser stony till Dumfries soils.

It should be noted that the soils to the east side of the Subject Lands had fewer surface stones than the areas to the west side. It appears that a thin (5 – 10 cm) layer of fine sandy material overlays the soils in this area (eastern side). This would be consistent with the OMAFRA soils mapping where it is indicated that the Dumfries-Hillsburgh soils were identified. One area of Hillsburgh soils was identified in the southeast portion of the southernmost portion of the Subject Lands.

Photo 1 – Stone pile at edge of field (Part Lot 31 East Half, Concession 4)

Photo 2 – Stone pile in agricultural field (Part Lot 31 West Half, Concession 4)

A total of 84 soil inspection sites were examined on the Subject Lands. The soil inspection information was correlated with soil descriptions in *The Soil Survey of Dufferin County* prior to the production of the soils map in Figure 3. Soil names used in the identification of the soil series on Figure 3 were taken from *The Soil Survey of Dufferin County*.



Legend

- Soil Inspection Location
- Roads
- Watercourse
- Built Up Areas
- Lot Lines
- Soil Polygon Boundaries
- Subject Lands
- Township Boundary
- Waterbody

Soil Code — Slope Code

DI - D

4S

CLI Code — CLI SubCode

Soil Code	CLI Subclass Limitation
Dist = Disturbed DI = Dumfries Loam His = Hillsburgh Sandy Loam	M = Moisture Deficiency S = Adverse Soil Conditions (Low fertility, low water holding capacity and poor structure) T = Topography
Slope Code	
Aa = 0.0 - 0.5 % Bb = 0.5 - 2.0 % Cc = 2.0 - 5.0 % Dd = 5.0 - 9.0 % Ee = 9.0 - 15.0 % Ff = 15.0 - 30.0 % \ slope length < 50 m slope length > 50 m	NR = Not Rated

Figure 3

Detailed Soil Survey and Canada Land Inventory (CLI)

DBH Soil Services Inc.

February 2015

Project 2014-16

The soil inspection site characteristics are presented in Appendix A.

Dumfries Loam soils on 'B, b, C, c, D' and 'd' slopes were rated as Class 4S. Dumfries Loam soils on 'e' slopes were rated as Class 5MT and on 'f' slopes they were rated as 6MT. Hillsburgh Sandy Loam soils on 'e' slopes were rated as Class 4T.

Where 'b' slopes are identified as a 0.5 – 2.0 percent slope on complex topography (slope length less than 50 metres); 'c' and 'C' slopes are identified as a 2.0 – 5.0 percent slope on complex and simples slopes (slope lengths of less than 50 metres and greater than 50 metres respectively); 'd' and 'D' slopes are identified as a 5.0 – 9.0 percent slope on complex and simple slopes (slope length less than 50 metres); 'e' slopes are identified as a 9.0 to 15.0 percent slopes; and 'f' slopes are identified as 15.0 to 30.0 percent slopes.

Subclass 'M' denotes a moisture limitation. Subclass 'S' identifies adverse soil conditions of equal severity (combinations of Subclasses include low fertility (F), low moisture (M), combined with a third limitation such as topography (T) or stoniness (P).

Table 1 summarizes the relative percent area occupied by each capability class.

Table 1 Canada Land Inventory - Percent Occurrence

Canada Land Inventory Class (CLI)	Area (ha/acres)	Percent Occurrence
Class 1	-	-
Class 2	-	-
Class 3	-	-
Class 4	121.0/298.9	72.6
Class 5	18.2/44.9	10.9
Class 6	20.9/51.5	12.5
Class 7	-	-
Not Rated	6.7/16.5	4.0
Totals	166.7/411.7	100.0

The Subject Lands comprise approximately 96.0 percent Class 4 –Class 6 lands, with the remaining 4.0 percent as Not Rated land (Disturbed lands).

The Provincial Policy Statement (PPS) considers Class 1 – 3 soils as Prime agricultural lands worthy of preserving for agriculture. There are no prime agricultural lands on the Subject Lands.

4.3 TOWN OF MONO LAND EVALUATION AREA REVIEW (LEAR)

The Ministry of Municipal Affairs and Housing (MMAH) requested that the Town of Mono identify Prime Agricultural areas in the Official Plan to conform to the Provincial Policy Statement. As a result, the Town of Mono initiated a Land Evaluation and Area Review (LEAR) Study to identify potential Prime Agricultural Areas.

Colville Consulting Inc. was retained in 2008 to complete the LEAR assessment. Colville Consulting Inc. worked with a LEAR committee and OMAFRA to develop the methodology. In the spring of 2010 a final LEAR map was refined and identified four potential Prime Agricultural Areas within the Town of Mono.

Figure 4 illustrates the Figure 9 Official Plan Land Use Including Prime Agricultural Lands from the Colville Consulting Inc. report (Identification of Candidate Prime Agricultural Areas Using A Land Evaluation and Area Review LEAR Methodology, August 2011).

Figure 4 illustrates that the Subject Lands are not within the LEAR Prime Agricultural Lands. As such, the Subject Lands are not considered as Prime Agricultural Lands.

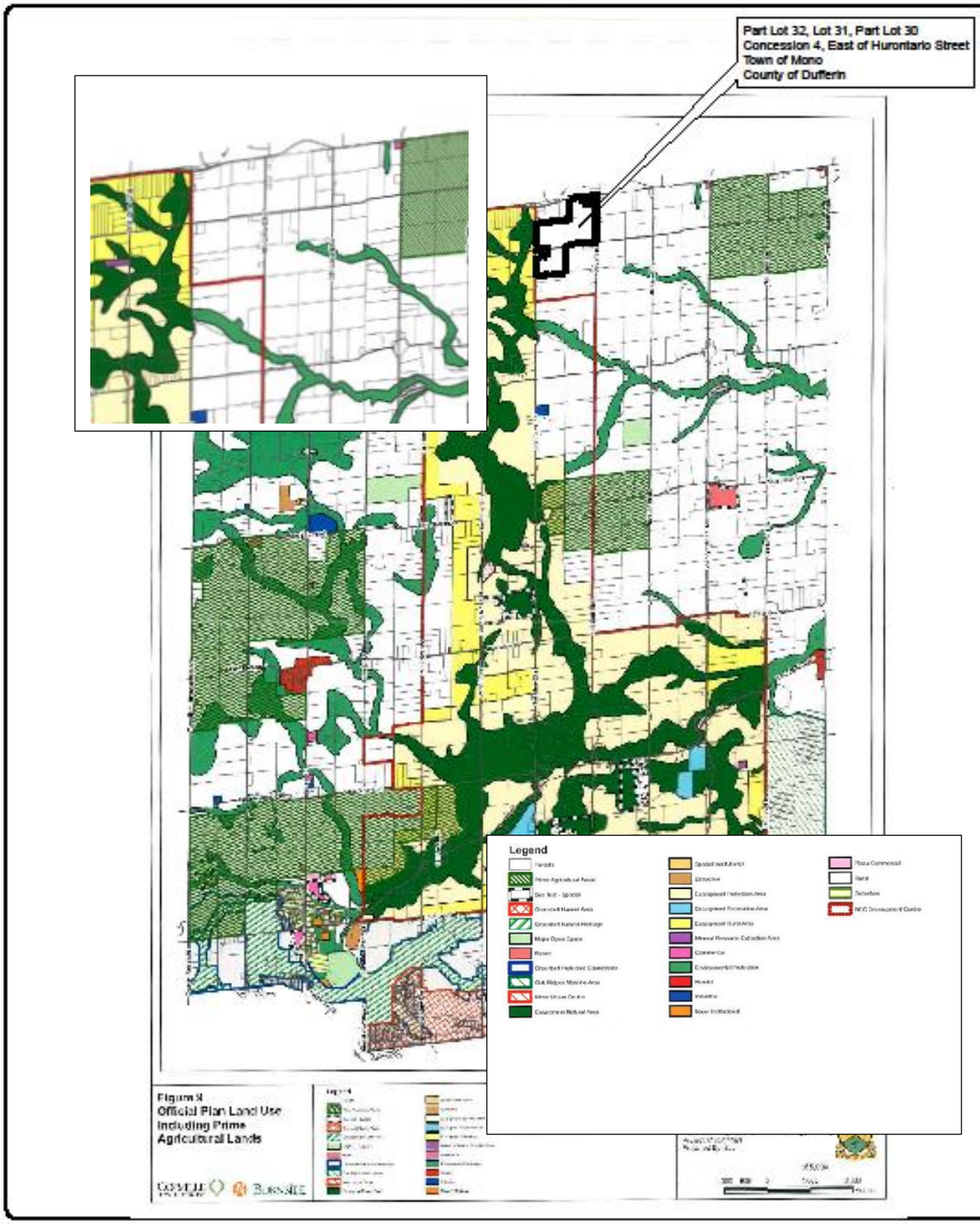


Figure 4

Town of Mono - Land Evaluation Area Review Study (Colville Consulting)

February 2015

4.4 LAND USE

The land use for both the Study Area and the Subject Lands was completed through a combination of windshield and field surveys (completed in September – December 2014), a review of recent aerial photography, discussions with landowners, Google satellite imagery, and correlation to the OMAFRA Land Use Systems mapping. Agricultural and non-agricultural land uses are illustrated on Figure 5.

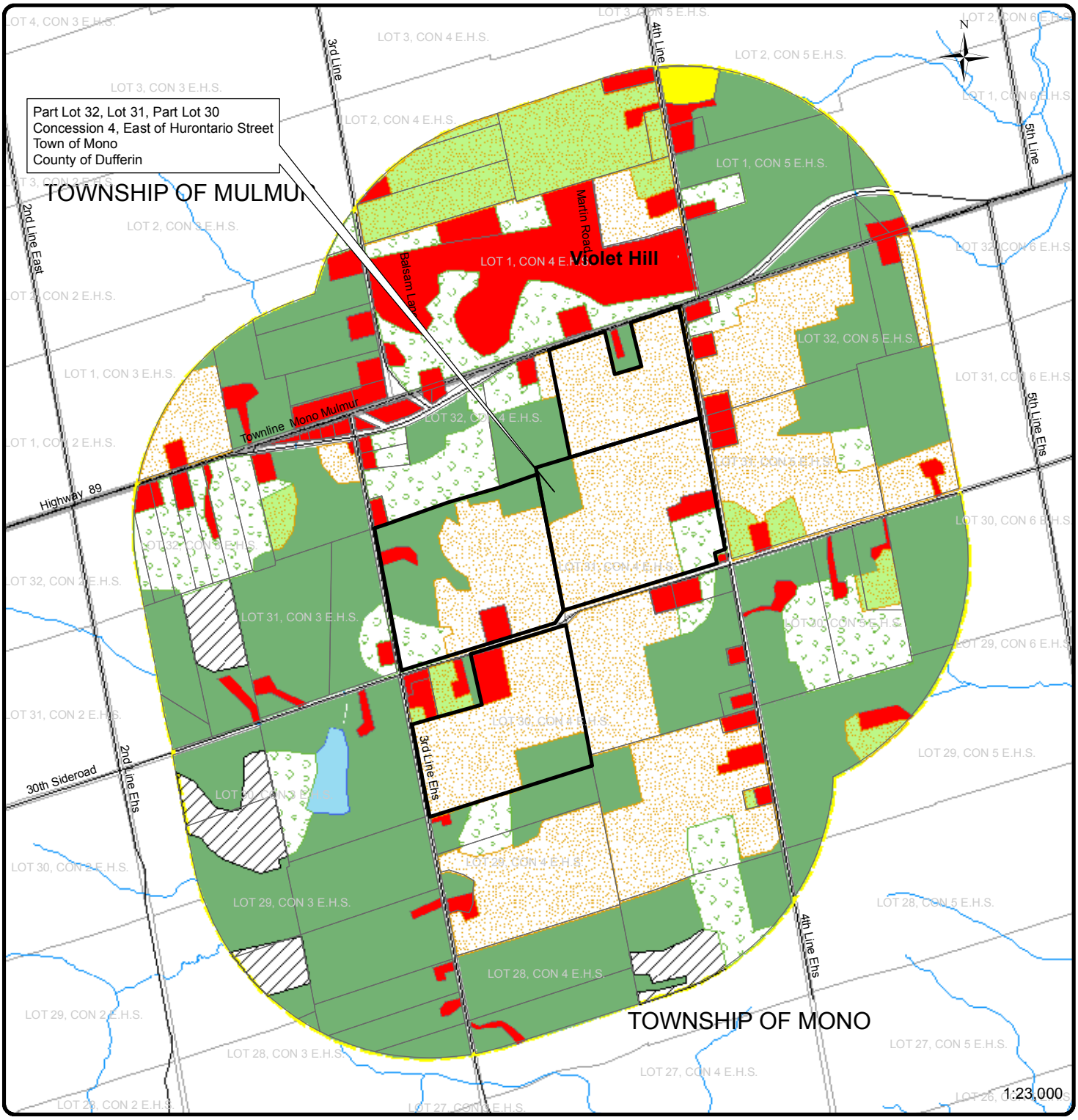
Land Use information was digitized in Geographic Information System (GIS - Arcmap) to illustrate the character and extent of Land Use in both the Subject Lands and the Study Area.

Land use designations are provided in Table 2.

