

SITE ASSESSMENT

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



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:

Operation location (project site)¹:

Rural Municipality (RM):

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

[Manitoba Premises Identification Number:](#)

Municipal Tax Roll Number(s):

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

Location Map Attached

4.0 Nature of Project²

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: _____

Describe what is being proposed:

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.

5.0 Current and Proposed Type and Size of Operation³

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)
	Total Current		Total Proposed	

Manitoba Agriculture Animal Units Calculator attached

6.0 Animal Confinement⁴

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.

Confined Livestock Area⁵ – 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.

Other (Describe what is being proposed)

Does the operation currently use a confined livestock area:

Yes

No

If yes, what is the current capacity (livestock places and animal units)? _____

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 plan⁶.

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.

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 Source⁷

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 type="checkbox"/> Existing well |
| <input type="checkbox"/> River | <input type="checkbox"/> Lake |
| <input type="checkbox"/> Dugout - dimensions: ____ ____ ____ | |

If using an existing well, provide a copy of the water well log⁸ 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 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: _____

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

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

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

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

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 Use⁹

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: _____
 imperial gallons litres

Maximum annual use for the operation: _____
 imperial gallons 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.

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 type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Storage includes leak detection system	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Earthen storage has between 400 and 500 days storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Steel/concrete tank has between 250 and 500 days storage	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Manure storage facility meets required setbacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field storage (solid manure) locations are changed annually	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Field storage meets required setbacks	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All fields to receive manure are soil tested annually for nitrate-N and Olsen phosphorus	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
All manure is applied according to a registered manure management plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Licensed commercial manure applicator is used to apply manure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operator applies manure	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Abandoned wells have been properly sealed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Other:

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): _____

Name of sub-watershed(s): _____

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: _____

AND/OR

Solid volume: _____

- 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 Use existing
 Expand Not applicable
 Modify

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 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 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:

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

Other measure (specify):

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

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

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 #: _____

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: _____ 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: _____ 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](#)).

“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 km² is greater than two times the annual crop removal rate of P₂O₅ 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 distance¹⁰, 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^a	
Total acres required for two times crop P₂O₅ removal^a	
Total acres required for one times crop P₂O₅ removal^{b,c}	

^aAll operations must demonstrate sufficient suitable land for crop N utilization and two times crop P₂O₅.

^bDue 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).

^c 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.

- I acknowledge that up to _____ acres (one times crop P₂O₅ 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:

- | | |
|-------------------------------------|--|
| <input type="checkbox"/> Rendering | <input type="checkbox"/> Incineration (in approved incinerator only) |
| <input type="checkbox"/> Composting | |
| <input type="checkbox"/> Burial | |

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?

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

Name of Planning District	
Development Plan by-law number	
Land use designation of project site	
Livestock operation policies – quote supportive policy numbers	
Other Development Plan policies – quote supportive policy numbers	
Non-supportive Development Plan policies	

- 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
Minimum Site Area		
Minimum Site Width		
Minimum Front Yard		
Minimum Side and Rear Yard		

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)¹¹

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 type="checkbox"/> A <input type="checkbox"/> B	<input type="checkbox"/> C <input type="checkbox"/> D	Provide actual distance	Provide location or name of feature (e.g. Red River)
Residence/ dwelling				
<u>Designated area</u> ¹²(non-agricultural)				
Livestock operation				
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](#)¹³):

- 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.

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	
	<input type="checkbox"/> Greater than 1 mile	
Wildlife Management Area	<input type="checkbox"/> 1 mile or less	
	<input type="checkbox"/> Greater than 1 mile	
Ecological Reserve	<input type="checkbox"/> 1 mile or less	
	<input type="checkbox"/> Greater than 1 mile	
Provincial Forest	<input type="checkbox"/> 1 mile or less	
	<input type="checkbox"/> Greater than 1 mile	
Wildlife Refuge/Sanctuary	<input type="checkbox"/> 1 mile or less	
	<input 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 Permit¹⁴). 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		
	Field storage	100 m		
	Composting site	100 m		
	Confined livestock area	100 m		
Property Line	Manure storage facility	100 m		
	Composting site	100 m		
	Confined livestock area	100 m		

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

11.0 Truck Haul Routes and Access Points¹⁵

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											
Tractor Trailer											
Other, Employee											

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.

Were rare species identified in the Conservation Data Centre Report?

Yes

No

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:

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: 2017/05/29
(YYYY/MMM/DD)

Name: Greg Olszowka
(Please Print Clearly)

Signature: 

Notes

¹ 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.

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

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

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

⁵ 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.

⁶ 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.

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

⁸ 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.

⁹ 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.

¹⁰ 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.

¹¹ "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.

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

¹³The 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.

¹⁴ 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.

¹⁵Identifying 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.

