

Decision Summary RA21035

This document summarizes my reasons for issuing Authorization RA21035 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA21035. All decision documents and the full application are available on the Natural Resources Conservation Board (NRCB) website at 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.

Under AOPA this type of application requires an authorization. For additional information on NRCB permits please refer to www.nrcb.ca.

1. Background

On June 17, 2021, De Knar Farms Ltd. and Andrea Verhoef (De Knar Farms) submitted Part 1 and 2 applications to the NRCB to construct a replacement barn for an existing one that was destroyed by a recent storm at an existing dairy replacement CFO. The proposed replacement barn (200 m x 30 m) will be larger than what existed. I deemed the application complete on the same day.

a. Location

The existing CFO is located at SE 12-37-1 W5M in Red Deer County, roughly nine kilometers northwest of Penhold, Alberta. The terrain generally slopes gently to the south and the closest water body is an intermittent or seasonal drainage located approximately 50 m to the south of the CFO.

b. Existing permits

The CFO is grandfathered with a deemed approval under section 18.1 of AOPA. This deemed permit, includes Red Deer County issued municipal development permit D-490-02 (January 8, 2002). The deemed permit allows the construction and operation of a dairy replacement CFO with 450 young stock (replacement heifers) and 50 dry cows.

In addition to the deemed approval, the CFO also has Authorization RA19033 which the NRCB issued on August 22, 2019. The CFO's permitted facilities are listed in Authorization RA19033 and the appendix to that permit.

2. Notices to affected parties

Under section 21 of AOPA, the NRCB notifies all parties that are "affected" by an authorization application. Section 5 of AOPA's Part 2 Matters Regulation defines "affected parties" as:

- the municipality where the CFO is located or is to be located
- in the case where part of a CFO is located, or is to be located, within 100 m of a bank of a river, stream or canal, a municipality entitled to divert water from that body within 10 miles downstream
- any other municipality whose boundary is within a notification distance. In this case, the notification distance is 0.5 miles (805 m) from the CFO

A copy of the application was sent to Red Deer County, which is the municipality where the CFO is located. It was not sent to other municipalities as the CFO is not located within 805 m of another municipality and it is not located within 100 m of a bank of a river, stream or canal.

3. Notice to other persons or organizations

Under NRCB policy, the NRCB may also notify persons and organizations the approval officer considers appropriate. This includes sending applications to referral agencies which have a potential regulatory interest under their respective legislation.

Referral letters and a copy of the complete application were emailed to Alberta Health Services (AHS), Alberta Environment and Parks (AEP) and Alberta Agriculture and Forestry (AF).

Ms. Pamela Kutuadu, a public health inspector/executive officer with AHS, made recommendations related to maintenance and annual testing of water wells that are used for human consumption. Other than these recommendations, she did not express concerns with this application.

Ms. Laura Partridge, a senior water administration officer with AEP, indicated that non-licensed wells are present at the CFO and that those wells need to be properly licensed under the *Water Act*. Outside of comments related to water wells and water licensing, Ms. Partridge did not raise concerns with the proposed replacement barn. This information was provided to the applicant for their information and action.

Mr. Al Spink, an inspector with the with the Inspection and Investigation section of AF, indicated in a conversation that he had no concerns with this application.

The AHS and AEP responses were forwarded to the applicant for their information.

4. Municipal Development Plan (MDP) consistency

I have determined that the proposed construction is consistent with the land use provisions of Red Deer County's municipal development plan. (See Appendix A for a more detailed discussion of the county's planning requirements.)

5. AOPA requirements

With respect to the technical requirements set out in the regulations, the proposed construction:

- Meets the AOPA setbacks from all nearby residences (AOPA setbacks are known as the "minimum distance separation" requirements, or MDS) in accordance with section 3(5)(c) of the Standards and Administration Regulation
- 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/protective layers of manure storage facilities and manure collection areas

With the terms and conditions summarized in part nine, the application meets all relevant AOPA requirements with exception to the setback to water wells. This application warrants an exemption to this setback which is discussed in the following parts of this decision summary.

6. Response from municipality

Directly affected parties are entitled to a reasonable opportunity to provide evidence and written submissions relevant to the application, and are entitled to request an NRCB Board review of the approval officer's decision. Not all affected parties are "directly affected" under AOPA.

Municipalities that are affected parties are identified by the act as "directly affected." Red Deer County is an affected party (and directly affected) because the CFO is located within its boundaries.

Mr. Ron Barr, the long range planning manager with Red Deer County, provided a written response on behalf of Red Deer County. Mr. Barr stated that Red Deer County's council had no objections to this application. The application's consistency with Red Deer County's municipal development plan is addressed in Appendix A, attached.

7. Environmental risk of facilities

When reviewing a new authorization application for an existing CFO, NRCB approval officers assess the CFO's existing buildings, structures, and other facilities. In doing so, the approval officer considers information related to the site and the facilities, as well as results from the NRCB's environmental risk screening tool (ERST). The assessment of environmental risk focuses on surface water and groundwater. The ERST provides for a numeric scoring of risks, 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.) 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 supported 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 the existing and then proposed CFO facilities were assessed in 2019. The assessment indicated that the potential risks to surface water and groundwater were low, with exception to the shelter and pen and the manure storage pad. Those facilities pose a low potential risk to groundwater and a moderate potential risk to surface water. Authorization RA19033 included conditions to address the potential risk posed by these.

