TECHNICAL REVIEW COMMITTEE

A TECHNICAL REVIEW REPORT PREPARED FOR

THE RURAL MUNICIPALITY OF

MINTO-ODANAH

COOL SPRING COLONY LTD.

SW ¼ 24-16-17 WPM

TRC 12 – 048

October 30, 2018

A. INTRODUCTION – THE TEAM

The Technical Review Committee (TRC) is supported by the following department personnel:

- Agriculture (Ag); Livestock Environment, Nutrient Management and Business Development Specialists, Agricultural Engineer, and Veterinarians
- Municipal Relations (MR); Community Planners
- Infrastructure (MI); Development Review Technologists, Engineering and Operations Division; Development Review Officers, Water Management and Structures Division
- Sustainable Development (SD); Environment Officer, Habitat Mitigation Biologist, Regional Wildlife Manager, Groundwater Specialist, Water Rights Licensing Manager and Resource Planner

  and

- Any other specialist or department that may have an interest, which may be consulted during the process.

The Technical Review Coordinator, (Senior Planner, MR) chairs the committee.

THE REPORT (TRC Process Box 17)

Prime Purpose of TRC Reports

To provide objective, highly credible, technically-based assessments that:

a) Enable municipal councils to make informed Conditional Use Permit decisions;
b) Create a common stakeholder understanding of a livestock proposal, potential impacts and related regulatory requirements and safeguards;
c) Provide a vehicle/forum that enables the sharing of public concerns and proponent responses;
d) Offer recommendations to both municipal councils and proponents; and
e) Represents the fulfillment of the TRC's role as per 116(1)(b)(i) of *The Planning Act* – to determine, based on available information, that the proposed operation will not create a risk to health, safety or the

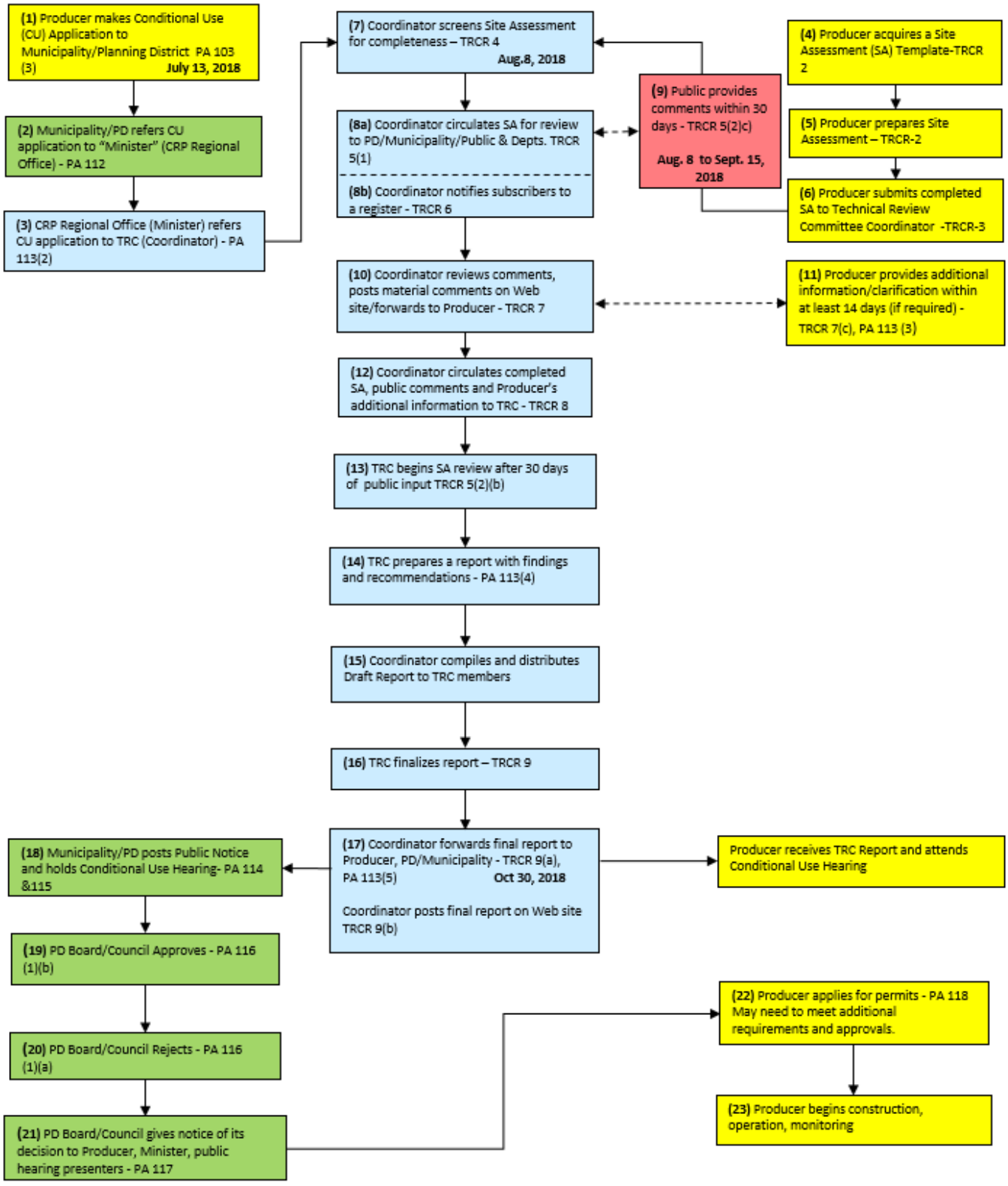
environment, or that any risk can be minimized through the use of appropriate practices, measures and safeguards

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

THE PROCESS

TRC Process Chart with actual pertinent dates and brief overview:

The Technical Review Process: TRC-12-048 –Cool Spring Colony Ltd.



B. DESCRIPTION OF PROPOSED LIVESTOCK OPERATION

To view a detailed description, go to:

http://www.gov.mb.ca/mr/livestock/index.html

Applicant: Cool Spring Colony Ltd.

Site Location: SW¼ 24-16-17 WPM

Located just south of PR 265, approximately 8 miles (12.8 km) north east of Minnedosa or 5 miles (8 km) east of the community of Clanwilliam. (Refer to maps below).

Proposal:

The Cool Spring Colony livestock operation currently consists of Sows (farrow–finish) and Broilers, together totaling 1044 Animal Units (AU).

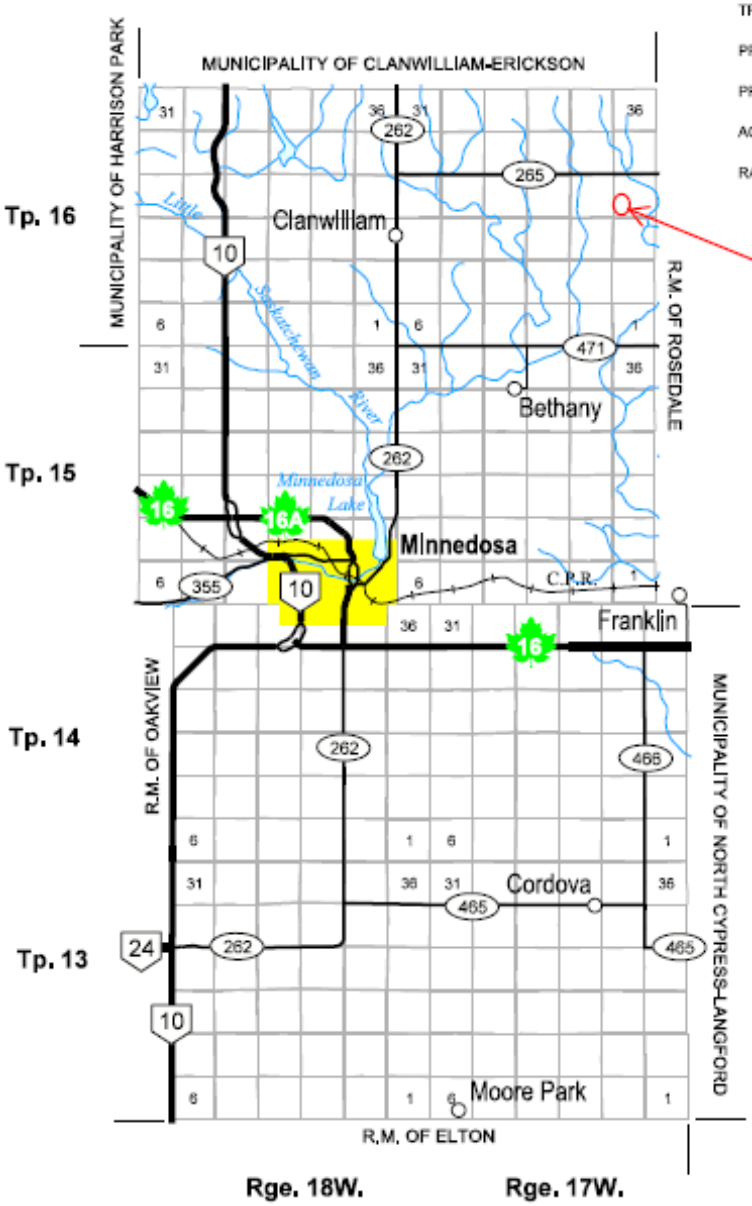
Within an animal confinement facility, the intent is to expand the broiler operation to 96,000 animals (480 Animal Units); add 500 layers, 400 ducks and 4 dairy cows, which together would result in a mixed operation totaling 1218 AU, an overall increase of 174 AU.

This will involve the following:

- Constructing two new barns (one broiler barn and one multi-use barn)
- No existing buildings to be modified
- Manure storage to consist of: concrete tank manure storage facility, steel tank manure storage facility and field storage
- Consuming 17,101 imperial gallons of water per day (from existing well)
- Composting mortalities
- Using the truck haul route as shown in map below.

