SITE ASSESSMENT

For Large Livestock Operation Proposals (300 Animal Units or more)

1.0 Purpose

The set up, or expansion, of a livestock operation that has 300 Animal Units or more is subject to **Part 7 of *The Planning Act***. This includes consideration as a conditional use by the municipal council or planning district board. It also includes a review by the Technical Review Committee (TRC) appointed by the Minister of Local Government. The **Technical Review Committee Regulation** requires a site assessment to help the committee do its review and allow people who will be affected by the livestock operation to comment on the proposal.

2.0 Assistance

For assistance in completing the Site Assessment Form please refer to the following.

For links to resources, click on the **highlighted underlined items.**

For additional information on a particular item, please click on the (?) **"Learn More"** icon.

For definitions, click on the **Glossary of Terms**.

For help with mapping, contact your **Community and Regional Planning Regional Office**.

For additional help, contact the **Technical Review Coordination Unit**.

3.0 Description of Livestock Operation

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

Divorne Farms Ltd.

Operation location (project site): SEB-8-6W

Rural Municipality (RM) of Grey

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

SE 8-8-6W

Manitoba Premises Identification Number: MB 1038275

Municipal tax roll number(s): 0154200.000

Show the location of the operation (project site) on a location map. (See **Location Map** for example).

☑ Location Map attached

No. 38

R.M. OF GREY

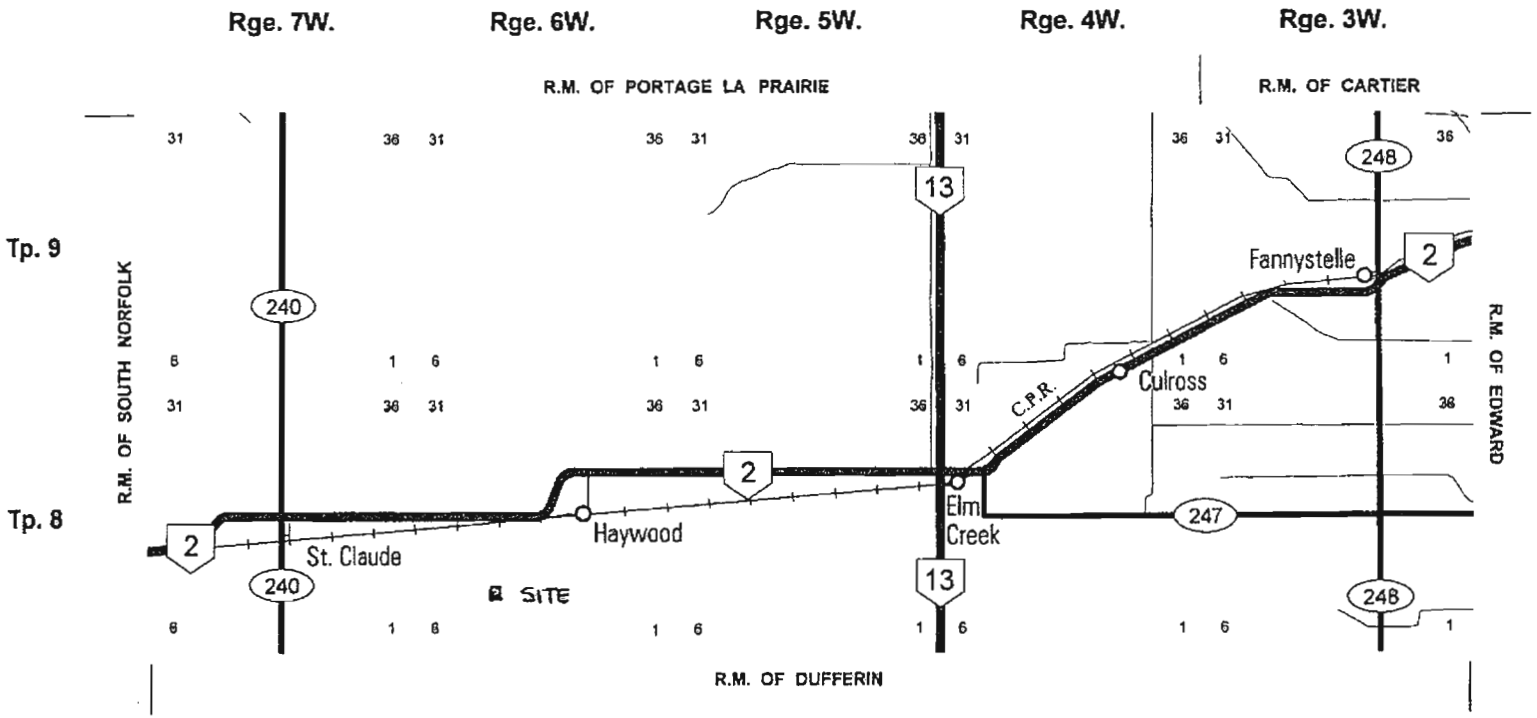
MAP REVISED:-

0 5
SCALE IN KILOMETRES

MANITOBA
TRANSPORTATION AND GOVERNMENT SERVICES
HIGHWAY PLANNING AND DESIGN BRANCH
DRAFTING SECTION
WINNIPEG
FEBRUARY 2002

LEGEND

PROVINCIAL TRUNK HIGHWAYS 2
PROVINCIAL ROADS 240
ACCESS ROADS .....
RAILWAYS .....



LOCATION MAP

4.0 Nature of Project

☐ **New operation**

☑ **Expansion of existing operation**

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.

Current 200 hd dairy to be expanded to 250 hd. Existing buildings intended to be converted to house replacement stock indoors.

5.0 Proposed Type and Size of Operation

State the proposed type and size of the operation. (See Animal Units Calculation Table.)

Type of operation (Column B from Animal Units Calculation Table)	**Existing number of animals** (Column C from Animal Units Calculation Table)	**Total Animal Units** (Column F from Animal Units Calculation Table)
milking cows	200 current	400 AU current
	250 proposed	500 AU proposed.

☑ Animal Units Calculation Table attached

6.0 Animal Confinement Facilities

Outdoor Confined Livestock Area

To ensure that it can be built in a way that the environment is protected, a permit is required for construction and expansion of confined livestock areas for operations with 300 Animal Units or more. Permits are required by the Livestock Manure and Mortalities Management Regulation (MR 42/98), under *The Environment Act*.

Confined Livestock Area: ☐ outdoor seasonal feeding area ☐ feedlot ☑ not applicable

Indoor Barn/Animal Housing

Indoor Animal Housing: ☑ barn ☐ other (describe) _____ ☐ not applicable

Animal Units Calculation Table

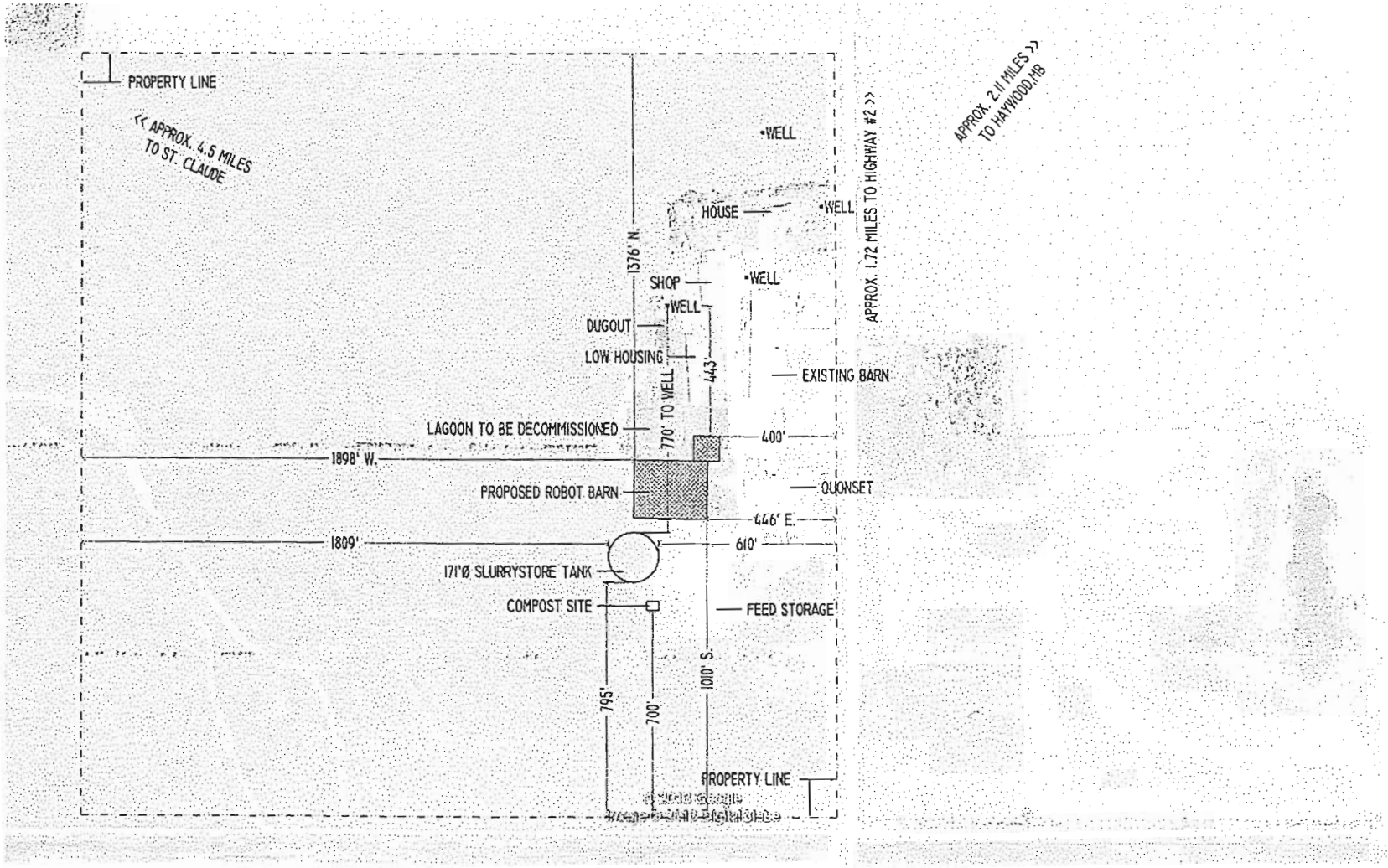
Animal Type	Type of Operation	Existing Number	Proposed Additional Number	Animal Units per Head	Total Animal Units	Annual Confinement Period (Days)
Dairy	Cows - milking cows	200	50	2	500.00	365
Beef	Beef cows including associated livestock			1.25	-	
	Backgrounder			0.5	-	
	Summer pasture / replacement heifers			0.625	-	
	Feeder cattle			0.769	-	
Pigs	Sows - farrow to finish (234-254 lbs)			1.25	-	
	Sows - farrow to weanling (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	-	
	Pullets			0.0033	-	
	Broiler breeder pullets			0.0033	-	
	Broiler breeder hens			0.01	-	
Turkeys	Broilers			0.01	-	
	Heavy Toms			0.02	-	
	Heavy Hens			0.01	-	
Horses	Mares			1.333	-	
Sheep	Ewes			0.2	-	
	Feeder lambs			0.063	-	
Other Livestock	Type:				-	
	Type:				-	
				Total AUs	**500.00**	**365.00**