Table 2 Land Use Designations

Land Use Designation	Land Use
Built Up	Residential, Commercial, Industrial
Common Field Crop	Corn, Soybean, Cultivated
Forage/Pasture	Forage/Pasture
Scrublands	Unused field (>5 years)
Pond	Pond
Recreational	Golf Course
Woodlot	Forested Areas

Table 3 illustrates the percent occurrence of the land uses for both the Subject Lands and the Study Area. Figure 5 illustrates the land use both on the Subject Lands and within the Study Area.



Legend

- Roads
- Watercourse
- Lot Lines
- Property Boundaries
- Subject Lands
- Township Boundary

Agricultural Land Use

- Built Up
- Common Field Crop
- Forage/Pasture
- Recreation
- Pond
- Scrubland
- Unknown
- Woods

Figure 5

Land Use

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Table 3 Land Use – Subject Lands and Study Area

Land Use Designation	Subject Lands Percent Occurrence	Study Area Percent Occurrence
Built Up	4.7	10.6
Common Field Crop	74.9	25.1
Forage/Pasture	-	5.9
Scrublands	5.6	12.2
Pond	-	0.4
Recreational	-	0.3
Woodlot	14.8	42.4
Unknown	-	3.0
Totals	100.0	100.0

4.4.1 LAND USE – SUBJECT LANDS

The majority of the Subject Lands (74.9 percent) were used for the production of common field crops during the 2014 growing season. The remaining portions of the Subject Lands comprise: scrublands (5.6 percent); woodlots (14.8 percent); and built up areas (4.7 percent). Scrubland and woodlots are also associated with the steeper sloped areas.

The common field crops grown on the Subject Lands included soybean and corn crops.

4.4.2 LAND USE - STUDY AREA

The Study Area consists of a variety of land uses including, but not limited to built up areas, common field crops, forage/pasture, recreation (golf course), pond, scrubland, unknown uses, and woodlots.

Built up areas comprise approximately 10.6 percent of the Study Area. Agricultural production areas (common field crop and forage/pasture lands) account for approximately 31.0 percent. Scrublands comprise approximately 12.2 percent, while ponded areas, recreational lands and unknown land use cover approximately 0.4, 0.3 and 3.0 percent respectively. Woodlots account for the largest single land use factor, at 42.4 percent of the Study Area.

The predominant agricultural land use in the Study Area is common field crop with scattered areas of corn and soybeans. The Study Area exhibits the characteristics of an area of transition from the intensive agricultural activities such as corn production to the lower intensity production of forage and pasture crops. This is also reflected in the size of the properties with the occurrence of many smaller properties containing rural residential units and small barns/sheds for the production of a few animals/livestock for personal use or hobby horse activities.

Unknown land uses are identified for areas that are restricted by line-of-sight limitations (vegetation or topographic). Aerial photographic interpretation suggests that these small areas may be used for agricultural production.

4.5 AGRICULTURAL INVESTMENT

Agricultural investment is directly associated with the increase in capital investment to agricultural lands and facilities. In short, the investment in agriculture is directly related to the money used for the improvement of land through tile drainage or irrigation equipment, and through the improvements to the agricultural facilities (barns, silos, manure storage, sheds).

As a result, these lands and facilities that have increased capital investment are often considered as more worthy of preservation than similar capability lands and facilities that are undergoing degradation and decline. The investment in agriculture is often readily identifiable through observations of the facilities, field observations and a review of OMAFRA artificial tile drainage mapping.

Agricultural activities such as livestock rearing usually involve an investment in agricultural facilities. Dairy operations require extensive facilities for the production of milk. Poultry and hog operations require facilities specific for those operations. Beef production, hobby horse and sheep operations usually require less investment capital. Some cash crop operations are considered as having a large investment in agriculture if they have facilities that include grain handling equipment such as storage, grain driers and mixing equipment that is used to support ongoing agricultural activities.

4.5.1 ARTIFICIAL DRAINAGE

An evaluation of artificial drainage on the Subject Lands and within the Study Area was completed through a correlation of observations noted during the soil survey, aerial photographic interpretation and a review of the Ontario Ministry of Agriculture and Food (OMAF) Artificial Drainage System Mapping.

Visual evidence supporting the use of subsurface tile drains included observations of drain outlets to roadside ditches or surface waterways, and surface inlet structures (hickenbottom or french drain inlets).

Evidence in support of subsurface tile drainage on aerial photographs would be based on the visual pattern of tile drainage lines as identified by linear features in the agricultural lands and by the respective light and dark tones on the aerial photographs. The light and dark tones relate to the moisture content in the surface soils at the time the aerial photograph was taken.

OMAFRA Artificial Drainage System Maps were reviewed to determine if an agricultural tile drainage system had been registered for the Subject Lands or in the Study Area. The OMAFRA maps revealed that no agricultural drainage systems were registered to either the Subject Lands or in the Study Area.

There is no investment in artificial tile drainage in the area.

4.5.2 IRRIGATION

Observations noted during the detailed soil survey indicated that the Subject Lands are not irrigated and that the property is not set up for the use of irrigation equipment. Visual evidence supporting the use of irrigation equipment would include the presence of the irrigation equipment (piping, water guns, sprayers, tubing, etc), the presence of a body of water capable of sustaining the irrigation operation and lands that are appropriate for the use of such equipment (large open and level fields).

Similar observations were made of the lands within the Study Area. No irrigation equipment was noted on any property within the Study Area.

There is no investment in irrigation in this area.

4.5.3 LANDFORMING

Landforming is the physical movement of soil materials to create more uniformly sloped lands for the ease of mechanized operations. The costs associated with landforming can be exorbitant, depending on the volumes of soils moved.

No landforming was observed on the Subject Lands or within the Study Area during the time of the field surveys, on any of the aerial photographs or identified on any topographic or base map.

There is no investment in landforming in this area.

4.5.4 AGRICULTURAL FACILITIES

A review and assessment of existing agricultural (livestock) facilities on and within 1 kilometre (1000 m) of the Subject Lands was completed between September – December, 2014.

The potential livestock facilities were identified through a combination of aerial photographic interpretation, a review of online digital imagery (Google Earth, Bing Mapping, and Birds Eye Imagery), a review of Ontario Base Mapping and roadside evaluations. The potential livestock facilities included buildings used for the active housing of livestock, barns that were empty and not used to house livestock, barns in poor structural condition, and barns used for storage. MDS Guideline 19 indicates that "MDS

calculations shall be based on the maximum livestock housing capacity for all livestock facilities on a lot, even if the building is not currently used, but is structurally sound and reasonably capable of housing livestock."

Agricultural facilities on the Subject Lands and in the Study Area are described as follows. One agricultural facility was observed on the Subject Lands (southern property). A total of 19 potential agricultural facilities were observed on the Study Area. The agricultural facilities locations and potential livestock type (barn use) are illustrated on Figure 6. The potential livestock facilities included unused barns, storage facilities, a variety of livestock barns and hobby or individual use operations.

At the time of the roadside surveys livestock or the presence of livestock (pasture areas, manure piles) was observed at nine (9) facilities (numbers 1, 2, 10, 13, 15, 17, 18, 19 and 23). Agricultural facilities numbered 5, 8, 11, 12 and 21 could not be seen from the roadside due to 'line of sight' limitations. Aerial photographic interpretation of these facilities suggested that agricultural facilities 8, 11, 12 and 21 were horse or hobby horse operations. Aerial photographic interpretation of agricultural facility 5 suggested that this facility is not used for livestock.

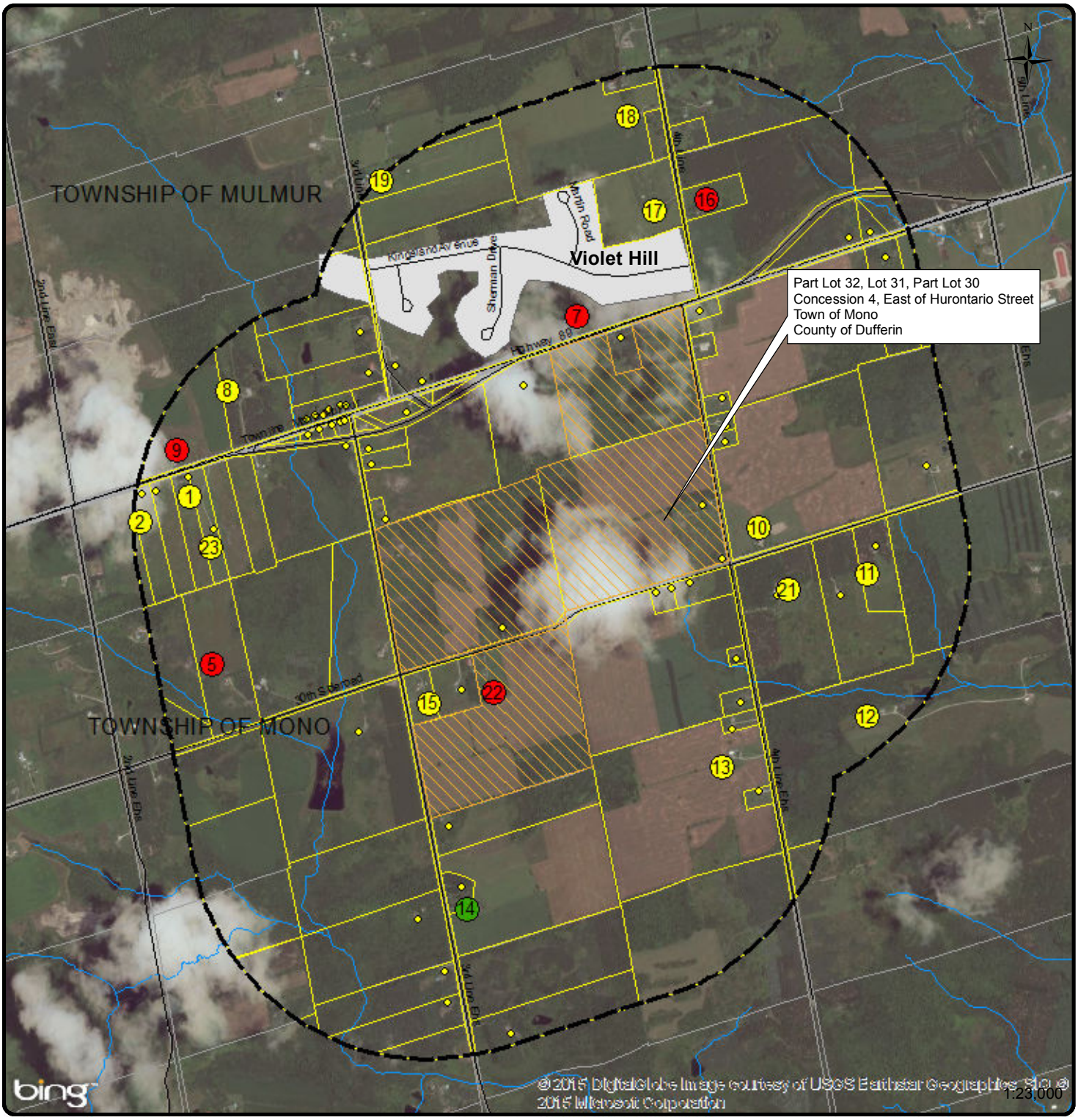
At the time of the surveys, livestock may not have been visible due to topography, vegetation or location of the animals (inside a barn). In such cases, the livestock type identified for that particular facility was determined by size of the facility, the type of building, the presence of specialized equipment or buildings (horse trailers, indoor riding facilities, small barns/sheds, small pens).

Agricultural facilities 5, 7, 9, 16 and 22 did not appear to have livestock at the time of the survey. Agricultural facility numbers 1, 2, 8, 10, 11, 12, 15, 17, 18, and 23 appear to be associated with horse or hobby horse operations while number 14 was identified as a potential beef operation.

Agricultural facility numbered 7 was in poor shape with missing roof and/or wall boards. It is unlikely that due to the condition of this facility that it could be used for housing livestock without significant investment in repairs.

Agricultural facility numbered 9 is located on a parcel that contains an active aggregate (sand/gravel) pit.

Agricultural facility numbered 22 is located on the southernmost parcel of the Subject Lands. This facility appears to be in poor condition with missing wall boards. It is assumed that this barn will be removed or modified for equipment storage as part of the aggregate application process.



Legend

- Residence
- Roads
- Watercourse
- Lot Lines
- Property Boundaries
- Study Area
- Subject Lands
- Township Boundary

Agricultural Facility

- Beef
- Horse
- Unused

Figure 6

Agricultural Facilities

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4.6 MINIMUM DISTANCE SEPARATION I

Land use planning principles promote the grouping together of compatible land uses, while providing distance between unlike or incompatible land uses. The Minimum Distance Separation (MDS) calculation is a tool provided by the Ontario Ministry of Agriculture and Food, and used to determine a recommended distance between a livestock operation and another land use. The objective is to prevent land use conflicts and to minimize nuisance complaints from odour (the MDS does not account for noise and dust issues). The MDS is based on a number of variables including: type of livestock; numbers of animals; size of the farm operation; type of manure system and the form of the development proposed. MDS I calculations are employed to determine the minimum distance separation for new development from existing livestock facilities, while MDS II calculations are used to determine the minimum distance separation for new or expanding livestock facilities from existing or approved development. With this in mind, MDS I calculations were completed for this study.

