

Decision Summary RA21022

This document summarizes my reasons for issuing Authorization RA21022 under the *Agricultural Operation Practices Act* (AOPA). Additional reasons are in Technical Document RA21022. 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 April 26, 2021, Edwin Spruit of Spruit Farms Ltd. (Spruit Farms) submitted a Part 1 application to the NRCB to renovate the manure collection and storage liner within the existing “old west” barn at an existing swine CFO.

The Part 2 application was also submitted on April 26, 2021. On May 4, 2021, I deemed the application complete.

The proposed barn renovation involves removing the shallow pits and solid floor from a portion of the “old west” barn and replacing it with a newer slightly deeper manure collection and storage pit.

a. Location

The CFO is located on a 50 acre parcel at Pt. SE 26-37-28 W4M in Red Deer County, roughly 5.5 km (3.5 miles) south of the City of Red Deer, adjacent to the C&E Trail. The terrain slopes gently to the southeast.

b. Existing permits

The CFO is currently permitted by Approval RA14007, as amended by RA14007B, and Authorization RA16036 which the NRCB issued on January 29, October 7, 2015 and August 24, 2016, respectively.

Approval RA14007, Amendment RA14007B and Authorization RA16036 allow for the construction and operation of a 500 farrow to finish swine CFO. The CFO’s existing permitted facilities are listed in Approval RA14007, Amendment RA14007B and Authorization RA16036. Spruit Farms requested, and was subsequently granted permission on July 25, 2017, to convert their livestock management from 500 sows farrow to finish to 2,068 farrowing sows only.

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
- any other municipality whose boundary is within a notification distance. In this case, the notification distance is 1.5 miles 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 any other municipalities as it is not located within 100 m of the bank of a river, stream or canal; nor is it located within 1.5 miles of another municipality.

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) and Alberta Environment and Parks (AEP).

Ms. Pamela Kutuadu, a public health inspector/executive officer with AHS, recommended that any “closed off” wells be decommissioned in accordance with AEP requirements. She also recommended actions be taken related to water well maintenance and a water sampling program. Aside from these recommendations, Ms. Kutuadu did not express concerns with this application.

Ms. Laura Partridge, a senior water administration officer with AEP, requested information from Spruit Farms related to water licensing. She did not raise any concerns with the application.

These responses were shared with the applicant for their information.

4. Municipal Development Plan (MDP) consistency

I have determined that the proposed barn renovation 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 barn renovation:

- 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 liners for a manure storage facilities and manure collection area

I determined that the barn that is proposed to be renovated is located within the required AOPA setback from three existing water wells. However, as explained in Appendix B, this barn

warrants an exemption from the 100 m water well setback due to the wells' construction and location upslope from the barn.

With the above noted water well setback exemption and the terms and conditions summarized in part 9, this application meets all relevant AOPA requirements.

6. Responses 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 the county. Mr. Barr advised that the county had no objection to the proposed barn renovation. 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 Spruit Farms existing CFO facilities were assessed in 2014 and in 2016. Those assessments indicated that the potential risks to surface water and groundwater were low. Since those risk assessments, the circumstances have not changed to warrant a new assessment.

I assessed the risk posed by the entire "old west" barn since a portion of its manure collection and storage liner is proposed to be renovated. I determined that this barn still poses a low potential risk to groundwater and surface water.

8. Exemption

Approval RA14007 included an exemption for the "old west" barn's proximity to water wells located within 100 m of it. I have completed a new exemption screening as Spruit Farms has proposed to renovate the barn with a new deeper manure collection and storage liner. What is proposed now may impact the previous exemption's considerations. As explained in Appendix B, an exemption to the 100 metre water well setback is warranted due to the water wells' locations upgradient of the "old west" barn and how the barn is proposed to be renovated.

9. Terms and conditions

Authorization RA21022 permits the renovation of the manure collection and storage portions of the “old west” barn.

Authorization RA21022 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 RA21022 includes conditions that generally address the construction deadline, document submission and construction inspection. For an explanation of the reasons for these conditions, see Appendix C.

10. Conclusion

Authorization RA21022 is issued for the reasons provided above, in the attached appendices, and in Technical Document RA21022.

Authorization RA21022 must be read in conjunction with Spruit Farms’s Approval RA14007, as amended by RA14007B, and Authorization 16036 which all remain in effect.

June 9, 2021

(Original signed)

Jeff Froese
Approval Officer

Appendices:

- A. Consistency with the municipal development plan
- B. Exemption from water well setback
- C. Explanation of conditions in Authorization RA21022

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.)

Spruit 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 the renovation of an existing 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.”

Spruit Farms is located in the area covered the City and County of Red Deer IDP. The IDP identifies the CFO as being in an area for Agriculture or Open Space. Under the IDP, the permitted uses for this area include the continuance of existing uses, and agricultural production including clustered farm dwellings, accessory buildings, secondary dwellings for agricultural purposes, minor home occupations, and other such development as the two municipalities shall agree on from time to time. (IDP section 3.4.3 (d)(III)). Spruit Farms’ CFO is an existing use and is for agricultural production, so it is compatible with adjacent land uses in the IDP and LUB.

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 raise 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 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 that bylaw, the subject land is currently zoned Agriculture District (AG). Confined feeding operations are listed as a discretionary land use if they are located in the Agriculture District and within an IDP.