R.M. OF ALONSA

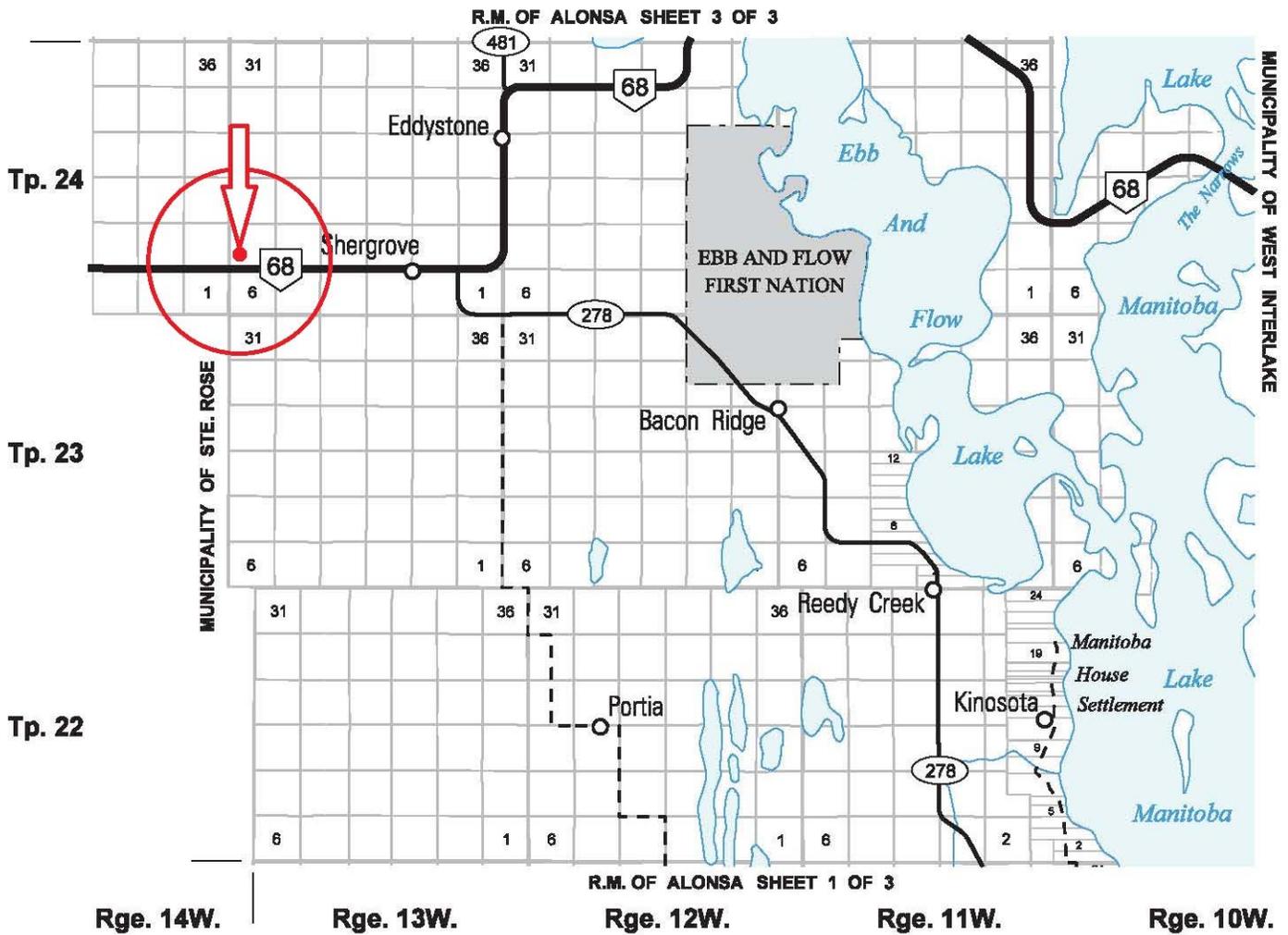
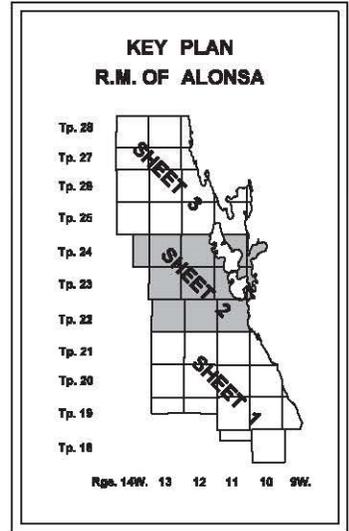


0 5
SCALE IN KILOMETRES

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

LEGEND

- PROVINCIAL TRUNK HIGHWAYS 
- PROVINCIAL ROADS 
- MAIN MARKET ROADS 



**LOCATION MAP
OLSZOWKA FARMS LTD.
S.W. 7-24-13 WPM
R.M. OF ALONSA**

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 ¹	Current Animal Units	Proposed Number of Animals ²	Proposed Number of Animal Units
Dairy ³	Mature cows (lactating and dry) including associated livestock	2		-		-
	Mature cows (lactating and dry)	1.35		-		-
	Heifers (0 to 3 months)	0.16		-		-
	Heifers (4 to 13 months)	0.41		-		-
	Heifers (> 13 months)	0.87		-		-
	Bulls	1.35		-		-
	Veal calves	0.13		-		-
Beef	Beef cows including associated livestock	1.25		-	1,000	1,250
	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 Current:				-	Total Proposed:	1,250

Footnotes:

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

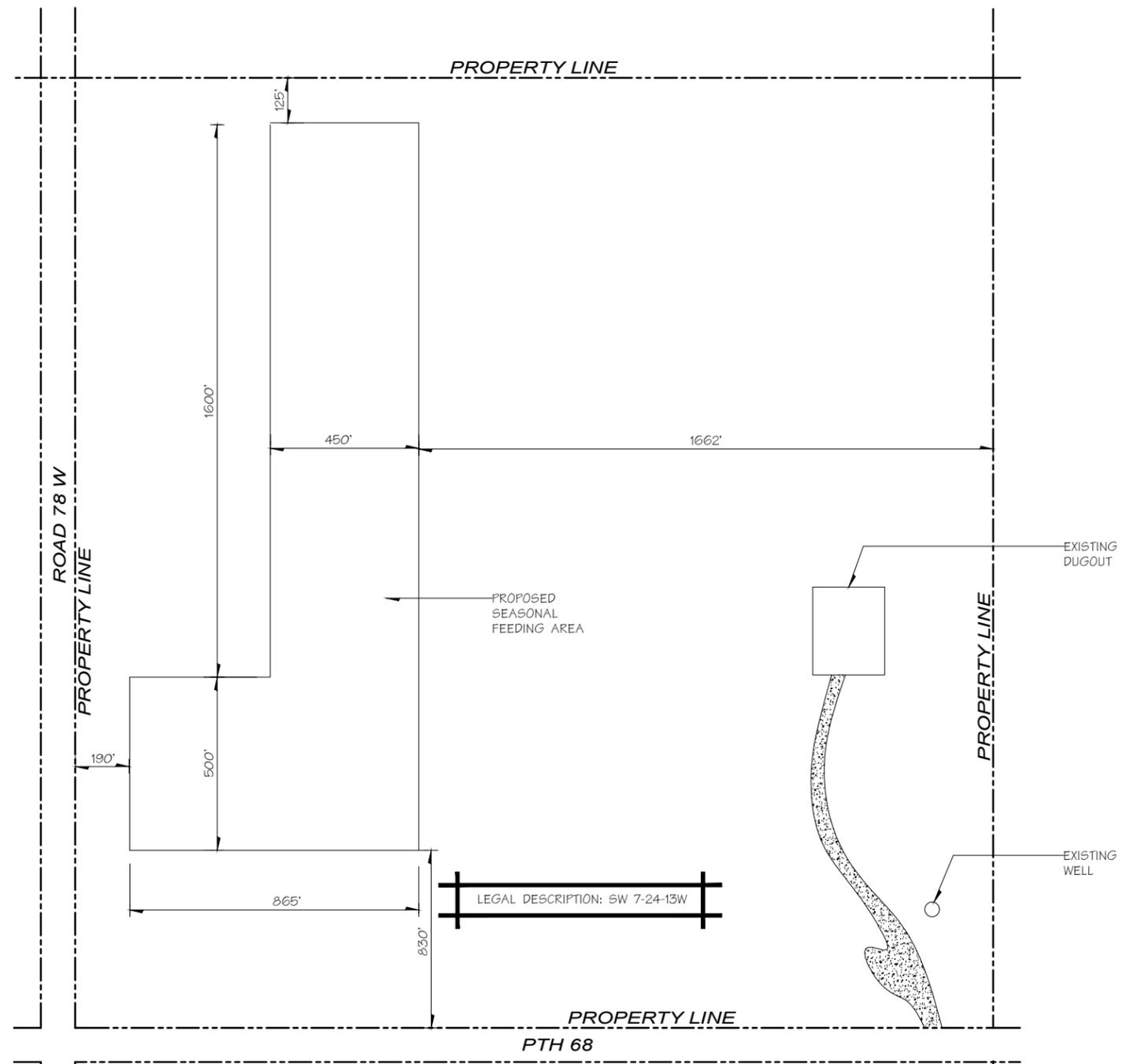
² Enter the total number of animals associated with the operation post construction or expansion.

