

Ardrossan Agriculture Impact Assessment Final Report

Prepared For
Callidus Development Management

Prepared By
Serecon Inc.

January 5, 2018



January 5, 2018

Mr. Chris Dulaba
Callidus Development Management
Suite 1204 Oxford Tower
10025 102A Avenue T5J 2Z2

Dear Mr. Dulaba:

RE: ARDROSSAN AGRICULTURE IMPACT ASSESSMENT – FINAL REPORT

Please find the attached report outlining our findings on the agricultural impact to the subject properties (Lots 1A and B, Block 1, Descriptive Plan 0526143 and SE 2-53-22-W4 in Ardrossan). As outlined in the Proposal dated October 5th, 2017 we have provided an assessment of the agricultural impacts associated with a zoning change for the lands described above.

As part of this analysis we considered:

- Past and current practices;
- Non-agricultural land uses already on the site;
- Adjacent land use farming types;
- An estimate of direct loss relating to agriculture; and
- Necessary mitigative measures.

We have enjoyed working with you on this study. Please do not hesitate to contact us with any questions that you might have in the future.

Yours truly,
SERECON INC.



Bob Burden, M.Sc., MBA, P.Ag.
Edmonton Office

Enclosure

/da

Table of Contents

INTRODUCTION	1
PURPOSE AND FUNCTION	1
INFORMATION SOURCES	1
AGRICULTURE IN STRATHCONA COUNTY	2
2016 STATISTICS	2
CANADA LAND INVENTORY – SOIL CAPABILITY	3
SUBJECT PROPERTIES	5
AERIALS OF SUBJECT PROPERTIES	5
CROP ROTATION	7
SURROUNDING LAND USES	8
LOSS OF USE ANALYSIS – ESTIMATE OF PRODUCTION LOSS	9
IMPACT MITIGATION.....	10
CONCLUDING REMARKS	11

Introduction

Purpose and Function

The purpose of this assessment is to determine the agriculture impacts that would result if the land use of the subject property were changed. Our analysis indicates that the property is currently actively farmed, but that the intention would be to use it for residential development. Both the ultimate nature of the change and the timing for this change has been considered in the assessment.

The report considers area land uses and land use bylaws, soil capability ratings, productivity information, and crop rotations.

Information Sources

A variety of sources were used in researching the subject property and surrounding areas. Data used includes remote sensing data, land use documents, various area maps, and agricultural statistics from the following sources:

- Agriculture and Agri-Food Canada
- Strathcona County
- Canada Land Inventory (Soil capability for Agriculture)
- Statistics Canada (Census of Agriculture)
- Alberta Agriculture and Forestry

Agriculture in Strathcona County

We have conducted an overview of agriculture at the county level in order to determine the context for the engagement. A summary of this analysis is included in this section. It contains statistical information on the agricultural industry, as well as technical aspects of agricultural suitability and soil capability within the County.

2016 Statistics

Strathcona County had 164,078 acres in annual crop production according to the 2016 census of agriculture. There is a significant diversity of production due to its geographic positioning, and proximity to a large metropolitan area.

The following table contains the data reported in Strathcona County from Statistics Canada¹.

Land use	Unit of measure	2011	2016
Land in crops (excluding Christmas tree area) ²	Number of farms reporting	478	407
	Acres	150,138	164,078
	Hectares	60,759	66,400
Summerfallow land ^b	Number of farms reporting	37	35
	Acres	2,958	1,217
	Hectares	1,197	493
Tame or seeded pasture	Number of farms reporting	226	175
	Acres	19,555	18,418
	Hectares	7,914	7,453
Natural land for pasture	Number of farms reporting	344	301
	Acres	33,002	24,816
	Hectares	13,355	10,043
Woodlands and wetlands	Number of farms reporting	273	234
	Acres	x ³	11,022
	Hectares	x ^b	4,460
Area in Christmas trees, woodlands and wetlands	Number of farms reporting	274	235
	Acres	8,439	11,036
	Hectares	3,415	4,466
All other land ^b	Number of farms reporting	494	387
	Acres	6,092	4,910
	Hectares	2,465	1,987

The data indicates approximately 56% of Strathcona County's land base is currently being used as crop or pasture land.

