

Decision Summary BA18011

This document summarizes my reasons for issuing Authorization BA18011 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document BA18011. That document and the full application are available from the decisions search engine on the Natural Resources Conservation Board (NRCB) website at www.nrcb.ca. 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 March 6, 2018, Feitsma Farms Ltd. submitted a Part 1 application and submitted a revised Part 1 December 7, 2018 to the NRCB to construct a new maternity and milking area addition (total dimensions 22 m x 25 m) at an existing dairy confined feeding operation (CFO). The Part 2 application was submitted on December 7, 2018. On December 13, 2018, I deemed the application complete.

The proposed construction involves:

- Constructing a calf and maternity area – 9.7 m x 9.1 m
- Constructing an under floor manure storage pit – 16 m x 11 m x 1.8 m

The application also includes construction of a robot milking parlour and bulk tank room. This portion of the facility is an “ancillary structure,” under sections 1(b.6) of AOPA and 1(1)(a.1) of the Agricultural Operations, Part 2 Matters Regulation, because it will not be used to store or collect manure or to confine livestock. Therefore, under section 4.1 of that regulation, this structure does not need to be permitted under the act.

The purpose of the proposed development is to convert the dairy to a robotic milking system for ergonomic purposes.

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.)

a. Location

The existing CFO is located at SW 36-62-1 W5M in Westlock County, roughly 6 km from the town of Jarvie Alberta. The terrain is relatively flat sloping to the east with the Pembina River being located approximately 550 m and an old oxbow located 30 m to the east.

b. Existing permitted facilities

The CFO was originally permitted by Westlock County on May 28, 1981 under development permit #1073. This permit allowed the construction and operation of a dairy CFO. The CFO was also issued development permit #4425 on May 8, 2000. The CFO’s deemed facilities are listed in Appendix C of BA18011. The CFO’s grandfathered status is explained in Appendix C, attached.

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 is both an affected and directly affected party because the proposed facility is located within its boundaries.

On December 13, 2018 the NRCB emailed referral letters and a copy of the application to Westlock County, 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 Westlock County, AEP, and AF. No response was received from AHS.

Ms. Kathleen Deshoux, a development officer with Westlock County, provided a written response on behalf of the county. As noted in section 2, the county is a directly affected party.

Ms. Deshoux provided the applicable portions of the county’s municipal development plan (MDP). She also asked about any potential engineering flood plans regarding the proposal, as the operation is located near the Pembina River. In discussion, I explained that AOPA does not specifically require engineering flood mitigation plans, rather requires that proposed facilities not be located within a 1:25 year flood plain or within 1 m of the known high water mark. In discussion with the applicant they have never seen flooding of the Pembina River near the operation since they purchased the CFO. They also spoke with the original owner who also indicated he had not seen the river flood onto the property at any time. As a part of my review for this proposal I reviewed historical air photos from major flooding years 1997, 1986, 1977, and 1974. My review of these photos showed no flooding of Pembina River near the dairy operation and based on this I’m satisfied the dairy is not within 1 m of the high water mark.

The application’s consistency with the County’s MDP, is addressed in Appendix A, attached.

Ms. Deshoux also indicated the setbacks required by the county’s land use bylaw (LUB) appear to be met.

Mr. Hancock, a senior water administration officer with AEP, indicated that the applicant has adequate water licensing for the location. He also noted that if anything changes on site regarding the CFO, they should contact AEP.

Mr. Urban, an inspector, replied on behalf of AF. Mr. Urban had no concerns with the proposed application, but requested that the applicant contact AF prior to construction, to ensure that proper planning regarding the milking area and specifically the new milk transportation yard policy is met. I forwarded this information to the applicant for their action and review.

4. Environmental risk screening of existing and proposed facilities

As part of my review of this application, I assessed the risk to surface water and groundwater posed by the CFO's existing and proposed manure storage facilities. I used the NRCB's environmental risk screening tool for this purpose (see NRCB Operational Policy 2016-7: *Approvals*, part 8.13). The 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/Guides on the NRCB website at www.nrcb.ca.)

All of the CFO's existing and proposed facilities pose a low potential risk to groundwater and surface water. (The CFO's existing facilities are listed in the Appendix to BA18011.)

5. Other factors considered

The application meets all relevant AOPA requirements, with the terms and conditions summarized in part 6.¹

In addition, the proposed construction is consistent with the land use provisions of Westlock County's municipal development plan and with the county's land use bylaw. (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 (AOPA setbacks are known as the "minimum distance separation" requirements, or MDS)
- 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 maternity addition 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 BA18011 permits the construction of the maternity and milking addition.