³ 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.

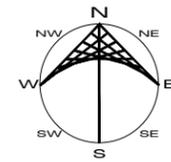
[For all other livestock or operation types please inquire with the Manitoba Agriculture Contacts.](#)



100mm
90
80
70
60
50
40
30
20
10
0



SITE DEVELOPMENT - GENERAL SITE & LANDSCAPING	
ITEM	SYMBOL
PROPERTY LINE	---
EXISTING GRAVEL AREA	[Stippled Pattern]



SITE LAYOUT

1:5000

REVISION			
ISSUE			
02	17/05/10 ISSUED FOR CU PERMIT CL		
01	16/12/23 ISSUED FOR CU PERMIT KJT		
NO.	DATE	DESCRIPTION	INITIAL
PRINTED DATE: 5/10/2017 3:08:12 PM			

ENGINEER'S SEAL

ISSUED FOR CU PERMIT

DGH ENGINEERING LTD.
PROFESSIONAL SERVICES - FRACTURAL SOLUTIONS
18 AMATEUR BLVD. ST. ANDREWS, MB. R1A 3N6
PHONE: 204-334-8848 FAX: 204-334-8848
COPYRIGHT 2016
ALL RIGHTS RESERVED. THIS DRAWING AND DESIGN IS THE PROPERTY OF DGH ENGINEERING LTD. AND SHALL NOT BE USED WITHOUT THE WRITTEN CONSENT OF DGH ENGINEERING LTD. THE CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND REPORT ALL ERRORS AND OMISSIONS TO THE ENGINEER IN WRITING. DO NOT RELY ON SCALED DIMENSIONS. USE WRITTEN DIMENSIONS ONLY. CONTACT THE ENGINEER FOR CLARIFICATIONS IF NECESSARY. THIS DRAWING SHALL NOT BE USED FOR CONSTRUCTION OR BUILDING PERMIT PURPOSES UNTIL SEALED AND SIGNED.

CLIENT OLSZOWKA FARMS LTD. BOX 670 Ste Rose du Lac, MB R0L 1S0		
DESIGNED CL	DRAWN KJT	COORDINATOR KJT
DATE DEC/2016	SCALE AS NOTED	XREF PATH(S) PROJECT:DWG

PROJECT TITLE OLSZOWKA FARMS LTD.
PROJECT LOCATION RM OF ALONSA, MB
PROJECT NUMBER: 16-5-3421-001-10
02
C1
REV. 0 R00

0 10 20 30 40 50 60 70 80 90 100mm

LOCATION: SW7-24-13W

Well_PID: 127633
Owner: DWAYNE HIRD
Driller: Formation Drilling Ltd.
Well Name:
Well Use: PRODUCTION
Water Use: Livestock
UTMX: 480086.682
UTMY: 5656059.07
Accuracy XY:
UTMZ:
Accuracy Z:
Date Completed: 2003 May 27

WELL LOG

From (ft.)	To (ft.)	Log
0	11.0	BROWN TILL AND BOULDERS
11.0	47.0	SAND
47.0	50.0	GREY TILL

WELL CONSTRUCTION

From (ft.)	To (ft.)	Casing Type	Inside Dia.(in)	Outside Dia.(in)	Slot Size(in)	Type	Material
0	41.0	CASING	5.00				PVC
41.0	46.0	PERFORATIONS		5.00	0.015		S. S.
37.0	46.0	GRAVEL PACK					BENTONITE

Top of Casing: 0.0

PUMPING TEST

Date: 2003 May 27
Pumping Rate: 40.0 Imp. gallons/minute
Water level before pumping: 6.0 ft. below ground
Pumping level at end of test: ?? ft. below ground
Test duration: ??? hours, ?? minutes
Water temperature: ?? degrees F

REMARKS

EC=1700, FE=1.7, HARD=17

Water Requirement Calculation Table

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
Beef/Dairy/Bison *				
Feeder/heifer/steer (600 lb.)		5	9	-
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair	1,000	12	15	15,000
Dry milking cow **		10	12	-
Lactating cow **		25	30	-
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 (IG/day)				15,000
TOTAL with 10% wash water				16,500

* 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.

** For intensive Dairy operations, please use the Dairy Barn Water Requirement Estimator found on separate sheet.

Enter this number on page 7 of Application Form.

*** 10% of the total is added to allow for wash water

Other consumption:
Normal household consumption:
60-75 IG/day per person or
(272-340 l/day/person)

Unit Conversions		
Total per day	Total per year	Unit
16,500	6,022,500	IG
68,190	24,889,350	litres
0.068	25	cubic decametres (dam ³)

Enter this number on page 7 of Application Form.

Conversion Factor: 1 IGPM = 4.546 l/m

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) (F x G x H)	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				-	0.0
	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	1.2	365.00	1,000	438,000.00	
	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 - 249 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 ⁶			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 column 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 300 days.
- ³ ENTER the total number of animals or birds that the operation can hold (e.g. barn or feedlot capacity).
- ⁴ Milking cows 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/ft³
- 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/ft³
- ⁸ Manure removed from barn at 90% moisture content with a density of 59 lb/ft³
- ⁹ Poultry operations using litter (solid pack) must provide an estimate of yearly manure production

PASTURE LAND (ADDITIONAL FIELD) CHARACTERISTICS TABLE

	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Total Net Acreage for Manure Application:

- 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



	A	B	C	D	E	F	G	H	I	J
Field	Legal Description	Rural Municipality	O/C/L/A	Total Acreage	Setbacks, including features	Net Acreage for Manure Application	Agriculture Capability Class and Subclass	Soil Phosphorus (ppm Olsen P) 0-6 inches	Development Plan Designation	Zoning
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

Total Net Acreage for Manure Application:

--

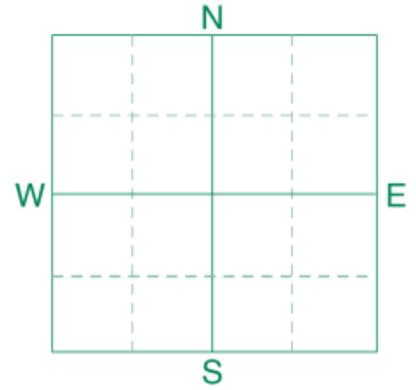
- A. _____ Enter the legal description for each parcel of land that will receive manure: Sec, Twp, Rge or River Lot (including parish).
- B. _____ Identify the Rural Municipality in which the parcel is located.
- C. _____ Indicate how the land has been secured for manure application: O – Own / C-Crown / 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).



