

Technical Document RA24003



Part 2 – Technical Requirements

Application under the Agricultural Operation Practices Act for a confined feeding operation, manure collection area, and/or manure storage facility(ies)

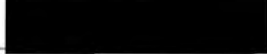
NRCB USE ONLY		Application number RA24003	Legal land description SE 13-32-28 W4M
<input type="checkbox"/> Approval	<input type="checkbox"/> Registration	<input checked="" type="checkbox"/> Authorization	
<input type="checkbox"/> Amendment			

APPLICATION DISCLOSURE

This information is collected under the authority of the Agricultural Operation Practices Act (AOPA), and is subject to the provisions of the Freedom of Information and Protection of Privacy Act. This information is public unless the NRCB grants a written request that certain sections remain private.

Any construction prior to obtaining an NRCB permit is an offence and is subject to enforcement action, including prosecution.

I, the applicant, or applicant's agent, have read and understand the statements above, and I acknowledge that the information provided in this application is true to the best of my knowledge.

<u>8 January 2024</u> Date of signing	 Signature
<u>Boon Holsteins LTD.</u> Corporate name (if applicable)	<u>DAK BOON</u> Print name

GENERAL INFORMATION REQUIREMENTS

Proposed facilities: list all proposed confined feeding operation facilities and their dimensions. Indicate whether any of the proposed facilities are additions to existing facilities. (attach additional pages if needed)

Proposed facilities	Dimensions (m) (length, width, and depth)
Dairy Barn (freestalls)	33 x 120 m
Sand recovery / manure shed ^{Storage Building}	21 x 60 m

Existing facilities: list ALL existing confined feeding operation facilities and their dimensions

Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
dairy barn (loose housing)	27 x 90 m	
Heifer barn	24.4 x 132 m	
Lagoon	50 x 50 x 5 m	

NRCB USE ONLY

Sand recovery shed is treated as solid manure storage

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Existing facilities continued	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
solid manure storage	30.5 x 20 m	Existing facilities confirmed

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If a new facility is replacing an old facility, please explain what will happen to the old facility and when. N/A

old facility will be used for close up and fresh cows

Construction completion date for proposed facilities december 31 2025

Additional information

Livestock numbers: Complete only if livestock numbers are different from what was identified in the Part 1 application. Note: if livestock numbers increase in your Part 2 application, a new Part 1 application must be submitted which may result in a loss of priority for minimum distance separation (MDS).

Livestock category and type (Available in the Schedule 2 of the Part 2 Matters Regulation)	Permitted number	Proposed increase or decrease in number (if applicable)	Total
AO note: no proposed increase in animal number; permitted as a 250 milking cow dairy (plus dries and replacements)			

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DECLARATION AND ACKNOWLEDGMENT OF APPLICANT CONCERNING WATER ACT LICENCE

issued by Alberta Environment and Protected Areas (EPA) for a confined feeding operation (CFO)

Date and sign one of the following four options

OPTION 1: Applying through the NRCB for both the AOPA permit and the Water Act licence

I **DO** want my water licence application coupled to my AOPA permit application.

Signed this ____ day of _____, 20____.

Signature of Applicant or Agent

OPTION 2: Processing the AOPA permit and Water Act licence separately

1. I (we) acknowledge that the CFO will need a new water licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. I (we) request that the NRCB process the AOPA application **independently of** EPA's processing of the CFO's application for a water licence.
3. In making this request, I (we) recognize that, if this AOPA application is granted by the NRCB, the NRCB's decision will not be considered by EPA as improving or enhancing the CFO's eligibility for a water licence under the *Water Act*.
4. I (we) acknowledge that any construction or actions to populate the CFO with livestock pursuant to an AOPA permit in the absence of a *Water Act* licence will **not** be relevant to EPA's consideration of whether to grant the *Water Act* licence application.
5. I (we) acknowledge that any such construction or livestock populating will be at the CFO's sole risk if the *Water Act* licence application is denied or if the operation of the CFO is otherwise deemed to be in violation of the *Water Act*. This risk includes being required to depopulate the CFO and/or to cease further construction, or to remove "works" or "undertakings" (as defined in the *Water Act*).
6. **AS RELEVANT:** I (we) acknowledge that the CFO is located in the South Saskatchewan River Basin and that, pursuant to the *Bow, Oldman and South Saskatchewan River Basin Water Allocation Order* [Alta. Reg. 171/2007], this basin is currently closed to new surface water allocations.
7. **Provide:** Water licence application number(s) _____

Signed this ____ day of _____, 20____.