As per General Guideline 1, 'MDS will be applied in Prime Agricultural Areas and Rural Areas as defined by the Provincial Policy Statement, 2005'.

As per General Guideline 35, 'For the purposes of MDS I, Type A land uses include applications to rezone or redesignate agricultural lands for industrial, agricultural-related or recreational uses – low intensity purposes. Therefore, as per General Guideline 6, 'For Type A applications apply MDS I for livestock facilities within a 1000 metre radius', MDS I calculations were assessed for livestock facilities within a 1000 m buffer surrounding) the Subject Lands.

According to MDS Publication 707 General Guideline 20, MDS I calculations are to be completed for livestock facility even if the facility is not being used. In those cases, MDS was based on the most probable use for the livestock facility.

A windshield survey for agricultural facilities within 1.5 km of the Subject Lands indicated that there were no large scale intensive agricultural operations in close proximity to the Subject Lands. For the purpose of clarity of mapping, only agricultural facilities within 1 km of the Subject Lands were illustrated for this MDS assessment (as is required under MDS 1 General Guideline 6).

General Guideline 12 states: 'Where there are four of more existing non-farm uses closer to the subject livestock facility and in immediate proximity to the current application, MDS 1 will not be applied'. Agricultural facilities numbered 8, 16, 17, 18, and 19 were located in areas where there were four or more existing non-farm uses (Violet Hill) closer to the subject livestock facility. Therefore, MDS 1 was not completed for these facilities.

As indicated previously in Section 4.5.4, livestock or the presence of livestock was observed at nine (9) facilities (facilities (numbers 1, 2, 10, 13, 15, 17, 18, 19 and 23. MDS 1 calculations were completed for agricultural facilities number 1, 2, 10, 13, 15 and 23).

Agricultural facilities numbered 5, 8, 11, 12 and 21 could not be seen from the roadside due to 'line of sight' limitations. Aerial photographic interpretation of these facilities suggested that agricultural facilities 8, 11, 12 and 21 were horse or hobby horse operations. Aerial photographic interpretation of agricultural facility 5 suggested that this facility is not used for livestock. MDS 1 calculations were completed for each of these facilities.

For the purposes of this report, these facilities were assumed to be in 'good' condition. The MDS 1assessment completed in this fashion will provide a 'worse case' situation, in that the assumptions used for calculating the MDS 1 distance will provide the largest possible distance for that particular agricultural facility.

Agricultural facilities 5, 7, 9, 16 and 22 did not appear to have livestock at the time of the survey. Agricultural facility numbers 1, 2, 8, 10, 11, 12, 15, 17, 18, and 23 appear to be associated with horse or hobby horse operations while number 14 was identified as a potential beef operation

Although the view of some of the facilities was partially obstructed from the roadside due to location (behind other buildings, topography and/or vegetation), a review of the Google Online imaging and Bing imagery was used to assist in the determination of the extent of livestock at these facilities.

With respect to OMAFRA MDS 1 General Guideline 20, livestock facility number 7 was considered not structurally sound (missing roof and wall boards, sagging structures, cracked foundations). Therefore MDS 1 calculations were not completed for this facility.

The remaining agricultural facilities, that are do not fall under the MDS General Guidelines 12 or 20 were identified as numbers 1, 2, 5, 9, 10, 11, 12, 13, 14, 15, 21 and 23.

Agricultural Facility 1 is located along Highway 89. This is a smaller parcel of approximately 4 ha (10 acres). There is a residential unit and a bank barn. There is wooden fencing and horses were observed during the roadside surveys.

Agricultural Facility 2 is located along Highway 89. This is a smaller parcel of approximately 4 ha (10 acres). There is a residential unit and a small pole barn type building. No livestock was seen during the roadside survey.

Agricultural Facility 5 is located on an approximately 12.5 ha (31 acre) parcel of which roughly half is woodlot. The barn and residential unit are set back from the road, behind

the woodlot areas. The barn cannot be seen from the road. No livestock was seen during the roadside survey.

Agricultural Facility 9 is located on an approximately 39.8 ha (98.35 acres) parcel. This parcel is owned by the Town of Mulmur and portions of the property are used for an aggregate pit. A residential unit and bank barn were observed. No livestock were observed during the roadside survey.

Agricultural Facility 10 comprises approximately 37.4 ha (92.31 acres) and is located on the northwest corner of 4th Line EHS and 30 Side Road. This parcel was used for production of common field crop. A pole barn/machine shed/office and residential unit were observed during the roadside surveys. Horses were observed in pasture areas adjacent to the barn/machine shed/office.

Agricultural Facility 11 was located on a small lot on the south side of 30 Side Road, east of 4th Line EHS. The parcel is wooded adjacent to the road, as a result, the barn could not be seen. Aerial photographic interpretation indicated that a residential unit and small barn were located south of the wood lot areas.

Agricultural Facility 12 was located on a larger parcel of approximately 80.9 ha (200 acres) accessed from the 5th Line EHS. This parcel contains large areas of woodlots. Aerial photographic interpretation indicated the presence of two smaller barns and a residential unit.

Agricultural Facility 13 was located on a larger parcel of approximately 38.7 ha (95.77 acres). This parcel is accessed from 4th Line EHS. The property contains a residential unit, small barn and ancillary buildings. The barn is located just over the crest of a hill. This parcel of land is used for the production of common field crop.

Agricultural Facility 14 was located on a larger parcel of approximately 28.9 ha (71.53 acres). This parcel contains a barn, woodlots and agricultural fields. Large round bales of forage were observed during the roadside surveys. No live was seen during the surveys.

Agricultural Facility 15 was located on a smaller parcel on the south east corner of 30 Side Road and 3rd Line EHS. A small horse farm (Clay Pine Ridge) was observed. A residential unit and small pole barn were noted.

Agricultural Facility 21 was located on an 18.7 ha (46.36 acre) parcel of land located on the southeast corner of 30 Side Road and 4th Line EHS. This property comprises mostly wooded areas. A residential unit and small barn were noted on the aerial photography. Neither the barn nor the residential unit could be seen from the roadside.

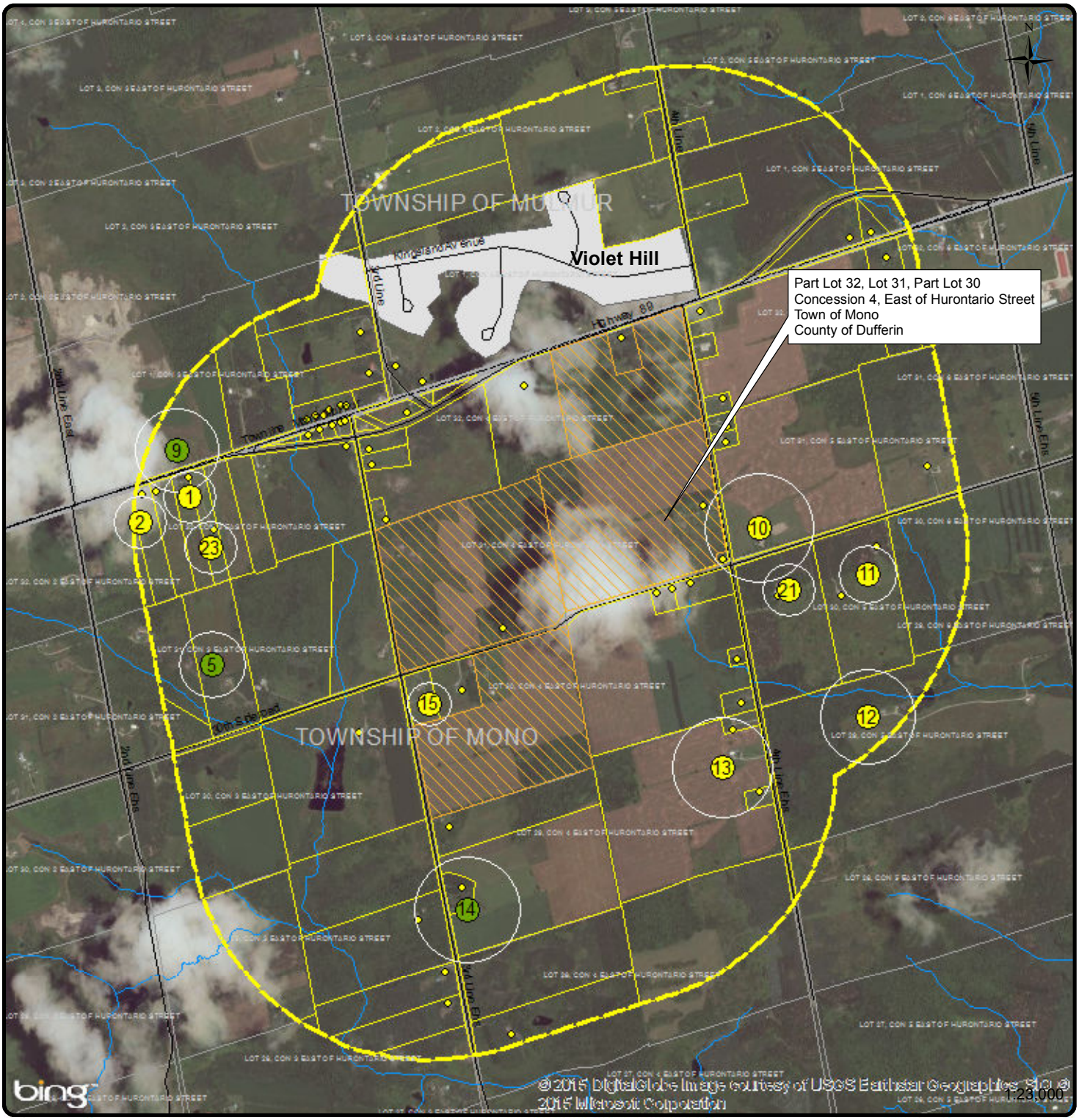
Agricultural Facility 23 was located on a small parcel along the south side of Highway 89. This parcel contained a residential unit (set back from the Highway) and a small barn behind the residence.

MDS 1 calculations were completed for these facilities and are illustrated on Figure 7.

The resultant MDS arcs indicate that the eastern portion of the Subject Lands is impacted by the MDS arc from Agricultural Facility number 10, and the western portion of the Subject Lands is impacted by the MDS arc from Agricultural Facility number 15. MDS arcs from the remaining Agricultural Facilities do not impact the Subject Lands.

Generally, areas impacted by MDS arcs are not to be used for constructing/developing buildings that may house people. In this instance, the areas that are impacted, are areas that may be used for construction of berms, and were not intended to be used for buildings or the pit excavation area. As a result, there should be no impact to the proposed aggregate pit.

Table 4 presents the individual Agricultural Facilities Number, their area, the animal group, land base assessment and the calculated Minimum Distance Separation arc value.



Legend

- Residence
- Roads
- Watercourse
- Lot Lines
- Property Boundaries
- Study Area
- Subject Lands
- Township Boundary

Type of Barn for MDS Purposes

- Beef
- Horse
- Poor Condition

MDS Arc

Figure 7

Minimum Distance Separation 1
(MDS 1)

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Table 4 Minimum Distance Separation I (MDS I) Calculations

Agricultural Facility	Area (ha/ac) (Tillable)	Animal Group	Minimum Distance Separation from Barn (m)
1	3.0	Horse	110
2	3.0	Horse	110
5	5.8	Beef	136
7	**	-	-
8	*	-	-
9	13.9	Beef	173
10	30.0	Horse	275
11	4.2	Horse	120
12	21.0	Horse	200
13	23.0	Horse	206
14	27.0	Beef	218
15	1.5	Horse	92
16	*	-	-
17	*	-	-
18	*	-	-
19	*	-	-
21	1.2	Horse	108
22	***	-	-
23	3.0	Horse	110

Assumptions:
* = MDS I not required as per General Guideline 12 MDS I – 'Where there are 4 or more non farm uses closer to the subject livestock facility and in immediate proximity to the current application, MDS I will not be applied'.
** = MDS I not required as per General Guideline 20 MDS I – 'applies to empty livestock facilities if they are structurally sound and reasonably capable of housing livestock or storing manure.' In these instances the facilities are not 'structurally sound' and MDS I is not applied.
*** = MDS I not applied. Assumes removal of this facility.

Photographs of the respective agricultural facilities (barns) are provided in Appendix B.

Minimum Distance Separation I calculations are provided in Appendix C.

4.7 LAND TENURE AND FRAGMENTATION

Land tenure was evaluated to determine the characteristics of land ownership and the degree of land fragmentation in the Subject Lands and the Study Area. In order to evaluate land tenure, the most recent Assessment Roll mapping and Assessment Roll information from the Town of Mono and the Town of Mulmur was referenced on a property by property basis to determine the approximate location, shape and size of each parcel. The approximate location and shape of each property within the Study Area were digitized into the Geographic Information System (GIS) to provide an overview of land tenure and land fragmentation.

For the purpose of this study, the most recent Assessment Roll mapping and Assessment Roll information for the Town of Mono and the Town of Mulmur was evaluated. The Assessment mapping information and Assessment Roll information was acquired from the Town of Mono and the Town of Mulmur Municipal Offices. Discussions with the staff at the respective Town Offices indicated that the Assessment Mapping and Roll information was compiled in 2014 for the 2015 Taxation Year. Assessment information is illustrated on the Land Tenure map in Figure 8.

