



**TECHNICAL REVIEW COMMITTEE**

**A TECHNICAL REVIEW REPORT  
PREPARED FOR**

**THE RURAL MUNICIPALITY  
OF  
STE. ANNE**

**LACTARIA HOLSTEINS LTD.**

**W1/2 07-07-08E**

**TRC 12 – 016**

**June 17, 2015**

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## A. INTRODUCTION

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

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

The Technical Review Coordinator, Manitoba Municipal 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.

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## B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description go to

[www.gov.mb.ca/ia/programs/livestock/public\\_registries.html](http://www.gov.mb.ca/ia/programs/livestock/public_registries.html)

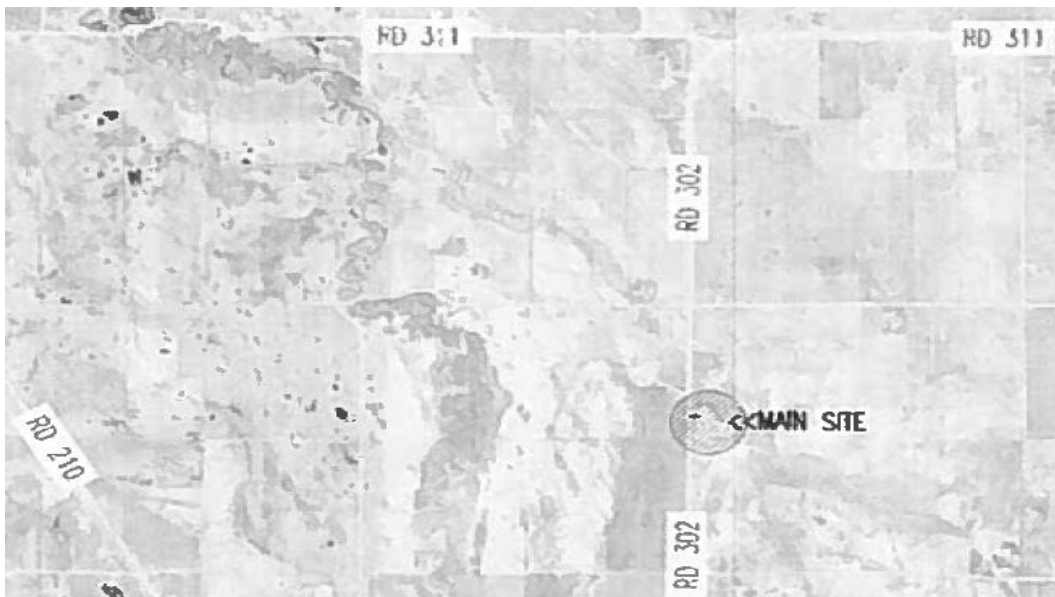
Applicant: Lactaria Holsteins Ltd..

Site Location: Approximately 5 kms north east of the community of La Broquerie  
R.M. of Ste. Anne (W1/2 07-07-08 EPM) Refer to map below.

Proposal: To expand an existing dairy operation from 298 to 503 Animal Units.

This will involve the following:

- Removing portions of existing buildings and replacing them with more modern facilities
- Using under-barn concrete and concrete tank manure storage
- Consuming 9,720 imperial gallons of water per day
- Composting mortalities
- Using the truck haul routes as shown below



## C.SITE ASSESSMENT AUDIT

The Audit of: Lactaria Holsteins 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.	MMG
3.0 Nature of Project	X	The applicant has clearly defined the nature of the project.	MMG
4.0 Proposed Type and Size of Operation	X	According to the breakdown of mature cows and replacement heifers provided by Southman Engineering, Lactaria Holsteins Ltd is requesting approval for a 503 Animal Unit dairy operation.	MAFRD
5.0 Animal Confinement Facilities	X	<b>Climate Change &amp; Environmental Protection – Environmental Approvals:</b> 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.	CWS
6.0 Environmental Farm Planning	X	Lactaria Holsteins Ltd has indicated they have an up-to-date Environmental Farm Plan.	MAFRD
7.0 Water	X	<b>Climate Change &amp; Environmental Protection - Environmental Approvals:</b> According to the Site Assessment, the operation has historically been below the 300 animal unit threshold; therefore the producer has not submitted Source Water Monitoring analysis.  <b>Water Stewardship – Water Science and Management:</b> Detailed soil survey maps indicate that fields located on NW and SW 7-7-8 EPM (field ID "4+4N", "2", and "3") contain a 3rd order drain. The setback for a 3rd order drain is 15 metres assuming manure is broadcast without incorporation and the adjacent buffer is permanently vegetated. Also, the proponent must not apply nutrients directly to 1st and 2nd order drains.  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).  All unused and abandoned wells on the site and spread fields	CWS

