

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	Legal land description
	RA25002	E1/2 18-41-26 W4M
<input checked="" type="checkbox"/> Approval <input type="checkbox"/> Registration <input 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.

June 4, 2025

Date of signing

Philipsen Farm Ltd

Corporate name (if applicable)

Signature

Johannes (Harm) Philipsen

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)
Milking Parlour Building (ancillary facility)	78.6 x 29.6
Freestall Barn	129.8 x 81.1
Sand Barn (Separation and Storage) (with pits)	82.9 x 21.3
Calving and Prefresh Barn	65.8 x 40.5
Convert existing freestall barn and milking parlour to a dry cow/heifer barn	

Existing facilities: list ALL existing confined feeding operation facilities and their dimensions		
Existing facilities	Dimensions (m) (length, width, and depth)	NRCB USE ONLY
Parlour / Strawpack Barn	49.5 x 43.9	
Freestall Barn	107.3 x 36.0	
Earthen Manure Storage (EMS)	87 x 93 x 4.5	
NRCB USE ONLY Existing facilities permitted under Authorization RA18021 and Approval RA16003B		

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NRCB Natural Resources
Conservation Board

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

[illegible]

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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

Existing Freestall Barn and Parlour Building will house replacement heifers and dry cows once new facility is completed.

Construction completion date for proposed facilities December 2029

Additional information

Portion of Heifer Barn is to be decommissioned to make room for Calving / Prefresh Barn.

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
Lactating cows with all associated	400	400	800
dry cows, heifers and calves.			