R.M. OF MINTO-ODANAH

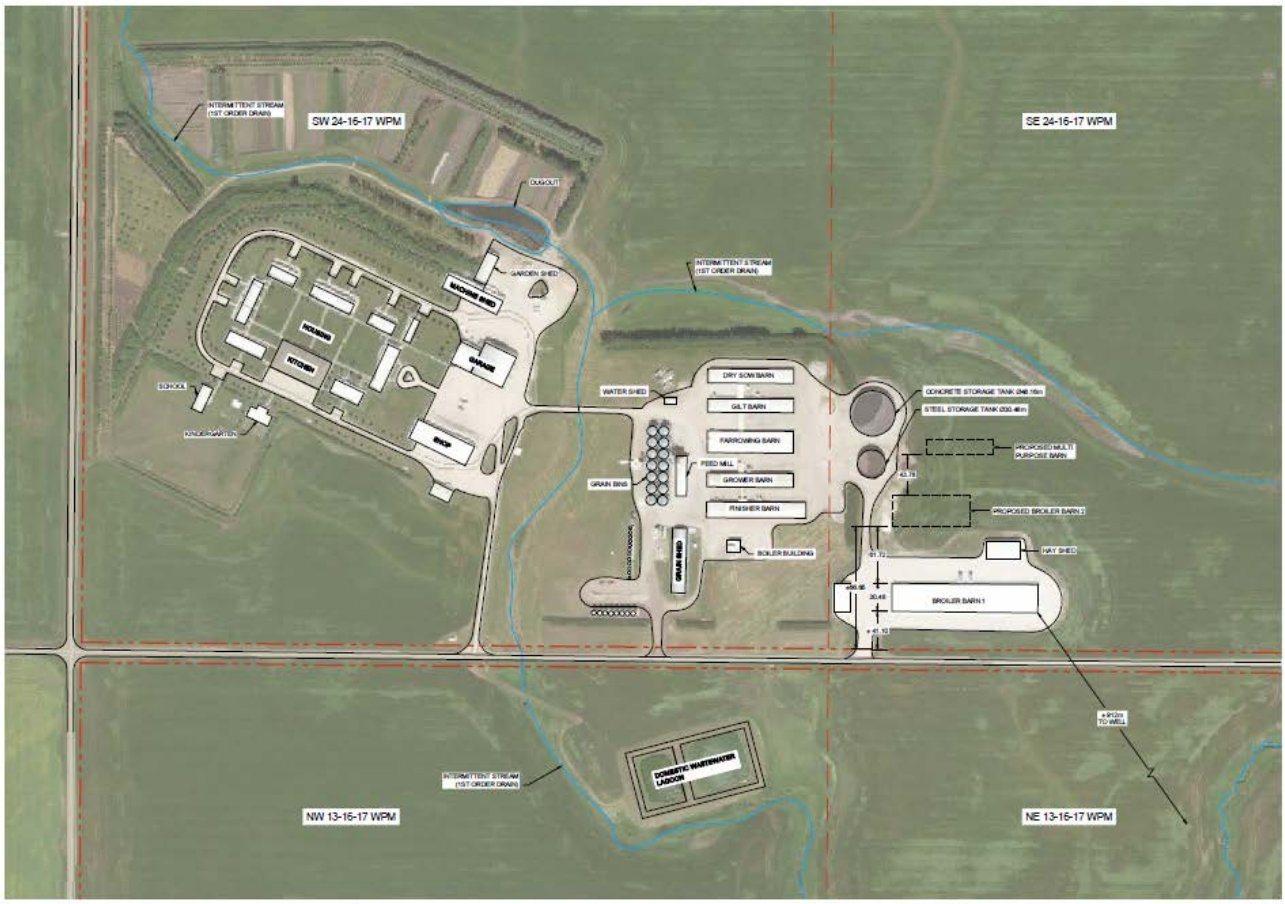
PROVINCE OF MANITOBA
INFRASTRUCTURE
HIGHWAY PLANNING AND DESIGN BRANCH
GEOGRAPHIC & RECORDS MANAGEMENT SECTION
WINNIPEG
JANUARY 1, 2015



LEGEND

- TRANS-CANADA HIGHWAY 16
- PROVINCIAL TRUNK HIGHWAYS 10
- PROVINCIAL ROADS 265
- ACCESS ROADS .....
- RAILWAYS .....

SHEET 1 OF 1



A	JUNE 21, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT
NO:	DATE	APP.	BY	DESCRIPTION

REVISIONS

PRELIMINARY
FOR REVIEW AND COMMENT ONLY

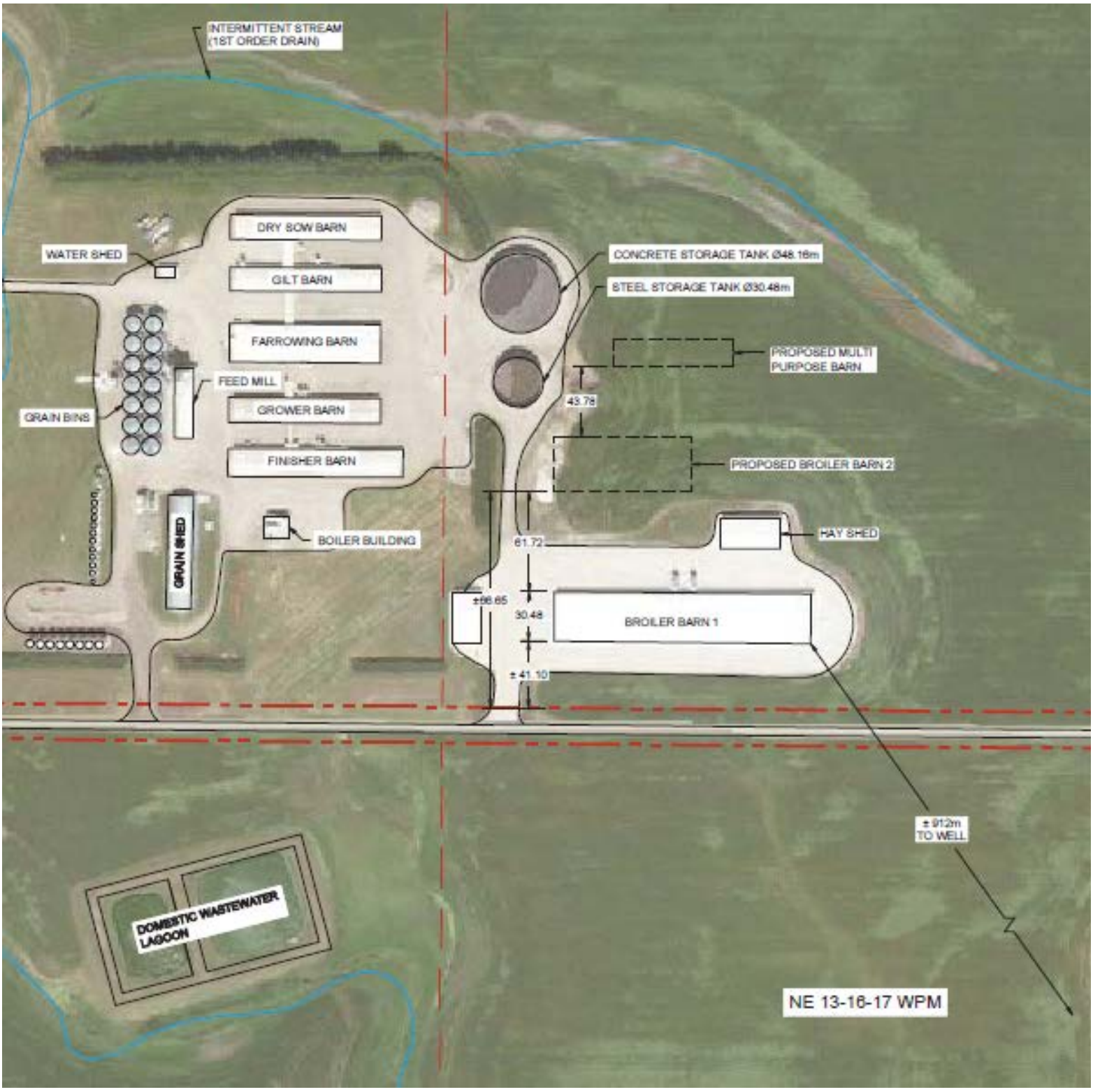
DESIGNED BY: –	REVIEWED BY: D.B.
DRAWN BY: J.K.	
PROJECT START DATE: JUNE 2018	
PLOT SIZE: A1 (594x841)	
SCALE: N.T.S	

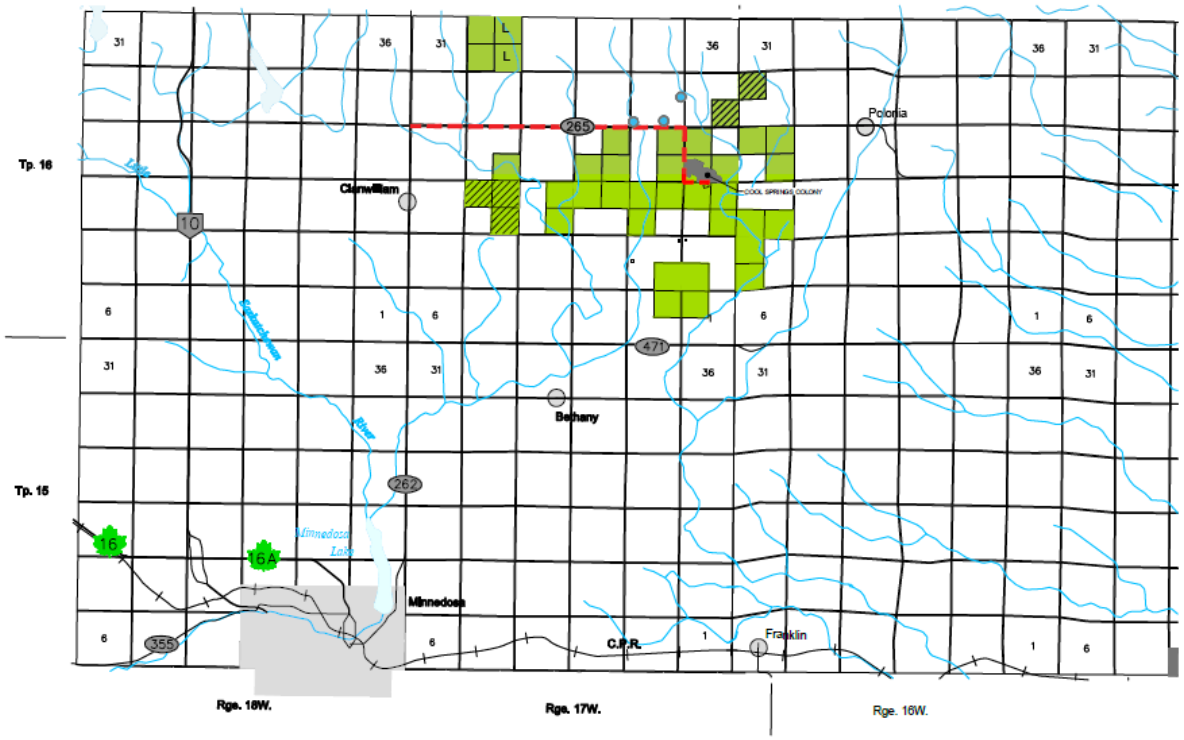
PROJECT NAME:
COOL SPRINGS COLONY
BARN EXPANSION
MINNEDOSA, MB

DRAWING TITLE:
SITE PLAN

BURNS MAENDEL CONSULTING ENGINEERS LTD.
1331 Princess Ave.
Brandon, Manitoba
R7A 0R4
Tel: (204) 728-7364
Fax: (204) 728-4418

PROJECT NUMBER: BMCE18-067
DRAWING NO: C1.2


INTERMITTENT STREAM
(1ST ORDER DRAIN)
DRY SOW BARN
WATER SHED
GILT BARN
CONCRETE STORAGE TANK Ø48.16m
STEEL STORAGE TANK Ø30.48m
FARROWING BARN
PROPOSED MULTI PURPOSE BARN
FEED MILL
43.78
GRAIN BINS
GROWER BARN
FINISHER BARN
PROPOSED BROILER BARN 2
GRAIN SHED
BOILER BUILDING
HAY SHED
61.72
±66.65
30.48
BROILER BARN 1
± 41.10
± Ø1.2m
TO WELL
DOMESTIC WASTEWATER
LAGOON
NE 13-16-17 WPM



LEGEND	
OWNED BY COOL SPRINGS COLONY (L INDICATES LEASE PROPERTY)	
SOLID MANURE STORAGE & SPREADING	
TRUCK HAULING ACCESS ROUTE	
RESIDENCE WITHIN 1 MILE OF OPERATION	