Signature of Applicant or Agent

OPTION 3: Additional water licence not required

1. I (we) declare that the CFO will not need a new licence from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. **Provide:** Water license number(s) or water conveyance agreement details _____

00420961-00-00

Signed this 8 day of January, 2024.

Signature of Applicant or Agent

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GENERAL ENVIRONMENTAL INFORMATION

(complete this section for the worst case of the existing facility which is the closest to water bodies or water wells and for each of the proposed facilities)

Facility description / name (as indicated on site plan)

Existing: Dairy barn Proposed 1: New dairy barn

Proposed 2: Sand recovery shed Proposed 3: _____

Facility and environmental risk information		Facilities				NRCB USE ONLY	
		Existing	Proposed 1	Proposed 2	Proposed 3	Meets requirements	Comments
Flood plain information	What is the elevation of the floor of the lowest manure storage or collection facility above the 1:25 year flood plain or the highest known flood level?	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> >1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> > 1 m <input type="checkbox"/> ≤ 1 m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	>1m confirmed
	Surface water information						
	How many springs are within 100 m of the manure storage facility or manure collection area?	0	0	0	0	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	None observed on site
	How many water wells are within 100 m of the manure storage facility or manure collection area?	2	2	0		<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES with exemption	*See note below
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	>30m	u	u	u	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Slough ~75m NW of proposed barn
Groundwater information	What is the depth to the water table?		7.99m			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	7.99 m confirmed
	What is the depth to the groundwater resource/aquifer you draw water from?	24.1m	24.1m			<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	21.03 m using WWID 1035008

Additional information (attach supporting information, e.g. borehole logs, records, etc. you consider relevant to your application)

AO note: NE well ~25m from proposed barn and ~85m from sand recovery shed. East well ~70m from the proposed barn and >100m from sand recovery shed



Runoff flow

Existing dairy barn

NE well: #1035008

East well: #1245129

Proposed dairy barn

Sand recovery shed

Range Rd 280

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NRCB USE ONLY
WATER WELL AND SURFACE WATER INFORMATION

Well IDs: 1035008 1245129

Surface water related concerns from directly affected parties or referral agencies: YES NO
 Groundwater related concerns from directly affected parties or referral agencies: YES NO

Water wells N/A
 If applicable, exemption for 100 m distance requirements applied: YES NO Condition required: YES NO

Surface water N/A
 If applicable, exemption for 30 m distance requirements applied: YES NO Condition required: YES NO

Water Well Exemption Screening Tool N/A

Water Well ID	Preliminary Screening Score	Secondary Screening Score	Facility
1035008	continue to next section	exemption more likely	New dairy barn and sand storage shed
1245129	continue to next section	exemption more likely	New dairy barn

Groundwater or surface water related comments:
 N/A

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NRCB USE ONLY
ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
Free stall dairy barn	low	low	RA24003
Sand recovery shed	low	low	RA24003

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
Corrals	low	low	RA13020
EMS	low	low	RA13020
Dairy barn pit	low	low	RA13020
Dairy barn addition	low	low	RA15059
Heifer barn	low	low	RA18041
Solid manure storage	low	low	RA18041

ERST related comments:

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DISTANCE OF ANY MANURE STORAGE FACILITY (EXISTING OR PROPOSED) TO NEIGHBOURING RESIDENCES

Neighbour name(s)	Legal land description	Distance (m)	NRCB USE ONLY				
			Zoning (LUB) category	MDS category (1-4)	Distance (m)	Waiver attached (if required)	Meets regulations
vd Broek	nw 18 32 27 w4	707	Agriculture	1	650	N/A	Yes
morrison	nw 7 32 27 w4	974	Agriculture	1	750	N/A	Yes
eickson	ne 7 32 27 w4	1025	Agriculture	1	1250	N/A	Yes
neighbour 'paul'	se 14 32 28 w4	1300	Agriculture	1	1746	N/A	Yes
vd Broek	ne 18 32 27 w4	1700	Agriculture	1	2069	N/A	Yes