For all other livestock or operation types please inquire with your
Manitoba Agriculture, Food and Rural Initiatives GO office to determine the animal units per head.
www.gov.mb.ca/agriculture/contact/agoffices.html

A permit under the Livestock Manure and Mortalities Management Regulation 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).

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.

☑ Project Site Plan attached



South-Man Engineering

DIVORNE FARMS LTD. SE 8-8-6W	TOTAL AREA = 57,227 SQ/FT
SITE PLAN	R. FLORES SOUTH-MAN ENGINEERING
APRIL 2013	AS NOTED
	SP-1

7.0 Environmental Farm Planning
Environmental farm planning is a voluntary, confidential self-assessment process designed to help farm managers identify the environmental strengths and weaknesses of their operations.

Do you have an **Environmental Farm Plan** ☑ yes ☐ no

If so, is it current (completed within past 5 years) ☑ yes ☐ no

8.0 Water

Project Sites Unsuitable for Development

To protect water quality, the **Nutrient Management Regulation** (MR 62/2008*)*, under *The Water Protection Act*, prohibits the set up 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.

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.

Determine the agriculture capability class(es) of the project site, and its limitations. This information is available from Manitoba Agriculture, Food and Rural Initiatives (MAFRI) at 204-945-3869 in Winnipeg. Alternatively, operations 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.

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

Water source for operation:

- [x] pipeline (public)
- [ ] water co-operative
- [ ] proposed well
- [x] existing well
- [ ] river
- [ ] lake
- [ ] dugout (dimensions : ____ x ___ x ____)

If using an existing well, provide a copy of the water well log and logs for other wells on the property. Logs can be obtained from Manitoba Conservation and Water Stewardship by calling (204) 945-7418 in Winnipeg; 1-800-214-6497 toll free.

LOCATION: SE8-8-6W

Well_PID: 63604
Owner: P DIVORNE
Driller: HAYWOOD CONCRETE PRODUCTS LTD.
Well Name:
Well Use: PRODUCTION
Water Use: Domestic,Livestock
UTMX: 554971.179
UTMY: 5498836.86
Accuracy XY: UNKNOWN
UTMZ:
Accuracy Z:
Date Completed: 1988 Oct 01

WELL LOG

From (ft.)	To (ft.)	Log
0	8.0	FINE BROWN SAND
8.0	23.5	FINE SAND, BLUE

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	23.5	casing	92.00			INSERT	CONCRETE
0	23.0	gravel pack					

Top of Casing: ft. below ground

PUMPING TEST

Date: 1988 Oct 01
Pumping Rate: 9.0 Imp. gallons/minute
Water level before pumping: ft. below ground
Pumping level at end of test: ?? ft. below ground
Test duration: 14 hours, minutes
Water temperature: ?? degrees F

Source Water Analysis Reports

Annual livestock source water monitoring analysis reports must be submitted to Manitoba Conservation and Water Stewardship for any operations of 300 Animal Units or more.

If an existing livestock operation of 300 Animal Units or more, have you submitted an annual source water monitoring report for the current calendar year? ☑ yes ☐ no
annual submission to milk board.

Will livestock have direct access to surface water (not including dugouts)? ☐ yes ☑ no

If yes, identify:
Name of the surface water feature: _____

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

indoor confinement

_____

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 Licence 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
To calculate the total water use, go to the Water Requirement Calculation Table.

Maximum daily use: 8730 ☑ imperial gallons or ☐ litres
Maximum annual use: 11.73 ☑ acre-feet or ☐ cubic decameters

☑ Water Requirement Calculation Table attached

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.

Water Requirement Calculation Table

Livestock	Number	IG/day per animal in summer	IG/day per animal in summer	IG/day
Beef/Dairy/Bison				
Feeder/heifer/steer (600 lb.)	70	5	9	630
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry cow	50	10	12	600
Milking cow	250	25	30	7,500
Bison		8	10	-
Horses				
Horses		8	11	-
Hogs				
Sow (Farrow/wean)		6.5		-
Dry Sow/Boar		4		-
Feeder		3		-
Nursery (33 lb.)		2		-
Chickens				
Broilers		0.035		-
Roasters/Pullets		0.04		-
Layers		0.055		-
Breeders		0.07		-
Turkeys				
Turkey Growers		0.13		-
Turkey Heavies		0.16		-
Sheep/Goats				
Sheep/Goats		2		-
Ewes/Does		3		-
Lambs/Kids (90 lb.)		1.6		-
		TOTAL	**8,730**	per day
		TOTAL	**3,186,450**	per year

Enter this number on page 4 of the Site Assessment

Enter this number on page 4 of the Site Assessment

Notes:

(Imperial gallons per day – IG/day)

For beef, 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.

Water Rights Licences are issued to a specific legal land description. Obtaining a Water Rights License or information as to the licensing requirements can be obtained through Manitoba Water Stewardship at (204) 945-3983 or 1-800-282-8069 Ext 3983.

Other consumption values:
Normal household consumption, 40-55 imperial Gallons per day per person
(180-250 l/day/person)
Hydrant flow, 10 imperial GPM (45 l/min)

Conversion Factor: 271,470 Imperial Gallons = 1 acre-foet

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	
Manure is stored in a storage facility built by permit or registered by Manitoba Conservation and Water Stewardship	[N]	[Y]	
Storage includes leachate collection	[N]	[Y]	
Earthen storage has between 400 and 500 days storage	[N]	[ ]	
Steel/concrete tank has between 250 and 500 days storage	[ ]	[Y]	
Manure storage facility meets required setbacks	[Y]	[Y]	
Field storage (solid manure) locations are changed annually	[Y]	[Y]	
Field storage meets required setbacks	[Y]	[Y]	
All application fields are soil tested annually for nitrate-N and Olsen phosphorus	[Y]	[Y]	
All manure is applied according to a manure management plan	[Y]	[Y]	
Licensed commercial manure applicator is used to apply manure	[Y]	[Y]	liquid only
Abandoned wells have been properly sealed	[ ]	[ ]	N/A

Other:
Existing EMS predates permitting and will be decommissioned upon construction of new steel tank.

Building in Flood Areas

The Livestock Manure and Mortalities Management Regulation prohibits an operator from putting 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 and Transportation. Contact the Hydrologic Forecasting Branch at (204) 945-2121 in Winnipeg; 1-800-214-6497 toll free.

The proposed site:
is [ ] is not [✓]

located in a Designated Flood Area: Red River Valley Designated Flood Area or Lower Red River Designated Flood Area

Note: At the time a permit is issued, 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 and Transportation.

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): La Salle River Watershed

Name of sub-watershed(s): _____

Name of **Integrated Watershed Management Plan** for the proposed project site, if applicable: La Salle River Integrated Watershed Management Plan.

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

9.0 Manure

The **Livestock Manure and Mortalities Management Regulation** 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 Conservation and Water Stewardship at (204) 619-2230 in Winnipeg.

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

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 (replacement stock) ☐ semi-solid ☑ liquid (milking cows)

Manure Volume or Weight
Manure production can be estimated using the Manure Production Calculator Table. 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.

What will be the total volume or weight of manure generated annually by the livestock operation? (See **Manure Production Calculator Table**.)

liquid volume: 376,863 ft³ solid weight: ____

☑ Manure Production Calculator Table attached

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.

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

☐ under-barn concrete ☐ **earthen manure storage** ☐ concrete tank(s)
☑ steel tank(s) ☐ **field storage** ☐ **molehill**

Provide the dimensions of the existing and/or proposed manure storage facilities, if applicable. (See **Existing and Proposed Manure Storage Facility Dimensions Table**.)

☑ Existing and Proposed Manure Storage Facility Dimensions Table attached

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

Type of cover: naturally occurring floating straw cover.

Shelterbelt planting: ☐ yes ☑ no ☐ existing shelterbelt

Other measures (specify): _____

Manure Treatment

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 Conservation and Water Stewardship.

Does your proposal include anaerobic digestion or another environmentally sound treatment for manure?

