

# SITE ASSESSMENT

FOR LARGE LIVESTOCK OPERATION PROPOSALS  
(300 ANIMAL UNITS OR MORE)



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## 1.0 Purpose

The establishment or expansion of a livestock operation that has 300 Animal Units or more is subject to Part 7 of [The Planning Act](#). When such proposals are considered a conditional use by a municipal council or planning district board, approval of a conditional use permit is required. This includes a review by the Technical Review Committee (TRC) appointed by the Minister of Indigenous and Municipal Relations. The [Technical Review Committee Regulation](#) requires a site assessment be undertaken by the proponent to help the committee complete its review and allow the public affected by the livestock operation to comment on the proposal.

## 2.0 Assistance

For assistance in completing the Site Assessment Form, the following resources are available:

- [Glossary of Terms](#) for definitions
- [Manitoba Agriculture](#) for animal unit and suitable spread field acreage calculations
- [Manitoba Sustainable Development](#) for information on regulatory requirements
- Government agencies to obtain any required reports. For example, a Conservation Data Centre report is required as per Section 12.0 of the Site Assessment
- Contact the [Technical Review Coordination Unit](#) for additional help.

### 3.0 Description of Livestock Operation

Operation legal name, if other than the owner's name:

Rosedale Colony-Hog Barn Development

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Operation location (project site)<sup>1</sup>:

12017 Assiniboine Road

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Rural Municipality (RM):

Cartier

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Legal description: quarter, section, township, range, meridian or river lot(s):

SE 36-11-3W, SW 31-11-2W

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[Manitoba Premises Identification Number:](#)

MB 1016020


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Municipal Tax Roll Number(s):

0129-600.000

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Illustrate the location of the operation (project site) on a map. (See [Location Map](#) for example).

 *Location Map Attached*

### 4.0 Nature of Project<sup>2</sup>

Please indicate if the proposal is for a new or expanding livestock operation. If the operation is expanding, please identify when the operation was established.

New Operation

Expansion of Existing Operation

Date Established: 1980

Describe what is being proposed:

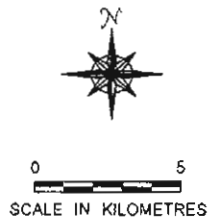
Existing 600 sow Farrow to Finish operation proposed to be increased to 1,000 sows

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Farrow to Finish inclusive of replacing existing buildings.

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# R.M. OF CARTIER

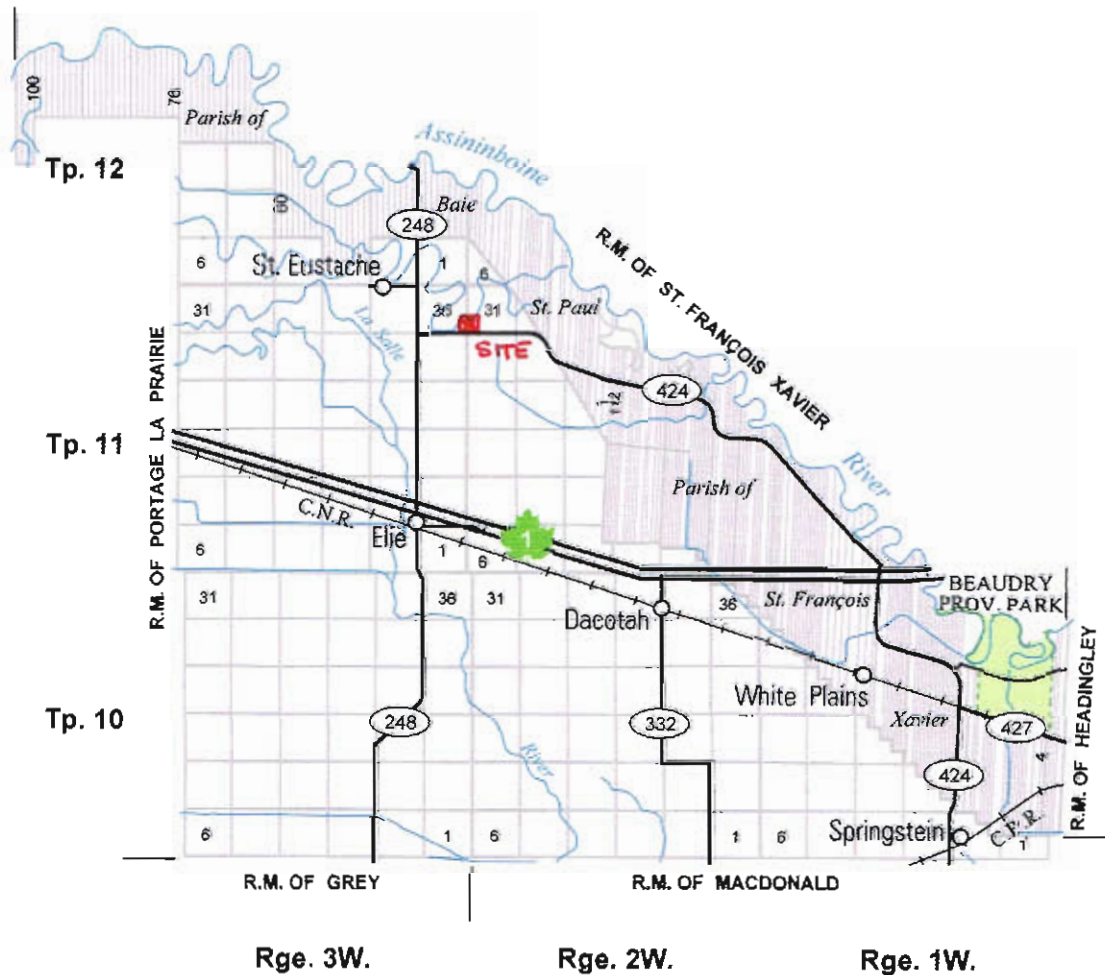


PROVINCE OF MANITOBA  
INFRASTRUCTURE  
HIGHWAY PLANNING AND DESIGN BRANCH  
GEOGRAPHIC & RECORDS MANAGEMENT SECTION  
WINNIPEG  
JANUARY 1, 2015

REVISED: APRIL 2015

## LEGEND

TRANS-CANADA HIGHWAY		ACCESS ROADS	
PROVINCIAL ROADS		RAILWAYS	



State if any existing buildings will be replaced or demolished. If existing buildings will be reused or expanded, state how they will be reused or expanded.

Existing north finisher barn to be utilized until useful life has been expended.

Proposed barn to be expanded to replace this finishing space in future.

### 5.0 Current and Proposed Type and Size of Operation<sup>3</sup>

Using the Manitoba Agriculture [Animal Units Calculator](#), indicate the total number of animals and animal units for each animal category associated with the current and proposed operation (if applicable).

**Table 5-1: Current and Proposed Operation Animal Unit Summary**

Animal Categories (Column B from Animal Units Calculator)	Current Operation		Proposed Operation	
	Current Number of Animals (Column D)	Current Number of Animal Units (Column E)	Proposed Number of Animals (Column F)	Proposed Number of Animal Units (Column G)
Mature cows (lactating and dry)	45	61	45	61
Heifers (0 to 3 months)	4	1	4	1
Heifers (4 to 13 months)	8	3	8	3
Heifers (>13 months)	3	3	3	3
Sows - farrow to finish	600	750	1,000	1,250
Layer hens	14,000	116	14,000	116
Layer pullets	6,000	20	6,000	20
Heavy hens	10,000	100	10,000	100
	<b>Total Current</b>	<b>1,054</b>	<b>Total Proposed</b>	<b>1,554</b>

Manitoba Agriculture Animal Units Calculator attached

### 6.0 Animal Confinement<sup>4</sup>

Based on the nature of the proposed project indicate the type of animal confinement. (Note: Please check more than one category if applicable)

**Animal Confinement Facility** – means a barn or an outdoor area where livestock are confined by fences or other structures, and includes a seasonal feeding area but does not include a feedlot or a grazing area.

# Animal Units Calculator

A	B	C	Current Operation		Proposed Operation	
			D	E	F	G
Operation Type	Animal Categories	Animal Units per Head	Current Number of Animals <sup>1</sup>	Current Animal Units	Proposed Number of Animals <sup>2</sup>	Proposed Number of Animal Units
Dairy <sup>3</sup>	Mature cows (lactating and dry) including associated livestock	2		-		-
	Mature cows (lactating and dry)	1.35	45	61	45	61
	Heifers (0 to 3 months)	0.16	4	1	4	1
	Heifers (4 to 13 months)	0.41	8	3	8	3
	Heifers (> 13 months)	0.87	3	3	3	3
	Bulls	1.35			-	
	Veal calves	0.13				-
Beef	Beef cows including associated livestock	1.25				-
	Backgrounder	0.5				-
	Summer pasture / replacement heifers	0.625				-
	Feeder cattle	0.769				-
Pigs	Sows - farrow to finish (234-254 lbs)	1.25	600	750	1,000	1,250
	Sows - farrow to weaning (up to 11 lbs)	0.25				-
	Sows - farrow to nursery (51 lbs)	0.313				-
	Boars (artificial insemination units)	0.2				-
	Weanlings, Nursery (11-51 lbs)	0.033				-
	Growers / Finishers (51-249 lbs)	0.143				-
Chickens	Broilers	0.005				-
	Roasters	0.01				-
	Layers	0.0083	14,000	116	14,000	116
	Pullets	0.0033	6,000	20	6,000	20
	Broiler breeder pullets	0.0033				-
	Broiler breeder hens	0.01				-
Turkeys	Broilers	0.01				-
	Heavy Toms	0.02				-
	Heavy Hens	0.01	10,000	100	10,000	100
Horses	Mares	1.333				-
Sheep	Ewes	0.2				-
	Feeder lambs	0.063				-
Other Livestock	Type:					-
	Type:					-
Total Current:				1,054	Total Proposed:	1,554

**Footnotes:**

<sup>1</sup> Enter the current number of animals on the farm based on the operation's capacity (animal places) or previous Conditional Use Approval.

<sup>2</sup> Enter the total number of animals associated with the operation post construction or expansion.

<sup>3</sup> There are 2 methods for calculating animal units for dairy (Farm Practices Guidelines for Dairy Producers in Manitoba, 1995). You can enter the total number of mature cows in the milking herd under the "Mature cows (lactating and dry) including associated livestock" category and the animal units will be calculated by multiplying this number by 2. This calculation assumes 85 lactating, 15 dry, 12 heifers (0 to 3 months), 36 heifers (4 to 13 months) and 50 heifers (> 13 months) for an operation with 100 mature cows. "Associated livestock" includes all of the heifer calves and replacement heifers. Alternatively, you can enter animal numbers in the individual categories (mature cows, heifers (0 to 3 months), heifers (4 to 13 months) and heifers (> 13 months)) and they will be summed at the bottom of the table. Bulls and veal calves are always calculated separately.

For all other livestock or operation types please inquire with the Manitoba Agriculture Contacts



**Confined Livestock Area<sup>5</sup>** – means an outdoor, non-grazing area where livestock are confined by fences or other structures, and includes a feedlot, paddock, corral, exercise yard, holding area and hoop structures. *(Applicable to dairy only)*

**Other** (Describe what is being proposed)

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Does the operation currently use a confined livestock area:

Yes

No

If yes, what is the current capacity (livestock places and animal units)? 4, 8, & 3 heifers of 0-3 months, 3-13 months & >13 months (1AU, 3AU & 3AU)

To ensure the proposed livestock operation can be built in a way the environment is protected, a permit is required for construction and expansion of confined livestock area(s) for operations with 300 Animal Units or more. Permits are required by the [Livestock Manure and Mortalities Management Regulation \(M.R. 42/98\)](#), under [The Environment Act](#).

A permit under the [Livestock Manure and Mortalities Management Regulation \(M.R. 42/98\)](#) is not required for an indoor housing area or barn unless there is a manure storage facility within the building (an under barn storage capable of storing manure for 30 days or more).

Note that agricultural buildings such as barns over 600 meters (6,458 sq ft) require a building permit from the Fire Commissioner's Office under *The Building and Mobile Home Act* and the Manitoba Building Code.

Show all existing, proposed buildings and additions to existing buildings on the project site plan. See [Project Site Plan example](#) and the [Project Site Plan Guide](#) for help creating your site plan<sup>6</sup>.

*Project Site Plan attached*

## 7.0 Water

### 7.1 Project Sites Unsuitable for Development

To protect water quality, the [Nutrient Management Regulation \(M.R. 62/2008\)](#), under *The Water Protection Act*, prohibits the construction or expansion of nutrient generating facilities in Nutrient Management Zone 4 (Agriculture Capability Class 6, 7 and unimproved organic soils) and Nutrient Buffer Zones. Nutrient generating facilities include barns, confined livestock areas and manure storage facilities.

A [Nutrient Buffer Zone](#), as defined in section 3(3) of the regulation, includes areas of land along water bodies such as rivers, lakes, streams and drains.

The proposed indoor housing area, barn, confined livestock area and/or manure storage facility:

will

will not

be located within Nutrient Management Zone 4 (Class 6, 7 and unimproved organic soils) or any Nutrient Buffer Zone.



PROJECT NAME	ROSEDALE COLONY SOW BARN	PROJECT AREA	N/A
SHEET TITLE	SITE PLAN SW 31-11-2W	DRAWN BY	R. FLORES SOUTH-MAN ENGINEERING
DATE ISSUED	FEBRUARY 2017	ISSUING SCALE	N.T.S.
		SHEET NUMBER	
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA		SP-1	

Determine the agriculture capability class(es), including their limitations, of the soils for the project site.

Individuals with GIS mapping software can access information through [Manitoba Land Initiative](#) (MLI) website. In addition, information from MLI can also be viewed on Google Earth. Both the download for Google Earth and the registration for MLI are free.

Click [here](#) for instructions under the MLI website.

## 7.2 Water Source<sup>7</sup>

To be sustainable, a livestock operation must have access to a sufficient quantity and quality of water for livestock.

Water source for operation:

- |                                                           |                                                   |
|-----------------------------------------------------------|---------------------------------------------------|
| <input type="checkbox"/> Pipeline (public)                | <input type="checkbox"/> Water cooperative        |
| <input type="checkbox"/> Proposed well                    | <input checked="" type="checkbox"/> Existing well |
| <input type="checkbox"/> River                            | <input type="checkbox"/> Lake                     |
| <input type="checkbox"/> Dugout - dimensions: ___x___x___ |                                                   |

If using an existing well, provide a copy of the water well log<sup>8</sup> and logs for other wells on the property. Logs can be obtained from Manitoba Sustainable Development by calling (204) 945-6959 in Winnipeg; 1-800-214-6497 toll free.

## 7.3 Source Water Analysis Reports

Annual [livestock source water quality monitoring reports](#) must be submitted to Manitoba Sustainable Development for any operations of 300 Animal Units or more.

Has the operation submitted an annual source water monitoring report?

- |                                         |                                                                                      |
|-----------------------------------------|--------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> N/A (new operation or existing operation <300 AU currently) |
| <input type="checkbox"/> No             |                                                                                      |

If yes, please indicate year of last submission: 2016

Will livestock have direct access to surface water (not including dugouts)?

- |                              |                                        |
|------------------------------|----------------------------------------|
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No |
|------------------------------|----------------------------------------|

If yes, identify the name of the surface water feature:

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List any steps that will be taken to prevent direct access of livestock to the water body:

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LOCATION: SE36-11-3W

Well\_PID: 41181  
Owner: ROSEDALE COLONY  
Driller: CLOVERLEAF DRILLING  
Well Name: TH#4  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 590293.599  
UTMY: 5535409.9  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1981 Jul 22

WELL LOG

From (ft.)	To (ft.)	Log
0	8.0	BROWN CLAY
8.0	13.0	MEDIUM FINE BROWN SAND
13.0	17.0	CLEAN GREY SAND
17.0	19.0	DIRTY GREY SAND, ORGANIC MATERIAL

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia. (in)	Outside Dia. (in)	Slot Size (in)	Type	Material
0	15.0	casing	30.00			CORRUGATED METAL	
15.0	17.0	perforations			0.018	WIRE WOUND	
GALVANIZED							
17.0	19.0	casing	30.00			CORRUGATED METAL	
0	15.0	gravel pack					
15.0	17.0	gravel pack				PEA SIZE	SILICA
S.	17.0	gravel pack					

Top of Casing: 1.0 ft. below ground

PUMPING TEST

Date: 1981 Jul 22  
Pumping Rate: 37.0 Imp. gallons/minute  
Water level before pumping: 8.0 ft. below ground  
Pumping level at end of test: 14.0 ft. below ground  
Test duration: 2 hours, 10 minutes  
Water temperature: ?? degrees F

LOCATION: SE36-11-3W

Well\_PID: 41180  
Owner: ROSEDALE CCLONY  
Driller: CLOVERLEAF DRILLING  
Well Name: TH#3  
Well Use: PRODUCTION  
Water Use: Domestic  
UTMX: 590293.599  
UTMY: 5535409.9  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1981 Jul 23

WELL LOG

From (ft.)	To (ft.)	Log
0	5.0	BROWN CLAY
5.0	6.0	VERY FINE BROWN SAND
6.0	12.0	MEDIUM FINE BROWN SAND, CLEAN
12.0	16.0	MEDIUM FINE GREY SAND, CLEAN
16.0	18.0	COARSE GREY SAND, VERY ORGANIC

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	14.0	casing	30.00				CORRUGATED METAL
14.0	16.0	perforations			0.018	WIRE WOUND	
GALVANIZED							
16.0	18.0	casing	30.00				CORRUGATED METAL
0	14.0	gravel pack					
14.0	16.0	gravel pack				NO. 20-40	SILICA
S.							
16.0	18.0	gravel pack					

Top of Casing: 2.0 ft. below ground

PUMPING TEST

Date: 1981 Jul 23  
Pumping Rate: 40.0 Imp. gallons/minute  
Water level before pumping: 8.0 ft. below ground  
Pumping level at end of test: 14.0 ft. below ground  
Test duration: 1 hours, 20 minutes  
Water temperature: ?? degrees F

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LOCATION: SE36-11-3W

Well\_PID: 60068  
Owner: ROSEDALE COLONY  
Driller: Paddock Drilling Ltd.  
Well Name: SOUTH WELL  
Well Use: PRODUCTION  
Water Use: Domestic, Livestock  
UTMX: 590293.599  
UTMY: 5535409.9  
Accuracy XY: UNKNOWN  
UTMZ:  
Accuracy Z:  
Date Completed: 1987 May 05

WELL LOG

From (ft.)	To (ft.)	Log
0	8.0	BROWN CLAY
8.0	13.0	MEDIUM FINE BROWN SAND
13.0	17.0	MEDIUM FINE GREY SAND
17.0	19.0	ORGANICS GREY SAND
19.0	20.0	CLAY

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia. (in)	Outside Dia. (in)	Slot Size (in)	Type	Material
0	11.0	casing	30.00			CORRUGATED	
11.0	17.0	perforations	30.00		0.040	SAW CUT	
0	19.0	gravel pack					WASHED

S.

Top of Casing: 1.0 ft. below ground

PUMPING TEST

Date: 1987 May 05  
Pumping Rate: 75.0 Imp. gallons/minute  
Water level before pumping: 4.0 ft. below ground  
Pumping level at end of test: 15.0 ft. below ground  
Test duration: 1 hours, minutes  
Water temperature: ?? degrees F

REMARKS

PUMP TEST IS RECOVERY

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LOCATION: SE36-11-3W

Well\_PID: 106863  
Owner: ROSEDALE COLONY  
Driller: Paddock Drilling Ltd.  
Well Name: NEW NORTH WELL  
Well Use: PRODUCTION  
Water Use: Domestic, Livestock  
UTMX: 590293.599  
UTMY: 5535409.9  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 1998 Aug 25

WELL LOG

From (ft.)	To (ft.)	Log
0	1.0	TOPSOIL
1.0	8.0	BROWN CLAY
8.0	10.0	SILTY SOFT STICKY BROWN CLAY
10.0	13.0	FINE BROWN SAND
13.0	20.0	MEDIUM FINE GREY SAND, CLEAN
20.0	23.0	GREY CLAY

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia. (in)	Outside Dia. (in)	Slot Size (in)	Type	Material
0	10.5	CASING	30.00			CORRUGATED	
10.5	22.5	PERFORATIONS			0.040	SAW CUT	
0	22.5	GRAVEL PACK					WASHED

SAND

Top of Casing: 1.5 ft. above ground

PUMPING TEST

Date: 1998 Aug 25  
Pumping Rate: 66.0 Imp. gallons/minute  
Water level before pumping: 9.0 ft. below ground  
Pumping level at end of test: 18.0 ft. below ground  
Test duration: 1 hours, minutes  
Water temperature: ?? degrees F

REMARKS

PUMP TEST IS RECOVERY

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LOCATION: SE36-11-3W

Well\_PID: 106864  
Owner: ROSEDALE COLONY  
Driller: Paddock Drilling Ltd.  
Well Name: MIDDLE WELL  
Well Use: PRODUCTION  
Water Use: Domestic, Livestock  
UTMX: 590293.599  
UTMY: 5535409.9  
Accuracy XY:  
UTMZ:  
Accuracy Z:  
Date Completed: 1998 Aug 27

WELL LOG

From (ft.)	To (ft.)	Log
0	1.0	TOPSOIL
1.0	8.0	BROWN CLAY
8.0	12.0	FINE BROWN SAND
12.0	15.0	MEDIUM BROWN SAND
15.0	17.0	MEDIUM GREY SAND
17.0	20.0	GREY CLAY

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia. (in)	Outside Dia. (in)	Slot Size (in)	Type	Material
0	10.0	CASING	30.00			CORRUGATED	
10.0	19.0	PERFORATIONS			0.040	SAW CUT	
0	19.0	GRAVEL PACK					WASHED

Top of Casing: 1.0 ft. above ground

PUMPING TEST

Date: 1998 Aug 27  
Pumping Rate: 50.0 Imp. gallons/minute  
Water level before pumping: 8.0 ft. below ground  
Pumping level at end of test: 14.0 ft. below ground  
Test duration: 1 hours, minutes  
Water temperature: ?? degrees F

REMARKS

PUMP TEST IS RECOVERY

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## 7.4 Water Requirements

Protecting the interests of domestic users and the environment, in addition to existing licensees, is the intended purpose of the water rights licensing scheme.