LAND BASE FOR MANURE AND COMPOST APPLICATION (complete only if an increase in livestock or manure production will occur)

Name of land owner(s)*	Legal land description	Usable area** (ha)	Soil zone ***	NRCB USE ONLY	
				Usable area (ha)	Agreement attached (if required)
Boom Nolsteins	SE 13 32 28 w4	158.970	1	N/A for authorization applications	
Frederick Boom	sw 13 32 28 w4	156.590	1		
Frederick Boom	ne 14 32 28 w4	153.500	1		
Frederick Boom	ne 13 32 28 w4	160.00	1		
Bart/Karly Boom	nbw 13 32 28 w4	160.00	1		
Total					

* If you are **not** the registered landowner, you must attach copies of land use agreements signed by all landowners.

** Available manure spreading area (excluding setback areas from residences, common bodies of water, water wells, etc. as identified in Agdex 096-5 Manure Spreading Regulations)

*** Brown, dark brown, black, grey wooded, or irrigated

Additional information (attach any additional information as required)

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NRCB USE ONLY

MINIMUM DISTANCE SEPARATION

Methods used to determine distance (if applicable): Aerial photography

Margin of error (if applicable): +/- 5 m

Requirements (m): Category 1: 379 Category 2: 505 Category 3: 631 Category 4: 1009

Technology factor: YES NO

Expansion factor: YES NO

MDS related concerns from directly affected parties or referral agencies: YES NO

LAND BASE FOR MANURE AND COMPOST APPLICATION

Land base required: _____ N/A for authorization applications

Land base listed: _____

Area not suitable: _____

Available area _____ Requirement met: YES NO

Land spreading agreements required: YES NO

Manure management plan: YES NO If yes, plan is attached:

PLANS

Submitted and attached construction plans: YES NO

Submitted aerial photos: YES NO

Submitted photos: YES NO

GRANDFATHERING

Already completed: YES NO N/A

If already completed, see RA13020

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LIQUID MANURE COLLECTION AND/OR STORAGE: In-barn - Concrete liner

(complete a copy of this section for EACH proposed in-barn liquid manure storage facility with a concrete liner)

- Facility description / name (as indicated on site plan)
1. Free Stall Barn
 2. ~~Small secondary / silage building~~
 3. Dairy barn pit

Manure storage capacity (use one row in the table for EACH in-barn storage. Attach additional pages if you require more rows)

	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	NRCB USE ONLY
					Calculated storage capacity (m ³)
1.	<u>120</u>	<u>33</u>	<u>+</u>	<u>+</u>	
2.	<u>15</u>	<u>5</u>	<u>2.40</u>	<u>2.40</u>	
3.	<u>30</u>	<u>1.2</u>	<u>1.2</u>	<u>1.2</u>	
TOTAL CAPACITY					<u>43.2 m³</u>

Concrete liner details

Scrape alleys or unslatted portions of barn floors (if applicable)	Concrete thickness		Method of sulphate protection	
	<u>6 inch</u>		<u>Type 10 with fly ash, or Type 50</u>	
	Concrete strength		Concrete reinforcement size and spacing	
	<u>32 mpa</u>		<u>10 mm rebar every 12 inch on centre</u>	
In-barn manure pit floors	Concrete thickness		Method of sulphate protection	
	<u>8 inch</u>		<u>Type 10 with fly ash, or Type 50</u>	
	Concrete strength		Concrete reinforcement size and spacing	
	<u>32 mpa</u>		<u>10 mm rebar every 12 inch on centre</u>	
In-barn manure pit walls	Concrete thickness		Method of sulphate protection	
	<u>8 inch</u>		<u>10 mm rebar every 12 inch on centre</u>	
	Concrete strength	Horizontal reinforcement size and spacing	Vertical reinforcement size and spacing	
<u>32 mpa</u>	<u>10 mm rebar every 10 inch on centre</u>	<u>10 mm rebar every 10 inch on centre</u>		

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NRCB Natural Resources Conservation Board

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LIQUID MANURE COLLECTION AND/OR STORAGE: In-barn - Concrete liner (cont.)

Describe how the joints at the junction of the pit walls, pit floors and any other joints will be sealed

There will be a rubber/synthetic liner passed in to the floor and in to the wall to prevent any possible gaps at the joints. **caulking/waterstop**

Describe sealing practices for piping, etc. that penetrates the liner

piping will be coming in to the pit through the top. so there wont be any holes in the walls.