1) – Statistics Canada. *Table 004-0203 – Census of Agriculture, land use, every 5 years, CANSIM* (database). (accessed: 12.19.17)

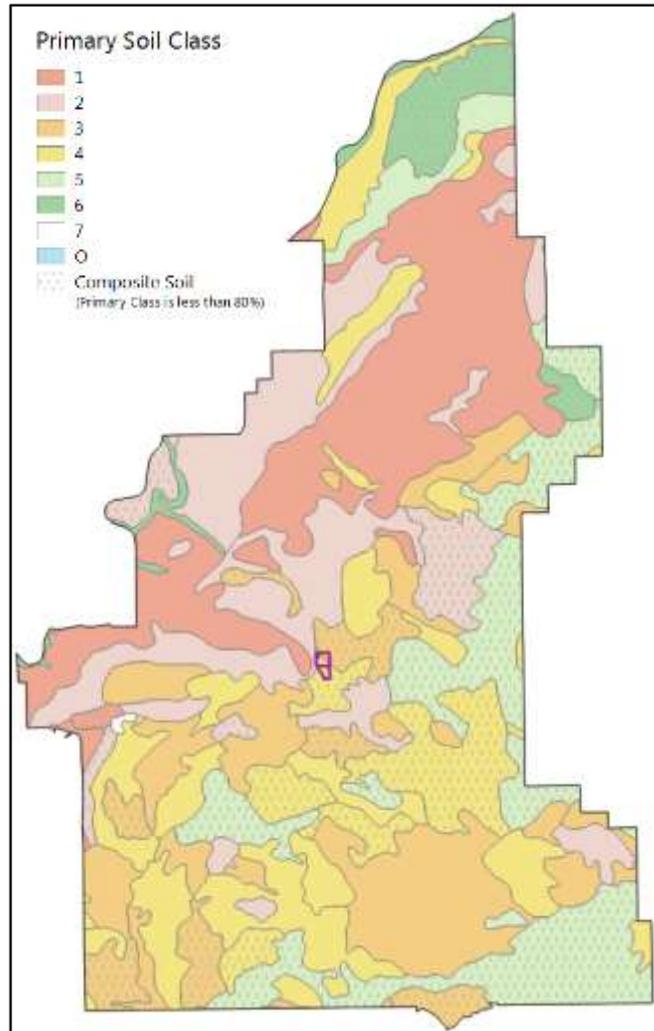
2) – In 2011, in Alberta, Saskatchewan, and Manitoba, land that was reported as "too wet to seed" has been classified as "other land" instead of cropland or summerfallow.

3) – Suppressed to meet the confidentiality requirements of the Statistics Act

Canada Land Inventory – Soil Capability

Canada Land Inventory Soil Capability for Agriculture (CLI) ratings are an indication of soil productivity capacity with respect to agriculture. These ratings are analyzed at the County level, below.

Strathcona County CLI Map



Land north and east of the subject property is generally of higher agricultural quality than other soil in the county. As seen in the map, the subject property is in an area with relatively lower agricultural soil capability.

The following table summarizes Strathcona County's land base by primary soil class, with class 1 being the most productive and class 7 being least productive in terms of land use and productivity for agricultural production.

Primary CLI Soil Class Component	Area in Strathcona County (acres)	Percent of Total County Land Base
1	57,454	19.7%
2	51,570	17.6%
3	60,572	20.7%
4	64,479	22.1%
5	46,705	16.0%
6	11,259	3.8%
7	234	0.1%
Total	292,271	100%

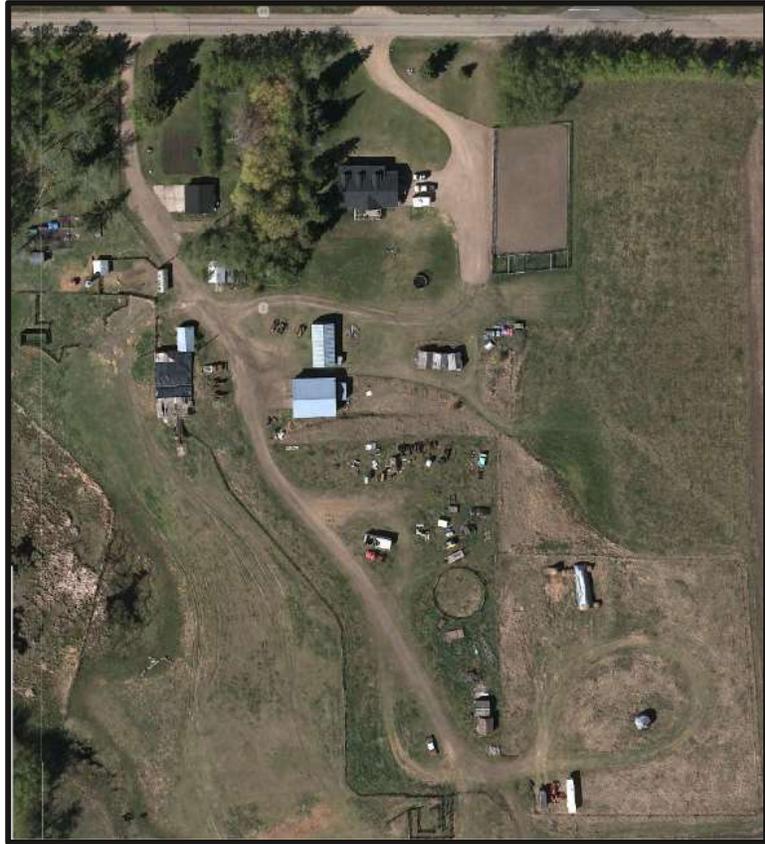
Soils with the largest component being categorized as class 4, like most of the subject land, is the highest percentage soil class in Strathcona county at 22.1%.