In order to protect the sustainability of water sources, all operations using more than 25,000 litres (5,499 imperial gallons) per day must possess a Water Rights License required by the [Water Rights Regulation \(MR 126/87\)](#) under *The Water Rights Act*.

For more information on the Water Rights Licensing process, contact the Water Use Licensing Section at (204) 945-3983 in Winnipeg; 1-800-214-6497 toll free.

### Water Use<sup>9</sup>

To calculate the total water use for non-dairy operations, go to the [Water Requirement Calculator](#).

For dairy operations, go to the [Dairy Barn Water Requirement Estimator](#).

Maximum daily use for the operation:	48,516	<hr/>	
<input checked="" type="checkbox"/> imperial gallons		<input type="checkbox"/> litres	
Maximum annual use for the operation:	17,708,261	<hr/>	
<input checked="" type="checkbox"/> imperial gallons		<input type="checkbox"/> cubic decameters	

*Water Requirement Calculator attached*

*Dairy Barn Water Requirement Estimator attached*

## 7.5 Groundwater (Contamination Risk Protection)

Improper storage and handling of manure or mortalities increases the risk of contaminating groundwater. Beneficial management practices (BMP), mitigation measures and requirements for the permit process reduce this risk. Soil testing, manure management planning and proper engineering, along with construction and management of manure storage structures, reduce the risk of contaminating groundwater.

All unused or abandoned well(s) on site and spread fields should be properly sealed and a seal well report filed with the Groundwater Management Section of Manitoba Sustainable Development. Information on well sealing is available from Manitoba Sustainable Development at (204) 945-6959 or refer to the [technical information document](#). It is recommended that all but the most basic wells should be sealed by a well drilling professional.

# Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
<b>Beef/Dairy/Bison</b>				
Feeder/heifer/steer (600 lb.)	15	5	9	135
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry cow	5	10	12	60
Milking cow	40	25	30	1,200
Bison		8	10	-
<b>Horses</b>				
Horses		8	11	-
<b>Hogs</b>				
Sow (Farrow/wean)	192	6.5		1,248
Dry Sow/Boar	1,044	4		4,176
Feeder	9,600	3		28,800
Nursery (33 lb.)	4,200	2		8,400
<b>Chickens</b>				
Broilers		0.035		-
Roasters/Pullets	6,000	0.04		240
Layers	14,000	0.055		770
Breeders		0.07		-
<b>Turkeys</b>				
Turkey Growers		0.13		-
Turkey Heavies	10,000	0.16		1,600
<b>Sheep/Goats</b>				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
<b>TOTAL (IG/day)</b>				<b>46,629</b>

For beet, dairy, bison and horse enterprises:  
 Use summer numbers if appropriate for the operation.  
 Otherwise base projections on winter values.  
 Always use the greater of the two values.

Enter this number on page 7 of Application Form.

**Other consumption values:**

Normal household consumption:  
 40-55 IG/day per person or  
 (180-250 l/day/person)

Hydrant flow:  
 10 imperial GPM (45 l/min)

Unit Conversions		
Total per day	Total per year	Unit
46,629	17,019,585	IG
211,975	77,371,033	litres
0.212	77	cubic decametres (dam <sup>3</sup> )

Enter this number on page 7 of Application Form.

*Conversion Factor: 1 IGPM = 4.546 l/m*

## Dairy Barn Water Requirement Estimator\*

Enter the following farm data:

Number of lactating/milking cows	40
Average milk production (litres)	33 **
Parlor or tie stall (P/TS)	P
Collection yard if free stall (Y/N)	N
Plate cooler (Y/N)	N
Milkings per day	2
Plate cooler water reused? (Y/N)	N

Total water needs estimate per day:	
Litres	8566
Imperial gallons	1887
Cubic decametres	0.01

Total water needs estimate per year:	
Litres	3126590
Imperial gallons	688676
Cubic decametres	3.13

\*Calculations are based on Manitoba AVERAGES for

- Feed composition



Check off the mitigation measures used for the existing components of the operation that may pose a risk of contamination. Also check off any measures that may be used with the proposed components for this expansion, if applicable:

	Existing	Proposed	Not Applicable
Manure is stored in a storage facility built by permit or is registered by Manitoba Sustainable Development	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage includes leak detection system	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Earthen storage has between 400 and 500 days storage	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Steel/concrete tank has between 250 and 500 days storage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manure storage facility meets required setbacks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field storage (solid manure) locations are changed annually	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field storage meets required setbacks	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All fields to receive manure are soil tested annually for nitrate-N and Olsen phosphorus	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All manure is applied according to a registered manure management plan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Licensed commercial manure applicator is used to apply manure	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Operator applies manure	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abandoned wells have been properly sealed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other:

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## 7.6 Building in Flood Areas:

The [Livestock Manure and Mortalities Management Regulation](#) prohibits an operator from constructing a manure storage facility within the boundaries of the 100-year flood plain elevation. [Manure storage facilities](#) that are constructed with protection for a flood-water level at least 0.6 meters higher than the 100-year flood water level are exempt.

The [Designated Flood Area Regulation](#) under *The Water Resources Administration Act* requires a Designated Flood Area Permit before a proposed structure (such as a barn) can be built within a Designated Flood Area

The flood protection level for structures located within a Designated Flood Area is the site specific design flood level plus freeboard, as provided by the Hydraulic Forecasting Branch of Manitoba Infrastructure. Contact the Hydrologic Forecasting Branch at (204) 945-2121 in Winnipeg; 1-800-214-6497 toll free, for more information.

The proposed site:



is



is not

located in a Designated Flood Area: [Upper Red River Valley Designated Flood Area](#) or [Lower Red River Designated Flood Area](#).

*Note:* At the time of permit issuance, verification is needed to ensure any proposed structure(s) are located within the 100-year flood plain elevation; or at an elevation set by Manitoba Infrastructure.

## 7.7 Watershed Management Planning

Integrated watershed management planning is a co-operative effort by local residents, stakeholders and governments to create a long term plan to manage water and land-based activities for watersheds.

What are the names of the watershed and sub-watershed where the livestock operation and the fields identified for manure application are located?

Name of watershed(s): Assiniboine

Name of sub-watershed(s): La Salle River Watershed - La Salle Redboine Conservation District

Name of Integrated Watershed Management Plan for the proposed project site, if applicable:

For more on Integrated Watershed Management Planning, call Watershed Planning and Programs at (204) 945-7408 in Winnipeg; 1-800-214-6497 toll free.

## 8.0 Manure

The [Livestock Manure and Mortalities Management Regulation](#) (M.R. 42/98) sets requirements for the use, management and storage of livestock manure in agricultural operations, to ensure it is handled in an environmentally sound manner. For more information on this, call Manitoba Sustainable Development at (204) 945-4384 in Winnipeg.

Improper storage, handling and/or land application of manure can contaminate water and soil, as well as potentially cause unacceptable odours for neighbours. The following is used to assess the manure management system.

### 8.1 Manure Type

The type of manure generated and used by the operation influences storage, handling and land application options available.

What type(s) of manure will be generated?

Solid

Semi-solid


Liquid

### 8.2 Manure Volume or Weight

Manure production can be estimated using the [Manure Production Calculator](#). The sizing of the manure storage is the responsibility of the operator and must be constructed in accordance with the [Livestock Manure and Mortalities Management Regulation](#). Design and construction of a manure storage facility is dependent on the type of structure; earthen manure storage facilities must have between 400 and 500 days capacity, a steel or concrete storage tank must have between 250 and 500 days capacity. This ensures the facility has sufficient capacity eliminating the need for winter application of manure.

What will be the total volume or weight of manure generated annually by the livestock operation?

Liquid volume: 1,023,416 cft over 400 days  
**AND/OR**  
 Solid volume: 51,783.56 cft

 *Manure Production Calculator attached*

### 8.3 Manure Storage Type and Capacity

The type of storage system used will affect the capacity requirements for the manure storage facility or field storage area.

Is the operation planning to construct, modify or expand a manure storage facility or use an existing manure storage facility?

Construct

Expand

Modify

Use existing

Not applicable

Animal Type (A)	Animal Sub-type (B)	Daily Manure Production					Production Period (Days) (G)	Number of Animals (Capacity) (H)	Total Manure Volume (ft <sup>3</sup> ) (FGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)	
		References (C)	Manure Type (D)	Default Manure Production (ft <sup>3</sup> /animal/day) (E)	Operation Manure Production (ft <sup>3</sup> /animal/day) (F)						
					Default Manure Production (ft <sup>3</sup> /yearbird space)	Operation Manure Production (ft <sup>3</sup> /yearbird space)					
Dairy (milkling cows <sup>4</sup> and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid <sup>5</sup>	3.5						0.0	
			Solid	3.4							
			Liquid <sup>5</sup>	3.5	3.5	400	63,000.00				362,490.0
			Semi-Solid <sup>5</sup>	3.6							0.0
			Solid	3.5							
	Tie Stall	Table 6, pg 59, FPGs for Dairy 1995	Liquid <sup>5</sup>	3.6							0.0
			Solid	3.0							
			Liquid	0.5							
			Solid	1.2							
			Solid	0.73							
Beef	Milkling Pasture Manure and Washwater	pg 117, FPGs for Hogs 1998	Solid	0.85							
			Solid	1.1	1.1	400.00	15,400.00				
			Liquid	2.3	2.3	400.00	820,000.00				5,731,600.0
			Liquid	0.8							0.0
			Liquid	1							0.0
	Sows - farrow to wean (up to 11 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	0.1							0.0
			Liquid	0.25							0.0
			Yearly Manure Production								
			Default Manure Production (ft <sup>3</sup> /yearbird space)								
			Operation Manure Production (ft <sup>3</sup> /yearbird space)								
Pigs	Sows - farrow to finish (234 - 254 lbs)	Table 3, pg 85, FPGs for Poultry 2000	Broilers - floor <sup>6</sup>	1.23							
			Broiler breeder hens <sup>7</sup>	2.3							
			Broiler breeder pullets <sup>8</sup>	0.99							
			Roasters - floor <sup>9</sup>	1.16							
			Layers - cage <sup>10</sup>	2.33	2.33	400	35,748				222,708.7
	Sows - farrow to nursery (51 lbs)	MAFRI website, FPGs for Pigs 2007	Layers - floor <sup>7</sup>	1.68							
			Layers - solid pack <sup>11</sup>	0.71							
			Pullets - cage <sup>12</sup>	0.75							
			Pullets - floor <sup>13</sup>	2.83							
			Pullets - solid pack <sup>14</sup>	5.58							
Turkeys	Heavy toms <sup>15</sup> Heavy hens <sup>16</sup>	Table 3, pg 85, FPGs for Poultry 2000	Broilers <sup>17</sup>	3.32							
			Heavy toms <sup>18</sup>	5.58							
			Heavy hens <sup>19</sup>	3.32							
		Yearly Manure Production									
		Default Manure Production (ft <sup>3</sup> /yearbird space)									
		Operation Manure Production (ft <sup>3</sup> /yearbird space)									
		Total Manure Production (ft <sup>3</sup> /yearbird space)									
		Total Manure Volume (ft <sup>3</sup> ) (FGxH)									
		Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)									

Sizing of a manure storage facility in accordance with all requirements of the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98) is the responsibility of the operator.

51,783.56

1,623,412

Instructions and footnotes:

<sup>1</sup> ENTER the manure production estimate for your operation. If no estimate is available, use the default value provided in column E. References for default daily and yearly manure production are provided in column C.

<sup>2</sup> ENTER the number of days worth of manure that will be produced. For earthen manure storage facilities the minimum storage requirement is 400 days. For steel and concrete manure storage facilities the minimum storage requirement is 250

<sup>3</sup> ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).

<sup>4</sup> Milkling cows includes all lactating and dry cows.

<sup>5</sup> Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour.

<sup>6</sup> 2 inches of wood shavings or 4 inches of straw placed on floor. Manure and litter removed from barn at 25% moisture content, with a density of 20 lb/ft<sup>3</sup>

<sup>7</sup> One-third litter floor, two-thirds slatted floor. Manure and litter removed from barn at 40% moisture content, with a density of 25 lb/ft<sup>3</sup>

<sup>8</sup> Manure removed from barn at 90% moisture content with a density of 59 lb/ft<sup>3</sup>

<sup>9</sup> Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

What type of manure storage will be used by the operation?

- |                                                                     |                                                                      |
|---------------------------------------------------------------------|----------------------------------------------------------------------|
| <input type="checkbox"/> Concrete tank(s) manure storage facility   | <input type="checkbox"/> Molehill manure storage facility            |
| <input checked="" type="checkbox"/> Earthen manure storage facility | <input type="checkbox"/> Steel tank(s) manure storage facility       |
| <input type="checkbox"/> Engineered solid manure storage facility   | <input type="checkbox"/> Under-barn concrete manure storage facility |
| <input checked="" type="checkbox"/> Field storage                   |                                                                      |

If the proposed operation or expansion will utilize an existing manure storage facility for the new manure, indicate the construction permit number or facility registration number:

LM-0021-R01

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Provide the dimensions of the existing and/or proposed manure storage facilities that will be used to store manure from the proposed operation or expansion. (See [Existing and Proposed Manure Storage Facility Dimensions Table](#).)

Existing and Proposed Manure Storage Facility Dimensions Table attached

If an existing manure storage facility that will be used to store any of the manure from the proposed expansion has a leak detection system (monitoring wells or sump pit), annual sampling and reporting to Manitoba Sustainable Development is required. Has the system been sampled and results submitted to Manitoba Sustainable Development?  Yes

No

Not applicable

If yes, please indicate year of last submission: \_\_\_\_\_

If a manure storage facility is proposed in a geologically sensitive area, a leak detection system may be required.

For more information on obtaining a manure storage facility permit, please contact Manitoba Sustainable Development, Environmental Approvals Branch at (204) 945-5081.

#### 8.4 Odour Control Measures (project site)

Barns and manure storage facilities can be significant sources of livestock odours. The use of manure storage covers and shelterbelts can reduce this, particularly for neighbours in the vicinity of the operation.

What odour control measures are you planning to use?

Manure storage cover:

- Yes  No  Not Applicable

If yes, type of cover: \_\_\_\_\_

Shelterbelt planting:

- Yes  No  Existing shelterbelt

## Existing and Proposed Manure Storage Facility Dimension Table

If applicable, indicate the dimensions of any existing manure storage facility (MSF) that will be used to store manure from the proposed project:

CELL	Existing Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	277 ft	248 ft	16 ft	6 ft	1:3	1:5	243
Secondary	279 ft	265 ft	16 ft	6 ft	1:3&1:4	1:5	233
Tertiary	ft	ft	ft	ft			
Circular Tank	Diameter	Height	Depth (Above Grade)				
	ft	ft	ft				

Permit/Registration # \_\_\_\_\_ LM-0021-R01 \_\_\_\_\_



Other measure (specify):

Planting shelterbelt around the barn

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## 8.5 Manure Treatment

### Pig operations:

Under *The Environment Act*, the director must not issue a permit for the modification, expansion, or construction of a manure storage facility accommodating an increase in the number of animal units for **pigs**, unless the manure is treated using anaerobic digestion or another environmentally sound treatment that is similar to, or better than, anaerobic digestion, according to Manitoba Sustainable Development. Environmentally sound treatment has been defined in the Hog Production Pilot project. For more information on new or expanding hog operations and the requirements of the Hog Production Pilot project, please contact the Manitoba Pork Council.

Under the Hog Production Pilot project, in addition to existing regulatory requirements, new and expanding pig operations must:

- Subject the manure to treatment using anaerobic digestion or mechanical or gravity separation including multi-celled manure storage structures and settling tanks;
- Have access to sufficient suitable land to accommodate all of the phosphorus generated by the operation;
- Maintain soils below 60 ppm Olsen P; and
- Inject or immediately incorporate pig manure on tilled land. Perennial forages, in-season applications and no-till lands are excluded.

New and expanding pig operations should also consider odour control practices.

If this Site Assessment is for a **pig** operation, does your proposal meet all the criteria outline in the Hog Production Pilot Protocol?

Yes

No

If this Site Assessment is for a **pig** operation, have you included a letter from the Manitoba Pork Council under the Hog Production Pilot Protocol?

Yes

No

*Letter from Manitoba Pork Council attached (if applicable)*

### Manure treatment:

Is manure treatment proposed for the operation?

Yes

No

January 30, 2017

Mr Elie Waldner  
Manager  
Rosedale Colony  
Box 130  
Elie, MB  
R0H 0H0

E-mail: eliewaldner@hotmail.com  
SENT BY E-MAIL



Manitoba Pork Council  
28 Terracon Place  
Winnipeg, Manitoba  
Canada R2J 4G7

Tel: (204) 237-7447  
Fax: (204) 237-9831  
[www.manitobapork.com](http://www.manitobapork.com)

Dear Mr Waldner:

**This is CONFIRMATION that in the opinion of *Manitoba Pork*, the proposed expanded pig operation described below, appears to meet the criteria of the *Pig Production Special Pilot Project – Evaluation Protocol*, based on the information provided by the applicant.**

**Re: Proposal to rebuild and expand the existing pig barns, *Manitoba Pork* File Number: 005-17/01-Rosedale Colony.**

Please accept this as your confirmation letter stating that in the opinion of Manitoba Pork, your proposed pig barn, meets the criteria of the *Pig Production Special Pilot Project – Evaluation Protocol (Protocol)*. This confirmation is based upon the information you provided as outlined below. Submit this letter along with your conditional use application to the TRC review.

In accordance with the *Protocol*, we understand the following about your proposed new pig operation:

1. That your existing pig operation is proposed to be rebuilt and expanded.
2. Owner of the pig barns: Rosedale Colony.
3. Applicant's name: Elie Waldner, Rosedale Colony.
4. Location of proposed operation: SE 36-11-3 WPM, RM of Cartier.
5. Type of operation being proposed: Expansion of an existing farrow to finish operation.
6. The animals are proposed to be marketed: At a Manitoba processing plant.
7. Size of the proposed operation by number of AUs: Existing barns, currently of 750 AUs, are proposed to be phased out, rebuilt on a new site and expanded to 1000 sows farrow-to-finish (1250 AUs).
8. Approximate size of the proposed two new barns: 341' x 147' (104m x 45m) for an approximate area of 50,127 sq ft (4662 sq m), and, 137' x 521' (42m x 159m) for an approximate area of 71,377 sq ft (6638 sq m).



9. Type of manure storage facility being proposed: Existing 2-cell earthen manure storage.
10. Size of manure storage facility: Existing manure storage of 9 million gallons has sufficient capacity (over 400 days) to accommodate the expected additional pigs without expanding the storage.
11. Type of odour control measures being proposed: Shelter belts and significant distance from neighbouring residences.

It is understood that you will comply with the attached *Protocol* in the ongoing management of your operation, including that:

- all manure from your operation will be injected and/or incorporated within 48 hours of application,
- you will require long term access to manure spread fields at a 1x phosphorous application rate (even though you do not have to apply the manure at that rate) – and all of these fields must be identified as a part of your full application process,
- all manure spread fields will be permanently maintained below 60 ppm, and
- other requirements as outlined in the *Protocol*.

If you make any significant changes to your proposed project during the application process which alters any of the information as stated above, or alters any of the numbers by 10% or more, please notify our office.

As we understand it, your next step is to apply for a Conditional Use permit from the municipality which will include a Technical Review Committee (TRC) process – you will need considerably more detailed information for that process. You may wish to contact **Don Malinowski**, Technical Review Coordinator (204-945-8353), for the requirements of the TRC review – or you can go to their website: [gov.mb.ca/ia/livestock/index](http://gov.mb.ca/ia/livestock/index). For additional information, see our booklet '*Building a Pig Barn in Manitoba-A Step by Step Guide*', on our website ([www.manitobapork.com](http://www.manitobapork.com)) which outlines the main steps of what is required to build a new barn.

Yours sincerely,



Andrew Dickson  
General Manager

## **Pig Production *Special Pilot Project*** **EVALUATION PROTOCOL**

In December 2014, the Government of Manitoba agreed to review a pilot project proposal for limited expansion of the pig industry in the province under a Pilot Project that incorporates a number of strengthened environmental criteria. Meetings between industry and government officials were held between January and March of 2015 to further clarify the criteria.

New and expanding operations will be encouraged to lead to the production of **market hogs** to assist the existing pig processing plants in Manitoba.

New sites must be located **west of the Red River** and outside of the major flood zone. Expansion of existing sites will be considered province-wide, except in the Rural Municipalities of Hanover and La Broquerie, but will be strongly encouraged to occur **west of the Red River** and outside of the major flood zone.

