

Animal Waste Management Plan

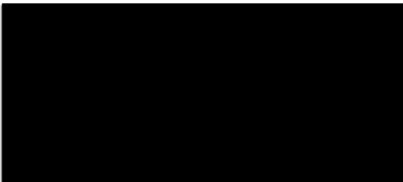
September 15, 2006

Ormink Mink Ranch

Operated By:



Facility Address:

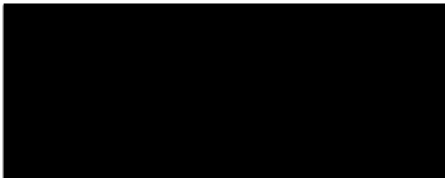


Operation:

Mink farm
State CAFO

As owner, operator and representative of Ormink Mink Ranch, I intend to manage in accordance with the practices described in this Animal Waste Management Plan (AWMP).

Signature



Date 4-30-07

RECEIVED
MA# 141993
#67058
JUN 18 2008
NATURAL RESOURCES
DIVISION

**ANIMAL WASTE MANAGEMENT PLAN
MINIMUM REQUIRED ELEMENT**

**RECORD KEEPING AND REPORTING TO OREGON DEPARTMENT OF
AGRICULTURE**

RECORD KEEPING:

- a) Applications of manure, litter and process waste will be kept, including the date and the amount of N and P applied during each application.
- b) Records of exporting manure, litter and process waste will also be kept.

REPORTING TO OREGON DEPARTMENT OF AGRICULTURE (ODA):

- a) Any discharge will be reported orally to ODA within 24 hours. Within 5 days, a written statement describing this discharge will also be submitted to ODA.
- b) The amount of manure, litter and process waste applied will be reported annually.
- c) The amount of manure, litter and process waste exported will be reported annually.

APPLICATION TO FROZEN AND/OR SATURATED SOILS:

- a) Application of waste to frozen and/or saturated soils will be avoided.
- b) If application to frozen and/or saturated soil is necessary, the 35 acre designated emergency application area will be utilized.

Signature of Legally Authorized Representative: _____

Print Name: _____

ANIMAL WASTE MANAGEMENT PLAN FOR ORMINK MINK RANCH



Facility address:



GENERAL

Ormink, an Oregon Partnership between [REDACTED]

[REDACTED] as owner of the mink operation, is responsible for the operation, inspection and maintenance of the waste management system. Although the system was originally designed by the Soil Conservation Service based on the best available technical knowledge, it must be recognized that if the system is to operate as planned, design changes needed to be made to handle the waste generated by the changing needs of Ormink. The Ormink Waste Management System has been designed to manage the waste generated by the operation in a manner that prevents or minimizes degradation of air, soil, and water resources and protects public health and safety. The system has been planned to preclude discharge of pollutants to surface or ground water and to recycle waste through soil and plants to the fullest extent practicable.

A Confined Animal Feed Operation (CAFO) Permit issued by the Oregon Department of Agriculture to the Ormink mink farm will be kept in good standing by the operator complying with all permit provisions. The permit may or may not have the same requirements as the plan developed by Ormink with the NRCS and the Marion Soil and Water Conservation District. It is noted that local, regional, or state permits take precedence. The plan is a guideline for wise use of the soil, water, and related natural resources.

THE OPERATION

The system is designed to accommodate waste from a herd of Approximately 15,000 female mink (10,000 present 5,000 future expansion) 365 days a year, 4,500 male mink (3,000 present 1,500 future expansion) 121 days a year, and approximately 90,000 kit mink (55,000 present 30,000 future expansion) 183 days a year, a maximum of 100,000 mink will be on the farm from June through November each year. The remainder of the year December through May 19,500 Breeder mink will be the only mink on the farm. The waste storage lagoons are designed for 982 days of waste water storage. Tiles from mink

yard, manure storage shed, feed plant wash-up water, polluted runoff, cooling tower purge water and rainwater. The annual storage volume required is estimated to be 2,313,385 gal. Maximum waste water storage capacity of both lagoons is 6,229,045gal. Dry manure storage facilities are designed to hold 464 days of manure and used nesting, with a maximum capacity of 7,595 yds. Annual estimated dry storage requirement for a 15,000 breeder female ranch is 5,955 yds. for manure and used nesting.

WASTE WATER & DRY STORAGE HANDLING SYSTEMS

Components of the waste management system include 8- 600 ft. mink sheds sloped on a 2% grade, the sheds have rain gutters that are tiled to a wildlife pond in the NE corner of the property. There are three 6" pvc. Gravity-fed underground pipes bring waste wash up water from the feed plant, refrigeration cooling tower, tiles from mink yard that drain manure leach ate from the ends of each mink shed, and manure leach ate from the dry manure storage facility to a steel 5,000 gallon below ground waste collection tank, The collected manure leach ate and waste water is transferred to the small waste water lagoon A with a 20 hp Vaughn chopper pump rated at 300gpm. @ 60ft of head with a 3" discharge. The pump is controlled automatically by a float switch, or can be manually controlled. Waste water is pumped through a 370 ft. 4"pvc underground waste transfer pipe to the small waste water lagoon. There is a backup, 20 hp Vaughn chopper pump rated at 300gpm. @ 60ft of head with a 3" discharge, this backup pump is also controlled automatically by a float switch, if the tank exceeds the normal operating level the backup pump is activated. The Vaughn pump is also used to agitate the 5,000gal. waste collection tank, it is connected to a back-up 370' 4"pvc underground waste transfer pipe line to the lagoon. Manure and used nesting collects under the mink pens and are removed to the dry storage by wheel barrow when needed. The dry storage A is a 32'x72' 6" reinforced concrete slab with 8" thick by 3-1/2' high reinforced concrete walls on three sides of the dry storage slab. Any run off from the dry storage A is designed to gravity flow in to the lower lagoon A, the capacity of dry storage A is approximately 555yds. of solid waste when stacked 6-1/2' high, dry storage B is a covered 72'x 220' 6" reinforced concrete slab with 12" thick by 4' high reinforced concrete walls on two sides, run off from this dry storage gravity flows into a 6" under ground main line to the 5000 gal. transfer tank. the capacity of dry storage B is approximately 7,040 yds. of solid waste when stacked 12ft. Total dry manure storage capacity is approximately 7,595 yds Lagoon A is an anaerobic lagoon it has a capacity of 7.1 acre ft . When the level of lagoon A is at capacity it is pumped to lagoon B with a 10hp 300gpm.waste water pump, it is pumped through 2" under ground PVC pipe. Lagoon B has a capacity of 12 acre ft. This lagoon is used for storage as needed. A Cornell irrigation pump @ 300 gpm.@ 245 head ft. with 5" pvc suction is used to export waste water off our farm to Kramer Farms for their use on their grass seed fields. The wash-up water from the feed plant is pumped from the plant with a 10hp vaughn chopper pump @ 100gpm through 3" pvc under ground piping to the 5,000 gal. waste water transfer tank. All mink sheds have rain gutters and are drained away from the mink yard in 6" plastic drain tile to the wildlife pond.