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **Sec 7-24-13**
 SAMPLE ID **1**
 FIELD NAME **Hird**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **638.4**
 PREV. CROP **Grass/Pasture**



OLSFAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805734** BOX # **0**
 LAB # **NW193225**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-12"	8 lb/ac 2 lb/ac	**			Grass/Pasture							
	0-12"	10 lb/ac				YIELD GOAL		YIELD GOAL		YIELD GOAL			
						4 Tons							
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			
						Broadcast							
Olsen Phosphorus	7 ppm	*****				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Potassium	224 ppm	*****				N	110	N		N			
Chloride						P ₂ O ₅	40 Broadcast	P ₂ O ₅		P ₂ O ₅			
Sulfur	0-6" 6-12"	90 lb/ac 70 lb/ac	*****			K ₂ O	0	K ₂ O		K ₂ O			
Boron						Cl		Cl		Cl			
Zinc						S	0	S		S			
Iron						B		B		B			
Manganese						Zn		Zn		Zn			
Copper						Fe		Fe		Fe			
Magnesium	1601 ppm	*****				Mn		Mn		Mn			
Calcium	4421 ppm	*****				Cu		Cu		Cu			
Sodium	170 ppm	*****				Mg	0	Mg		Mg			
Org.Matter	4.6 %	*****				Lime		Lime		Lime			
Carbonate(CCE)						Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sol. Salts	0-6" 6-12"	0.64 mmho/cm 0.33 mmho/cm	*****						% Ca	% Mg	% K	% Na	% H
						0-6" 8.5		36.8 meq	(65-75)	(15-20)	(1-7)	(0-5)	(0-5)
						6-24" 8.7			60.1	36.3	1.6	2.0	

General Comments: Texture is not estimated on high pH soils.

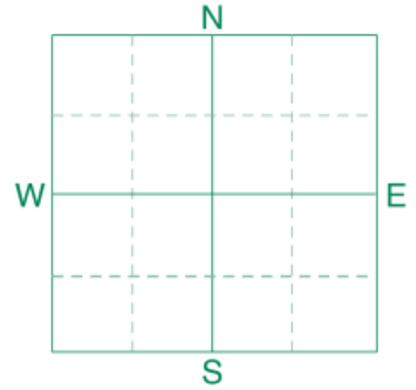
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **W 3-24-14**
 SAMPLE ID **1**
 FIELD NAME **Debeukerlaere**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **286.5**
 PREV. CROP **Grass/Pasture**



OLSFAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805736** BOX # **0**
 LAB # **NW193226**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Grass/Pasture										
Nitrate	0-6" 6-12"	3 lb/ac 2 lb/ac				YIELD GOAL			YIELD GOAL			YIELD GOAL				
	0-12"	5 lb/ac	*			4 Tons										
						SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Broadcast										
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Phosphorus	Olsen 6 ppm	*****						N			N			N		
Potassium	112 ppm	*****						P ₂ O ₅	44	Broadcast	P ₂ O ₅			P ₂ O ₅		
Chloride								K ₂ O	39	Broadcast	K ₂ O			K ₂ O		
Sulfur	0-6" 6-12"	14 lb/ac 18 lb/ac	*****					Cl			Cl			Cl		
Boron								S	15	Broadcast	S			S		
Zinc								B			B			B		
Iron								Zn			Zn			Zn		
Manganese								Fe			Fe			Fe		
Copper								Mn			Mn			Mn		
Magnesium	1099 ppm	*****						Cu			Cu			Cu		
Calcium	5172 ppm	*****						Mg	0		Mg			Mg		
Sodium	33 ppm	****						Lime			Lime			Lime		
Org.Matter	3.9 %	*****														
Carbonate(CCE)																
Sol. Salts	0-6" 6-12"	0.35 mmho/cm 0.23 mmho/cm	*****													
						Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)						
						0-6" 8.2 6-24" 8.5		35.4 meq		% Ca	% Mg	% K	% Na	% H		
										(65-75) 72.9	(15-20) 25.8	(1-7) 0.8	(0-5) 0.4	(0-5)		

General Comments: Texture is not estimated on high pH soils.

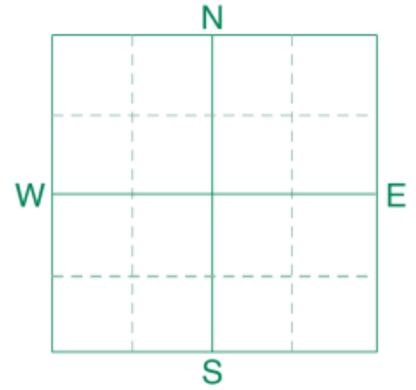
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **W 1-24-14**
 SAMPLE ID **1**
 FIELD NAME **Debeukerlaere**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **312**
 PREV. CROP **Grass/Pasture**



OLSFAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805737** BOX # **0**
 LAB # **NW193227**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice				
		VLow	Low	Med	High	Grass/Pasture										
Nitrate	0-6" 6-12"	4 lb/ac 1 lb/ac				YIELD GOAL			YIELD GOAL			YIELD GOAL				
	0-12"	5 lb/ac	*			4 Tons										
						SUGGESTED GUIDELINES			SUGGESTED GUIDELINES			SUGGESTED GUIDELINES				
						Broadcast										
						LB/ACRE	APPLICATION		LB/ACRE	APPLICATION		LB/ACRE	APPLICATION			
Phosphorus	Olsen	5 ppm	*****					N			N			N		
Potassium		84 ppm	*****					P ₂ O ₅	47	Broadcast	P ₂ O ₅			P ₂ O ₅		
Chloride								K ₂ O	51	Broadcast	K ₂ O			K ₂ O		
Sulfur	0-6" 6-12"	40 lb/ac 28 lb/ac	*****					Cl			Cl			Cl		
Boron								S	0		S			S		
Zinc								B			B			B		
Iron								Zn			Zn			Zn		
Manganese								Fe			Fe			Fe		
Copper								Mn			Mn			Mn		
Magnesium		961 ppm	*****					Cu			Cu			Cu		
Calcium		5440 ppm	*****					Mg	0		Mg			Mg		
Sodium		89 ppm	*****					Lime			Lime			Lime		
Org.Matter		4.1 %	*****													
Carbonate(CCE)																
Sol. Salts	0-6" 6-12"	0.42 mmho/cm 0.27 mmho/cm	*****													
						Soil pH	Buffer pH	Cation Exchange Capacity		% Base Saturation (Typical Range)						
						0-6" 8.1 6-24" 8.5		35.8 meq		% Ca	% Mg	% K	% Na	% H		
										(65-75) 76.0	(15-20) 22.4	(1-7) 0.6	(0-5) 1.1	(0-5)		

General Comments: Texture is not estimated on high pH soils.