Any potential site within the pilot project will be **vetted through *Manitoba Pork***. *Manitoba Pork* will not approve proposals, nor will it act as an agent or applicant. However, the provincial government has indicated that it wants all proposals to be reviewed first by *Manitoba Pork*. *Manitoba Pork* has agreed to do so, but only to state whether or not in its opinion the proposal meets the criteria as stated herein. *Manitoba Pork* believes its evaluation will have a very quick turn-around (targeted at 10 working days or less). After evaluating a proposal against these criteria, *Manitoba Pork* will issue a letter to the applicant stating in its opinion whether or not the proposal appears to meet these criteria. If the proposal appears to meet the criteria, the letter will indicate that *Manitoba Pork* would like the proposal to be considered as part of the pilot project. This letter is to be submitted by the applicant to Manitoba Conservation Water Stewardship (Director of Environmental Programs & Strategies). Applicants are requested to submit the letter prior to participating in the provincial livestock technical review.

### **Strengthened Environmental Criteria for new and expanding pig barns in Manitoba within the Pilot Project**

The following criteria are in addition to existing regulatory requirements for new and expanding pig barns.

1. Proposals for expansion must include manure treatment using anaerobic digestion, mechanical separation OR gravity separation. A two (or more) cell earthen manure storage is an acceptable gravity separation treatment system for the purpose of the Pilot Project.
2. Soils for all manure spread fields are to be maintained at levels of less than 60 ppm Olsen phosphorus.

3. Manure must be injected into tilled soils, or manure may be otherwise applied as long as it is incorporated into the soil within 48 hours (excluding established perennial forages and no-till fields).
4. The land base required for manure application must equal or exceed the crop land required to remove all phosphorus generated by the pigs.
5. Site-specific odour control measures should be a part of any expansion proposal. These might include shelter belts, covers, separation distances, etc.

## Special Pilot Project Permit and other requirements

Other than the normal manure storage permit(s) required, applicants will be required to obtain a special pilot project permit from Manitoba Conservation and Water Stewardship in order to be approved by the Province as a part of the overall pilot project. The application for a special pilot project permit must include the above criteria. The proponent must also commit to submitting at least 2 annual manure analysis reports and calculating a minimum of 2 manure application rates in order to be issued the permit. A permit for construction or expansion of a manure storage facility will not be issued unless the proponent has been issued a Special Pilot Project Permit. Details are provided below:

- A minimum of two composite manure samples must be collected and analysed each year during pump out of the manure storage facility. Analysis reports must be submitted in the next crop year's Manure Management Plan.
- A minimum of two manure application rates per manure storage facility must be included in future manure management plans which will consider anticipated nutrient composition of the manure. Anticipated phosphorus application rates shall be provided in the manure management plan as the number of years worth of P2O5 applied (i.e. multi-year application rate).

All other usual permits and approvals will still be required, such as, but not necessarily limited to:

- Local (municipal) approvals including Conditional Use approval, and if the application will result in an operation involving 300 or more animal units, a provincial review by the Technical Review Committee will be required;
- A provincial building permit for the barn(s) will be required from the Office of the Fire Commissioner;
- The barn and manure storage facilities must be engineered by a professional engineer;
- Annual manure management plans must be filed for the operation; and
- A water license will be required from Manitoba Conservation and Water Stewardship if the operation will be using more than 25,000 litres of water per day.

If yes, please describe treatment process, including intended end use of treated manure:

Two cell manure storage treatment system is used and the treated manure is applied to agricultural land.

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Some manure treatment systems will trigger the requirement for an Environment Act License depending on the type of treatment or intended use of the treated products. The requirement for a license is determined by Manitoba Sustainable Development during their review of the permit application for the construction, modification or expansion of a manure treatment facility.

If treated manure is directed to a retailer, additional approvals may be required in advance of establishing the treatment process. Producers should note that no discharge or burning of treated manure products is allowed.

Manitoba Sustainable Development may require additional supporting documentation to be completed by the operator with respect to the treatment facility. Please contact (204) 945-4384 to determine what information will be required.

## 8.6 Manure Application Method

The [Livestock Manure and Mortalities Management Regulation](#) requires the registration of annual manure management plans for new or expanding operations with 300 Animal Units or more.

Does the operation currently file an annual [Manure Management Plan](#) (MMP) with Manitoba Sustainable Development?

Yes

No

N/A (new operation or existing operation <300 AU currently)

If yes, please indicate most recent MMP Registration #: 2017-285

Manure application methods and the season in which manure is applied affect odour, nutrient availability, crop response, land base requirements and the risk of water contamination.

Proposed application method:

Broadcast

Broadcast and incorporate within 48 hours

Injection

## 8.7 Land Available for Manure Application

Using the [Manure Application Field Characteristics Table](#) provide the information requested.

Total land available for manure application: 5060 acres

Suitable Land:

Sufficient suitable land must be available for all of the manure generated by the operation that is to be land applied. Suitable land can be owned, leased or under agreement.

Under the [Livestock Manure and Mortalities Management Regulation](#) and the [Nutrient Management Regulation](#), application of nutrients is not permitted on Agriculture Capability Class 6, 7 and unimproved organic soils (Nutrient Management Zone 4) and within Nutrient Buffer Zones. In addition, only fields with less than 60 parts per million (ppm) Olsen phosphorus (P) in the top six inches (15 centimeters) of soil will be considered suitable.

The Nutrient Buffer Zones and manure application setback requirements are outlined in the Nutrient Management Regulation (62/2008) and the Livestock Manure and Mortalities Management Regulation (42/98). They have been consolidated in the [Setback Requirements from Water Features Table](#).

Have the setback areas for all water features been observed and excluded from land base calculations for this operation?

Yes

No

Total suitable area available for manure application: 4,978 acres

For all suitable lands, copies of soil test reports that are no more than 12 months old and that demonstrate that soil phosphorus levels are below 60 ppm Olsen P in the top six inches (15 centimeters) of soil must be included with this submission.

*Manure Application Field Characteristics Table attached*

*Soil test reports for the required land base for manure application attached*

## 8.8 Land Required for Manure Application

Long term land base requirements for manure application are calculated based on estimates of the quantity of nutrients (nitrogen and phosphorus) excreted by livestock and the utilization or removal of nutrients by the proposed crops.

The quantity of nitrogen and phosphorus excreted by the livestock depends on the type, number and size of livestock, the quantity and availability of nitrogen and phosphorus fed to the livestock, the amount retained by the livestock and the amount contained in milk and eggs.

The utilization of nitrogen and removal of phosphorus by crops depends on the crops grown and the historical crop yield averages. (See [Crop Rotation Table](#)).

**MANURE APPLICATION FIELD CHARACTERISTICS TABLE**

Field	A Legal Description	B Rural Municipality	C O/C/L/A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	RL-0020-BP	Carleton	0	80	Property line and watercourse	78	2W, 3W	16	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
2	E1/2 SW 27-11-4W	PORTAGE LA PRAIRIE	0	80	Property line & TransCanada Hwy	78	3W, 20W	15	BY-LAW NO. 1-2006: AG	BY-LAW NO. 3006: AG
3	W1/2 of SW 27-11-4W	PORTAGE LA PRAIRIE	0	80	Property line	78	3W, 20W	14	BY-LAW NO. 1-2006: AG	BY-LAW NO. 3006: AG
4	E1/2 of SE 28-11-4W	PORTAGE LA PRAIRIE	0	80	Property line	78	3W, MRS	8	BY-LAW NO. 1-2006: AG	BY-LAW NO. 3006: AG
5	N1/2 of NE 24-11-4W	PORTAGE LA PRAIRIE	0	80	Property line & TransCanada Hwy	78	20W	12	BY-LAW NO. 1-2006: AG	BY-LAW NO. 3006: AG
6	E1/2 SW-11-2W	Carleton	0	265	Property line	261	3W and 2W	31	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
7	W1/2 SW-11-2W	Carleton	0	460	Property line & TransCanada Hwy	456	3W and 2W	40	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
8	E1/2 SW-11-3W	Carleton	0	440	Property line and TransCanada Hwy	436	3W and 2W	9	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
9	RL-0020-BP	Carleton	0	215	Property line and watercourse	208	2W, 3W	38	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
10	NW 17-11-2W	Carleton	0	42	Property line	41	3W, 3NW	34	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
11	W1/2 of NE 18-11-2W	Carleton	0	80	Property line	78	3W, 3NW and 2W	13	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
12	SW 20-11-2W	Carleton	0	160	Property line	158	3W, 3NW, 2W and 5M	44	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
13	NW 20-11-2W	Carleton	0	160	Property line	158	3W, 3NW and 2W	38	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
14	NW 36-11-3W	Carleton	0	38	Property line	34	3W, 3NW, 2W	34	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
15	NE 36-11-3W	Carleton	0	72	Property line and Roadside loop	70	3W, 3NW, 2W and 5W	46	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
16	NW 31-11-2W	Carleton	0	171	Property line and Roadside loop	167	2W	49	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
17	NE 1/4 of SE 19-11-2W	Carleton	0	157	Property line and pond	154	3W, 3NW and 2W	26	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
18	NW 19-11-2W	Carleton	0	180	Property line	178	3W, 3NW and 2W	24	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
19	SE 24-11-3W	Carleton	0	240	Property line	237	3W, 3NW and 2W	18	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
20	NW 25-11-3W	Carleton	0	240	Property line	237	3W, 3NW and 2W	30	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG

**Total Net Acreage for Manure Application: 3,261**

- A. \_\_\_\_\_
  - B. \_\_\_\_\_
  - C. \_\_\_\_\_
  - D. \_\_\_\_\_
  - E. \_\_\_\_\_
  - F. \_\_\_\_\_
  - G. \_\_\_\_\_
  - H. \_\_\_\_\_
  - I. \_\_\_\_\_
  - J. \_\_\_\_\_
- Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).  
 Identify the Rural Municipality in which the parcel is located.  
 Indicate how the land has been secured for manure application: O -- Own / C-Crown / L -- Lease / A -- Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).  
 Enter the total acreage for the parcel.  
 Enter setbacks from surface water or groundwater features that reduce the land available for manure application: include identification of type of feature (ex. 8m, Order 3 drain).  
 Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.  
 Enter the agriculture capability class and subclass ratings for the acreage available for manure application.  
 Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
- Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).  
 Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).

**MANURE APPLICATION FIELD CHARACTERISTICS TABLE**

Field	A Legal Description	B Rural Municipality	C O/C/L/A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	NW 7-11-2W	Carleton	O	172	Property line	170	3W, 3NW and 2W	11	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
2	NE 30-11-3W	Carleton	O	125	Property line	123	3W, 2W	13	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
3	NE 27-11-3W	Carleton	O	160	Property line and watercourse	150	2W	19	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
4	SW 36-11-3W	Carleton	O	153	Property line and Roseville Loop	150	3W, 2W and 5W	16	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
5	E1/2 25-11-3W	Carleton	O	285	Property line	281	3W, 2W	52	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
6	E1/2 13-11-3W	Carleton	O	300	Property line	296	3W, 3NW and 2W	7	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
7	S1/2-NE 7-11-2W	Carleton	O	460	Property line and TransCanada Hwy	456	3W, 3NW and 2W	12	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
8	NW 32-11-2W	Carleton	O	85	property line and watercourse	83	3W, 2W and 5W	8	BY-LAW NO. 1-2016: AG	BY-LAW NO. 1620-11: AG
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										
<b>Total Net Acreage for Manure Application:</b>						<b>1,717</b>				

- A. Enter the legal description for each parcel of land that will receive manure. Sec. Twp. Rge or River Lot (including parish).
- B. Identify the Rural Municipality in which the parcel is located.
- C. Indicate how the land has been secured for manure application: O – Own / C-Crown / L – Lease / A – Agreement. Multiple designations may be used as appropriate (ex. C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. Enter the total acreage for the parcel.
- E. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
- G. Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil testing laboratory.
- I. Indicate the Development Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008: AG).
- J. Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009: AG 80).



MANURE APPLICATION FIELD CHARACTERISTICS TABLE

Field	A Legal Description	B Rural Municipality	C O/C/L/A	D Total Acreage	E Setbacks, including features	F Net Acreage for Manure Application	G Agriculture Capability Class and Subclass	H Soil Phosphorus (ppm Olsen P) 0-6 inches	I Development Plan Designation	J Zoning
1	SE 36-11-3W	Carleton	0	89	Resubdivided near and property line	86	2W, 3W, 5W, 2I		BY-LAW NO. 1-2016, AG	BY-LAW NO. 1620-11, AG
2	S1/2 31-11-2W	Carleton	0	400	Resubdivided near and property line	398	2W		BY-LAW NO. 1-2016, AG	BY-LAW NO. 1620-11, AG
3	NE 31-11-2W	Carleton	0	115	Resubdivided near and property line	113	2W, 3W		BY-LAW NO. 1-2016, AG	BY-LAW NO. 1620-11, AG
4	S1/2 of SE 35-11-3W	Carleton	0	80	Property line	78	3W, 3NW and 2W		BY-LAW NO. 1-2016, AG	BY-LAW NO. 1620-11, AG
5	SE 19-11-2W	Carleton	0	50	Property line and pond	48	3W, 3NW		BY-LAW NO. 1-2016, AG	BY-LAW NO. 1620-11, AG
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20						721				

Alternate land available for manure application but not qualified by soil testing.

Total Net Acreage for Manure Application: 721

- A. Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. Identify the Rural Municipality in which the parcel is located.
- C. Indicate how the land has been secured for manure application: O - Own / C-Crown / L - Lease / A - Agreement Multiple designations may be used as appropriate (ex C/A for Crown lands that are under a spread agreement with the producer that holds the agricultural Crown land lease).
- D. Enter the total acreage for the parcel.
- E. Enter setbacks from surface water or groundwater features that reduce the land available for manure application; include identification of type of feature (ex. 8m, Order 3 drain).
- F. Enter the net acreage available for manure application for the parcel after taking into account setbacks and excluding Class 6, 7 and unimproved organic soils.
- G. Enter the agriculture capability class and subclass ratings for the acreage available for manure application.
- H. Provide soil test results for phosphorus in ppm Olsen P for soil samples taken at the 0-6 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
- I. Indicate the Development, Plan and its by-law number in addition to the map designation for each field (ex. By-law #1/2008, AG).
- J. Indicate the Zoning By-law and its by-law number in addition to the zoning for each field (ex. By-law 12/2009, AG 80)



**CROP ROTATION TABLE**

A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Barley	759	74	bu/acre	MASC data
Canola	898	47.05	bu/acre	MASC data
Soybeans	2144	43.8	bu/acre	MASC data
Red Wheat Spring	608	49.9	bu/acre	MASC data
Wheat-Winter	569	79.5	bu/acre	MASC data
Total Net Acreage for Manure Application	4,978			

- A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
- B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. The total of column B should add up to Total Net Acreage for Manure Application provided in the Manure Application Field Characteristic Table.
- C. Enter the historical yield average for each crop. Long-term yield averages can be determined using MASC data (<http://www.masc.mb.ca/masc.nsf/index.html?OpenPage>) or on-farm yield records. If on-farm yield records are used, please provide copies.
- D. Enter the units for the yields provided (e.g. bu/acre, tons/acre).
- E. Enter the source of the historical yield average provided.

“Certain Areas”:

The [Livestock Manure and Mortalities Management Regulation](#) requires the proponent demonstrate sufficient land is available, to the satisfaction of the director, in order to implement an appropriate manure management plan before Manitoba Sustainable Development will issue a permit for a manure storage facility or confined livestock area. Sufficient suitable land must be available for the manure nitrogen and phosphorus that will land applied.

“Certain Areas” are defined by the [Livestock Manure and Mortalities Management Regulation](#) (M.R. 42/98) as areas where the amount of phosphorus in the manure produced annually by livestock in an area of not less than 93.24 km<sup>2</sup> is greater than two times the annual crop removal rate of P<sub>2</sub>O<sub>5</sub> in that area.

In “certain areas” it is Manitoba Sustainable Development’s policy to consider a manure storage facility permit if the operation can demonstrate it has access to sufficient suitable land, within a reasonable distance<sup>10</sup>, to apply manure at a rate equivalent to one times the crop removal rate of phosphorus. In areas which are not considered to be “certain areas”, Manitoba Sustainable Development may consider a manure storage facility or confined area permit, subject to all applicable legislation, if the operation demonstrates it has access to sufficient suitable land to apply manure at a rate equivalent to two times the crop removal rate of phosphorus.

Currently the rural municipalities of Hanover and La Broquerie are considered to be “certain areas”. A livestock operation is considered to be located within a “certain area” if any part of the operation is located within the defined area. This may include, but not limited to, barn(s), confined livestock area(s), field storage location(s), manure storage facility(ies), and/or spread field(s).

Is the livestock operation located in “certain areas” (i.e. Hanover or La Broquerie)?

Yes

No

Land Base Requirement Calculation:

It is recommended that proponents use Manitoba Agriculture’s Land Base Calculator to calculate the minimum area required for manure application and contact Manitoba Agriculture at (204) 945-3869 in Winnipeg for assistance with the land base calculator prior to submitting their site assessments.

**Table 8-1: Land Base Requirements**

Total acres required for crop utilization of the manure N <sup>a</sup>	acres 254 (all other), 1708 (hog)
Total acres required for two times crop P <sub>2</sub> O <sub>5</sub> removal <sup>a</sup>	acres 467 (all other), 1991 (hog)
Total acres required for one times crop P <sub>2</sub> O <sub>5</sub> removal <sup>b,c</sup>	acres 934 (all other), 3983 (hog)

Total land required is 4,450 acres based on 3983 acres for hogs (1x) plus 467 acres for all other species (2x)

<sup>a</sup>All operations must demonstrate sufficient suitable land for crop N utilization and two times crop P<sub>2</sub>O<sub>5</sub>.

<sup>b</sup>Due to high livestock density and reduced land availability for manure application, all livestock operations proposed in “certain areas” (i.e. Hanover and La Broquerie) must demonstrate

sufficient suitable land to balance phosphorus over the long-term (one times crop  $P_2O_5$ ).

<sup>c</sup> Under the Hog Production Pilot Project, pig operations must also demonstrate enough land to balance phosphorus over the long-term (one times crop  $P_2O_5$ ).

*Crop Rotation Table attached*

*Manitoba Agriculture's Land Base Calculator attached*

### 8.9 Land Base Requirement Summary

By comparing the total suitable land available for manure application with the land required for manure application, state whether sufficient suitable land for manure application:

- has not been identified
- has been identified to meet nitrogen utilization
- has been identified for two times the crop removal rate of phosphorus
- has been identified for one times the crop removal rate of phosphorus (for pig operations and operations in "certain areas" [i.e. Hanover and La Broquerie])

### 8.10 Long-Term Environmental Sustainability

The Government of Manitoba has included phosphorus as a nutrient by which applications of manure, synthetic fertilizer and municipal waste sludge to agricultural lands may be limited.

Over the short-term for fields with low phosphorus, regulations allow manure to be applied to meet the nitrogen requirements of the crop. This often results in over-application of phosphorus and a build-up of phosphorus in soils. When soil test phosphorus levels reach 60 ppm Olsen P, manure application rates must consider how much phosphorus will be removed in the harvested portion of the crop. At 60 ppm, but less than 120 ppm Olsen P, the amount of phosphorus that can be applied cannot exceed twice (two times) what the crop can remove in order to slow the build-up of soil phosphorus. Once soil test phosphorus levels reach 120 ppm Olsen P, applications of phosphorus are restricted to no more than what the crop can remove (one times) in order to stop further soil test phosphorus build-up. At 180 ppm Olsen P, no additional phosphorus may be applied.


It should be noted that soil-test phosphorus levels of 60 ppm Olsen P or greater are agronomically very high and at these levels most crops will not benefit from additional phosphorus beyond starter phosphorus. As phosphorus levels build up in soils, the concentration of phosphorus in runoff to waterways increases.


Therefore, to remain environmentally sustainable over a long-term planning horizon of 25 years or more, phosphorus applications from applied manure and other nutrient sources such as commercial fertilizers must be balanced with crop removal to avoid further build-up in soils. Consequently, sufficient land must be available in relatively close proximity to the operation so that manure can be applied at no more than one times the crop removal rate.


## Manitoba Agriculture Food and Rural Development Land Base Calculator

### Colour Conventions:

 Farm specific data can be entered in the yellow cells of each tab. Where appropriate, default values have been provided but can be changed.

 Fixed data are provided in the grey cells of each tab.

 Calculated values are shown in the green cells of each tab.

 The land base requirements for nitrogen (N) and phosphorus (P2O5) are provided in the amber cells on tab 4.

### Data Entry and Tab Information:

Enter all of the livestock for your farm and associated data in the yellow cells under tabs 1a to 1e.

Enter all of the crop rotation data on tab 2. Long-term crop yield averages using MASc records are required for Provincial Technical Review Site Assessments.

Total nitrogen (N) and total phosphorus (P2O5) excreted by the livestock are summarized on tab 3.

Nutrient excretion, crop nutrient use and acres required for nitrogen (N) and phosphorus (P2O5) are summarized on tab 4.

