



TECHNICAL REVIEW COMMITTEE

**A TECHNICAL REVIEW REPORT
PREPARED FOR**

**THE RURAL MUNICIPALITY
OF
HANOVER**

**Laingspring Farm Ltd
NW 12-07-06E**

A faint, grayscale background image of a long farm building with a gabled roof and several windows, situated in a field.

July 15, 2013

INTRODUCTION

The Technical Review Committee (TRC) consists of representatives from the following provincial departments:

- Agriculture, Food and Rural Initiatives (MAFRI);
- Conservation & Water Stewardship (CWS);
- Infrastructure & Transportation (MIT);
- Local Government (LG); and
- Any other department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, Manitoba Local Government, chairs the committee.

The Technical Review Committee Report includes the following:

- An assessment of completeness and nature of the information contained in the Site Assessment provided by the project proponent that enables the TRC to conduct its review.
- A summary of public comments along with proponent and departmental responses, if any.
- Recommendations to the Municipal Council and the proponent based upon a review of the information provided by the proponent.

Should the Municipal Council provide conditional approval of the proposal, the project proponent will be required to obtain various permits and licenses from the Province to address in greater detail environmental aspects of the proposal.

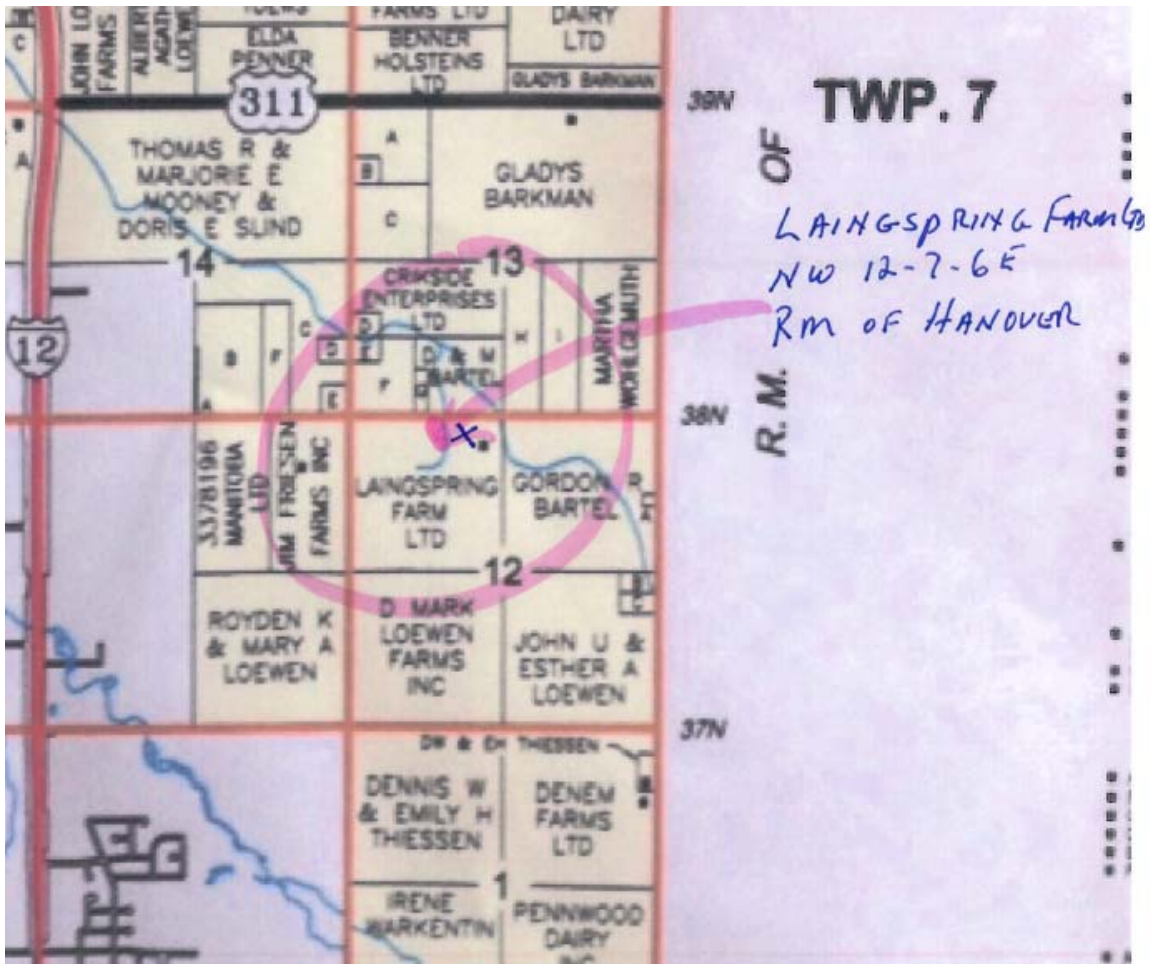
B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description go to

