

			GE: Earther or EACH propos								
			s indicated on si			'a'					
	ney description	, name (de	marcated on si								
4an	ure storage c	anacity (com	plete a separate								
1411	ure storage c	apacity (Com	piete a Separate			Slope run:ris		NF	NRCB USE ONLY		
	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Inside end walls	Inside side walls	Outside walls	Calcul storage of (m³) (ex m freeb	capacity ccl. 0.5	Filled in lower 1/4?	
1.											
2.											
						TOTA	L CAPACITY				
٠ه	ace water co		_								
latı	ırally occurrii	ng protective	layer details		Provid	e details (as	required)				
	Thickness of				Trovia	e details (ds	required				
C	occurring prote	ctive layer		(m)						
	Soil text	ure	% sand		and	% silt		% clay			
			Depth and typ	e of soil teste	d Hydrai	ılic conducti	vity (cm/s)	Describe	test stan	dard used	
na	Hydraulic cond turally occurrir layer	g protective									
					NRCB	USE ONLY					
Addi	tional inform	ation (attach	copies of soil te	st reports)		Requirements met: YES				S D NO	
							ondition requ		☐ YES		
						R	eport attache	ed:	☐ YES	s 🗆 no	



				2					
e storage	e capacity	' <mark>(complete a se</mark>	eparate row of this	table for e	ach cell of the	e EMS)			
					Slope run:ris	e	NRCB USE ONLY		
Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Inside end walls	Inside side walls	Outside walls	Calculated storage capacity (excl. 0.5 m freeboard) (m³)	Filled in lower 1/4? Y/N	
					TOTAL	CAPACITY			
e water o	control sv	stems							
g ribe sealing	g practices	for piping, etc.	. that penetrates t	he liner					
	g practices	for piping, etc.	that penetrates t	he liner					
	g practices	for piping, etc.	. that penetrates t	he liner	NRCB	USE ONLY			
ibe sealing		for piping, etc.	. that penetrates t	he liner	NRCB		ents met: □ YES [□ NO	
ibe sealing	n		. that penetrates t			Requirem		□ NO	
ibe sealing	n		·			Requirem		□ NO	
ibe sealing	n		·			Requirem		□ NO	
protection ibe how the	n he inside w	valls, bottom an	·	e protected	from erosion	Requirem		□ NO	
protection ibe how the	n he inside w	valls, bottom an	nd outside walls ar	e protected	from erosion	Requirem		□ NO	
protection ibe how the	n he inside w	valls, bottom an	nd outside walls ar	e protected	from erosion	Requirem		□ NO	
	Length (m)	Length Width (m) (m)	Length (m) Total depth (m) (m)	Length (m) Width (m) Total depth ground level (m)	Length (m) Width (m) Total depth (m) Depth below ground level (m) Inside end walls the water control systems	Length (m) Width (m) Total depth (m) Depth below ground level (m) Inside end walls Inside end walls TOTAL TOTAL TOTAL TOTAL TOTAL TOTAL	Length (m) Width (m) (m) ground level (m) Inside end walls Total depth (m) walls Inside end walls Total walls Total depth (m) Total depth (m) Inside end walls Total CAPACITY Total capacity	Length (m) Width (m) Total depth (m) Depth below ground level (m) Inside end walls Inside walls Outside walls Outside walls TOTAL CAPACITY TOTAL CAPACITY Total depth (m) Depth below ground level (m) Inside end walls Inside storage capacity (excl. 0.5 m freeboard) (m³) TOTAL CAPACITY TOTAL CAPACITY	



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

LIQUID MANURE STORAGE: Earthen manure storage (EMS): Compacted soil liner (cont.) Compacted soil liner details Thickness of compacted liner Provide compacted liner details (as required) (m) Soil texture % sand % silt % clay Plastic limit Liquid limit Plasticity index Atterberg limits Hydraulic conductivity (cm/s) Hydraulic conductivity Describe test standard used **NRCB USE ONLY** Additional information (attach copies of soil test reports) ☐ YES ☐ NO Requirements met: ☐ YES ☐ NO Condition required: ☐ YES ☐ NO Report attached: NRCB USE ONLY Liquid manure storage volume calculator attached: \square YES \square NO ☐ YES ☐ NO Depth to water table: Requirements met: ☐ YES ☐ NO Depth to uppermost groundwater resource:_ Requirements met: ERST completed: \square see ERST page for details Surface water control systems ☐ YES ☐ NO Details/comments: Requirements met: Compacted soil liner details Liner specification comments (e.g. compaction, moisture content, thickness): ☐ YES ☐ NO Leakage detection system required: If yes, please explain why.