All manure solids and used nesting are held in the manure storage facilities until exported by truck to [REDACTED] in the spring of the year. All waste waters are exported off the farm to [REDACTED] in the spring and fall of the year for use on their grass seed fields. The 35 acre field south of the milk sheds could be used for the Emergency application of waste water if needed, it contains Amity, Bashaw, Chehalis, McBee, Wapato, and Woodburn soils. Although winter spreading is not anticipated, emergency applications will be made on the Woodburn and Amity soils. Spreading will be done as evenly over the field as possible when weather forecasts predict a minimum of three days with less than 0.1 inch of precipitation. Applications will be made at intervals of not less than four weeks apart to minimize soil sealing, maximize bacterial die off, and not exceed plant nutrient needs.

All fresh water will be diverted away from the animal, silage, storage, and waste processing areas, unless it is fresh irrigation water being applied to the pasture or hayland according to crop needs. Fresh water should be used on occasion to clean out the waste distribution lines, both surface and underground.

OPERATION AND MAINTENANCE

Waste management components and apparatus will be operated, inspected, and maintained by Ormink and its designated employees as follows:

WASTE STORAGE PONDS

The ponds are designed to store all waste water and polluted runoff during the year. Waste water from the pond shall be exported for use by [REDACTED] during the spring and summer. The ponds will be as empty as possible at the start of the rainy season. The ponds shall be inspected annually. Sludge and accumulated solids will be removed from the pond periodically when buildup limits the storage capacity of the pond. Livestock will not be permitted in the pond or on its banks; undesirable vegetation will be controlled by spraying or cutting. Rodents will be controlled, eroded areas will be repaired and re-vegetated or rip rapped, and any safety features such as signs and fences will be kept in good repair.

BELOW GROUND TRANSFER TANK

The tank serves as a collection point for waste water from the confined animal feeding areas. The liquid waste from the tank is pumped to the storage lagoon. During periods of a high water table, the tank shall not be pumped to a depth more than 3 feet below the level of the water table. The tank shall be completely emptied each year to remove-accumulated solids and debris. At least once every five years, the tank shall be emptied and inspected for structural leakage. Any damage found shall be corrected before putting the tank back into service. Before entering the tank, for any reason whatever, proper ventilation shall be provided, and self-contained breathing apparatus shall be used, when

MORTALITIES

During harvest season, the mink are exposed to carbon monoxide and the carcasses are frozen and placed in sealed plastic totes. The totes are either delivered to/or picked up by fishing operations. Any mortalities through out the year, during breed season or otherwise, are composted in the dry storage building.

entering a covered tank. No one shall enter the tank unless safety ropes are used and someone else capable of providing assistance is outside the tank.

PUMPS AND AGITATORS

Pumps will be operated and maintained according to manufacture's manuals and recommendations. Pumps will be inspected periodically. Agitators will be operated and maintained in accordance with the manufacture's manual and recommendations. All plumbing will be inspected periodically and repaired as needed.

RAIN GUTTERS AND DOWNSPOUTS

Gutters and downspouts will be inspected annually and repaired as needed.

SUBSURFACE DRAINAGE SYSTEM

Subsurface drainage system will be inspected annually. Damaged or broken lines will be repaired. Outlets from fields on which animal waste is being applied will be monitored daily. Animal waste application will cease if the tile overflow contains any indication of animal waste.

WASTE TRANSFER PIPELINES

Pipelines will be inspected periodically. Any leaks or broken sections will be repaired or replaced as needed.

BURIED MANURE PIPELINES AND SPRINKLER SYSTEMS

Buried manure pipelines will be inspected periodically for leaks and broken or worn out sprinkler and nozzles and repairs or replacements made as needed.

SAFETY

Warning signs and other safety devices will be provided as appropriate to ensure the safety of humans and livestock. Ventilation and warning signs must be provided for enclosed waste holding structures to prevent explosions, poisoning, or asphyxiation.

1. Operators [REDACTED]
2. Business Ormink
3. Business Address [REDACTED]
4. Business Phone [REDACTED]
Fax [REDACTED]
Jim Cell Phone [REDACTED]
5. Maximum Number
of Animals 105,000 at any one time.
Female Mink 15,000
Male Mink 4,500
Kit Mink 90,000
6. Waste Water Storage Facilities
Lagoon A 7.1 acre ft
Lagoon B 12 acre ft.
7. Manure Solids Storage Facilities
Total Manure Solids Storage Volume 7,595 yds.
Storage A 32' X 72' 6" concrete slab 4' walls on three sides
Approx. Storage capacity 555 yds.
Storage B 72' X 220' covered 6" concrete slab 4; walls on two sides
Approx. storage capacity 7,040 yds.
8. Annual Waste Water Generated Approx. 2,313,385 gal.
Annual Manure & Used Nesting Solids Approx. 5,955 yds.
9. Waste Water Exported off Farm 100% [REDACTED]
Manure & Used nesting Exported 100% [REDACTED]

ORMink

ORMINK

9-6-06

ANIMAL WASTE MANAGEMENT WORKSHEET
Version 2.4

4/26/07
STATE: OREGON

CLIENT: **ORMINK**
ASSISTED BY: **Micah Wells** CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM INVENTORY