www.gov.mb.ca/ia/programs/livestock/public_registries.html

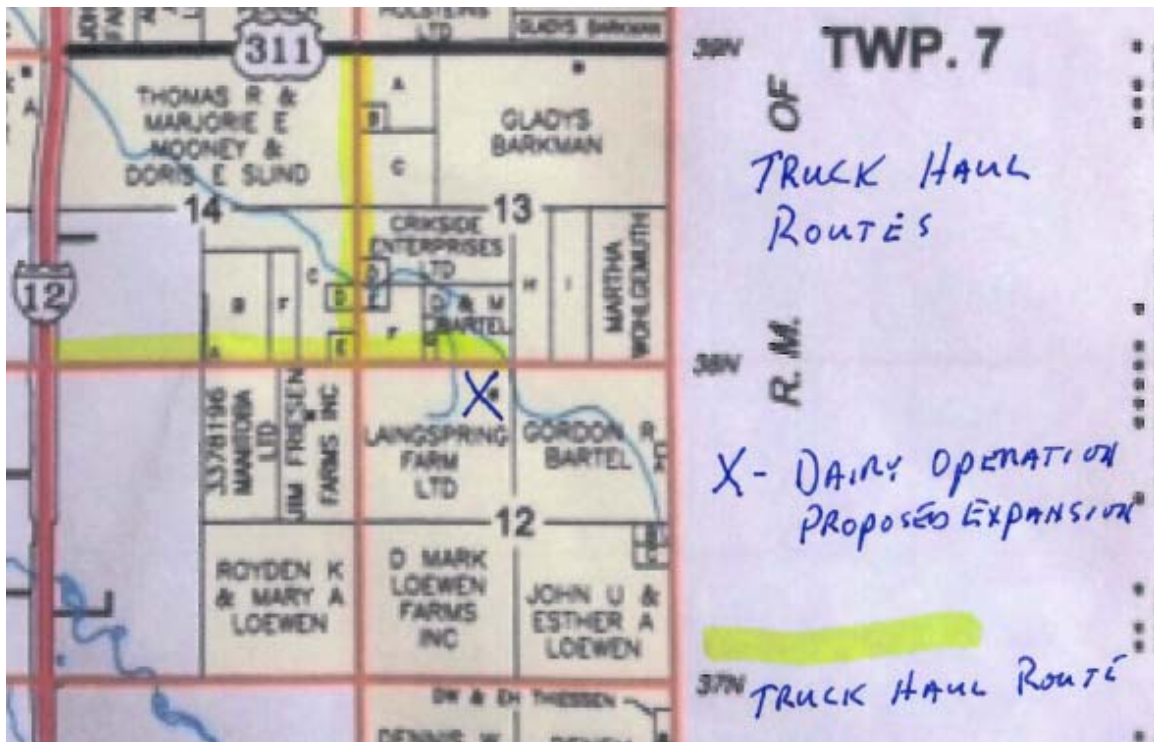
Applicant: Laingspring Farm Ltd

Site Location: Approximately 2.5 miles north east of Steinbach, in the R.M. of Hanover (NW 12-07-06EPM) Refer to map below.