### For assistance, contact:

Clay Sawka, Nutrient Management Specialist, MAFRD, (204) 750-3066

Petra Loro, Livestock Environment Specialist, MAFRD, (204) 945-3869

Last revised January 27, 2016

Type	Storage Type	Volatilization	Animal Numbers	Weight In (lb)	Weight Out (lb)	Average Animal Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles per Year	N Excreted Per Herd Adjusted for Storage N Loss (lb/yr/herd)	P205 Excreted per Herd Per Year (lb/yr/herd)
Lactating Cows	Liquid Uncovered Earthen	30%	40	1400	1440	1400	365	1	9859	5281
Dry Cows	Liquid Uncovered Earthen	30%	5	1440	1440	1440	365	1	645	258
Calves, 0-3 months	Liquid Uncovered Earthen	30%	4	90	275	183	365	1	15	22
Calves, 4-13 months	Liquid Uncovered Earthen	30%	6	275	810	543	365	1	329	180
Replacements, >13 months	Liquid Uncovered Earthen	30%	3	810	1250	1030	365	1	248	119
Mature Cows, plus associated livestock	Liquid Uncovered Earthen	30%	0	n/a	n/a	n/a	n/a	n/a	0	0

Last revised August 20, 2014

Species / Commodity	Type of Operation	Storage Type	Volatilization	Bird Places	Weight In (lb)	Weight Out (lb)	Average Weight (lb)	Days on Feed	Cycles per Year	N Excreted Adjusted for N Losses (lb/flock/yr)	P2O5 Excreted (lb/flock/yr)
Chickens	Broilers	Field Storage	40%	0	0.05	4.36	2.20	33	7.4	0	0
Chickens	Broiler Breeder Pullets	Field Storage	40%	0	0.05	4.40	2.23	140	2	0	0
Chickens	Broiler Breeder Hens	Field Storage	40%	0	4.40	8.67	8.53	272	1	0	0
Eggs	Layer Pullets	Liquid Uncovered Earthen	30%	5000	0.05	3.04	1.54	133	2	1898	1861
Eggs	Layer Hens	Liquid Uncovered Earthen	30%	14000	3.03	3.74	3.38	355	1	13293	13145
Eggs	Breeder Pullets	Liquid Covered	10%	0	0.05	3.04	1.54	133	2	0	0
Eggs	Breeder Hens	Liquid Covered	10%	0	3.03	3.74	3.38	351	1	0	0
Turkey	Broiler Hens (0-9 wks)	Field Storage	40%	0	0.06	12.59	8.22	83	4	0	0
Turkey	Hens (0-11 wks)	Field Storage	40%	0	0.06	16.48	8.26	77	3.5	0	0
Turkey	Heavy Hens (0-14 wks)	Liquid Uncovered Earthen	30%	10000	0.06	21.19	10.02	88	3	15741	14304
Turkey	Light Toms (0-12 wks)	Field Storage	40%	0	0.06	21.19	10.82	84	3	0	0
Turkey	Toms (0-13 wks)	Field Storage	40%	0	0.06	26.84	13.45	91	3	0	0
Turkey	Heavy Toms (0-15 wks)	Field Storage	40%	0	0.06	30.29	15.18	105	2.5	0	0
Turkey	Breeding Hen Growers (0-30 wks)	Field Storage	40%	0	0.06	26.95	13.51	210	1	0	0
Turkey	Breeding Hens (30-60 wks)	Field Storage	40%	0	26.95	24.65	25.95	210	1	0	0
Turkey	Breeding Tom Grower (0-18 wks)	Field Storage	40%	0	0.06	33.92	16.99	126	2	0	0
Turkey	Breeding Tom Grower (0-30 wks)	Field Storage	40%	0	0.06	50.89	25.47	210	1	0	0
Turkey	Breeding Tom (30-60 wks)	Field Storage	40%	0	50.89	61.86	58.38	210	1	0	0

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N	Units				P2O5 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu	74	bu/ac	759	23590	54481	78071
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	47.05	bu/ac	898	43941	81544	134780
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton		tons/ac		-	-	-
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu	43.8	bu/ac	2144	78882	363421	488317
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	49.9	bu/ac	608	17900	45509	64016
Wheat - Winter	0.51	1.04	1.35	lb/bu	79.8	bu/ac	569	23157	47222	61298
<b>Sub Total</b>							<b>4978</b>	<b>187470</b>	<b>592177</b>	<b>826483</b>
<b>Estimated Average Removal/Uptake (lb/ac)</b>								<b>37.7</b>	<b>119.0</b>	<b>166.0</b>
<b>Additional Acres</b>										
<b>Crop Planned on Additional Acres</b>										
<b>Total Acreage</b>							<b>4978</b>			

**Note:** Additional acres include acres for which crop removal or soil data is limited or unavailable.

Last revised August 20, 2014

Species	Animal Category/Operation type	N	P205
		(lb/year)	(lb/year)
Pigs	Gestating Sow	0	0
	Nursing Sow	0	0
	Nursing Litter	0	0
	Live Cull Sows	0	0
	Bred Gilts	0	0
	Gilts	0	0
	Boars	0	0
	Weanlings	0	0
	Growers/finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	0	0
Beef	Mature Cows (>2 years old)	0	0
	Bred Heifer (14 mo - 2 years)	0	0
	Replacement Heifers (7 mo-14 mo)	0	0
	Unweaned Calves (0-7 mo)	0	0
	Bulls	0	0
	Mature Cows and Bred Heifers, plus associated livestock	0	0
	Feedlot Cattle - long keep	0	0
	Feedlot Cattle - short keep	0	0
	Backgrounders - pasture	0	0
	Backgrounders - confined	0	0
Dairy	Lactating cow	9859	5281
	Dry cow	645	258
	Calf, 0-3 months	15	22
	Calf, 4-13 months	329	180
	Replacements, >13 months	248	119
	Mature Cows, plus assoc livestock	0	0
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	1896	1861
	Layer Hens	13393	13145
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	15741	14304
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
Breeding Tom (30-60 wks)	0	0	
<b>Total</b>		<b>42127</b>	<b>35169</b>

**Note:**

Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.



<b>Nutrients Excreted</b>		<b>lbs</b>
Nitrogen		42127
P2O5		35169
<b>Crop Nutrient Use</b>		<b>lb/ac</b>
Nitrogen Uptake		166.0
P2O5 Removal		37.7
<b>Land Base Requirements</b>		<b>acres</b>
Acres for Nitrogen Uptake		254
Acres for 2 x P2O5 Removal		467
Acres for 1 x P2O5 Removal		934

Summary For Non-Hog Species

## Manitoba Agriculture Food and Rural Development Land Base Calculator

### Colour Conventions:

-  Farm specific data can be entered in the yellow cells of each tab. Where appropriate, default values have been provided but can be changed.
-  Fixed data are provided in the grey cells of each tab.
-  Calculated values are shown in the green cells of each tab.

**The land base requirements for nitrogen (N) and phosphorus (P2O5) are provided in the amber cells on tab 4.**

### Data Entry and Tab Information:

- Enter all of the livestock for your farm and associated data in the yellow cells under tabs 1a to 1e.
- Enter all of the crop rotation data on tab 2. Long-term crop yield averages using MASc records are required for Provincial Technical Review Site Assessments.
- Total nitrogen (N) and total phosphorus (P2O5) excreted by the livestock are summarized on tab 3.
- Nutrient excretion, crop nutrient use and acres required for nitrogen (N) and phosphorus (P2O5) are summarized on tab 4.

### For assistance, contact:

Clay Sawka, Nutrient Management Specialist, MAFRD, (204) 750-3066  
Petra Loro, Livestock Environment Specialist, MAFRD, (204) 945-3869

Last revised January 27, 2016

Pig/Operation Type	Storage Type	Ventilation	Animal Numbers (Places)	Weight In (lb)	Weight Out (lb)	Average Annual Wt (lb)	Days on Feed per Cycle (days)	Number of Cycles for the Place per Year (days)	Feed Consumed Per Pig Per Day (kg/day)	Protein %	N Excreted Per Herd Adjusted for Storage (lb/head)	Phosphorus Content of Feed (DM) %	P2O5 Excreted Per Herd Per Year (lb/head)
Gestating Sow	Liquid Uncovered Earth	30%	447	630	539	121	3	15.2	2.3	14%	0	0.33%	0
Nursing Sow	Liquid Uncovered Earth	30%	539	539	539	21	15.2	15.2	6.5	20%	0	0.63%	0
Nursing Litter	Liquid Uncovered Earth	30%	3.1	13.6	8	31	15.2	15.2	0	n/a	0	n/a	0
Live Cull Sow	Liquid Uncovered Earth	30%	630	630	630	14	28.1	28.1	2.3	14%	0	0.46%	0
Bred Cull	Liquid Uncovered Earth	30%	340	447	394	121	3	3	2.3	14%	0	0.53%	0
Culls (Purchased)	Liquid Uncovered Earth	30%	290	340	315	28	13.0	13.0	3.2	16%	0	0.46%	0
Boars (Purchased)	Liquid Uncovered Earth	30%	270	660	465	365	1	1	2.5	14%	0	0.46%	0
Weanlets	Liquid Uncovered Earth	30%	13.6	61.6	38	52	6.9	6.9	0.7	20%	0	6.64%	0
Growth Finishers	Liquid Uncovered Earth	30%	61.6	280	171	112	3	3	2.8	16%	0	0.46%	0
Sows, farrow to 6.2 kg	Liquid Uncovered Earth	30%	n/a	n/a	n/a	365	1	1	n/a	n/a	0	n/a	0
Sows, farrow to 23 kg	Liquid Uncovered Earth	30%	n/a	n/a	n/a	365	1	1	n/a	n/a	0	n/a	0
Sows, farrow to finish	Liquid Uncovered Earth	30%	1000	n/a	n/a	365	1	1	n/a	n/a	25322	n/a	14686

Last Revised April 13, 2016

Crop	Removal		Uptake		Yield	Units	Acreage	Removal		Uptake
	P2O5	N	N	Units				P2O5 (lb)	N (lb)	N (lb)
Alfalfa	13.8	58	58	lb/ton		ton/ac		-	-	-
Barley Grain	0.42	0.97	1.39	lb/bu	74	bu/ac	759	23590	54481	78071
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-	-	-
Canola	1.04	1.93	3.19	lb/bu	47.05	bu/ac	898	43941	81544	134780
Corn Grain	0.44	0.97	1.53	lb/bu		bu/ac		-	-	-
Corn Silage	12.7	31.2	31.2	lb/ton		tons/ac		-	-	-
Dry Edible Beans	1.39	4.17		lb/cwt		cwt/ac		-	-	-
Fababeans	1.79	5.02	8.4	lb/cwt		cwt/ac		-	-	-
Flax	0.65	2.13	2.88	lb/bu		bu/ac		-	-	-
Grass Hay	10	34.2	34.2	lb/ton		tons/ac		-	-	-
Lentils	1.03	3.39	5.08	lb/cwt		cwt/ac		-	-	-
Oats	0.26	0.62	1.07	lb/bu		bu/ac		-	-	-
Pasture (grazed)	10	34.2	34.2	lb/ton	0.5	ton/ac		-	-	-
Peas	0.69	2.34	3.06	lb/bu		bu/ac		-	-	-
Potatoes	0.09	0.32	0.57	lb/cwt		cwt/ac		-	-	-
Rye	0.45	1.06	1.67	lb/bu		bu/ac		-	-	-
Soybeans	0.84	3.87	5.2	lb/bu	43.8	bu/ac	2144	78882	363421	488317
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-	-	-
Wheat - Spring	0.59	1.5	2.11	lb/bu	49.9	bu/ac	608	17900	45509	64016
Wheat - Winter	0.51	1.04	1.35	lb/bu	79.8	bu/ac	569	23157	47222	61298
<b>Sub Total</b>							<b>4978</b>	<b>187470</b>	<b>592177</b>	<b>826483</b>
<b>Estimated Average Removal/Uptake (lb/ac)</b>								<b>37.7</b>	<b>119.0</b>	<b>166.0</b>
<b>Additional Acres</b>										
<b>Crop Planned on Additional Acres</b>										
<b>Total Acreage</b>							<b>4978</b>			

**Note:** Additional acres include acres for which crop removal or soil data is limited or unavailable.

Last revised August 20, 2014

Species	Animal Category/Operation type	N (lb/year)	P205 (lb/year)
Pigs	Gestating Sow	0	0
	Nursing Sow	0	0
	Nursing Litter	0	0
	Live Cull Sows	0	0
	Bred Gilts	0	0
	Gilts	0	0
	Boars	0	0
	Weanlings	0	0
	Growers/finishers	0	0
	Sows, farrow to 5 kg	0	0
	Sows, farrow to 23 kg	0	0
	Sows, farrow to finish	283622	149986
	Beef	Mature Cows (>2 years old)	0
Bred Heifer (14 mo - 2 years)		0	0
Replacement Heifers (7 mo-14 mo)		0	0
Unweaned Calves (0-7 mo)		0	0
Bulls		0	0
Mature Cows and Bred Heifers, plus associated livestock		0	0
Feedlot Cattle - long keep		0	0
Feedlot Cattle - short keep		0	0
Backgrounders - pasture		0	0
Backgrounders - confined		0	0
Dairy		Lactating cow	0
	Dry cow	0	0
	Calf, 0-3 months	0	0
	Calf, 4-13 months	0	0
	Replacements, >13 months	0	0
	Mature Cows, plus assoc livestock	0	0
Sheep	Ewes	0	0
	Replacement Ewes	0	0
	Rams	0	0
	Lambs	0	0
	Ewes, plus assoc livestock	0	0
	Feeder	0	0
Chickens	Broilers	0	0
	Broiler Breeder Pullets	0	0
	Broiler Breeder Hens	0	0
Layers	Layer Pullets	0	0
	Layer Hens	0	0
	Breeder Pullets	0	0
	Breeder Hens	0	0
Turkeys	Broiler Hens (0-9 wks)	0	0
	Hens (0-11 wks)	0	0
	Heavy Hens (0-14 wks)	0	0
	Light Toms (0-12 wks)	0	0
	Toms (0-13 wks)	0	0
	Heavy Toms (0-15 wks)	0	0
	Breeding Hen Growers (0-30 wks)	0	0
	Breeding Hens (30-60 wks)	0	0
	Breeding Tom Grower (0-18 wks)	0	0
	Breeding Tom Grower (0-30 wks)	0	0
	Breeding Tom (30-60 wks)	0	0
<b>Total</b>		<b>283622</b>	<b>149986</b>

**Note:** Be sure all livestock species on your farm are represented in this table, not just the livestock in the proposed expansion.

<b>Nutrients Excreted</b>	<b>lbs</b>
Nitrogen	283622
P2O5	149986
<b>Crop Nutrient Use</b>	<b>lb/ac</b>
Nitrogen Uptake	166.0
P2O5 Removal	37.7
<b>Land Base Requirements</b>	<b>acres</b>
Acres for Nitrogen Uptake	1708
Acres for 2 x P2O5 Removal	1991
Acres for 1 x P2O5 Removal	3983

Summary For Hogs Only

I acknowledge that up to 4917 acres (one times crop P<sub>2</sub>O<sub>5</sub> removal from table above) may be required for the long term environmental sustainability of the operation.

## 9.0 Mortalities (Dead Animal) Disposal

The [Livestock Manure and Mortalities Management Regulation](#) establishes requirements for the use, management and storage of livestock mortalities in agricultural operations. This helps ensure livestock mortalities are handled in an environmentally sound manner. Winter application, between November 10 of one year and April 10 of the following, of composted mortalities is prohibited.

Type of Disposal:

Rendering

Composting

Burial

Incineration (in approved incinerator only)

Does the proposal include a permanent site for composting mortalities?

Yes

No

If yes, a permit to construct a manure treatment facility is required if the composting process utilizes a substantial amount of manure (>15% by weight) as a primary substrate. Please contact Manitoba Sustainable Development at (204) 945-5081 for more information.

### 9.1 Mass Mortalities

A plan for mass mortalities is in place

What steps will be taken in the case of mass mortalities?

Previously (15 years back), there was incidence of mass mortalities in the agricultural operation.

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In this case, burial site SE of lagoon was utilized for mass mortalities. It is planned to use similar means in the future. Manitoba Sustainable Development will be contacted in the event of a future incident.

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## 10.0 Project Site Description: Land Use Planning Considerations

For assistance contact your [Community and Regional Planning Regional Office](#).

### 10.1 Development Plan and Zoning Bylaw



The Planning District or Municipal Development Plan and Zoning By-law adopted under [The Planning Act](#), set policy and regulations for the use and development of land. A proposed livestock operation must comply with the requirements of both documents. In the absence of such documents, the [Provincial Planning Regulation](#) under [The Planning Act](#) applies.

### 10.2 Development Plan

Every Development Plan must contain a livestock operation policy (LOP) that identifies areas where new or expanded livestock operations may be allowed. It must also set general standards for the location and setback of livestock operations. Identifying the Development Plan's land use designation and policies (for the planning district or municipality that affect the site) will help confirm the project site's compliance. The Development Plan designations for the spread fields (if something other than agricultural) will indicate the potential loss of the fields in the future due to possible development.

**Table 10-1: Development Plan**

<b>Name of Planning District</b>	White Horse Plains Planning District
<b>Development Plan by-law number</b>	1-2016
<b>Land use designation of project site</b>	Rural General Policy Area
<b>Livestock operation policies – quote supportive policy numbers</b>	3.1.18
<b>Other Development Plan policies – quote supportive policy numbers</b>	1.3.2 Goal 2, 3.1.8, 3.1.9
<b>Non-supportive Development Plan policies</b>	3.1.21 Variance required for minimum mutual separation distances

-  The Development Plan livestock operation policies support the size and location of the proposed operation.
-  The Development Plan designations support the long term use of the proposed spread fields.



### 10.3 Zoning By-law

Identifying the zoning for the project site, the proposed spread fields and the related zoning provisions, helps determine the project's compliance and the minimum separation distances needed between the operation and property boundaries and other natural features and land uses. The Zoning By-law contains specific regulations that govern location and setback of livestock operations.

Identify the minimum project site requirements stated in the Zoning By-law.

**Table 10-2: Zoning By-law**

	Project Site Dimensions	Minimum Zoning By-Law Site Requirements
<b>Minimum Site Area</b>	620 acres	80 acres
<b>Minimum Site Width</b>	5,280 ft	600 ft
<b>Minimum Front Yard</b>	620 ft	125 ft
<b>Minimum Side and Rear Yard</b>	888 ft and 4,157 ft	50 ft

If any project (front, side or rear) yard site dimensions are less than the Zoning By-law minimum, a Variation Order from the Municipality will be required.

### 10.4 Separation Distances (Zoning By-law or Provincial Planning Regulation)<sup>11</sup>

Using the proposed size of the operation (see [Animal Units Calculator](#)) and the type of animal housing and manure storage facility, complete the following table.

Indicate the distance from:

- A. earthen manure storage facility *OR* B. feedlot and
- C. animal confinement facility *OR* D. non-earthen manure storage facility...

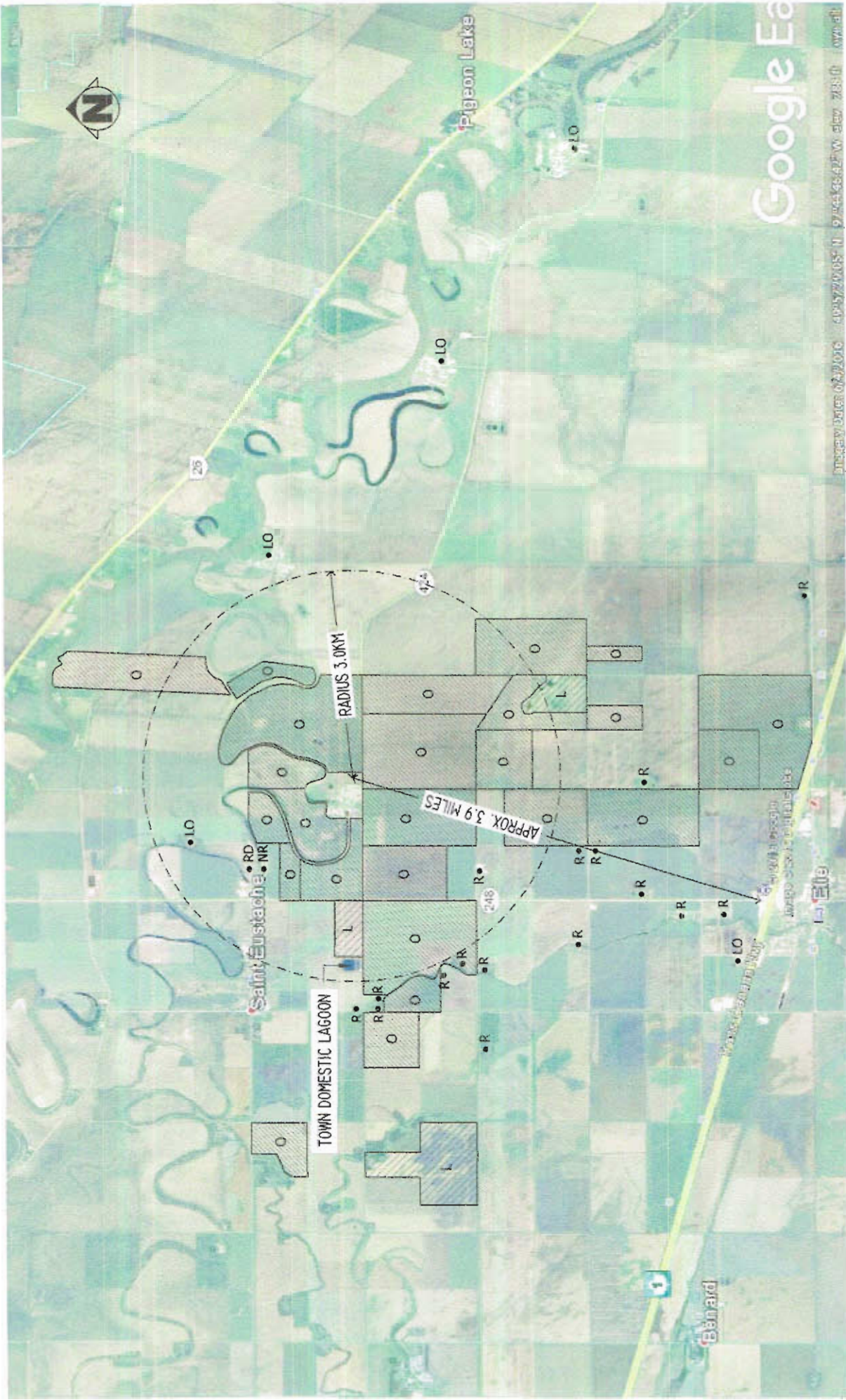
**Table 10-3: Separation Distances**

...to the following land use features (if applicable)	Indicate minimum separation distance required in the Zoning By-law or Provincial Planning Regulation (If applicable)  Check appropriate box(es)		If land use feature is less than the minimum separation distance required in the Zoning By-law or Provincial Planning Regulation	
	<input checked="" type="checkbox"/> A <input type="checkbox"/> B	<input checked="" type="checkbox"/> C <input type="checkbox"/> D	Provide actual distance	Provide location or name of feature (e.g. Red River)
Residence/dwelling	2,264 ft	1,132 ft	5,677 ft	NW 36-11-3W; Rural residence
<u>Designated area</u> <sup>12</sup> (non-agricultural)	9,055 ft	6,037 ft	5,924 ft	North portion of NW 36-11-3W sub-division
Livestock operation	N/A	N/A	5,676 ft	Iberville Colony located in RL-0013-BP
Other significant features/land uses				

In cases where minimum separation distances are not stated in the Zoning By-law or Development Plan, the minimum separation distances in the Provincial Planning Regulation apply. If any separation distance is less than the Zoning By-law minimum, a Variation Order will be required from the Municipality.