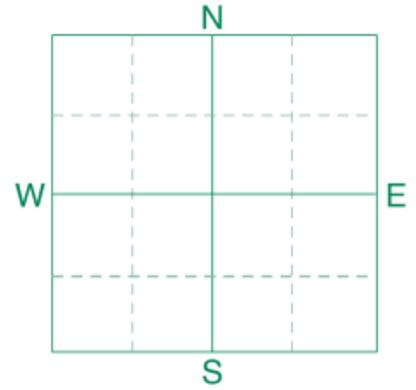
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **SW 12-24-14**
 SAMPLE ID **1**
 FIELD NAME **Debeukerlaere**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **139.3**
 PREV. CROP **Grass/Pasture**



OLSFAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805738** BOX # **0**
 LAB # **NW193229**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice							
		VLow Low Med High	Grass/Pasture		YIELD GOAL		YIELD GOAL							
Nitrate	0-6" 6-12"	3 lb/ac 1 lb/ac	*				4 Tons							
	0-12"	4 lb/ac					SUGGESTED GUIDELINES							
							Broadcast							
				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION					
				N	116			N			N			
Phosphorus	Olsen	6 ppm	*****				P ₂ O ₅	44	Broadcast	P ₂ O ₅				
Potassium		64 ppm	*****				K ₂ O	60	Broadcast	K ₂ O				
Chloride							Cl			Cl				
Sulfur	0-6" 6-12"	86 lb/ac 120 +lb/ac	*****				S	0		S				
Boron							B			B				
Zinc							Zn			Zn				
Iron							Fe			Fe				
Manganese							Mn			Mn				
Copper							Cu			Cu				
Magnesium		806 ppm	*****				Mg	0		Mg				
Calcium		5086 ppm	*****				Lime			Lime				
Sodium		75 ppm	*****											
Org.Matter		2.9 %	*****											
Carbonate(CCE)														
Sol. Salts	0-6"	0.43 mmho/cm	*****				Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
	6-12"	0.55 mmho/cm	*****				0-6" 8.3		32.6 meq	% Ca (65-75)	% Mg (15-20)	% K (1-7)	% Na (0-5)	% H (0-5)

General Comments: Texture is not estimated on high pH soils.

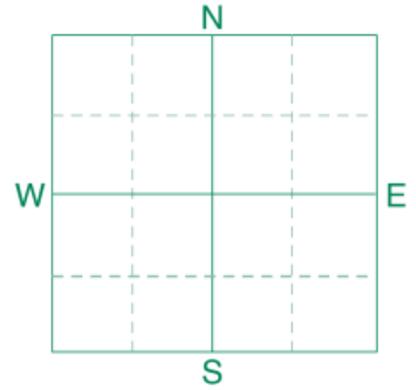
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (http://www.agvise.com)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **N 30 S 31-27-15**
 SAMPLE ID **1**
 FIELD NAME **Leitch**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **286.7**
 PREV. CROP **Grass/Pasture**



SUBMITTED FOR:
OLSFAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805739** BOX # **0**
 LAB # **NW193236**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-18"	8 lb/ac 4 lb/ac	**			Grass/Pasture							
	0-18"	12 lb/ac				YIELD GOAL	4 Tons	YIELD GOAL	YIELD GOAL				
						SUGGESTED GUIDELINES	Broadcast	SUGGESTED GUIDELINES	SUGGESTED GUIDELINES				
						LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
						N	108		N		N		
Phosphorus	Olsen	9 ppm	*****										
Potassium		140 ppm	*****			P ₂ O ₅	34 Broadcast	P ₂ O ₅		P ₂ O ₅			
Chloride						K ₂ O	26 Broadcast	K ₂ O		K ₂ O			
Sulfur	0-6" 6-18"	48 lb/ac 240 +lb/ac	*****			Cl		Cl		Cl			
Boron						S	0	S		S			
Zinc						B		B		B			
Iron						Zn		Zn		Zn			
Manganese						Fe		Fe		Fe			
Copper						Mn		Mn		Mn			
Magnesium		897 ppm	*****			Cu		Cu		Cu			
Calcium		6205 ppm	*****			Mg	0	Mg		Mg			
Sodium		40 ppm	*****			Lime		Lime		Lime			
Org.Matter		5.0 %	*****			Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Carbonate(CCE)						0-6" 8.0		39.0 meq	% Ca	% Mg	% K	% Na	% H
Sol. Salts	0-6" 6-18"	0.39 mmho/cm 0.48 mmho/cm	*****			6-24" 8.3			(65-75) 79.5	(15-20) 19.2	(1-7) 0.9	(0-5) 0.4	(0-5)

General Comments: Texture is not estimated on high pH soils.

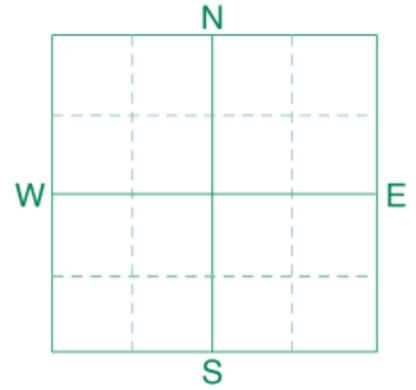
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **N 31-27-15**
 SAMPLE ID **1**
 FIELD NAME **Leitch**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **263.2**
 PREV. CROP **Grass/Pasture**



OLSFAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805740** BOX # **0**
 LAB # **NW193228**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice			2nd Crop Choice			3rd Crop Choice						
		VLow	Low	Med	High	Grass/Pasture												
Nitrate	0-6" 6-18"	5 lb/ac 4 lb/ac	**															
	0-18"	9 lb/ac																
Phosphorus	Olsen	9 ppm	*****			N	111		N			N						
Potassium		127 ppm	*****			P ₂ O ₅	34	Broadcast	P ₂ O ₅			P ₂ O ₅						
Chloride						K ₂ O	32	Broadcast	K ₂ O			K ₂ O						
Sulfur	0-6" 6-18"	38 lb/ac 240 +lb/ac	*****			Cl			Cl			Cl						
Boron						S	0		S			S						
Zinc						B			B			B						
Iron						Zn			Zn			Zn						
Manganese						Fe			Fe			Fe						
Copper						Mn			Mn			Mn						
Magnesium		913 ppm	*****			Cu			Cu			Cu						
Calcium		6054 ppm	*****			Mg	0		Mg			Mg						
Sodium		58 ppm	*****			Lime			Lime			Lime						
Org.Matter		6.1 %	*****															
Carbonate(CCE)																		
Sol. Salts	0-6"	0.44 mmho/cm	*****			Soil pH			Cation Exchange Capacity			% Base Saturation (Typical Range)						
	6-18"	0.83 mmho/cm	*****			0-6" 8.0			38.5 meq			% Ca	% Mg	% K	% Na	% H		
						6-24" 8.3						(65-75)	(15-20)	(1-7)	(0-5)	(0-5)		
												78.7	19.8	0.8	0.7			

General Comments: Texture is not estimated on high pH soils.