Proposal: To expand an existing dairy operation with the addition of 80 milking cows for a total of 420 Animal Units. This will involve the following:

- Constructing a new barn
- Converting the existing dairy barn for young stock
- Using the existing earthen manure storage facility
- Consuming 8,010 imperial gallons of water per day
- Spreading manure over 703 suitable acres
- Composting dead animals on site
- Using the truck haul routes as shown below



C.SITE ASSESSMENT AUDIT

The Audit of: Laingspring Farm Ltd

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
2.0 Description of Operation	X	The applicant has provided a detailed description of the current operation.	LG
3.0 Nature of Project	X	The applicant has clearly defined the nature of the project.	LG
4.0 Proposed Type and Size of Operation	X	Laingspring Farm Ltd is an existing dairy operation. They are proposing to expand their milking herd to 210 (lactating and dry) cows. This is equivalent to 420 animal units if all young and replacement stock are kept on site.	MAFRI
5.0 Animal Confinement Facilities	X	Con-WS – Climate Change & Environmental Protection – Environmental Programs and Strategies: Manitoba Conservation and Water Stewardship requires permits for construction and expansion of confined livestock areas for operations with 300 AU or more. Barns are not included in the definition of confined livestock areas. Manitoba Conservation and Water Stewardship regulates the construction of manure storage facilities (MSF) by requiring the proponent to submit an "Application for Permit to Construct, Modify or Expand a Manure Storage Facility". The definition of MSF does not include gutter or pit (including under barn storage) used to contain liquid or semi-solid manure for less than 30 days for the purpose of moving the manure to a storage facility.	CWS
6.0 Environmental Farm Planning	X	Laingspring Farm Ltd completed the Environmental Farm Planning process in 2006.	MAFRI
7.0 Water	X	Climate Change & Environmental Protection - Environmental Programs and Strategies: The operation has historically been below the 300 animal unit threshold; therefore the producer has not submitted Source Water Monitoring analysis. No deficiency was identified. Water Stewardship – Water Science and Management, Groundwater Management Section: The applicant indicates that all abandoned wells have been properly sealed. The proponent indicated that depending on the time of year they are considering burial on site as a means of mortality disposal in the event of a catastrophic event. Based on their well log, the soils would likely not be suitable. In the event of a mass mortality, operators are required to contact Manitoba Conservation and Water Stewardship. Water Stewardship – Water Science and Management, Water Quality Management Section: The proponent should note that nutrients cannot be applied within the Nutrient Buffer Zone as outlined in the <i>Nutrient Management Regulation (62/2008)</i> ; – Agri-Maps indicate a Class 4 drain (Seine River	CWS

The Audit of: Laingspring Farm Ltd

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>Diversion) through River lots 24 and 25 Parish of Ste. Anne, a Class 3 through NW 6-7-7e, and a Class 3 through SW 13-7-6e. The setback area for this order of drain and application method is 8 metres. (See Table 1 attached);</p> <ul style="list-style-type: none"> - Agri-Maps indicate a Class 2 drain through SE 13-7-6e and SW 13-7-6e. Direct application of manure should not occur to these drains. (See Table 1 attached); <p>Proper nutrient management applications that avoid excess loss of nutrients to surface waters are needed on lands receiving manure in southern Manitoba because long-term trend analysis of total phosphorus and total nitrogen has shown significant increases in these nutrients in the Assiniboine and Red rivers (Jones and Armstrong 2002).</p> <p>Water Stewardship - Water Use Licensing Laingspring Farms submitted an application under The Water Rights Act which was registered January 31, 2013. The application is currently under assessment and a license will be issued in due course.</p>	
8.0 Manure Related	X	<p>Climate Change & Environmental Protection - Environmental Programs and Strategies: The operation has four monitoring wells surrounding the manure storage facility. The proponent has provided the required annual monitoring well analytical results for 2012.</p> <p>The proponent has identified they intend to field store solid manure. Field storage must be done in accordance with Section 7 of the <i>Livestock Manure and Mortalities Management Regulation</i> (M.R. 42/98).</p> <p>The operation has historically been below the 300 animal unit threshold; therefore the producer has not submitted a Manure Management Plan for the 2013 crop year. No deficiency was identified.</p> <p>Climate Change & Environmental Protection – Environmental Compliance and Enforcement: The Steinbach office of the Environmental Compliance & Enforcement Branch has reviewed its record of recent visual inspections of the existing earthen manure storage facility operated by Laingspring Dairy at NW 12-07-06 EPM. An Environment Officer conducted a visual inspection on December 3, 2009. Observations made in and around the facility suggest that the grounds were generally well maintained, and no evidence of physical damage to the structure or other potential issues were observed. The visual inspection of the earthen manure storage is based solely on conditions observed at the time of the site visit.</p>	CWS
8.1 Land Available/Required for Manure Application	X	Laingspring Farm Ltd has demonstrated that sufficient land is available to ensure the long-term environmental sustainability of the operation when beneficial management practices are used (detailed comments are provided in the Appendix).	CWS LG MAFRI