The Provincial Policy Statement (PPS) identifies the provincial land use policies and provides context for the protection of agriculture. The PPS does not provide an indication of a minimum lot size for agriculture, but does state in Section 2.3.4.1that:

> "lots are of a size appropriate for the type of agricultural use(s) common in the area and are sufficiently large to maintain flexibility for future changes in the type or size of agricultural operations."

Statistics Canada (2006) indicates that the average farm size in Ontario is 94 ha (232 acres). Farms comprise many types, sizes and intensities. They may consist of larger areas for livestock operations or tender fruit farms on smaller parcels.

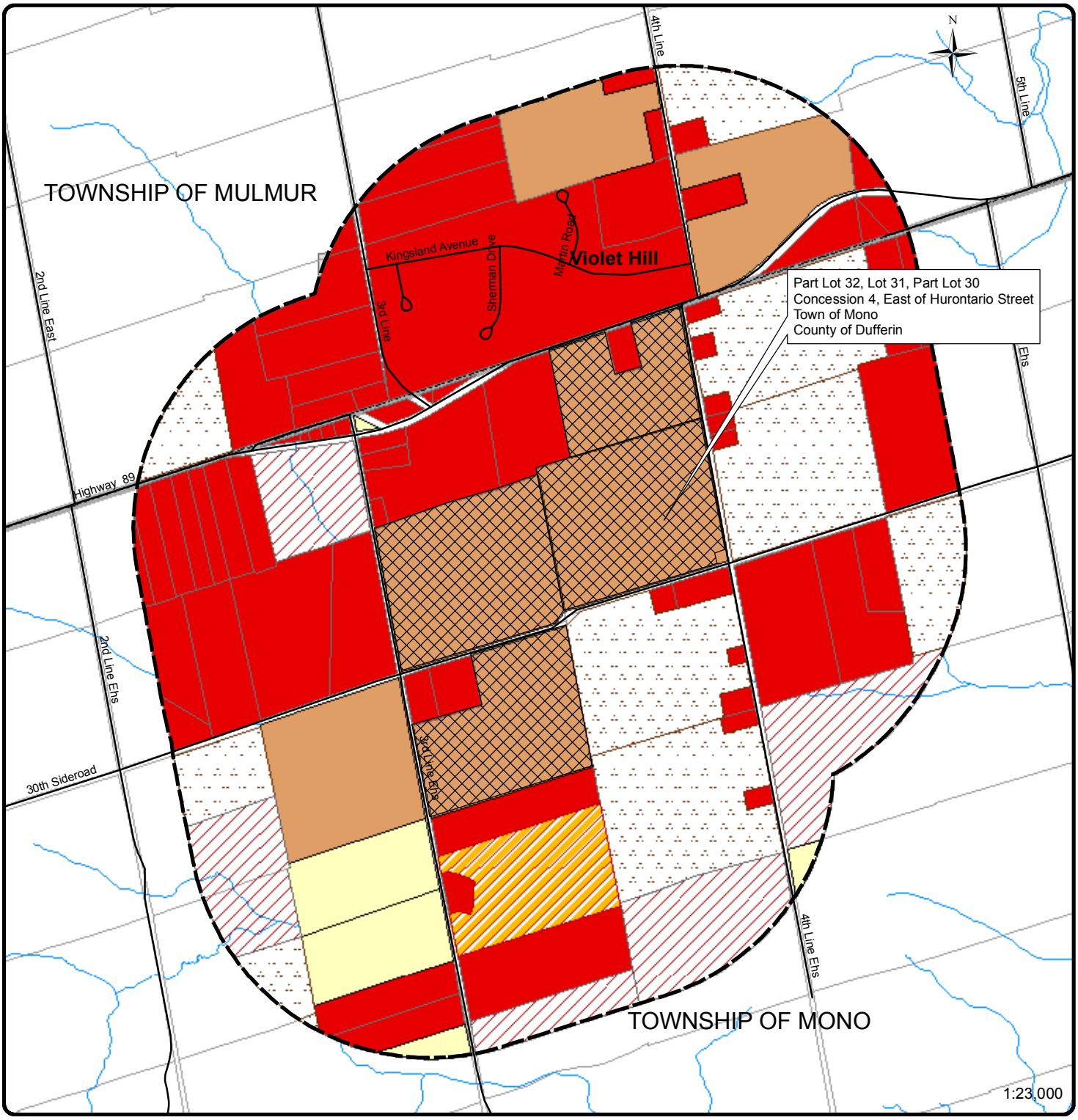
The County of Dufferin Official Plan and the Town of Mono Official Plan provide general context for agriculture and land use but does not provide comment on a minimum lot size for agricultural uses in Rural Areas.

The Township of Mono Zoning By-law provides an indication of the minimum standards for existing Agricultural Zones. The minimum lot area sizes are designated in Section 4 (88) – 91, where it states:
"INTENSIVE OR SPECIALIZED LMSTOCK OPERATION" means an agricultural operation having greater than 450 livestock units, or any other lesser minimum which may be defined under Provincial nutrient management, agricultural, or planning legislation if less than 450 livestock units, located on a lot having a minimum lot size of 40.47 hectares."

Areas of high agricultural activities generally have larger tracts or blocks of land with few smaller severed parcels in close proximity. In areas of transition from the agricultural land base to more rural residential, there will be many smaller severed parcels and fewer large blocks of agricultural land.

Locally owned parcels reflect the owners desire to live and work in the immediate area. Non-locally owned parcels often reflect areas of properties purchased for speculation development.

For the purpose of this study, the minimum lot size was established at 20 ha (50 acres) allowing for inclusion of parcels down to the 20 ha size. These smaller parcels (less than



Legend

- Roads
- Lot Lines
- Study Area
- Subject Lands
- Township Boundary

Land Tenure

- Local Owner - Operator
- Local Owner - Tenant
- Local Owner - Vacant Land
- Non-Local Owner
- Non-Local Owner - Tenant
- < 20 ha (50 ac)

Figure 8

Land Tenure

DBH Soil Services Inc.

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20 ha (50 acres)) were not categorized as Local or Non-Local as they are below the minimum lot size for the creation of new farm lots.

Table 5 Land Tenure

	Subject Lands (Percent Occurrence)	Study Area (Percent Occurrence)
Local Owner - Operator	-	11.6
Local Owner - Tenant Farmer	-	23.5
Local Owner – Vacant Land	-	3.2
Non-Local Owner	-	4.7
Non-Local Owner – Tenant Farmer	100.0	9.9
< 20 ha (50 acres)	-	47.1
Totals	100.0	100.0

4.7.1 SUBJECT LANDS

The Subject Lands comprise 100.0 percent as Non-Local Owner with Tenant Farmer.

4.7.2 STUDY AREA

The land tenure in the Study Area illustrates a mix of ownership. Locally Owned and Operated lands occur in the west central, southwest and southeastern portions of the Study Area. These lands account for approximately 11.6 percent of the land in the Study Area.

Lands identified as Locally Owned with Tenant Farmers were noted in the southeast and east central areas and comprise approximately 23.5 percent of the land in the Study Area.

Lands identified as Local Owner with Vacant Land (as identified in the Assessment Roll data), comprise approximately 3.2 percent of the Study Area.

Lands identified as Non-Local Owner or Non-Local Owner with Tenant Farmer comprise approximately 4.7 percent and 9.9 percent respectively.

Lands identified as parcels smaller than 20 ha (50 acres) account for 47.1 percent of the Study Area.

As illustrated in Figure 8, agriculture within the Study Area is under pressure due to land fragmentation (particularly along the Highway 89 and the settlement of Violet Hill), undersized agricultural lots and Non-Local ownership.

On review of the Land Tenure mapping various observations can be made.

Land Tenure near the Subject Lands is typical of areas under pressure from non-agricultural land uses and comprise large tracts of non-local and small parcel ownership.

5 REHABILITATION

The proposed sand and gravel pit would be considered as an interim use of the Subject Lands. As this pit would be developed over time, this temporary land use will allow for continued agricultural use on the undisturbed portions of the Subject Lands.

The proposed sand and gravel pit lands would be rehabilitated back to agricultural land use on completion of the excavation of aggregate materials. The progressive rehabilitation of extracted lands would allow for continued agricultural use on the rehabilitated areas. Further, that the rehabilitated lands would comprise more uniform slopes (longer and less steep) that would enhance the agricultural potential of the rehabilitated lands.

5.1.1 GENERAL REHABILITATION PLAN

Sand and gravel pit restoration/reclamation is defined as the stabilization of areas from which aggregate has been extracted. The purpose is to provide stabilization of the soil, prevention of erosion and improvements to the site to restore agricultural operations.

A 'progressive' rehabilitation plan is proposed for the Subject Lands. In general terms, this type of rehabilitation involves the sequential removal of topsoil and subsoil materials from the developing areas of the pit and reestablishing these same soil materials (in the appropriate sequence) into the excavated areas.

Successful rehabilitation of the pit areas to agriculture after uses may be accomplished by following a series of established steps. The basic steps are listed as follows:

1) Strip the topsoil, subsoil and overburden separately. Each soil material should be stripped, moved and stored separately. Intermixing of the soil materials should not occur or be kept to a minimum.
2) Strip small areas as necessary for the advancement of the extraction operations. The stripping of the ground cover and surface soil materials leaves the exposed area prone to erosion.
3) Soil materials should be moved under appropriate weather conditions. Surface soils are easily damaged when wet.
4) Apply a progressive rehabilitation to prevent the degradation of the topsoil materials. Progressive rehabilitation allows for direct movement of soil from the natural state to an area of restoration, without the intermediate stockpiling step.
5) Grade and contour the pit floor as part of the progressive rehabilitation. The pit floor should be deep chisel plowed or ripped to release compaction from the extraction heavy equipment.
6) Reestablish the overburden, subsoil and topsoil in the appropriate sequence. There should be a minimum of 2.0 m (1.5 m left above water table plus 0.5 m of replacement soil) of soil over the ground water levels

to provide for adequate plant growth. During the restoration of the soil profile, each horizon should be chisel plowed to release soil compaction prior to the placement of the next horizon.

7) Use best management agricultural practices as are appropriate for the area, climate and conditions.

The most critical step to the success of rehabilitation to agriculture is the conservation of the topsoil material. The main reason for topsoil conservation is that these materials are high in organic matter (when compared to the underlying soil horizons/layers) which relates to higher natural fertility and water holding capacity. In an ideal progressive restoration plan, the topsoil materials are stripped from a natural area and moved directly to an area of rehabilitation, without a significant time spent in stockpile formation. The quality of topsoil materials deteriorates over time in storage, due to changes in soil organisms (fungal and bacterial). It is noted that in the initial stages of the pit start up and operation there are limited opportunities for soil rehabilitation. As a result, in the early stages of pit start up, soil materials will be used for longer term berm material.

The reapplication of soil materials should be accomplished in dry soil conditions and through the use of equipment that does not cause excessive soil compaction. Ideally, the soil materials should be reapplied with wide tracked crawler bulldozers. Rubber tired equipment should be avoided as it causes significant soil compaction as compared to tracked equipment.

Once the soil materials have been replaced, it may be necessary to chisel plow and stone pick the field prior to seeding the first crops.

5.1.2 CROPS

In the early stages of site restoration, the choice of crops for use in reestablishing the site back to agriculture should be related to the reinstatement of the soil organic matter and soil structure.

On completion of reapplication of the soil materials, the area should be seeded to a cover crop to control surface soil erosion. On slopes of 5:1 or steeper, the use of hydroseeding and mulch materials may be required. Oats or rye grasses are appropriate cover crops to use while establishing a legume/grass cover. Cover crops will be disc plowed in the spring as a green plow down crop to add organic matter to the surface soils.

Grass and legume cropping should continue for 3 to 4 years to improve soil structure and add fertility.

When dealing with poorly structured or compacted soil horizons by attempting to improve soil structure and soil fertility, it is important to use a cropping program that

initially includes a leguminous crop such as alfalfa, or legume/grass mixtures. Alfalfa is often preferred due to its deep penetrating taproots. These roots aid in breaking up the poorly structured layers and add organic matter and nitrogen to the soil as well as improving the general soil structure.

It should also be noted that not all the excavated area will be returned to agriculture due to the steep side slopes created as part of the pit operations. These steeper areas should be planted to a long term perennial crop to aid in controlling erosion and slope stabilization.

The following tables provide suggested cropping sequences and crop types for the rehabilitation of the Subject Lands to agricultural use.