ANIMAL INVENTORY

Type of Animal		Number of Animals	Average Weight (lbs.)	Animal Units (1,000 lb.)	Nutrient Production						Manure CF/D/AU	Annual	
					(lbs./day/1000 lb. Animal Unit)			(lbs./day)				Days Confined	Days Grazed
					N	P	K	N	P	K			
MINK(FEMALE)	↕	15,000	5	75.0	0.94	0.83	0.12	70.50	62.25	9.00	1.38	365	0
MINK(MALE)	↕	4,500	4	18.0	0.94	0.83	0.12	16.92	14.94	2.16	1.38	243	122
KIT	↕	90,000	2	180.0	0.94	0.83	0.12	169.20	149.40	21.60	1.38	181	184
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GRAZING PERIOD

Type of Animal	Percent of Month and Number of Animals Grazing												AU-YR.
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
MINK(FEMALE)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	0
MINK(MALE)	0%	0%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	
	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	4500	72
KIT	100%	0%	0%	0%	0%	0%	0%	100%	100%	100%	100%	100%	
	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	90000	1,080
													0
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Total AUM's Available>	99						102	102	102	101	101	101	708
Total AUM's Needed>>>	180	0	0	0	0	0	0	180	198	198	198	198	1,152
Total AUM's>>>>>>>>>>>>	-81	0	0	0	0	0	0	102	-78	-96	-97	-97	-444

ANIMAL WASTE MANAGEMENT SYSTEM INVENTORY

Field Number	Acres	Crop		Condition	Yield Units	Target Yield	Nutrients Removed in Pounds per Acre		
							Nitrogen N	Phosphorous P ₂ O ₅	Potassium K ₂ O
1	35.0	Grass/Legume Hay/Pasture	↕	DHM	Ton	5,50	186	69	228
			↕						
			↕						
			↕						
			↕						
			↕						
			↕						
			↕						
			↕						
			↕						
Off-Farm			↕						

ANIMAL WASTE MANAGEMENT WORKSHEET
Version 2.4

4/26/07
STATE: OREGON

CLIENT: ORMINK
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM PRODUCTION

MONTHLY VOLUMES

Month	Runoff in Cubic Feet				Facility Water Use Cubic Feet	Manure										Total Solids Cubic Feet	Total Liquids Cubic Feet
	Roof Area Square Feet 0	Paved Slab Area Square Feet 20,000	Unpaved Lot Area Square Feet 22,000	Silage Pit Surface Area, SF 18,144		Solids Cubic Feet	Liquids Cubic Feet										
								Cubic Feet	Pounds	Cubic Feet	Pounds	Cubic Feet	Pounds				
October	0	2,775	916	1,164	7,460	816	3,163	493	8,937	4,024	144,875	447	16,097	4,024	13,159		
November	0	5,783	2,545	2,487	7,219	2,317	8,985	1,872	25,389	11,857	426,844	1,317	47,427	11,857	20,520		
December	0	6,150	2,030	2,082	7,460	2,394	9,285	1,934	26,235	12,252	441,072	1,361	49,008	12,252	20,251		
January	0	5,225	2,299	2,305	7,460	2,394	-9,285	1,934	26,235	12,252	441,072	1,361	49,008	12,252	19,818		
February	0	3,773	1,383	1,509	6,738	2,162	8,386	1,747	23,696	11,066	398,388	1,230	44,265	11,066	15,801		
March	0	3,440	946	1,189	7,460	2,394	9,285	1,934	26,235	12,252	441,072	1,361	49,008	12,252	15,564		
April	0	2,024	636	913	7,219	2,317	8,985	1,872	25,389	11,857	426,844	1,317	47,427	11,857	13,278		
May	0	1,633	513	423	7,460	816	3,163	493	8,937	4,024	144,875	447	16,097	4,024	10,875		
June	0	1,207	332	274	7,219	637	2,468	338	6,975	3,098	111,537	344	12,393	3,098	9,697		
July	0	400	0	0	7,460	658	2,551	349	7,208	3,202	115,255	356	12,806	3,202	8,536		
August	0	550	202	166	7,460	658	2,551	349	7,208	3,202	115,255	356	12,806	3,202	9,054		
September	0	1,413	583	869	7,219	637	2,468	338	6,975	3,098	111,537	344	12,393	3,098	10,750		
Annual	0	34,373	12,384	13,382	87,834	18,199	70,575	13,653	199,420	92,184	3,318,626	10,243	368,736	92,184	167,303		

DAILY NUTRIENT PRODUCTION

Type of Animal	Pounds/Day of Nutrients from LIQUIDS			Pounds/Day of Nutrients from SOLIDS			Pounds/Day of Nutrients from GRAZING		
	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
MINK(FEMALE)	7.05	14.26	1.08	63.45	128.35	9.76	0.00	0.00	0.00
MINK(MALE)	1.69	3.42	0.26	15.23	30.80	2.34	16.92	34.23	2.60
KIT	16.92	34.23	2.60	152.28	308.05	23.43	169.20	342.28	26.03
	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
	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
	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

CLIENT: **ORMINK**
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM PRODUCTION

MONTHLY NUTRIENT PRODUCTION

Month	Pounds of Nutrients from LIQUIDS			Pounds of Nutrients from SOLIDS			Pounds of Nutrients from GRAZING			Pounds of Nutrients going OFF-FARM			Total Pounds of Nutrients from ALL SOURCES		
	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O	N	P2O5	K2O
October	271	548	42	2,439	4,934	375	5,245	10,611	807	0	0	0	7,955	16,092	1,224
November	770	1,557	118	6,929	14,016	1,066	0	0	0	0	0	0	7,699	15,574	1,184
December	796	1,609	122	7,160	14,483	1,101	0	0	0	0	0	0	7,955	16,092	1,224
January	796	1,609	122	7,160	14,483	1,101	0	0	0	0	0	0	7,955	16,092	1,224
February	719	1,454	111	6,467	13,082	995	0	0	0	0	0	0	7,185	14,535	1,105
March	796	1,609	122	7,160	14,483	1,101	0	0	0	0	0	0	7,955	16,092	1,224
April	770	1,557	118	6,929	14,016	1,066	0	0	0	0	0	0	7,699	15,574	1,184
May	271	548	42	2,439	4,934	375	5,245	10,611	807	0	0	0	7,955	16,092	1,224
June	212	428	33	1,904	3,851	293	5,584	11,295	859	0	0	0	7,699	15,574	1,184
July	219	442	34	1,967	3,979	303	5,770	11,672	888	0	0	0	7,955	16,092	1,224
August	219	442	34	1,967	3,979	303	5,770	11,672	888	0	0	0	7,955	16,092	1,224
September	212	428	33	1,904	3,851	293	5,584	11,295	859	0	0	0	7,699	15,574	1,184
Annual	6,047	12,232	930	54,422	110,091	8,372	33,197	67,154	5,107	0	-1	0	93,666	189,477	14,409