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>The soil test report for NW 6-7-7E indicates that the field is at 146 lbs nitrate N /acre. Additional manure should not be applied to this field until the residual soil nitrate-N declines below the regulatory limit of 140 lbs/acre for Class 2W and 3W soils.</p> <p>All of the fields identified for manure application are currently below 60 ppm Olsen P. Although the regulations allow for greater build-up of soil test P than 60 ppm Olsen P, since Laingspring Farm Ltd has enough land to balance manure application rates with crop P₂O₅ removal, it is recommended that Laingspring Farm Ltd manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm for the long-term environmental sustainability of the operation.</p> <p>Manitoba Conservation and Water Stewardship has obtained information on average phosphorus output from livestock and expected crop removal rates of phosphorus as well as Census data in order to estimate the phosphorus budget in each Rural Municipality within agro-Manitoba. "Certain Areas", are defined by the <i>Livestock Manure and Mortalities Management Regulation</i> (MR 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. The Rural Municipality of Hanover is considered to be a "certain area".</p> <p>Manitoba Conservation and Water Stewardship requires permits for construction of manure storage facilities. As part of the review operators must identify manure spread fields. In areas of Manitoba which are considered to be "certain areas" as defined above, Manitoba Conservation and Water Stewardship's current policy for the construction permit is to require an operation to demonstrate access to sufficient land to apply manure at a rate equivalent to one times the crop removal rate of phosphorus.</p> <p>Proposed manure spread fields within the Rural Municipality of Hanover are designated according to the Rural Municipality of Hanover Development Plan "RURAL AREA".</p> <p>Proposed manure spread fields within the Rural Municipality of Ste. Anne are designated according to the Rural Municipality of Ste. Anne Development plan "RURAL AGRICULTURAL AREA"</p>	
9.0 Mortalities Disposal	X	<p>Con-WS – Climate Change & Environmental Protection – Environmental Programs and Strategies: In accordance with the <i>Livestock Manure and Mortalities Management Regulation</i> (MR 42/98), mortalities must be kept in a secure storage room, covered container or secure location; and continuously frozen or refrigerated, if not disposed of within 48 hours after death.</p> <p>Composting mortalities is acceptable provided the composting site is located at least 100-meters from any surface watercourse, sinkhole, spring or well, and the operation's</p>	CWS

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Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>boundaries. Mortalities must be composted in a manner that does not cause pollution of surface water, groundwater or soil, and the composting facility and process must be acceptable to the Director of Manitoba Conservation and Water Stewardship.</p> <p>Application of composted mortalities to land is prohibited between November 10 of one year and April 10 of the following year.</p> <p>The proponent should prepare a contingency plan in case of a catastrophic event resulting in mass mortalities.</p>	
10.0 Project Site Description	X	<p>Different elements of the proposed expanded operation fall within the jurisdiction of two Municipalities. With respect to the Development Plans, the proposed barns, manure storage and a portion of the proposed manure spread fields occur within the Rural Municipality of Hanover. According to the Rural Municipality of Hanover Development Plan these areas are designated "RURAL AREA". The proposed livestock operation expansion generally complies with the applicable policies of both Development Plans.</p> <p>The property is zoned "R" Rural Zone within the RM of Hanover Zoning By-law. The existing operation satisfies the minimum site area and site width requirements of 160 acres and 1,000 feet.</p> <p>The nearest single residence not associated with the operation is located 1,476 feet from the barn, which does not satisfy the current minimum separation distance of 1,640 feet. The nearest designated residential area is approximately 4,593 feet which does not satisfy the minimum separation distance of 6,561 feet. The appropriate variations would need to be obtained.</p>	LG (CRP Regional Office)
10.0 Project Site Description (Native Prairie, Wildlife Mgt Areas, Crown Land)	X	<p>Conservation Programs – Land Management & Planning Section:</p> <p>Be advised that Land Management & Planning Section has reviewed the proposals attached and have concluded that no Crown lands will be impacted by the proposal(s) and require no Crown Lands dispositions.</p> <p>If undesignated Crown lands will be used for manure spreading purposes; including the laying of pipe / clearing activity, or other uses of Crown land that could be interpreted as an occupancy of Crown land, the activity and use will require a Crown lands General Permit disposition for the use and access of the subject Crown Land(s) parcel. Any clearing activity or related construction activity or works associated with the manure spreading will also require a Crown Land Work Permit.</p> <p>In the event of Crown lands being impacted, the proponent is advised to contact the Crown Lands and Property Agency (www.clp.gov.mb.ca) to apply for a general permit.</p>	CWS
11.0 Truck Haul Routes and Access Points	X	MIT has reviewed this application. The current site does not front onto a provincial highway nor does it have direct access	MIT