The Audit of: Lactaria Holsteins Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>should be properly sealed. The well closest to the barn that will be demolished should also be properly sealed if it will no longer be used. A sealed well report should be filed with the Groundwater Management Section of Conservation and Water Stewardship for all sealed wells. Information on well sealing is available from Conservation and Water Stewardship (204-945-6959) or: <a href="http://www.gov.mb.ca/waterstewardship/water_info/misc/abandoned_wells.pdf">www.gov.mb.ca/waterstewardship/water_info/misc/abandoned_wells.pdf</a>. It is recommended that all but the most basic wells should be sealed by a well drilling professional. A list of currently licensed well drilling professionals is located at: <a href="http://www.gov.mb.ca/conservation/waterstewardship/water_quality/wells_groundwater/well_drillers.html">http://www.gov.mb.ca/conservation/waterstewardship/water_quality/wells_groundwater/well_drillers.html</a>.</p> <p>During manure field storage and application all groundwater features, including water wells, should be given as a minimum, the amount of buffer as outlined in the regulations.</p> <p><b>Water Stewardship – Water Use Licensing:</b> The water requirement from the on-site well for the proposed operation requires a Water Rights License. An Application for a Water Rights License along with the \$100 fee must be properly filed with our Section.</p> <p>A corrected 'Water Requirements Calculator' has been attached to Appendix B; the amount of water that the proponent should apply for is 16 dam<sup>3</sup>.</p>	
8.0 Manure Related	X	<p><b>Climate Change &amp; Environmental Protection - Environmental Approvals:</b> 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.</p> <p>The concrete manure storage facility constructed under the authority of permit LM-702 (now referred to as LM-0648) is equipped with a leak detection system (sump pit). The proponent has not provided the required annual monitoring well analytical results as required under section 6.1(2) of the Livestock Manure and Mortalities Management Regulation (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 2015 crop year.</p> <p><b>Climate Change &amp; Environmental Protection – Environmental Compliance and Enforcement:</b> Environmental Compliance and Enforcement (Eastern Region)</p>	CWS

The Audit of: Lactaria Holsteins Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		has reviewed the above noted Proposal (Site Assessment) and has no concerns.	
8.1 Land Available/Required for Manure Application	X	<p><b>Climate Change &amp; Environmental Protection - Environmental Approvals:</b>  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 Livestock Manure and Mortalities Management Regulation (M.R. 42/98) as areas where the amount of phosphorus in the manure produced annually by livestock in an area of not less than 93.24 km<sup>2</sup> is greater than two times the annual crop removal rate of P<sub>2</sub>O<sub>5</sub> in that area. The Rural Municipality of Ste. Anne is not 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 not 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 two times the crop removal rate of phosphorus. Lactaria Holsteins Ltd. must demonstrate access to sufficient suitable land to satisfy either the nitrogen or phosphorus requirements, whichever is more restrictive. In this case, Lactaria Holsteins Ltd. must have access to enough land to satisfy the nitrogen land base, 571 acres. The proponent has identified sufficient land available and suitable for manure application; therefore Manitoba Conservation and Water Stewardship is sufficiently satisfied with the proposal expansion in this respect.</p> <p>As a precautionary note, manure application may be restricted or prohibited on proposed spread fields with soils designated as unimproved organic. As further described in subsection 12(1.7) of the Livestock Manure and Mortalities Management Regulation (M.R. 42/98), the operator would be notified in writing when this subsection applies to the operation.</p> <p><b>Water Stewardship – Water Science and Management:</b>  Manitoba has included phosphorus as a nutrient by which fertilizer application through manure, synthetic fertilizer, and municipal waste sludge to agricultural lands may be limited. To remain environmentally sustainable over a long-term planning horizon of 25 years or more, the proponent must be able to balance phosphorus inputs from applied manure and other nutrient sources such as commercial fertilizers with crop removal rates to avoid excessive build-up in soils. Consequently, sufficient land</p>	CWS MMG MAFRD

