



PROJECT: Cold Springs Farms - 50's
PROJECT NO.: 238-08012A
COMPUTATION BY: JEO DATE: 8/25/09 SH. NO.: 1
CHECKED BY: _____ DATE: _____ OF: 1

Subject: Animal Waste Produced

Animal Data												
Actual			ASAE D384.2					VS		TS		AU
Animals	Quantity	Weight lbs	Manure cf/d-a	Weight lbs	Manure cf/d/AU	Manure CF/day		lbs/d/AU	lbs/day	lbs/d/AU	lbs/day	
1 Earth Lot	75	877	0.55	1000	0.55	36.2		0.34	22.4	11.00	723.5	65.8
2 Earth Lot	75	877	0.55	1000	0.55	36.2		0.34	22.4	11.00	723.5	65.8
3 Earth Lot	75	877	0.55	1000	0.55	36.2		0.34	22.4	11.00	723.5	65.8
4 Earth Lot	75	877	0.55	1000	0.55	36.2		0.34	22.4	11.00	723.5	65.8
5			0.00	0	0.00	0.0		0.00	0.0	0.00	0.0	0.0
6			0.00	0	0.00	0.0		0.00	0.0	0.00	0.0	0.0
7			0.00	0	0.00	0.0		0.00	0.0	0.00	0.0	0.0
8			0.00	0	0.00	0.0		0.00	0.0	0.00	0.0	0.0
9			0.00	0	0.00	0.0		0.00	0.0	0.00	0.0	0.0
Total	300					145			89		2894	263

Rainfall Data	
County, State	JoDaviess, Illinois
Precip for storage period	34.9 in
Annual Lake Evap	32.5 in
% Evap for storage period	100%
1 Yr 2 Hr Storm Event	1.52 in
2 Yr 24 Hr Storm Event	3.11 in
25 Yr 24 Hr Storm Event	5.6 in
Storage Period	12.0 Months
VS Loading Rate	
ODOR Loading Rate	

Rainfall Data (Indiana Only)	
Location	JoDaviess, Illinois
50 Yr 24 Hr Storm Event	6.5 in
IDEM 50 Yr 24 Hr Storm	6.0 in
Greater of Storm Events	6.5 in

Location Data																												
Animals	Holding Pond					Covered Stack					Uncovered Stack					Rect. Tank						Circular Tank				Pasture	Settling Basin	
	E13										51	52	53	54														
1: Earth Lot	4%										96%																	
2: Earth Lot	4%											96%																
3: Earth Lot	4%												96%															
4: Earth Lot	4%													96%														
Parlor																												
Sprinkler																												
Waters																												
Silage leach																												
Other																												
Solid Removal																												
Lagoon treat																												
Runoff	100%																											
25Y Runoff	100%																											
Solid Stored																												
Wash Water																												
Flush Water																												
Bedding																												
50Y Runoff																												

*Values calculated above are based on data from the Livestock Waste Facilities Handbook



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Facility Volumes (CF/day)																											
Holding Pond						Covered Stack					Uncovered Stack				Rect. Tank							Circular Tank				Pasture	Settling Basin
Facility	E13	0	0	0	0	0%	0	0%	0	0	51	52	53	54	0	0	0	0	0	0	0	0	0	0	0	0	0
Solids Remov	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Manure	5.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.73	34.73	34.73	34.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Wash	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Flush	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bedding	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Runoff	184.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Solids Store	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily Vol	190.37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.73	34.73	34.73	34.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual Vol	69484	0	0	0	0	0	0	0	0	0	12676	12676	12676	12676	0	0	0	0	0	0	0	0	0	0	0	0	0
Density lb/cf	0	0	0	0	0	50	50	50	50	50	32	32	32	32	60	0	0	0	0	0	0	0	0	0	0	0	0
Annual Tons	0	0	0	0	0	0	0	0	0	0	203	203	203	203	0	0	0	0	0	0	0	0	0	0	0	0	0
Annual Gal	5.20E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
# LOADS	866	0	0	0	0	0	0	0	0	0	26	26	26	26	0	0	0	0	0	0	0	0	0	0	0	0	0
TIME	14	0	0	0	0	0	0	0	0	0	13	13	13	13	0	0	0	0	0	0	0	0	0	0	0	0	0