NO.	DATE	APP.	BY	DESCRIPTION
A	JUNE 21, 2018	D.B.	J.K.	ISSUED FOR REVIEW AND COMMENT

REVISIONS

PRELIMINARY
FOR REVIEW AND COMMENT ONLY

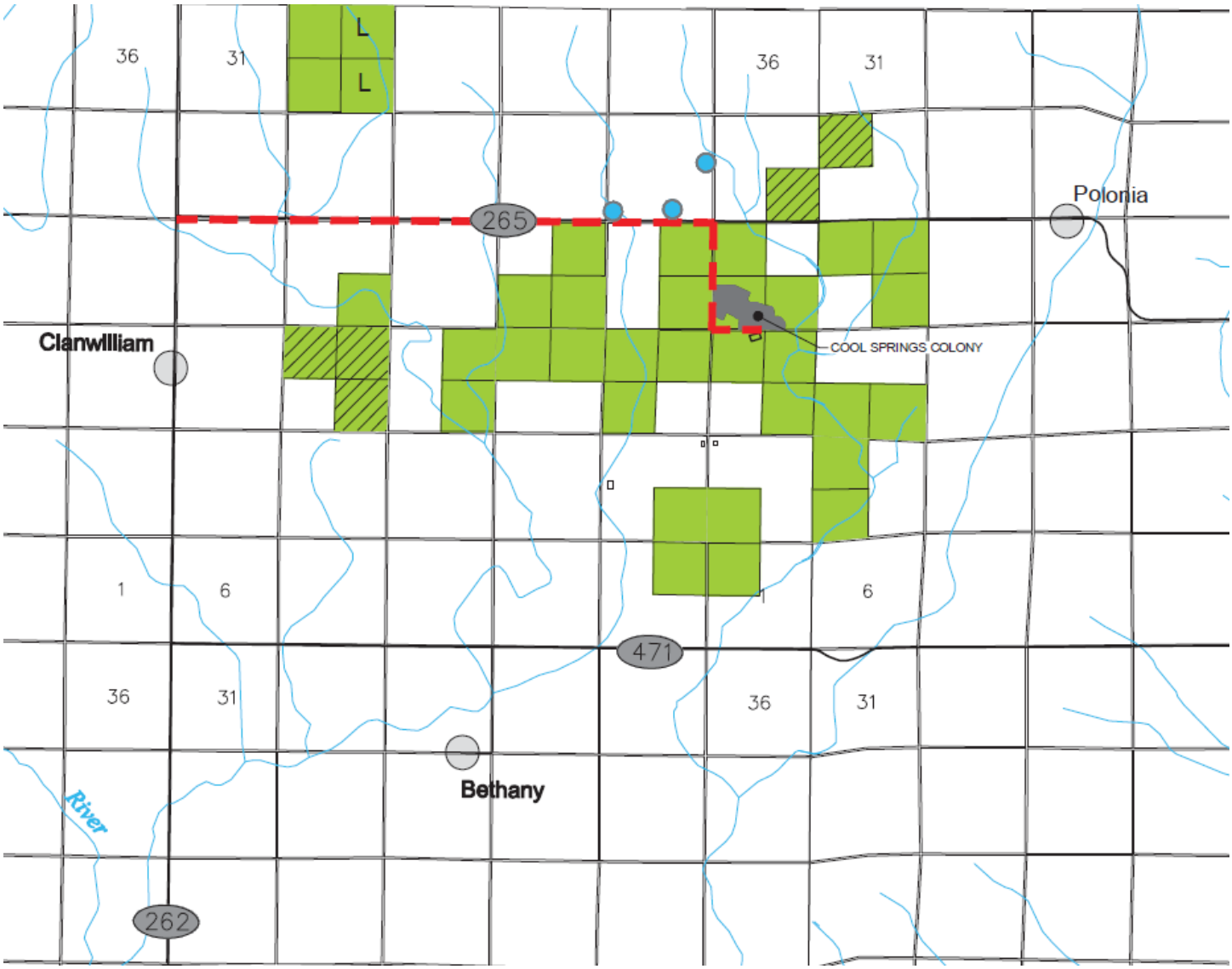
DESIGNED BY: --
REVIEWED BY: D.B.
DRAWN BY: J.K.
PROJECT START DATE: JUNE 2018
PLOT SIZE: A1 (594x841)
SCALE: N.T.S

PROJECT NAME:
COOL SPRINGS COLONY
BARN EXPANSION
MINNEDOSA, MB

DRAWING TITLE:
PROPERTY OWNERSHIP AND MANURE APPLICATIONPLAN

BURNS MAENDEL CONSULTING ENGINEERS LTD.
1331 Princess Ave.
Brandon, Manitoba
R7A 0B4
Tel: (204) 728-7364
Fax: (204) 728-4418

PROJECT NUMBER: BMCE18-067
DRAWING NO: C1.1



LEGEND	
OWNED BY COOL SPRINGS COLONY (L INDICATES LEASE PROPERTY)	
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TRUCK HAULING ACCESS ROUTE	
RESIDENCE WITHIN 1 MILE OF OPERATION	

C. SITE ASSESSMENT OVERVIEW

Assessment Overview Table

Provincial Technical Overview of TRC 12-048 - Cool Spring Colony Ltd.:			
Items Provided by Project Proponent	**Confirmed**	**Related Existing Provincial Safeguards**	**Dept**
1. Submitted complete Site Assessment	X	The proposal is consistent with the Provincial requirements for a livestock operation.	MR
2. Clearly defined the project as an Animal Confinement Facility	X	Any barn in excess of 6,458 sq. ft. each will require a building permit from the Office of the Fire Commissioner.	MR
3. Proposed Project Site Physical Suitability	X	Reconnaissance soil survey indicates that Cool Spring Colony Ltd is located on prime agricultural land (Agriculture Capability Class 2).	Ag
4. Proposed Project Site Flood Risk Potential	X	Water Management, Planning and Standards is not aware of any major, overland flood hazard at this location.	MI
5. Identified **17,101** imperial gallons/day required for proposed operation	X	Cool Spring Colony does not have a Water Rights Licence, however the Site Assessment shows that the colony needs enough water to require a Water Rights Licence for their existing population and livestock. Whether the expansion goes forward or not, the colony must apply for a Water Rights Licence either through the website: at http://www.gov.mb.ca/sd/waterstewardship/licensing/wlb/obtaining.html or by contacting Water Use Licensing at Box 16 - 200 Saulteaux Crescent, Winnipeg MB, R3J 3W3; (204) 945-3983, or toll free at 1-800-214-6497.	SD
6. Proposed measures to meet storage and application regulations for manure	X	Any applicable permit or annual submissions under the Livestock Manure and Mortalities Management Regulation would be processed by Environmental Approvals Branch of Sustainable Development. Cool Spring Colony Ltd. must submit annual Manure Management Plans (MMP), as prescribed under the Livestock Manure and Mortalities Management Regulation. The MMP process is administered through	SD

Provincial Technical Overview of TRC 12-048 - Cool Spring Colony Ltd.:			
Items Provided by Project Proponent	**Confirmed**	**Related Existing Provincial Safeguards**	**Dept**
		the Environmental Approvals Branch of Sustainable Development. Details on the requirements for manure management plans, including future soil sampling and analysis requirements, are available at www.gov.mb.ca/sd/envprograms/livestock.	
7. Proposed Project Site with suitable mortalities disposal methods (composting)	X	Information on livestock mortality disposal is provided in section 9 of the site assessment, which requires Cool Spring Colony Ltd. to select from four provincially approved methods of disposal. More specific information is included in the Livestock Manure and Mortalities Management Regulation and at http://www.gov.mb.ca/sd/envprograms/livestock.	SD
8. Proposed Project Site with acceptable odour control measures	X	Should odour become a problem for neighbouring residents, there is a complaints process under *The Farm Practices Protection Act*. A person who is disturbed by any odour, noise, dust, smoke or other disturbance resulting from an agricultural operation may make a complaint, 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 nuisance 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.	Ag
9. Proposed Project Site that meets development plan and zoning by-law requirements	X	The proposed Livestock operation is in an area designated Rural-Agricultural Area in the Tanner's Crossing Planning District Development Plan No. 6, and livestock operations of this size are to be considered as a conditional use in the zoning by-law. New or expanding livestock operations should be closely scrutinized and controlled in areas subject to flooding, groundwater contamination, or close to communities, none of which appear to apply in this case. The proposed Livestock operation is in an area classified "AG" Agricultural General Zone, in the Minto Zoning By-law No. 2/04. Livestock operations in this zone are a conditional use in excess of 250 animal units irrespective of location. There is a requirement for a minimum site area of 80 acres, site width of 1000 feet, front yard of 125 feet, a	MR

Provincial Technical Overview of TRC 12-048 - Cool Spring Colony Ltd.:			
Items Provided by Project Proponent	**Confirmed**	**Related Existing Provincial Safeguards**	**Dept**
		side and rear yards of 25 feet, and a minimum setback from property boundary of 165 feet for a barn. Based on the Cool Spring Colony Site Assessment (and assuming the numbers on the provided site map are in metric), the proposed livestock expansion appears to meet the bulk requirements for the "AG" zone in the Minto Zoning By-law No. 2/04.	
10. Proposed Project Site that is sufficient distance from surface watercourses, sinkholes, spring, well, property line	X	In section 10.6 of the site assessment, the proponent has acknowledged the setback areas for all water features have been observed and excluded from land base calculations. The landscapes are complex and all setbacks should be clearly communicated to and observed by those involved in manure application to minimize the risk of nutrients entering surface waters.	SD
11. Proposed Spreadfields that are sufficient, and suitable for manure spreading	X	Cool Spring Colony Ltd has exceeded the land requirement for 575 sows-farrow to finish, 96,000 broiler chickens, 500 layers, 400 ducks and 4 dairy cows in the RM of Minto-Odanah. A detailed explanation of the land assessment can be found in the Appendix A. All of the manure will be applied as a fertilizer for crop production. If the services of a manure management planner will be used, the planner must be a Professional Agrologist or Certified Crop advisor and must have successfully completed training in manure management planning delivered by the Assiniboine Community College. The proponent has indicated that a commercial manure applicator will be used to apply the manure. Commercial manure applicators must be trained and licenced in Manitoba. The training is delivered by the Assinoboine Community College and licencing is through Manitoba Agriculture.	Ag
12. Proposed Spreadfields with sufficient minimum setbacks on Spreadfields from natural features (water sources etc.)	X	Section 8.7 required Cool Spring Colony Ltd. to indicate all setbacks have been observed and excluded from land base calculations. (See Appendix B).	SD

Provincial Technical Overview of TRC 12-048 - Cool Spring Colony Ltd.:

Items Provided by Project Proponent	Confirmed	Related Existing Provincial Safeguards	Dept
13. Proposed Spreadfields that have been secured by spread agreements	X	The proposal indicates that most of the land available for manure application is owned by Cool Spring Colony.	Ag
14. Proposed Spreadfields that meet development plan and zoning by-law requirements	X	All lands identified for manure spreading are designated Rural Agricultural Area and Zoned "AG" Agricultural General Zone	MR
15. Proposed trucking routes and access points that may impact Provincial Roads or Provincial Trunk Highways	X	The proposed truck route will utilize existing municipal/Government Road Allowances with an existing Government Road Allowance access connection onto PR 265. We do not anticipate a substantial increase in usage for the existing access connection. Manure spreading: please note that any structures placed within the controlled area of PR 265, 262 or 471 (125 feet from the edge of the right-of-way) requires a permit from our office. The contact is Sheena del Rosario at (204) 945-3457. The placement of temporary draglines or any other temporary machinery/equipment for manure application within the right-of-way of PR 265, 262 or 471 requires permission from our regional office in Brandon. Please contact the Regional Planning Technologist (Brian Hickman) at (204) 726-6822. In addition, please notify the Regional Planning Technologist for the placement of temporary draglines or other temporary equipment for manure application within the controlled area of PR 265, 262 or 471 (125 feet from the edge of the right-of-way).	MI
16. Proposed trucking routes – local roads	X	Based on available information this operation will use municipal roads South and West of the operation to access PR 265. The Municipality may impose, through a development agreement conditions regarding the maintenance and/or construction of local roads, as provided for in The Planning Act.	MR

Provincial Technical Overview of TRC 12-048 - Cool Spring Colony Ltd.:			
Items Provided by Project Proponent	**Confirmed**	**Related Existing Provincial Safeguards**	**Dept**
17. Declared Provincial Waterways	X	This proposal will not impact any Provincial Waterways.	MI

Provincial Departments

- Ag – Agriculture
- MR –Municipal Relations
- MI – Infrastructure
- SD – Sustainable Development

D. PUBLIC COMMENTS & DISPOSITIONS

Public Comment Summary	
1. **Robert E. Jones, Vice –chairman** **Friends of Minnedosa Lake Committee**	**Concerns** --While this application does not appear to effect ground or surface water entering the Little Saskatchewan River prior to its' entering Minnedosa Lake, we want to ensure that due diligence is done prior to approval of this application. We are assuming that sufficient study will be done to alleviate any concerns in this regard. Thank-you for the opportunity to voice our thoughts on this matter.
2. **Colleen Cuvelier, Manager** **Little Saskatchewan River Conservation District**	**Concerns** **--**This proposal was reviewed within the context of the Little Saskatchewan River Integrated Watershed Management Plan. --The Little Saskatchewan River Conservation District is not for or against any specific project. The integrated management plan provides direction from the residents, landowners, and stakeholders in our watershed. --The state of the riparian areas in the surface water drainage network emanating from the manure spread fields identified in the application is a concern.

	--In several instances, it appears that permanent riparian cover and buffer strips have been removed, and the consequence is serious soil erosion of field drainage networks resulting in the transport of nutrients and soil downstream. This soil transport and erosion is not a sustainable agricultural practice and results in soil and nutrient build-up in Minnedosa Lake. --The LSRCD recommend the following to address these concerns. Should these actions be included as a requirement, there should be consideration to having a deadline for the establishment of the works 1. Establish permanent, perennial vegetation in all waterways, including those that are smaller than Order 1, period of flow, and delineation not acquired through actual fields visits 2. Establish permanent, perennial vegetated buffers on all water bodies including waterways that are smaller than Order1. The buffer should extend a minimum of 3 metres from the
3. **Jim Richards**	**Concerns** **--**I'm wondering why not everyone received a notice regarding their request, within the 3 kilometre radius of Cool Spring Colony. It was my understanding that this was supposed to take place. --I'm also concerned about the manner in which the Colony's holding tanks are emptied out and spread on their fields. It seems like there is too much waste being dumped on top of the ground, so much in fact that it runs off the field and into the ditch and begins to gather in pools of sludge. --I think if the people living down stream from the Colony, specifically those that swim and boat in the Minnedosa Lake knew of what is happening they would probably want to voice their concerns as well.
4. **Karen Dowsett** **KD Dowsett Farms Ltd.**	**Concerns** -- The following are our concerns in regarding the proposed expansion: 1. Cool Spring Colony already has two Intensive Livestock Operations on their land. The topography of the colony land and surrounding land is such that the runoff from spring thaw and rainfall events moves very quickly taking with it soil, and in some circumstances manure that has been deposited on the fields. Addition of more livestock may intensify this ongoing problem. 2. Conditional Use Requirements were clearly laid out by the RM of Minto regarding the original two operations. Several of these requirement have not been met by the Colony on an ongoing basis. 3. Monitoring of the current operations by the government departments responsible for monitoring has in our opinion been mishandled, and in some cases negligent. It would seem irresponsible for the government to consider approving more operations when they clearly don't have the resources or staff to monitor

5. **William E. HopkinsSr. and Glennis Hopkins** **Clanwilliam, MB**	**Need More Information** -- We feel we need more information. --The Colony did not keep the last agreement to keep water shed runway sowed to grass. --The year after being sowed down, it was sprayed but sowed for grain then cultivated after
6. **Charlie and Lyndie Dagg** **Minnedosa, MB**	**Strongly Oppose** As direct neighbors of the Cool Spring Colony we strongly oppose the proposed expansion. --We have a few major concerns including the overpowering odor, increased manure contamination to waterways and water sources and the overall impact which we feel will decrease the value of our acreage. --At present the smell of the pig and chicken manure becomes so horrendous in the evening that we are unable to enjoy being outside at all, which will only get worse with more animals present. --With more animals also comes more manure on the land which will in turn drain into the waterways and potentially contaminate our water source. --This is especially true due to the aggressive drainage techniques they use, causing more than average runoff to begin with. --The manure contaminated runoff will affect not only close neighbors but also many farms and water sources miles downstream. --The addition of more animals will only worsen this pre-existing problem. --We are very worried that with this expansion in such close proximity to our acreage that our own property will be devalued. --There is nothing that we do on our property that affects the Colony so we feel it unfair that their activities, including this potential expansion, has such a negative effect on us. -- We hope you take our concerns into consideration and please feel free to contact us with any questions.
7. **Keith & Sandra Syslak Clanwillian, MB**	**Concerns** --We feel the terms of the existing conditional use are not being met. --the manure management is questionable at best, grass runways that were part of the existing conditional use have disappeared and although this has been brought to the attention of government officials nothing has been done to rectify the situation. --Could you please specify who is responsible for the following up with the terms of the conditional use. Is the planning district that issued the conditional use, the municipal council that

	approved the conditional use, Manitoba Sustainable Development or nobody at all? --We understand that there are regulations for the disposal of manure and mortalities but does a government official ever make an unannounced visit to the site to do and inspection. If so how often does this occur? -- There is already an offensive odor throughout most of the summer from the existing livestock that the neighboring residents and beyond are exposed to. This makes it very unpleasant to be out in your own yard with your children at times. As well, it will definitely affect the resale value of neighboring property. -- We understand that reports have to be submitted but if there is never any follow up of unannounced inspections the reports really are not worth the paper they are written on. Perhaps they should improve their track record and abide by existing rules before another conditional use is even considered.
8. **David and Dawn Smith**	**Concerns** --We feel that the proposed expansion of mixed livestock operation will cause an increase of odor in our area. --We feel that they have enough barns as you can't even enjoy sitting outside now with the odor.
9. **Joe Miscovich** **SW ¼ 20-16-16 WPM**	**Objects** **-**-We disapprove the building of another chicken barn or pig barn. --We get the smell all the time from chicken barn and pig barn when wind is from the west and especially when they are cleaning out the slurry tank. -- We live 1 ½ miles east from chicken barn and pig barn.
10. **Mark and Darcy Wahoski** **MInnedosa, MB**	**Concerns** -- We are the owners of multiple properties in the Municipality of Minto- Odanah and the Municipality of Rosedale. --Our main concerns are: 1. Air pollution, the increase odor from the planned additional animal units. 2. Water quality and the run-off from increased soil nutrient loading into the surrounding waterways, properties, and soils. 3. Increased water consumption and the effects it may have on the area aquifers. --We have studied the proposal and the engineering report. We have found that there are discrepancies and/or errors in the engineer's report which require further investigation and clarification on. -- We would be interested in attending a public meeting / forum in regards to the proposed expansion.

11. **Dewi and Elizabeth Davies**	**Concerns** --We have no objections to the expansion, our main concern is the odor and smell from the manure that is being produced as we have seen for ourselves that they don't inject the pig manure into the soil they spread it on the surface therefore increasing the risk of runoff and contamination into the waterways. --Before this expansion is agreed these concerns should be addressed and they should be policed by the proper authorities. --The other concern is that the water runs are way too narrow, these should be made wider.

A full copy of the public comments as well as the proponent's response may be viewed on the public registry at the following link

http://www.gov.mb.ca/mr/livestock/index.html

See Appendix C for the proponent's response to the public comments.

E. CONCLUSIONS & RECOMMENDATIONS

Overall Conclusion

The information contained in the Site Assessment submitted by the proponent generally meets Provincial requirements. In addition, based on available information it has been determined that the proposed operation will not create a risk to health, safety or the environment, or that any risk can be minimized through the use of appropriate practices, measures and safeguards.

Recommended Actions to Council

- As per Section 114(1) of *The Planning Act*, Council must set a date for a Conditional Use hearing.
- 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 Brandon 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;
    and
    b) 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 animal units in its Conditional Use Order.

- 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 Brandon Community & Regional Planning Office); and
    c) every person who made representation at the hearing.

Council is welcome to contact Manitoba Sustainable Development's Environment Officer with Environmental Approvals Branch, as well as Regional Environmental Compliance and Enforcement staff to discuss environmental compliance issues, if applicable, with respect to the Livestock Manure and Mortalities Management Regulation (M.R. 42/98).

Recommended Actions to Proponent

That 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 be undertaken.

F. TECHNICAL REVIEW COMMITTEE MEMBERS

Name	Department	Title	Telephone
Don Malinowski Chair	Municipal Relations	Senior Planner Community & Regional Planning Branch	204- 945-8353
Petra Loro	Agriculture	Livestock Environment Specialist Agri-Resource Branch	204- 918-0325
Shannon Beattie	Sustainable Development	Policy Analyst Central Coordination Unit	204- 945-3814
Jeff DiNella	Infrastructure	Senior Development Review Technologist Highway Planning and Design Branch	204- 945-2664

Appendices

APPENDIX A

Manitoba Agriculture

Petra Loro and Clay Sawka

In areas of lower livestock intensity such as the RM of Minto-Odanah, it is currently the Province of Manitoba's policy to require sufficient suitable land for all of the nitrogen and half of the phosphorus generated by the livestock. This policy assumes that more land is available and could be brought into the Cool Spring Colony Ltd manure management plan to balance phosphorus with crop removal, should it be necessary in the future.

In order to determine the land requirements for Cool Spring Colony Ltd, nitrogen and phosphorus excretion by all of the livestock is compared to nitrogen utilization and phosphorus removal by the proposed crops to be grown. The calculation takes into consideration typical Manitoba feeding practices for pigs and dairy, published nutrient excretion rates for poultry as well as realistic, long-term crop yields from the Manitoba Agricultural Services Corporation (MASC) for the RM of Minto-Odanah.

Land suitability is determined using soil testing for phosphorus and soil survey to establish the agriculture capability. All of the lands with soil tests were below 60 ppm Olsen P, as required to be considered suitable. According to reconnaissance soil survey, the agriculture capability of the land included in the proposal is predominantly Class 1 to 5. The associated limitations include slope (T) and wetness (W). Class 1 to 5 soils are considered suitable for manure application. Small areas of Class 6 (E) have been mapped along the eroded slopes of drain channels. Areas of Class 6 should be confirmed through field inspection and, if present, excluded from the manure management plan.

