7317434 Manitoba Ltd. - Crystal Spring Colony Farms Ltd.

Crystal Spring Colony New Development - Wastewater Lagoon - File 6193.00

Public Comments Received:

- Public Comments Received (6) - RM of Armstrong and RM of Gimli

Pitblado LLP

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Reply to:
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File No. 51960.56

Sent by email -
housseini.coulibaly@gov.mb.ca

November 30, 2023

Province of Manitoba
Environmental Approvals Branch
Manitoba Environment and Climate Change
14 Fultz Boulevard (Box 35)
Winnipeg MB R3Y 0L6

Attention: Housseini Coulibaly

Dear Sirs/Mesdames:

Re: Notice of Environment Act Proposal
Crystal Spring Colony New Development - Wastewater Lagoon
Submission by the Rural Municipality of Armstrong
File No. 6193.00

Please be advised that we are legal counsel to the Rural Municipality of Armstrong ("**our Client**").

Our Client has instructed us to make a submission to oppose the above-referenced proposal (the "**Proposal**"), in accordance with the guidelines provided in the public notice.

Our Client's comments in relation to the Proposal are as follows:

1. The proposed lagoon location is in close proximity to the only two (2) residences in the immediate area;

2. The proposed lagoon location is prone to flooding events;

3. No information has been given as to how the provincial infrastructure in the area will be improved to accommodate the proposed lagoon and surface water runoff from the colony. Moreover, this area is always one ice jam away from causing flooding not only on the lagoon site but throughout the Malonton area;

4. The proposed lagoon is in close proximity to a waterway used by fish for spawning;

5. To our Client's knowledge, no other waste treatment options have been presented by the provincial authority;

6. To our Client's knowledge, proper consultation was not undertaken with the affected Municipalities to allow other solutions and issues to be presented and discussed.

Yours very truly,

[redacted]

TAYLOR
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Kevin T. Williams, K.C.
Professional Services Provided Through
Kevin T. Williams Law Corporation
[redacted]
Assistant: Jill Kovnats
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December 7, 2023

Attention: Siobhan Burland Ross, M. Eng., P. Eng. ***By Email***

Manitoba Environment and Climate Change – Environmental Approvals Branch
Box 35 – 14 Fultz Boulevard,
Winnipeg, Manitoba R3Y 0L6

Ms Burland Ross:

Re: The Rural Municipality of Gimli / Crystal Spring Colony Farms Ltd.
Class 2 – Water Treatment Lagoon Environment Act Proposal
Our File No. 741 - 267

As you know, we act for the Rural Municipality of Gimli ("**Gimli**") in relation to Crystal Spring Colony Farms Ltd.'s ("**Crystal Spring**") proposal under *The Environment Act,* C.C.S.M. c. E125.

Gimli has had the opportunity to review and consider the following:

1. Crystal Spring's Environment Act Proposal Form dated August 17, 2023;

2. Burns Maendel Consulting Engineering Ltd.'s ("**Burns Maendel**") geotechnical report dated November 8, 2021; and

3. Burns Maendel's hydrologic and hydraulic assessment dated November 21, 2022.

Having reviewed the foregoing, Gimli provides the following comments.

As you know, the current design of the lagoon contemplates the effluent being discharged through the secondary cell via a release pipe into an outfall swale. The outfall swale will subsequently discharge the effluent into a roadside drain where it will flow north to Willow Creek. The effluent will then flow down Willow Creek approximately 15 kilometers east through Gimli before discharging into Lake Winnipeg.

This proposed design raises a number of concerns.

First, the location of the proposed lagoon appears to be in an area that is at a high risk of flooding. This is particularly so given the greater risk of extreme climate events arising as a consequence of climate change. While Burns Maendel has proposed certain options to improve drainage, these options appear to be contrary to the Willow Creek Integrated Watershed Management Plan. More importantly, these options require the involvement of third parties to implement them. The proponent is not in a position to implement these options on their own.

Second, the proposed lagoon design contemplates the effluent ultimately being discharged into Willow Creek. The effluent will be discharged between the months of months of June and November.

As we understand it, Willow Creek is a Class A drain with a number of indicator species of fish. Those include both Pike and Walleye. Members of the local community in Gimli have raised concerns about the impact that effluent discharge may have on fish spawning in Willow Creek, as well as on the viability of the fish in the creek as a whole. Those concerns relate to both the impact that the effluent will have as a consequence of its water quality and to the impact that the mere act of discharging the effluent will have on the fish in Willow Creek.