ANIMAL WASTE MANAGEMENT SYSTEM INVENTORY

Type of Animal	Type of Separator	Separation Factor %	Volume of Solids Separated CF/Day	Volume of Solids in Liquids CF/Day	Volume of Manure in Liquids CF/Day	Volume of Manure in Solids CF/Day	Accumulated Sludge in Storage CF/Day	Density of Separated Solids Lbs/CF	Weight of Separated Solids Lbs/Day
MINK(FEMALE)	Dry Scrape System	90%	103	11	10	93	4	36	3,718
MINK(MALE)	Dry Scrape System	90%	27	3	2	22	1	36	955
KIT	Dry Scrape System	90%	265	29	25	224	10	36	9,555
Total Solids			395	44	38	339	15		14,228

CLIENT: **ORMINK**
ASSISTED BY: Micah Wells

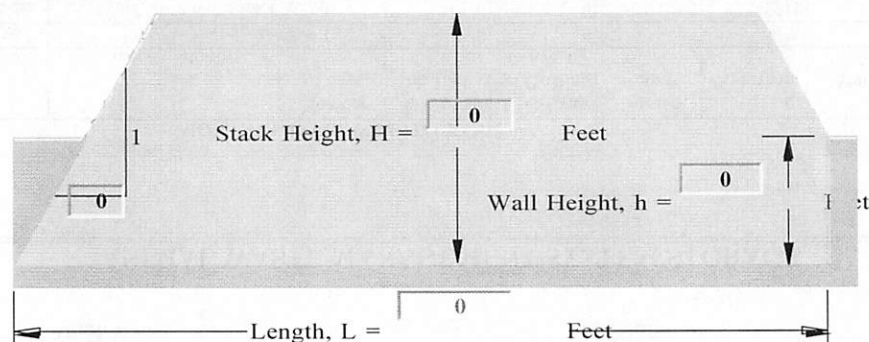
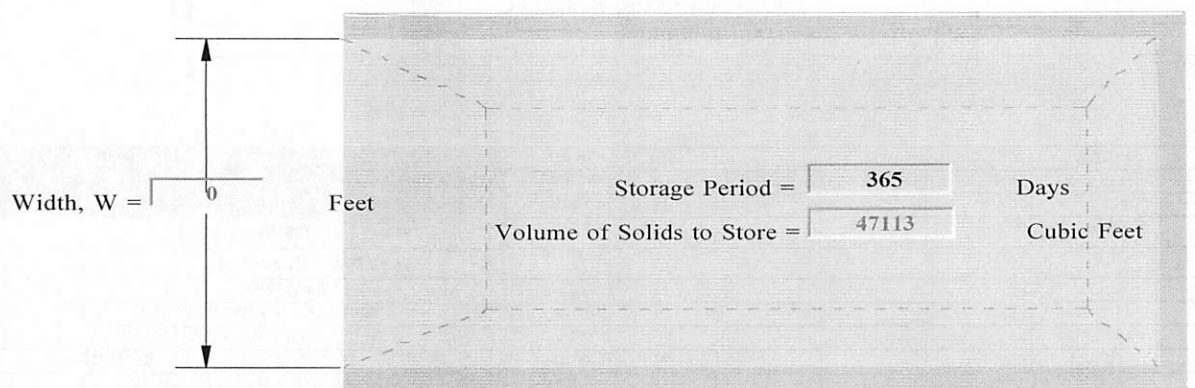
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ANIMAL WASTE MANAGEMENT SYSTEM STORAGE

SOLIDS STACKING FACILITY

MONTHLY SOLIDS VOLUME STACKED IN FACILITY

Solids Storage Facility Parameters	Value	Month	Number of Days	Manure CF	Bedding CF	Solids to Store CF	Normal Runoff CF
Storage Period, Days=	365	October	31	3581	444	2,012	779
Stacking Width, W in Feet=	0	November	30	10172	1,685	5,928	2,165
Stacking Height, H in Feet=	0.00	December	31	10511	1,741	6,126	1,727
Wall Height, h in Feet=	0.00	January	31	10511	1,741	6,126	1,956
Stack Side Slope (X:1)=	0.00	February	28	9494	1,572	5,533	1,177
Existing Storage, Cubic Feet=	190,000	March	31	10511	1,741	6,126	805
Surface Area of Existing Storage, SF=	18,720	April	30	10172	1,685	5,928	541
25 Year-24 Hour Storm Runoff, CF=	6,240	May	31	3581	444	2,012	437
Volume Needed, Cubic Feet=	47,113	June	30	2795	304	1,549	282
Design Volume, Cubic Feet=	0	July	31	2888	314	1,601	0
Is Facility Covered?	YES	August	31	2888	314	1,601	172
		September	30	2795	304	1,549	496
		Annual	365	79,897	12,287	46,092	10,538