Cool Spring Colony Ltd is required to demonstrate that they have access to at least 1467 acres of suitable land for manure application. Cool Spring Colony Ltd has satisfied the Provincial land requirement by providing 1969 suitable acres with soil tests. Cool Spring Colony Ltd has provided an additional 3141 acres for manure application without soil tests. Cool Spring Colony Ltd has more than enough land for the long-term environmental sustainability of the operation.

Appendix B

Manitoba Sustainable Development

Staff in the Water Science and Watershed Management Branch have reviewed the site assessment for Cool Spring Colony Ltd. in the RM of Minto-Odanah and have the following comments:

- The Draft Report identifies one well on the property. There are a number of wells, test wells and test holes (attached) that are associated with this operation. For all that are not indicated as sealed, information regarding whether any of these are present, in use or whether they have been sealed should be provided to the Groundwater Management Section at 204-945-6959. Wells in use will need to be provided a buffer when spreading.

- Proper nutrient management that avoids 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).

- The proponent plans to inject liquid manure and broadcast the solid manure and incorporate within 48 hours. Injection of manure at appropriate rates poses lower environmental risk than other manure application methods. In order to reduce the risk of runoff losses from surface applications, application should not occur to saturated, frozen or snow covered soils or when heavy rainfall is expected within 24 hours. Broadcast applications of manure are most susceptible to runoff losses of nutrients when runoff events occur within the first week or two after application. Applications to frozen soil or to soil shortly before the soil freezes are therefore much more likely to result in nutrient losses during spring snowmelt – ideally fall broadcast applications should occur well ahead of the soil freezing.

- Manure tends to have an excess of phosphorus (P) compared to nitrogen (N) and as a result, for most crops, application at N-based rates causes a buildup of soil P. Practices which minimize N losses from the manure improve the N:P ratio in the manure and help reduce P buildup when manure is applied at N-based rates.

- 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 further build-up in soils. Consequently, sufficient land base must be available such that manure can be applied at no more than 1 times crop P removal rates (P balance). For long-term planning purposes, the proponent needs to have sufficient land available to ensure that manure can be applied at 1 times crop P removal. The proponent acknowledges that 2,933 acres may be required for the long term environmental sustainability of the operation. The proponent has identified sufficient land (5,110 acres) to apply manure at a rate that does not exceed crop removal of phosphorus (2,933 acres estimated to achieve P balance with current crop choices and yield potential) and to meet crop N requirements (798 acres estimated). It is important to rotate manure application across all spread fields so as to prevent excessive P buildup when applying manure at rates above P balance (P removal by harvested crops).

Appendix C

Proponents Comments to Public Comments

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October 26, 2018

Community & Regional Planning Branch
Technical Review Section
604-800 Portage Ave.
Winnipeg MB R3G 0N4

Attention: Don Malinowski, Senior Planner, TRC

Reference: Cool Spring Colony Barn Expansion (File TRC-12-048)

Subject: Response to Public Comments

Dear Mr. Malinowski,

Please accept this letter written on behalf of Cool Spring Colony in response to the public review phase for the proposed barn expansion at SW ¼ 24-16-17 WPM. As you are aware, the proposed barn expansion would include construction of a broiler barn as an expansion to the existing chicken operation, as well as a multipurpose barn for Cool Spring Colony's personal use.

The purpose of the Broiler Barn is to increase the Colony's capacity for raising marketable broilers for public consumption. The Multipurpose Barn is being proposed as a small, personal use facility for the colony with 4 dairy cows, 500 layers, and 400 ducks for the Colony's personal needs.

As one of the stages of the Manitoba Livestock Review, we received public comments on September 17, 2018, in response to the proposed expansion. Many of these public comments consist of concerns from neighbours regarding current farming practices of the existing and approved farrow to finish hog operation, rather than direct opposition to the broiler barn being proposed. While we are of the opinion that many of the comments received are outside the scope of this Conditional Use application, we do feel that a response is necessary.

In reviewing the public comments, it was noted that of the vast number of responses received, a number of concerns expressed were shared or similar. As such, we have addressed the categories of the concerns rather than each of the eleven letters individually.

Act, Regulation, and By-law Enforcement and Compliance

Many of the respondents stipulated their concerns lie within the monitoring and enforcement of regulations for the existing operation. Opinions of government negligence and irresponsibility were expressed, and we would like to explain the applicable regulations for the existing operation further.

The viability of the livestock industry is dependent on the sustainability of the environment. Environmental protection, especially water quality, is a major consideration for the livestock

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industry. Water quality is an environmental and health concern. The protection of water is regulated under The Environment Act and The Water Protection Act. Pollution of water and soil resources is illegal. The Manitoba Farm Practices Guidelines address the aforementioned and additional Acts and Regulations. It is recommended that producers who followed the recommended practices described in these guidelines can expect to be in compliance with the relevant provincial regulations.

The Farm Practices Protection Act was implemented to protect farmers who carry on normal farm practices from unreasonable court action under the common law of nuisance. It protects neighbours from nuisance caused by unacceptable farm practices. The Act establishes a process for reviewing and mediating nuisance disputes arising from the practices of legally established agricultural operations. 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.

> Enforcement: Farm Practices Protection Board considers nuisance complaints against agricultural operations from people directly affected by the disturbance. The Board may investigate the disturbance, attempt to mediate the complaint, gather evidence, hold hearings and rule on the acceptability of the farming practices relating to the nuisance complaint.
>
> Cool Spring Compliance: Cool Spring Colony seeks to manage their operation in such a way that complies with the "normal farm practices" referred to in this Act, that is "a practice conducted in a manner consistent with proper, acceptable customs and standards as established and followed by similar agricultural operations under similar circumstances. This includes the use of innovative technology with advanced management practices, and conformity with standards set out in regulation." The Colony also seeks to adhere to The Environment Act, The Public Health Act, and affiliated regulations that also contribute to the definition of normal farm practices.

The Livestock Manure and Mortalities Management Regulation (LMMMR) under The Environment Act strengthens the protection of the environment, enhances enforcement capabilities and helps ensure livestock production is sustainable. The following is a summary of LMMMR requirements.

> Enforcement: Manitoba Sustainable Development (formerly Manitoba Conservation) is responsible for the enforcement of the Livestock Manure and Mortalities Regulation under The Environment Act. As such, the Environmental Approvals Branch – Livestock Program has been designated to administer and enforce the LMMMR.

Winter application of manure – All livestock operations are prohibited from applying livestock manure from November 10 until April 10, unless they are exempted by regulation.

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Cool Spring Compliance: Manure application is conducted in the late summer or early fall, typically the last weeks of September or early weeks of October.

Application Rate and Manure Management Plans (MMPs)– All manure must be applied as a fertilizer for crop production. The regulation sets enforceable limits on the amount of residual soil nitrate-nitrogen as well as the amount of nitrate-nitrogen that can be present in the soil at any point in time. Manure sources of phosphorus application are also regulated on the basis of a series of thresholds for soil test phosphorus levels. Livestock operations with 300 or more animal units that store, handle, dispose of or apply livestock manure to land must prepare and submit for registration an annual manure management plan. The manure management plan includes livestock information, manure storage system information, the type, amount and nutrient composition of the manure, and the details of each field application. Details include how, when and where the manure will be applied, soil nutrient levels and the crop to be grown on each parcel of land. The intent of the manure management plan is to ensure that adequate land is available for the manure that is to be applied.

Enforcement: Soil testing results, anticipated and actual applications and nutrient levels are included with the Manure Management Plan (MMP) submittals which occur annually and are monitored by Manitoba Sustainable Development. Manitoba Sustainable Development assesses the information and confirms: that all required information has been included, that the MMP was accurately completed and data is correct, that land included in an MMP is not duplicated within another plan, and that identified issues are followed up on. Additionally, periodic inspections are conducted at random as well as based on risk factors such as age and type of operation, history of prior complaints, and elapsed time since previous inspections.

Cool Spring Compliance: The Colony enlists the services of Redfern Farm Services to act as the agronomist for the manure application rate calculations. These calculations take into consideration the soil's nutrient levels prior to application, the anticipated crop to be grown on the field, the crop's nutrient requirements and the average yields to determine an application rate that ensures nutrient balance with no excess accumulation. To confirm, soil testing is conducted annually following harvest as a basis for the following year's calculation.

Manure storage structures – Livestock manure must be stored appropriately. These structures must be certified by an engineer registered with Engineers Geoscientists Manitoba, before their use or operation, as being constructed, modified or expanded according to regulatory requirements and engineering design standards.

Enforcement: Until the year 2004, annual inspections were performed on all permitted manure storage facilities. Since 2004, Sustainable Development decided to concentrate on the inspection of above-ground concrete manure storage facilities and thus at minimum all above-ground storage facilities are inspected annually. In 2004, all manure storage facilities in areas covered by the Brandon office were inspected. An appropriate risk-based strategy for conducted inspections of manure storage

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facilities is also being implemented (Audit of the Department of Conservation's Management of the Environmental Livestock Program, 2007).

Cool Spring Compliance: The Colony maintains two liquid manure storage tanks that provide adequate storage volumes for the liquid hog manure. These tanks were designed and certified by a Professional Engineer and are maintained in good operating condition. They are both currently licensed and have registration numbers with Manitoba Sustainable Development.

Field storage – Solid manure may be stored temporarily in the field, subject to setbacks from property boundaries and sensitive areas such as watercourses, wells, sinkholes and springs.

Cool Spring Compliance: The Colony provides temporary field storage for the solid chicken manure with properly maintained setbacks from property boundaries and waterways.

The Pesticides and Fertilizers Control Act requires commercial and large, off-farm manure applicators to be formally trained, certified and licensed. The training requirements are established by regulation and cover nutrient management, environmental issues associated with the application of manure, equipment calibration, spills and liability issues.

Cool Spring Compliance: The Colony enlists the services of Branson's (TBHS) as a private contractor for liquid manure application services. Branson's is a trained, certified and licensed company that provides manure application services for 23 farms each year, averaging a total of 10,000 acres each year. The solid manure is likewise applied annually by a certified commercial manure applicator.

The Water Rights Act requires approvals and licensing for withdrawals from surface or groundwater sources when water usages are over 25,000 L/day. The approvals process is to ensure that water sources are not over-allocated.

Enforcement: A report prepared by a hydrogeologist registered with Engineers Geoscientists Manitoba must be submitted to the Water Licensing Branch. If water supply is available, a license will be issued specifying instantaneous and annual allowable withdrawal rates. Under no circumstances shall projects be developed without a water rights license.

Cool Spring Compliance: Cool Spring currently possesses the water rights license for their existing operations. As well, additional water rights were obtained for the proposed 2006 hog barn expansion which was approved but has not yet been acted upon. As such, sufficient water rights currently exist, and if additional water is required in the future an application will again be made to the Water Licensing Branch of Manitoba Water Stewardship prior to any construction.

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The Nutrient Management Regulation is under The Water Protection Act. The Water Protection Act provides protection and stewardship of Manitoba's water resources, with the Nutrient Management Regulation focused on protecting water quality by encouraging responsible nutrient planning and regulating.