☐ yes ☑ no ☐ not applicable

Animal Type (A)	Animal Sub-type (B)	Daily Manure Production				Production Period [2] (Days) (G)	Number of Animals [3] (Capacity) (H)	Total Manure Volume (ft^3) (FxGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)
		References (C)	Manure Type (D)	Default Manure Production (ft^3/animal/day) (E)	Operation Manure Production [1] (ft^3/animal/day) (F)				
Dairy (milking cows[4] and associated livestock)	Free Stall	Table 6, pg 59, FPGs for Dairy 1995	Semi-Solid [5]	3.5				-	0.0
			Solid	3.4				-	
			Liquid [5]	3.5	4.13	365	250	376,862.50	2,347,853.4
	Tie Stall		Semi-Solid [5]	3.6				-	0.0
			Solid	3.5				-	
			Liquid [5]	3.6				-	0.0
	Loose Housing		Solid	3.0				-	
	Milking Parlour Manure and Washwater		Liquid	0.5					
Beef	Beef cows including associated livestock	pg 117, FPGs for Hogs 1998	Solid	1.2				-	
	Backgrounder (200 day)		Solid	0.73				-	
	Summer pasture / replacement heifers		Solid	0.85				-	
	Feeder cattle		Solid	1.1				-	
Pigs	Sows - farrow to finish (234 - 254 lbs)	MAFRI website, FPGs for Pigs 2007	Liquid	2.3				-	0.0
	Sows - farrow to wean (up to 11 lbs)		Liquid	0.8				-	0.0
	Sows - farrow to nursery (51 lbs)		Liquid	1				-	0.0
	Weanlings, Nursery (11 - 51 lbs)		Liquid	0.1				-	0.0
	Grower / Finisher (51 - 248 lbs)		Liquid	0.25				-	0.0

Animal Type	Type of Operation		Yearly Manure Production		Production Period [2] (Days)	Number of Birds [3] (Capacity)	Total Manure Volume (ft^3) (F/365xGxH)	Total Manure Volume for Semi-Solid and Liquid Manure (Imp Gal)
			Default Manure Production (ft^3/year/bird space)	Operation Manure Production [1] (ft^3/year/bird space)				
Chickens	Broilers – floor [6]	Table 3, pg 85, FPGs for Poultry 2000	1.23				-	
	Broiler breeder hens [7]		2.3				-	
	Broiler breeder pullets [8]		0.99				-	
	Roasters – floor [6]		1.16				-	
	Layers – cage [8]		2.33				-	0.0
	Layers – floor [7]		1.68				-	
	Layers – solid pack [9]						-	
	Pullets – cage [8]		0.71				-	0.0
	Pullets – floor [6]		0.75				-	
	Pullets – solid pack [9]						-	
Turkeys	Broilers [6]	Table 3, pg 85, FPGs for Poultry 2000	2.83				-	
	Heavy toms [6]		5.58				-	
	Heavy hens [6]		3.32				-	

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.

Instructions and footnotes:

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

[2] 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

[3] ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).

[4] Milkingcows includes all lactating and dry cows.

[5] Default manure production estimates for semi-solid and liquid dairy manure include manure and washwater from the milking parlour.

[6] 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^3

[7] 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^3

[8] Manure removed from barn at 90% moisture content with a density of 59 lb/ft^3

[9] Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

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	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
Circular Tank		Diameter	Height	Depth (Above Grade)			
		ft	ft	ft			

Permit/Registration # not permitted or registered

EMS to be decommissioned upon construction of new steel tank

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

CELL	Proposed Manure Storage Facility Dimensions						Storage Capacity (days)
	Width	Length	Depth	Height (Above Grade)	Slope (H:L)		
					Inside	Outside	
Primary	ft	ft	ft	ft			
Secondary	ft	ft	ft	ft			
Tertiary	ft	ft	ft	ft			
Circular Tank		Diameter	Height	Depth			
		171 ft	19 ft	19 ft			396

Design depth 17.81 ft.

The construction, modification or expansion of any manure storage structure requires a permit from Manitoba Conservation as per the *Livestock Manure and Mortalities Management Regulation (M.R. 42/98).*

If yes, please describe _____

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 with Manitoba Conservation and Water Stewardship? (For operations with 300 Animal Units or more, only)

☑ yes ☐ no

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 incorporation within 48 hours (Solids) ☑ injection (liquids)

The Livestock Manure and Mortalities Management Regulation prohibits the application of manure from November 10 of one year to April 10 of the following year (winter application).

Time of year for application: ☑ spring ☐ summer ☑ fall

The Livestock Manure and Mortalities Management Regulation puts restrictions on fall application of manure in the Red River Valley Special Management Area.

The proposed spread fields:

are ☐

are not ☑

in the Red River Valley Special Management Area.

Land Available for Manure Application

The land available for manure application includes all suitable land (owned, leased or under agreement) that is available to the operation for manure application.

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.

Areas of a field that are Class 6, 7, unimproved organic soils (Nutrient Management Zone 4) or areas within the nutrient buffer zones are considered unsuitable for manure application. In addition, fields with 60 parts per million (ppm) Olsen phosphorus (P) in the top six inches (15 centimetres) of soil cannot be included in the land base calculation.

Nutrients cannot be applied within the Nutrient Buffer Zones as outlined in the Nutrient Management Regulation (62/2008) and illustrated in the **Setback Requirements From Water Features Table**.

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

☑ yes ☐ no

Use the **Manure Application Field Characteristics Table** to determine the following:

Total suitable area available for manure application	2360 ac.

☑ Manure Application Field Characteristics Table attached

Copies of **soil test reports** that are no more than 12 months old must also be included with this submission.

☑ Soil test reports for the required area for manure application attached.

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 removal of nutrients by the proposed crops.

Phosphorus

The quantity of phosphorus excreted by the livestock depends on the type, number and size of livestock, the quantity and availablility of phosphorus fed to the livestock and the amount retained by the livestock.

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

The **Livestock Manure and Mortalities Management Regulation** requires that "sufficient land is available to the operator to implement an appropriate manure management plan" before Manitoba Conservation and Water Stewardship will issue a permit for a manure storage facility.

"*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^2 is greater than two times the annual crop removal rate of P_2O_5 in that area. 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 "*certain 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 filed(s).

In "*certain areas*" it is Manitoba Conservation and Water Stewardship policy to consider a manure storage facility permit if the operation shows it has access to sufficient suitable land to apply manure at a rate equivalent to one times the crop removal rate of phosphorus.

Is the livestock operation located in "*certain areas*"?

☐ yes ☑ no

MANURE APPLICATION FIELD CHARACTERISTICS TABLE

	A	B	C	D	E	F	G	H	I	J	K
Field	Legal Description	Rural Municipality	O/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Nitrate (lb/acre) 0-24 inches	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1	NW 3-8-6W	GREY	O	70	8m ditch	67	3,4	64	7	GREY - ST. CLAUDE	S-C3
2	NE 4-8-6W	GREY	O	80	8m ditch	76	3,4	78	4	"	S-C3
3	SE, NE, NW 5-8-6W	GREY	O	400	8m ditch	390	3,4	106	27	"	S-C3
4	6-8-6W	GREY	O	400	8m, ditch, wetland	380	3,4	94	46	"	S-C3
5	NE 8-8-6W (SE)	GREY	O	220	8m, ditch, wetland	195	3,4	43	35	"	S-C3
6	SE 9-8-6W	GREY	O	100	8m ditch	96	3,4	70	18	"	S-C3
7	N 9-8-6W	GREY	O	160	8m ditch	155	3,4	70	18	"	S-C3
8	9-8-6W	GREY	O	380	8m ditch, wetland	320	3,4	70	18	"	S-C3
9	SW 15-8-6W	GREY	O	80	8m ditch	76	3,4	38	12	"	S-C3
10	N 16-8-6W	GREY	O	40	8m ditch	35	3,4	139	5	"	S-C3
11	W½ 16-8-6W	GREY	O	320	8m ditch, wetland	290	3,4	11	24	"	S-C3
12	E½ 16-8-6W	GREY	O	320	8m ditch, wetland	280	3,4	22	15	"	S-C3
13											
14											
15											
16											
17											
18											
19											
20											
					Total Net Acreage for Manure Application:	2360					

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 / L – Lease / A – Agreement
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 (e.g. 8m, Order 3 drain).
F. Enter the net long-term 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 nitrate-N in lb/ac at the 0-24 inch depth. Soil test results must be no more than 12 months old and must be completed by an accredited soil-testing laboratory.
I. Provide soil test results for phosphorus ppm Olsen P at 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.
J. Please indicate the Development Plan and its by-law number in addition to the map designation for each field
K. Please indicate the Zoning By-law and its by-law number in addition to the zoning for each field

SOIL TEST REPORT

AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR NW
PREV CROP

SAMPLE
SECTION 3
ACRES 70.0

N / W / E / S

SUBMITTED FOR:
BRUNO DIVORNE

HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK

BOX 208
ELM CREEK, MB R0G 0N0 CANADA

REF # 12436719
LAB # 138448 BOX # 3984

DATE SAMPLED 10/11/12 DATE RECEIVED 10/12/12 DATE REPORTED 10/13/12

NUTRIENT IN THE SOIL		INTERPRETATION (V LOW / LOW / MED / HIGH)
0-6"	25 lb/ac	
6-24"	39 lb/ac	
0-24"	64 lb/ac	
Nitrate N		
Olsen Phosphorus	7 ppm	
Potassium	49 ppm	
Chloride 0-24"	128 lb/ac	
Sulfur 0-6"	36 lb/ac	
6-24"	48 lb/ac	
Boron	0.3 ppm	
Zinc	0.29 ppm	
Iron	21.6 ppm	
Manganese	1.7 ppm	
Copper	0.23 ppm	
Magnesium	346 ppm	
Calcium	3848 ppm	
Sodium	22 ppm	
Organic Matter	1.5 %	
Carbonate (CCE)	1.9 %	
Soluble Salts 0-6"	0.24 mmho/cm	
6-24"	0.15 mmho/cm	

1ST CROP CHOICE: GRAIN CORN		
YIELD GOAL	130 BU	
SUGGESTED GUIDELINES		
BROADCAST/BUILD		
LB/ACRE		APPLICATION
N	92	
P_2O_5	90	Broadcast
K_2O	130	Broadcast
Cl	0	
S	0	
B	1	Broadcast
Zn	10	Broadcast
Fe	0	
Mn	0	
Cu	2	Broadcast
Mg	0	
Lime	0.0	

2ND CROP CHOICE		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3RD CROP CHOICE		
YIELD GOAL		
SUGGESTED GUIDELINES		
LB/A	RE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 8.2		22.3 meq	(65-75)	(15-20)	(1-5)	(0-5)	(0-5)
6-24"			86.1	12.9	0.6	0.4	