Table 6 Cropping Sequence

Time Frame	Crop	Comments
Year 1	Cover crop (Oats or Rye Grass)	Control of erosion
Years 2 – 4	Legume or legume/grass mixture	Improve general soil conditions
Years 5 +	Row crops in rotation with legume, legume/grass mixtures	

Table 7 Crop Types

Legumes
Alfalfa (Medicago sativa)
Birdsfoot Trefoil (Lotus corniculatus)
Alsike Clover (Trifolium hbridum)
Red Clover (Trifolium pretense)
Sweet Clover (Melilotus alba)
White Clover (Trifolium repens)
Crownvetch (Coronilla varia)
Soybean (Glycine max)
Grasses
Bromegrass (Bromus inermis)
Tall Fescue (Festuca)
Orchard Grass (Dactylis glomerata)
Timothy (Phleum pretense)
Perennial Ryegrass (Lolium perenne)
Grains
Spring Barley (Hordeum vulgare)
Oats (Avena ativa)
Winter Barley (Hordeum vulgare)
Winter Rye (Secale cereale)
Winter Wheat (triticum aestivum)

6 RESOURCE ALLOCATION AND CONFLICT POTENTIAL

Land use planning decisions involves trade-offs among the competing demands for land. The fundamental base used for the evaluation of agricultural lands is land quality, i.e. CLI soil capability ratings. Within the rural/urban interface, there are a number of other factors which contribute to the long term uncertainty of the economic viability of the industry and these, in turn, are reflected in the lack of investments in agricultural facilities, land and infrastructure and changes to agricultural land use patterns in these areas. Several of these factors include, but are not limited to, the presence of rural non-farm residents, land fragmentation, intrusions of non-agriculture land uses, non-resident ownership of lands and inflated land values. This section summarizes the impact of these factors on agriculture in the area.

6.1 SOIL CAPABILITY FOR AGRICULTURE

The Subject Lands were evaluated for Canada Land Inventory (CLI) for common field crop to determine the extent of lands considered prime land for agriculture within the Provincial Policy Statement and the Official Plans of the County of Dufferin and the Township of Mono. Each of these documents indicates that as a minimum lands with CLI Classification 1 – 3 are considered for preservation of agriculture.

A detailed soil survey of the Subject Lands indicated that the area comprises approximately 96.0 percent Class 4 –Class 6 lands, with the remaining 4.0 percent as Not Rated land (Disturbed lands).

A review of the digital OMAFRA soil mapping and Canada Land Inventory (CLI) classification for soils in the surrounding area identify that the majority of lands in the Study Area are Class 4 – 7 lands.

6.2 MINIMUM DISTANCE SEPARATION I

A total of 19 potential agricultural facilities were observed on or within 1 km of the Subject Lands. Of the nineteen (19) facilities, five (5) facilities number 8, 16, 17, 18 and 19) were located in areas where there were four of more non-agricultural uses (Violet Hill) between the subject barn and the Subject Lands. MDS calculations were not completed for these facilities (Guideline 12).

Agricultural Facility 22 was located on the Subject Lands and was considered in poor shape. It was assumed that this barn would be removed should the aggregate application proceed.

Agricultural Facility 7 was located adjacent to Violet Hill. This barn was in poor shape. As per MDS Guideline 20 “MDS 1 applies to empty livestock facilities if they are

structurally sound and reasonably capable of housing livestock", this facility was not considered for MDS assessment.

According to MDS Publication 707, MDS I (Guideline 20) calculations are to be completed for livestock facility even if the facility is not being used. In those cases, MDS was based on the most probable use for the livestock facility.

Minimum Distance Separation calculations were completed for twelve (12) barns (1, 2, 5, 9, 10, 11, 12, 13, 14, 15, 21 and 23). The results indicate that the eastern and southeastern portions of the Subject Lands are impacted by MDS arcs from agricultural facilities numbers 10 and 15. MDS arcs from the remaining agricultural facilities do not cross into the Subject Lands.

6.3 COMPATABILITY WITH SURROUNDING LAND USES

Geographically, the Subject Lands are located adjacent to the south side of Highway 89 between 3rd Line EHS and 4th Line EHS. The Subject Lands are located opposite Highway 89 from Violet Hill.

The Subject Lands are bounded: on the north by Highway 89, on the west by wooded areas and residential estate units. On the south and the east, the Subject Lands are bounded by wooded areas and agricultural fields.

The Study Area comprises a mix of land fragmentation, with many smaller severed parcels dominating along Highway 89 and the settlement of Violet Hill. Numerous small parcels were located along both 3rd Line EHS and 4th Line EHS.

The land tenure in the Study Area illustrates a mix of ownership. Locally Owned and Operated lands occur in the west central, southwest and southeastern portions of the Study Area. These lands account for approximately 11.6 percent of the land in the Study Area. Lands identified as Locally Owned with Tenant Farmers were noted in the southeast and east central areas and comprise approximately 23.5 percent of the land in the Study Area. Lands identified as Local Owner with Vacant Land (as identified in the Assessment Roll data), comprise approximately 3.2 percent of the Study Area. Lands identified as Non-Local Owner or Non-Local Owner with Tenant Farmer comprise approximately 4.7 percent and 9.9 percent respectively. Lands identified as parcels smaller than 20 ha (50 acres) account for 47.1 percent of the Study Area.

These types of development send a clear, negative signal to the agricultural community as to the long term intensions for agriculture in the area.

Should the Subject Lands be redesignated the impact on the surrounding agricultural operations will be minimal. The areas to the north and west are characteristic of areas in decline for agriculture; smaller parcels, land fragmentation and numerous rural nonfarm residences are evident along roadsides

Given the existing land use pattern in the vicinity of the Subject Lands the introduction of the proposed Land Use Designation change would not have a significant impact on agriculture in the area.

6.4 TRAFFIC, TRESPASS AND VANDALISM

A traffic review study completed by C.C. Tatham & Associates Ltd. (draft January 19, 2015) provides detail on truck traffic to and from the proposed aggregate pit. The main entrance/exit from the aggregate pit would be out to Highway 89.

Specific to agriculture, increased vehicle traffic along roadways can lead to safety issues with respect to the movement of slow moving, long, wide farm machinery and, as well, interrupt or alter farm traffic flow patterns. The proposed change in Land Use designation of the Subject Lands is not expected to be a great source of an increase in traffic or an increase in traffic related impacts to agriculture, as the transportation routes in the area are already well traveled by non-farm vehicles. Highway 89 is a major road; a Provincially maintained east-west highway that runs through Shelburne to the Highway 400.

Trespassing and vandalism impacts are generally related to development within agricultural areas predominated by specialty crop operations or large livestock operations. As the Subject Lands are not located near any specialty crop areas, vandalism is not expected to be an issue. Trespassing and vandalism from the proposed aggregate pit is not expected to be an issue on surrounding agricultural lands.

Mitigation measures may include, but are not limited to improved fencing between the respective land uses, the use of signage indicating prosecution for violation of trespassing and plantings of thorny shrub and woody vegetation as a physical barrier.

7 SUMMARY AND CONCLUSIONS

DBH Soil Services Inc was retained to complete an Agricultural Impact Assessment (AIA) for an area described as Part Lot 30, Concession 4 East of Hurontario Street (EHS), Part Lot 31, Concession 4 (EHS), Part Lot 32, Concession 4 (EHS) Township of Mono in the County of Dufferin. These lands comprise 4 properties and represent a total of approximately 166.7 ha (412.0 acres). These lands are henceforth referred to as the Subject Lands.

The Subject Lands are roughly bounded: on the north by Highway 89 and the hamlet of Violet Hill; on the west by 3rd Line East; on the east by 4th Line East; and on the south by the Lot 29/Lot 30 boundary. The majority of the Subject Lands are used for agricultural activities (common field crop production), while the remaining areas comprise woodlots and areas associated with farm buildings.

The adjacent lands to the west are wooded, while the lands to the east comprise rural residential units and farmland. The lands to the north comprise the hamlet of Violet Hill, while the lands to the south include agricultural lands and woodlots.

The Subject Lands are located approximately 9 km east of Shelburne and 19 km north of Orangeville.

For the purpose of this Agricultural Impact Assessment (AIA) report, agricultural operations and activities are evaluated in a larger area, the Study Area, described as a potential zone of impact extending a minimum of 1000 m (1 km) beyond the boundary of the Subject Lands as per the Ontario Ministry of Agriculture, Food and Rural Affairs, Minimum Distance Separation I Guidelines – Publication 707 (October 2006). Specifically, the Study Area comprises a Minimum 1000 m (1 km) area outside the Subject Lands to allow for characterization of the agricultural community and the assessment of impacts adjacent to and in the immediate vicinity of the Subject Lands.

The results of this assessment indicate the following:

- **Geographical Limits**

  The lands represent Rural Policy Area as defined within the County of Dufferin and the Town of Mono Official Plans, and the Town of Mono Zoning By-Law 78-1.

- **Agricultural Land Use**

  Approximately 74.9 percent of the Subject Lands are used for agricultural purposes. The agricultural land use was for the production of common field crop.

Built up areas, scrublands and woodlots comprised approximately 4.7 percent, 5.6 percent and 14.8 percent respectively. No specialty crops were observed on the Subject Lands.

Built up areas comprise approximately 10.6 percent of the Study Area. Agricultural production areas (common field crop and forage/pasture lands) account for approximately 31.0 percent. Scrublands comprise approximately 12.2 percent, while ponded areas, recreational lands and unknown land use cover approximately 0.4, 0.3 and 3.0 percent respectively. Woodlots account for the largest single land use factor, at 42.4 percent of the Study Area.

No active specialty crop operations were noted within the Study Area (1km).

- **Agricultural Investment**

  There is limited investment to agriculture on the Subject Lands. There is one barn located on the southernmost parcel. There is no irrigation equipment, or artificial tile drainage associated with the Subject Lands.

  Investment in agriculture in the Study Areas is predominantly to the south and east of the Subject Lands. These areas represent the locations of large land holdings. The larger agricultural facilities were located to the east and north of the Subject Lands.

  Smaller parcels of land to the north and west have limited investment in agriculture. This is due to a combination of factors which may include the lack of confidence in the future opportunity to recover their investments and, as well, due to constraints imposed on construction of new facilities, such as livestock facilities, by MDS II requirements as an example

- **Minimum Distance Separation**

  A total of 19 potential agricultural facilities were observed on or within 1 km of the Subject Lands. Of the nineteen (19) facilities, five (5) facilities number 8, 16, 17, 18 and 19) were located in areas where there were four of more non-agricultural uses (Violet Hill) between the subject barn and the Subject Lands. MDS calculations were not completed for these facilities (Guideline 12).

  Agricultural Facility 22 was located on the Subject Lands and was considered in poor shape. It was assumed that this barn would be removed should the aggregate application proceed.

  Agricultural Facility 7 was located adjacent to Violet Hill. This barn was in poor shape. As per MDS Guideline 20 "MDS 1 applies to empty livestock facilities if they

are structurally sound and reasonably capable of housing livestock", this facility was not considered for MDS assessment.

Minimum Distance Separation calculations were completed for twelve (12) barns (1, 2, 5, 9, 10, 11, 12, 13, 14, 15, 21 and 23). The results indicate that the eastern and southeastern portions of the Subject Lands are impacted by MDS arcs from agricultural facilities numbers 10 and 15. MDS arcs from the remaining agricultural facilities do not cross into the Subject Lands.

- **Land Fragmentation – Land fragmentation represents a major impact to the long term viability of agriculture in the Subject Lands and the Study Area and is typical of areas under pressure from non-agricultural land uses**.

  Land Tenure near the Subject Lands is typical of areas under pressure from non-agricultural land uses and is predominantly in non-local and severed parcel ownership. The adjacent lands in the Study Area, particularly to the south, comprise more of the locally owned lands which are typical of agricultural areas less impacted by urban pressures.

- **Traffic Impacts – The proposed redesignation of Land Use is not expected to be a great source of traffic or access related traffic impacts to agriculture as the transportation routes surrounding the Subject Lands are already well traveled by non-farm vehicles**.

  The proposed change in Land Use designation of the Subject Lands is not expected to be a great source of an increase in traffic or an increase in traffic related impacts to agriculture as the transportation routes in the area are already well traveled by non-farm vehicles. Highway 89 is a major road; a Provincially maintained east-west highway that runs through Shelburne to the Highway 400.

- **Canada Land Inventory (CLI) Soil Capability**

  The Subject Lands were evaluated for Canada Land Inventory (CLI) for common field crop to determine the extent of lands considered prime land for agriculture within the Provincial Policy Statement and the Official Plans of the County of Dufferin and the Township of Mono. Each of these documents indicates that as a minimum lands with CLI Classification 1 – 3 are considered for preservation of agriculture.

  The Subject Lands comprise approximately 96.0 percent Class 4 –Class 6 lands, with the remaining 4.0 percent as Not Rated land (Disturbed lands).

A review of the OMAFRA soil mapping and Canada Land Inventory (CLI) classification for soils in the surrounding area identify that the majority of lands in the Study Area are Class 4 – 7 lands.

Further, the Colville Consulting Inc. LEAR report indicated that the lands in this area were not considered as Prime Agriculture Areas.

- **Rehabilitation**

  The proposed sand and gravel pit would be considered as an interim use of the Subject Lands.

  The temporary land use (pit) will allow for continued agricultural use on the undisturbed portions of the Subject Lands.

  The progressive rehabilitation of extracted lands would allow for continued agricultural use on the rehabilitated areas. Further, that the rehabilitated lands would comprise more uniform slopes (longer and less steep) that would enhance the agricultural potential of the rehabilitated lands.

The foregoing represents a comprehensive Agricultural Impact Assessment with the purpose of evaluating the Subject Lands to document the existing agricultural character and to determine any potential impacts to agriculture should the Subject Lands be redesignated.

It was determined that the Subject Lands are located in an area of transition. This area of transition incorporates many attributes including: a change in land use from the large agricultural lands to the north to the smaller lands in the south and east; and a change from larger land holdings in the south to the smaller parcels in the north and west.