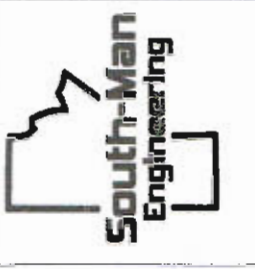
Indicate on a Land Use and Spread Field Map (See [Land Use and Spread Field Map Example](#)<sup>13</sup>):

- a) location of the project site, location and ownership of spread fields
- b) land uses and significant features including dwellings
  - i) within a 1 mile radius of the project site
  - ii) within and adjacent to each spread field.



**LEGEND:**

- LO - LIVESTOCK OPERATIONS
- O - SPREAD FIELDS (OWNED)
- L - LEASED/AGREEMENT
- R - RESIDENCE
- NR - NEAREST NEIGHBOR (5.677')
- 3KM NOTIFICATION AREA
- FOR THE PUBLIC CONDITIONAL USE HEARING
- RD - RESIDENTIAL DEVELOPMENT



PROJECT NAME:	ROSEDALE COLONY SOW BARN	DRAWING AREA:	N/A
SHEET TITLE:	LAND USE & SPREAD FIELD MAP SW 31-11-2W	DRAWN BY:	R. FLORES SOUTH-MAN ENGINEERING
DATE DRAWN:	FEBRUARY 2017	DRAWING SCALE:	N.T.S.
THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.		SHEET NUMBER:	SP-2

### 10.5 Buffer Area from Crown Lands

Indicate in the table below if the proposed livestock operation (project site and spread fields) is located **within 1 mile** of any designated parcel of Crown land which would include: Provincial Park, Wildlife Management Area, Ecological Reserve, Provincial Forest, and Wildlife Refuge/Sanctuary. If applicable, also indicate the name of the Designated Crown Land.

Please complete the following table.

*Table 10-4: Buffer Areas*

Type of Designated Crown Land	Distance from perimeter of Designated Crown Land	Name of Designated Crown Land (e.g. Spruce Woods Provincial Park)
Provincial Park	<input type="checkbox"/> 1 mile or less	Beaudry Provincial Park
	<input checked="" type="checkbox"/> Greater than 1 mile	
Wildlife Management Area	<input type="checkbox"/> 1 mile or less	N/A
	<input checked="" type="checkbox"/> Greater than 1 mile	
Ecological Reserve	<input type="checkbox"/> 1 mile or less	N/A
	<input checked="" type="checkbox"/> Greater than 1 mile	
Provincial Forest	<input type="checkbox"/> 1 mile or less	N/A
	<input checked="" type="checkbox"/> Greater than 1 mile	
Wildlife Refuge/Sanctuary	<input type="checkbox"/> 1 mile or less	N/A
	<input checked="" type="checkbox"/> Greater than 1 mile	

If any Crown land parcel is to be utilized as part of the proposed planned works where the proposed works will involve the installation of infrastructure (e.g., pipe/hose) that will be placed on the surface of the land, the appropriate Crown land disposition may be required (e.g., General Permit/Work Permit<sup>24</sup>). The proponent is encouraged to contact the Regional Lands Manager with Manitoba Sustainable Development for further discussion. Contact the Crown Lands and Property Agency at <http://clp.gov.mb.ca> or toll free at 1-866-210-9589 or 1-204-239-3510.

### 10.6 Setback Distances

Use the following table to indicate setback distances, as required under the [Livestock Manure and Mortalities Management Regulation \(M.R. 42/98\)](#).

*Table 10-5: Setback Distances*

Feature	Structures	Minimum setback distance required (m)	Actual Setback distance (m)	Provide location or name of feature (e.g. Red River)
Surface watercourses, sinkholes, spring or well	Manure storage facility	100 m	170 m	Rosedale Loop
	Field storage	100 m	100 m	Property line
	Composting site	100 m	168 m	Rosedale Loop
	Confined livestock area	100 m	244 m	Rosedale Loop
Property Line	Manure storage facility	100 m	68 m	E property line
	Composting site	100 m	367 m	E property line
	Confined livestock area	100 m	71 m	E property line

If any setback distances have not been met, please provide explanation below:

The properties adjacent to the manure storage facility and confined livestock area are owned by the proponent.

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## 11.0 Truck Haul Routes and Access Points<sup>15</sup>

One consideration with new or expanding livestock operations is the potential impact on existing public roads (municipal and provincial), access and the need for improvements or mitigation. Complete the following table.

*Table 11-1: Truck Haul Routes and Access Points*

Vehicle Type	Estimated Average Number of Times per Day Accessing		Access from PTH/PR onto site will mainly require a Left or Right Hand Turn Please check one				Access onto PTH/PR from site will mainly require a Left or Right Hand Turn Please check one				
	Provincial Trunk Highway (PTH)	Provincial Road (PR)	Provincial Trunk Highway (PTH)		Provincial Road (PR)		Provincial Trunk Highway (PTH)		Provincial Road (PR)		
			LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	
Truck		2			X						X
Tractor Trailer		0.5			X						X
Other, specify											

Identify what roads and access points will be used for the proposed operation? (See [Truck Haul Routes and Access Points Map](#) for an example).

*Truck Haul Routes and Access Point Map attached*

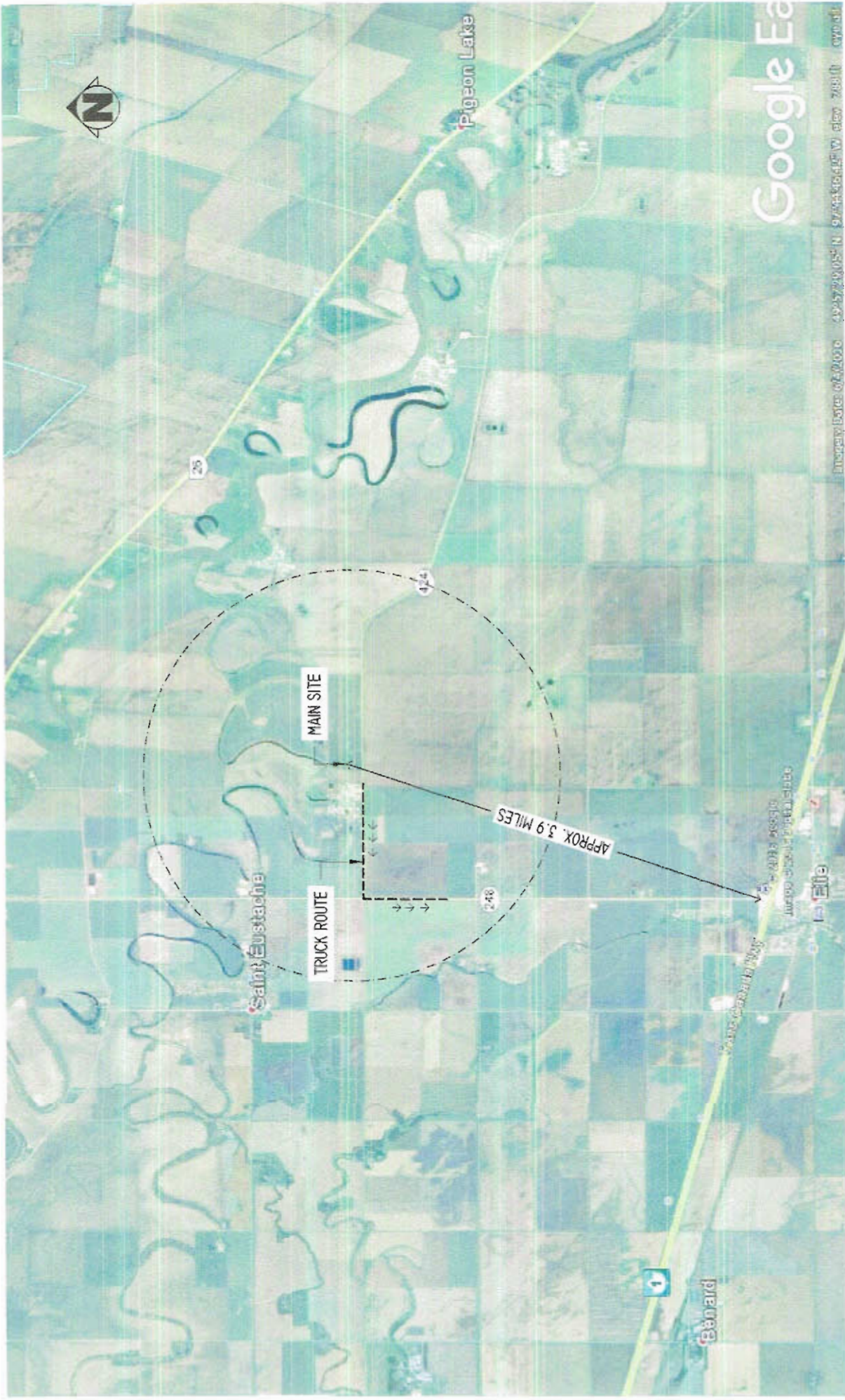
## 12.0 Conservation Data Centre Report

A Conservation Data Centre Report must be requested and the response attached to this site assessment. The request may be submitted electronically at: [www.gov.mb.ca/conservation/cdc](http://www.gov.mb.ca/conservation/cdc).

Were rare species identified in the Conservation Data Centre Report?

Yes

No



Energy Data: 62.4036 -49.572905 N 97.544645 W also 2880 0000

PROJECT NAME	ROSEDALE COLONY SOW BARN	DATE DRAWN	FEBRUARY 2017
SHEET TITLE	TRUCK HAUL ROUTE SW 31-11-2W	DATE PLOTTED	N.T.S.
DATE DRAWN	FEBRUARY 2017	DATE PLOTTED	N.T.S.
PROJECT NO.	N/A	DRAWN BY	R. FLORES SOUTH-MAN ENGINEERING
		SHEET NUMBER	SP-3
<small>THIS DRAWING IS THE PROPERTY OF SOUTH-MAN ENGINEERING, WINNIPEG, MANITOBA, CANADA.</small>			

## Rosedale Colony - Hog Barn Development

1 message

Friesen, Chris (SD) <Chris.Friesen@gov.mb.ca>

Wed, Mar 1, 2017 at 1:07 PM

To: "desalegn.southmaneng@gmail.com" <desalegn.southmaneng@gmail.com>

Desalegn

Thank you for your information request. I completed a search of the Manitoba Conservation Data Centre's rare species database and found no occurrences at this time for your area of interest.

The information provided in this letter is based on existing data known to the Manitoba Conservation Data Centre at the time of the request. These data are dependent on the research and observations of CDC staff and others who have shared their data, and reflect our current state of knowledge. An absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present; in many areas, comprehensive surveys have never been completed. Therefore, this information should be regarded neither as a final statement on the occurrence of any species of concern, nor as a substitute for on-site surveys for species as part of environmental assessments.

Because the Manitoba CDC's Biotics database is continually updated and because information requests are evaluated by type of action, any given response is only appropriate for its respective request. Please contact the Manitoba CDC for an update on this natural heritage information if more than six months pass before it is utilized.

Third party requests for products wholly or partially derived from Biotics must be approved by the Manitoba CDC before information is released. Once approved, the primary user will identify the Manitoba CDC as data contributors on any map or publication using Biotics data, as follows as: Data developed by the Manitoba Conservation Data Centre; Wildlife & Fisheries Branch, Manitoba Sustainable Development.

This letter is for information purposes only - it does not constitute consent or approval of the proposed project or activity, nor does it negate the need for any permits or approvals required by the Province of Manitoba.

We would be interested in receiving a copy of the results of any field surveys that you may undertake, to update our database with the most current knowledge of the area.

If you have any questions or require further information please contact me directly at [\(204\) 945-7747](tel:204-945-7747).

Chris Friesen  
Coordinator  
Manitoba Conservation Data Centre  
[204-945-7747](tel:204-945-7747)  
[chris.friesen@gov.mb.ca](mailto:chris.friesen@gov.mb.ca)  
<http://www.manitoba.ca/conservation/cdc/>

-----Original Message-----

From:  
Sent: February-22-17 1:12 PM  
To: Friesen, Chris (SD)  
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by WWW Information Request () on



Wednesday, February 22, 2017 at 13:11:31

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DocumentID: Manitoba\_Conservation

Project Title: Rosedale Colony - Hog Barn Development

Date Needed: 2017/03/03

Name: Desalegn Edossa

Company/Organization: Soth-Man Engineering

Address: 15-1599 Dugald Rd

City: Winnig

Province/State: MB

Phone: (204) 668-9652

Fax: (204) 668-9204

Email: [desalegn.southmaneng@gmail.com](mailto:desalegn.southmaneng@gmail.com)

Project Description: The information will be used to determine the impacts on species by a proposed increase in herd capacity from 600 to 1000 sow farrow-finish. Although additional building area will be required to house the increased animal inventory, no modifications to the existing earthen manure storage will be required.

Information Requested: Would like to know if there are any species at risk or endangered in region that may be impacted by the livestock operation.

Format Requested: Microsoft Word Document, Email attachment

Location: SE 36-11-3W and SW 31-11-2W in the RM of Cartier.

action: Submit

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### 13.0 Supporting Documents

Check the supporting documents included in this submission:

- Contact Information and Privacy and Publication Notice
- Location Map (shows proposed project within rural municipality)
- Project Site Plan (proposed operation showing current and proposed structures)
- Animal Units Calculator
- Water Requirement Calculator
- Dairy Barn Water Requirement Estimator
- Manure Production Calculator
- Existing and Proposed Manure Storage Facility Dimension Tables (if applicable)
- Manure Treatment Supporting Documentation (if applicable)
- Manure Application Field Characteristics Table
- Crop Rotation Table
- Recent manure application field soil sample results (Olsen Phosphorus – ppm at 0-6 inch depth)
- Manitoba Agriculture Land Base Calculator
- Letter from the Manitoba Pork Council under the Hog Production Pilot Protocol (pigs only)
- Land Use and Spread Field Map (location and ownership of operation, location and distance to non-agricultural uses, development plan designation, zoning for project site and spread fields)
- Truck Haul Routes and Access Points Map (with routes and access points on municipal/provincial roads and/or provincial trunk highways)
- Response from the Conservation Data Centre
- Other, please specify:

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**14.0 Additional Information:**

Please include any additional information you deem necessarily in order for the Technical Review Committee to review your proposal.

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Due to the aging infrastructure of the existing hog operation, it is proposed to replace these existing buildings and at the same time increase the capacity from 600 sows Farrow to Finish

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to 1,000 sows Farrow to Finish. To facilitate the expansion, no modifications to the earthen manure storage will be required as the current capacity is sufficient to accommodate the new manure production. The proposed new buildings will be situated to increase the separation from the nearest residential development. However, as the separation distance of the manure storage from the designated residential area in NW 36-11-3W is less than the Zoning By-law minimum, a Variation Order will be required from the municipality. An existing finisher barn will remain at its current location until such time that its useful life has been expended. An addition to the proposed facility will then be constructed to replace it in the future. Sufficient land base has been identified for 1xP2O5 to ensure sustainability of the operation. Filing of an annual manure management plan will ensure monitoring of the sustainability. The existing Water Rights license will be expanded to facilitate the increase in additional consumption due to the increase in animal numbers.

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### 15.0 Declaration

I do hereby verify that the information contained in the Site Assessment, and all required Supporting Documents, are accurate and complete to my knowledge.

Date: 2017/03/13  
(YYYY/MMM/DD)

Name: Peter Grieger South-Man Engineering  
(Please Print Clearly)

Signature: 

Notes

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<sup>1</sup> Identifying the location of the project is needed to determine the compliance with zoning and other by-laws. The inclusion of a location map helps to identify the project site within the municipality.

<sup>2</sup> Indicating if the operation is new or expanding helps determine what regulation requirements are needed to be met for the proposal.

<sup>3</sup> The regulatory requirements such as municipal by-laws and provincial regulations will vary with type and size of a livestock operation.

<sup>4</sup> The regulatory requirements such as provincial regulations will vary with the type of housing.

<sup>5</sup> Confined livestock areas most commonly refer to outdoor, open livestock facilities such as beef feedlots or cow-calf operation facilities ("open confined livestock areas"). The LMMMR includes covered structures, open to the elements, used for the rearing of livestock that feature a floor design that constitutes an effective water barrier, such as concrete ("Covered Confined Livestock Areas"). For example biotech shelters for feeder pig production and hoop structures.

<sup>6</sup> The site plan is needed to ensure that required yard and other requirements can be met. Noting other features such as dwellings, shelterbelts, water source locations, drainage patterns, access points and the property dimensions enable the applicant to ensure proper site planning and sufficient separation distances between features to meet provincial regulations.

<sup>7</sup> The province regulates the use of surface and ground water. Identifying the source of water will be required for resource management and licensing purposes.

<sup>8</sup> A water well log is a report completed by the well driller after the construction of the well. Copies of the report are left with the well owner, the well drilling contractor and the Water Science and Management Branch of Manitoba Sustainable Development. Water well logs provide useful information on the geology of the well site and can be used to assess the potential vulnerability of the site to groundwater contamination.

<sup>9</sup> The Province regulates the use of surface and ground water. Identifying the amount of water needed will be required for resource management and licensing purposes.

<sup>10</sup> New or expanding livestock operations in certain areas must have access to additional lands suitable for the application of livestock manure located within a reasonable distance, in the opinion of the director of Manitoba Sustainable Development. Reasonable distance is considered to be within a 10 mile radius of the operation for liquid manure. If land is identified beyond the 10 mile radius, a producer must submit a plan to the director of Manitoba Sustainable Development for approval describing the action taken and proposed to be taken to achieve and maintain soil phosphorus levels below 60 ppm.

If a plan is required, the proponent may attach the acceptance letter from the director of Manitoba Sustainable Development in an appendix to the Site Assessment as supporting documentation, demonstrating compliance with section 12.2(1) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98). For more information, contact Manitoba Sustainable Development at (204) 945-4384.

<sup>11</sup> "Agricultural operations are a source of traffic, noise, dust and odours. One of the key elements to successful siting of a livestock operation is to observe appropriate separation distances between potentially conflicting land uses. This is particularly important for the effective dispersion and dilution of odours from pig production facilities. When deciding where to build a new livestock operation, it is best to choose a site with as few neighbours as possible."

Section 6.2 Setbacks and Other Steps to Avoid Conflicts - Farm Practice Guidelines for Pig Producers in MB (April 2007)

Identifying the distance to the nearest land use features such as a neighbouring agricultural operation or non-agricultural designated uses (such as residential or recreational designated areas in the Development Plan), sensitive areas such as wildlife management areas or critical habitat, individual dwellings and various water bodies and drains

enable the applicant to ensure that minimum separation distances are maintained between those various uses and the proposed animal confinement facility and manure storage facilities.

<sup>12</sup> Is an area identified on a Development Plan Map based on its current or future use?

<sup>13</sup> The mapping of the project site, neighbouring designated residential areas, individual residences and surface water features enables the applicant to describe the geographic setting and general suitability of the area for the project. This may also assist the applicant in determining appropriate setbacks for field storage of manure, composting manure, and composting mortalities. By identifying a 3-kilometer area around the project site, the applicant is made aware of all land owners that will be notified regarding the public Conditional Hearing that will take place as part of the review process.

<sup>14</sup> If undesignated Crown lands will be used for manure spreading purposes; including the laying of pipe, including draglines, or clearing activity, it will require the proponent to obtain a Crown Lands General Permit disposition that will authorize the use and access of the subject Crown Land(s).

Any clearing activity, related construction activity, or works associated with the manure spreading application will also require the appropriate permitting under applicable legislation (e.g., The Crown Lands Act, The Forestry Act etc. Please contact the Regional Lands Manager or Conservation Officer for additional information.

<sup>15</sup> Identifying truck haul routes and access points on municipal and Provincial Roads and/or Provincial Trunk Highways assists the province and municipality in planning and identifies any potential required access permits. The information also allows other stakeholders to determine potential impacts on existing roads and adjacent land uses.