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

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

Facil	ity description / r	name (as indicated on	<mark>site plan)</mark>	1							
				2							
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 de			oth below ground level (m)	NRCB USE ONLY Calculated storage capacity (m³)				
1.											
2.											
3.											
						TOTAL CAPACI	TY				
Conc	rete liner details	Concrete thickness				Method of sulpha	ate protection				
Scrape alleys or unslatted portions of barn floors (if applicable)											
		Concrete strength				Concrete reinfor	cement size and spacing				
Īn	have manuse nit	Concrete thickness				Method of sulpha	ate protection				
In-barn manure pit floors		Concrete strength				Concrete reinforcement size and spacing					
In-barn manure pit walls		Concrete thickness Concrete strength Horizontal reinform and spacing				Method of sulpha	ate protection				
						rcement size	Vertical reinforcement size and spacing				



LIQUID MANURE COLLECTION AND/OR STORAGE: In-barn - Concrete liner (cont.)						
Describe how the joints at the junction of the pit walls, pit f	loors and a	ny other joints will be sealed				
Describe sealing practices for piping, etc. that penetrates the	ne liner					
bescribe searing practices for piping, etc. that period ates a	ic iiiici					
	ND	CD LICE ONLY				
Concrete requirements can be found in Technical Guideline Agdex 096- Guideline minimums:	93 NK	CB USE ONLY				
Solid manure: 25MPa (D) Solid manure (wet): 30MPa (C)		Requirements met:	☐ YES ☐ NO			
Liquid manure: 32MPa (B) Category A is required to be engineered		Condition required:	☐ YES ☐ NO			
Method of sulphate protection: Type 50 or Type 10 with fly ash or equivalent						
Additional information						
NRCB USE ONLY	Пио					
Liquid manure storage volume calculator attached: YES	LI NO	B				
Depth to water table:		Requirements met:	☐ YES ☐ NO			
Depth to uppermost groundwater resource:		Requirements met:	☐ YES ☐ NO			
_						
ERST completed: \square see ERST page for details						
Company to the sum of						
Concrete liner requirements						
Leakage detection system required:	s 🗆 no	If yes, please explain why				



				Synthetic liner						
<mark>(com</mark>	plete a cop	y of this sed	ction for EA	CH proposed liquid m	nanure sto	rage facility	v with a synt.	hetic liner)		
Facil	ity descrip	otion / nan	ne <mark>(as indic</mark>	cated on site plan)	1					
					2					
Manı	ıre storag	e capacity	(use one ro	ow in the table for EA	NCH cell of	the synthe	tic lined stor	age, attach additiona	al pages if you	
<u>equi</u>	equire more rows)					Slope run:	rise	NRCB USE ONLY		
	Length (m)	Width (m)	Total depth (m)	Depth below ground level (m)	Inside end walls	Inside side walls	Outside walls	Calculated storage capacity (excl. 0.5 m freeboard) (m³)	Filled in lower 1/4? Y/N	
1.										
2.										
						TOTA	L CAPACITY			
· · · · · · · · · · · ·		control sy								
Des	ng cribe sealin	g practices	for piping,	etc. that penetrates t	the liner			Nu v		
							NRCB USE (Rea	ONLY uirements met: 🔲 Y	res 🗆 no	
	protectio							_		
			·	n and outside walls ar						
						-				
						ľ	NRCB USE C Requ	NLY uirements met: Y	ES 🗆 NO	