Figure 1
Large Scale Plan

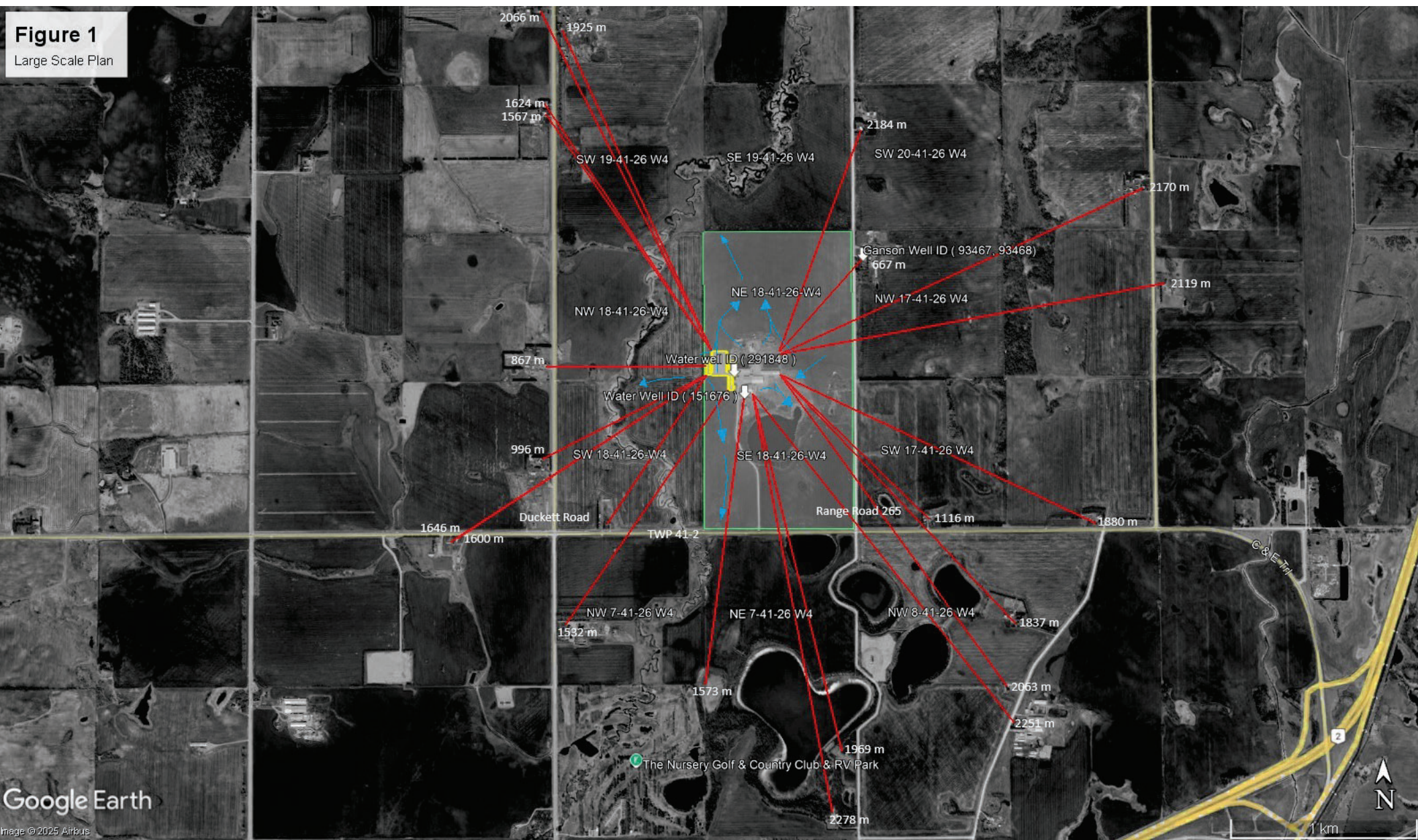


Figure 2
Detailed site layout plan



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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)

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 16 day of June, 2025.

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 _____

Signed this ____ day of _____, 20____.

Signature of Applicant or Agent

Part 2 – Technical Requirements

OPTION 4: Uncertain if *Water Act* licence is needed; acknowledgement of risk (for existing CFOs only)

1. At this time, I (we) do not know whether a new water licence is needed from EPA under the *Water Act* for the development or activity proposed in this AOPA application.
2. If a new *Water Act* licence is needed, 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 additional 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 my *Water Act* licence application, if a new water licence is needed.
5. I (we) acknowledge that any such construction or livestock increase 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 license number(s) or water conveyance agreement details _____

Signed this ____ day of _____, 20____.

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: Parlour / Strawpack Barn

Proposed 1: Parlour Building/ Calving Prefresh Barn

Proposed 2: Freestall Barn

Proposed 3: Sand Barn

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	Not in flood plain
	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 visit
Surface water information	How many water wells are within 100 m of the manure storage facility or manure collection area?	2	2	1	0	<input type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES with exemption	WW 291848 will be within 100 m of proposed facilities
	What is the shortest distance from the manure collection or storage facility to a surface water body? (e.g., lake, creek, slough, seasonal)	135m	203m	285m (Pond)	326m (Whelp Brook) 	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Pond on property approx 135 m from current facilities. Creek approx 340 m to proposed sand barn.
Groundwater information	What is the depth to the water table?		6.1m	6.1m	6.1m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	Confirmed
	What is the depth to the groundwater resource/aquifer you draw water from?	31.1m	31.1m	31.1m	31.1m	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> YES with exemption	UGR 7.92 (ww approx 1 mile away)

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

Drillers report, well 151676 and well 291848 attached

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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
See Attached Table 1	(AO included the closest residence for analysis)						
Ganson	NW 17-41-26 W4		Ag	1	667		Yes
As per the County, all properties are zoned as agricultural, with the exception of a golf course (recreation) and highway commercial parcel. These two exceptions do not contain residences.							