# MMPP - Variety Yield Data Browser

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## MMPP Variety Yield Data Browser - (Query Help)

Save Raw Data | New Search

Summary | **Raw Data**

### Search Summary

Your selected search:

- Region(s) Selected: CARTER
- Crop(s) Selected: BARLEY
- Variety(s) Selected: COMLON
- Period Selected: 2006 to 2016

This search returned 11 records from the MASC database, summarized below:

Sum of Farm Varieties:	107 farms
Total Acres:	58,075 acres
Yield per Acre:	74.0 Bushels / acre (1.612 tonnes / acre)

View Raw Data

Save Raw Data | New Search

# MMPP - Variety Yield Data Browser

- Corporate
- Insurance
- Lending
- Other Programs

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## MMPP Variety Yield Data Browser - (Query Help)

Summary **Raw Data**

### Search Summary

Your selected search:

- Region(s) Selected: CARRIER
- Crop(s) Selected: WINTER WHEAT
- Variety(s) Selected: CDC FALCON
- Period Selected: 2006 to 2016

This search returned 11 records from the MASC database, summarized below:

Sum of Farm Varieties:	249 farms
Total Acres:	83,274 acres
Yield per Acre:	79.8 Bushels / acre (2,171 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Save Raw Data | New Search



# MMPP - Variety Yield Data Browser

- Corporate
- Lending
- Insurance
- Other Programs

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## MMPP Variety Yield Data Browser - (Query Help)

Summary | **Raw Data**

### Search Summary

Your selected search:

Region(s) Selected: CARTIER

Crop(s) Selected: SOYBEANS

Variety(s) Selected: 7H 2300SR2Y <THUNDER> (RT)

Period Selected: 2006 to 2016

This search returned 1 records from the MASC database, summarized below:

Sum of Farm Varieties:	3 farms
Total Acres:	1,300 acres
Yield per Acre:	42.2 Bushels / acre (1.147 tonnes / acre)

View Raw Data

Save Raw Data | New Search

# MMPP - Variety Yield Data Browser

- Corporate
- Insurance
- Lending
- Other Programs

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## MMPP Variety Yield Data Browser - (Query Help)

Summary **Raw Data**

### Search Summary

Your selected search:

- Region(s) Selected: CARTIER
- Crop(s) Selected: SOYBEANS
- Variety(s) Selected: 24-108R <DEKALB> (RT)
- Period Selected: 2005 to 2016

This search returned 5 records from the MASC database, summarized below:

Sum of Farm Varieties:	48 Farms
Total Acres:	11,644 acres
Yield per Acre:	45.4 Bushels / acre (1,237 tonnes / acre)

[View Raw Data](#)

[Save Raw Data](#) [New Search](#)

[Save Raw Data](#) [New Search](#)

# MMPP - Variety Yield Data Browser

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## MMPP Variety Yield Data Browser - (Query Help)

Summary **Raw Data**

### Search Summary

Your selected search:

Region(s) Selected: CAN/EN

Crop(s) Selected: ARGENTINE CANOLA

Variety(s) Selected: L1249 (INBAGOR) (LT)

Period Selected: 2005 to 2016

This search returned 2 records from the MASC database, summarized below:

Sum of Farm Varieties:	28 Farms
Total Acres:	7,438 acres
Yield per Acre:	47.7 Bushels / acre (1,082 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Save Raw Data | New Search

# MMPP - Variety Yield Data Browser

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## MMPP Variety Yield Data Browser - (Query Help)

Save Raw Data New Search

Summary Raw Data

### Search Summary

Your selected search:  
Region(s) Selected: CARTIER  
Crop(s) Selected: ARGENTINE CANOLA  
Variety(s) Selected: L252-01M5G08- (17)  
Period Selected: 2006 to 2016

This search returned 3 records from the MASG database, summarized below.

Sum of Farm Varieties:	70 farms
Total Acres:	20,157 acres
Yield per Acre:	46.4 Bushels / acre (1,052 tonnes / acre)

View Raw Data

Save Raw Data New Search

**MMPP Variety Yield Data Browser - (Query Help)**

[Save Raw Data](#) | [New Search](#)

[Summary](#) | [Raw Data](#)

**Search Summary**  
 Your selected search:  
 Region(s) Selected: CARTIER  
 Crop(s) Selected: RED SPRING WHEAT  
 Variety(s) Selected: All  
 Period Selected: 2006 to 2016

This search returned 96 records from the MASC database, summarized below:  
 Sum of Farm Varieties: 795 farms  
 Total Acres: 245,440 acres  
 Yield per Acre: 49.9 Bushels / acre (1,358 tonnes / acre)

[View Raw Data](#)

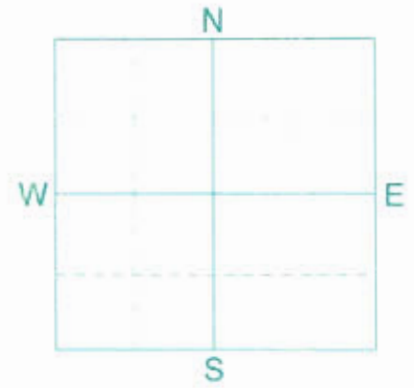
[Save Raw Data](#) | [New Search](#)



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### SOIL TEST REPORT

FIELD ID **3**  
 SAMPLE ID  
 FIELD NAME **North Riverlot**  
 COUNTY  
 TWP **00** RANGE **00**  
 SECTION **LP-020-BP** QTR **00** ACRES **110**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1601418** BOX # **0**  
 LAB # **NW91157**

Date Sampled

Date Received **09/30/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Mark Low Med High	Canola-bu							
			YIELD GOAL		YIELD GOAL		YIELD GOAL			
			55 BU							
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 6 lb/ac 6-24" 6 lb/ac	**	N	166	N		N			
Phosphorus	Olsen 16 ppm	.....	P <sub>2</sub> O <sub>5</sub>	25 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	321 ppm	.....	K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride		.....	Cl		Cl		Cl			
Sulfur	0-6" 12 lb/ac 6-24" 102 lb/ac	.....	S	17 Band	S		S			
Boron		.....	B		B		B			
Zinc	1.78 ppm	.....	Zn	0	Zn		Zn			
Iron		.....	Fe		Fe		Fe			
Manganese		.....	Mn		Mn		Mn			
Copper		.....	Cu		Cu		Cu			
Magnesium		.....	Mg		Mg		Mg			
Calcium		.....	Lime		Lime		Lime			
Sodium		.....								
Org.Matter	4.4 %	.....								
Carbonate(CCE)		.....								
Sol. Salts	0-6" 0.41 mmho/cm 6-24" 0.66 mmho/cm	.....	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
			0-6" 7.9							
			6-24" 8.2							

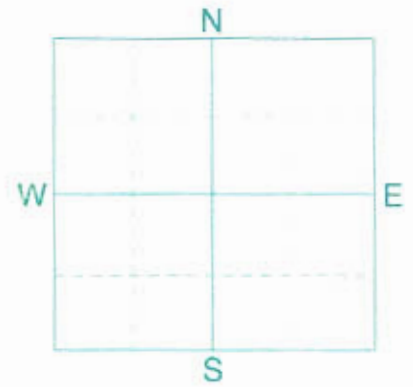
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **4**  
 SAMPLE ID  
 FIELD NAME **South Riverlot**  
 COUNTY  
 TWP **00** RANGE **00**  
 SECTION **LP-020- BP** QTR **00** ACRES **215**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1601405** BOX # **0**  
 LAB # **NW91156**

Date Sampled

Date Received **09/30/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		Low Med High									
Nitrate	0-6"	6 lb/ac	Soybeans								
	6-24"	6 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"	12 lb/ac	40 BU								
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	39 ppm	N	***	N		N				
Potassium		491 ppm	P <sub>2</sub> O <sub>5</sub>	10	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Chloride			K <sub>2</sub> O	0		K <sub>2</sub> O		K <sub>2</sub> O			
Sulfur	0-6"	24 lb/ac	Cl			Cl		Cl			
	6-24"	360 +lb/ac	S	5	Band (Trial)	S		S			
Boron			B			B		B			
Zinc		3.01 ppm	Zn	0		Zn		Zn			
Iron			Fe			Fe		Fe			
Manganese			Mn			Mn		Mn			
Copper			Cu			Cu		Cu			
Magnesium			Mg			Mg		Mg			
Sodium			Lime	0		Lime		Lime			
Org. Matter		6.9 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K	% Na	% H
	0-6"	0.73 mmho/cm	0-6"	6.8							
Sol. Salts	6-24"	1.54 mmho/cm	6-24"	7.8							

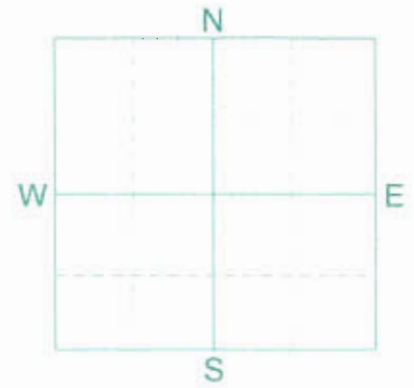
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID **5**  
 SAMPLE ID  
 FIELD NAME **Iberville Bush**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **32** QTR **NW** ACRES **85**  
 PREV. CROP **Wheat-Winter**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** ROH **0H0**

REF # **1599511** BOX # **0**  
 LAB # **NW51408**

Date Sampled

Date Received **08/21/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		Low Med High	Canola-bu					
	0-6" 6 lb/ac 6-24" 6 lb/ac	**	YIELD GOAL		YIELD GOAL		YIELD GOAL	
	0-24" 12 lb/ac		55 BU					
Nitrate			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
	Olsen 8 ppm	*****	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Phosphorus			N 181		N		N	
Potassium	227 ppm	*****	P <sub>2</sub> O <sub>5</sub> 47	Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>	
Chloride			K <sub>2</sub> O 0		K <sub>2</sub> O		K <sub>2</sub> O	
	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	Cl		Cl		Cl	
Sulfur			S 10	Band	S		S	
Boron			B		B		B	
Zinc	3.30 ppm	*****	Zn 0		Zn		Zn	
Iron			Fe		Fe		Fe	
Manganese			Mn		Mn		Mn	
Copper			Cu		Cu		Cu	
Magnesium			Mg		Mg		Mg	
Calcium			Lime		Lime		Lime	
Sodium								
Org.Matter	3.8 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
Carbonate(CCE)			Buffer pH				% Ca	% Mg
	0-6" 0.84 mmho/cm 6-24" 0.88 mmho/cm	*****					% K	% Na
Sol. Salts			0-6" 8.1 6-24" 8.3				% H	

Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

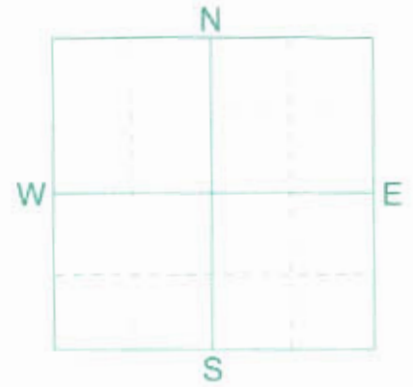




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### SOIL TEST REPORT

FIELD ID **6**  
 SAMPLE ID  
 FIELD NAME **West St Eustache**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **33** QTR **NE** ACRES **125**  
 PREV. CROP **Barley**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1599521** BOX # **0**  
 LAB # **NW52962**

Date Sampled

Date Received **08/24/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation <small>Very Low Low Med High</small>	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
				Soybeans							
			YIELD GOAL		YIELD GOAL		YIELD GOAL				
			40 BU								
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Nitrate	0-6" 10 lb/ac 6-24" 6 lb/ac	***	N	***	N		N				
Phosphorus	Olsen 13 ppm	*****	P <sub>2</sub> O <sub>5</sub>	24 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Potassium	320 ppm	*****	K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O				
Chloride			Cl		Cl		Cl				
Sulfur	0-6" 18 lb/ac 6-24" 42 lb/ac	*****	S	5 Band (Trial)	S		S				
Boron			B		B		B				
Zinc	4.70 ppm	*****	Zn	0	Zn		Zn				
Iron			Fe		Fe		Fe				
Manganese			Mn		Mn		Mn				
Copper			Cu		Cu		Cu				
Magnesium			Mg		Mg		Mg				
Calcium			Lime		Lime		Lime				
Sodium											
Org. Matter	6.2 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate (CCE)			Buffer pH				% Ca	% Mg	% K	% Na	% H
	0-6" 0.74 mmho/cm 6-24" 0.59 mmho/cm	*****	0-6" 7.2								
Sol. Salts			6-24" 8.2								

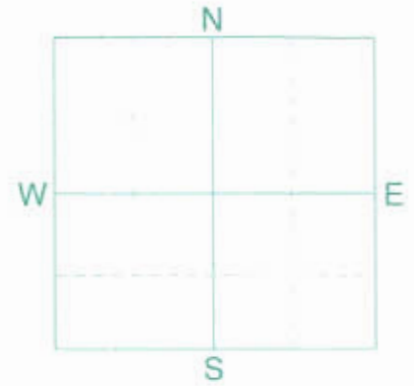
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 35 K<sub>2</sub>O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID 7  
 SAMPLE ID  
 FIELD NAME Oxen Bush  
 COUNTY  
 TWP 11 RANGE 3W  
 SECTION 36 QTR.NE ACRES 72  
 PREV. CROP Canola-bu



SUBMITTED FOR:  
 Rosedale Colony

SUBMITTED BY: TE1677  
 TERRACO-ELIE  
 HWY 1 ONE MILE WEST  
 BOX 433  
 ELIE, MB ROH 0H0

REF # 1601388 BOX # 0  
 LAB # NW57954

Date Sampled

Date Received 08/31/2016

Date Reported 2/8/2017

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Low Med High								
Nitrate	0-6"	26 lb/ac	Barley-Feed							
	6-24"	15 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL			
			100 BU							
	0-24"	41 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	46 ppm	N	134		N		N		
Potassium		390 ppm	P <sub>2</sub> O <sub>5</sub>	15	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		
Chloride			K <sub>2</sub> O	10	Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O		
Sulfur	0-6"	52 lb/ac	Cl			Cl		Cl		
	6-24"	156 lb/ac	S	0		S		S		
Boron			B			B		B		
Zinc		3.60 ppm	Zn	0		Zn		Zn		
Iron			Fe			Fe		Fe		
Manganese			Mn			Mn		Mn		
Copper			Cu			Cu		Cu		
Magnesium			Mg			Mg		Mg		
Calcium			Lime			Lime		Lime		
Sodium										
Org. Matter		4.8 %								
Carbonate(CCE)										
Sol. Salts	0-6"	0.68 mmho/cm	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24"	0.65 mmho/cm				% Ca	% Mg	% K	% Na	% H
			0-6"	7.4						
			6-24"	8.1						

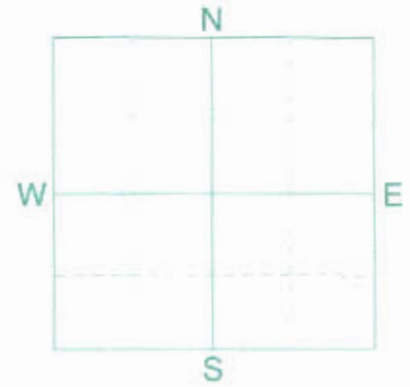
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P205 = 47 K20 = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **8**  
 SAMPLE ID  
 FIELD NAME **35 Acres**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **36** QTR **NW** ACRES **38**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601389** BOX # **0**  
 LAB # **NW57948**

Date Sampled

Date Received **08/31/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
Depth	Concentration		Element	Value	Element	Value	Element	Value	
Nitrate	0-6"	16 lb/ac	Barley-Feed						
	6-24"	15 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL		
	0-24"	31 lb/ac	100 BU						
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
Band			Band		Band		Band		
LB/ACRE			APPLICATION		LB/ACRE		APPLICATION		
Phosphorus	Olsen	34 ppm	N	144	N		N		
Potassium		379 ppm	P <sub>2</sub> O <sub>5</sub>	15	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		
				Band (Starter)*				Band (Starter)*	
Chloride			K <sub>2</sub> O	10	K <sub>2</sub> O		K <sub>2</sub> O		
				Band (Starter)*				Band (Starter)*	
Sulfur	0-6"	120 +lb/ac	Cl		Cl		Cl		
	6-24"	360 +lb/ac	S	0	S		S		
Boron			B		B		B		
Zinc		2.39 ppm	Zn	0	Zn		Zn		
Iron			Fe		Fe		Fe		
Manganese			Mn		Mn		Mn		
Copper			Cu		Cu		Cu		
Magnesium			Mg		Mg		Mg		
Calcium			Lime		Lime		Lime		
Sodium									
Org.Matter		5.7 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Carbonate(CCE)			Buffer pH		% Ca	% Mg	% K	% Na	% H
	0-6"	1.43 mmho/cm	0-6"	7.5					
	6-24"	2.64 mmho/cm	6-24"	7.9					
Sol. Salts									

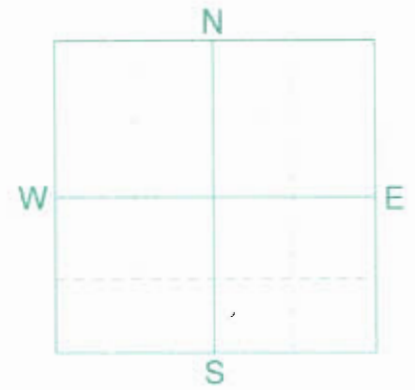
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 47 K2O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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## SOIL TEST REPORT

FIELD ID **9**  
 SAMPLE ID  
 FIELD NAME **North 424 & Hafel**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **36** QTR **SW** ACRES **153**  
 PREV. CROP **Barley**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OHO**

REF # **1599518** BOX # **0**  
 LAB # **NW51411**

Date Sampled

Date Received **08/21/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Low	Med	High									
Nitrate	0-6" 12 lb/ac					Soybeans							
	6-24" 12 lb/ac					YIELD GOAL		YIELD GOAL		YIELD GOAL			
		****				40 BU							
	0-24" 24 lb/ac					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Band							
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen 16 ppm				N ***		N		N				
Potassium	361 ppm				P <sub>2</sub> O <sub>5</sub> 19 Band *		P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Chloride					K <sub>2</sub> O 0		K <sub>2</sub> O		K <sub>2</sub> O				
	0-6" 22 lb/ac				Cl		Cl		Cl				
	6-24" 360 +lb/ac				S 5 Band (Trial)		S		S				
Sulfur					B		B		B				
Boron					Zn 0		Zn		Zn				
Zinc	1.93 ppm				Fe		Fe		Fe				
Iron					Mn		Mn		Mn				
Manganese					Cu		Cu		Cu				
Copper					Mg		Mg		Mg				
Magnesium					Lime		Lime		Lime				
Calcium													
Sodium													
Org. Matter	6.5 %												
Carbonate(CCE)													
	0-6" 0.64 mmho/cm				Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
	6-24" 6.85 mmho/cm								% Ca	% Mg	% K	% Na	% H
Sol. Salts					0-6" 7.6								
					6-24" 8.2								

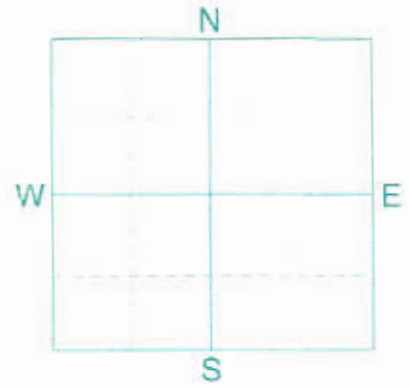
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 35 K<sub>2</sub>O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID **10 B**  
 SAMPLE ID  
 FIELD NAME **Locks**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **31** QTR **NW** ACRES **171**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1601387** BOX # **0**  
 LAB # **NW58810**

Date Sampled

Date Received **09/01/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation Low Med High	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
				Soybeans					
			YIELD GOAL		YIELD GOAL		YIELD GOAL		
			40 BU						
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
			Band						
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Nitrate	0-6" 62 lb/ac 6-24" 33 lb/ac		N	***	N		N		
Phosphorus	Olsen 49 ppm		P <sub>2</sub> O <sub>5</sub>	10	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>		
Potassium	372 ppm		K <sub>2</sub> O	0		K <sub>2</sub> O	K <sub>2</sub> O		
Chloride			Cl			Cl	Cl		
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac		S	0		S	S		
Boron			B			B	B		
Zinc	4.75 ppm		Zn	0		Zn	Zn		
Iron			Fe			Fe	Fe		
Manganese			Mn			Mn	Mn		
Copper			Cu			Cu	Cu		
Magnesium			Mg			Mg	Mg		
Calcium			Lime			Lime	Lime		
Sodium									
Org.Matter	6.5 %		Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K
							% Na	% H	
			0-6" 7.6						
Sol. Salts	6-24" 1.68 mmho/cm 1.98 mmho/cm		6-24" 7.9						

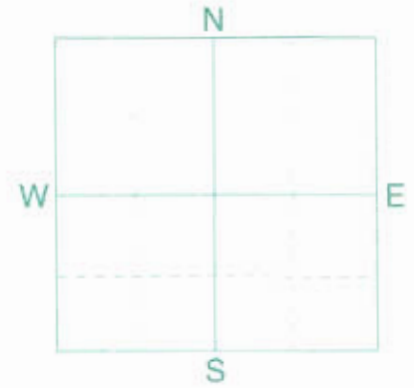
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K, even on high soil tests. Crop Removal: P2O5 = 35 K2O = 60 AGVISE Band guidelines will build P & K test levels to the medium range, over many years.