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		<p>onto a provincial highway so access in not an issue. MIT's preference would be for the any truck traffic resulting from the expansion to utilize Clearspring Road to access the highway network as PR 311 is B1 loading with level 2 spring restrictions and PTH 12 is RTAC loading with no spring restrictions. Loads associated with a dairy operation are considered an essential commodity and would be exempted from spring restrictions and thus cause more stress to PR 311 than they would to PTH 12.</p>	

CWS – Conservation and Water Stewardship

LG- Local Government

MAFRI- Manitoba Agriculture, Food and Rural Initiatives

MIT – Manitoba Infrastructure and Transportation

D. PUBLIC COMMENTS & DISPOSITIONS

There were no public comments received during the public review period

(April 1, 2013 – April 30, 2013).

E.CONCLUSIONS & RECOMMENDATIONS

Overall Conclusion

Based on the Site Assessment submitted by the producer and available information, the TRC recommends the following appropriate practices, measures and safeguards be taken in addition to any additional measures identified through subsequent Provincial and Federal licensing or permitting in order to minimize any identified risks to health, safety and the environment.

Recommended Actions to Council

- As per Section 114(1) of The Planning Act, Council must set a date for a Conditional Use hearing which must be at least 30 days after it receives this report
- As per Section 114(2) of The Planning Act, at least 14 days before the date of the hearing, Council must:
 - a) send notice of the hearing to
 - (1) the applicant,
 - (2) the minister, (c/o the Steinbach Community & Regional Planning Office)
 - (3) all adjacent planning districts and municipalities, and
 - (4) every owner of property located within three kilometres of the site of the proposed livestock operation, even if the property is located outside the boundaries of the planning district or municipality;
 - b) publish the notice of hearing in one issue of a newspaper with a general circulation in the planning district or municipality; and
 - c) post a copy of the notice of hearing on the affected property in accordance with Section 170 of The Planning Act.
- Council may wish to ask for a contingency plan, provided by the proponent, detailing dead animal disposal method(s) in the event of a catastrophe resulting in mass mortalities;
- Council should specify in its Conditional Use Order, the number of head of each subspecies and the legal location of the animal confinement area(s);
- As per Section 117 of The Planning Act, Council must send a copy of its (Conditional Use Order) to
 - a) the applicant;
 - b) the minister (c/o the Steinbach Community & Regional Planning Office); and
 - c) every person who made representation at the hearing.

Recommended Actions to Proponent

- Livestock manure shall be stored until such a time that it can be applied as fertilizer
- The proponent must submit a Manure Management Plan (MMP) and analytical results from samples of drinking water provided to their livestock annually to Manitoba Conservation and Water Stewardship in accordance with the *Livestock Manure and Mortalities Management Regulation* (MR 42/98)
- The soil test report for NW 6-7-7E indicates that the field is at 146 lbs nitrate N/acre. Additional manure should not be applied to this field until the residual soil nitrate-N declines below the regulatory limit of 140 lbs/acre for Class 2W and 3W soils.
- Although the regulations allow for greater build-up of soil test P than 60 ppm Olsen P, since Laingspring Farm Ltd has enough land to balance manure application rates with crop P₂O₅ removal, it is recommended that Laingspring Farm Ltd manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm for the long-term environmental sustainability of the operation.
- MIT recommends that truck traffic generated by Laingspring Farm utilize Clearspring Road for access to/from the provincial highway network. The intersection at PTH 12/Clearspring Road is signalized and provides enhanced traffic control and safety. In terms of highway loading and ultimately highway preservation, PTH 12 has no spring restrictions and has been designed to accommodate heavier trucks. This will result in enhanced long term highway preservation and integrity as opposed to reliance on PR 311.