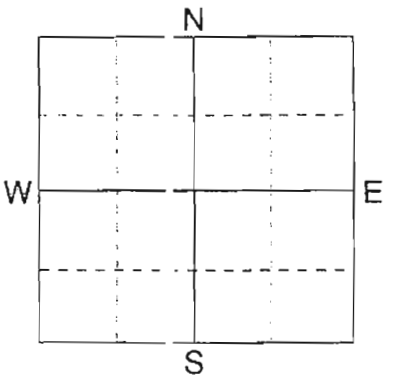
In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 52 K2O= 35
AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

SOIL TEST REPORT

AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD 6
COUNTY 8
TWP NE
QTR
PREV CROP

SAMPLE
SECTION 4
ACRES 80.0



SUBMITTED FOR:
BRUNO DIVORNE

HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK

BOX 208
ELM CREEK, MB ROG 0NO CANADA

REF # 12436718
LAB # 138444 BOX # 3984

SAMPLED 10/11/12 DATE RECEIVED 10/12/12 DATE REPORTED 10/13/12

NUTRIENT IN THE SOIL			INTERPRETATION (V LOW / LOW / MED / HIGH)	1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE		
				GRAIN CORN								
				YIELD GOAL 130 BU			YIELD GOAL			YIELD GOAL		
				SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
				BROADCAST/BUILD								
				LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/AC	RE	APPLICATION
0- 6"	30	lb/ac		N	78		N			N		
6-24"	48	lb/ac										
0-24"	78	lb/ac										
Olsen	4	ppm		P_2O_5	104	Broadcast	P_2O_5			P_2O_5		
	64	ppm		K_2O	118	Broadcast	K_2O			K_2O		
0-24"	104	lb/ac		Cl	0		Cl			Cl		
0- 6"	32	lb/ac		S	0		S			S		
6-24"	36	lb/ac										
	0.5	ppm		B	0		B			B		
	0.49	ppm		Zn	6	Broadcast	Zn			Zn		
	32.3	ppm		Fe	0		Fe			Fe		
	3.8	ppm		Mn	0		Mn			Mn		
	0.26	ppm		Cu	2	Broadcast	Cu			Cu		
	320	ppm		Mg	0		Mg			Mg		
	3299	ppm										
	28	ppm		Lime	0.0		Lime			Lime		
Matter	2.2	%										
(CCE)	1.3	%										
0- 6"	0.20	mmho/cm										
6-24"	0.15	mmho/cm										

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	%	% Na	% H
0- 6" 7.8		19.4 meq	(65-75)	(15-20)	(1-)	(0-5)	(0-5)
6-24"			84.8	13.7	0.	0.6	

In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 52 K2O= 35
AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

SOIL TEST REPORT

AGVISE LABORATORIES

P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR SEC
PREV CROP

SAMPLE
SECTION 5
ACRES 430.0

N / W / E / S

SUBMITTED FOR:
DIVORNE FARMS
HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK
BOX 208
ELM CREEK, MB R0G 0N0 CANADA

REF # 12435820
LAB # 190335 BOX # 2854

DATE SAMPLED 11/ 9/12 DATE RECEIVED 11/14/12 DATE REPORTED 11/1 /12

NUTRIENT IN THE SOIL			INTERPRETATION V LOW	LOW	MED	HIGH
	0- 6"	34 lb/ac				
	6-24"	72 lb/ac				
	0-24"	106 lb/ac				
itrate N						
hosphorus	Olsen	27 ppm				
otassium		197 ppm				
hloride	0-24"	156 lb/ac				
ulfur	0- 6"	66 lb/ac				
	6-24"	108 lb/ac				
oron		1.2 ppm				
inc		2.05 ppm				
on		25.1 ppm				
langanese		2.2 ppm				
opper		0.52 ppm				
lagnesium		564 ppm				
alcium		4489 ppm				
odium		39 ppm				
ganic Matter		2.4 %				
rbonate (CCE)		1.7 %				
oluble	0- 6"	0.42 mmho/cm				
alts	6-24"	0.27 mmho/cm				

1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE		
SOYBEANS								
YIELD GOAL	35 BU		YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
		BAND						
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N	0		N			N		
P_2O_5	10	Band(Starter)*	P_2O_5			P_2O_5		
K_2O	4	Band *	K_2O			K_2O		
Cl	0		Cl			Cl		
S	0		S			S		
B	0		B			B		
Zn	0		Zn			Zn		
Fe	0		Fe			Fe		
Mn	0		Mn			Mn		
Cu	0		Cu			Cu		
Mg	0		Mg			Mg		
Lime	0.0		Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range) % Ca	% Mg	% K	% Na	% H
0- 6" 8.0		27.8 meq	(65-75)	(15-20)	(1-3)	(0-5)	(0-5)
6-24"			80.7	16.9	1.8	0.6	

* CAUTION: SEED PLACED FERTILIZER CAN CAUSE INJURY *

Estimated Texture = Texture is not estimated on high pH soils.
The risk of the development of iron chlorosis on soybeans on this field is low based on the salt and carbonate levels.
Crop Removal: Crop 1: P2O5= 31 K2O= 53
AGVISE Band guidelines will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

AGVISE LABORATORIES

P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR SEC
PREV CROP SILAGE CORN

SAMPLE
SECTION 6
ACRES ~~160~~ 400

N / W / E / S

SUBMITTED FOR:

BRUNO PIVORNE
HAYWOOD

SUBMITTED BY: CA0940

CARGILL-ELM CREEK

BOX 208
ELM CREEK, MB ROG 0NO CANADA

REF # 10251924
LAB # 74758 BOX # 4090

SAMPLED 9/12/12 DATE RECEIVED 9/13/12 DATE REPORTED 9/1 /12

TRIENT IN THE SOIL		INTERPRETATION V LOW / LOW / MED / HIGH
0- 6"	64 lb/ac	
6-24"	30 lb/ac	
0-24"	94 lb/ac	
e N		
Olsen	46 ppm	
sium	151 ppm	
0-24"	116 lb/ac	
0- 6"	60 lb/ac	
6-24"	48 lb/ac	
	1.3 ppm	
	2.43 ppm	
	46.6 ppm	
anese	6.3 ppm	
	0.34 ppm	
esium	575 ppm	
m	3692 ppm	
m	46 ppm	
Matter	2.6 %	
te (CCE)	3.0 %	
e 0- 6"	0.33 meq/100g	
6-24"	0.18 meq/100g	

1ST CROP CHOICE

GRAIN CORN
YIELD GOAL ~~125 BU~~

SUGGESTED GUIDELINES
BROADCAST/BUILD

LB/ACRE		APPLICATION
N	56	
P_2O_5	15	Band (2x2) ‡
K_2O	44	Broadcast
Cl	0	
S	0	
B	0	
Zn	0	
Fe	0	
Mn	0	
Cu	0	
Mg	0	
Lime	0.0	

2ND CROP CHOICE

YIELD GOAL

SUGGESTED GUIDELINES

LB/ACRE		APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3RD CROP CHOICE

YIELD GOAL

SUGGESTED GUIDELINES

LB/AC	RE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation			Typical Ranges (%)	
			% Ca	% Mg	% K	% Na	% H
0- 6" 7.8		23.8 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24"			77.4	20.1	1.6	0.8	

‡ CAUTION: SEED PLACED FERTILIZER CAN CAUSE INJURY ‡

In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Broadcast P or K fertilizer is not suggested on high testing soils, however a band application of fertilizer is suggested as a starter.
Crop Removal: Crop 1: P2O5= 50 K2O= 34
AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

SOIL TEST REPORT

AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR NE
PREV CROP

SAMPLE
SECTION 8
ACRES

N / W / E / S

SUBMITTED FOR:
BRUNNO DIVORNE
Box 40
HAYWOOD, MB R0G 0W0

SUBMITTED BY: CA0940
CARGILL-ELM CREEK
BOX 208
ELM CREEK, MB R0G 0N0 CANADA

REF # 116B7321
LAB # 56950
BOX # 2294

DATE SAMPLED 8/25/12 | DATE RECEIVED 8/28/12 | DATE REPORTED 8/27/12

NUTRIENT IN THE SOIL		INTERPRETATION (V LOW / LOW / MED / HIGH)	1ST CROP CHOICE	2ND CROP CHOICE	3RD CROP CHOICE
			YIELD GOAL	YIELD GOAL	YIELD GOAL
			SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES
			LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION
0-6"	13 lb/ac		N	N	N
6-24"	30 lb/ac				
0-24"	43 lb/ac	*******			
Nitrate N					
Olsen Phosphorus	35 ppm	**********	P_2O_5	P_2O_5	P_2O_5
Potassium	185 ppm	**********	K_2O	K_2O	K_2O
Chloride 0-24"	268 lb/ac	**********	Cl	Cl	Cl
Sulfur 0-6"	90 lb/ac	**********	S	S	S
6-24"	252 lb/ac	**********			
Boron	1.6 ppm	**********	B	B	B
Zinc	3.17 ppm	**********	Zn	Zn	Zn
Iron	25.8 ppm	**********	Fe	Fe	Fe
Manganese	3.2 ppm	**********	Mn	Mn	Mn
Copper	0.81 ppm	**********	Cu	Cu	Cu
Magnesium	770 ppm	**********	Mg	Mg	Mg
Calcium	4058 ppm	**********			
Sodium	62 ppm	**********	Lime	Lime	Lime
Organic Matter	3.3 %	**********			
Carbonate (CCE)	4.4 %	**********			
Soluble Salts 0-6"	0.24 mmho/cm	******			
6-24"	0.31 mmho/cm	********			

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0-6" 8.0		27.5 meq	(65-75)	(15-20)	(2-7)	(0-5)	(0-5)
6-24"			73.9	23.4	1.7	1.0	

Estimated Texture = Texture is not estimated on high pH soils.