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)
See Attached Table 2					
Total				856 ha of black soil	listed next page

* 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): +/- 2 m

Requirements (m): Category 1: 579 Category 2: 772 Category 3: 964 Category 4: 1543

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: 743 ha black soil

Land base listed: 856 ha black soil

Area not suitable: Already accounted for

Available area: 856 ha

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 RA16003

As per Lacombe County, all residences are Agricultural
Table 1. Distance of any manure storage facility to neighboring residences

Neighbor Name	Legal Land Description	Distance (m)
Ganson	NW 17 41 26 W4	667 Ag, confirmed distance (Closest residence to CFO, and it meets MDS)
Duckett, B and D	NE 13 41 27 W4	867
26528 TWP 412	SW 18 41 26 W4	961
Kangiesser, N	SE 13 41 27 W4	996
Erickson, T and S	SW 17 41 26 W4	1116
Douglas	NW 07 41 26 W4	1532
Duckett, K	SE 24 41 27 W4	1567
Nursery Golf Course	SW 07 41 26 W4	1573
Kangiesser, D	NE 12 41 27 W4	1600
Duckett, K (#2)	SE 24 41 27 W4	1624
Kaingiesser, D (#2)	NE 12 31 27 W4	1646
Sulze	NE 08 41 26 W4	1837
26406 TWP 412	SE 17 41 26 W4	1880
Breese, K and L	NW 19 41 26 W4	1925
41108 Range Rd 265	SE 07 41 26 W4	1969
Whitbread	SW/SE 08 41 26 W4	2063
Calkins	NE 24 41 27 W4	2066
Van Ommen	NW 16 41 26 W4	2119

Table 2. Land Base For Manure and Compost Application

Name of Landowner	Legal Land Description	Usable Area (Hectares)	Soil Zone
Philipsen Farm Ltd	W 23 40 26 W4	114	Black
Philipsen, A.D.	NE 12 31 26 W4	59	Black
Philipsen, A.D.	SE 06 41 25 W4	53	Black
Philipsen, A.D.	NE 30 40 35 W4	50	Black
Philipsen, A.D.	NW/NE/SE 29 40 25 W4	175	Black
Philipsen, A.D.	E 18 41 26 W4	103	Black
Ganson Farms Ltd	SW 17 41 26 W4	55	Black
Ganson Farms Ltd	NW 17 41 26 W4	60	Black
Ganson Farms Ltd	SE 19 41 26 W4	55	Black
Ganson, B.L.	NE 7 41 26 W4	41	Black
		765 ha	
De Vrij	NW 30-40-25 W4	101 ac (40 ha)	black
DeVrij	SW 30-41-25 W4	128 ac (51 ha)	

Manure Spreading Agreement

This agreement is between Philipsen Farm Ltd, manure producer, and
Arie and Dineke Philipsen manure receiver.

Length of agreement: This agreement is valid for a time period of 5
(minimum of one year)

Legal land location	Soil type ¹	Acres suitable for manure spreading ²
E 18 41 26 W4	Black	255
NE 12 41 26 W4	Black	146
SE 06 41 25 W4	Black	130
NE 30 40 45 W4	Black	122
NW/NE/SE 29 40 25 W4	Black	431

¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location E 18 41 26 W4

June 6 2025
Date of signing


Signature

Johannes Philipsen
Print name

Philipsen Farm Ltd
Corporate name(if appl)

Manure Receiver – Landowner(s)³

June 6 '25
Date of signing


Signature

Dineke Philipsen
Print name

Corporate name(if appl)

June 6 '25
Date of signing


Signature

Arie Philipsen
Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

Manure Spreading Agreement

This agreement is between Philipsen Farm Ltd, manure producer, and
Jacob DeVrij (DeVrij Custom Farming) manure receiver.

Length of agreement: This agreement is valid for a time period of 1
(minimum of one year)

Legal land location	Soil type ¹	Acres suitable for manure spreading ²
NW 30 40 25 W4	Black	101
SW 30 41 25 W4	Black	128

¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location E 18 41 26 W4

June 4 2025
Date of signing



Signature

Johannes Philipsen
Print name

Philipsen Farm Hld.
Corporate name(if appl)

Manure Receiver – Landowner(s)³

June 5 2025
Date of signing


Signature

Jacob de Vrij
Print name

De Vrij custom farming
Corporate name(if appl)

Date of signing

Signature

Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

Manure Spreading Agreement

This agreement is between Philipsen Farm Ltd, manure producer, and
Brian Ganson (Ganson Farms) manure receiver.