CLIENT: **ORMINK**
ASSISTED BY: **Micah Wells**

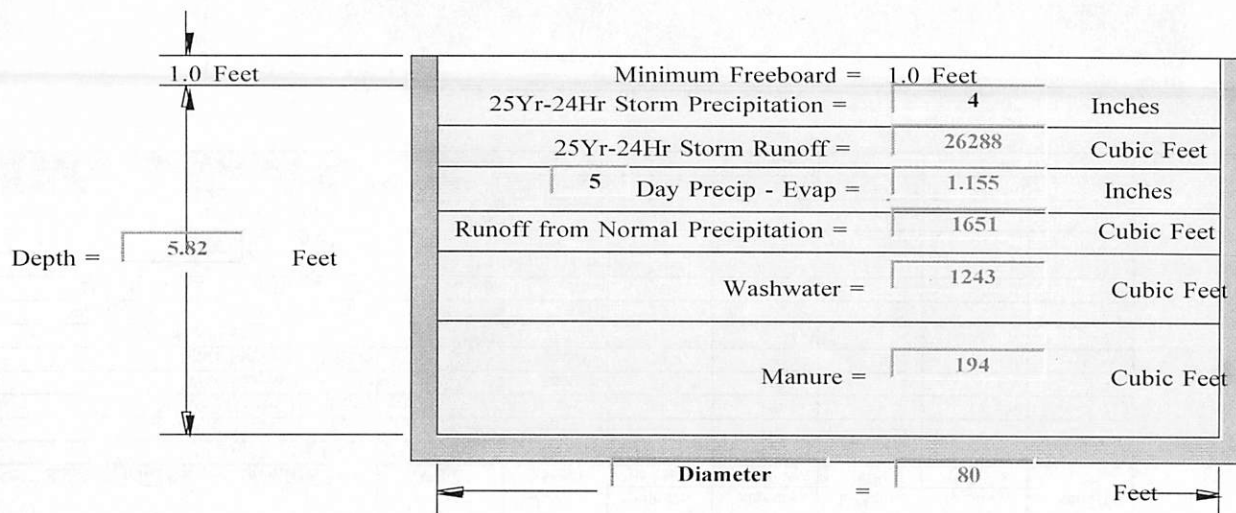
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ANIMAL WASTE MANAGEMENT SYSTEM STORAGE

TANK

MONTHLY INFLOWS INTO TANK

Tank Parameters	Value	Month	Number of days	Rain-Evap on Tank CF	Rain-Evap on Existing Storage, CF	Normal Runoff CF	Washwater CF	Manure CF
Storage Period, Days=	5	October	31	0	0	4,470	7,460	398
Tank Diameter, Feet=	80	November	30	0	0	10,493	7,219	1,130
		December	31	0	0	9,906	7,460	1,168
Existing Storage, Cubic Feet=	705,00	January	31	0	0	9,480	7,460	1,168
Surface Area of Existing Storage, SF=	0	February	28	0	0	6,333	6,738	1,055
25 Year-24 Hour Storm Runoff, CF=	26,288	March	31	0	0	5,191	7,460	1,168
Volume Needed, Cubic Feet=	29,950	April	30	0	0	3,202	7,219	1,130
Design Volume, Cubic Feet=	29,239	May	31	0	0	2,583	7,460	398
Is Tank Covered?	YES	June	30	0	0	1,821	7,219	311
Tank Dimensions?	Circular	July	31	0	0	400	7,460	321
		August	31	0	0	923	7,460	321
		September	30	0	0	2,492	7,219	311
		Annual	365	0	0	57,295	87,834	8,877



ANIMAL WASTE MANAGEMENT WORKSHEET

Version 2.4

CLIENT: **ORMINK**
ASSISTED BY: Micah Wells

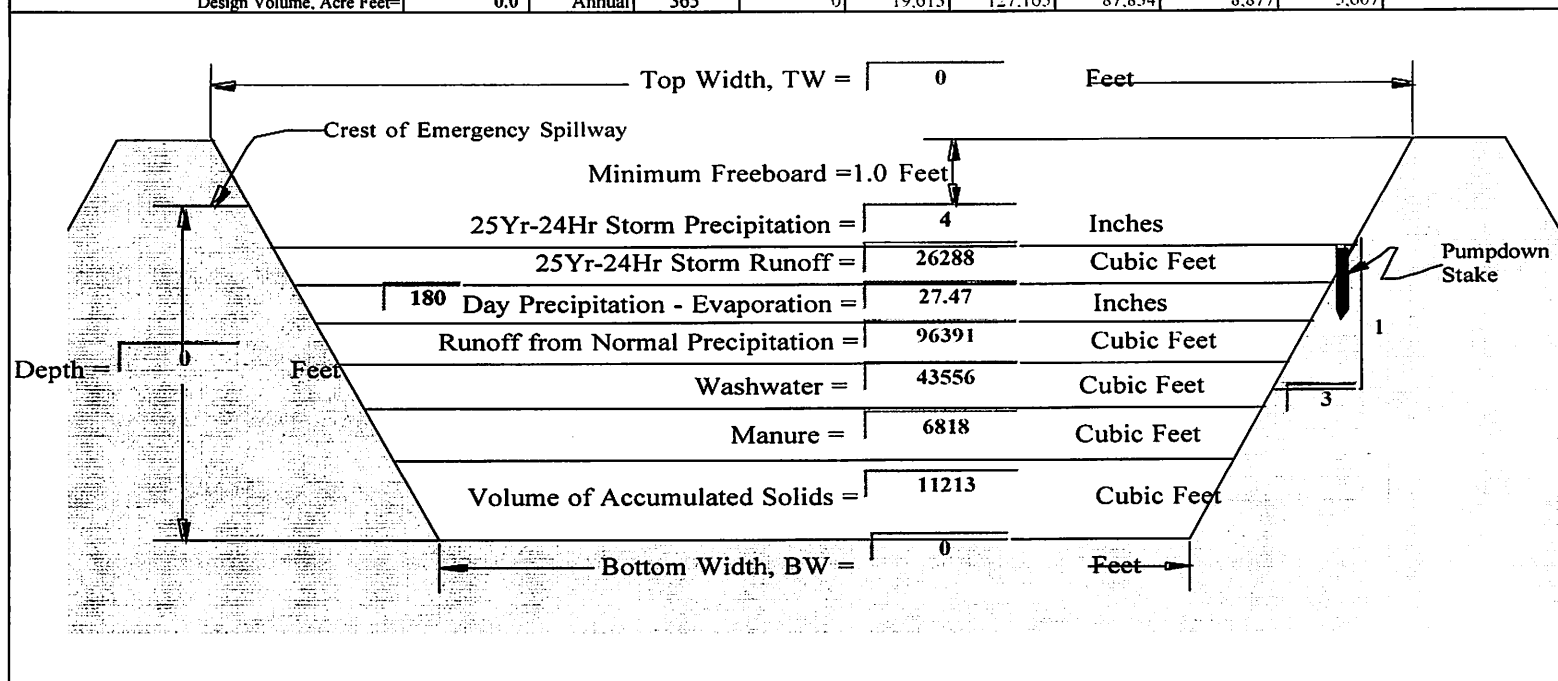
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ANIMAL WASTE MANAGEMENT SYSTEM STORAGE