SOIL TEST REPORT

ADVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR SEC
PREV CROP

SAMPLE
SECTION 9
ACRES 600.0

N / W / E / S

SUBMITTED FOR:
BRUNO DIVORNE
HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK
BOX 208
ELM CREEK, MB ROG 0NO CANADA

REF # 10251921
LAB # 71199 BOX # 3623

E SAMPLED 9/ 7/12 DATE RECEIVED 9/11/12 DATE REPORTED 9/12/12

UTRIENT IN THE SOIL			INTERPRETATION V LOW	LOW	MED	HIGH
0- 6"	25	lb/ac				
6-24"	45	lb/ac				
0-24"	70	lb/ac				
ate N						
Olsen sphorus	18	ppm				
assium	146	ppm				
ride 0-24"	168	lb/ac				
0- 6"	86	lb/ac				
6-24"	48	lb/ac				
on	1.3	ppm				
c	1.31	ppm				
	20.8	ppm				
nganese	3.7	ppm				
ppe	0.57	ppm				
gnesium	636	ppm				
lcium	3491	ppm				
dium	48	ppm				
anic Matter	2.7	%				
rbonate (CCE)	3.1	%				
luble 0- 6"	0.32	mmho/cm				
lts 6-24"	0.22	mmho/cm				

1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE		
YIELD GOAL			YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
	LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION
N			N			N		
P_2O_5			P_2O_5			P_2O_5		
K_2O			K_2O			K_2O		
Cl			Cl			Cl		
S			S			S		
B			B			B		
Zn			Zn			Zn		
Fe			Fe			Fe		
Mn			Mn			Mn		
Cu			Cu			Cu		
Mg			Mg			Mg		
Lime			Lime			Lime		

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0- 6" 7.9		23.3 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24"			74.8	22.7	1.6	0.9	

Estimated Texture = Texture is not estimated on high pH soils.

SOIL TEST REPORT

AGVISE LABORATORIES

P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR SW
PREV CROP

SAMPLE
SECTION 15
ACRES 80.0

N / W / E / S

SUBMITTED FOR:
DIVORNE FARMS
HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK
BOX 208
ELM CREEK, MB ROG 0N0 CANADA

REF # 12435B19
LAB # 190332 BOX # 2854

DATE SAMPLED 11/ 9/12 DATE RECEIVED 11/14/12 DATE REPORTED 11/1 /12

NUTRIENT IN THE SOIL		INTERPRETATION (V LOW / LOW / MED / HIGH)	1ST CROP CHOICE: GRAIN CORN, YIELD GOAL 130 BU	2ND CROP CHOICE: YIELD GOAL	3RD CROP CHOICE: YIELD GOAL
			SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES
			BAND		
			LB/ACRE	LB/ACRE	LB/ACRE
			APPLICATION	APPLICATION	APPLICATION
0- 6"	5 lb/ac				
6-24"	33 lb/ac				
0-24"	38 lb/ac	*******			
itrate N			N 118	N	N
Olsen hosphorus	12 ppm	**********	P_2O_5 32 Band *	P_2O_5	P_2O_5
otassium	85 ppm	**********	K_2O 53 Band *	K_2O	K_2O
loride 0-24"	192 lb/ac	**********	Cl 0	Cl	Cl
0- 6"	64 lb/ac	**********	S 0	S	S
ulfur 6-24"	360+ lb/ac	**********			
oron	1.7 ppm	**********	B 0	B	B
nc	1.12 ppm	**********	Zn 2 Band	Zn	Zn
on	23.2 ppm	**********	Fe 0	Fe	Fe
anganese	2.5 ppm	**********	Mn 0	Mn	Mn
opper	0.42 ppm	**********	Cu 0	Cu	Cu
agnesium	1025 ppm	**********	Mg 0	Mg	Mg
alcium	4100 ppm	**********			
odium	87 ppm	**********	Lime 0.0	Lime	Lime
ganic Matter	2.9 %	**********			
rbonate (CCE)	4.4 %	**********			
oluble 0- 6"	0.32 mmho/cm	********			
alts 6-24"	0.64 mmho/cm	**********			

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range) % Ca	% Mg	% K	% Na	% H
0- 6" 8.0		29.6 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24"			69.2	28.8	0.7	1.3	

* CAUTION: SEED PLACED FERTILIZER CAN CAUSE INJURY *

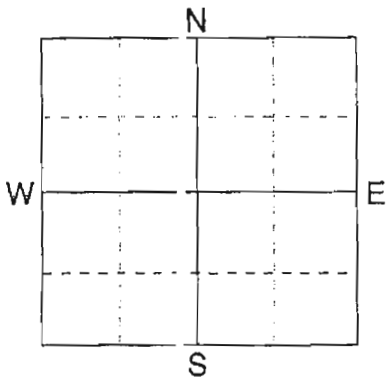
In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 52 K2O= 35
AGVISE Band guidelines will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR N
PREV CROP

SAMPLE
SECTION 16
ACRES 40.0



SUBMITTED FOR:
BRUNO DIVORNE

HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK

BOX 208
ELM CREEK, MB ROG 0NO CANADA

REF # 12436717
LAB # 138439 BOX # 3984

SAMPLED 10/11/12 DATE RECEIVED 10/12/12 DATE REPORTED 10/1[illegible]/12

NUTRIENT IN THE SOIL		INTERPRETATION (V LOW / LOW / MED / HIGH)	1ST CROP CHOICE	2ND CROP CHOICE	3RD CROP CHOICE
			GRAIN CORN		
			YIELD GOAL 130 BU	YIELD GOAL	YIELD GOAL
			SUGGESTED GUIDELINES	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES
			BROADCAST/BUILD		
			LB/ACRE APPLICATION	LB/ACRE APPLICATION	LB/ACRE APPLICATION
0- 6"	88 lb/ac		N 17	N	N
6-24"	51 lb/ac				
0-24"	139 lb/ac				
ate N					
Olsen sphorus	5 ppm		P_2O_5 100 Broadcast	P_2O_5	P_2O_5
assium	72 ppm		K_2O 111 Broadcast	K_2O	K_2O
ride 0-24"	1096 lb/ac		Cl 0	Cl	Cl
0- 6"	112 lb/ac		S 0	S	S
6-24"	144 lb/ac				
on	1.3 ppm		B 0	B	B
c	1.85 ppm		Zn 2 Broadcast	Zn	Zn
	43.4 ppm		Fe 0	Fe	Fe
nganese	3.2 ppm		Mn 0	Mn	Mn
pper	0.58 ppm		Cu 0	Cu	Cu
gnesium	727 ppm		Mg 0	Mg	Mg
lcium	4319 ppm				
dium	225 ppm		Lime 0.0	Lime	Lime
anic Matter	2.9 %				
bonate (CCE)	3.4 %				
luble 0- 6"	0.55 mmho/cm				
lts 6-24"	0.44 mmho/cm				

Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
			% Ca	% Mg	% K	% Na	% H
0- 6" 8.2		28.8 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
6-24"			74.9	21.0	0.6	3.4	

In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 52 K2O= 35
AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

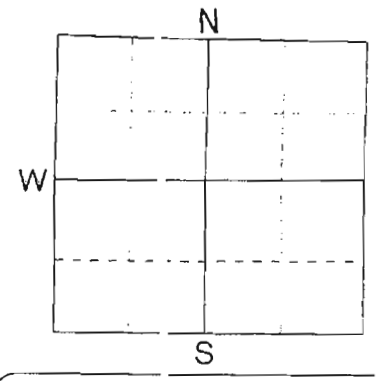
SOIL TEST REPORT

AGVISE LABORATORIES

P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR W1/2
PREV CROP

SAMPLE
SECTION 16
ACRES 300.0



SUBMITTED FOR:
DIVORNE FARMS
HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK
BOX 208
ELM CREEK, MB R0G 0N0 CANADA

REF # 12435817
LAB # 190327 BOX # 2800

DATE SAMPLED 11/ 9/12 DATE RECEIVED 11/14/12 DATE REPORTED 11/15/12

NUTRIENT IN THE SOIL			INTERPRETATION (V LOW / LOW / MED / HIGH)
	0- 6"	2 lb/ac	
	6-24"	9 lb/ac	
	0-24"	11 lb/ac	‡‡
Nitrate N			
Phosphorus	Olsen	24 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Potassium		186 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Chloride	0-24"	200 lb/ac	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Sulfur	0- 6"	94 lb/ac	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
	6-24"	192 lb/ac	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Boron		1.1 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Zinc		2.01 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Iron		22.5 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Manganese		1.9 ppm	‡‡‡‡‡‡‡‡‡‡‡‡
Copper		0.44 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Magnesium		463 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Calcium		3635 ppm	‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡‡
Sodium		35 ppm	‡‡‡‡‡‡
Organic Matter		1.4 %	‡‡‡‡‡‡
Carbonate (CCE)		2.1 %	‡‡‡‡‡‡‡‡‡‡‡‡
Soluble Salts	0- 6"	0.35 mmho/cm	‡‡‡‡‡‡‡‡‡
	6-24"	0.30 mmho/cm	‡‡‡‡‡‡‡‡

1ST CROP CHOICE			2ND CROP CHOICE			3RD CROP CHOICE		
ALFALFA								
YIELD GOAL	4 TONS		YIELD GOAL			YIELD GOAL		
SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
		BAND						
LB/ACRE		APPLICATION	LB/ACRE		APPLICATION	LB/ACRE		APPLICATION
N	0		N			N		
P_2O_5	15	Band(Starter)‡	P_2O_5			P_2O_5		
K_2O	57	Band ‡	K_2O			K_2O		
Cl	0		Cl			Cl		
S	0		S			S		
B	1	Broadcast	B			B		
Zn	0		Zn			Zn		
Fe	0		Fe			Fe		
Mn	0		Mn			Mn		
Cu	1	Band (Trial)	Cu			Cu		
Mg	0		Mg			Mg		
Lime	0.0		Lime			Lime		

Soil pH		Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
				% Ca	% Mg	% K	% Na	% H
0- 6"	8.0		22.7 meq	(65-75)	(15-20)	(1-7	(0-5)	(0-5)
6-24"				80.2	17.0	2.1	0.7	

‡ CAUTION: SEED PLACED FERTILIZER CAN CAUSE INJURY ‡

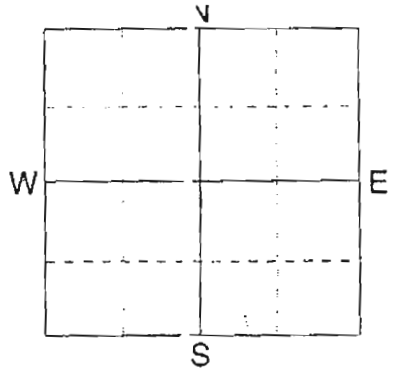
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 40 K2O=200
AGVISE Band guideline: will build P & K test levels to the medium range over many years.