Length of agreement: This agreement is valid for a time period of 3 years
(minimum of one year)

Legal land location	Soil type ¹	Acres suitable for manure spreading ²
SW 17 41 26 W4	Black	132
NW 17 41 26 W4	Black	150
SE 19 41 26 W4	Black	130
NE 7 41 26 W4	Black	100

¹ Soil type choices: Dark brown and brown, Grey wooded, Black, Irrigated.

² Land within required setbacks from water bodies, water wells, residences, etc. is not to be included.

Other comments:

Manure producer (Confined Feeding Operation) Legal Land Location E 18 41 26 W4

June 4 2025

Date of signing

Signature

Print name

Johannes Philipsen Philipsen Farm Ltd

Corporate name(if appl)

Manure Receiver – Landowner(s)³

June 6 / 25

Date of signing

Signature

Print name

Brian Ganson Ganson Farms

Corporate name(if appl)

Date of signing

Signature

Print name

Corporate name(if appl)

³ All registered owners of land, or authorized signing authorities must sign.

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NRCB USE ONLY

ENVIRONMENTAL RISK SCREENING INFORMATION

ERST for **proposed** facilities

Facility	Groundwater score	Surface water score	File number
Sand barn	Low	Low	RA25002
Freestall barn	Low	Low	RA25002
Calving/prefresh barn	Low	Low	RA25002

ERST for **existing** facilities

Facility	Groundwater score	Surface water score	File number
Dry cow shed, EMS, Dairy barn	Low	Low	RA18021
All other CFO facilities were presumed to be lower risk than the EMS and dairy barn.			

ERST related comments:

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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)

NRCB USE ONLY

WATER WELL AND SURFACE WATER INFORMATION

Well IDs: 151676 291848 (w/i 100 m of proposed facilities)

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
291848	14-continue next section	11-exemption more likely	calving/prefresh barn

Groundwater or surface water related comments:

A water well monitoring condition for well 291848 already is in place for this site. This condition will be pulled forward into the new permit.

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NRCB USE ONLY

ALL SIGNATURES IN FILE

☒ YES ☐ NO

DATES OF APPROVAL OFFICER SITE VISITS

June 25, 2025	

CORRESPONDENCE WITH MUNICIPALITIES AND REFERRAL AGENCIES

Date deeming letters sent: June 26, 2025

Municipality: Lacombe 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: Atco Gas and Pipeline ☐ 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

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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. Calving / Prefresh Barn
2. Convert parlour to dry cow/heifer barn

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.	60.96 m	15.24 m	0	adequate storage
2.	38.4 m	11 m	0	
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

Strawpack is located indoors (Walls and roof), with exterior barn landscaping sloping away from barn.

Liner protection

Describe how the physical integrity of the liner will be maintained

Concrete will be to the specifications required by the NRCB regarding strength, crack control and type.

AO Note: App will need to pour concrete to fill in existing parlour to convert it to heifer/dry cow barn. App committed to pouring it to the minimum requirements for Category D standards in NRCB's concrete guidelines. No modifications will be needed to the liner to convert the freestall barn to a heifer/dry cow barn.