Subject Properties

The subject properties are located at the E ½ 2-53-22-W4, adjacent to Ardrossan. The three subject parcels are outlined below.

Aerials of
Subject
Properties





The subject properties have approximately 220 acres of cultivated land. This land base equates to 0.13% of the total cropland in the County⁴.

The primary CLI class of the subject soil is 60% class 4TS, 40% class 3S. There is also some soil rated 60% class 3ST, 30% class 2S, and 10% class 6W. A marginal amount of subject soil is rated as class 2T.

Subject soil classes are presented as a percentage of the total in the County.

Primary Soil Class	Acres in Subject Property	Subject Acres as % of County
4	208	.071%
3	48	.016%
2	6	.002%

⁴) 220 acres of subject cultivated land compared to the 164,078 acres of cropland reported in the 2016 Census of Agriculture, see table on page 6

The overview clearly indicates that the subject property does not represent a significant portion of total agricultural land and even less of the most productive lands. It is also relevant that the property is not immediately bounded by agricultural land suggesting that the subject lands are not part of a contiguous agricultural land base. This suggests that its suitability for agricultural production is less desirable than other larger units of agricultural land.

Crop Rotation

In recent history, the subject properties have been farmed with a Canola-Wheat rotation, as evidenced through remote sensing data⁵. Loss of use will be calculated using this rotation. A sample of the remote sensing data used is shown below as a visual aid.

2016 Remote Sensing Data Overlay



Source: Agriculture & Agri-Food Canada

⁵ Agriculture and Agri-Food Canada – Annual Crop Inventory database: Contains information licensed under the Open Government Licence – Canada

Surrounding Land Uses

As previously outlined, the surrounding land use is primarily residential, or non-agricultural. The discontinuation of the subject properties' current agricultural use would not disrupt a larger contiguous area of agricultural land within the County.

Therefore, it is our opinion that modifying the land use of the subject properties would not impose an inherent loss to the surrounding properties with respect to agriculture.

Aerial Imagery of Subject and Surrounding Area



Loss of Use Analysis – Estimate of Production Loss

Loss of use calculations analyze the annual crop/commodity loss that would be otherwise be realized by maintaining the current land use of the subject property and continuing to farm it. It is assumed that similar farming practices and/or traditional rotations would be used.

We have provided a quantification of the estimated loss of production associated with this change. The loss of use is calculated on an average annual production basis.

A review of historical cropping production for this area suggests that a traditional rotation would involve spring wheat followed by canola. Average yields in the area for stubble seeded crops in grey wooded soils range between 60-65 bu/acre for wheat and 40 to 45 bu/acre for canola.

Typical input costs are in the range of \$250/acre. However, these inputs are not necessarily purchased in the County, so it would be difficult to attribute a financial loss directly to a change in the land use.

Given that there are approximately 220 acres in the subject lands, this would mean that the annual drop in production would be in the range of 6,900 bu of wheat and 4,700 bu of canola.

Impact Mitigation

Steps that can be taken to mitigate the impact to surrounding agriculture in the county include taking the necessary precautions in handling wetland areas. These steps should ensure that any runoff is managed in ways that do not impede the agriculture processes of neighbouring lands.

On the other hand, it is assumed that this can be accomplished in the development process as well. There are no additional impact mitigation activities that are necessary given the fact that the subject property is not bounded by agricultural land.

Concluding Remarks

The purpose of the analysis has been to demonstrate, qualify and then quantify any agricultural impacts from the removal of the subject lands from agricultural use. Given the relatively small parcel size, low quality of the soil and the fact that it is not part of a larger contiguous parcel the agricultural impacts on the County of Strathcona are not significant in our opinion.

As a result, it is our opinion that this parcel would not be a high priority in terms of maintaining the integrity of agriculture in the Country.