

## Decision Summary BA20013

This document summarizes my reasons for issuing Authorization BA20013 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document BA20013. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at [www.nrcb.ca](http://www.nrcb.ca) under Confined Feeding Operations (CFO)/CFO Search. My decision is based on the act and its regulations, the policies of the NRCB, the information contained in the application, and all other materials in the application file.

### 1. Background

On August 12, 2020, Grosman Dairy Farm Ltd. (Grosman Dairy) submitted a Part 1 application to the NRCB to construct a calf barn (25 m x 100 m) and extend the deadline to build an already permitted solid manure storage pad (10 m x 20 m) at an existing dairy CFO. The Part 2 application was submitted on August 26, 2020. On August 27, 2020, I deemed the application complete.

The solid manure storage pad from Authorization BA17010 was given one deadline extension until December 2020. For simplicity sake I will be permitting a new solid manure storage pad in Authorization BA20013 to replace the previously permitted pad which will no longer be permitted to be constructed (see previously issued Technical Document BA17010).

There is no proposed increase in livestock.

Under AOPA, this type of application requires an authorization. (This is one of several types of “permits” issued under AOPA. For an explanation of the different types and when each one applies, see [www.nrcb.ca](http://www.nrcb.ca).)

#### a. Location

The existing CFO is located at NE 12-60-6 W5M in the County of Barrhead, roughly 9 km north west of the Hamlet of Campsie, Alberta. The terrain is gently undulating, sloping to the south. The nearest common body of water is a dugout approximately 94 metres to the north.

#### b. Existing permitted facilities

The CFO was originally permitted by the County of Barrhead on May 8, 1997, under development permit 21-97 and has since received Authorization BA17010 (at which time no official grandfathering determination was made) and Authorization BA17010A which cancelled and replaced Authorization BA17010. As this application is also for an authorization I will not be making an official grandfathering determination.

### 2. Notices to affected parties

Under section 21 of AOPA, notice of an authorization application must be provided to municipalities that are “affected” by the application. Section 5 of AOPA’s Part 2 Matters Regulation lists the categories of municipalities that are affected parties. These categories include the municipality where the existing CFO is located. Under section 21(2) of the act, all affected municipalities are automatically also “directly affected” parties. The NRCB interprets

section 21(3) as allowing affected municipalities to provide written submissions regarding whether the application meets the requirements of the regulations under the act. (See NRCB Operational Policy 2016-7: *Approvals*, part 7.11.2.)

The County of Barrhead is both an affected and directly affected party because the proposed construction is located within its boundaries.

On August 27, 2020, the NRCB emailed referral letters and a copy of the application to the County of Barrhead, Alberta Health Services (AHS), Alberta Environment and Parks (AEP), and Alberta Agriculture and Forestry (AF).

### **3. Responses from the municipality and referral agencies**

I received responses from the County of Barrhead, AEP, and AF. No response was received from AHS.

Jenny Bruns, a development officer with the County of Barrhead, provided a written response on behalf of the county. As noted in section 2, the County of Barrhead is a directly affected party.

Jenny Bruns stated that the application is consistent with the county's municipal development plan (MDP) and its applicable documents. The application's consistency with the county's MDP is addressed in Appendix A, attached.

Jenny Bruns also listed the setbacks required by the county's land use bylaw (LUB). The application meets these setbacks.

A generic response from AEP was received in response to the application. It provided information on several potential requirements for all applications. The applicant is reminded that they must meet all applicable AEP legislation.

Dennis Urban, an inspector, replied on behalf of AF. Mr. Urban stated AF has no concerns with the proposed development.

### **4. Environmental risk screening of existing and proposed facilities**

When reviewing a new authorization application for an existing CFO, NRCB approval officers normally assess the CFO's existing buildings, structures, and other facilities, using the NRCB's environmental risk screening tool to determine the level of risk they pose to surface water and groundwater. This tool provides for a numeric scoring of risks, which can fall within either a low, moderate, or high risk range. (A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at [www.nrcb.ca](http://www.nrcb.ca).) However, if those risks have previously been assessed, the approval officer will not conduct a new assessment unless site changes are identified that require a new assessment, or the assessment was done with a previous version of the risk screening tool and requires updating. See NRCB Operational Policy 2016-7: *Approvals*, part 8.13.

In this case, the risks posed by Grosman's Dairy existing CFO facilities were assessed in 2017. According to that assessment, the facilities posed a low risk to surface water and groundwater.

The circumstances have not changed since that assessment was done. As a result, a new

assessment of the risks posed by the CFO's existing facilities is not required.

I also assessed the proposed new calf barn, using the NRCB's risk screening tool, and determined that it poses a low risk to groundwater and surface water.

## **5. Other factors considered**

The application meets all relevant AOPA requirements, with the terms and conditions summarized in part 6.

