

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

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.

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

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.

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.

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.



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

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)

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

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

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 disposal 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.

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.

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



NE 24-16-17



NW 24-16-17

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



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



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



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



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

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

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



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

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.

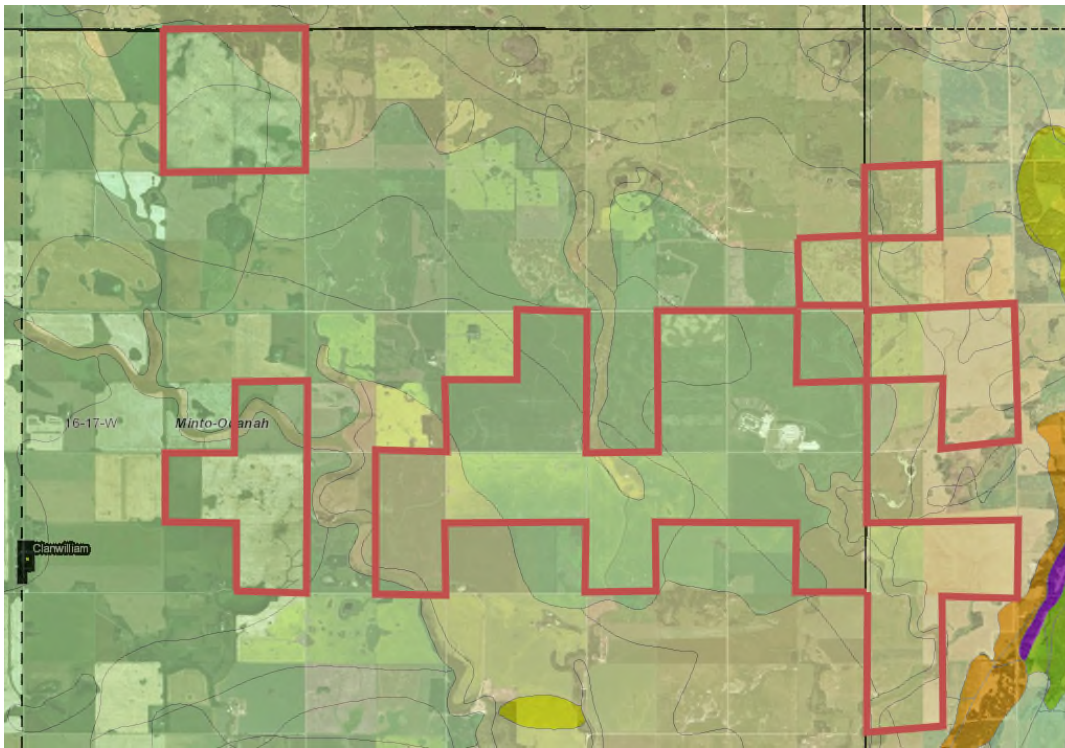
BMCE has reviewed topographic data made available by the Government of Manitoba's resource Manitoba Agrimap. From this data, we were able to ascertain the average slopes of the land surrounding the colony. The attached map indicates the topography of the land surrounding Cool Spring Colony, with the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

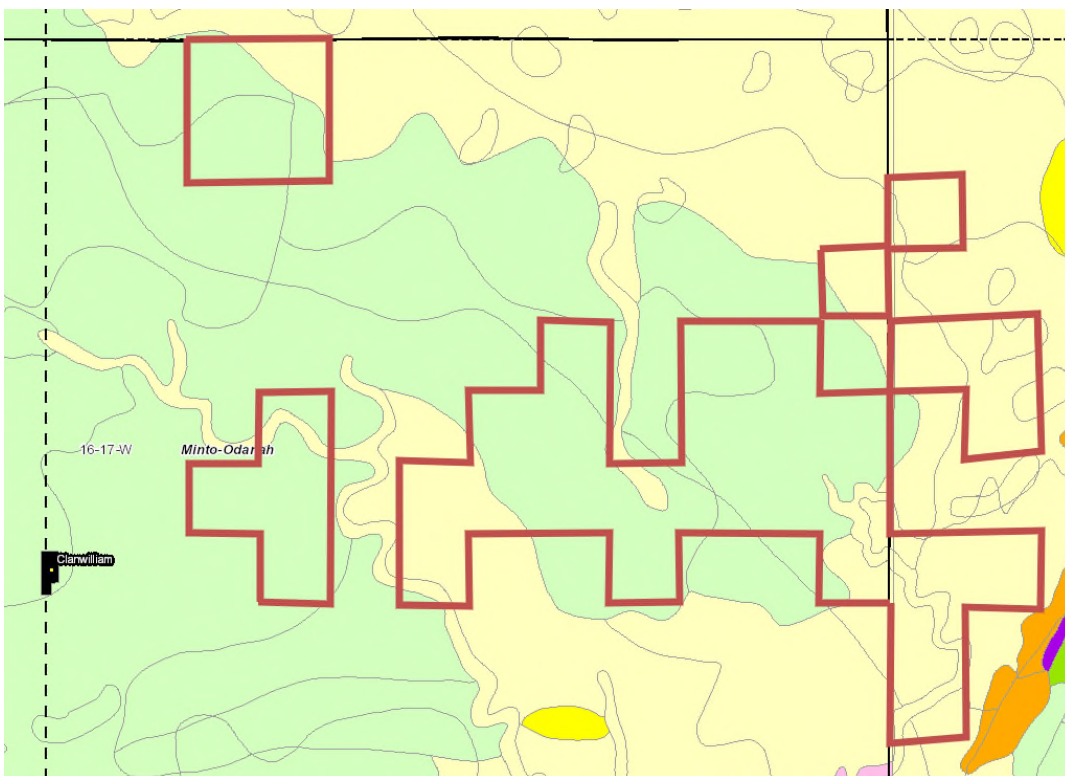
Section	Very Gently Rolling (2-5%)	Gently Sloping (5-9%)	Very Strongly Sloping (30-45%)
24-16-17	95.6%	4.4%	-
13-16-17	68.7%	31.3%	-
19-16-16	7.2%	92.8%	-
NW 23-16-17	100%	-	-
NW 14-16-17	73.6%	26.4%	-
SW 12-16-17	-	100%	-
NW 1-16-17	-	91.1%	8.9%
SW 18-16-16	-	100%	-
SE 18-16-16	-	100%	-
W 7-16-16	-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