SOIL TEST REPORT

AGVISE LABORATORIES
P.O. BOX 510, NORTHWOOD, ND 58267
(701) 587-6010

FIELD
COUNTY 6
TWP 8
QTR E1/2
PREV CROP

SAMPLE
SECTION 16
ACRES 280.0



SUBMITTED FOR:
DIVORNE FARMS

HAYWOOD,

SUBMITTED BY: CA0940
CARGILL-ELM CREEK

BOX 208
ELM CREEK, MB ROG 0NO CANADA

REF #
LAB # 190328 BOX # 2800

SAMPLED 9/11/12 DATE RECEIVED 11/14/12 DATE REPORTED 11/1[illegible]/12

NUTRIENT IN THE SOIL			INTERPRETATION (V LOW / LOW / MED / HIGH)
0- 6"	4	lb/ac	
6-24"	18	lb/ac	
0-24"	22	lb/ac	****
ate N			
0lsen sphorus	15	ppm	**********
assium	127	ppm	**********
ride 0-24"	184	lb/ac	**********
0- 6"	42	lb/ac	**********
fur 6-24"	186	lb/ac	**********
ron	1.1	ppm	**********
ic	1.34	ppm	**********
n	20.0	ppm	**********
anganese	2.0	ppm	**********
opper	0.30	ppm	**********
agnesium	636	ppm	**********
alcium	4644	ppm	**********
odium	51	ppm	**********
rganic Matter	2.4	%	**********
arbonate (CCE)	4.7	%	**********
oluble 0- 6"	0.15	mmho/cm	****
alts 6-24"	0.32	mmho/cm	********

1ST CROP CHOICE

GRAIN CORN
YIELD GOAL 130 BU
SUGGESTED GUIDELINES

	LB/ACRE	APPLICATION
N	134	
P_2O_5	22	Band *
K_2O	34	Band *
Cl	0	
S	0	
B	0	
Zn	2	Band
Fe	0	
Mn	0	
Cu	1	Band
Mg	0	
Lime	0.0	

2ND CROP CHOICE

YIELD GOAL
SUGGESTED GUIDELINES

	LB/ACRE	APPLICATION
N		
P_2O_5		
K_2O		
Cl		
S		
B		
Zn		
Fe		
Mn		
Cu		
Mg		
Lime		

3RD CROP CHOICE

YIELD GOAL
SUGGESTED GUIDELINES

	LB/A	RE	APPLICATION
N			
P_2O_5			
K_2O			
Cl			
S			
B			
Zn			
Fe			
Mn			
Cu			
Mg			
Lime			

	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
				% Ca	% Mg	% K	% Na	% H
				(65-75)	(15-20)	(2-7)	(0-5)	(0-5)
0- 6"	8.5		29.1 meq	79.9	18.2	1.1	0.8	
6-24"								

* CAUTION: SEED PLACED FERTILIZER CAN CAUSE INJURY *

In no-till or very reduced tillage systems, an additional 30 lbs/ac of nitrogen may increase corn yield.
Estimated Texture = Texture is not estimated on high pH soils.
Crop Removal: Crop 1: P2O5= 52 K2O= 35
AGVISE Band guidelines will build P & K test levels to the medium range over many years.

CROP ROTATION TABLE

A	B	C	D	E
Expected Crops in the Rotation	**Acreage**	**Historical Yield**	**Units**	**Source of Yield Information**
Alfalfa	290	2.79	tons/ac	MASC
Barley - Grain	155	66.5	bu/ac	MASC
Corn - Grain	1419	89.2	bu/ac	MASC
Oats	96	94.9	bu/ac	MASC
Soybeans	400	30.1	bu/ac	MASC
Total Net Acreage for Manure Application	2360			

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.

mmpp.com Benchmarks for Better Farm Management

Web address: http://www.mmpp.com/mmpp.nsf/mmpp_browser_fertilizer.html

MMPP Fertilizer Data Browser

(Fertilizer Query Help)

Save Raw Data | New Search

Search Summary

Your selected search:

Region(s) Selected: GREY

Crop(s) Selected: ALFALFA

Soil Zone(s) Selected: All

Period Selected: 1995 to 2012

This search returned 28 records from the MASC database, summarized below:

Total Acres:	**6,628 acres**
Yield per Acre:	**2.792 Tons / acre** (2.533 tonnes / acre)

Fertilizer Applied per Acre (actual product):

Nitrogen:	**22.7 lbs / acre**	(0.010 tonnes / acre)
Phosphorus:	**30.3 lbs / acre**	(0.014 tonnes / acre)
Potassium:	**45.9 lbs / acre**	(0.021 tonnes / acre)
Sulfur:	**2.8 lbs / acre**	(0.001 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Canada MASC Manitoba

mmpp.com Benchmarks for Better Farm Management

Web address: http://www.mmpp.com/mmpp.nsf/mmpp_browser_fertilizer.html

MMPP Fertilizer Data Browser

(Fertilizer Query Help)

Save Raw Data | New Search

Search Summary

Your selected search:

Region(s) Selected: GREY

Crop(s) Selected: BARLEY

Soil Zone(s) Selected: All

Period Selected: 1995 to 2012

This search returned 81 records from the MASC database, summarized below:

Total Acres:	**88,123 acres**
Yield per Acre:	**66.5 Bushels / acre** (1.448 tonnes / acre)

Fertilizer Applied per Acre (actual product):

Nitrogen:	**76.5 lbs / acre**	(0.035 tonnes / acre)
Phosphorus:	**30.1 lbs / acre**	(0.014 tonnes / acre)
Potassium:	**12.3 lbs / acre**	(0.006 tonnes / acre)
Sulfur:	**3.2 lbs / acre**	(0.001 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Canada MASC Manitoba

mmpp.com Benchmarks for Better Farm Management

Web address: http://www.mmpp.com/mmpp.nsf/mmpp_browser_fertilizer.html

MMPP Fertilizer Data Browser

(Fertilizer Query Help)

Save Raw Data | New Search

Search Summary

Your selected search:

Region(s) Selected: GREY

Crop(s) Selected: GRAIN CORN

Soil Zone(s) Selected: All

Period Selected: 1995 to 2012

This search returned 72 records from the MASC database, summarized below:

Total Acres:	**79,685 acres**
Yield per Acre:	**89.2 Bushels / acre** (2.266 tonnes / acre)

Fertilizer Applied per Acre (actual product):

Nitrogen:	**101.2 lbs / acre** (0.046 tonnes / acre)
Phosphorus:	**33.6 lbs / acre** (0.015 tonnes / acre)
Potassium:	**31.6 lbs / acre** (0.014 tonnes / acre)
Sulfur:	**6.0 lbs / acre** (0.003 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Canada MASC Manitoba

mmpp.com Benchmarks for Better Farm Management

Web address: http://www.mmpp.com/mmpp.nsf/mmpp_browser_fertilizer.html

MMPP Fertilizer Data Browser

(Fertilizer Query Help)

Save Raw Data | New Search

Search Summary

Your selected search:

Region(s) Selected: GREY

Crop(s) Selected: OATS

Soil Zone(s) Selected: All

Period Selected: 1995 to 2012

This search returned 103 records from the MASC database, summarized below:

Total Acres:	**372,213 acres**	
Yield per Acre:	**94.9 Bushels / acre**	(1.464 tonnes / acre)

Fertilizer Applied per Acre (actual product):

Nitrogen:	**74.8 lbs / acre**	(0.034 tonnes / acre)
Phosphorus:	**29.9 lbs / acre**	(0.014 tonnes / acre)
Potassium:	**8.8 lbs / acre**	(0.004 tonnes / acre)
Sulfur:	**3.0 lbs / acre**	(0.001 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Canada MASC Manitoba

mmpp.com Benchmarks for Better Farm Management

Web address: http://www.mmpp.com/mmpp.nsf/mmpp_browser_fertilizer.html

MMPP Fertilizer Data Browser

(Fertilizer Query Help)

Save Raw Data | New Search

Search Summary

Your selected search:

Region(s) Selected: GREY

Crop(s) Selected: SOYBEANS

Soil Zone(s) Selected: All

Period Selected: 1995 to 2012

This search returned 45 records from the MASC database, summarized below:

Total Acres:	**38,417 acres**
Yield per Acre:	**30.1 Bushels / acre** (0.819 tonnes / acre)

Fertilizer Applied per Acre (actual product):

Nitrogen:	**9.5 lbs / acre**	(0.004 tonnes / acre)
Phosphorus:	**25.6 lbs / acre**	(0.012 tonnes / acre)
Potassium:	**10.4 lbs / acre**	(0.005 tonnes / acre)
Sulfur:	**3.6 lbs / acre**	(0.002 tonnes / acre)

View Raw Data

Save Raw Data | New Search

Canada MASC Manitoba

In areas which are not considered to be "*certain areas*", Manitoba Conservation and Water Stewardship may issue a manure storage facility permit, if the operation shows it has access to sufficient suitable land to apply manure at a rate equivalent to two times the crop removal rate of phosphorus.

For more information on obtaining a manure storage facility permit, please contact Manitoba Conservation and Water Stewardship, Environmental Approvals branch at (204) 945-5081.

Use the **Land Base Calculator** to calculate the minimum area required for manure application.

Total minimum area required for manure application at two times crop removal, for operations outside of Hanover and La Broquerie	692 ac. (nitrogen based) 583 ac. (P_2O_5 based)
Total minimum area required for manure application at one times crop removal, for operations within Hanover and La Broquerie AND For the long-term sustainability of operations outside of Hanover and La Broquerie	1165 ac.

For more information on completing land base calculations, call Manitoba Agriculture, Food and Rural Initiatives (MAFRI) at (204) 945-3869 in Winnipeg.

☑ Land Base Calculator attached

Land Base Requirement Summary

By comparing the 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 for two times the crop removal rate of phosphorus (for operations outside of the RMs of Hanover or La Broquerie)
☑ has been identified for one times the crop removal rate of phosphorus (for operations within the RMs of Hanover and La Broquerie)

Operation Name: Diverne Farms Ltd.