The Audit of: Lactaria Holsteins Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>base or economically achievable treatment technologies must be available so that manure can be applied at no more than 1 times crop removal rates. Over the short-term, regulations allow manure to be applied at no more than 2 times crop removal rates when soil-test phosphorus is between 60 ppm and 120 ppm. Once phosphorus levels reach 120 ppm, applications of manure would be restricted to no more than 1 times crop removal rates. It should be noted that soil-test phosphorus levels of 60 ppm are well above phosphorus needs for most crops (over 20 ppm is usually considered very high), and that as excess phosphorus levels build up in soils, greater losses occur to surface and ground water. For long-term planning purposes, the proponent needs to have sufficient land available to ensure that manure can be applied at 1 times crop removal.</p> <p>Lactaria Holsteins has identified sufficient crop land to apply manure at two times the crop removal rate of phosphorus. Insufficient land has been identified to allow manure to be applied at one times crop removal rate over the long term. Lactaria Holsteins has acknowledged that additional lands may be required for the long term sustainability of the operation.</p> <p><b>MAFRD</b> A detailed description of MAFRD's land assessment is provided in the Appendix A. In summary, in order to satisfy the Province's requirement for N, it is estimated that Lactaria Holsteins Ltd requires approximately 571 acres of suitable land. This is also enough land to satisfy the Province's requirement for P in the RM of Ste Anne. Lactaria Holsteins Ltd submitted a total of 1088 acres of crop land, of which, approximately 783 acres had current soil tests. Lactaria Holsteins Ltd has demonstrated that they have sufficient suitable land to meet the Province's requirements for the manure N and P.</p> <p><b>MMG</b> All spreadfields identified in the proposal are designated Rural Agricultural in the RM of Ste. Anne Development Plan By-law 13-2007. All spreadfields identified are zoned Agricultural in the RM of Ste. Anne Zoning By-law 10-2010. The RMs planning by-laws support the continued use of these fields as spreadfields.</p>	
9.0 Mortalities Disposal	<b>X</b>	<p><b>Climate Change &amp; Environmental Protection – Environmental Approvals:</b> In accordance with the Livestock Manure and Mortalities Management Regulation (M.R. 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,</p>	<b>CWS</b>

The Audit of: Lactaria Holsteins Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>sinkhole, spring or well, and the operation's 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>The proposed livestock expansion is on land that is designated "RA" Rural Agricultural Area in the RM of Ste. Anne Development Plan By-law 13-2007. The objective of Rural Agricultural Area is to identify areas for present and future agricultural purposes and to ensure that livestock operations are evaluated against setbacks identified by the Province of Manitoba to ensure soil and water protection with minimal land use conflicts. Another objective of this area is to allow existing livestock operations to continue operating and to provide opportunity for sustainable growth in the livestock industry. The policies in the Development Plan support the expansion of a livestock operation at the proposed size with the approval of a conditional use application.</p> <p>The proposed livestock expansion is on land that is zoned "A" Agriculture Zone in the RM of Ste. Anne Zoning By-law 10-2010. The Agriculture zone lists livestock operations over 200 animal units as a Conditional Use. A Conditional Use application has been received by the RM of Ste. Anne and will be considered for approval by Council after a public hearing has been conducted.</p> <p>The RM of Ste. Anne Zoning By-law 10-2010 requires that livestock operations of the size being proposed be a minimum of 820 feet from the nearest residence. The nearest house is 865 feet away. Also, the livestock operation (animal housing facility or manure storage tank) must be a minimum 4364 feet from a settlement area that is designated in a development plan. The closest settlement area is the LUD of La Broquerie in the RM of La Broquerie which is well over one mile away. The proposal meets this separation distance requirement.</p> <p>The RM of Ste. Anne Zoning By-law 10-2012 requires that new animal housing structures be setback a minimum of 1000 feet from the Seine River. The proposed livestock expansion exceeds that minimum distance requirement.</p> <p>The RM of Ste. Anne Zoning By-law 10-2010 requires that livestock operations of the size being proposed be located on a lot that is a minimum of 80 acres in size. The existing legal title where the animal housing and manure storage facility exist is over</p>	MMG (CRP Steinbach Office)



The Audit of: Lactaria Holsteins Ltd.