WASTE STORAGE POND

MONTHLY INFLOWS INTO WASTE STORAGE POND

Pond Parameters	Value	Month	Number of Days	Rain-Evap on Pond CF	Rain-Evap on Existing Storage, CF	Normal Runoff CF	Washwater CF	Manure CF	Accum Solids CF
Storage Period, Days=	180	October	31	0	2,040	9,505	7,460	398	476
Side Slope (X:1)=	3.00	November	30	0	8,187	20,987	7,219	1,130	461
Bottom Width, BW, Feet=	0	December	31	0	9,240	21,065	7,460	1,168	476
Bottom Length, BL, Feet=	0	January	31	0	7,680	18,960	7,460	1,168	476
Accumulated Solids Duration, Years=	2	February	28	0	5,573	13,938	6,738	1,055	430
Existing Storage, Acre Feet=	19.00	March	31	0	4,680	12,993	7,460	1,168	476
Surface Area of Existing Storage, SF=	16,000	April	30	0	1,267	8,448	7,219	1,130	461
Minimum Soil Liner Depth, Feet=	1.00	May	31	0	-1,520	6,817	7,460	398	476
25 Year-24 Hour Storm Runoff, CF=	26,288	June	30	0	-3,667	4,558	7,219	311	461
Top Width, TW, Feet=	0	July	31	0	-6,520	1,610	7,460	321	476
Top Length, TL, Feet=	0	August	31	0	-5,453	2,586	7,460	321	476
Volume Needed, Acre Feet=	3.0	September	30	0	-1,893	5,698	7,219	311	461
Design Volume, Acre Feet=	0.0	Annual	365	0	19,613	127,165	87,834	8,877	5,607



ANIMAL WASTE MANAGEMENT WORKSHEET

Version 2.4

4/26/07
STATE: OREGON

CLIENT: **ORMINK**
ASSISTED BY: Micah Wells

CHECKED BY:

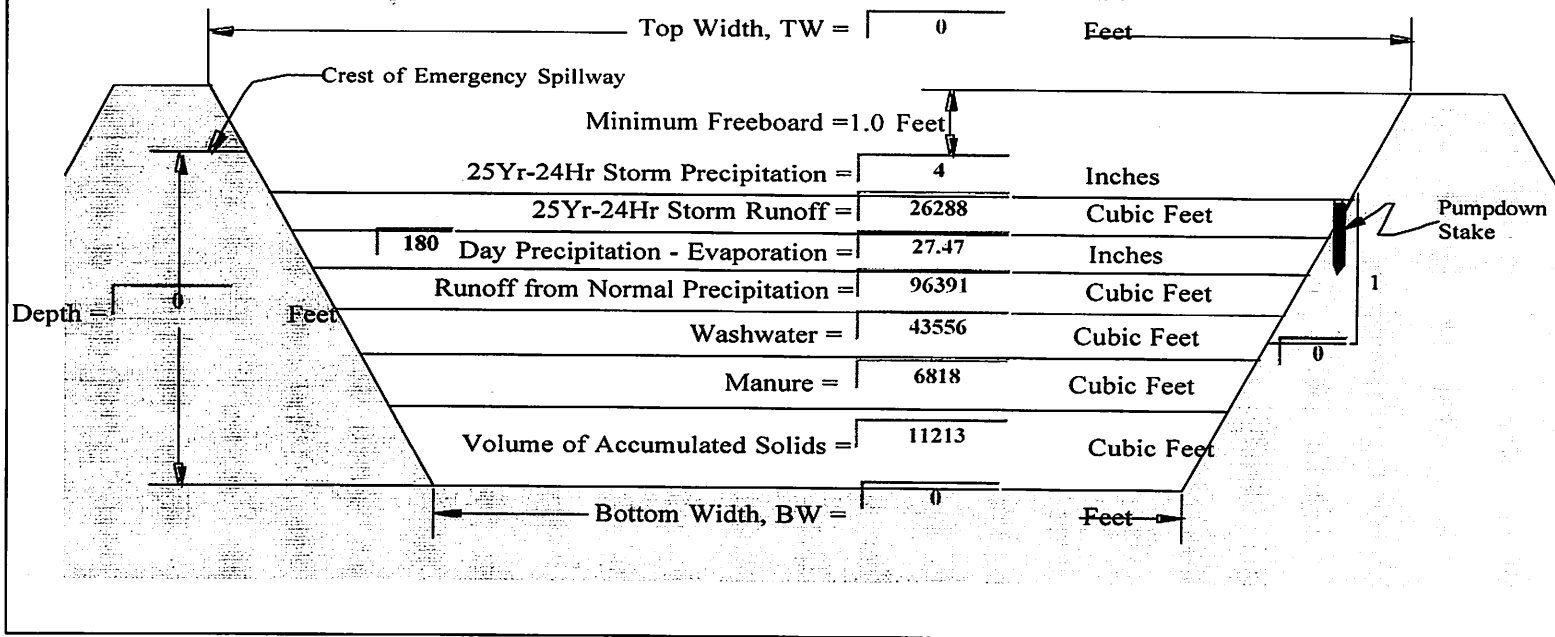
ANIMAL WASTE MANAGEMENT SYSTEM STORAGE

EVAPORATION POND

MONTHLY INFLOWS INTO EVAPORATION POND

Evaporation Pond Parameters	Value	Month	Number of Days	Rain-Evap on Pond CF	Rain-Evap on Existing Storage, CF	Normal Runoff CF	Washwater CF	Manure CF	Accum Solids CF
Storage Period, Days=	180	October	31	0	0	9,505	7,460	398	476
Side Slope (X:1)=	0.00	November	30	0	0	20,987	7,219	1,130	461
Bottom Width, BW, Feet=	0	December	31	0	0	21,065	7,460	1,168	476
Bottom Length, BL, Feet=	0	January	31	0	0	18,960	7,460	1,168	476
Accumulated Solids Duration, Years=	2	February	28	0	0	13,938	6,738	1,055	430
Existing Storage, Acre Feet=	0.00	March	31	0	0	12,993	7,460	1,168	476
Surface Area of Existing Storage, SF=	0	April	30	0	0	8,448	7,219	1,130	461
Minimum Soil Liner Depth, Feet=	1.00	May	31	0	0	6,817	7,460	398	476
25 Year-24 Hour Storm Runoff, CF=	26,288	June	30	0	0	4,558	7,219	311	461
Top Width, TW, Feet=	0	July	31	0	0	1,610	7,460	321	476
Top Length, TL, Feet=	0	August	31	0	0	2,586	7,460	321	476
Volume Needed, Acre Feet=	3.0	September	30	0	0	5,698	7,219	311	461
Design Volume, Acre Feet=	0.0	Annual	365	0	0	127,165	87,834	8,877	5,607

NOT ENOUGH EVAPORATION TO DESIGN POND!