In addition, the proposed construction is consistent with the land use provisions of the County of Barrhead's municipal development plan. (See Appendix A for a more detailed discussion of the county's planning requirements.)

With respect to the act's technical requirements, the proposed construction:

- Meets the required AOPA setbacks from all nearby residences, with one exception (AOPA setbacks are known as the "minimum distance separation" requirements, or MDS). The residences within the MDS qualifies for an exemption, as explained in Technical Document BA20013
- Meets the required AOPA setbacks from springs and common bodies of water
- Has sufficient means to control surface runoff of manure
- Meets AOPA groundwater protection requirements for the design of floors and liners of manure storage facilities

I also determined that the proposed calf barn is located within the required AOPA setback from an existing water well. However, as explained in Appendix B, this facility warrants an exemption from the 100 metre water well setback due to the well's construction and location upslope from the facility.

## **6. Terms and conditions**

Authorization BA20013 permits the construction of the calf barn as well as construct a new solid manure storage pad.

Authorization BA20013 also contains terms that the NRCB generally includes in all AOPA authorizations, including terms stating that the applicant must follow AOPA requirements and must adhere to the project descriptions in their application and accompanying materials.

In addition to the terms described above, Authorization BA20013 includes conditions that:

- Set a deadline of December 1, 2023 for the approved construction to be completed
- Require the concrete used to construct the liner of the manure collection and storage portion of the solid manure storage pad and calf barn to meet the specification for category C (solid manure – wet) and category D (solid manure – dry) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas"
- Require confirmation that the concrete used for the manure collection and storage areas meets the required specifications.
- Prohibit Grosman Dairy from placing manure or livestock in the solid manure storage pad or calf barn until the facilities have been inspected by the NRCB following its

construction

For an explanation of the reasons for these conditions, see Appendix C.

## **7. Conclusion**

Authorization BA20013 is issued for the reasons provided above, in the attached appendices, and in Technical Document BA20013.

Authorization BA20013 should be read in conjunction with previously issued municipal development permit 21-97 and Authorization BA17010A, which remain in effect.

October 6, 2020

(Original signed)

Nathan Shirley  
Approval Officer

## **Appendices:**

- A. Consistency with the municipal development plan
- B. Exemptions from water well setbacks and monitoring requirements
- C. Explanation of conditions in Authorization BA20013

## **APPENDIX A: Consistency with the municipal development plan**

Under section 22 of AOPA, an approval officer may approve an application for an authorization only if the approval officer finds that the application is consistent with the “land use provisions” of the applicable municipal development plan (MDP).

The Grosman Dairy confined feeding operation (CFO) is in the County of Barrhead and is therefore subject to that county’s MDP. The County of Barrhead adopted the latest revision to this plan on August 17, 2010, under Bylaw No. 4-2010.

Part 3.1.3 of the MDP lists 14 agricultural development policies and lists CFOs as among “primary use[s]” in agricultural use area. The first policy recognizes agriculture as the priority land use in rural areas, supports agricultural diversification, encourages siting agricultural industries in agricultural areas and discourages non-agricultural land uses in intensive agricultural areas. Of the remaining 13 policies, policies 10 and 11 relate specifically to CFOs.

Policy 10 states that “input shall be provided to the NRCB in responding to applications for new or expanded CFOs based on the technical and locational merits of each application.” This policy is likely not a land use provision because it requires site-specific, discretionary determinations (Operational Policy, *Approvals* 8.2.4). Therefore, this policy is not relevant to the MDP consistency determination required by section 22(1) of AOPA. At any rate, the application meets the “technical and locational” requirements of AOPA.

Policy 11 states that “minimum distance separations for CFOs shall conform to standards set out in AOPA.” The policy’s use of the term “minimum distance separations” appears to be a reference to the minimum distance separation (MDS) requirement in section 3 of the Standards and Administration Regulation under AOPA. MDP policy 11 is not relevant to my MDP consistency determination because it is based on AOPA’s MDS requirements. (See NRCB Operational Policy, *Approvals*, part 8.2.5). That said, the CFO meets the MDS requirements under AOPA (with the use of an exemption) and is therefore consistent with this MDP policy.

The CFO is also subject to the County of Barrhead’s land use bylaw (LUB) No. 5-2010. Under that bylaw, the subject land is currently zoned Agricultural. CFOs are not listed as either a permitted or discretionary land use in this zoning category. Ordinarily, this omission would mean that CFOs are a prohibited land use in this zoning category. However, section 7.13 of the LUB states that the county does not regulate proposed CFO developments that require approvals or registrations under AOPA. This section suggests that the county omitted CFOs from the lists of permitted and discretionary uses simply because of the county’s lack of permitting authority, rather than to prohibit CFOs in the Agricultural district.