Nutrient Buffer Zone - A stipulated Nutrient Buffer Zone consists of the land adjacent to a water body having a width from the water's edge to a point that is set out in the Table of Section 3(3). As per this table, in compliance with the LMMMR, manure may be applied adjacent to this area by any method, however no direct application is permitted to ditches and Order 1 and 2 drains.

> Cool Spring Compliance: BMCE attended to the spreading fields during the fall manure application on September 21, 2018 to assess the application procedures. It was observed that the application equipment turns well within the boundary of the field. Though this reduces the available spread acres and crops benefiting from the nutrients, it reduces the potential for the manure to drain into the perimeter ditches or Order 1 drains.

Nutrient Management Plan – A landowner must submit a nutrient management plan for a growing season or crop rotation cycle several months prior to the fertilization program's commencement. The registration of a nutrient management plan addresses all sources of nutrients that will be stored on or applied to the land. It is to demonstrate that nitrogen and phosphorus are not being applied in excess of the reasonable need of growing plants and considers the crops to be planted in the upcoming growing season.

> Enforcement: The Nutrient Management Plan is to be submitted annually or bi-annually, based upon anticipated manure application. Manitoba Sustainable Development's Environmental Approvals Branch has designated Environment Officers and Environmental Engineers that are responsible for inspections and enforcement of these regulations.
>
> Cool Spring Compliance: A Nutrient Management Plan is submitted annually as part of the Manure Management Plan. The Colony enlists the services of Redfern Farm Services to act as the agronomist for the manure application rate and nutrient balance calculations that are included in the Nutrient Management Plan. These calculations take into consideration the soil's nutrient levels prior to application, the anticipated crop to be grown on the field, the crop's nutrient requirements and the average yields to determine an application rate that ensures nutrient balance with no excess accumulation. To confirm, soil testing is conducted annually following harvest as a basis for the following year's calculation.

Manure Management and Spreading Practices

A number of public responses requested further information regarding how the manure from the livestock operation is managed and applied. Concerns were raised regarding how the application methods and rates may affect waterways, nutrient buffer zones, and soil quality.

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Due to the size of the Colony's farming operation all practices must comply with the Livestock Manure and Mortalities Management Regulation (LMMMR), which stipulates the proper planning, procedures and record keeping for manure management. Cool Spring Colony retains a private consultant, Redfern Farm, who is approved under the LMMMR for completing Manure Management Plans (MMPs). MMPs are regulated to ensure that manure application is conducted in accordance with government regulations at a calculated and responsible rate in locations that meet the requirements of the regulations. Redfern Farm Services acts as the agronomist for these manure application rate calculations. These calculations take into consideration the soil's nutrient levels prior to application, the anticipated crop to be grown on the field, the crop's nutrient requirements and the average yields to determine an application rate that ensures nutrient balance with no excess accumulation. To confirm, soil testing is conducted annually following harvest as a basis for the following year's calculation.

All manure application is regulated by the Environment Act, the Pesticides and Fertilizers Control Act, the Planning Act, and the Water Protection Act. The Colony enlists the services of Branson's (TBHS) as a private contractor for the agitation and application of the liquid hog manure. Branson's is a trained, certified and licensed company that provides manure application services for 23 farms each year, averaging a total of 10,000 acres each year. The solid manure is likewise applied annually by a certified commercial manure applicator.

BMCE attended to the spreading fields during fall application on September 21, 2018 and documented the following procedures for applying the liquid hog manure:

1. Personnel operates a Puck Agitation Boat on the surface of the liquid holding tank. This watercraft utilizes nozzles pointing towards the bottom of the tanks to agitate the contents and hold everything in suspension during pump out. This is an improved solution compared to conventional manure agitation practices, as typically the manure would be agitated by means of pumping out from the bottom of the tank and spraying back onto the storage surface and thereby generating significant odours. As such, the agitation boat reduces odour impact to surrounding properties during the 3-5 days of agitation and application each year.

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Agitation Boat in Concrete Holding Tank at Cool Spring Colony

2. An 8" forcemain is run directly from the tank and pumped to the applicator equipment in the field. The pathway for the forcemain is preapproved with the Municipality prior to assembly, and is run through existing culverts. No liquid manure forcemain crosses over the surface of a public road during application.

8" Forcemain Connecting to Manure Applicator Equipment

3. The manure spreader incorporates the liquid manure at an approved, calculated rate into the soil by depositing the liquid manure onto the surface, then immediately using discs on the spraying applicator to incorporate the manure into the soil.

Discs Incorporate Manure Immediately Upon Application

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Runoff and ponding were not witnessed, rather, the applied manure had already dried or incorporated by the time the subsequent pass was completed.

Comparison of First and Subsequent Passes Immediately Upon Application

Equipment turning occurs well within the boundary of the field to maintain a minimum setback of three (3) meters from the nutrient buffer zone in the roadside ditch. Though this limits the available spread acres and crops benefiting from the nutrients, it reduces the potential for runoff into the perimeter ditches.

Tractor and Applicator Turning Far from Perimeter Ditch and Drains
(photo taken from edge of ditch)

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We would like to note that the liquid manure application process only applies to the existing hog production operation. The manure produced in the proposed broiler barn and multipurpose barn will be solid manure, and therefore be broadcast on the fields and incorporated within two days in accordance with the MMP and associated requirements.

Finally, the proposed broiler barn and multipurpose barn expansions will only contribute an additional 8% to the existing manure production, thus a manure production of 108% of the current operation. As such, there will not be a significant increase to the volume of manure and therefore lands used in manure spreading will not significantly change.

Protection of Surface and Groundwater

Many neighbours expressed concerns about how the existing hog operation and proposed chicken barn expansion will affect surface and groundwater. Specifically, concerns were raised regarding how the manure application to the fields will affect water quality.

The previously discussed, Acts and Regulations referenced therein enforce the prevention of any livestock manure causing pollution of surface water, groundwater or soil. These regulations require surface and groundwater protection and provide buffer setback areas adjacent to drains, streams, rivers, and lakes where manure spreading is prohibited to reduce the likelihood of nutrients leaching into the water. As per the Nutrient Management Regulation, no direct application is permitted to ditches or Order 1 or 2 drains.

BMCE attended to the spreading fields during manure application on September 21, 2018 and documented the manure spreading procedures to confirm compliance with regulations. At this time, it was noted that the application equipment turns well within the boundary of the field. Though this reduces the available spread acres and crops benefiting from the nutrients, reduces the potential for runoff into the perimeter ditches or Order 1 drains. The observed incorporation of the manure into the soil via discs, rather than simply surface application, also reduces the potential for the manure to drain into waterways.

For additional assurance, Manitoba Water Quality Standards, Objectives and Guidelines Regulation, as part of the Manitoba Water Protection Act, requires government reports every four years. These reports assess the nutrient levels in water bodies in Manitoba and set out the steps taken by the government to promote, support and enforce nutrient reduction policies. As such, surface water quality is being regularly monitored by government agencies to ensure that high-quality water is kept clean, safe and reliable.

Water Consumption

Mark and Darcy Wahoski expressed concerns regarding the effect of the increased water consumption on the surrounding aquifers.

It is in the interest of the Colony to protect the source water, as it is their drinking water source as well. As per the Water Rights Act, Cool Spring Colony requires proper approvals and licensing for any operations that withdraw water from the aquifer. As such, additional water

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rights were obtained for the proposed 2006 hog barn expansion which has yet to be acted upon.

At present, the Colony residences and livestock operation consume 17,101 imperial gallons per day and possess the water rights for an extraction rate of 58 cubic decameters per year, the equivalent of approximately 34,930 imperial gallons per day. As such, sufficient water rights are currently in place for the existing and proposed operation. If additional water is required in the future an application will again be made to the Water Licensing Branch of Manitoba Water Stewardship. The livestock operation will be sourced through the existing well.

Previous Conditional Use Approval Requirements

Reference was made to the Colony's past conditional use approvals. We understand these to be in regards to the Conditional Use approval granted in July 2006 to authorize the expansion of the existing hog production operation of 575 sows, farrow to finish, to 1200 sows (farrow to finish), as well as the establishment of a new poultry barn for broiler chickens. While this expansion was approved, to date only the broiler barn has been acted upon. Despite not acting upon the approvals for expansion, Cool Spring Colony adhered to the requirements of the Conditional Use approval, as explained below.

1. In the event the Province of Manitoba relinquishes its authority to deal with manure management issues, the municipality reserves an opportunity and potential requirement to establish conditions of approval related to those matters at some future date.

> The Province of Manitoba's Sustainable Development – Environmental Approvals Branch is responsible for the administration and enforcement of the Livestock Manure and Mortalities Management Regulation (LMMMR). Cool Spring Colony adheres to the Province's requirements for manure management, including an annual registration of a manure management plan (MMP).

2. A shelter belt consisting of a triple row of trees shall be established and maintained in good condition by the proponent for the lifespan of the livestock production operation, along the northern, eastern and southern sides of the area(s) containing the proposed barns and all sides of the earthen manure storage facility (with further specifications regarding tree species and initial size to be specified by Council at a later date). No shelter belt shall be planted within a distance of 125 feet of a government road allowance.

> The Colony has maintained some shelter belts along the northern, eastern and southern boundary of the existing hog barn facilities. As the earthen manure storage facility has not been constructed, the associated shelter belt does not yet apply.

3. A cover of suitable straw material shall be provided and maintained between May 1st to November 1st of each year during the lifespan of the facility, sufficient to contain manure odours. In the event the straw material is unsatisfactory for this purpose in the opinion of Council, the proponent shall provide and maintain a suitable synthetic cover material on the

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surface of the earthen manure storage facility, which shall be specified by the municipality. The cover material may be removed during days when manure is being emptied from the facility and spread on farmland.

As the hog expansion approval has not been acted upon, the earthen manure storage facility has not been constructed. Therefore, the straw cover requirement is not applicable at this time.

4. Prior to September 1st, 2006, and yearly thereafter, the proponent shall submit to the municipality a detailed plan, prepared by a professional agrologist and overlain on an aerial photograph at a suitable scale, showing all of the manure dispoal fields and indicating the areas where manure is to be spread, and areas where manure will not be spread. This plan shall be subject to the approval of Council, and shall specifically identify areas which are to be established and maintained permanently as vegetated and treed buffer areas adjacent to water bodies, in accordance with the recommendation of the Technical Review Committee and Farm Practices Guidelines and also consistent with the R.M. of Minto Zoning By-law #2/04. Manure shall not be spread within the buffer areas identified in the plan. In the event that additional land is acquired or leased for manure disposal in future years, a similar plan shall be provided for this additional land prior to its utilization for manure disposal.

Cool Spring Colony enlists the services of Redfern Farms as a private contractor to register the Manure Management Plan (MMP) for the Colony's lands each year. The MMP includes all details for the manure application, including manure type, volume, nitrogen and phosphorus content, dry matter content, spread field locations, and the proposed crop for those lands. This is done to calculate a responsible rate at which to apply the manure that ensures nutrient balance with no excess accumulation. The MMP is registered annually with Manitoba Sustainable Development, who is responsible for the administration and enforcement of the LMMMR. In the future, a copy of the MMP will be forwarded to the RM office.