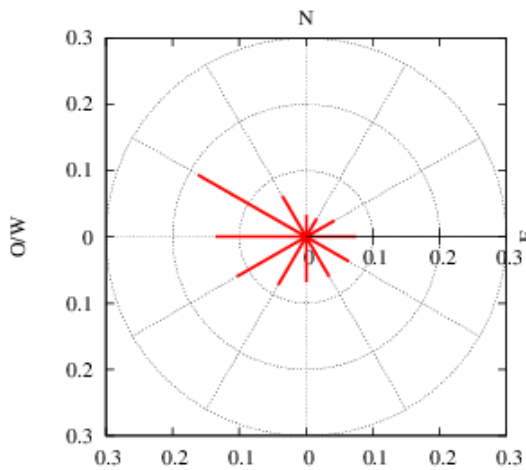
- x (0 - 0.5% level to nearly level)
- b (>0.5 - 2% nearly level)
- c (>2 - 5% very gently rolling)
- d (>5 - 9% gently sloping)
- e (>9 - 15% moderately sloping)
- f (>15 - 30% strongly sloping)
- g (>30 - 45% very strongly sloping)
- h (>45 - 70% extremely sloping)
- i (>70 - 100% steeply sloping)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



Odour Nuisance to Neighbours

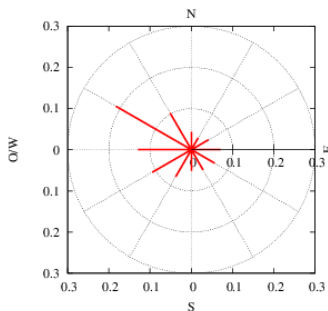
A number of respondents indicated that they opposed the proposed barn expansion on the premise of odour nuisance to surrounding properties.

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.

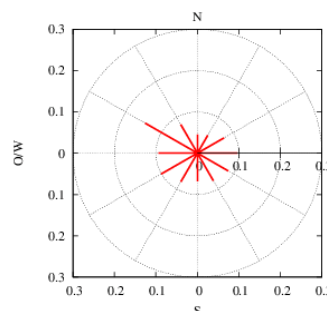


Wind Source Direction	Annual Percent Occurrence
North	3.3%
North-Northeast	3.2%
East-Northeast	4.9%
East	7.5%
East-Southeast	7.4%
South-Southeast	6.9%
South	6.8%
South-Southwest	8.3%
West-Southwest	11.9%
West	13.6%
West-Northwest	18.7%
North-Northwest	7.1%

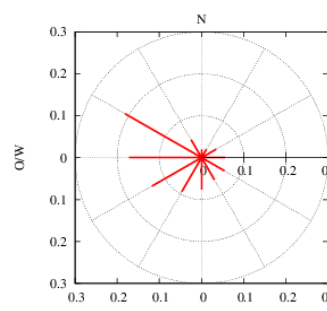
Annual Prevailing Wind at Colony



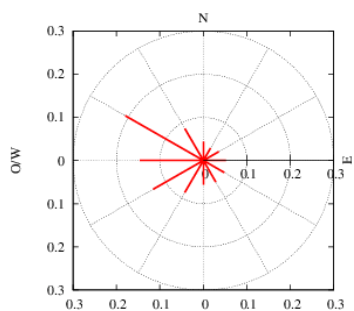
Winter



Spring



Summer



Fall

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.

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

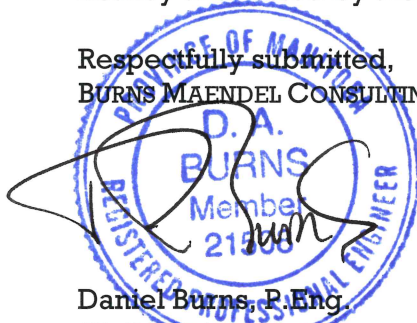
Cool Spring Colony and BMCE respect the thorough consideration and research conducted by the Technical Review Committee to ensure proposed alterations and expansions to

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.



Daniel Burns, P.Eng.
Civil Engineer

26-Oct-2018