Facility	Manure	Wash	Flush	Bedding	Runoff	Solids Rem	Solids Sto	Total V
Total CF/d	144.7	0.0	0.0	0.0	184.6	0.0	0.0	329.3

Annual Manure & Wates Water Volumes								
Facility	Manure	Wash	Flush	Bedding	Runoff	Solids Rem	Solids Sto	Total V
Total CF	52817	0	0	0	67371	0	0	120188

Storage Volumes (CF/Period)																											
Holding Pond						Covered Stack					Uncovered Stack				Rect. Tank							Circular Tank				Pasture	Settling Basin
Storage	E13	0	0	0	0	0%	0	0%	0	0	51	52	53	54	0	0	0	0	0	0	0	0	0	0	0	0	0
Period (M)	12.00										12.00	12.00	12.00	12.00													
Period (D)	365	0	0	0	0	0	0	0	0	0	365	365	365	365	0	0	0	0	0	0	0	0	0	0	0	0	0
Required Vol																											
CF	69484	0	0	0	0	0	0	0	0	0	12676	12676	12676	12676	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	519530	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS	0	0	0	0	0	0	0	0	0	0	203	203	203	203	0	0	0	0	0	0	0	0	0	0	0	0	0
Designed Vol																											
CF	408546	0	0	0	0	0	0	0	0	0	22851	22851	22851	22851	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	3054695	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS	0	0	0	0	0	0	0	0	0	0	366	366	366	366	0	0	0	0	0	0	0	0	0	0	0	0	0
Extra																											
CF	339062	0	0	0	0	0	0	0	0	0	10175	10175	10175	10175	0	0	0	0	0	0	0	0	0	0	0	0	0
GALLONS	2535165	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TONS	0	0	0	0	0	0	0	0	0	0	163	163	163	163	0	0	0	0	0	0	0	0	0	0	0	0	0

Storage Volumes	Required Vol CF	Required Vol GALLONS	Designed Vol CF	Designed Vol GALLONS	Extra CF
Total	120188	519530	499948	3054695	379760

AVAILABLE

PASTURE 1 ACRES

REQUIRED

0.0 ac

(FIGURES 0.25 IN COVER ON ENTIRE PASTURE)

Annual Storage Volumes Hauled						APPLICATION INFROMATION					
Type	UNITS	Volume				TYPE	SIZE	UNITS	LOAD/HR	# LOADS	TIME
LIQUID	GAL	1,087,774				LIQUID	600	GAL	60	1813	31
SOLID	TONS	811				SOLID	400	bu	2	104	52
(MANURE & PRECIP)											

Storage Volumes (CF/Period)																											
Holding Pond						Covered Stack					Uncovered Stack				Rect. Tank							Circular Tank				Pasture	Settling Basin
Storage	E13	0	0	0	0	0%	0	0%	0	0	51	52	53	54	0	0	0	0	0	0	0	0	0	0	0	0	0
Working	69483.772	0	0	0	0	0	0	0	0	0	12676.16	12676.158	12676.16	12676.16	0	0	0	0	0	0	0	0	0	0	0	0	0
24 hr runoff	38069.571	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
24 hr storm	57624	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Precip	75998.95	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Treatment	0	0	0	0	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Residuals	163176	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Freeboard	225576	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	969000	0	0	0	0	0	0	0	0	0	12676	12676	12676	12676	0	0	0	0	0	0	0	0	0	0	0	0	0
Gal to Haul	1087774.3	0	0	0	0	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0	0	0	0	0	0
Tons to Haul	-	-	-	-	-	0	0	0	0	0	203	203	203	203	0	-	-	-	-	-	-	-	-	-	-	0	0
Annual gal	1087774	0	0	0	0										0	0	0	0	0	0	0	0	0	0	0	0	0
Annual tons						0	0	0	0	0	203	203	203	203	0										0	0	0