5. Prior to September 1st, 2006, the proponent shall submit to the municipality a detailed plan prepared by a professional agrologist and overlain on an aerial photograph at a suitable scale showing all of the water runs on the manure disposal fields and indicating which water runs shall be kept in permanent grassy cover and the set back requirements that will be utilized consistent with the Technical Review Committee, the Farm Practices Guidelines, and the Recommendations for Regulating Phosphorus from Livestock Operations in Manitoba report from the Manitoba Phosphorus Expert Committee dated January 2006 and also consistent with the R.M. of Minto Zoning By-law #2-04.

In 2006, Cool Spring Colony entered into agreements with the Little Saskatchewan River Conservation District (LSRCD) and Whitemud Watershed Conservation District (WWCD) to conduct riparian remediation work. A number of runs, including Order 1 and smaller drains, were identified for remediation. This work included a combination of regrading, grassing waterways, and establishing the extent of cultivation lines.

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As will be discussed in the next section, while some minor tributary drains require further remediation, the majority of the waterways exist with thick, permanent, perennial vegetation.

6. Prior to September 1, 2006, the proponent shall submit to the municipality an acceptable contingency plan for the disposal of mass mortalities in the event of a fire or other event.

Cool Spring Colony intends to compost general broiler mortalities, and will make arrangements for rendering mass mortalities in the event of a fire or other event.

7. Prior to September 1, 2006, the proponent shall cause to be prepared a plan identifying all abandoned wells in the manure disposal fields. These wells will be capped and properly sealed by the proponent prior to the stocking of the proposed barns consistent with recommendations by the appropriate Province of Manitoba authorities.

As part of groundwater contamination risk protection, all unused or abandoned wells on site and spread fields must be properly sealed with a seal well report filed with the Groundwater Management Section of Manitoba Sustainable Development. As no abandoned wells are known to exist around the livestock confinement area or in the spread fields, this requirement is not applicable at present.

8. If liquid manure is intended to be transported by temporary pipeline or hose to disposal fields, the proponent shall submit to the municipality, prior to September 1st, 2006, a plan showing the proposed routes of such temporary pipelines or hoses, and the location of all culverts that are to be utilized. In the event that additional culverts are required for this purpose, they shall be installed at the proponent's total expense, and all roadways are to be restored in a condition which will be satisfactory to the municipality. No temporary pipeline or hose shall be placed across the surface of a public roadway under the municipal jurisdiction.

A temporary 8" forcemain is used to transport the liquid manure from the storage facility to the spreading field. BMCE attended to the spreading fields during the fall application on September 21, 2018 and observed that no additional culverts were required, and the forcemain was not placed across the surface of any public roadways.

9. The proponent will allow representatives from the Municipality to enter their property so long as the proposed barns are stocked with livestock, to obtain water samples at or near the proposed barn and lagoon location.

The Colony will permit access to their site for the purpose of water quality testing. Additionally, an annual source water monitoring report is filed each year, and the manure management plan (MMP) includes monitoring well testing done by an accredited lab from samples near the manure application fields.

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Riparian Areas and Buffer Zones

The state of the riparian areas in the surface water drainage network was called into question by a number of comments

. Cool Spring Colony has been committed to working with the Whitemud Watershed Conservation District (WWCD) and Little Saskatchewan River Conservation District (LSRCD) to address the ongoing concerns related to the riparian health of the land owned by Cool Spring Colony.

In 2006, Cool Spring Colony entered into agreements with the LSRCD and WWCD to conduct riparian remediation work. A number of runs, including Order 1 and smaller drains, were identified for remediation. This work included a combination of regrading, grassing waterways, and establishing the extent of cultivation lines.

BMCE attended to the lands outlined in the 2006 agreement on September 21, 2018 to assess the current condition of the waterways and riparian areas. While some minor tributary drains require further remediation, the majority of the waterways exist with thick, permanent, perennial vegetation with woody vegetation in some areas of the buffer zone to further prevent erosion.

The agreement made between the Colony and WWCD is presented below with accompanying photos demonstrating the current state of the sections.

Sec. 24-16-17 – The WWCD will grass the runways reconstructed in 2005.

NE 24-16-17

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NE 24-16-17

NW 24-16-17

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Section 13-16-17 – The WWCD will establish grass 30 feet wide adjacent to both sides of the creek in the northeast quarter; and to the width of the flooded area in the southeast quarter; the low area at the east side of the northeast quarter will be left out of production.

NE 13-16-17 Near Domestic Lagoon

NE 13-16-17 Near Domestic Lagoon

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NE 13-16-17 Low Area Left Out of Production

SE 13-16-17 Creek and Low Area Left Out of Production

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SE 13-16-17 Low Area Left Out of Production

SE 13-16-17 Low Area Left Out of Production

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SW 18-16-16 – Colony to maintain current cultivation line (no additional break of sod), buffer zone to be left to regenerate.

SW 18-16-16 Cultivation Line Along Buffer Zone

SW 18-16-16 Cultivation Line Along Buffer Zone

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W 7-16-16 Colony to maintain current cultivation line (no additional breaking of sod), buffer zone to be left to regenerate.

SW 7-16-16 Cultivation Line Along Buffer Zone

SW 7-16-16 Cultivation Line Along Buffer Zone

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SW 7-16-16 Cultivation Line Along Buffer Zone

NW 14-16-17 – Colony will maintain stubble during the fall in swale that cuts southeast across quarter.

NW 14-16-17 Fall Stubble in Swale

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Topography

The topography of the fields used for liquid manure spreading and the agricultural operation as a whole has been called into question, specifically with the concerns of soil erosion due to steep slopes.

BMCE has reviewed topographic data made available by the Government of Manitoba's resource Manitoba Agrimaps. From this data, we were able to ascertain the average slopes of the land surrounding the colony. The attached map indicates the topography of the land surrounding Cool Spring Colony, with the Colony's owned or leased land outlined in red.

Further review was then conducted regarding areas where concerns have been raised about the riparian areas:

Section	Very Gently Rolling (2-5%)	Gently Sloping (5-9%)	Very Strongly Sloping (30-45%)
24-16-17	95.6%	4.4%	-
13-16-17	68.7%	31.3%	-
19-16-16	7.2%	92.8%	-
NW 23-16-17	100%	-	-
NW 14-16-17	73.6%	26.4%	-
SW 12-16-17	-	100%	-
NW 1-16-17	-	91.1%	8.9%
SW 18-16-16	-	100%	-
SE 18-16-16	-	100%	-
W 7-16-16	-	100%	-

Manitoba's Manure Management Facts – Prioritization and Rotation of Fields for Manure Application states "Slope plays a significant role in accelerating runoff and causing soil erosion. Therefore, manure application should be avoided on areas with moderate to strong slopes". We found that the majority of the area can be classified as "very gently rolling", with the remainder considered to be "gently sloping". Areas identified as steeper than "strongly sloping" have not been witnessed to be cropland for the colony, rather, these areas have been utilized as part of the riparian area.

With this type of classification and the associated percent grades, we are of the opinion that no significant erosion or soil transport would result from the topography, even in standard spring runoff or rainfall events. While we acknowledge the history of erosion within the drains and waterways, we are of the opinion that the fields are not at an extreme risk of erosion, nor do we believe they will contaminate the waterways by transporting nutrients.

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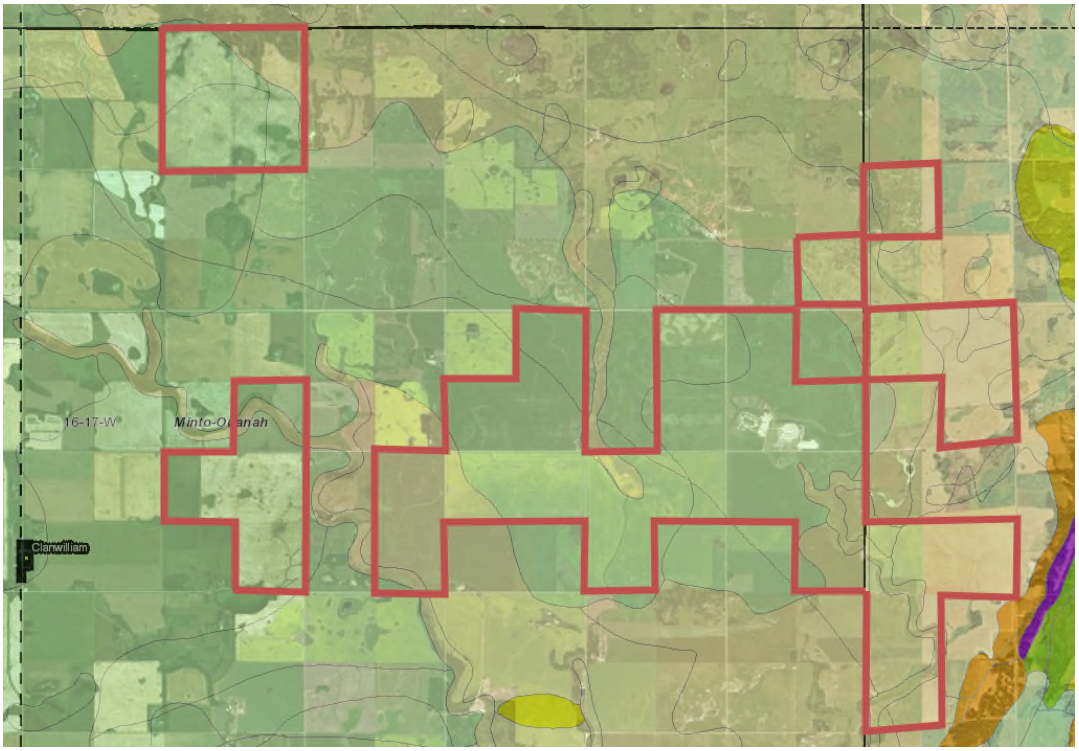