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### SOIL TEST REPORT

FIELD ID **13**  
 SAMPLE ID  
 FIELD NAME **S St Eustache**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **27** QTR **NE** ACRES **160**  
 PREV. CROP **Barley**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1599520** BOX # **0**  
 LAB # **NW52967**

Date Sampled

Date Received **08/24/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		High Low Med High	Soybeans							
Nitrate	0-6"	13 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL			
	6-24"	9 lb/ac	40 BU							
	0-24"	22 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
			N	***	N		N			
Phosphorus	Olsen	19 ppm	P <sub>2</sub> O <sub>5</sub>	14	Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		
Potassium		383 ppm	K <sub>2</sub> O	0		K <sub>2</sub> O		K <sub>2</sub> O		
Chloride			Cl			Cl		Cl		
	0-6"	66 lb/ac	S	0		S		S		
	6-24"	360 +lb/ac	B			B		B		
Sulfur			Zn	0		Zn		Zn		
Boron			Fe			Fe		Fe		
Zinc		3.51 ppm	Mn			Mn		Mn		
Iron			Cu			Cu		Cu		
Manganese			Mg			Mg		Mg		
Copper			Lime			Lime		Lime		
Magnesium										
Calcium										
Sodium										
Org. Matter		7.4 %								
Carbonate(CCE)										
	0-6"	0.85 mmho/cm	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-24"	1.87 mmho/cm				% Ca	% Mg	% K	% Na	% H
Sol. Salts			0-6"	7.0						
			6-24"	7.9						

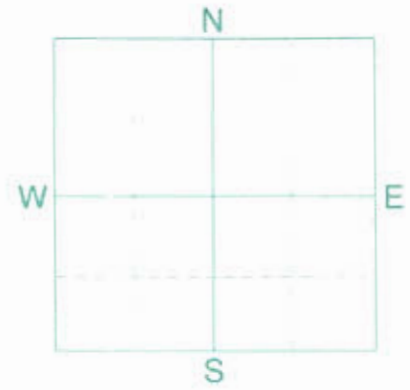
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 35 K<sub>2</sub>O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID **14**  
 SAMPLE ID  
 FIELD NAME **Vicker**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **26** QTR **E 1/2** ACRES **440**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** ROH 0H0

REF # **1601407** BOX # **0**  
 LAB # **NW104290**

Date Sampled

Date Received **10/05/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		Low Med High	Soybeans					
Nitrate	0-6" 6-24"	10 lb/ac 9 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL	
	0-24"	19 lb/ac	40 BU					
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Phosphorus	Olsen	9 ppm	N	***	N		N	
Potassium		321 ppm	P <sub>2</sub> O <sub>5</sub>	30 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>	
Chloride			K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O	
Sulfur	0-6" 6-24"	120 +lb/ac 360 +lb/ac	Cl		Cl		Cl	
Boron			S	0	S		S	
Zinc		1.19 ppm	B		B		B	
Iron			Zn	0	Zn		Zn	
Manganese			Fe		Fe		Fe	
Copper			Mn		Mn		Mn	
Magnesium			Cu		Cu		Cu	
Calcium			Mg		Mg		Mg	
Sodium			Lime		Lime		Lime	
Org. Matter		6.1 %	Soil pH		% Base Saturation (Typical Range)			
Carbonate(CCE)			Buffer pH	Cation Exchange Capacity	% Ca	% Mg	% K	% Na
	0-6" 6-24"	1.11 mmho/cm 3.53 mmho/cm			% H			
Sol. Salts			0-6" 7.7					
			6-24" 7.9					

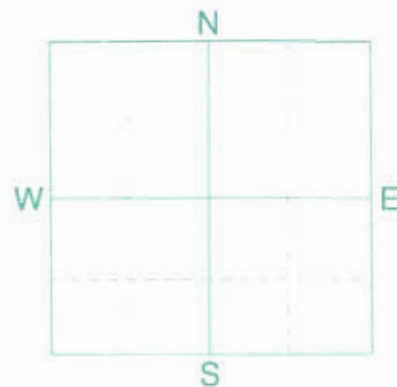
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID **15**  
 SAMPLE ID  
 FIELD NAME **Elle Line**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **25** QTR **NW** ACRES **240**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1599789** BOX # **0**  
 LAB # **NW57950**

Date Sampled

Date Received **08/31/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
		High Low Med High	Wheat-Winter						
			YIELD GOAL		YIELD GOAL		YIELD GOAL		
			90 BU						
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
			Band						
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Nitrate	0-6" 25 lb/ac 6-24" 15 lb/ac	*****	N	176	N		N		
Phosphorus	Olsen 30 ppm	*****	P <sub>2</sub> O <sub>5</sub>	15 Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		
Potassium	489 ppm	*****	K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O		
Chloride			Cl		Cl		Cl		
Sulfur	0-6" 108 lb/ac 6-24" 360 +lb/ac	*****	S	0	S		S		
Boron			B		B		B		
Zinc	2.45 ppm	*****	Zn	0	Zn		Zn		
Iron			Fe		Fe		Fe		
Manganese			Mn		Mn		Mn		
Copper			Cu		Cu		Cu		
Magnesium			Mg		Mg		Mg		
Calcium			Lime		Lime		Lime		
Sodium									
Org. Matter	5.8 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K
	0-6" 0.89 mmho/cm 6-24" 1.75 mmho/cm	*****							
Soil Salts			0-6" 7.0						
			6-24" 8.2						

Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 56 K2O = 34 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

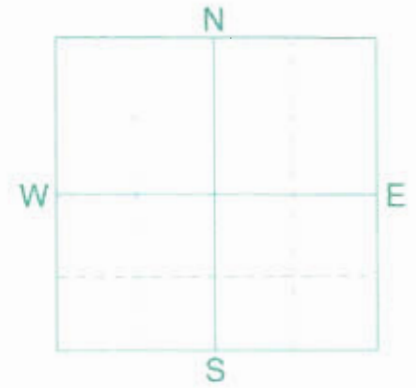




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### SOIL TEST REPORT

FIELD ID 16  
 SAMPLE ID  
 FIELD NAMES Colony  
 COUNTY  
 TWP 11 RANGE 3W  
 SECTION 25 QTR E1/2 ACRES 285  
 PREV. CROP Barley



SUBMITTED FOR:  
 Rosedale Colony

SUBMITTED BY: TE1677  
 TERRACO-ELIE  
 HWY 1 ONE MILE WEST  
 BOX 433  
 ELIE, MB ROH 0H0

REF # 1599517 BOX # 0  
 LAB # NW51409

Date Sampled

Date Received 08/21/2016

Date Reported 2/8/2017

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		High Low Med High	Canola-bu		YIELD GOAL		YIELD GOAL			
Nitrate	0-6"	12 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL			
	6-24"	6 lb/ac	60 BU		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
	0-24"	18 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band		Band		Band			
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus	Olsen	52 ppm	N	192	N		N			
Potassium		517 ppm	P <sub>2</sub> O <sub>5</sub>	10	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>			
Chloride			K <sub>2</sub> O	0		K <sub>2</sub> O	K <sub>2</sub> O			
Sulfur	0-6"	28 lb/ac	Cl		Cl		Cl			
	6-24"	234 lb/ac	S	15	Band	S	S			
Boron			B		B		B			
Zinc		4.27 ppm	Zn	0	Zn		Zn			
Iron			Fe		Fe		Fe			
Manganese			Mn		Mn		Mn			
Copper			Cu		Cu		Cu			
Magnesium			Mg		Mg		Mg			
Sodium			Lime		Lime		Lime			
Org.Matter		7.3 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
Carbonate(CCE)			Buffer pH			% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6"	0.64 mmho/cm	0-6"	7.0						
	6-24"	0.69 mmho/cm	6-24"	8.2						

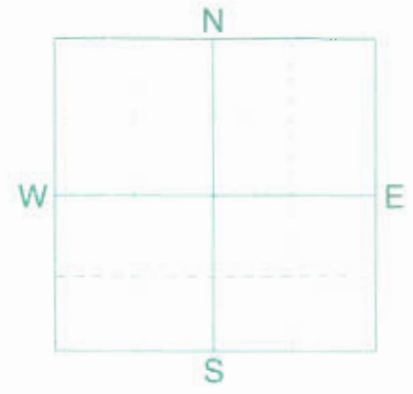
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P205 = 54 K2O = 27 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **17**  
 SAMPLE ID  
 FIELD NAME **North Billy Joe**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **24** QTR **SE** ACRES **240**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1599793** BOX # **0**  
 LAB # **NW57952**

Date Sampled

Date Received **08/31/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Yield Low Med. High	Soybeans							
			YIELD GOAL		YIELD GOAL		YIELD GOAL			
			40 BU							
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 13 lb/ac 6-24" 9 lb/ac	****	N	***	N		N			
Phosphorus	Olsen 18 ppm	*****	P <sub>2</sub> O <sub>5</sub>	16 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	461 ppm	*****	K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride			Cl		Cl		Cl			
Sulfur	0-6" 64 lb/ac 6-24" 360 +lb/ac	*****	S	0	S		S			
Boron			B		B		B			
Zinc	1.14 ppm	*****	Zn	0	Zn		Zn			
Iron			Fe		Fe		Fe			
Manganese			Mn		Mn		Mn			
Copper			Cu		Cu		Cu			
Magnesium			Mg		Mg		Mg			
Calcium			Lime		Lime		Lime			
Sodium										
Org. Matter	6.0 %	*****								
Carbonate(CCE)			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
	0-6" 1.05 mmho/cm 6-24" 3.05 mmho/cm	*****	0-6" 7.3							
Soil Salts		*****	6-24" 8.0							

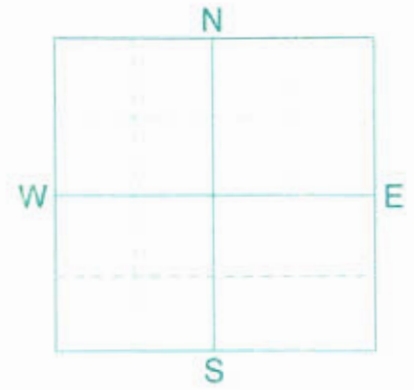
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 35 Y<sub>2</sub>O = 60 A GVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID **18**  
 SAMPLE ID  
 FIELD NAME **SE Colony**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **30** QTR **W 1/2** ACRES **460**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1601409** BOX # **0**  
 LAB # **NW91158**

Date Sampled

Date Received **09/30/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
Nitrate	0-6"	9 lb/ac	Canola-bu								
	6-24"	15 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL				
	0-24"	24 lb/ac	55 BU								
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	40 ppm	N	154	N		N				
Potassium		503 ppm	P <sub>2</sub> O <sub>5</sub>	10	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>				
Chloride			K <sub>2</sub> O	0		K <sub>2</sub> O	K <sub>2</sub> O				
Sulfur	0-6"	48 lb/ac	Cl			Cl	Cl				
	6-24"	360 +lb/ac	S	10	Band	S	S				
Baron			B			B	B				
Zinc		3.64 ppm	Zn	0		Zn	Zn				
Iron			Fe			Fe	Fe				
Manganese			Mn			Mn	Mn				
Copper			Cu			Cu	Cu				
Magnesium			Mg			Mg	Mg				
Calcium			Lime			Lime	Lime				
Sodium											
Org.Matter		6.7 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K	% Na	% H
	0-6"	0.94 mmho/cm	0-6"	7.5							
Sol. Salts	6-24"	2.06 mmho/cm	6-24"	8.1							

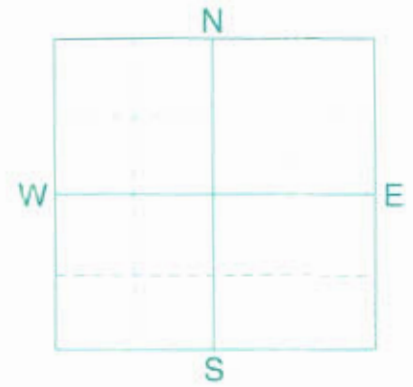
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 25 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **19**  
 SAMPLE ID  
 FIELD NAME **Mile Piece**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **30** QTR **E 1/2** ACRES **265**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OHO**

REF # **1601410** BOX # **0**  
 LAB # **NW91159**

Date Sampled

Date Received **09/30/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation Very Low, Low, Med, High	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
				Barley					
			YIELD GOAL		YIELD GOAL		YIELD GOAL		
			100 BU						
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
			Band						
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Nitrate	0-6" 7 lb/ac 6-24" 18 lb/ac	*****	N	115	N		N		
Phosphorus	Olsen 31 ppm	*****	P <sub>2</sub> O <sub>5</sub>	15	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>		
Potassium	509 ppm	*****	K <sub>2</sub> O	10	Band (Starter)*	K <sub>2</sub> O	K <sub>2</sub> O		
Chloride			Cl			Cl	Cl		
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	S	0		S	S		
Boron			B			B	B		
Zinc	2.60 ppm	*****	Zn	0		Zn	Zn		
Iron			Fe			Fe	Fe		
Manganese			Mn			Mn	Mn		
Copper			Cu			Cu	Cu		
Magnesium			Mg			Mg	Mg		
Calcium			Lime			Lime	Lime		
Sodium									
Org. Matter	6.5 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K
							% Na	% H	
			0-6" 7.2						
Sol. Salts	6-24" 2.19 mmho/cm	*****	6-24" 8.1						

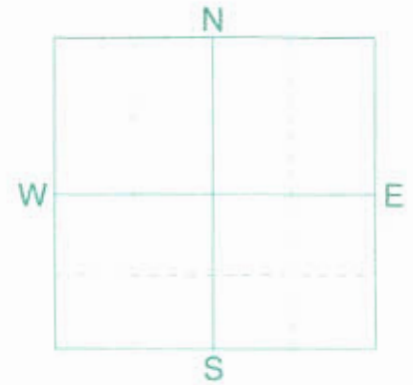
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 47 K2O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID 22  
 SAMPLE ID  
 FIELD NAME 100 acres  
 COUNTY  
 TWP 11 RANGE 2W  
 SECTION 20 QTR NW ACRES 160  
 PREV. CROP Canola-bu



SUBMITTED FOR:  
 Rosedale Colony

SUBMITTED BY: TE1677  
 TERRACO-ELIE  
 HWY 1 ONE MILE WEST  
 BOX 433  
 ELIE, MB ROH OHO

REF # 1601390 BOX # 0  
 LAB # NW57942

Date Sampled

Date Received 08/31/2016

Date Reported 2/8/2017

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Very Low Med. High	Barley-Feed							
			YIELD GOAL		YIELD GOAL		YIELD GOAL			
			100 BU							
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 14 lb/ac 6-24" 9 lb/ac	*****	N	152	N		N			
Phosphorus	Olsen 38 ppm	*****	P <sub>2</sub> O <sub>5</sub>	15 Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	538 ppm	*****	K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride		*****	Cl		Cl		Cl			
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	S	0	S		S			
Boron		*****	B		B		B			
Zinc	3.41 ppm	*****	Zn	0	Zn		Zn			
Iron		*****	Fe		Fe		Fe			
Manganese		*****	Mn		Mn		Mn			
Copper		*****	Cu		Cu		Cu			
Magnesium		*****	Mg		Mg		Mg			
Calcium		*****	Lime		Lime		Lime			
Sodium		*****								
Org. Matter	6.3 %	*****								
Carb. Matter (CCE)		*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
		*****				% Ca	% Mg	% K	% Na	% H
		*****	0-6" 7.6							
Sol. Salts	6-24" 2.61 mmho/cm	*****	6-24" 8.0							

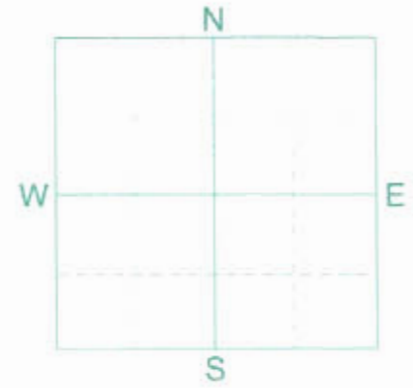
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 47 K<sub>2</sub>O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **23**  
 SAMPLE ID  
 FIELD NAME **East Side Pit**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **20** QTR **SW** ACRES **160**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601391** BOX # **0**  
 LAB # **NW57945**

Date Sampled

Date Received **08/31/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation None Low Med High	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
			Barley-Feed					
			YIELD GOAL		YIELD GOAL		YIELD GOAL	
			100 BU					
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Nitrate	0-6" 19 lb/ac 6-24" 9 lb/ac	*****	N	147	N		N	
Phosphorus	Olsen 44 ppm	*****	P <sub>2</sub> O <sub>5</sub>	15	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>	
Potassium	556 ppm	*****	K <sub>2</sub> O	10	Band (Starter)*	K <sub>2</sub> O	K <sub>2</sub> O	
Chloride		*****	Cl			Cl	Cl	
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	S	0		S	S	
Boron		*****	B			B	B	
Zinc	3.90 ppm	*****	Zn	0		Zn	Zn	
Iron		*****	Fe			Fe	Fe	
Manganese		*****	Mn			Mn	Mn	
Copper		*****	Cu			Cu	Cu	
Magnesium		*****	Mg			Mg	Mg	
Calcium		*****	Lime			Lime	Lime	
Sodium		*****						
Org. Matter	6.0 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
Carbonate(CCE)		*****	Buffer pH				% Ca	% Mg
		*****					% K	% Na
		*****					% H	
Sol. Salts	0-6" 1.08 mmho/cm 6-24" 2.26 mmho/cm	*****	0-6" 7.5					
		*****	6-24" 8.2					

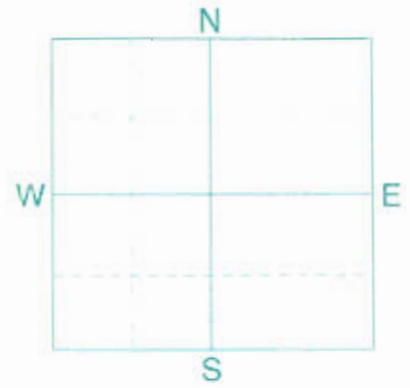
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Org. Matter: P2O5 = 47 K2O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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## SOIL TEST REPORT

FIELD ID 24  
 SAMPLE ID  
 FIELD NAME West Ponsin  
 COUNTY  
 TWP 11 RANGE 2W  
 SECTION 18 QTR W 1/2 of NE ACRES 80  
 PREV. CROP Canola-bu



SUBMITTED FOR:  
 Rosedale Colony

SUBMITTED BY: TE1677  
 TERRACO-ELIE  
 HWY 1 ONE MILE WEST  
 BOX 433  
 ELIE, MB ROH 0H0

REF # 1601392 BOX # 0  
 LAB # NW57941

Date Sampled

Date Received 08/31/2016

Date Reported 3/6/2017

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Low Low Med High	Barley-Feed		YIELD GOAL		YIELD GOAL			
Nitrate	0-6" 6-24"	10 lb/ac 9 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL			
	0-24"	19 lb/ac	100 BU	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
Phosphorus	Olsen	13 ppm	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
	Potassium	511 ppm	Band		Band		Band			
Chloride			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
	0-6" 6-24"	42 lb/ac 258 lb/ac	N	156	N		N			
Sulfur			P <sub>2</sub> O <sub>5</sub>	29 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
			K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O			
Boron			Cl		Cl		Cl			
Zinc		1.18 ppm	S	0	S		S			
Iron			B		B		B			
Manganese			Zn	0	Zn		Zn			
Copper			Fe		Fe		Fe			
Magnesium			Mn		Mn		Mn			
Calcium			Cu		Cu		Cu			
Sodium			Mg		Mg		Mg			
Org.Matter		6.3 %	Lime	0	Lime		Lime			
Carbonate(CCE)			Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)			
Sol. Salts	0-6"	0.96 mmho/cm	Buffer pH			% Ca	% Mg	% K	% Na	% H
	6-24"	1.13 mmho/cm	0-6" 6.9							
			6-24" 8.1							

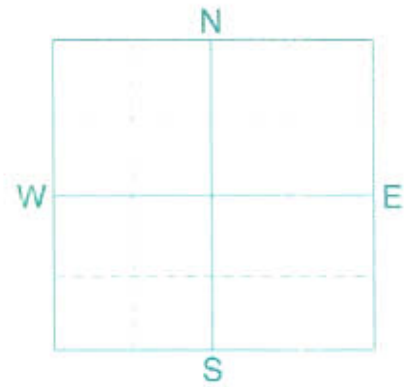
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 47 K2O = 50 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **25**  
 SAMPLE ID  
 FIELD NAME **East Ponsin**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **17** QTR **NW** ACRES **42**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601393** BOX # **0**  
 LAB # **NW104267**

Date Sampled

Date Received **10/05/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		Low Med High									
Nitrate	0-6"	14 lb/ac	Soybeans		YIELD GOAL		YIELD GOAL				
	6-24"	6 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL				
			40 BU								
	0-24"	20 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Phosphorus	Olsen	34 ppm	N	***	N		N				
Potassium		515 ppm	P <sub>2</sub> O <sub>5</sub>	10	Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Chloride			K <sub>2</sub> O	0		K <sub>2</sub> O		K <sub>2</sub> O			
Sulfur	0-6"	50 lb/ac	Cl			Cl		Cl			
	6-24"	360 +lb/ac	S	0		S		S			
Boron			B			B		B			
Zinc		2.18 ppm	Zn	0		Zn		Zn			
Iron			Fe			Fe		Fe			
Manganese			Mn			Mn		Mn			
Copper			Cu			Cu		Cu			
Magnesium			Mg			Mg		Mg			
Calcium			Lime			Lime		Lime			
Sodium											
Org. Matter		6.2 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)			Buffer pH				% Ca	% Mg	% K	% Na	% H
	0-6"	0.98 mmho/cm	0-6"	7.6							
Soil Salts	6-24"	1.41 mmho/cm	6-24"	8.2							

Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 35 K2O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.