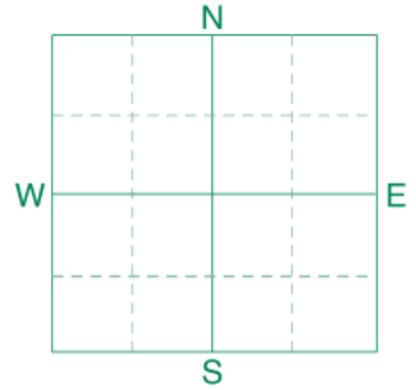
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID **E 36-27-16**
 SAMPLE ID **1**
 FIELD NAME **Leitch**
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **305.2**
 PREV. CROP **Grass/Pasture**



OLS FAR

SUBMITTED FOR:

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **1805741** BOX # **0**
 LAB # **NW193224**

Date Sampled

Date Received **11/27/2016**

Date Reported **11/29/2016**

Nutrient In The Soil		Interpretation	1st Crop Choice		2nd Crop Choice		3rd Crop Choice								
		VLow Low Med High	Grass/Pasture		YIELD GOAL		YIELD GOAL								
Nitrate	0-6" 6-24"	7 lb/ac 6 lb/ac	***				4 Tons								
	0-24"	13 lb/ac					SUGGESTED GUIDELINES		SUGGESTED GUIDELINES						
							Broadcast								
				LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION						
				N	107			N			N				
Phosphorus	Olsen	9 ppm	*****				P ₂ O ₅	34	Broadcast	P ₂ O ₅			P ₂ O ₅		
Potassium		191 ppm	*****				K ₂ O	0		K ₂ O			K ₂ O		
Chloride							Cl			Cl			Cl		
Sulfur	0-6" 6-24"	46 lb/ac 360 +lb/ac	*****				S	0		S			S		
Boron							B			B			B		
Zinc							Zn			Zn			Zn		
Iron							Fe			Fe			Fe		
Manganese							Mn			Mn			Mn		
Copper							Cu			Cu			Cu		
Magnesium		1088 ppm	*****				Mg	0		Mg			Mg		
Calcium		6535 ppm	*****				Lime			Lime			Lime		
Sodium		33 ppm	****												
Org.Matter		7.8 %	*****												
Carbonate(CCE)															
Sol. Salts	0-6"	0.47 mmho/cm	*****				Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)					
	6-24"	0.67 mmho/cm	*****				0-6" 8.0		42.4 meq	% Ca	% Mg	% K	% Na	% H	
							6-24" 8.3			(65-75) 77.1	(15-20) 21.4	(1-7) 1.2	(0-5) 0.3	(0-5)	

General Comments: Texture is not estimated on high pH soils.

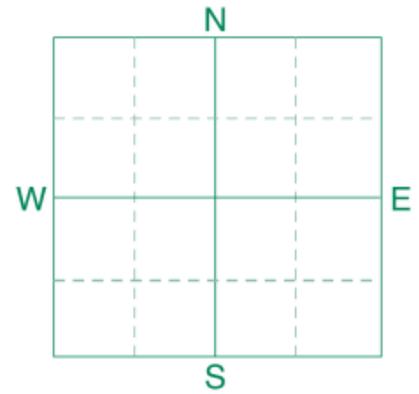
Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 48 K2O = 180 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.



Soil Analysis by Agvise Laboratories
 (<http://www.agvise.com>)
 Northwood: (701) 587-6010
 Benson: (320) 843-4109

SOIL TEST REPORT

FIELD ID
 SAMPLE ID **S17-24-13**
 FIELD NAME
 COUNTY
 TWP RANGE
 SECTION QTR ACRES **230**
 PREV. CROP **Grass/Pasture**



SUBMITTED FOR:
OLS FAR

SUBMITTED BY: **FA4671**
360 DEGREES AG CONSULTING
231 6TH AVE NW
PO BOX 1268
ROBLIN, MB **ROL 1P0**

REF # **18752805** BOX # **0**
 LAB # **NW196011**

Date Sampled **11/29/2016**

Date Received **12/01/2016**

Date Reported **12/6/2016**

Nutrient In The Soil		Interpretation				1st Crop Choice		2nd Crop Choice		3rd Crop Choice			
		VLow	Low	Med	High								
Nitrate	0-6" 6-12"	2 lb/ac 1 lb/ac				Grass/Pasture							
						YIELD GOAL		YIELD GOAL			YIELD GOAL		
	0-12"	3 lb/ac	*			3 Tons							
						SUGGESTED GUIDELINES		SUGGESTED GUIDELINES			SUGGESTED GUIDELINES		
						Broadcast							
	Olsen	4 ppm	*****			LB/ACRE	APPLICATION	LB/ACRE	APPLICATION	LB/ACRE	APPLICATION		
Phosphorus						N	87	N		N			
Potassium		65 ppm	*****			P ₂ O ₅	38 Broadcast	P ₂ O ₅		P ₂ O ₅			
Chloride						K ₂ O	45 Broadcast	K ₂ O		K ₂ O			
	0-6" 6-12"	120 +lb/ac 86 lb/ac	*****	*****	*****	Cl		Cl		Cl			
Sulfur						S	0	S		S			
Boron						B		B		B			
Zinc						Zn		Zn		Zn			
Iron						Fe		Fe		Fe			
Manganese						Mn		Mn		Mn			
Copper						Cu		Cu		Cu			
Magnesium		1093 ppm	*****	*****	*****	Mg	0	Mg		Mg			
Calcium		4875 ppm	*****	*****	*****	Lime		Lime		Lime			
Sodium		96 ppm	*****	*****	*****								
Org.Matter		2.8 %	*****	*****	*****								
Carbonate(CCE)													
	0-6" 6-12"	0.42 mmho/cm 0.26 mmho/cm	*****	*****	*****	Soil pH	Buffer pH	Cation Exchange Capacity	% Base Saturation (Typical Range)				
Sol. Salts						0-6" 8.4		34.1 meq	% Ca	% Mg	% K	% Na	% H
						6-24" 8.6			(65-75) 71.5	(15-20) 26.7	(1-7) 0.5	(0-5) 1.2	(0-5)

General Comments: Texture is not estimated on high pH soils.

Crop 1: Many crops may respond to a starter application of P & K even on high soil tests. Crop Removal: P2O5 = 36 K2O = 135 AGVISE Broadcast guidelines will build P & K test levels to the high range over several years.

CROP ROTATION TABLE



A	B	C	D	E
Expected Crops in the Rotation	Acreage	Historical Yield	Units	Source of Yield Information
Total Net Acreage for Manure Application				