Further, it was illustrated that Minimum Distance Separation I calculations protect the adjacent agricultural facilities.

Given the geographical location of these lands, it is the conclusion of this study that the proposed change in Land Use designation would have minimal impact on the surrounding agricultural activities within the Study Area.

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APPENDIX A

SOIL INSPECTION SITE CHARACTERISTICS

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
1	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 65 65 +	fSL L L/CL L	Well	Dumfries
2	Ap Ae Bt Ck	0 – 23 23 – 38 38 – 62 62 +	fSL L L/CL L	Well	Dumfries
3	Ap Ae Bt Ck	0 – 22 22 – 41 41 – 58 58 +	fSL L L/CL L	Well	Dumfries
4	Ap Ae Bt Ck	0 – 25 25 – 40 40 – 70 70 +	fSL L L/CL L	Well	Dumfries
5	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 72 72 +	fSL L L/CL L	Well	Dumfries
6	Ap Ae Bt Ck	0 – 24 24 – 39 39 – 55 55 +	fSL L L/CL L	Well	Dumfries
7	Ahk Ck	0 – 23 23 +	fSL L	Well	Disturbed
8	Ah Ae Bt Ck	0 – 25 25 – 34 34 – 61 61 +	fSL L L/CL L	Well	Dumfries
9	Ah Ae Bt Ck	0 – 25 25 – 30 30 - 60 60 – 100	fSL LS SL SL	Well	Hillsburgh
10	Ah Ae Bt Ck	0 – 25 25 – 35 35 - 65 65 – 100	fSL LS SL SL	Well	Hillsburgh
11	Ap Ae Bt Ck	0 – 25 25 – 30 30 - 70 70 – 100	fSL LS SL SL	Well	Hillsburgh
12	Ap Ae Bt Ck	0 – 25 25 – 30 30 - 60 60 – 100	fSL LS SL SL	Well	Hillsburgh
13	Ap Ae Bt Ck	0 – 20 20 – 30 30 – 53 53 +	fSL L L/CL L	Well	Dumfries
14	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 73 73 +	fSL L L/CL L	Well	Dumfries

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
15	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 70 70 +	fSL L L/CL L	Well	Dumfries
16	Ap Ae Bt Ck	0 – 25 25 – 39 39 – 55 55 +	fSL L L/CL L	Well	Dumfries
17	Ap Ae Bt Ck	0 – 24 24 – 31 31 – 65 65 +	fSL L L/CL L	Well	Dumfries
18	Ap Ae Bt Ck	0 – 23 23 – 36 36 – 76 76 +	fSL L L/CL L	Well	Dumfries
19	Ap Ae1 Ae2 Bt Ck	0 – 25 25 – 35 35 - 45 45 – 65 65 +	fSL L L L/CL L	Well	Dumfries
20	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 65 65 +	fSL L L/CL L	Well	Dumfries
21	Ap Ae Bt Ck	0 – 26 26 – 38 38 – 61 61 +	fSL L L/CL L	Well	Dumfries
22	Ap Ae Bt Ck	0 – 23 23 – 37 37 – 62 62 +	fSL L L/CL L	Well	Dumfries
23	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 81 81 +	fSL L L/CL L	Well	Dumfries
24	Ap Ae Bt Ck	0 – 22 22 – 35 35 – 69 69 +	fSL L L/CL L	Well	Dumfries
25	Ap Ae Bt Ck	0 – 26 26 – 34 34 – 70 70 +	fSL fSL L/CL L	Well	Dumfries
26	Ap Ae Bt Ck	0 – 25 25 – 40 40 – 65 65 +	fSL fSL L/CL L	Well	Dumfries
27	Ap Ae Bt Ck	0 – 27 27 – 32 32 – 65 65 +	fSL L L/CL L	Well	Dumfries

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
28	Ap Ae Bt Ck	0 – 21 21 – 48 48 – 64 64 +	fSL L L/CL L	Well	Dumfries
29	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 65 65 +	fSL L L/CL L	Well	Dumfries
30	Ah Ae Bt Ck	0 – 25 25 – 50 50 – 65 65 +	fSL fSL L/CL L	Well	Dumfries
31	Ah Ae Bt Ck	0 – 20 20 – 34 34 – 66 66 +	fSL L L/CL L	Well	Dumfries
32	Ah Ae Bt Ck	0 – 22 22 – 36 36 – 70 70 +	fSL fSL L/CL L	Well	Dumfries
33	Ap Ae Bt Ck	0 – 25 25 – 40 40 – 68 68 +	fSL fSL L/CL L	Well	Dumfries
34	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 71 71 +	fSL L L/CL L	Well	Dumfries
35	Ah Ae Bt Ck	0 – 22 22 – 35 35 – 55 55 +	fSL L L/CL L	Well	Dumfries
36	Ah Ae1 Ae2 Bt Ck	0 – 19 19 - 24 24 – 36 36 – 56 56 +	fSL fSL fSL L/CL L	Well	Dumfries
37	Ah Ae1 Ae2 Bt Ck	0 – 18 18 – 25 25 – 36 36 – 48 48 +	fSL fSL fSL L/CL L	Well	Dumfries
38	Ap Ae Bt Ck	0 – 25 25 – 45 45 – 65 65 +	fSL L L/CL L	Well	Dumfries
39	Ah Ae Bt Ck	0 – 20 20 – 32 32 – 53 53 +	fSL L L/CL L	Well	Dumfries
40	Ap Ae Bt Ck	0 – 23 23 – 31 31 – 67 67 +	fSL L L/CL L	Well	Dumfries

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
41	Ah Ae1 Ae2 Bt Ck	0 – 18 18 – 26 26 – 42 42 – 67 67 +	fSL fSL fSL L/CL L	Well	Dumfries
42	Ah Ae1 Ae2 Bt Ck	0 – 19 19 – 24 24 – 36 36 – 69 69 +	fSL fSL fSL L/CL L	Well	Dumfries
43	Ah Ae1 Ae2 Bt Ck	0 – 17 17 – 25 25 – 39 39 – 70 70 +	fSL fSL fSL L/CL L	Well	Dumfries
44	Ap Ae Bt Ck	0 – 23 23 – 31 31 – 67 67 +	fSL fSL L/CL L	Well	Dumfries
45	Ap Ae Bt Ck	0 – 22 22 – 33 33 – 58 58 +	fSL fSL L/CL L	Well	Dumfries
46	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 62 62 +	fSL fSL L/CL L	Well	Dumfries
47	Ah Ae1 Ae2 Bt Ck	0 – 18 18 – 25 25 – 35 35 – 67 67 +	fSL fSL fSL L/CL L	Well	Dumfries
48	Ap Ae Bt Ck	0 – 25 25 – 38 38 – 63 63 +	fSL L L/CL L	Well	Dumfries
49	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 63 63 +	fSL L L/CL L	Well	Dumfries
50	Ap Ae Bt Ck	0 – 24 24 – 36 36 – 67 67 +	fSL L L/CL L	Well	Dumfries
51	Ap Ae Bt Ck	0 – 25 25 – 37 37 – 52 52 +	fSL L L/CL L	Well	Dumfries
52	Ap Ae Bt Ck	0 – 22 22 – 33 33 – 65 65 +	fSL L L/CL L	Well	Dumfries
53	Ap Ae Bt Ck	0 – 23 23 – 34 34 – 74 74 +	fSL L L/CL L	Well	Dumfries

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
54	Ah Ae1 Ae2 Bt Ck	0 – 18 18 – 27 27 – 35 35 – 64 64 +	fSL fSL fSL L/CL L	Well	Dumfries
55	Ap Ae Bt Ck	0 – 25 25 – 38 38 – 61 61 +	fSL L L/CL L	Well	Dumfries
56	Ap Ae1 Ae2 Bt Ck	0 – 23 23 – 31 31 - 39 39 – 65 65 +	fSL fSL fSL L/CL L	Well	Dumfries
57	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 60 60 +	fSL L L/CL L	Well	Dumfries
58	Ap Ae Bt Ck	0 – 22 22 – 31 31 – 54 54 +	fSL L L/CL L	Well	Dumfries
59	Ap Ae Bt Ck	0 – 24 24 – 37 37 – 74 74 +	fSL fSL L/CL L	Well	Dumfries
60	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 65 65 +	fSL fSL L/CL L	Well	Dumfries
61	Ap Ae Bt Ck	0 – 24 24 – 36 36 – 51 51 +	fSL L L/CL L	Well	Dumfries
62	Ap Ae Bt Ck	0 – 24 24 – 33 33 – 61 61 +	fSL L L/CL L	Well	Dumfries
63	Ap Ae Bt Ck	0 – 25 25 – 36 36 – 69 69 +	fSL fSL L/CL L	Well	Dumfries
64	Ap Ae Bt Ck	0 – 23 23 – 34 34 – 59 59 +	fSL L L/CL L	Well	Dumfries
65	Ap Ae Bt Ck	0 – 23 23 – 35 35 – 62 62 +	fSL fSL L/CL L	Well	Dumfries
66	Ap Ae Bt Ck	0 – 22 22 – 36 36 – 75 75 +	fSL fSL L/CL L	Well	Dumfries

Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
67	Ap Ae Bt Ck	0 – 23 23 – 37 37 – 59 59 +	fSL L L/CL L	Well	Dumfries
68	Ap Ae Bt Ck	0 – 25 25 – 35 35 – 56 56 +	fSL fSL L/CL L	Well	Dumfries
69	Ah Ae1 Ae2 Bt Ck	0 – 18 18 – 26 26 – 32 32 – 71 71 +	fSL fSL fSL L/CL L	Well	Dumfries
70	Ah Ae1 Ae2 Bt Ck	0 – 20 20 – 27 27 – 38 38 – 72 72 +	fSL fSL fSL L/CL L	Well	Dumfries
71	Ap Ae Bt Ck	0 – 24 24 – 31 31 – 57 57 +	fSL fSL L/CL L	Well	Dumfries
72	Ap Ae Bt Ck	0 – 23 23 – 31 31 – 67 67 +	fSL fSL L/CL L	Well	Dumfries
73	Ap Ae Bt Ck	0 – 25 25 – 34 34 – 60 60 +	fSL L L/CL L	Well	Dumfries
74	Ap Ae Bt Ck	0 – 25 25 – 31 31 – 65 65 +	fSL fSL L/CL L	Well	Dumfries
75	Ap Ae Bt Ck	0 – 24 24 – 34 34 – 68 68 +	fSL fSL L/CL L	Well	Dumfries
76	Ap Ae Bt Ck	0 – 22 22 – 36 36 – 51 51 +	fSL fSL L/CL L	Well	Dumfries
77	Ap Ae Bt Ck	0 – 23 23 – 33 33 – 50 50 +	fSL fSL L/CL L	Well	Dumfries
78	Ap Ae Bt Ck	0 – 24 24 – 29 29 – 54 54 +	fSL fSL L/CL L	Well	Dumfries
79	Ap Ae Bt Ck	0 – 25 25 – 31 31 – 55 55 +	fSL fSL L/CL L	Well	Dumfries

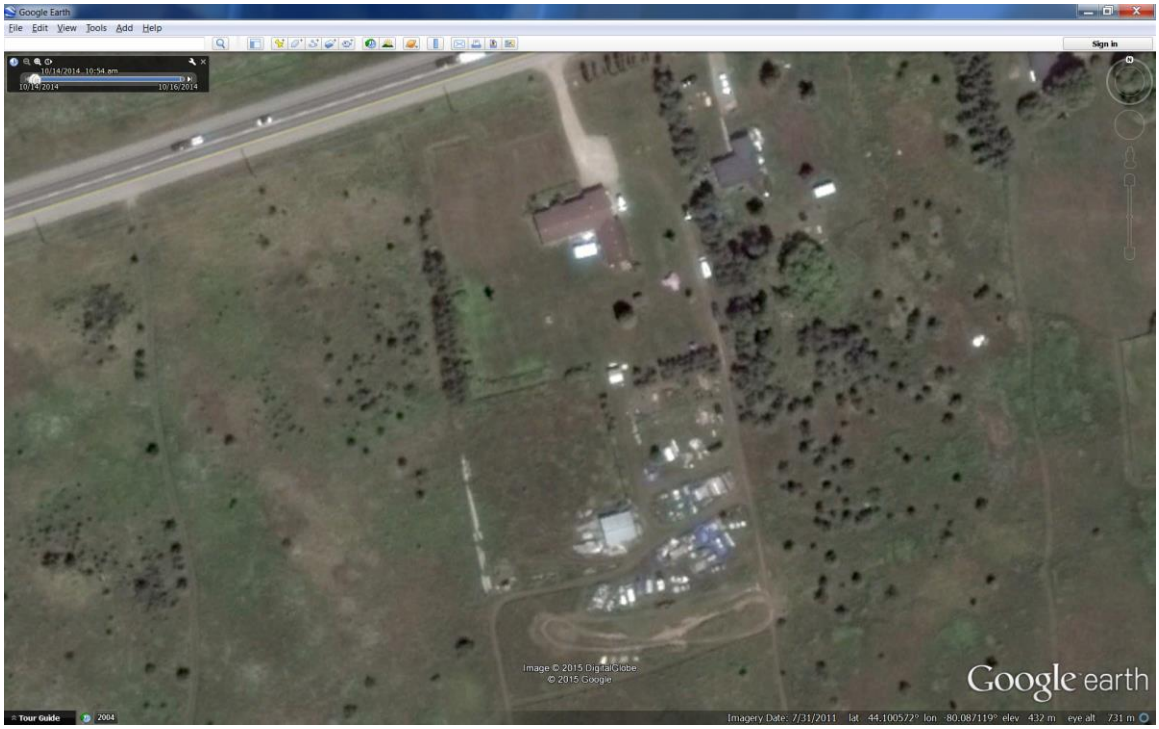
Soil Inspection Site Number	Horizon	Depth of Horizon (cm)	Soil Texture	Drainage Class	Soil Series
80	Ap Ae Bt Ck	0 – 23 23 – 30 30 – 66 66 +	fSL fSL L/CL L	Well	Dumfries
81	Ap Ae Bt Ck	0 – 25 25 – 34 34 – 52 52 +	fSL fSL L/CL L	Well	Dumfries
82	Ap Ae Bt Ck	0 – 23 23 – 36 36 – 50 50 +	fSL fSL L/CL L	Well	Dumfries
83	Ap Ae Bt Ck	0 – 23 23 – 31 31 – 67 67 +	fSL L L/CL L	Well	Dumfries
84	Ap Ae Bt Ck	0 – 24 24 – 35 35 – 72 72 +	fSL L L/CL L	Well	Dumfries