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 barn renovation is consistent with the county’s LUB.

APPENDIX B: Exemption from water well setback

This application proposes to remove the existing and install a new manure collection area (MCA)/manure storage facility (MSF) in the northern portion of the “old west” barn. Three water wells are located less than 100 m from the proposed new MCA/MSF. 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 MSF/MCA, or if required by an approval officer a groundwater monitoring program is implemented.

As noted previously, Approval RA14007 included an exemption for the “old west” barn’s proximity to these wells. Despite this, I am of the opinion that the proposed barn renovation warrants assessing if the exemption is still valid.

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 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 via the water well:

- a. How the well was constructed
- b. Whether the well is being properly maintained
- c. The distance between the well and the proposed MSF/MCA
- d. Whether the well is up- or down-gradient from the MSF/MCA and whether this gradient is a reasonable indication of the direction of surface and groundwater flow between the two structures
- e. The contents of the application related to the proposed manure collection and storage liner

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

The water wells located within 100 m of the proposed renovation to the “old west” barn all have above ground casings and are all located upgradient of the barn with respect to surface water flow. I am uncertain based on topography surrounding the CFO if the apparent surface water flow direction at the CFO would be an accurate indicator of groundwater flow.

Based on information provided by the applicant, available information in the NRCB file, and from the Alberta Environment and Parks (AEP) water well database, the water well located west of the house and approximately 60 m north of the barn is likely AEP water

well 102577. The well south of the house, west of the commodity shed and approximately 30 m north of the barn is AEP well 261980. The water well east of the house, north of the commodity shed, and approximately 65 m northeast of the barn is likely AEP well 1470607.

Water well 102577 is reported to have been installed in 1977. The report from AEP does not specify a screened or perforated zone. However, the report indicates the presence of a driven seal at 44.2 m. Based on this, I am of the opinion that it's screened or perforated zone is below the driven seal which would be across sandstone and shale layers. The well report indicates the presence of clay layers from ground surface to 11.9 m below ground. A representative of the CFO stated that this well is not presently used. Despite not being actively used for water, the well appeared to be in a good condition and was in an area that protects it from damage from vehicles and equipment.

Water well 261980 is reported to have been installed in 1995. It has a perforated or screened zone from 32 m to 35.1 m below ground level across sandstone. The well's log identifies protective layers of sandy clay or clay from 0.7 m to 11.9 m below ground level. The well has a driven seal at 30.5 m below ground level. This well is used for domestic and non-domestic purposes. The well is located adjacent to a commodity shed and appeared to be in good condition at the time of my site inspection.

Water well 1470607 is reported to have been installed in 2009. It has a perforated or screened zone from 21.3 m to 29 m below ground level across shale and sandstone layers. The well's log identifies protective layers of sandy clay from 0.6 m to 11.6 m below ground level. There is a bentonite seal from ground surface to 21 m below ground level across the sand layers. A representative of the CFO stated that this well is not presently used. Despite this, the well appeared to be in good condition and is located in an area which protects it from damage.

The proposed barn renovation includes a manure collection and storage liner that meets AOPA requirements with conditions discussed in the next appendix.

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 nearby water wells¹.

In this case, the results of the water well exemption screening tool suggest that an exemption is likely as seen in Technical Document RA21022. Based on this, I am prepared to grant an exemption to the 100 m water well setback requirement for the "old west" barn's renovation.

Despite this, Approval RA14007 includes a condition that requires annual testing of water wells located within 100 m of the CFO. 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 RA21022

Authorization RA21022 includes several conditions, discussed below:

a. Construction above the water table

Section 9(3) of the Standards and Administration Regulation under the *Agricultural Operation Practices Act* (AOPA) requires the bottom of the liner of a manure storage facility or manure collection area to be not less than one metre above the water table of the site “at the time of construction.”

The application states that the pit in the barn renovation is to be as deep as 1.5 m. Based on the application the water table maybe as shallow as 2 m below ground. Despite this, when a 4 m deep (approximately 3 m below ground) new manure pump pit was constructed at the CFO in 2016 (under Authorization RA16036), there were no reports of the water table being encountered.

Based on this, the proposed barn renovation will likely meet the one metre requirement of section 9(3). However, because the height of the water table can vary over time, a condition is included requiring Spruit Farms to cease construction and notify the NRCB immediately if the water table is encountered during construction.

b. Construction Deadline

Spruit Farms proposes to complete the renovation to the “old west” barn by December 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 RA21022.

c. Post-construction inspection and review

The NRCB’s general practice is to include conditions in new permits to ensure that the new or expanded facilities are constructed according to the required design specifications. Accordingly, Authorization RA21022 includes conditions requiring submission of proof, prepared by a qualified third party, indicating that the concrete used to construct the liner of the manure collection and storage portion of the “old west” barn renovation to meet the specification category B (liquid manure shallow pits) in Technical Guideline Agdex 096-93 “Non-Engineered Concrete Liners for Manure Collection and Storage Areas.”

The NRCB routinely inspects newly constructed and renovated 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 and renovated facilities. Authorization RA21022 includes a condition stating that Spruit Farms shall not place livestock or manure in the renovated part of the “old west” barn until NRCB personnel have inspected the barn renovation and confirmed in writing that it meets the authorization requirements.