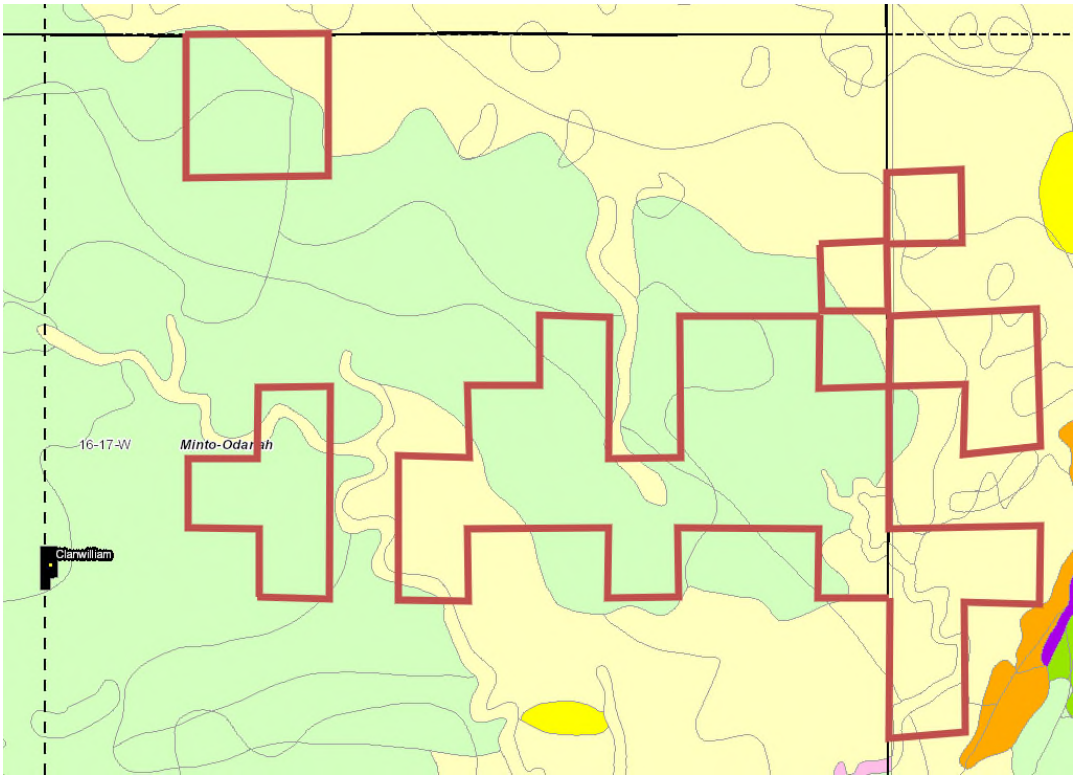

- x (0 - 0.5% level to nearly level
- b (>0.5 - 2% nearly level)
- c (>2 - 5% very gently rolling)
- d (>5 - 9% gently sloping)
- e (>9 - 15% moderately sloping)
- f (>15 - 30% strongly sloping)
- g (>30 - 45% very strongly sloping)
- h (>45 - 70% extremely sloping)
- i (>70 - 100% steeply sloping)
- Water
- Unclassified land
- Modified land
- Urban land

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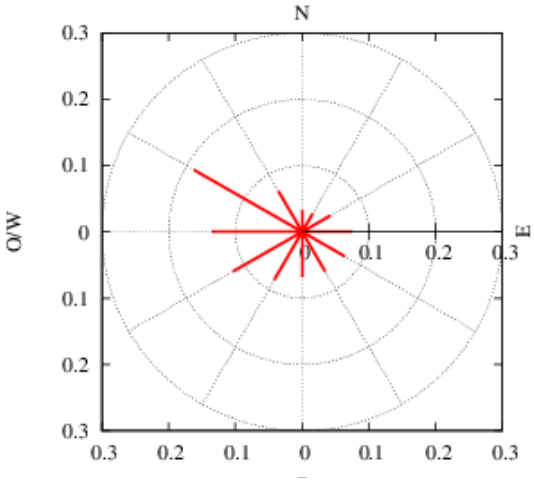
Odour Nuisance to Neighbours

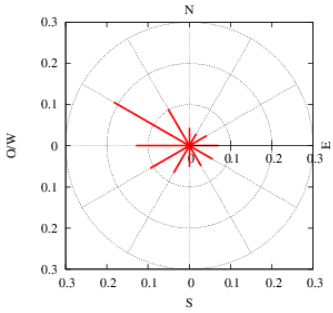
A number of respondents indicated that they opposed the proposed barn expansion on the premise of odour nuisance to surrounding properties.

Cool Spring Colony is located in a sparsely populated area, with no non-associated residences within the recommended no-conflict radius of 1.6km, thus permitting dilution of odours over a distance. The Colony maintains shelterbelts that help to disburse odours and trap dust, and only agitate and apply manure an average of three to five days per year. Most non-associated residences near the Colony lie to the west. Prevailing wind direction statistics from Environment Canada indicate that the majority of winds (44%) are from a westerly direction. On the occasions that an easterly wind affecting these neighbours would occur, approximately 20%, all odours that would be encountered by these neighbours would travel across the Colony's residential area well before reaching other residences. The prevailing wind statistics from Environment Canada are shown below.

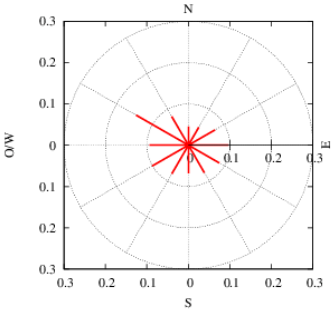


Annual Prevailing Wind at Colony

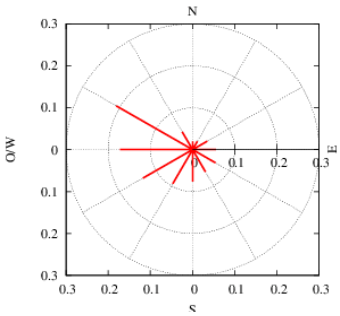
Wind Source Direction	Annual Percent Occurrence
North	**3.3%**
North-Northeast	3.2%
East-Northeast	4.9%
East	**7.5%**
East-Southeast	7.4%
South-Southeast	6.9%
South	**6.8%**
South-Southwest	8.3%
West-Southwest	11.9%
West	**13.6%**
West-Northwest	18.7%
North-Northwest	7.1%



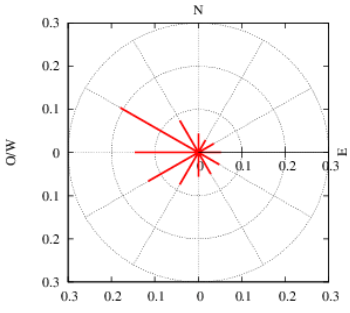
Winter



Spring



Summer



Fall

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The Farm Practices Protection Act protects neighbours against nuisances and disturbances – such as odours – resulting from unacceptable farming practices, change farming practices that cause unacceptable disturbances to neighbours, and protect agricultural operations that are carrying out their activities in a normal manner.

"Normal Farm Practices" are defined by those outlined in the Farm Practices Guidelines for Hog Producers in Manitoba and the Farm Practices Guidelines for Poultry Producers in Manitoba. The rigorous application and review process implemented by the Technical Review Committee (TRC) seeks to ensure that the Environment Act, Public Health Act, Water Protection Act, and Farm Practices Guidelines are all adhered to. The TRC reviews the technical information from the detailed Site Assessment document and provides the Municipality with recommendations on site suitability, conformance to regulations, methodology, and ongoing management.

If the proposed barn expansions are deemed suitable in the TRC's recommendations to the R.M. of Minto-Odanah, it will be a reflection of the TRC's confidence that proper, sustainable agricultural practices will continue to be carried out and that the odour nuisance is not substantial enough to reasonably prevent approvals.

Beyond "Normal Farm Practices", Cool Spring Colony will continue to seek out innovative solutions to minimize the disturbances from their existing operations. An example of an innovative solution is their utilization of a puck boat for manure agitation as a means of reducing odour. Personnel operates a Puck Agitation Boat on the surface of the liquid holding tank, which utilizes nozzles pointing towards the bottom of the tanks to agitate the contents and hold everything in suspension during pump out. This is an improved solution compared to conventional manure agitation practices, as typically the manure would be agitated by means of pumping out from the bottom of the tank and spraying back onto the storage surface and thereby generating significant odours. As such, the agitation boat reduces odour impact to surrounding properties during the 3-5 days of agitation and application each year.

The proposed broiler barn and multipurpose barn expansions will only contribute an additional 8% to the existing manure production, thus a manure production of 108% of the current operation. As such, there will not be a significant increase to the volume of manure and therefore manure spreading odours will not significantly change.

While manure spreading produces odours of short duration, these are considered more intense and more unpleasant than odours from the barns or manure storages. In fact, more than half of all complaints about intensive livestock facilities directly result from odour emissions following land application of manure (Choinière et al. 2007). As was mentioned in the discussion of Manure Application, the manure produced in the proposed broiler barn and multipurpose barn will be solid manure, and therefore be broadcast on the fields and incorporated within two days. Solid manure is less odourous than liquid manure, as studies have found that odours from solid manure applications measured immediately after application were 37% lower than from liquid manure applications, likely because the odour compounds in liquid manure are in a form more susceptible to volatilization (Agnew, J., C.

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Laguë, J. Schoenau, J. Feddes and H. Guo. 2010. Effect of manure type, application rate, and application method on odours from manure spreading. Canadian Biosystems Engineering/ Le génie des biosystèmes au Canada. 52: 6.19-6.29.). As such, we do not believe that neighbours will experience a significant increase in odours as a result of the proposed barn expansion.

Property Devaluation

Charlie and Lyndie Dagg expressed concerns that the expansion of the Colony's livestock operation would lead to the devaluation of their nearby property.

The Colony population lives in complete safety and enjoyment of their property and do not intend to hinder anyone's plans to maximize their own use and enjoyment of the land. With the Municipality of Minto-Odanah and the Tanner's Crossing Planning District designating the colony lands as within the "Agricultural" classification, the region's priority is to *encourage sustainable growth and diversification of rural resource-based activities,* and to *provide for development that is compatible with existing and anticipated land uses, resource-based activities, the natural environment, and minimize risks to quality of life, public health and safety*. Cool Spring Colony's proposed barn expansion falls well within the approved land use for this area, and the Colony sees no reason why others can't similarly enjoy the properties nearby as in our opinion there is minimal danger of pollution that would affect public safety or property values.

Public Consultation

A question was raised by Mr. Jim Richards regarding the public notification procedures for this application. We would like to clarify the Livestock Technical Review process as follows:

> Notice of Application – Once the site assessment form has been submitted to the technical review committee and is considered to be complete by the technical review coordinator, the form will be posted on the Livestock Technical Review Public Registry on the Manitoba Municipal Relations website. The technical review coordinator will also notify the public by way of a local newspaper advertisement. A copy will also be forwarded to the municipality for public access.
>
> Notice of Public Hearing – The municipality will advertise the public hearing in the local newspaper, notify in writing all neighbouring residents within two miles (three kilometers) of the site, and post a notice at the proposed site near the road.

Upon the Technical Review Committee's detailed review, the TRC will submit a letter to the Municipality with recommendations or conditions they deem appropriate. At this time, the Municipality will schedule a public hearing no sooner than thirty days from receiving the report and provide notice to surrounding residents in the manner outlined above.

Conclusions

Cool Spring Colony and BMCE respect the thorough consideration and research conducted by the Technical Review Committee to ensure proposed alterations and expansions to

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livestock operations are properly established and maintained. Cool Spring Colony greatly values the land and natural resource that enables them to carry on a farming legacy that has existed on this site since 1981. This value of the land and natural resources in demonstrated in their ongoing compliance with all provincial regulations.

Many of these public comments consist of concerns from neighbours regarding current farming practices of the existing and approved farrow to finish hog operation, rather than direct opposition to the broiler barn being proposed. In our opinion, the public perception of a previously approved hog operation are not facts to be considered when reviewing this application for approval of a chicken barn expansion and private, multipurpose barn.

As a multi-family farm, Cool Spring is not a corporate livestock venture but rather a community invested in the success and sustainability of the region. The Colony families live in complete safety and enjoyment of the property, utilizing the same water and air that were mentioned as concerns. By continuing to follow proper farm practices and complying with regulations, Cool Spring Colony firmly believes that others can similarly enjoy the properties nearby unaffected by the proposed broiler barn and multipurpose barn expansions.

Respectfully submitted,
BURNS MAENDEL CONSULTING ENGINEERS LTD.

PROVINCE OF MANITOBA
D.A. BURNS
Member
21588
REGISTERED PROFESSIONAL ENGINEER

Daniel Burns, P.Eng.
Civil Engineer
26-Oct-2018

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