Notes:
L = Loam; f SL = fine Sandy Loam; CL = Clay Loam
- A horizons are the surface materials often with the greatest percent of organic material
- B horizons are generally beneath the A horizon and show slight soil formation (ie: increases in clay and organic content)
- C horizons are generally beneath the B horizon and show little to no soil formation

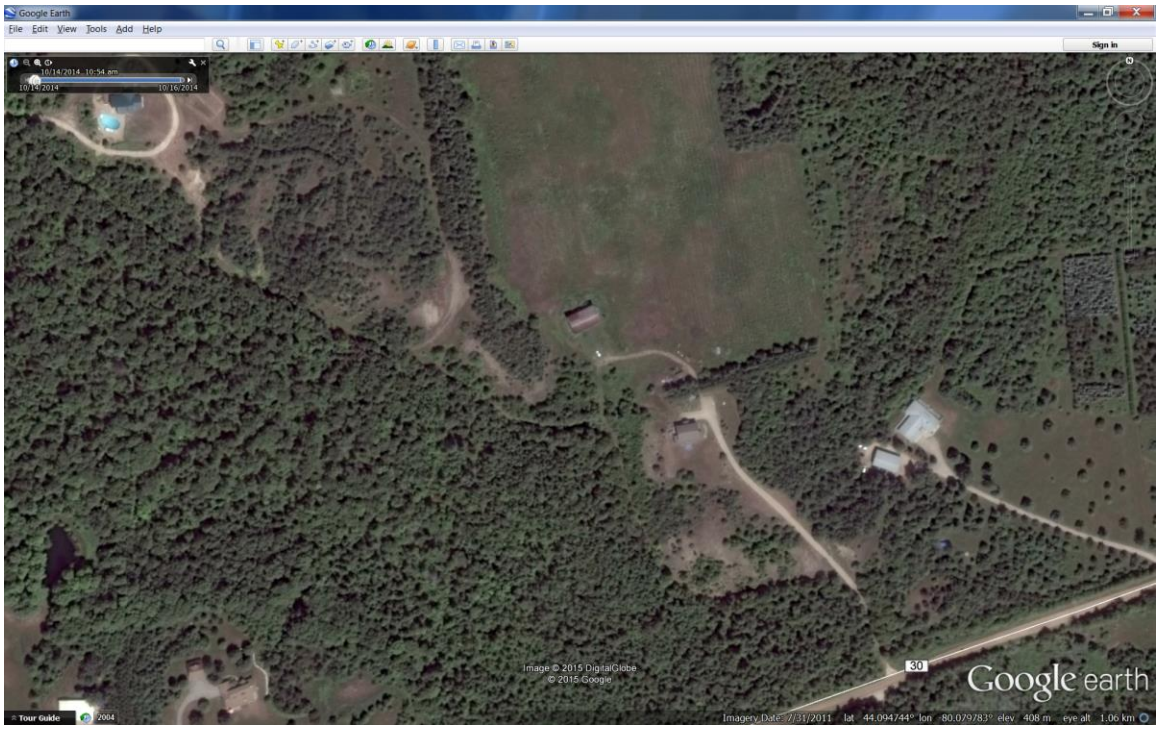
APPENDIX B

AGRICULTURAL FACILITIES PHOTOGRAPHS

Agricultural Facility # 1

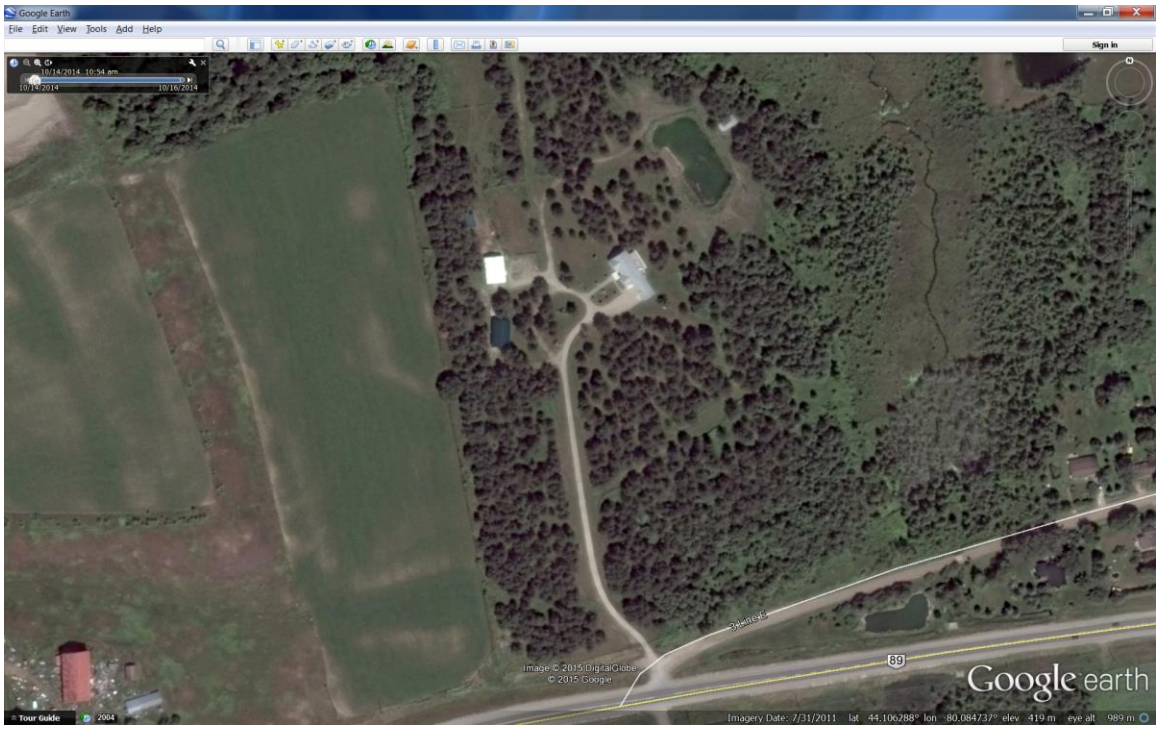


Agricultural Facility #2 – no photo (Google Image)



Agricultural Facility #5 – no photo (Google Image)

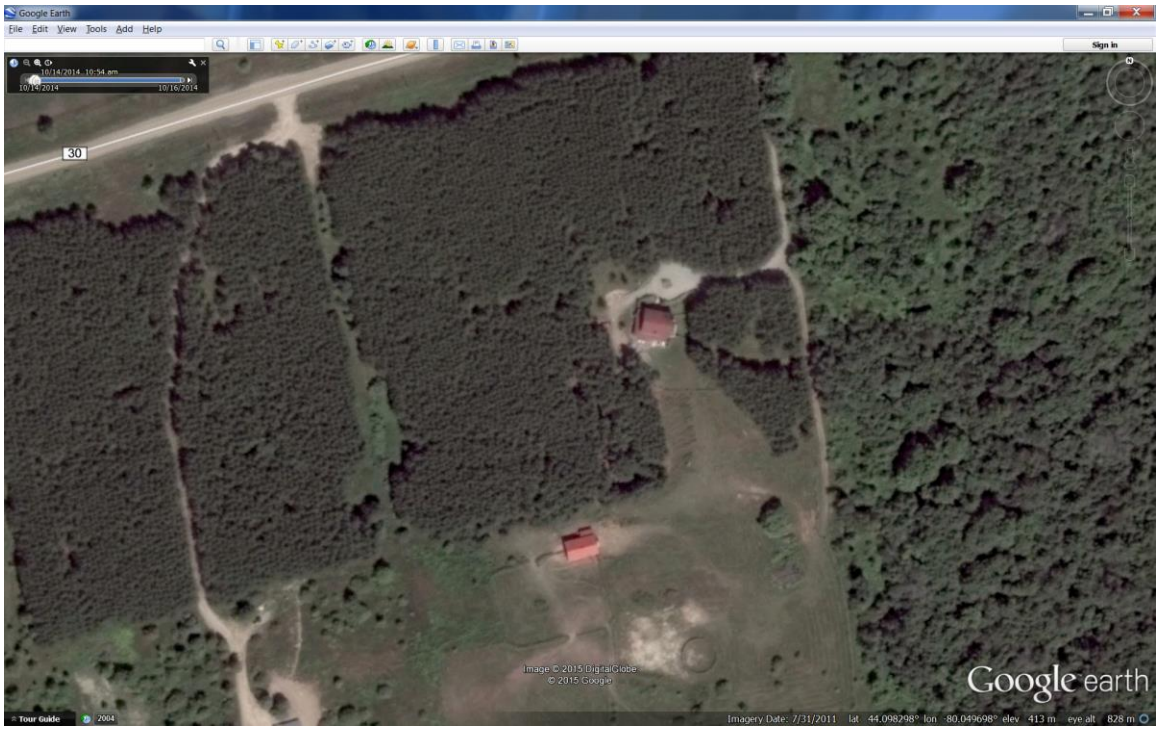

Agricultural Facility # 7



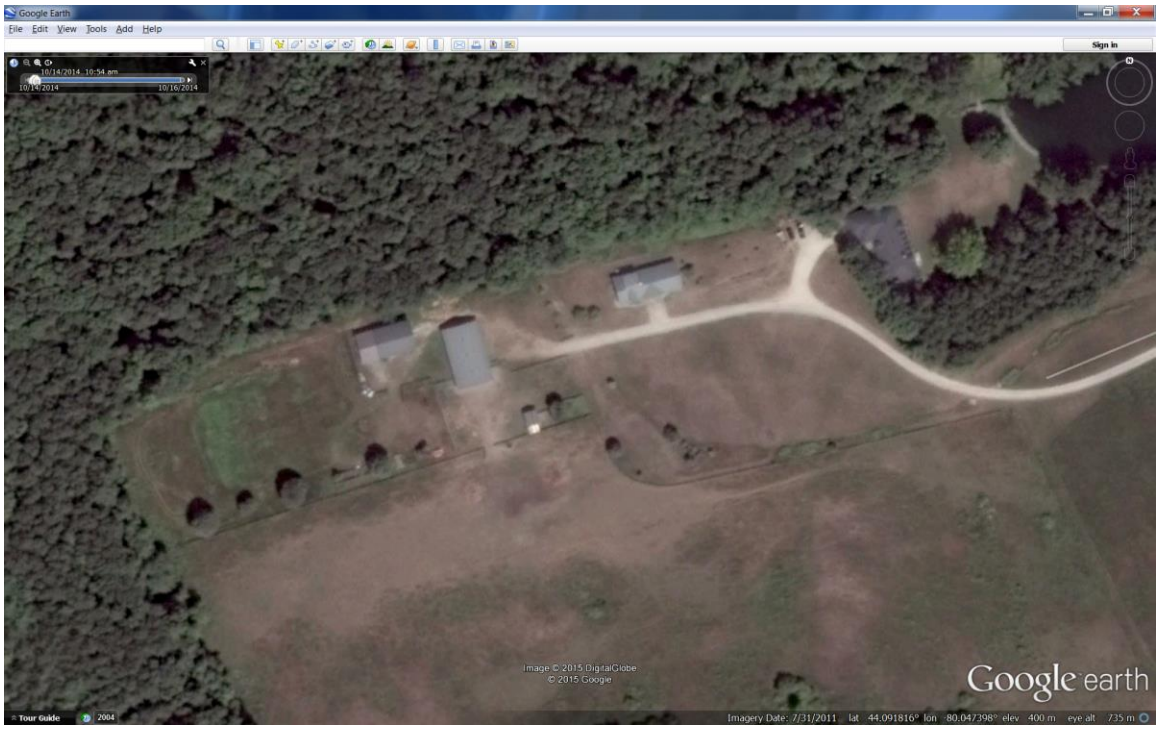
Agricultural Facility #8 – No photo (Google Image)


Agricultural Facility #9

Agricultural Facility #10



Agricultural Facility #11 – no photo (Google Image)