Commercial and recreational fishing is a significant aspect of Gimli's local community and economy. Gimli has an obligation to ensure that adequate steps have been taken to investigate any development that may detrimentally impact upon either commercial or recreational fishing.

Third, the proposal concedes that there are two threatened birds that exist in the area of the development: the barn swallow (*Hirundo Rustica*) and the bobolink (*Dolichonyx Oryzivorus*). It should be evident that the proposed construction and operation of the lagoon in the vicinity of these threatened species could impact upon their population.

Given the serious issues identified above, Gimli retained Dillon Consulting to review the reports described above. Dillon Consulting's response is appended hereto as **Exhibit A.** Dillon Consulting’s comments and questions deal with the aforementioned issues, along with various other serious issues raised by the nature of the proponent's proposal.

Put simply, it should be evident from Dillon Consulting's commentary that the proponent has failed to perform an adequate investigation into the potentially deleterious effects associated with their proposed development.

This issue is magnified by the near-complete lack of public consultations with adjacent landowners, municipalities, and indigenous communities. This includes the outright failure to consult with Gimli, an immediately adjacent rural municipality with over 6,000 residents who stands to be adversely impacted by the downstream effects of the proposed development.

Bear in mind, many other stakeholders do not have the resources necessary to engage experts on short notice to provide comprehensive responses to a proposed development that may have an adverse impact upon their land and livelihood. There should have been public consultations at large in order to provide these stakeholders with the opportunity to voice their concerns in relation to this proposed development.

The *Environment Act* contemplates the Director providing a recommendation that a public hearing be held in relation to a Class 2 application in circumstances where the Director receives an objection to the application and reasons for the objection.

Please treat the within letter and Dillon Consulting's response appended hereto as an objection by Gimli to the proposed development. The application has been made in a manner that ignored the proponent's obligation to undertake adequate public consultations. Furthermore, the proposal itself lacks the investigative rigor that should be required in circumstances where there is a patent risk of adverse effects upon adjacent landowners, municipalities, and indigenous communities. Some specific issues and concerns are identified in Dillon Consulting's response. The Environmental Approvals Branch should be aware that had public consultation actually occurred, the nature and extent of the concerns identified may have been far greater. From Gimli's perspective, this underscores the need for a public hearing.

If you have any questions, comments, or concerns relating to any of the foregoing, please do not hesitate to contact us.

Thank you for your consideration and the indulgence in relation to the deadline for Gimli's comments.

Yours truly,

TAYLOR McCAFFREY LLP

Kevin T. Williams, K.C.

KTW/jk

December 7, 2023

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Attention: Kevin Williams, K.C. Partner
Matthew Nordlund, Associate

Environmental Engineering Advisory Services

Dillon Consulting Limited (Dillon) is pleased to provide Taylor McCaffrey LLP with our review of Environment Act Proposal (EAP) titled "Crystal Spring Colony New Development - Domestic Wastewater Lagoon" Project, located in St. Agathe, Manitoba.

Dillon reviewed the EAP and available appendices from Manitoba's Environment and Climate Public Registry.

Two environmental engineers conducted the review, to cover off various discipline-specific information:

Mr. Paul Donahue, P.Eng.
Paul has over 35 years of experience in water resources engineering. He has been involved in the engineering consulting profession since 1981 and has gained his in-depth knowledge working on numerous challenging hydrotechnical and municipal engineering assignments. Paul has been providing professional services to a wide range of clients in many business sectors including municipal, provincial, federal and territory governments, the resource industry, waste management, and private development ventures.

Much of Paul's experience has been focused on watershed scale and subwatershed hydrology and site drainage investigations, and open channel and closed pipe hydraulic investigations, studies and designs. This has included modelling studies using both discrete and continuous simulation models. Paul has also undertaken numerous flooding, stormwater management, and river engineering and hydraulic modelling studies using hydrodynamic and steady state backwater models as part of many investigative, design, planning, and drainage planning studies.