Authorization BA18011 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 BA18011 includes conditions that:

- Set a deadline of December 1, 2021 for the approved construction to be completed
- Require the concrete used to construct the liner of the manure collection and storage portion of the maternity addition to meet the specification for category B (liquid manure shallow pits) and category D (solid manure – dry) in Technical Guideline Agdex 096-93

1. For a summary of these requirements, please see the [2008 AOPA Reference Guide](http://www.nrcb.ca/Guides), available on the NRCB website at www.nrcb.ca/Guides.

“Non-Engineered Concrete Liners for Manure Collection and Storage Areas”

- Require written confirmation from a qualified third party that the concrete used for the manure collection and storage areas meets the required specifications.
- Prohibit Feitsma Farms from placing manure or livestock in the maternity addition until the facility has been inspected by the NRCB following its construction

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

7. Conclusion

Authorization BA18011 is issued for the reasons provided above, in the attached appendices, and in Technical Document BA18011.

Authorization BA18011 should be read in conjunction with previously issued development permits #1073 and #4425, which remain in effect.

February 22, 2019

(Original signed)

Nathan Shirley
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Exemptions from water well setbacks and monitoring requirements
- C. Grandfathering determination
- D. Explanation of conditions in Authorization BA18011

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 NRCB interprets the term “land use provisions” as covering MDP policies that provide generic directions about the acceptability of various land uses in specific areas and that do not call for discretionary judgements relating to the acceptability of a given confined feeding operation (CFO) development. (See NRCB Operational Policy 2016-7: *Approvals*, part 8.2.5.) Under this interpretation, the term “land use provisions” also excludes MDP policies that impose procedural requirements. In addition, section 22(2.1) of the act precludes approval officers from considering MDP provisions “respecting tests or conditions related to the construction of or the site” of a CFO or manure storage facility, or regarding the land application of manure. (These types of MDP provisions are commonly referred to as MDP “tests or conditions.”)

Feitsma Farms’ CFO is located in Westlock County and is therefore subject to that county’s MDP. Westlock County adopted the latest revision to this plan in April 2016, under Bylaw #05-2016.

Section 4.1 of the MDP relates to the agricultural area policies.

Policy 4.1.1.3 clarifies that the “primary use” of this area is for both “extensive and intensive agricultural uses and confined feeding operations”. This is considered a general guiding principle and is not considered a land use provision, therefore this is not relevant to my decision.

Policy 4.1.2.2 states that the county will provide “input” to the NRCB on 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 (see NRCB Operational Policy 2016-7, *Approvals*, part 8.2.5). 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 4.1.2.2 states further that CFOs and manure storage facilities “must fully satisfy all the requirements and regulations adopted under that Act [AOPA], specifically the minimum distance separation requirements and land base requirements.” Policy 4.1.2.3 states “Minimum distance separations for CFOs shall conform to standards set out in the Agricultural Operations Practices Act.” Together, the use of the term “minimum distance separation” in policies 4.1.2.2 and 4.1.2.3 appear to be a reference to the minimum distance separation (MDS) requirement in section 3 of the Standards and Administration Regulation under AOPA. These MDP policies are likely not relevant to my MDP consistency determination, because these policies are based on AOPA’s MDS requirements. (See also NRCB Operational Policy, *Approvals*, part 8.2.5). That said, the CFO meets the MDS requirements under AOPA (as shown in Technical Document BA18011) and meets all other AOPA technical requirements. Therefore, this application is consistent with these MDP policies.

Policy 4.1.2.4 requires a 2.4 km CFO setback from “corporate boundaries of any urban municipality within Westlock County” or a 0.8 km CFO setback from “Community Areas designated on Map 7.2.” Feitsma Farms’ CFO meets these requirements.

Policy 4.1.2.5 states that CFOs are “discouraged from locating in environmentally sensitive areas where slope instability and or groundwater contamination may be a concern.” This policy

is likely not a land use provision because it requires site-specific, discretionary determinations (see NRCB Operational Policy 2016-7, Approvals, part 8.2.5). 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 4.1.2.6 states that in addition to AOPA, Area Structure Plans (ASP) in Westlock County and MDP policies in respect to CFOs should be followed. The development officer confirmed that there are no ASPs that would apply to this CFO at this time.

For these reasons, I conclude that the application is consistent with the land use provisions of Westlock County’s MDP.

In my view, the text of the County’s MDP also provides a clear intent to adopt provisions from the land use bylaw (LUB), in Section 1.3. Following the NRCB Operational Policy 2016-7: *Approvals*, part 8.2.3, I also consider Westlock County’s LUB #04-2016. Under that bylaw, the subject land is currently zoned AG. Under the AG zoning, CFOs (as defined by AOPA) are listed as discretionary use. Approval officers will deem an application to be consistent with a LUB if the bylaw lists the proposed development as either permitted or discretionary use. (See NRCB Operational Policy 2016-7: Approvals, part 8.3). Additionally, section 7.7.1 of the LUB expressly exempts CFOs from municipal control under the LUB, because CFOs are regulated by the NRCB under AOPA.