Since the 2019 risk assessment, a water well was decommissioned and a new one was installed at the CFO. Further Authorization RA19033 included conditions related to reducing potential risk to surface water. Those conditions are now met. For these reasons, I reassessed the risks posed by the CFO's existing facilities. My reassessment found that all of the existing facilities, including the proposed replacement barn, pose a low potential risk to surface water and groundwater.

8. Exemptions

I determined that the proposed replacement barn is located within the AOPA required 100 m setback to water wells. As explained in Appendix B, an exemption to the 100 m water well setback is warranted due to how the barn is proposed, where the wells are located and how they are constructed.

9. Terms and conditions

Authorization RA21035 permits the construction of the replacement barn.

Authorization RA21035 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 RA21035 includes conditions that generally address a construction deadline, document submission and a post construction inspection. For an explanation of the reasons for these conditions, see Appendix C.

10. Conclusion

Authorization RA21035 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA21035.

Authorization RA21035 must be read in conjunction with De Knar Farms's deemed approval, including Red Deer County municipal development permit D-491-02, and the NRCB issued Authorization RA19033 which remain in effect.

August 5, 2021

(Original Signed)
Jeff Froese
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Exemption from water and well setbacks
- C. Explanation of conditions in Authorization RA21035

APPENDIX A: Consistency with the municipal development plan

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

This does not mean consistency with the entire MDP. In general, “land use provisions” cover MDP policies that provide generic directions about the acceptability of various land uses in specific areas.

Conversely, “land use provisions” do not call for discretionary judgements relating to the acceptability of a given confined feeding operation (CFO) development. Similarly, 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.”) “Land use provisions” also do not impose procedural requirements on the NRCB. (See NRCB Operational Policy 2016-7: Approvals, part 8.2.5.)

De Knar Farms’ CFO is located in Red Deer County and is therefore subject to that county’s MDP. Red Deer County adopted the latest revision to this plan on August 21, 2018, under Bylaw #2018/29.

Section 3.3 of the MDP relates to CFOs. The subsections relevant to this application are discussed below:

3.3.1 States that the county “encourages the development of Confined Feeding Operations (CFOs) at appropriate locations, as a means of supporting the local economy and creating employment.” This subsection likely isn’t a relevant “land use provision” but it provides a general context for interpreting and applying the other parts of section 3.3.

3.3.2 Lists six “criteria used [by the county] in responding to applications for new CFOs or expansions to existing CFOs...” This subsection is titled “Criteria for Input” (emphasis added). This subsection is intended to be used only by the county to prepare its responses to AOPA applications. Therefore, the criteria are procedural in nature and not a land use provision, therefore they are not directly relevant to my MDP consistency determination.

In addition, the criteria require site and CFO-specific discretionary considerations rather than providing generic direction for appropriate land uses. As such, the six criteria are not considered by the NRCB to be “land use provisions.” (See Operational Policy 2016-7: Approvals, part 8.2.5.) Therefore, they are not relevant to this MDP consistency determination.

3.3.3 Contains three parts under the heading “Conditions for County Support of CFOs”:

- a. States that the county shall provide input to the Natural Resources Conservation Board (NRCB) in responding to applications for new or expanded CFOs. As with subsection 3.3.2, discussed above, this subsection focuses on the county’s response and therefore is not a land use provision and is not relevant to my MDP consistency determination.

- b. Relates to the establishment of new CFOs. This application is for a replacement barn at an already existing CFO, not the establishment of a new one, and is not applicable to this application.
- c. Relates to expanding CFOs and states that “applications made to the NRCB ... may be supported if they:
 - i. Are located within an Intermunicipal Development Plan (IDP) and are in accordance with the policies contained within the IDP regarding new CFOs and expanding CFOs; and
 - ii. are compatible with adjacent land uses.”

De Knar Farms is not located in the area covered by an IDP. Under the county’s land use bylaw, the CFO and surrounding lands are zoned as agricultural district. CFOs are listed as a permitted land use on agriculturally zoned parcels that are 32 ha or 80 acres or larger. Based on this, this CFO is compatible with adjacent land uses.

For these reasons, I conclude that the application is consistent with the land use provisions of Red Deer County’s MDP. As noted above, the response from Red Deer County to this application did not state any objections with this application. Therefore, the county’s response is consistent with my conclusion.

In my view, the text of Red Deer County’s MDP also provides a clear intent to adopt provisions from the land use bylaw (LUB), in sections 1, 3, 5 and 10. Following the NRCB Operational Policy 2016-7: Approvals, part 8.2.3, I also considered the county’s Land Use Bylaw 2006/6.

Under the NRCB’s Approvals Policy (See Operational Policy 2016-7, part 8.3) a proposed development is considered to be consistent with the bylaw if it is listed as either a permitted or discretionary use. Based on this, I am of the opinion that the proposed replacement barn is consistent with the county’s LUB.