Indra Kalinovich, Ph.D., C.Chem, P.Eng., FEC
Indra is a Partner at Dillon Consulting, where she practices in the Winnipeg, Manitoba office as a hydrogeochemist and environmental engineer. Indra began her environmental engineering career up in the DEW Line in the early 2000s, and her love

for solving complex, physical and chemical hydrogeological scenarios has never gone away. Since joining Dillon in 2012, she has evaluated and developed systems to improve water quality, ranging from infiltration in landfills to acid rock drainage chemistry at orphaned mine sites. In addition to her role at Dillon, Indra is an adjunct professor within the Department of Civil Engineering at the University of Member, a member of the CAN CSA committee for Environmental Auditing & Related Environmental Investigations, and on the Harmonized Mirror Committee (MC) to ISO TC207 SC2 [S2040.2] - TSC. With footholds firmly in both industry and academia and over 40+ peer reviewed publications and presentations, she continues to develop innovative solutions that can be applied to contaminant fate and transport, toxicology, remediation, and cold regions.

A summary of Dillon's findings, broken down by topic-specific headings is provided in the following sections. References are provided at the end of the document. Questions are noted by a "Q", and comments are noted by a "C".

Consultation

It does not appear that the proponent has conducted adequate consultations (if any) with adjacent and/or affected property owners and municipalities, including Indigenous communities in close proximity to the proposed development. We note that a First Nation community resides 40 kilometers (km) away and it does not appear to have been considered for consultation. We also note that the Rural Municipality of Gimli, a municipality of over 6,000 residents, was not consulted in the context of the proponent's *Environment Act* proposal.

Q1. Can the proponent particularize how:

1. It has determined that the proposed development will not adversely impact upon potential or established Aboriginal and/or Treaty rights, having not consulted with any Indigenous communities in the area, including the First Nation community that resides a mere 40 km away from the proposed development?

2. It has obtained, reviewed, and considered the feedback, concerns, and comments of adjacent and/or affected property owners and municipalities, including the aforementioned Indigenous communities?

Surface Water Management (Quantity)

The proposed development requires changes to their external hydraulic setting (i.e., to the drainage network outside the development site in question). These proposed works are beyond their property and/or control. The individuals who would make changes to the drainage within the area are the municipalities – this would fall under their purview, and their budgets. As a consequence, the proponent's ability to implement these proposed changes is outside their control.

Additionally, the municipalities are constrained in what they can do regarding changes to drainage based on the regional watershed management plan. The project resides in Zone 2 of the Willow Creek Integrated Watershed Management Plan. This Plan has identified several future targeted initiatives focussed on improved drainage performance.

Notably, the proponent's proposed drainage changes intended to improve the hydraulic setting for the project are in direct contrast with the Willow Creek Integrated Watershed Management Plan.

The Plan states "*Drainage projects should receive priority in downstream portions of the watershed (Zone 3 and 4), while water retention projects should receive priority in upstream portions of the watershed (Zone 1 and 2). These retention areas can be drawn down when downstream conditions are suitable. Water managers must consider downstream impacts of drainage projects.".*

The proponent's proposed drainage changes increase drainage within Zone 2. This is inconsistent with the plan's stated goal of increasing retention.

Given the foregoing, the following questions must be considered:

Q2. Can the proponent provide an opinion on the likely degree of impact that the proposed development and supporting drainage improvements would have on the local and downstream drainage network?

Q3. Can the proponent demonstrate any commitment from the relevant municipal bodies in relation to the level of operation and maintenance required in order to implement the proponent's proposed drainage changes?

Q4. Can the proponent confirm that the proposed drainage amendments are permissible under the current draft Willow Creek Integrated Watershed Management Plan and advise what steps they took to investigate this issue?

Q5. Can the proponent provide commentary on whether the project location would be 'habitually inundated' without the above drainage improvements which are reliant upon third party participation?

Q6. Can the proponent confirm if they are (or are not) in alignment with Section 2. (c) of the Design Objectives for Wastewater Treatment Lagoons (MCC, 2022)?
Further to the above question: can the proponent provide rationale as to why they are (or why they are not) in alignment with Section 2. (c) of the Design Objectives for Wastewater Treatment Lagoons?

Q7. Any changes to drainage in that affect water elevations would trigger an Environmental Impact Assessment under the Canadian Environmental Assessment Act. Can the proponent confirm whether there would be any the impact on Dennis Lake if the above amendments to drainage are made and advise as to what steps they took to investigate this issue?