For these reasons, I conclude that the application is not inconsistent with Westlock County’s LUB.

APPENDIX B: Exemption from water well setbacks

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

Because of this proximity, the applicant's proposed facility conflicts with a regulation under AOPA, which prohibits the construction of manure storage facilities (MSFs) within 100 metres of water wells.² 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.

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.³ 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 suggests granting a setback exemption for the subject facility. If the well scores above 28, the tool recommends

² Standards and Administration Regulation, Alta. Reg. 267/2001, section 7(1)(b).

³ The tool, and a companion document explaining how it works, can be viewed on the NRCB's website at: www.nrcb.ca.

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 over 20, the tool suggests denying the setback exemption to the subject well.

The well in question is:

- Water well ID 373713: is a deep rotary drilled well completed with a driven and welded ring seal. It's located upslope from the proposed maternity addition and is perforated at 60.9 m with a water bearing sandstone layer at 64.01 m.

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

- The MSF meets all other AOPA technical requirements, as noted in the attached decision summary and documented in Technical Document BA18011. 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 MSFs, it is unlikely to migrate directly into the aquifer into which the wells are drilled because of the clay protective layer above the aquifer.
- In the unlikely event that any manure reaches the wells, the manure is unlikely to actually enter the wells and flow down the well into the aquifer. This risk pathway is very unlikely because of the wells' construction, landscaping, and location.

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 wells ID #373713 scored 11 in the first stage and 8 in the second stage of the risk screening process described above.

For the above reasons, a groundwater monitoring program is not required.

APPENDIX C: Grandfathering determination

The CFO was originally permitted by Westlock County on May 28, 1981 under development permit #1073. This permit allows the construction and operation of a dairy CFO. The site was subsequently issued development permit #4425 on May 8, 2000 for the construction of an addition to the dairy barn and a cattle shed. These permits specify some of the permitted facilities but do not state the CFO's permitted animal numbers (that is, its "capacity").

To determine whether the CFO is grandfathered and, if so, its deemed capacity, I must consider, among other things:

- What facilities existed at the site on January 1, 2002, including their dimensions, types of physical structures and other physical characteristics; and

Under section 18.1(2)(b) of AOPA, if a CFO existed on January 1, 2002 with a municipal permit that does not limit the CFO's capacity, then its deemed capacity is its physical capacity to confine livestock on January 1, 2002.

The following facilities were identified as existing on January 1, 2002, based on site visits, discussion with the applicant, and aerial photos:

- Dairy barn – 14 m x 61 m (with 100 stalls)
- Earthen Manure Storage – 49 m x 36 m x 6 m
- Feed pen/shelter – 46 m x 46 m (with a 10 m x 46 m shelter included)
- Feed pen – 45 m x 25 m
- Calf lean-to – 21 m x 4.5 m

Under section 18.1(2)(a) of AOPA, if a CFO existed on January 1, 2002, the CFO's deemed capacity is its physical capacity to confine livestock on January 1, 2002.

For determining capacity, I consulted standards from Technical Guideline Agdex 096-81: Calculator for Determining Livestock Capacity of Operations as They Existed on January 1, 2002.

In discussion with the applicant, and verified during a site visit, the existing dairy barn has 100 stalls. Using a formula from the Agdex 096-81 for calculating dairy barn capacity, the claimed grandfathered capacity of 110 milking cows for the dairy barn is, reasonable. There are also several pens at the CFO indicating that the operation housed dries and replacements along with their milking cows.

Based on these findings, the CFO is considered to have a deemed registration and a deemed capacity of 110 milking cows (plus associated dries and replacements).

APPENDIX D: Explanation of conditions in Authorization BA18011

a. Construction Deadline

Feitsma Farms' proposes to complete construction of the proposed new facility by fall 2021. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of December 1, 2021 is included as a condition in Authorization BA18011.

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 BA18011 includes conditions requiring:

- the concrete used to construct the liner of the manure collection and storage portion of the maternity addition to meet the specification for category B (liquid manure shallow pits) and category D (solid manure – dry) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas."
- Feitsma Farms' to provide a copy of the concrete supplier's record confirming the specifications of the concrete used to construct the manure collection and storage portion of the maternity addition.

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 BA18011 includes a condition stating that Feitsma Farms' shall not place livestock or manure in the manure storage portions of the new maternity addition until NRCB personnel have inspected the facility and confirmed in writing that it meets the authorization requirements.