For these reasons, I conclude that the application is consistent with the relevant land use provisions of the County of Barrhead’s MDP and is not contrary to the county’s LUB. The proposed facilities meet the required setbacks identified by the county’s LUB. The county’s response confirms my conclusion.

## APPENDIX B: Exemption from water well setbacks

According to the application, one water well is located within 100 metres of the proposed calf barn. I have confirmed this information by site visit and satellite imagery.

Because of this proximity, the applicant's proposed calf barn conflicts with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) within 100 metres of water wells.<sup>1</sup> However, the regulation allows approval officers to grant an exemption from this prohibition. I must therefore consider whether an exemption is appropriate in this instance.

Under the regulation, the test for granting an exemption is whether the "aquifer into which the well is drilled is not likely to be contaminated" by the proposed MSF. (According to the regulation, when granting an exemption, an approval officer may require the applicant to implement a "groundwater monitoring program.")

The regulation also makes it clear that the applicant has the burden of proving that an exemption is warranted.

In considering whether an applicant has met that burden, approval officers presume that the risks of direct aquifer contamination from the MSF are low if the applicant's proposed MSF meets AOPA's technical requirements to control runoff and leakage. However, when determining whether an MSF that meets AOPA's technical requirements should be exempted from the 100 metre water well setback requirement, approval officers also assess whether water wells that are less than 100 metres from the MSF could act as conduits for aquifer contamination.

Approval officers assess the following factors to determine the risk of aquifer contamination via the water well:

- How the well was constructed
- Whether the well is being properly maintained
- The distance between the well and the proposed MSF
- The estimated water well pumping rate
- Whether the well is up- or down-gradient from the MSF and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures

These presumptions and considerations are based on NRCB Operational Policy 2016-7: *Approvals*, part 8.7.1.

The well in question (ID 366122) is upslope from the proposed MSF, and the direction of groundwater flow from the MSFs is away from the well. The well is 79.25 metres deep, with a driven seal at 30.48 metres, and is perforated in shale and sandstone lithologies.

An exemption from the 100 metre setback to this well is warranted, for the following reasons:

- The MSF meet all other AOPA technical requirements with the exception of MDS, as explained in Appendix A, noted in the attached decision summary, and documented in

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<sup>1</sup> Standards and Administration Regulation, Alta. Reg. 267/2001, section 7(1)(b).

Technical Document BA20013. Therefore, the risk of manure-contaminated water leaking or running off from the MSF is low.

- In the unlikely event that any manure did leave the MSF, it is unlikely to migrate directly into the aquifer into which the well is drilled because of the distance between the surface and the aquifer.
- Any manure that leaves the MSF is unlikely to reach the water well because the well is located upslope from the proposed MSF.
- In the unlikely event that any manure reaches the well, the manure is unlikely to actually enter the well and flow down the well into the aquifer. This risk pathway is very unlikely because the well is situated upslope from the proposed manure storage facilities and is protected by a culvert barrier installed around the well.

In addition, the NRCB has developed a “water well exemption screening tool,” based on the factors listed above, to help approval officers assess the groundwater risks associated with a nearby water well and to decide whether an exemption from the 100 metre setback to a well is warranted. This tool consists of a two-stage risk screening process; each stage provides a numeric risk “score” based on the information inputted into the tool. The first stage focuses on the well’s construction. If the well scores less than 10 at this stage, the tool recommends granting the exemption for the subject facility. If the well scores above 28, the tool recommends denying the exemption. Scores between 10 and 28 require applying the second stage of the screening process, which focuses on the gradient and other factors bearing on the risk of manure runoff or leachate reaching the water well. If the risk score at this stage is more than 20, the tool suggests denying the setback exemption to the subject well.

In this case water well ID #366122 scored 17 and 5 in the first and second stages, respectively, of the risk screening process described above.

For the above reasons, an exemption is warranted and a groundwater monitoring program is not required.

## **APPENDIX C: Explanation of conditions in Authorization BA20013**

### **a. Construction Deadline**

Grosman Dairy proposes to complete construction of the proposed new calf barn and solid manure storage pad by 2023. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of December 1, 2023 is included as a condition in Authorization BA20013.

### **b. Post-construction inspection and review**

The NRCB's general practice is to include conditions in new or amended permits to ensure that the new or expanded facilities are constructed according to the required design specifications. Accordingly, Authorization BA20013 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the solid manure storage pad and calf barn to meet the specification for category C (solid manure – wet) and category D (solid manure – dry) (respectively) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”
- Grosman Dairy to provide documentation to confirm the specifications of the concrete used to construct the manure storage and collection portions of the solid manure storage pad and calf barn.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, these inspections must occur before livestock or manure are placed in the newly constructed facilities. Authorization BA20013 includes conditions stating that Grosman Dairy shall not place livestock or manure in the manure storage portions of the solid manure storage pad or calf barn until NRCB personnel have inspected each facility and confirmed in writing that they meet the authorization requirements.