Q8. Downstream flooding from the project site along Willow Creek has been documented. Can the proponent comment on the impact on downstream residents along Willow Creek during peak runoff periods if the above amendments to drainage are made?

Surface Water Management under Climate Change

There has been no meaningful consideration of climate change impacts on this development. The hydraulic loading will be affected in the future through climate change. The proposed solutions above would likely exacerbate conditions downstream. The hydrological study did note that continual flooding activities would occur, despite the above recommended drainage amendments. This overland flooding and/or increased precipitation will result in unplanned discharges. There has been no meaningful consideration on how unplanned discharges will be managed.

Q9. Can the proponent provide a quantitative analysis examining how climate change will impact the development in the coming years with respect to hydraulic loading (e.g., increased frequency and intensity of precipitation events), and comment on potential risks (e.g., unplanned releases) associated with flooding?

Surface Water Management (Quality)

The stated goal for Zone 2 is to improve the management of surface water to maximize economic benefit of cattle and forage crop production *while minimizing negative impacts downstream and to the environment*.

The project proposal does not achieve the goal statement for the watershed zone in which it resides. While the project proposal has accounted for BOD, it has not accounted for any other parameters of concern such as nitrogen and phosphorus.

The project proposal states that natural filtering of any contamination will take place along the Creek prior to reaching Lake Winnipeg. However, the stated objectives for Willow Creek under the Willow Creek Integrated Watershed Management Plan include the following:

- There will be a 10% ***reduction*** in nitrogen and phosphorus concentrations and/or loading in Willow Creek.
- There will be a ***reduction*** in the number of bacteria exceedances above the recreational water quality guidelines in Willow Creek.
- There will be a ***reduction*** in total suspended solids in Willow Creek.

The proposed drainage improvements will likely accelerate the migration of contaminants downstream and reduce potential for uptake. The proponent has failed to demonstrate that no significant negative effect on water quality is likely to occur.

Q10. Can the proponent provide a quantitative analysis in relation to contaminant loading and treatment for the parameters beyond (i.e., nutrient loading) in order to demonstrate that no significant negative effect on water quality is likely to occur based on the current design?

Q11. We note that there is one long-term water quality monitoring station within the Willow Creek watershed located on Willow Creek at PTH 8. This site has been monitored quarterly since 2005 by the East Interlake Conservation District and was added to the provincial long-term water quality network in 2010. Has the proponent compared their potential chemical loading to baseline data in Willow Creek?

Q12. Can the proponent provide evidence to identify whether the proposed drainage works and loss of surface water retention will or will not aggravate the migration of contaminants?

Q13. Can the proponent provide their proposed monitoring plans that demonstrate compliance prior to, and at the point of mixing with Willow Creek?

Q14. Can the proponent describe how they will minimize negative impacts downstream and to the environment through discharge to Willow Creek?

Q15. As noted above, Total Suspended Solids (TSS) are a concern for the region. How will the proponent mitigate TSS effluent quality in the adjacent drainage ditch, and at the point of mixing with Willow Creek?

Q16. As the Willow Creek Integrated Watershed Management Plan has included stated goals with measurable reduction in nutrients, bacteria, and TSS for Willow Creek, can the proponent provide alternative treatment plans that would meet these stated goals, as opposed to using Willow Creek for 'natural filtering of any contamination'?

Q17. Can the proponent outline their strategies for record keeping, and identify potential areas for project risk/mitigation(e.g., can the proponent identify options for nutrient abatement, address access issues, and outline emergency discharge procedures)?

Q18. Can the proponent outline their approach to sludge management, including whether sludge removal will be required, and where the sludge will be deposited if removal is required?

Q19. Can the proponent provide information on how they will implement and measure sediment and erosion control during and after construction until the site is stabilized to ensure no sediment enters the Willow Creek and ultimately Lake Winnipeg?

In addition to the foregoing, the *Fisheries Act* controls and regulates the deposit of deleterious substances into water frequented by fish. According to subsection 36(3) of the Fisheries Act,

> *"no person shall deposit or permit the deposit of a deleterious substance of any type in water frequented by fish or in any place under any conditions where the deleterious substance or any other deleterious substance that results from the deposit of the deleterious substance may enter any such water."*

C1. Given the fact that the proponent intends to discharge effluent into fish-bearing waters, the Fisheries Act applies, and effluent discharge criteria will need to meet the federal standards protective of freshwater aquatic receptors, above and beyond the MCC requirements. Can the proponent indicate what measures are in place to ensure that the effluent discharge criteria meets or surpasses the federal standards protective of freshwater aquatic receptors?