The overall conclusion represents the consensus of the TRC Members.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title	Address	Telephone
Don Malinowski Chair	Local Government	Senior Planner, TRC Community & Regional Planning Branch	604-800 Portage Avenue Winnipeg	945-8353
Andrea Bergman	Conservation and Water Stewardship	Technical Review Officer Environmental Programs & Strategies Branch	1007 Century Street Winnipeg	619-2230
Petra Loro	MAFRI	Livestock Environment Specialist	545 University Crescent Winnipeg	945-3869
Heinz Lausmann	Infrastructure and Transportation	Senior Highway Planning Engineer Highway Planning and Design Branch	1420-215 Garry Street Winnipeg	945-2664

APPENDIX A

Table 1: Setback requirements for livestock manure application on land adjacent to surface waters or a groundwater feature.

Setback requirements extracted from the Livestock Manure and Mortalities Management Regulation (MR 42/98) and the Nutrient Management Regulation (MR 62/2008).

Surface water or Groundwater Feature		Manure Application Method	Manure Application Setback Width (metres) with Permanently Vegetated Buffer Width (metres)	Manure Application Setback Width (metres) with no Permanently Vegetated Buffer	Regulation Source for Setback Width
Lakes	Designated as vulnerable in Nutrient Management Regulation schedule ¹	Any method	30 m setback, consisting of 30 m permanently vegetated buffer	35 m setback	Nutrient Management Regulation (MR 62/2008)
	-	Injection or low-level application followed by immediate incorporation	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Livestock Manure and Mortalities Management Regulation (MR 42/98)
		High-level broadcast or low-level application without incorporation	30 m setback, including 15 m permanently vegetated buffer	35 m setback	
Rivers, creeks, streams and large unbermed drains, designated as an Order 3 or greater drain on a plan of Manitoba Water Stewardship, Planning and Coordination, that shows designations of drains	Designated as vulnerable in Nutrient Management Regulation schedule ¹	Any method	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Nutrient Management Regulation (MR 62/2008)
	-	Injection or low-level application followed by immediate incorporation	3 m setback, consisting of 3 m permanently vegetated buffer	8 m setback	Livestock Manure and Mortalities Management Regulation (MR 42/98)
		High-level broadcast or low-level application without incorporation	10 m setback, including 3 m permanently vegetated buffer	15 m setback	
Groundwater feature ²	-	Any method	15 m setback, consisting of 15 m permanently vegetated buffer	20 m setback	Nutrient Management Regulation (MR 62/2008)
Major wetland, bog, marsh or swamp ³ and	-	Any method	3 m setback, consisting of 3 m permanently vegetated buffer	8 m setback	
Wetland, bog, marsh or swamp not defined as major	-	Any method	Distance between the water's edge and the high water mark		
Roadside ditch or an Order 1 or 2 drain	-	Any method	No direct application to ditches and Order 1 and 2 drains		

¹ Designated as vulnerable if listed in the schedule in the Nutrient Management Regulation under the Water Protection Act.

² Groundwater feature means a sinkhole, a spring or a well other than a monitoring well.

³ As defined in 1(2) in the Nutrient Management Regulation under the Water Protection Act. For the purposes of this regulation, a wetland, bog, marsh or swamp is major if it:

- has an area greater than two hectares (4.94 acres)
- is connected to one or more downstream water bodies or groundwater features
- contains standing water or saturated soils for periods of time sufficient to support the development of hydrophytic vegetation.

APPENDIX B

Land Base Assessment for Laingspring Farm Ltd

MAFRI has assessed the land base for manure application as provided by the proponent in order to ensure that the operation has adequate suitable land to use the manure as a fertilizer for crop production following current Provincial policies and regulations. Although Municipal Councils have no authority to require a specific minimum land base for manure application within the Conditional Use permitting process, the Province will require sufficient suitable land if the expansion triggers the requirement for a manure storage facility permit.