Site Assessment Sections	Meets Requirements for TRC Review (type "X")	Comment	Reviewing Department
		<p>160 acres.</p> <p>The setbacks from the front, side, and rear property lines are determined by Council in the RM of Ste. Anne Zoning By-law. Variances may be required once Council determines what the setbacks are. Without defined setbacks it is impossible to determine if variances are required at this time.</p> <p>Several accessory buildings appear to be very close to the property line and may encroach on the title to the north of the site. This property is owned by the same owner. Council may require a building location certificate from a Manitoba Land Surveyor to assess which buildings may require Variance Orders once Council determines what the setback distances are.</p>	
<p>10.0 Project Site Description (Native Prairie, Wildlife Mgt Areas, Crown Land)</p>	<p><b>X</b></p>	<p><b>Conservation Programs – Wildlife &amp; Ecosystem Protection:</b> The Conservation Data Centre has no concerns. There are no wildlife related concerns.</p> <p><b>Conservation &amp; Water Stewardship – Lands Branch:</b> Based on a review of the provided information there does not appear to be any planned impacts to Crown land. Land Management &amp; Planning Section has no concerns.</p>	<p><b>CWS</b></p>
<p>11.0 Truck Haul Routes and Access Points</p>	<p><b>X</b></p>	<p>We have reviewed this proposal.</p> <p>This site does have frontage onto PR 302 and a direct access driveway onto this highway. It should be noted that a permit is required from Manitoba Infrastructure and Transportation for any proposed modifications to existing structures, or the construction or placement of objects or structures within the 125 foot (38.1 m) wide control area along each side of PR 302 and for any proposed additional driveways or the modification, relocation or removal of an existing access onto this highway. Our department would not approve any additional access connections to this property at this time. In addition, a permit is required from the Manitoba Infrastructure and Transportation for any planting placed within 15.2 m (50 ft) from the edge of the right-of-way of this highway. Permission is also required from Manitoba Infrastructure and Transportation to discharge water or other liquid materials, including surface water drainage, directly or indirectly into the ditches along a provincial highway.</p> <p>Based on the available information we do not object to this proposal. PR 302 is rated for Class B1 loading. The anticipated traffic volume at four vehicles (one truck and three tractor trailers) per day is not significant enough to raise any safety or operational concerns.</p>	<p><b>MIT</b></p>

CWS – Conservation and Water Stewardship

MAFRD- Manitoba Agriculture, Food and Rural Development

MIT – Manitoba Infrastructure and Transportation

MMG- Municipal Government

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## **D. PUBLIC COMMENTS & DISPOSITIONS**

**N/A**

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## **E. CONCLUSIONS & RECOMMENDATIONS**

### **Overall Conclusion**

**The information contained in the Site Assessment submitted by the proponent generally meets Provincial requirements.**

**Based on the Site Assessment submitted by the producer and available information, the TRC recommends the following appropriate practices, measures and safeguards be taken;**

### **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 should specify the type(s) of operation, legal land location, number of animals in each livestock category and total animals units in its Conditional Use Order.
- Council is welcome to contact Manitoba Conservation and Water Stewardship (CWS) to discuss environmental compliance issues, if applicable, with respect to the *Livestock Manure and Mortalities Management Regulation* (M.R. 42/98). The Technical Review Officer with CWS as well as regional CWS staff can be contacted by council at their discretion.
- 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.
- *Several accessory buildings appear to be very close to the property line and may encroach on the title to the north of the site. This property is owned by the same owner. Council may require a building location certificate from a Manitoba Land Surveyor to assess which buildings may require Variance Orders once Council determines the setback distances.*