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 8"	Method of sulphate protection: Type 50
Concrete strength 32 MPa	Concrete reinforcement size and spacing 12" grid 10mm Rebar

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: 6.1 m Requirements met: ☒ YES ☐ NO

Depth to Uppermost groundwater resource: 7.92 m (1 mile away) 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 added requiring applicant to provide proof that concrete liner meets NRCB technical guidelines

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

Table 3a

Facility Description

	Facility Name	Manure storage Description																				
1	Proposed Parlour Building	Holding area / parlour Not a MSF/MCA																				
2	Proposed Calving/ Prefresh Barn	Solid manure																				
3	Freestall Barn																					
4	Sand Barn (Reclamation lane and storage)	<div>Built on grade- with 4 small pits</div> <div>(all measurements in m)</div> <table><thead><tr><th>Name</th><th>Length</th><th>Width</th><th>Depth</th></tr></thead><tbody><tr><td>Lift Pit</td><td>3.6</td><td>3.6</td><td>3.6</td></tr><tr><td>Flush Feed</td><td>3.0</td><td>4.3</td><td>3.6</td></tr><tr><td>Pump out</td><td>4.6</td><td>4.3</td><td>3.6</td></tr><tr><td>Flume pit</td><td>5.8</td><td>6.1</td><td>3.6</td></tr></tbody></table> <div>46 cubic metres</div> <div>46 cubic metres</div> <div>71 cubic metres</div> <div>127 cubic metres</div> <div>Total pits: 290 cubic metres</div>	Name	Length	Width	Depth	Lift Pit	3.6	3.6	3.6	Flush Feed	3.0	4.3	3.6	Pump out	4.6	4.3	3.6	Flume pit	5.8	6.1	3.6
Name	Length	Width	Depth																			
Lift Pit	3.6	3.6	3.6																			
Flush Feed	3.0	4.3	3.6																			
Pump out	4.6	4.3	3.6																			
Flume pit	5.8	6.1	3.6																			
5	Connection alley	Between Parlour and Freestall buildings																				

Table 3b

	Length (m)	Width (m)	Total Depth (m)	Depth Below Ground level (m)
1	78.6	29.6	0 Milking parlour building, not MSF/MCA	0
2	65.8	40.5	0 Calving/prefresh barn solid manure	0
3	129.8	81.1	0 Freestall barn	0
4	21.3	82.9	0 (except for pits listed above) Sand barn	0
5	6.1	9.8	0 connecting alley	0

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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. See attached table 3a
2. _____
3. _____

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.	See attached				
2.	Table 3b				
3.					
TOTAL CAPACITY					290 cubic metres (see previous page)

Concrete liner details

Scrape alleys or unslatted portions of barn floors (if applicable)	Concrete thickness 8 "		Method of sulphate protection Type 50		
	Concrete strength 32 MPa		Concrete reinforcement size and spacing 10 mm 12" Grid		
In-barn manure pit floors	Concrete thickness 6 "		Method of sulphate protection Type 50		
	Concrete strength 32 MPa		Concrete reinforcement size and spacing 10 mm 18" Grid		
In-barn manure pit walls	Concrete thickness 8 "		Method of sulphate protection Type 50		
	Concrete strength 32 MPa	Horizontal reinforcement size and spacing 12"		Vertical reinforcement size and spacing 16"	

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)

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
Double water stop prior to pouring.

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

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

NRCB USE ONLY

Requirements met: ☒ YES ☐ NO

Condition required: ☒ YES ☐ NO

Additional information

NRCB USE ONLY

Liquid manure storage volume calculator attached: ☒ YES ☐ NO

Depth to water table: 6.1 m

Requirements met: ☒ YES ☐ NO

Depth to uppermost groundwater resource: 7.92 m (1 mile away)

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

A condition will be added requiring applicant to provide proof that concrete liner meets NRCB technical guidelines

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		
LIQUID MANURE STORAGE VOLUME CALCULATOR (if applicable)		
Facility 1		
Name / description Sand barn pits	Capacity 290	
Facility 2		
Name / description EMS (RA16003B)	Capacity 22,656 cubic metres	
Facility 3		
Name / description	Capacity	
Facility 4		
Name / description	Capacity	
TOTAL CAPACITY		22,946 cubic metres
REQUIRED 9 MONTH STORAGE CAPACITY		21,600 cubic metres
MEETS THE REQUIREMENTS FOR A MINIMUM OF 9 MONTHS STORAGE		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO

Additional storage exists in existing milking barn pits.