In the Rural Municipalities of Hanover and La Broquerie, it is currently the Government of Manitoba's policy to require sufficient suitable land to balance the nitrogen and phosphorus in the manure with the nitrogen and phosphorus removed in the harvested portion of the crops over the course of a rotation (1 times crop removal). Phosphorus typically determines the land base requirement. Only lands with Agriculture Capability Class 1 to 5 and recent soil tests demonstrating phosphorus (P) levels below 60 ppm Olsen P are considered suitable. Buffer strips and setbacks must be excluded.

Laingspring Farm Ltd has submitted 703 acres of land for manure application that are below 60 ppm Olsen P (page 9, Site Assessment). All of this land is Agriculture Capability Class 2 and 3 (prime agricultural land) based on detailed soil survey. The detailed soil survey information indicates the land has slight to moderate limitations due to wetness (W) on the finer textured (clayey) soils and in low-lying areas and droughtiness (M) on the coarser textured (sandy) soils that are well drained.

MAFRI reviewed the minimum acreage needed for manure application. The land base requirement calculation considers the total number of animals proposed, typical nutrient excretion rates, the cropping system provided, a 10% N loss during storage and the nitrogen and phosphorus (expressed as P₂O₅) crop removal rates. Two hundred and ten milking cows (lactating and dry) are estimated to excrete about 71,379 lb N and 34,650 lb P₂O₅ per year. Laingspring Farm Ltd provided on-farm MASC crop yields from 2007 to 2011. Based on the crop rotation specified using the MASC yield averages, the average crop N removal rate is 153.2 lb N per acre per year and the average crop P₂O₅ removal rate is 51.7 lb P₂O₅ per acre per year.

Laingspring Farm Ltd requires a minimum of 671 acres to satisfy the Province's policy on phosphorus. Laingspring Farm Ltd has identified 703 suitable acres for manure application. As such, **Laingspring Farm Ltd has demonstrated that sufficient suitable land is available to ensure the long-term environmental sustainability of the operation when beneficial management practices are used.**

MAFRI also reviewed the soil test reports provided by the operation. In Manitoba, manure application to land is regulated on the basis of residual soil nitrate-N limits and phosphorus thresholds. The fields identified for manure application include Class 2 and 3 soils (excluding 3M and 3MW) for which the residual soil nitrate-N limit is 140 lbs/acre. **The soil test report for NW 6-7-7E indicates that the field is at 146 lbs nitrate N /acre. Additional manure should not be applied to this field until the residual soil nitrate-N declines below the regulatory limit of 140 lbs/acre for Class 2W and 3W soils.** The fields identified for manure application also include Class 3 M soils for which the residual soil nitrate-N limit is 90 lbs/acre. There is an area of Class 5 soils on SW18-7-7E. Laingspring Farm Ltd has indicated that this area will not receive manure, however, should manure be applied to this area the residual soil nitrate-N limit is 30 lb/acre.

All of the fields identified for manure application are currently below 60 ppm Olsen P. Manure can be applied to meet the nitrogen requirements of the crop on these fields. However, this often results in more phosphorus being applied than is removed from the field and a build-up of soil test phosphorus. No more than 2 times crop removal rates for phosphorus can be applied when soil-test phosphorus is between 60 ppm and 120 ppm. If soil test levels reach 120 ppm Olsen P, manure application rates will be restricted to no more phosphorus than what is removed in the harvested portion of the crop.

Actual manure application must be provided by the operator in the manure management plan submitted to Manitoba Conservation and Water Stewardship. **Although the regulations allow for greater build-up of soil test P than 60 ppm Olsen P, since Laingspring Farm Ltd has enough land to balance manure application rates with crop P_2O_5 removal, it is recommended that Laingspring Farm Ltd manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm for the long-term environmental sustainability of the operation.**

MAFRI provides extension support and computer software to help producers complete manure management plans. If the operation uses professional services to prepare the plan, manure management planners must successfully complete the Manure Management Planners Course offered by the Assiniboine Community College and be a member in good standing in the Manitoba Institute of Agrologists or a Certified Crop Advisor. If the services of a Commercial Manure Applicator are obtained to apply the manure, the applicator must be trained by the Assiniboine Community College and licensed by MAFRI.