### **Recommended Actions to Proponent**

- The proponent is required to submit an “Application for Permit to Construct, Modify, or Expand a Manure Storage Facility” to Manitoba Conservation and Water Stewardship for each Manure Storage Facility (MSF) to be constructed, modified or expanded;
- Construction of a MSF shall not commence until a permit is granted by the Director, and adequate notification is given to Manitoba Conservation and Water Stewardship;
- The proponent shall ensure the MSF, alone or in combination with other MSFs located on the property of the agricultural operation, is/are of sufficient capacity to store all livestock manure produced and used by the agricultural operation;
- The proponent is required to submit annual water analysis results from the leak detection system associated with the manure storage facility constructed under the authority of LM-702 (currently referenced as LM-0648);
- Livestock manure shall be stored until such a time that it can be applied as fertilizer;
- If approval for expansion is granted, the proponent is required to submit the annual livestock source water monitoring analysis report to Manitoba Conservation and Water Stewardship no later than December 31 of each year;
- All unused and abandoned wells on the site and spread fields should be properly sealed and a sealed well report filed with the Groundwater Management Section of Conservation and Water Stewardship.
- Lactaria Holsteins Ltd. will be required to apply for a water rights licence for the groundwater needed to service the livestock operation.

- If approval for expansion is granted, the proponent is required to submit a Manure Management Plan annually to Manitoba Conservation and Water Stewardship for registration;
- The proponent must observe all setbacks from water features during manure application;
- The proponent should prepare a contingency plan in the event of a catastrophic event resulting in mass mortalities.

**\* and 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.**

**The overall conclusion represents the consensus of the TRC Members.**

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## **F. TECHNICAL REVIEW COMMITTEE MEMBERS**

<b>Name</b>	<b>Department</b>	<b>Title</b>	<b>Address</b>	<b>Telephone</b>
Don Malinowski Chair	Municipal Government	Senior Planner, TRC Community & Regional Planning Branch	604-800 Portage Avenue Winnipeg	945-8353
Petra Loro	Agriculture Food and Rural Development	Livestock Environment Specialist	545 University Crescent Winnipeg	945-3869
Andrea Bergman	Conservation and Water Stewardship	Technical Review Officer Environmental Approvals Branch	123 Main Street Winnipeg	945-4384
Heinz Lausmann	Infrastructure and Transportation	Senior Highway Planning Engineer Highway Planning and Design Branch	1420-215 Garry Street Winnipeg	945-2664

## Appendix A

### Lactaria April 10 2015 Petra Loro, Livestock Environment Specialist

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Manitoba Agriculture, Food and Rural Development (MAFRD) reviewed the site assessment for Lactaria Holsteins Ltd as provided by Southman Engineering on March 10 2015 and has the following comments.

*Proposed Type and Size of Operation:*

Lactaria Holsteins Ltd currently operates a 298 animal unit dairy operation (149 mature cows plus associated livestock). They are proposing to expand their operation to 270 mature cows with 240 replacement heifers. According to the breakdown of mature cows and replacement heifers provided by Southman Engineering, Lactaria Holsteins Ltd is requesting approval for a 503 Animal Unit dairy operation.

*Environmental Farm Planning:*

Lactaria Holsteins Ltd has indicated they have an up-to-date Environmental Farm Plan.

*Land Available/Required for Manure Application:*

MAFRD worked with Southman Engineering prior to submission of the site assessment to determine the land required for manure application.

In the Rural Municipality of Ste Anne, it is currently the Government of Manitoba's policy to require enough suitable land to allow manure application at a rate that does not exceed the nitrogen (N) uptake or twice the phosphorus (P) that will be removed from the field in the harvested portion of the crop over the course of a rotation. Only lands with Agriculture Capability Class 1 to 5 and recent soil tests demonstrating P levels below 60 ppm Olsen P are considered suitable. Buffer strips and setbacks must be excluded.

Using the MAFRD land calculator, it is estimated that all of the livestock associated with Lactaria Holsteins Ltd will generate approximately 78,712 lbs N and 41,403 lbs P<sub>2</sub>O<sub>5</sub> to be land applied. Using the crops and acreages provided by Lactaria Holsteins Ltd, in conjunction with 10 year (2004-2013) MASC yield averages, it is estimated that the average annual crop N uptake to be approximately 137 lb/acre and the average annual crop P<sub>2</sub>O<sub>5</sub> removal to be approximately 38 lb/acre.