Groundwater Management (Quality)

We note that the project proposes using a geosythetic liner to reduce infiltration to groundwater from within the cells.

Q20. Can the proponent advise whether they investigated if the effluent discharge to drain/creek would impact groundwater over years of release and if so, what conclusions they drew?

Q21. Can the proponent comment on why there are no up gradient and down gradient monitoring wells? Typically, these can be used to determine whether there is any impairment to the groundwater sources so that remedial action may be taken quickly.

Q22. Can the proponent append the groundwater study report prepared by Friesen Drillers to the EAP for review?

Wildlife

The lagoon will discharge into the Road 15E drain and travel north to Willow Creek. The effluent will follow Willow Creek east approximately 15 km where it will enter Lake Winnipeg. Over half of the length of Willow Creek, or nearly 10 kilometers, is classified as Class A and B fish habitat according to a Riparian and Aquatic Habitat Assessment completed by the East Interlake Conservation District in 2007 (Graveline, 2008). Adjacent to the proposed project site, Willow Creek is considered a Class A drain, where indicator species of fish are present, and the channel is considered complex.

Q23. We note that the Willow Creek Integrated Watershed Management Plan recommends conducting environmental risk assessments for all wastewater lagoons or sewage treatment plants to establish site-specific effluent discharge objectives. Given the sensitivity of the ecosystem and fish habitat that the wastewater lagoon is discharging directly into, can the proponent advise whether an environment risk assessment was performed and if so, produce the relevant report. If not, can the proponent confirm that such an assessment will be conducted?

Q24. Can the proponent provide commentary on how effluent discharge would or would not impact fish and/or fish habitat in Willow Creek, including potential changes to spawning potential?

Q25. Section 3.7.3 of the EAP describes habitat for two species of threatened bird (the barn swallow, Hirundo rustica; the bobolink, Dolichonyx oryzivorus) that is in the immediate vicinity of the current proposed project location (specifically, the 'cultivated

fields'). Has a species at risk study been conducted at the site to confirm that there are no nests, burrows, or dens in the project site?

Lagoon Operation

Q26. Other wastewater lagoons in the Province with abattoir wastewater have aerated secondary cells to assist with treatment, and/or discharge to land (as prescribed by their Licenses). Can the proponent comment on why these approaches are not being proposed here?

Q27. Considering this is a facility that is being designed for one (1) annual discharge event, can the proponent confirm that the Primary cell will not experience overloading during the period (approximately 40 days) when the secondary cell is isolated in preparation for the discharge event?

C2. Construction details are missing from the EAP, e.g., groundwater dewatering system during liner installation, monitoring well installation surrounding the facility, preparation of the liner surface, reference to liner installation report submittals to Manitoba Environment and Climate (MEC), etc.

C3. Operational details are missing from the EAP, i.e., discharge procedure, record keeping and inspection routines, groundwater and surface water monitoring plans, biosolids management.

C4. Can the proponent confirm that it has applied for and received the relevant development permits associated with the construction of the lagoon and associated outbuildings.

References

Graveline, P.G., 2008. East Interlake Conservation District: Watershed 05SB Riparian Assessment Survey – with emphasis on third order drains or higher – 2007 and 2008

MEC, 2011. Manitoba Water Quality Standards, Objectives and Guidelines. Manitoba Water Stewardship Report 2011-01. November 28, 2011.

MEC, 2022. Information Bulletin – Design Objectives For Wastewater Treatment Lagoons.

East Interlake Conservation District, 2012. Willow Creek Integrated Watershed Management Plan. accessed on the world wide web: https://www.gov.mb.ca/sd/water/watershed/iwmp/willow_creek/documentation/willcreekplan_final_jan31.pdf

Closing Remarks

This report was prepared by Dillon for the sole benefit of our Client, Taylor McCaffrey LLP. The material in it reflects Dillon's best judgment in light of the information available to it at the time of preparation. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the responsibilities of such third parties. Dillon accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Sincerely,

DILLON CONSULTING LIMITED

[redacted]

Indra Kalinovich, PhD, CChem, PEng, FEC
Partner