Agricultural Facility #12 – no photo (Google Image)


Agricultural Facility #14

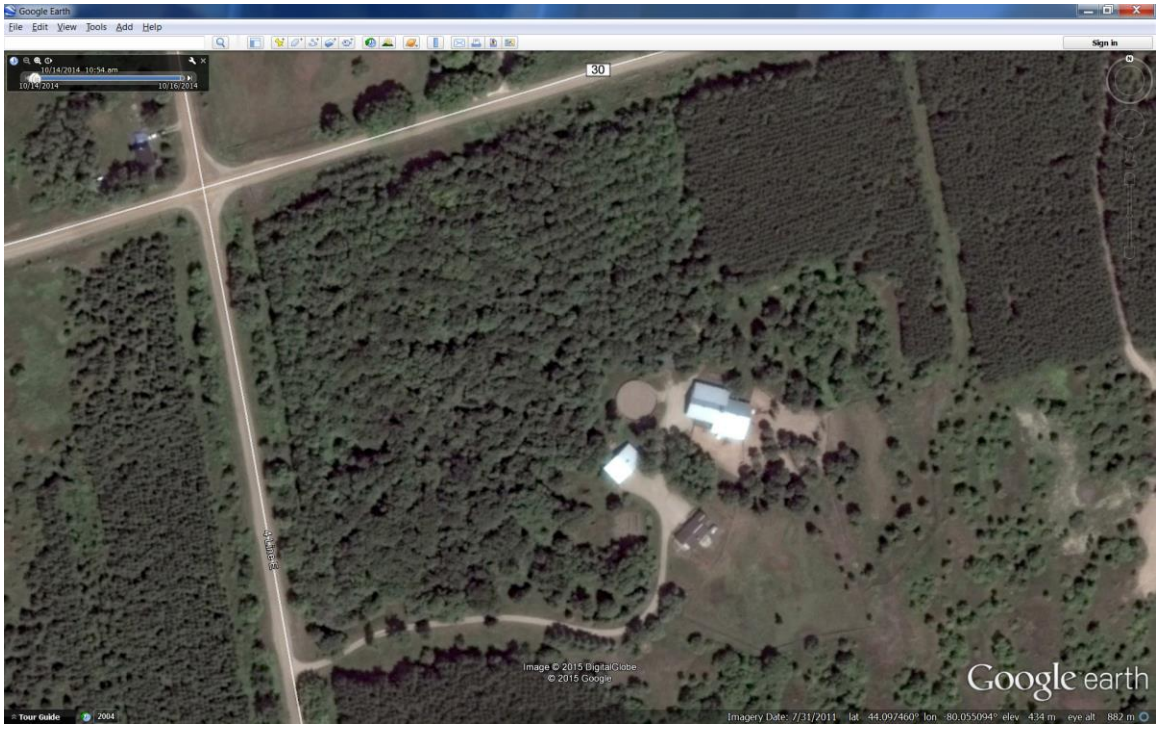
Agricultural Facility # 15

Agricultural Facility # 16

Agricultural Facility # 17

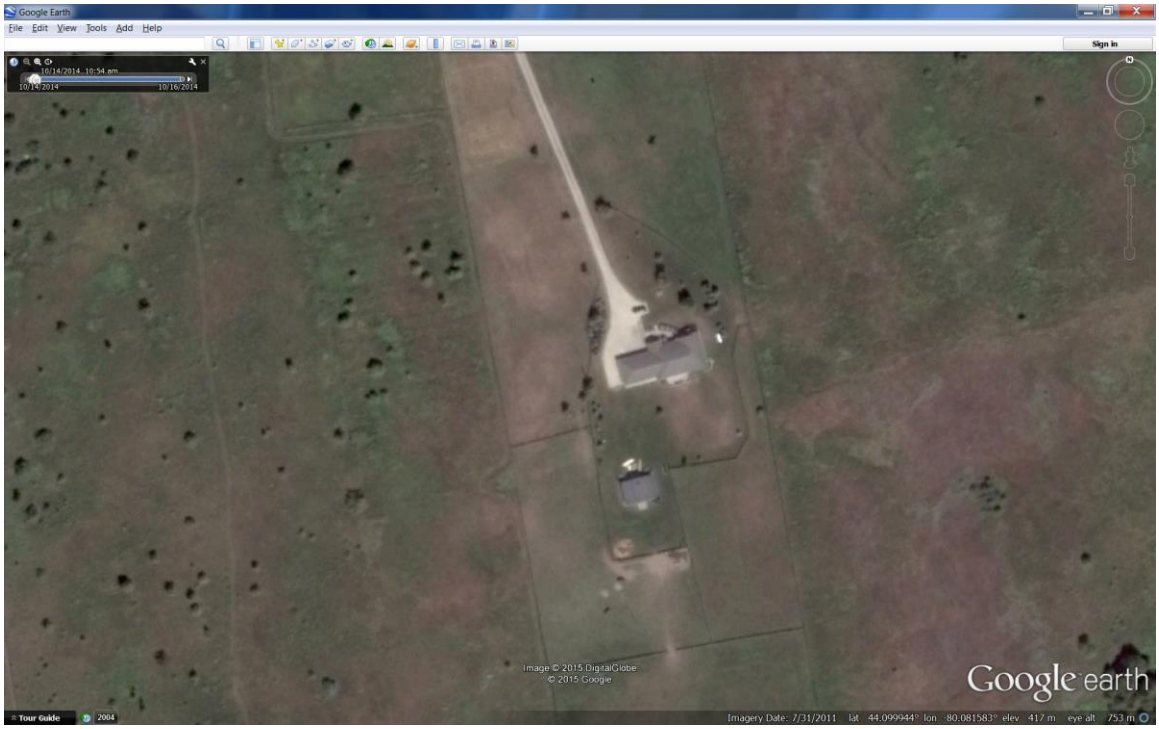
Agricultural Facility # 18

Agricultural Facility # 19



Agricultural Facility # 21 – no photo (Google Image)

Agricultural Facility # 22



Agricultural Facility # 23 – no photo (Google Image)

APPENDIX C

MINIMUM DISTANCE SEPARATION I (MDS I) CALCULATIONS

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Application Date: 24-Feb-2015
File Number: 2014-16

Preparer Information
Dave Hodgson
DBH Soil Services Inc.
217 Highgate Court
Kitchener, ON, Canada N2N 3N9
Phone #1: 519-578-9226
Fax: 519-578-5039
Email: davidhodgson@rogers.com

Applicant Information
Sam Greenwood
Greenwood Construction
205467 County Rd. 109
Amaranth, ON, Canada L9W 0V1
Phone #1: 519-941-0732
Email: office@greenwoodconst.ca

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 4 EHS
Lot: 31
Roll Number: 221200000413600000

Calculation #1

Barn #23

Small parcel. Estate Residential type. small barn. possibly horses

Adjacent Farm Contact Information

Town of Mono
507328 Highway 89
Town of Mono, ON, Canada

Farm Location
County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 3 EHS
Lot: 32
Roll Number: 22120000041153000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	3	3.0	70 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 3 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 205
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 3

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	110 m (363 ft)	
Distance from nearest permanent manure/material storage 'S':	110 m (363 ft)	

Signature of Preparer: _____ Date: _____
Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #10

Barn # 14

bank barn. appears set up for beef. no livestock seen. big round forage bales. loading ramp

Adjacent Farm Contact Information

SFD Holdsings
Town of Mono
795533 3rd Line EHS
Town of Mono, ON, Canada L9V 0Z9

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 4 EHS
Lot: 29
Roll Number: 221200000413400000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Beef; Cows, including calves to weaning (all breeds); Yard/Barn	106	106.0	492 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 27 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 404
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 106

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	218 m (715 ft)	
Distance from nearest permanent manure/material storage 'S':	218 m (715 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #11

Barn # 15

small horse farm. residential unit. pole barn.

Adjacent Farm Contact Information

Town of Mono
487394 30 Side Road
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 4 EHS
Lot: 30
Roll Number: 221200000413475000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	10	10.0	232 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 1.5 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 171
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 10

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	92 m (302 ft)	
Distance from nearest permanent manure/material storage 'S':	92 m (302 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #12

Barn # 21

wooded property. small area of pasture/paddock

Adjacent Farm Contact Information

Town of Mono
835583 4th Line EHS
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 5 EHS
Lot: 30
Roll Number: 221200000415400000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	20	20.0	465 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 1.2 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 200
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 20

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	108 m (354 ft)	
Distance from nearest permanent manure/material storage 'S':	108 m (354 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #2

Barn # 1

4 ha (10 acre) parcel. bank barn. residential unit. Horses. Scrubland counted as Tillable.

Adjacent Farm Contact Information

Town of Mono
507312 Highway 89
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 3 EHS
Lot: 32
Roll Number: 22120000041152500000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	12	12.0	279 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 3 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 205
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 12

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	110 m (363 ft)	
Distance from nearest permanent manure/material storage 'S':	110 m (363 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #3

Barn # 2

small parcel 4.0 ha (10 acres). potential hobby horse. small pole barn

Adjacent Farm Contact Information

Town of Mono
507298 Highway 89
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 3 EHS
Lot: 32
Roll Number: 2212000004151500000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	3	3.0	70 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 3 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 205
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 3

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	110 m (363 ft)	
Distance from nearest permanent manure/material storage 'S':	110 m (363 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #4

Barn # 5

12.5 ha (31 acres). small barn. cannot see from road. woodlot. small field behind.

Adjacent Farm Contact Information

Town of Mono
487329 30 Side Road
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 3 EHS
Lot: 31
Roll Number: 221200000411325000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Beef; Cows, including calves to weaning (all breeds); Yard/Barn	46	46.0	214 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 5.8 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 252
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 46

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	136 m (446 ft)	
Distance from nearest permanent manure/material storage 'S':	136 m (446 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #5

Barn # 9

Bank Barn plus residential unit. on land owned by Town of Mulmur. Gravel pit. No livestock seen.

Adjacent Farm Contact Information

Mulmur Township c/o Clerk
Town of Mulmur
758070 2nd Line East
Town of Mulmur, ON, Canada L9V 0G8

Farm Location

County of Dufferin
Township of Mulmur
Geotownship: MULMUR
Concession: 3 EAST OF HURONTARIO STREET
Lot: 1
Roll Number: 205700

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Beef; Cows, including calves to weaning (all breeds); Yard/Barn	84	84.0	390 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 13.9 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 320
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 84

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	173 m (567 ft)	
Distance from nearest permanent manure/material storage 'S':	173 m (567 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #6

Barn # 10

pole barn/feed storage building (assuming whole building is for horses

Adjacent Farm Contact Information

Dareth Miller
Town of Mono
488013 30th Side Road
Town of Mono, ON, Canada L9V 1H3

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 5 EHS
Lot: 31
Roll Number: 221200000415500000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	220	220.0	5110 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 30 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 419
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 220

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	226 m (742 ft)	
Distance from nearest permanent manure/material storage 'S':	226 m (742 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #7

Barn # 11

small parcel. potential horse barn. scrubland and woodlot.

Adjacent Farm Contact Information

Town of Mono
488066 30 Side Road
Town of Mono, ON, Canada

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 5 EHS
Lot: 30
Roll Number: 2212000004154500000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	4	4.0	93 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 4.2 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 223
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 4

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	120 m (394 ft)	
Distance from nearest permanent manure/material storage 'S':	120 m (394 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #8

Barn # 12

Larger parcel. small barn potential horse. woodlots

Adjacent Farm Contact Information

John Farruga
Town of Mono
875528 5th Line EHS
Town of Mono, ON, Canada L9V 1B9

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 5 EHS
Lot: 29
Roll Number: 221200000415300000000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	19	19.0	441 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 21 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 370
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 19

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	200 m (655 ft)	
Distance from nearest permanent manure/material storage 'S':	200 m (655 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.

Ontario

Minimum Distance Separation I (MDS I) Report

File: Greenwood MDS Feb 2015.mds

Calculation #9

Barn # 13

larger parcel. common field crop. house on a hill, barn behind it. no clear view of barn

Adjacent Farm Contact Information

Lloyd McMann
Town of Mono
835526 4th Line EHS
Town of Mono, ON, Canada L9v 1E6

Farm Location

County of Dufferin
Town of Mono
Geotownship: MONO
Concession: 4 EHS
Lot: 29
Roll Number: 221200000414500000

Manure Form	Type of Livestock/Material	Existing Capacity	Existing NU	Estimated Barn Area
Solid	Horses; Medium-framed, mature; 227 - 680 kg (including unweaned offspring)	11	11.0	255 m²

Encroaching Land Use Factor: Type A Land Use

Tillable area of land on this lot: 23 ha

Manure/Material Storage Type: V3. Solid, outside, no cover, >= 30% DM

Factor A (Odour Potential): 0.7
Factor B (Nutrient Units): 382
Factor D (Manure/Material Type): 0.7
Factor E (Encroaching Land Use): 1.1
Total Nutrient Units: 11

	Required Setback	Actual Setback
Distance from nearest livestock building 'F' (A x B x D x E):	206 m (676 ft)	
Distance from nearest permanent manure/material storage 'S':	206 m (676 ft)	

Signature of Preparer: _____ Date: _____

Dave Hodgson, DBH Soil Services Inc.