STEP 1: Livestock Information

	Species	Type	Livestock Places	Animal Units	Cycle Length (Days)	Cycles / Year	Output per head per cycle		Annual Production Nitrogen		Annual Production P_2O_5	
							kg N	kg P_2O_5	kg	lb	kg	lb
1	Dairy	Dairy Cows (including associated livestock)	250	500	365	1	154.5	75	38625	84975	18750	41250
2												
3												
4												
5												
6												
7												
8												
9												
10												
			Total AU	500								

STEP 2: Crop Rotation Information

		Removal (lb/ac)		
		Nitrogen (N)	P_2O_5	2 X P_2O_5
1.	Detailed Rotation (Farm Data)	98	35	71

STEP 3: Manure Storage Information

		Value (%)
1.	N-losses	20

	Base Total N:	38625	84975	18750	41250
	Post Manure Application N:	30900	67980	--	--
LAND BASE REQUIRED		Acres		Acres	
		2 X P_2O_5 Removal		1 X P_2O_5 Removal	
	Nitrogen (N) based	692		692	
	Phosphorus (P_2O_5) based	583		1165	

1. Nutrient values excreted by livestock is adapted from Quebec (Le Centre de reference en agriculture et agroalimentaire du Quebec - CRAAQ)
2. Nutrient excretion for sows is based upon unpublished data for Manitoba
3. Nutrient values for turkeys based upon data from "Farm Practices Guidelines for Poultry Producers in Manitoba, 2000"

Footnote:

The nitrogen (N) and phosphorus (expressed as P2O5) land bases are based on nutrient excretion, nutrient removal and N losses during storage. Nutrient removal includes only the quantity of nutrient that is in the harvested portion of the plant and is exported from the field.

The land base calculations are not based on nutrient uptake. Nutrient uptake is the total quantity of nutrient taken up by the plant and stored in the roots, leaves and seeds.

The N land base assumes zero volatilization losses during field application using best management practices for N conservation. Field N losses from nitrification, denitrification and leaching are also not included.

Operation: Divome Farms Ltd.

Crop	P_2O_5 Removed per Unit of Crop	N Removed per Unit of Crop	Historical Average Yield	Unit	Acreage	Total Removal P_2O_5	Total Removal $2(P_2O_5)$	Total Removal Nitrogen (N)
Alfalfa	13.80	58.00	2.79	tons/ac	290	4.7	9.5	19.9
Barley Grain	0.42	0.97	66.5	bu/ac	155	1.8	3.7	4.2
Barley Silage	11.80	34.40		tons/ac				
Canola	1.04	1.93		bu/ac				
Corn Grain	0.44	0.97	89.2	bu/ac	1419	23.6	47.2	52.0
Corn Silage	12.70	31.20		tons/ac				
Dry edible beans	1.39	4.17		cwt/ac				
Fababeans	1.79	5.02		cwt/ac				
Flax	0.65	2.13		bu/ac				
Grass hay	10.00	34.20		tons/ac				
Lentils	1.03	3.39		cwt/ac				
Oats	0.26	0.62	94.9	bu/ac	96	1.0	2.0	2.4
Peas	0.69	2.34		bu/ac				
Potatoes	0.09	0.32		cwt/ac				
Rye	0.45	1.06		bu/ac				
Soybeans	0.84	3.87	30.1	bu/ac	400	4.2	8.5	19.7
Sunflower	1.10	2.80		cwt/ac				
Wheat - Spring	0.59	1.50		bu/ac				
Wheat - Winter	0.51	1.04		bu/ac				
					2360	**35.4**	**70.8**	**98.3**

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 to 119 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 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 to balance phosphorus applications with crop phosphorus removals (one times) so that manure treatment and export of phosphorus from the region is not required.

☑ I acknowledge that up to 1165 acres/hectares (one times crop removal from table above) may be required for the long term environmental sustainability of the operation.

10.0 Mortalities (Dead Animal) Disposal

The Livestock Manure and Mortalities Management Regulation sets requirements for the use, management and storage of livestock mortalities in agricultural operations. It helps ensure livestock mortalities are handled in an environmentally sound manner. Winter application of composted mortalities is prohibited.

Type of disposal:
- ☐ rendering
- ☑ composting
- ☐ incineration (in approved incinerator only)

Mass Mortalities

☐ A plan for **mass mortalities** is in place.

Currently not required by MB Conservation + Water Stewardship

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

Due to soil + groundwater conditions on site that are not conducive to burial, disposal at an approved landfill site is the most viable method of disposal. All situations involving mass mortalities will be coordinated through MB Conservation + Water Stewardship.

11.0 Project Site Description: Land Use Planning Considerations

For assistance contact your Community and Regional Planning Regional Office.

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 this bylaw. In the absence of a By-law, the Provincial Planning Regulation under *The Planning Act* applies.

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.

Name of Planning District	Grey - St. Claude Planning District Dev. Plan
Development Plan by-law number	2/99
Land use designation of project site	AG - Agricultural General
Livestock operation policies – quote supportive policy numbers	1.3.1 1.3.2
Other Development Plan policies – quote supportive policy numbers	1.3.6
Non-supportive Development Plan policies	

☐ The Development Plan livestock operation policies support the size and location of the proposed operation. Subject to Conditional Use Hearing

☒ The Development Plan designations support the long term use of the proposed spread fields.

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 bylaw contains specific regulations that govern location and setback of livestock operations.

What are the minimum project site requirements stated in the Zoning By-law?

	Project site dimensions	Minimum zoning bylaw site requirements
Minimum site area	160 ac.	80 ac
Minimum site width	2640 ft	1000 ft
Minimum front yard	406 ft	125 ft
Minimum side and rear yard	1010 ft	25 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.

Separation Distances (Zoning Bylaw or Provincial Planning Regulation)
Using the proposed size of the operation (see Animal Units Calculation Table) 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…

…to the following land use features (if applicable)	**Indicate minimum separation distance required in the zoning bylaw or Provincial Planning Regulation** **(Check appropriate box(es)**		**If land use feature is less than the minimum separation distance**	
	☐ a. ☐ b.	☑ c. ☑ d.	Provide actual distance	Provide location or name of feature (e.g. Red River)
Residence/ dwelling		328 ft	4540 ft	NW 8-8-6W
Designated area (non-agricultural)		1320 ft	11,140 ft	Haywood, MB
Surface water		328 ft	406 ft	east municipal ditch
Surface watercourse		328 ft	406 ft	east municipal ditch
Crown land		N/A		None in immediate area
Wildlife Management Area		N/A		
Livestock operation			≈ 5780 ft	SW 4-8-6W
Other significant features/land uses				

If Crown Lands are located within one mile, provide coding. Information can be obtained from the Interdepartmental Operations Crown Lands Plans through the Manitoba Legislative Library or contact Manitoba Conservation and Water Stewardship at (204) 619-2230.

If undesignated Crown Lands will be used for manure spreading purposes, including the laying of pipe or clearing activity, and use will require a Crown Lands General Permit disposition for the use and access of the subject Crown Lands Parcel(s).

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.

Note: If any separation distance is less than the zoning by-law minimum, a Variation Order will be required from the Municipality.

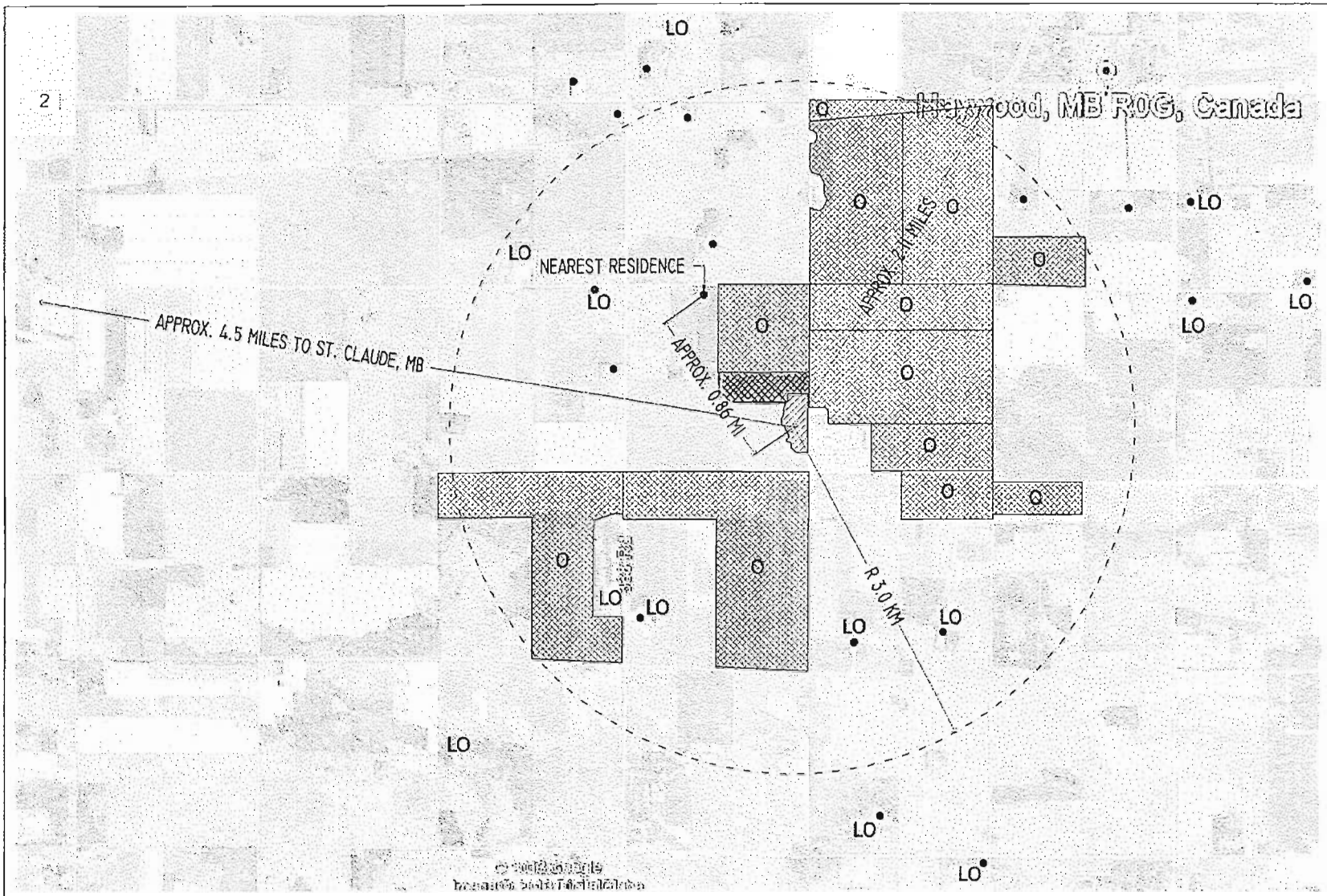
Setback Distances (Livestock Manure and Mortalities Management Regulation)
Using the following table to indicate the distance from:

Feature	Structure	Minimum setback distance required	Provide actual distance (m)	Provide location or name of feature (e.g. Red River)
Surface watercourse, sinkhole, spring, or well	Manure storage facility	100 m	186m	ditch
	Field storage	100 m	> 100m	ditch, wetland
	Composing site	100 m	186m	ditch
	Confined livestock area	100 m	121.95m	proposed barn
Property Line	Manure storage facility	100 m	186m	east line
	Composing site	100 m	186m	east line
	Confined livestock area	100 m	121.95m	east line proposed barn.

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

All setbacks met.

Show: a) location of the project site, location and ownership of spread fields and b) land uses and significant features including dwellings (i) within a 1 mile radius of the project site and (ii) within and adjacent to each spread field on a Land Use & Spread Field Map. (See **Land Use & Spread Field Map Example**).



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LAND USE AND SPREAD FIELD MAP

DIVORNE FARMS LTD.
SE 8-8-6W
RM OF GREY

LEGEND:

LO - LIVESTOCK OPERATIONS
EMS - EARTHEN MANURE STORAGE

O - SPREAD FIELDS (OWNED)
L - SPREAD FIELDS (LEASED)
A - SPREAD FIELDS (AGREEMENT)

R - RURAL SETTLEMENT CENTRE

— - 3KM NOTIFICATION AREA FOR THE PUBLIC CONDITIONAL USE HEARING

● - RESIDENCE

South-Man Engineering

DIVORNE FARMS LTD. SE 8-8-6W	TOTAL AREA = 57,227 SQ/FT
LAND USE & SPREAD FIELD MAP	R. FLORES SOUTH-MAN ENGINEERING
APRIL 2013	AS NOTED
	SP-2

12.0 Truck Haul Routes and Access Points

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.

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	1		✓					✓		
Tractor Trailer	1		✓					✓		
Other – Specify passenger veh.	6			✓			✓			

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

For help with mapping, contact your **Community and Regional Planning Regional Office**.

☑ Truck Haul Routes and Access Points Map attached

13.0 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

Were rare species identified in the Conservation Data Centre Report?

☐ Yes
☑ No

South-Man Engineering	DIVORNE FARMS LTD. SE 8-8-6W	TOTAL AREA = 57,227 SQ/FT
	TRUCK HAUL ROUTE	R. FLORES SOUTH-MAN ENGINEERING
	APRIL 2013	AS NOTED
		SP-3

Gmail by Google

Peter Grieger <peter.southmaneng@gmail.com>

Divorne Farms Ltd.

Friesen, Chris (CWS) <Chris.Friesen@gov.mb.ca> Thu, Aug 8, 2013 at 8:36 AM
To: "peter@southmaneng.com" <peter@southmaneng.com>

Peter

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 and Ecosystem Protection Branch, Manitoba Conservation.

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.

Chris Friesen
Biodiversity Information Manager
Manitoba Conservation Data Centre
204-945-7747
chris.friesen@gov.mb.ca
http://www.gov.mb.ca/conservation/cdc/

-----Original Message-----
From:
Sent: August-07-13 12:33 AM
To: Friesen, Chris (CWS)
Subject: WWW Form Submission

Below is the result of your feedback form. It was submitted by WWW Information Request () on Wednesday, August 7, 2013 at 00:32:39

DocumentID: Manitoba_Conservation

Project Title: Divorne Farms Ltd.

Date Needed: 2013/08/08

Name: Peter Grieger

Company/Organization: South-Man Engineering

Address: Unit 15 - 1599 Dugald Road

City: Winnipeg

Province/State: Manitoba

Phone: (204) 223-8289

Fax: (204) 668-9652

Email: peter@southmaneng.com

Project Description: Proposed project is to expand an existing livestock operation situated on SE 8-8-6W in the RM of Grey. The information requested will be used by the Provincial Technical Review Committee to assess the impacts of the proposal on the environment and adjacent land uses.

Information Requested: A Conservation Data Centre Report is required.

Format Requested: Microsoft Word Document sent by email is preferred.

Location: SE8-8-6W in the RM of Grey. The proposed development site and associated manure application landbase is situated with the La Salle River Watershed.

action: Submit

14.0 Supporting Documents

Check off the supporting documents included in this submission:

- ☑ Contact Information and Privacy and Publication Notice
- ☑ Location Map (shows proposed project within rural municipality)
- ☑ Animal Units Calculation Table
- ☑ Water Requirement Calculation Table
- ☑ Manure Production Calculator Table
- ☑ Existing and Proposed Manure Storage Facility Dimensions Tables (if applicable)
- ☑ Manure Application Field Characteristics Table
- ☑ Crop Rotation Table
- ☑ Recent manure application field soil sample results (Nitrate- N lb/ac at 0-6 and 6-24 inch depths, Phosphorus – ppm at 0-6 inch depth)
- ☑ Land Base Calculator
- ☑ Project Site Plan (proposed operation showing current and proposed structures)
- ☑ Land Use and Spread Field Map (location and ownership of operation, spread fields, 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:

_____

_____

_____

15.0 Declaration

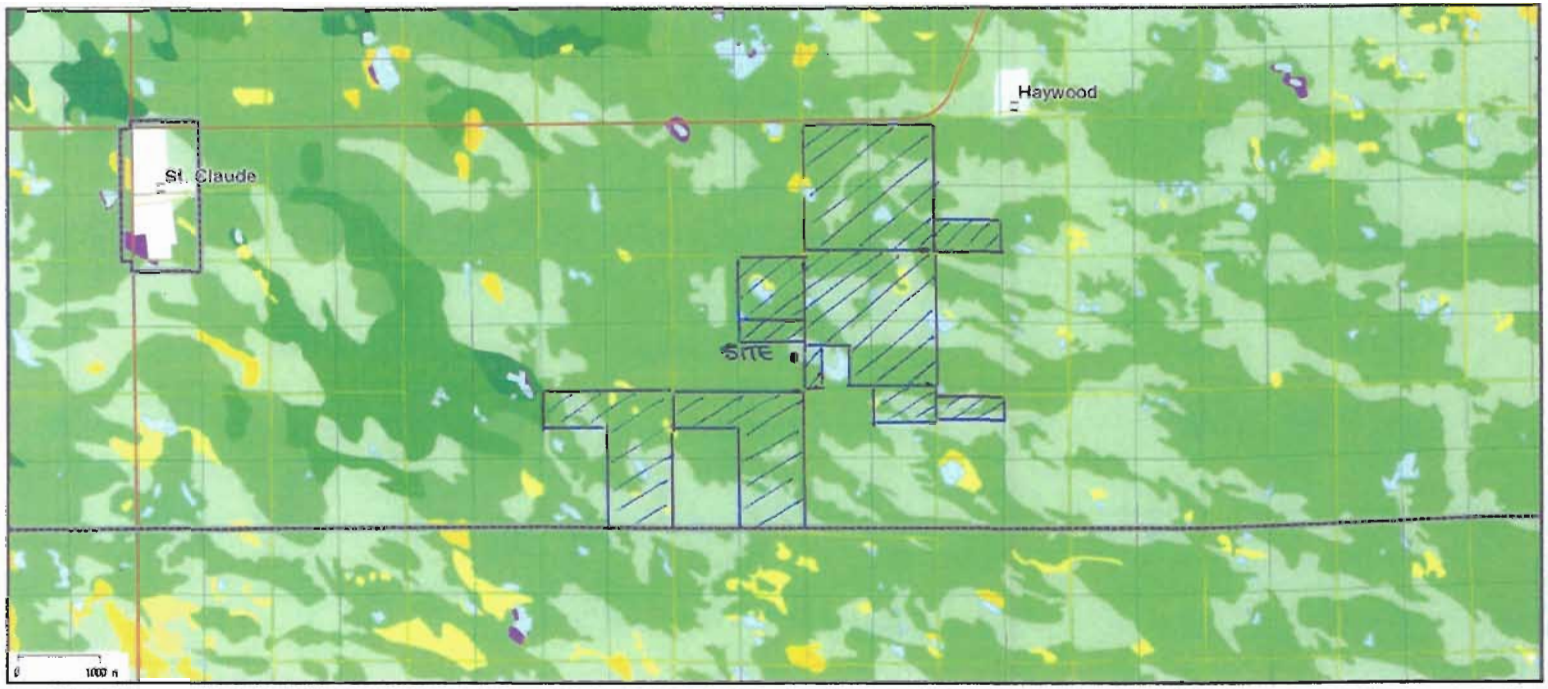
I do hereby verify that the information contained in the Site Assessment and all required Supporting Documents is accurate and complete to my knowledge

Date: Aug 9/2013

Signature: _____

AgriMap - Manitoba

Divorne Farms Ltd.



Rural Municipalities

Rural Municipalities

Quarter-Section Grid

Quarter-Section Grid

Soil Capability for Agriculture

- 1 - No significant limitations
- 2 - Moderate limitations
- 3 - Moderately severe limitations
- 4 - Severe limitations
- 5 - Perennial forage production
- 6 - Native perennial forage production
- 7 - No agricultural capability
- Organic
- Unclassified