LIQUID MANURE STORAGE: Synthetic liner (cont.)								
Synthetic liner details Provide synthetic liner material details								
Additional information (attach copies of design/engineering	reports) NRCB USE ON	W. V.						
Additional information (attach copies of design) engineering		equirements met:	☐ YES ☐ NO					
		andition required:	☐ YES ☐ NO					
		·						
	Re	port attached:	☐ YES ☐ NO					
NRCB USE ONLY	1							
Liquid manure storage volume calculator attached: YES		_						
Depth to water table:	Requiremer		YES NO					
Depth to uppermost groundwater resource:	Requiremen	nts met:	YES NO					
ERST completed: \square see ERST page for details								
Surface water control systems								
Requirements met:	Details/comments:							
Synthetic liner requirements								
Leakage detection system required:	☐ YES ☐ NO If	yes, please explain	why.					
Construction plans approved by professional engineer:] YES □ NO						
Will liner be installed by manufacturer approved contractor a		YES NO						
Preparation of liner bed (comments):	a quamica cima party::	1123 🗀 110						
Condition required: ☐ YES ☐ NO								



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

LIQUID MANURE STORAGE: Concrete or steel tank (required to be engineered)

(compl	(complete a copy of this section for EACH proposed concrete or steel tank for liquid manure)									
Facility description / name (as indicated on site plan) 1										
	, ,									
Manure storage capacity										
	Dimensions (or and width / dia		Depth (m)	Depth below ground		NRCB USE ONLY				
	(m)	ineter)	Deptil (III)	level (m)		Calculated storage capacity (excl. 0.3 m freeboard) (m³)	Filled in lower ¼? Y/N			
1.										
2.										
Surfac	e water control	systems	control system							
Descr	ibe the run-on an	a runom c	control system							
Concr	ete or steel tank	details								
COHCIC	ete di steel talik		e thickness	N	1etl	hod of sulphate protection				
Mai	nure tank floor				Concrete reinforcement size and spacing					
		Concrete	e strength		on	crete reinforcement size and spa	acing			
Manu	re storage tank w	alls: prov	ide details on the	construction of the pro	pos	sed manure storage tank walls				



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

LIQUID MANURE STORAGE: Concrete or steel tank (cont.)

Describe sealing practices for piping, etc. that penetrates the line	er
Describe how the joints at the junction of the tank walls, tank flo	ors and any other joints will be sealed
	NRCB USE ONLY
	Requirements met: YES NO
	Condition required: YES NO
	Report attached:
NRCB USE ONLY	
Liquid manure storage volume calculator attached: YES N	0
Depth to water table:	Requirements met: YES NO
Depth to uppermost groundwater resource:	Requirements met: YES NO
ERST completed: \square see ERST page for details	
Surface water control systems	
	tails/comments:
requirements met.	icans, comments.
Concrete or steel tank requirements	
Leakage detection system required:	YES NO If yes, please explain why.



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

LIQUID MANURE STORAGE: Alternative liner

(complete a copy of this section for **EACH proposed** liquid manure storage facility with an alternative liner)

Please contact an approval officer to identify the AOPA requirements which need to be met and

<u>ident</u> requi		<u>alified professio</u>	nal is required. N	lote tha	t ongoing monito	ring may be
Facilit	y description / name	(as indicated on site p	plan) 1.			
<u>Manur</u>	e storage capacity		1		NRCB US	F ONLY
	Length (m)	Width (m)	Depth below grou (m)	nd level	Calculated storage capacity (excl. 0.5 m freeboard) (m³)	Filled in lower 1/4? Y/N
1.						
Surfac	e water control syste	ems				
Descr	ibe the run-on and run	off control system				
İ						
İ						
Groun	dwater control					
	ibe the proposed altern	ative liner				
Drovid	to information and calc	ulations used to show	equivalency with AOPA	roquiromo	nto	
FIOVIC	de illioithadoir and calc	ulations used to show	equivalency with AOFA	requireme	111.5	
Addit	ional information (at	tach copies of design/e	engineering reports)	NRCB USE	ONLY	
				Re	equirements met:	☐ YES ☐ NO
				Co	ondition required:	☐ YES ☐ NO
				Re	eport attached:	☐ YES ☐ NO