CLIENT: ORMINK
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM APPLICATION

MANAGEMENT CRITERIA FOR TRACTOR SPREADER APPLICATION OF SOLIDS

To apply 92,184 cubic feet of solids generated from the operation it will take approximately 463 trips annually. Based on applying NITROGEN, N at agronomic rate use the application depths, travel lengths, and loads per acre listed below for each crop.												
Field Number	Acres	Crop	Tractor Spreader Capacity		Spread Width Feet	NITROGEN, N Concentration in Storage Facility		Pounds of Nutrients to be Applied	Number of Applications Needed to meet Crop Demand	Inches of Solids to Apply	Travel Length per Load Needed in Feet	Loads per Acre
			Bushels	CF		PPM	Lbs/100CF					
1	35	Grass/Legume Hay/Pasture	160	199	15	6,623	41.33	186	1.00	0.2	744	4
0												
0												
0												
0												
0												
0												
0												
0												

MANAGEMENT CRITERIA FOR BIG GUN SPRINKLER APPLICATION OF LIQUIDS

To apply 1,251,427 gallons of liquids generated from the operation it will take approximately 70 hours of pumping annually. Based on applying NITROGEN, N at agronomic rate use the application depths, set times, and travel rates listed below for each crop.													
Field Number	Acres	Crop	Sprinkler Flowrate GPM	Wetted Diameter Feet	Portion of Wetted Diameter Receiving Liquids	NITROGEN, N Concentration in Storage Facility		Pounds of Nutrients to be Applied	Number of Applications Needed to meet Crop Demand	Inches of Liquids to Apply	Application Rate in Inches/Hour	Set Time Needed in Hours	Travel Rate Needed in Feet/Minute
						PPM	Lbs/1000Gal						
1	35	Grass/Legume Hay/Pasture	300	250	3/4 Circle	115	0.96	186	1.00	11.55	0.97	19.59	0.17
0													
0													
0													
0													
0													
0													
0													
0													

CLIENT: ORMINK
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM APPLICATION

MANAGEMENT CRITERIA FOR TANK WAGON APPLICATION OF LIQUIDS

To apply 1,251,427 gallons of liquids generated from the operation it will take approximately					313 trips annually. Based on applying		NITROGEN, N				
at agronomic rates use the application depths, travel lengths, and loads per acre listed below for each crop.											
Field Number	Acres	Crop	Tank Wagon Capacity Gallons	Spread Width Feet	NITROGEN, N Concentration in Storage Facility		Pounds of Nutrients to be Applied	Number of Applications Needed to meet Crop Demand	Inches of Liquids to Apply	Travel Length per Load Needed in Feet	Loads per Acre
					PPM	Lbs/1000Gal					
1	35	Grass/Legume Hay/Pasture	4,000	15	115	0.96	186	1.00	4.47	96	30.
0											
0											
0											
0											
0											
0											
0											
0											

CLIENT: ORMINK
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM UTILIZATION

PERCENT OF MANURE TO BE APPLIED TO FIELD AND UTILIZATION ACRES NEEDED BASED ON											
Field Number	Acres	Crop	LIQUIDS			SOLIDS			GRAZING		
			Percent to be Applied	Pounds of Nutrients to be Applied	Acres Needed for Utilization of Nutrients	Percent to be Applied	Pounds of Nutrients to be Applied	Acres Needed for Utilization of Nutrients	Percent to be Applied	Pounds of Nutrients to be Applied	Acres Needed for Utilization of Nutrients
1	35.0	Grass/Legume Hay/Pasture	0%	0	0	0%	0	0	0%	0	0
0											
0											
0											
0											
0											
0											
0											
0											
Off-Farm			100%	745		100%	22,134		100%	24,798	
TOTALS-			100%	745	0	100%	22,134	0	100%	24,798	0

NUTRIENT BALANCE BASED ON AVAILABLE ACRES

Field Number	Acres	Crop	NUTRIENTS APPLIED			- NUTRIENTS REMOVED			= NUTRIENT BALANCE		
			Nitrogen, N Lbs/Acre	Phosphorous, P ₂ O ₅ Lbs/Acre	Potassium, K ₂ O Lbs/Acre	Nitrogen, N Lbs/Acre	Phosphorous, P ₂ O ₅ Lbs/Acre	Potassium, K ₂ O Lbs/Acre	Nitrogen, N Lbs/Acre	Phosphorous, P ₂ O ₅ Lbs/Acre	Potassium, K ₂ O Lbs/Acre
1	35.0	Grass/Legume Hay/Pasture	0	0	0	186	69	228	-186	-69	-228
0											
0											
0											
0											
0											
0											
0											
0											
Off-Farm											

CLIENT: ORMINK
ASSISTED BY: Micah Wells

CHECKED BY:

ANIMAL WASTE MANAGEMENT SYSTEM UTILIZATION

NUTRIENTS AVAILABLE AFTER STORAGE

Nutrient Source	Type of Operation	Pounds of Nutrients Available			Percent Nutrients Retained After Storage			Pounds of Nutrients Retained After Storage		
	Mink	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Liquids	Storage Pond (> 50%) Dilution	6.047	12.232	930	20%	45%	60%	1.196	5.505	558
Solids	Solids Storage Facility (Roofed)	54.422	110.091	8,372	70%	90%	90%	38.096	99.082	7,535
Grazing	NONE	33.197	67.154	5,107	100%	100%	100%	33.197	67.154	5,107