APPENDIX B: Exemption from water and well setbacks

The proposed replacement barn is to be located less than 100 m from two water wells reported in the application. I have confirmed that three water wells are located within 100 m of the proposed barn during a site inspection. This is in conflict with the section 7(1)(b) of the *Standards and Administration Regulation (SAR)*. Section 7(2) allows for exemptions if, before construction, the applicant can demonstrate that the aquifer into which the water well is drilled is not likely to be contaminated by the manure storage facility (MSF)/manure collection area (MCA), or if required by an approval officer a groundwater monitoring program is implemented.

One basis for granting an exemption is if the “aquifer into which the well is drilled is not likely to be contaminated” by the proposed MSF or MCA.

Section 7(2) of the SAR states that the 100 m setback to a water well does not apply if the proposed replacement barn (MSF/MCA) is not likely to contaminate the aquifer into which the water well is drilled and if required by an approval officer, a groundwater monitoring program is implemented.

The potential risks of direct aquifer contamination from the MSF/MCA are presumed to be low if the applicant’s proposed MSF/MCA meets AOPA’s technical requirements to control runoff and leakage. Approval officers also assess whether the water well itself could act as a conduit for aquifer contamination.

In this case, I felt the following factors were relevant to determine the risk of aquifer contamination:

- a. How the wells are constructed
- b. Whether the wells are being properly maintained
- c. The distance between the wells and the proposed MSF/MCA
- d. The location of the proposed MSF/MCA relative to the water wells and local topography
- e. The MSF/MCA liner proposed for the facility

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

The water wells:

Based on information provided by the applicant and from the Alberta Environment and Parks (AEP) water well database, the water well located adjacent to the north side of the barn is likely AEP water well ID 491391. The ones located east of the barn are AEP water well IDs 10011049 (in the field, north of the access road and) and 436282 (in the house south of the access road). These wells are approximately 65 m and 35 m, respectively, from the proposed replacement barn.

The topography surrounding the CFO slopes to the southeast and these wells are either located up or cross gradient to the proposed barn.

Water well 436282’s log has limited information for how the well was installed. Based on what is available, the well was installed in 1950 and it is approximately 6.7 m deep. Information related to how the well was sealed or perforated was not reported. This well is situated in the basement of a house and situated so that any potential surface runoff from the CFO is directed away from the house and well.

Water well 491391 is reported to have been installed in with a casing that extends above ground in 1998. It has a perforated or screened zone from 19.8 m to 26.8 m below ground level across sandstone. It has a driven seal at 11.3 m across a shale layer. In addition to the shale layer, the well log identifies a clay protective layer from 0 – 4.6 m. This well is used for domestic and non-domestic purposes. The well appeared to be in good condition at the time of my site inspection.

Water well 10011049 was installed in 2020 and has a casing that extends above ground. It has a perforated or screened zone from 18.3 m to 30.5 m below ground level across shale and sandstone layers. The well's log identifies protective layers of clay from 0.6 m to 3.4 m and shale from 3.4 m to 12.8 m. The well has a driven seal at 18.3 m and a bentonite seal from ground surface to 18.3 m. This well is reported to be used for non-domestic purposes and appeared to be in good condition at the time of my site inspection.

As noted in Technical Document RA21035 and previously in this document the proposed barn meets AOPA requirements and poses a low potential risk to the environment based on the risk screening I completed.

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.¹

In this case, the results of the water well exemption screening tool suggest that an exemption is likely as seen in Technical Document RA21035. Based on the above, I am prepared to grant an exemption to the 100 m water well setback requirement for the proposed replacement barn for all three water wells.

Despite this, Authorization RA19033 includes a condition that requires annual testing of water wells 491391 and 436282. The above determination does not affect the previously existing permit condition.

1. A complete description of this tool is available under CFO/Groundwater and Surface Water Protection on the NRCB website at www.nrcb.ca.

APPENDIX C: Explanation of conditions in Authorization RA21035

Authorization RA21035 includes several conditions, discussed below:

a. Construction deadline

De Knar Farms proposes to complete construction of the proposed replacement barn by November 2022. This time-frame is considered to be reasonable for the proposed scope of work. The deadline of November 30, 2022 is included as a condition in Authorization RA21035.

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 RA21035 includes a condition requiring the concrete used to construct the liner of the manure collection and storage portion of the replacement barn to meet the specification for category D (solid manure – dry) in Technical Guideline Agdex 096-93 "Non-Engineered Concrete Liners for Manure Collection and Storage Areas." De Knar Farms is to provide evidence or written confirmation from a qualified third party that the concrete used for the manure collection and storage area meets the required specifications.

The NRCB routinely inspects newly constructed facilities to assess whether the facilities were constructed according to their required design specifications. To be effective, and to reduce risk to the operator, these inspections must occur before livestock or manure are placed in the newly constructed facilities. Authorization RA21035 includes a condition stating that De Knar Farms shall not place livestock or manure in the manure storage or collection portions of the replacement barn until NRCB personnel have inspected it and confirmed in writing that it meets the authorization requirements.