Concrete requirements can be found in Technical Guideline Agdex 096-93

Guideline minimums:

Solid manure: 25MPa (D)

Solid manure (wet): 30MPa (C)

Liquid manure: 32MPa (B)

Category A is required to be engineered

Method of sulphate protection:

Type 50 or Type 10 with fly ash or equivalent

Additional information

NRCB USE ONLY

Requirements met: YES NO

Condition required: YES NO

NRCB USE ONLY

Liquid manure storage volume calculator attached: YES NO

Depth to water table: 7.99 m

Requirements met: YES NO

Depth to uppermost groundwater resource: 21.03 m

Requirements met: YES NO

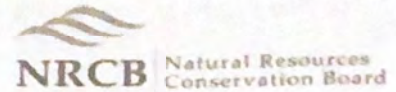
ERST completed: see ERST page for details

Concrete liner requirements

Leakage detection system required: YES NO If yes, please explain why

Last updated February 26, 2021

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Application under the Agricultural Operation Practices Act for a confined feeding operation, manure collection area and/or manure storage facility(ies)

SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Concrete liner

(complete a copy of this section for EACH barn, feedlot, and storage facility for solid manure, composting materials, or compost with a concrete liner)

Facility description / name (as indicated on site plan) 1. Sand recovery / storage building
 2. _____

Manure storage capacity

	Length (m)	Width (m)	Depth below grade to the bottom of the liner (m)	NRCB USE ONLY Estimated storage capacity (m ³)
1.	60	21	0	
2.				
TOTAL CAPACITY				

I plan to use a short-term solid manure storage (STMS) as part of my manure storage and handling plan for this CFO. The AOPA requirements for STMS are set out in the NRCB [Short-Term Solid Manure Storage Requirements Fact Sheet](#).

Surface water control systems

Describe the run-on and runoff control system
Concrete wall and or curb all around, floor will sloped to wards the liquid manure pit. Roof will cover 1/3 of total area

Liner protection

Describe how the physical integrity of the liner will be maintained
by using high quality building material and giving it the proper maintainans / cleaning.

NRCB USE ONLY
 Requirements met: YES NO

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SOLID MANURE, COMPOST, & COMPOSTING MATERIALS: Barns, feedlots, & storage facilities - Concrete liner (cont.)

Concrete liner details

Concrete thickness 6 inch	Method of sulphate protection: Type 50 or Type 10 with fly ash
Concrete strength 32 mpa	Concrete reinforcement size and spacing 10 mm every 12 inch on centre

Concrete requirements can be found in Technical Guideline Agdex 096-93

Guideline minimums:
Solid manure: 25MPa (D)
Solid manure (wet): 30MPa (C)
Method of sulphate protection:
Type 50 or Type 10 with fly ash or equivalent

NRCB USE ONLY

Requirements met: YES NO
Condition required: YES NO
Report attached: YES NO

Additional information (attach as required)

NRCB USE ONLY

Nine month manure storage volume requirements met YES YES With STMS NO

Depth to water table: 7.99 m Requirements met: YES NO

Depth to Uppermost groundwater resource: 21.03 m Requirements met: YES NO

ERST completed: see ERST page for details

Surface water control systems

Requirements met: YES NO Details/comments:

Concrete liner details

A condition will be included requiring the liner 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."

Leakage detection system required: YES NO If yes, please explain why.

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NRCB USE ONLY

ALL SIGNATURES IN FILE YES NO

DATES OF APPROVAL OFFICER SITE VISITS

2/7/2024	
3/20/2024	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: 2/8/2024

Municipality: Mountain View County

letter sent response received written/email verbal no comments received

Alberta Health Services: N/A

letter sent response received written/email verbal no comments received

Alberta Environment and Parks: N/A

letter sent response received written/email verbal no comments received

Alberta Transportation: N/A

letter sent response received written/email verbal no comments received

Alberta Regulatory Services: N/A

letter sent response received written/email verbal no comments received

Other: Crossroads Gas Co-op, Ember Resources N/A

letter sent response received written/email verbal no comments received

Other: _____ N/A

letter sent response received written/email verbal no comments received