Therefore, in order to satisfy the Province's requirement for N, it is estimated that Lactaria Holsteins Ltd requires *approximately* 571 acres of suitable land. This is also enough land to satisfy the Province's requirement for P in the RM of Ste Anne. MAFRD's land estimate considers only the N and P from the livestock and does not consider nutrients from any other sources.

MAFRD assessed the land provided in the site assessment in order to provide Council with the assurance that adequate suitable land is available for all of the livestock associated with Lactaria Holsteins Ltd. Lactaria Holsteins Ltd submitted a total of 1088 acres of crop land, of which, approximately 783 acres had current soil tests. According to Agri-Maps (MAFRD internal soil survey map viewer), these parcels contain Agriculture Capability Class 2, 3, 5, 6 and improved organic soils. Agri-Maps indicates the land has slight to severe limitations due to lack of moisture (M), wetness (W) and stoniness (P). Manure must not be applied to any areas of Class 6 soil. Based on the acreage with current soil tests and excluding the Class 6 soils, Lactaria Holsteins

Ltd has demonstrated that they have sufficient suitable land to meet the Province's requirements for the manure N and P.

*Additional Information:*

Actual manure application rates will be determined in the annual manure management plan. In order to minimize the risk of nitrate leaching, manure application rates should be based on annual soil tests, crop N requirements and realistic target crop yields. Because manure is rarely a "balanced" fertilizer, repeated, annual N-based manure application rates often result in the build-up of soil test P. Moderate build-up of soil test P enhances soil fertility and benefits crop production, however, excessive build-up of soil test P increases the risk of P being lost to surface water. For this reason, MAFRD recommends that Lactaria Holsteins Ltd manage the fertility of the fields that receive manure to keep all soil tests below 60 ppm P over the long-term. Injection or incorporation of manure within 48 hours of application will also reduce the risk of manure being lost to surface water, particularly if the manure is applied in the fall.

MAFRD 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 licenced by MAFRD.

Under *The Farm Practices Protection Act*, any complaints about odour or other disturbances (such as flies, smoke, noise or dust) can be directed in writing to The Manitoba Farm Industry Board. *The Act* is intended to provide for a quicker, less expensive and more effective way than lawsuits to resolve complaints about farm practices. It may create an understanding of the nature and circumstances of an agricultural operation, as well as bring about changes to the mutual benefit of all concerned, without the confrontation and the expense of the courts.

**Appendix B**  
**Livestock Water Requirements Estimator**  
**Corrected**

**Livestock Water Requirement Estimator**

Livestock	Number	IG/day per animal in winter	IG/day per animal in summer	IG/day (Imperial gallons per day)
<b>Beef/Dairy/Bison</b>				
Feeder/heifer/steer (800 lb.)	240	5	9	2,160
Feeder (900 lb.)		7	12	-
Feeder (1250 lb.)		10	15	-
Cow/calf pair		12	15	-
Dry milking cow **	30	10	12	360
Lactating cow **	240	25	30	7,200
Bison		8	10	-
<b>Horses</b>				
Horses		8	11	-
<b>Hogs</b>				
Sow (Farrow/wean)			6.5	-
Dry Sow/Boar			4	-
Feeder			3	-
Nursery (33 lb.)			2	-
<b>Chickens</b>				
Broilers			0.035	-
Roasters/Pullets			0.04	-
Layers			0.055	-
Breeders			0.07	-
<b>Turkeys</b>				
Turkey Growers			0.13	-
Turkey Heavies			0.16	-
<b>Sheep/Goats</b>				
Sheep/Goats			2	-
Ewes/Does			3	-
Lambs/Kids (90 lb.)			1.6	-
<b>TOTAL (IG/day)</b>				<b>9,720</b>
<b>*** TOTAL with 10% wash water</b>				<b>10,692</b>

\* 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.

\*\*\* 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
10,692	3,902,580	IG
44,187	16,128,299	litres
0.044	16	cubic decametres (dam <sup>3</sup> )

Conversion Factor: 1 IGPM = 4.546 l/m