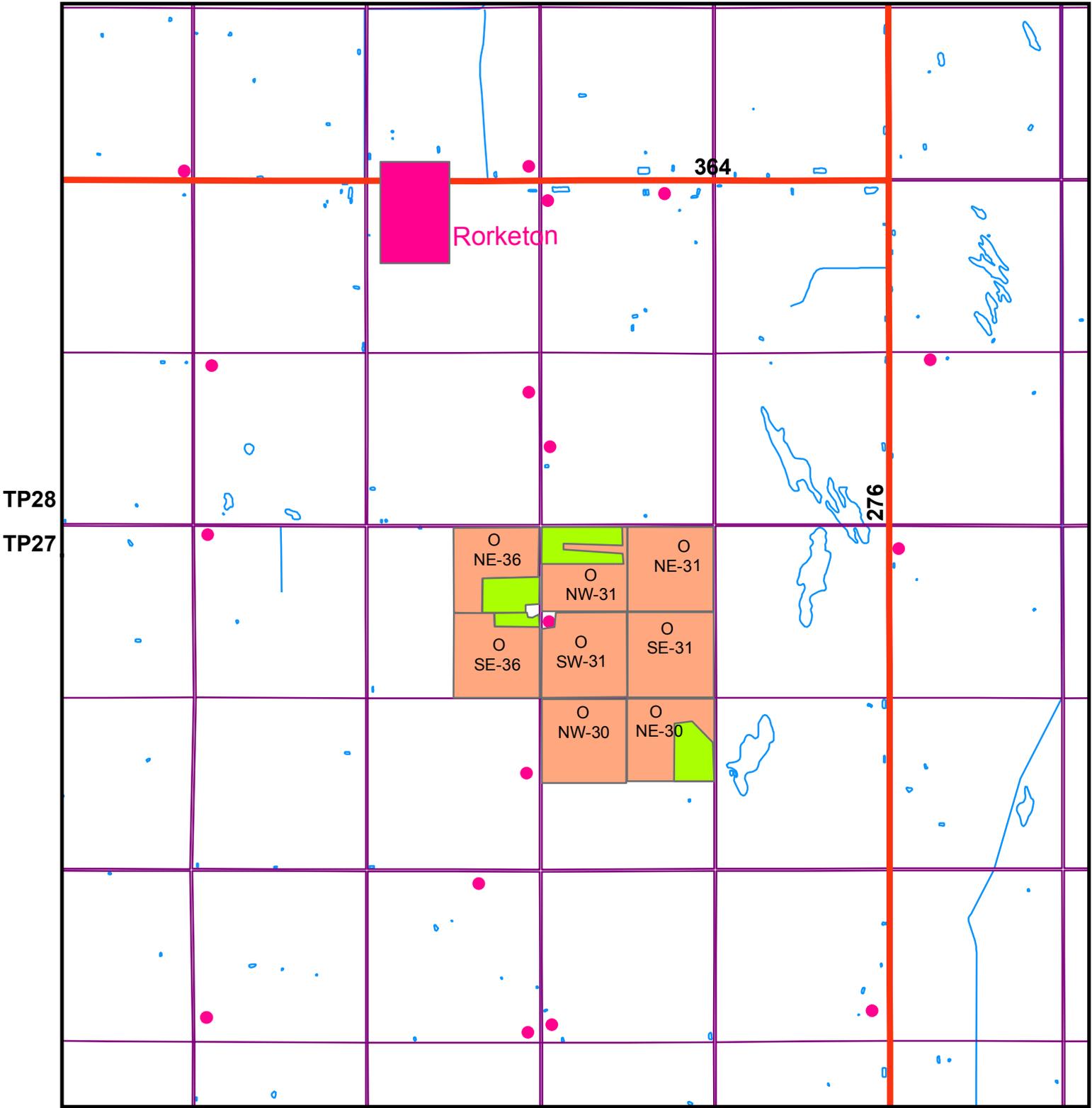
- A. List all of the crop(s) to be grown in the rotation on the acreage that will receive manure.
- B. Indicate the average acreage for each crop over the rotation. For example, if there are 720 suitable acres available for manure and approximately 40 these acres will be used to grow canola, enter 288. 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.

Crop	Removal		Uptake		Yield	Units	Acreage	Rem
	P2O5	N	N	Units				P2O5 (lb)
Alfalfa	13.8	58	58	lb/ton	2.57	ton/ac	909	32239
Barley Grain	0.42	0.97	1.39	lb/bu		bu/ac		-
Barley Silage	11.8	34.4	34.4	lb/ton		ton/ac		-
Canola	1.04	1.93	3.19	lb/bu		bu/ac		-
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	1.58	tons/ac	909	14362
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		bu/ac		-
Sunflower	1.1	2.8		lb/cwt		cwt/ac		-
Wheat - Spring	0.59	1.5	2.11	lb/bu		bu/ac		-
Wheat - Winter	0.51	1.04	1.35	lb/bu		bu/ac		-
Sub Total							1818	46601
Estimated Average Removal/Uptake (lb/ac)								25.6
Additional Acres							3230	
Crop Planned on Additional Acres							Pasture Land	
Total Acreage							5048	

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

Last revised August 20, 2014

Initial	Uptake
N	N
(lb)	(lb)
135496	135496
-	-
-	-
-	-
-	-
-	-
-	-
-	-
49119	49119
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
184614	184614
101.5	101.5



XXX



Highway & No.