NUTRIENTS AVAILABLE AFTER APPLICATION

Nutrient Source	Type of Application System	Pounds of Nutrients Available			Percent Nutrients Retained After Application			Pounds of Nutrients Retained After Application		
		N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Liquids	Sprinkling	1.196	5.505	558	75%	100%	100%	897	5,505	558
Solids	Broadcast (Incorporated 7 or more days after application)	38.096	99.082	7,535	70%	100%	100%	26.667	99.082	7,535
Grazing	Grazing	33.197	67.154	5,107	90%	100%	100%	29.877	67.154	5,107

NUTRIENTS AVAILABLE AFTER DENITRIFICATION

Nutrient Source	Location	Pounds of Nutrients Available			Percent Nutrients Retained After Denitrification			Pounds of Nutrients Retained After Denitrification		
	Between Coastal and Cascade Mountains	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
Liquids	Somewhat Poorly Drained	897	5,505	558	83%	100%	100%	745	5,505	558
Solids	Somewhat Poorly Drained	26.667	99.082	7,535	83%	100%	100%	22.134	99.082	7,535
Grazing	Somewhat Poorly Drained	29.877	67.154	5,107	83%	100%	100%	24.798	67.154	5,107

NUTRIENT MANAGEMENT DESIGN AND SPECIFICATIONS

Producer: <u>ORMINK</u>	Tract(s): <u>1000</u>	Field(s): <u>1</u>
Assisted by: <u>Micah Wells</u>	Date: <u>April 26, 2007</u>	

PURPOSE (Check all that apply)			
Budget and supply for plant production	☒	Utilize manure/organic materials as a nutrient source	☒
Minimize agricultural non-point source pollution (water quality)	☒	Maintain or improve soil condition	☒

Table 1. Field Conditions and Recommendations

CROP SEQUENCE/ROTATION (circle current crop)						EXPECTED YIELD	
Grass/Legume Hay/Pasture						5.5	
CURRENT SOIL TEST LEVELS (ppm or lb/ac)							
N		P		K		pH	
NA		87-120		227-459		6.1-6.4	
RECOMMENDED NUTRIENTS/AMENDMENTS TO MEET EXPECTED YIELD							
N (lbs/ac)		P ₂ O ₅ (lbs/ac)		K ₂ O (lbs/ac)		LIME	
Trial A	Trial B	Trial A	Trial B	Trial A	Trial B	Other	
200		0		0			

Table 2. Nutrient Sources

Credits		N		P ₂ O ₅		K ₂ O	
		pounds per acre					
1. Nitrogen credits from previous legume crop							
2. Residual from long-term manure application							
3. Irrigation water							
4. Other (e.g., atmospheric deposition)							
5. Total Credits-		0		0		0	
Plant-Available Nutrients Applied to Field		N		P ₂ O ₅		K ₂ O	
(Circle column that is landuser's decision)		Trial A	Trial B	Trial A	Trial B	Trial A	Trial B
6. Credits (from row 5, above)		0	0	0	0	0	0
7. Fertilizer							
Starter							
Other							
8. Manure / Organic Materials (Source-)		Dairy		0		0	
9. Subtotal (sum of lines 6, 7 and 8)		0		0		0	
10. Nutrients Recommended (from Table 1)		200		0		0	
11. Nutrient Status (subtract line 10 from line 9)		-200		0		0	

If line 11 is a negative number, this is the amount of additional nutrients needed to meet the crop recommendation.
If line 11 is a positive number, this is the amount by which the available nutrients exceed the crop requirements.

PLANNED NUTRIENT APPLICATIONS							
Amount to be Applied (lb/ac)		N		P ₂ O ₅		K ₂ O	
		206		177		340	
Method, Form, and Timing of Application							
Recommended application rates are based on OSU Extension Recommendations.							
No commercial fertilizer should be applied as all nutrients can be supplied by manure applications except for Sulfur, Magnesium, Zinc and Boron which should be applied in accordance with the fertilizer guide and soil tests.							
Use nutrient concentrations in storage to determine big gun travel rates to apply 100 pounds per acre of nitrogen in March or April and again in May.							
Use nutrient concentration in storage to determine solids spreader loads per acre to apply 200 pounds per acre of nitrogen in March or April. No more than a total of 200 pounds of nitrogen per acre should be applied.							
Score card soil testing should be done in the fall to insure excessive nitrates are not available for leaching.							
Manure should be reduced or not applied if soil tests show Phosphorous and Potassium concentrations continue to increase over time and approach very high levels as determined by OSU Extension.							

**ANIMAL WASTE MANAGEMENT PLAN
FOR ORMINK MINK RANCH**



*MA# 141993
Aump# 07058*

GENERAL

Ormink, an Oregon Partnership between [REDACTED]

[REDACTED] as owner of the mink operation, is responsible for the operation, inspection and maintenance of the waste management system. Although the system was originally designed by the Soil Conservation Service based on the best available technical knowledge, it must be recognized that if the system is to operate as planned, design changes needed to be made to handle the waste generated by the changing needs of Ormink. The Ormink Waste Management System has been designed to manage the waste generated by the operation in a manner that prevents or minimizes degradation of air, soil, and water resources and protects public health and safety. The system has been planned to preclude discharge of pollutants to surface or ground water and to recycle waste through soil and plants to the fullest extent practicable.

A Confined Animal Feed Operation (CAFO) Permit issued by the Oregon Department of Agriculture to the Ormink mink farm will be kept in good standing by the operator complying with all permit provisions. The permit may or may not have the same requirements as the plan developed by Ormink with the NRCS and the Marion Soil and Water Conservation District. It is noted that local, regional, or state permits take precedence. The plan is a guideline for wise use of the soil, water, and related natural resources.

THE OPERATION

The system is designed to accommodate waste from a herd of Approximately 15,000 female mink (10,000 present 5,000 future expansion) 365 days a year, 4,500 male mink (3,000 present 1,500 future expansion) 121 days a year, and approximately 90,000 kit mink (55,000 present 30,000 future expansion) 183 days a year, a maximum of 100,000 mink will be on the farm from June through November each year. The remainder of the year December through May 19,500 Breeder mink will be the only mink on the farm. The waste storage lagoons are designed for 982 days of waste water storage. Tiles from mink