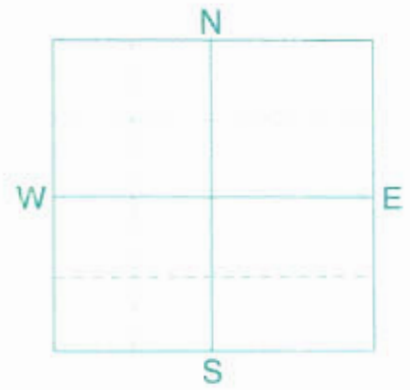




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### SOIL TEST REPORT

FIELD ID **20**  
 SAMPLE ID  
 FIELD NAME **Marrow Claim**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **19** QTR **NW** ACRES **180**  
 PREV. CROP **Canola-bu**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH 0H0**

REF # **1599794** BOX # **0**  
 LAB # **NW57949**

Date Sampled

Date Received **08/31/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
		None Low Med High	Wheat-Winter								
			YIELD GOAL		YIELD GOAL		YIELD GOAL				
			90 BU								
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Nitrate	0-6" 14 lb/ac 6-24" 9 lb/ac	*****	N	193	N		N				
Phosphorus	Olsen 24 ppm	*****	P <sub>2</sub> O <sub>5</sub>	15 Band (Starter)*	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Potassium	530 ppm	*****	K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O				
Chloride		*****	Cl		Cl		Cl				
Sulfur	0-6" 108 lb/ac 6-24" 360 lb/ac	*****	S	0	S		S				
Boron		*****	B		B		B				
Zinc	2.03 ppm	*****	Zn	0	Zn		Zn				
Iron		*****	Fe		Fe		Fe				
Manganese		*****	Mn		Mn		Mn				
Copper		*****	Cu		Cu		Cu				
Magnesium		*****	Mg		Mg		Mg				
Calcium		*****	Lime		Lime		Lime				
Sodium		*****									
Org. Matter	6.8 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)				
Carbonate(CCE)		*****	Buffer pH				% Ca	% Mg	% K	% Na	% H
	0-6" 1.06 mmho/cm 6-24" 2.39 mmho/cm	*****	0-6" 7.7								
Sol. Salts		*****	6-24" 8.3								

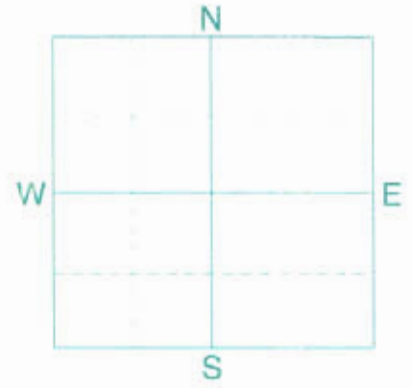
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 56 K2O = 34 A GVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **21**  
 SAMPLE ID  
 FIELD NAME **NW Pit**  
 COUNTY  
 TWP **11** RANGE **2W**  
 NE **W**  
 SECTION **19** QTR **1/2 of ACRES 157**  
 SE



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** ROH 0H0

REF # **1599798** BOX # **0**  
 LAB # **NW57956**

Date Sampled

Date Received **08/31/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
		High Low Med High	Wheat-Winter						
	<b>0-6"</b> <b>15 lb/ac</b>		YIELD GOAL		YIELD GOAL		YIELD GOAL		
	<b>6-24"</b> <b>9 lb/ac</b>	*****	<b>90 BU</b>						
	<b>0-24"</b> <b>24 lb/ac</b>		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
Nitrate			Band						
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Phosphorus	<b>Olsen</b> <b>26 ppm</b>	*****	N	<b>192</b>	N		N		
Potassium	<b>536 ppm</b>	*****	P <sub>2</sub> O <sub>5</sub>	<b>15</b> <b>Band (Starter)*</b>	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>		
Chloride			K <sub>2</sub> O	<b>10</b> <b>Band (Starter)*</b>	K <sub>2</sub> O		K <sub>2</sub> O		
	<b>0-6"</b> <b>62 lb/ac</b>	*****	Cl		Cl		Cl		
	<b>6-24"</b> <b>360 +lb/ac</b>	*****	S	<b>0</b>	S		S		
Sulfur			B		B		B		
Boron			Zn	<b>0</b>	Zn		Zn		
Zinc	<b>3.09 ppm</b>	*****	Fe		Fe		Fe		
Iron			Mn		Mn		Mn		
Manganese			Cu		Cu		Cu		
Copper			Mg		Mg		Mg		
Magnesium			Lime		Lime		Lime		
Calcium			Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Sodium			Buffer pH				% Ca	% Mg	% K
Org.Matter	<b>7.4 %</b>	*****							
Carbonate(CCE)									
	<b>0-6"</b> <b>0.95 mmho/cm</b>	*****							
	<b>6-24"</b> <b>2.28 mmho/cm</b>	*****	<b>0-6"</b> <b>7.4</b>						
Sol. Salts			<b>6-24"</b> <b>7.9</b>						

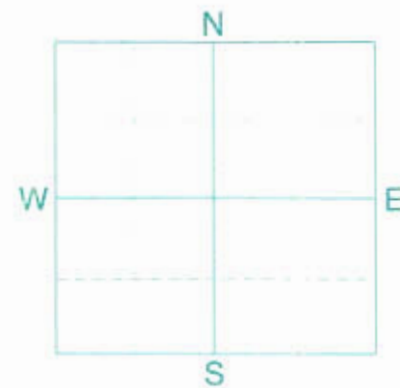
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: #205 = 56 K2O = 34 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **26**  
 SAMPLE ID  
 FIELD NAME **NW Frank**  
 COUNTY  
 TWP **11** RANGE **2W**  
 SECTION **7** QTR **NW** ACRES **172**  
 PREV. CROP **Wheat-Spring**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1599779** BOX # **0**  
 LAB # **NW58805**

Date Sampled

Date Received **09/01/2016**

Date Reported **3/6/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
Nitrate	0-6" 6-24"	10 lb/ac 6 lb/ac	Soybeans		YIELD GOAL		YIELD GOAL	
		***	YIELD GOAL		YIELD GOAL		YIELD GOAL	
	0-24"	16 lb/ac	40 BU		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Phosphorus	Olsen	11 ppm	N	***	N		N	
Potassium		446 ppm	P <sub>2</sub> O <sub>5</sub>	27 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>	
Chloride			K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O	
	0-6" 6-24"	66 lb/ac 360 +lb/ac	Cl		Cl		Cl	
Sulfur			S	0	S		S	
Boron			B		B		B	
Zinc		0.99 ppm	Zn	2 Band (Trial)	Zn		Zn	
Iron			Fe		Fe		Fe	
Manganese			Mn		Mn		Mn	
Copper			Cu		Cu		Cu	
Magnesium			Mg		Mg		Mg	
Calcium			Lime		Lime		Lime	
Sodium								
Org. Matter		6.7 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
Carbonate(CCE)			Buffer pH			% Ca	% Mg	% K
	0-6" 6-24"	0.98 mmho/cm 2.42 mmho/cm	0-6" 7.5					
Sci. Salts			6-24" 8.1					

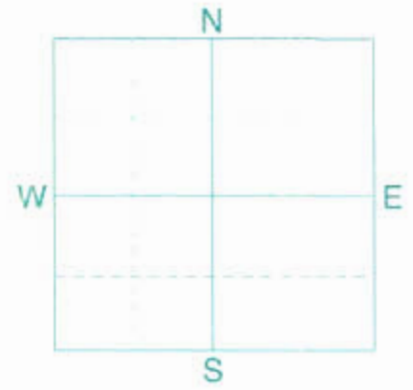
**Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \*** Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 35 K<sub>2</sub>O = 60 AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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### SOIL TEST REPORT

FIELD ID 27  
 SAMPLE ID  
 FIELD NAME Frank  
 COUNTY  
 TWP 11 RANGE 2W  
 SECTION 7 QTR S 1/2 + NE ACRES 460  
 PREV. CROP Wheat-Spring



SUBMITTED FOR:  
 Rosedale Colony

SUBMITTED BY: TE1677  
 TERRACO-ELIE  
 HWY 1 ONE MILE WEST  
 BOX 433  
 ELIE, MB ROH 0H0

REF # 1599514 BOX # 0  
 LAB # NW57955

Date Sampled

Date Received 08/31/2016

Date Reported 3/6/2017

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		High Low Med High	Soybeans					
			YIELD GOAL		YIELD GOAL		YIELD GOAL	
			40 BU					
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Nitrate	0-6" 9 lb/ac 6-24" 6 lb/ac	***	N	***	N		N	
Phosphorus	Olsen 12 ppm	*****	P <sub>2</sub> O <sub>5</sub>	26 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>	
Potassium	513 ppm	*****	K <sub>2</sub> O	0	K <sub>2</sub> O		K <sub>2</sub> O	
Chloride			Cl		Cl		Cl	
Sulfur	0-6" 70 lb/ac 6-24" 360 +lb/ac	*****	S	0	S		S	
Boron			B		B		B	
Zinc	1.23 ppm	*****	Zn	0	Zn		Zn	
Iron			Fe		Fe		Fe	
Manganese			Mn		Mn		Mn	
Copper			Cu		Cu		Cu	
Magnesium			Mg		Mg		Mg	
Calcium			Lime		Lime		Lime	
Sodium								
Org.Matter	6.6 %	*****	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)	
Carbonate(CCE)			Buffer pH				% Ca	% Mg
	0-6" 1.01 mmho/cm 6-24" 3.62 mmho/cm	*****					% K	% Na
Soil Salts			0-6" 7.3 6-24" 7.9				% H	

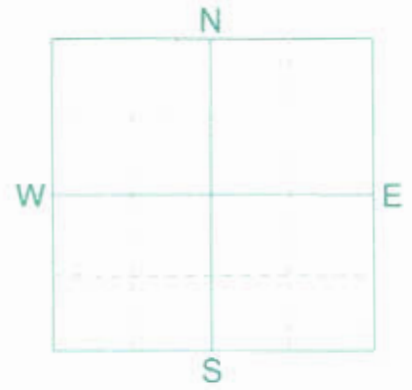
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P205 = :33 K20 = :60. AGVISE Band guidelines will build P & K test levels to the medium range over many years. Soybeans may respond to nitrogen on fields testing less than 60 lb/ac with a limited soybean history.



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## SOIL TEST REPORT

FIELD ID **28**  
 SAMPLE ID  
 FIELD NAME **S Billy Joe**  
 COUNTY  
 TWP **11** RANGE **3W**  
 SECTION **13** QTR **E 1/2** ACRES **300**  
 PREV. CROP **Barley**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** ROH OHO

REF # **1599515** BOX # **0**  
 LAB # **NW51536**

Date Sampled

Date Received **08/22/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice	
		High Low Med High	Wheat-Spring					
Nitrate	0-6" 6-24"	7 lb/ac 6 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL	
		***	80 BU					
	0-24"	13 lb/ac	SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES	
			Band					
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION
Phosphorus	Olsen	7 ppm	N	203	N		N	
Potassium		424 ppm	P <sub>2</sub> O <sub>5</sub>	50 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>	
Chloride			K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O	
Sulfur	0-6" 6-24"	118 lb/ac 360 +lb/ac	Cl		Cl		Cl	
Boron			S	0	S		S	
Zinc		0.85 ppm	B		B		B	
Iron			Zn	2 Band (Trial)	Zn		Zn	
Manganese			Fe		Fe		Fe	
Copper			Mn		Mn		Mn	
Magnesium			Cu		Cu		Cu	
Calcium			Mg		Mg		Mg	
Sodium			Lime		Lime		Lime	
Org.Matter		6.4 %	Soil pH		% Base Saturation (Typical Range)			
Carbonate(CCE)			Buffer pH	Cation Exchange Capacity	% Ca	% Mg	% K	% Na
					% H			
Sol. Salts	0-6" 6-24"	0.83 mmho/cm 1.94 mmho/cm	0-6"	7.8				
			6-24"	8.2				

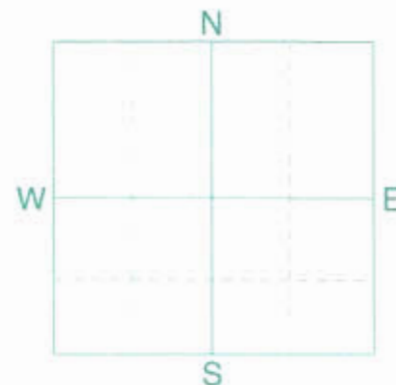
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 A GVISE Band guidelines will build P & K test levels to the medium range over many years.



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## SOIL TEST REPORT

FIELD ID **31**  
 SAMPLE ID  
 FIELD NAME **Triangle Piece**  
 COUNTY  
 TWP **11** RANGE **4W**  
 SECTION **21** QTR **N 1/2 of NE** ACRES **80**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601412** BOX # **0**  
 LAB # **NW117088**

Date Sampled

Date Received **10/12/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation Very Low, Low, Med, High	1st Crop Choice		2nd Crop Choice		3rd Crop Choice				
0-6"	6 lb/ac		***	Wheat-Spring							
6-24"	9 lb/ac	YIELD GOAL		YIELD GOAL		YIELD GOAL					
0-24"	15 lb/ac		80 BU								
Nitrate			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES				
			Band								
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION			
Olsen Phosphorus	12 ppm	*****	N 186		N		N				
Potassium	340 ppm	*****	P <sub>2</sub> O <sub>5</sub> 36	Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>				
Chloride		*****	K <sub>2</sub> O 10	Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O				
0-6"	96 lb/ac	*****	Cl		Cl		Cl				
6-24"	360 +lb/ac	*****	S 0		S		S				
Sulfur		*****	B		B		B				
Boron		*****	Zn 0		Zn		Zn				
Zinc	1.96 ppm	*****	Fe		Fe		Fe				
Iron		*****	Mn		Mn		Mn				
Manganese		*****	Cu		Cu		Cu				
Copper		*****	Mg		Mg		Mg				
Magnesium		*****	Lime		Lime		Lime				
Calcium		*****	Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)				
Sodium		*****					% Ca	% Mg	% K	% Na	% H
Org. Matter	5.5 %	*****	0-6" 7.1								
Carbonate(CCE)		*****	6-24" 8.0								
0-6"	1.25 mmho/cm	*****									
6-24"	3.44 mmho/cm	*****									
Soil Salts		*****									

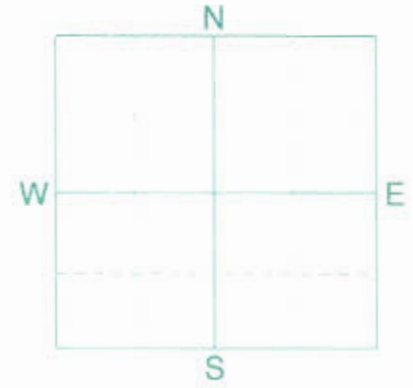
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **32**  
 SAMPLE ID  
 FIELD NAME **Norquay Corner**  
 COUNTY  
 TWP **11** RANGE **4W**  
 SECTION **28** QTR **E 1/2 of SE** ACRES **80**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601413** BOX # **0**  
 LAB # **NW117091**

Date Sampled

Date Received **10/12/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Low   Low-Med   High	Wheat-Spring							
			YIELD GOAL		YIELD GOAL		YIELD GOAL			
			80 BU							
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 8 lb/ac 6-24" 6 lb/ac	***	N	187	N		N			
Phosphorus	Olsen 8 ppm	*****	P <sub>2</sub> O <sub>5</sub>	47 Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	309 ppm	*****	K <sub>2</sub> O	10 Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride		*****	Cl		Cl		Cl			
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	S	0	S		S			
Boron		*****	B		B		B			
Zinc	1.22 ppm	*****	Zn	0	Zn		Zn			
Iron		*****	Fe		Fe		Fe			
Manganese		*****	Mn		Mn		Mn			
Copper		*****	Cu		Cu		Cu			
Magnesium		*****	Mg		Mg		Mg			
Calcium		*****	Lime		Lime		Lime			
Sodium		*****								
Org. Matter	5.0 %	*****								
Carbonate(CCE)		*****								
Sol. Salts	0-6" 1.53 mmho/cm 6-24" 2.9 mmho/cm	*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
						% Ca	% Mg	% K	% Na	% H
			0-6" 7.6							
			6-24" 8.0							

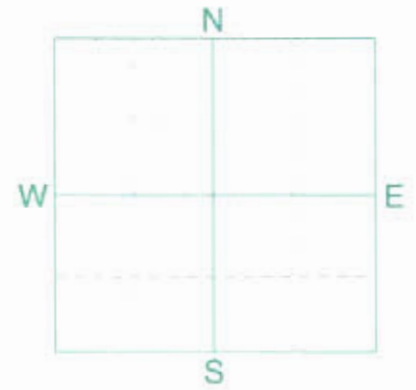
Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P<sub>2</sub>O<sub>5</sub> = 50 K<sub>2</sub>O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.



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### SOIL TEST REPORT

FIELD ID **33**  
 SAMPLE ID  
 FIELD NAME **Fortier Farmyard**  
 COUNTY  
 TWP **11** RANGE **4W**  
 SECTION **27** QTR **W 1/2 of SW** ACRES **80**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601415** BOX # **0**  
 LAB # **NW117095**

Date Sampled

Date Received **10/12/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		Min Low Med High	Wheat-Spring							
			YIELD GOAL		YIELD GOAL		YIELD GOAL			
			80 BU							
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
			Band							
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Nitrate	0-6" 7 lb/ac 6-24" 6 lb/ac	***	N 188		N		N			
Phosphorus	Olsen 14 ppm	*****	P <sub>2</sub> O <sub>5</sub> 31	Band *	P <sub>2</sub> O <sub>5</sub>		P <sub>2</sub> O <sub>5</sub>			
Potassium	352 ppm	*****	K <sub>2</sub> O 10	Band (Starter)*	K <sub>2</sub> O		K <sub>2</sub> O			
Chloride		*****	Cl		Cl		Cl			
Sulfur	0-6" 120 +lb/ac 6-24" 360 +lb/ac	*****	S 0		S		S			
Boron		*****	B		B		B			
Zinc	1.10 ppm	*****	Zn 0		Zn		Zn			
Iron		*****	Fe		Fe		Fe			
Manganese		*****	Mn		Mn		Mn			
Copper		*****	Cu		Cu		Cu			
Magnesium		*****	Mg		Mg		Mg			
Calcium		*****	Lime		Lime		Lime			
Sodium		*****								
Org.Matter	4.8 %	*****								
Carbonate(CCE)		*****								
	0-6" 1.21 mmho/cm 6-24" 2.96 mmho/cm	*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sol. Salts		*****				% Ca	% Mg	% K	% Na	% H
			0-6" 7.5							
			6-24" 8.0							

Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even in high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.

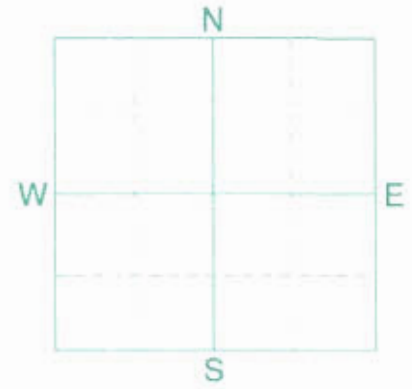




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## SOIL TEST REPORT

FIELD ID **34**  
 SAMPLE ID  
 FIELD NAME **Miller Corner**  
 COUNTY  
 TWP **11** RANGE **4W**  
 SECTION **27** QTR **E 1/2 of SW** ACRES **80**  
 PREV. CROP **Soybeans**



SUBMITTED FOR:  
**Rosedale Colony**

SUBMITTED BY: **TE1677**  
**TERRACO-ELIE**  
**HWY 1 ONE MILE WEST**  
**BOX 433**  
**ELIE, MB** **ROH OH0**

REF # **1601417** BOX # **0**  
 LAB # **NW117089**

Date Sampled

Date Received **10/12/2016**

Date Reported **2/8/2017**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice		
		Low Med High							
Nitrate	0-6" 6-24"	7 lb/ac 6 lb/ac	Wheat-Spring						
			YIELD GOAL		YIELD GOAL		YIELD GOAL		
			80 BU						
			SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		
			Band						
			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	
Phosphorus	Olsen	15 ppm	N	188	N		N		
Potassium		361 ppm	P <sub>2</sub> O <sub>5</sub>	28	Band *	P <sub>2</sub> O <sub>5</sub>	P <sub>2</sub> O <sub>5</sub>		
Chloride			K <sub>2</sub> O	10	Band (Starter)*	K <sub>2</sub> O	K <sub>2</sub> O		
Sulfur	0-6" 6-24"	120 +lb/ac 360 +lb/ac	Cl			Cl	Cl		
Boron			S	0		S	S		
Zinc		1.41 ppm	B			B	B		
Iron			Zn	0		Zn	Zn		
Manganese			Fe			Fe	Fe		
Copper			Mn			Mn	Mn		
Magnesium			Cu			Cu	Cu		
Calcium			Mg			Mg	Mg		
Sodium			Lime	0		Lime	Lime		
Org. Matter		5.5 %	Soil pH		Cation Exchange Capacity		% Base Saturation (Typical Range)		
Carbonate(CCE)			Buffer pH		% Ca	% Mg	% K	% Na	% H
	0-6" 6-24"	1.31 mmho/cm 2.22 mmho/cm	0-6"	6.9					
Sol. Salts			6-24"	7.9					

Crop 1: \* Caution: Seed Placed Fertilizer Can Cause Injury \* Nitrogen is credited 15 lbs for the previous crop. Nitrogen credits may need to be adjusted based on local conditions. Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 50 K2O = 30 AGVISE Band guidelines will build P & K test levels to the medium range over many years.