Dwelling unit



Rural settlement centre



Hydrography line



Manure spread lands

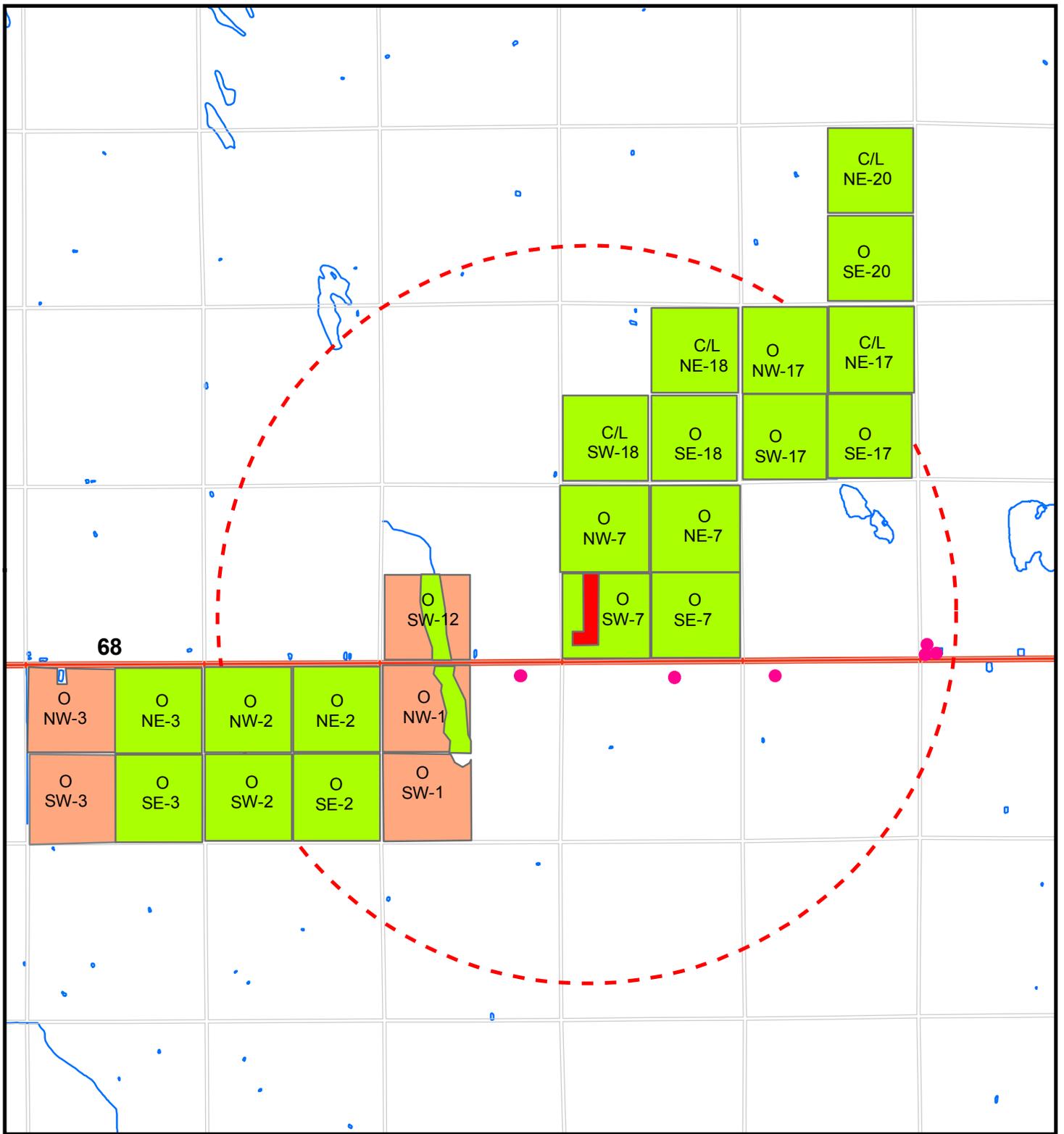


Pasture



O: Owned

Land Use and Spread Field Map II
 Olszowka Farms Ltd.
 SW 7-24-13 W
 RM of Alonsa



14W 13W

XX



Highway & No.



Dwelling unit



3 km notification area



Hydrography line



Seasonal feed area



Manure spread lands

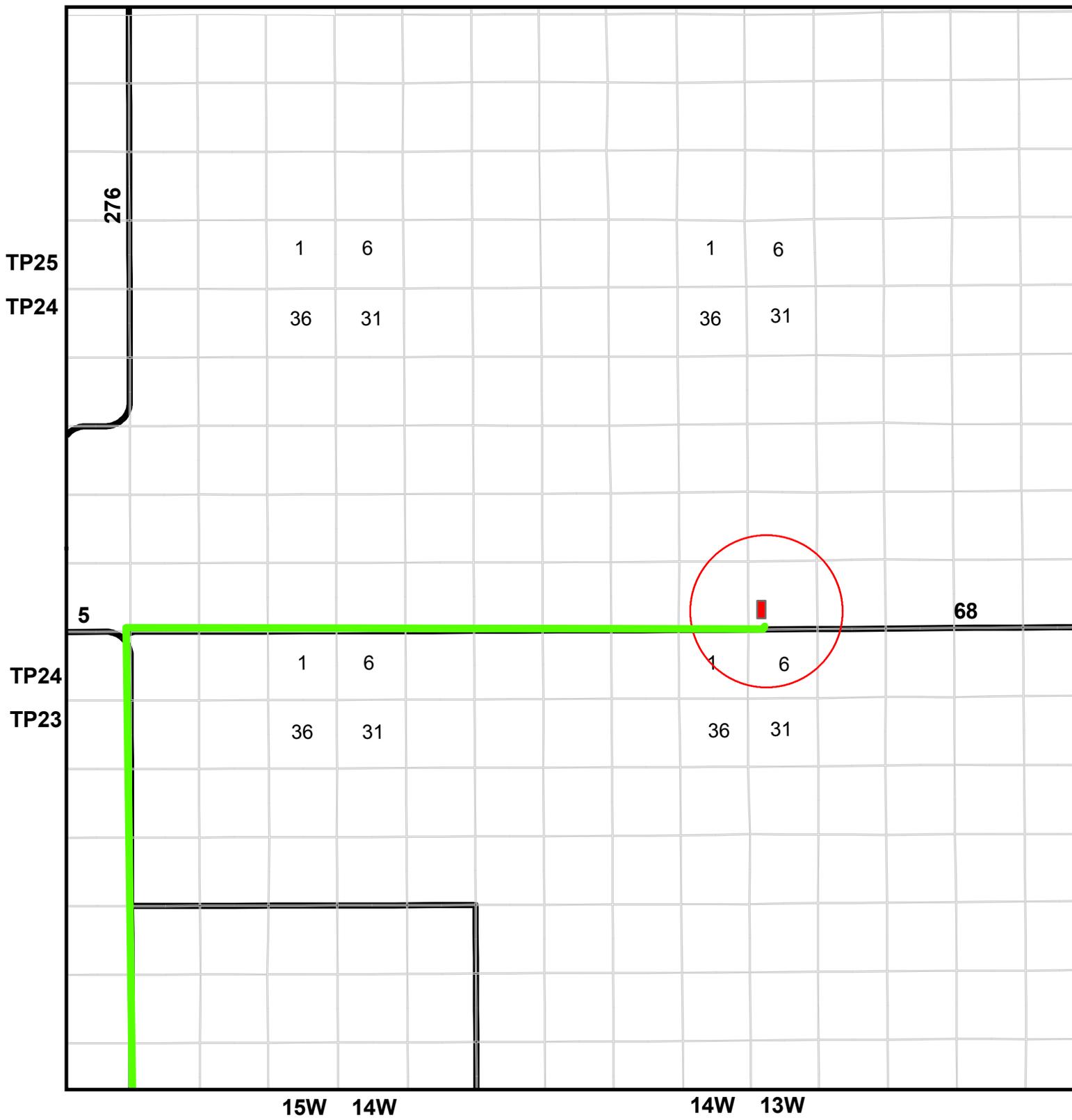


Pasture

O: Owned

C/L: Crown Lease

Land Use and Spread Field Map I
 Olszowka Farms Ltd.
 SW 7-24-13 W
 RM of Alonsa



XXX
 Highway & No.

————— Truck haul route

**Truck Haul Routes and Access Map
 Olszowka Farms Ltd.
 SW 7-24-13 W
 RM of Alonsa**

Chunhe Liu

To: Friesen, Chris (SD)
Subject: RE: WWW Form Submission

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

From: Friesen, Chris (SD) [mailto:Chris.Friesen@gov.mb.ca]
Sent: December-05-16 10:06 AM
To: Chunhe Liu
Subject: RE: WWW Form Submission

Charles

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.

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

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

From:

Sent: November-25-16 1:51 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 Friday, November 25, 2016 at 13:50:38

DocumentID: Manitoba_Conservation

Project Title: Olszowka Farms Ltd.

Date Needed: 2016/12/10

Name: Charles Liu

Company/Organization: DGH Engineering Ltd.

Address: 12 Aviation Blvd.

City: St. Andrews

Province/State: MB

Phone: 204-334-8846

Fax: 204-334-6965

Email: cliu@dghengineering.com

Project Description: provide to Livestock Technical Review Committee for a cattle operation expansion.

Information Requested: Any environmental concerns regarding to rare species on site or in the vicinity of the site.

Format Requested: email

Location: SW 7-24-13 WTM in RM of Alonsa

action: Submit
