

## Final Report

### Agricultural Targeted Runoff Management & Notice of Discharge Grant Programs

Form 3400-189A (R 05/16)

Page 1 of 3

**NOTICE:** This document is required under s. 281.65, Wis. Stats., and chs. NR 153 and 154, Wis. Adm. Code. A final project report must be submitted as part of the final reimbursement request. Personally identifiable information contained in this form will be used for determining reimbursement eligibility in the Targeted Runoff Management and Notice of Discharge Grant Programs and will not be used for any other purpose.

**INSTRUCTIONS:** Send the completed, electronic copy of this form and all attachments to the Department of Natural Resources (DNR) Region Nonpoint Source Coordinator. Please read all instructions prior to completion.

#### Grant Type

Select Grant Type Notice of Discharge

#### Project Name & Location

Project Name

Barnyard Runoff Control Project/Brad and Carol Anderson

Grant Number

NOD27000Y16

Governmental Unit Name

Jackson County Land Conservation Department

County

Jackson

Watershed Name

Big and Douglas Creek

12-Digit HUC

070400071206

Project Contact Name

Gaylord E. Olson II

Phone Number

(715) 284-0217

E-mail Address

Gaylord.OlsonII@co.jackson.wi.us

☐ For a project with multiple site locations, an aerial photo map is attached with each site location labeled.

#### Site Location - 1

Name of Cost-Share Recipient

Carol and Bradley Anderson

Animal Units

128

Nearest Receiving Waterbody

Unnamed Trib. to the Black River

Township

19

Range

06

E / W

W

Section

23

Quarter

SE

Quarter/Quarter

SE

Latitude

44.102594

Longitude

-91.053388

#### Compliance Requirements - 1

Chs. NR 151 or 243 Wis. Adm. Code  
Notice Type

NOI / NOD

Notice letter  
attached

☒

Compliance achieved? If no,  
explain in site information

☒ Yes ☐ No

Compliance determination  
letter attached

☒

☒ Attached is a copy of the written statement the County provided to the landowner and cost-share recipient of the landowner's obligation to maintain compliance with performance standards & prohibitions on cropland and livestock facilities addressed by the cost-share agreement. Compliance at these sites must be maintained in perpetuity regardless of future cost sharing. The County has also placed a copy of this written statement in the County files.

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### Summary of Results - 1

Best Management Practice Installed	Quantity	Unit of Measure	Performance Standard/Prohibition Addressed	Total Installation Cost	Load Reduction		
					Phosphorus lbs/yr	Nitrogen lbs/yr	Sediment Tons/yr
Access Road	150	Feet	Code(s) 12	\$6,000.00			
Trail And Walkways	200	Feet	Code(s) 12	\$10,000.00			34.2
Barnyard Runoff Control Systems	1	No.	Code(s) 12	\$101,499.47	112.4		
Critical Area Stabilization	1	Acres	Code(s) 12	\$7,500.00			58.8
Diversions	200	Feet	Code(s) 8	\$2,000.00			
Heavy Use Area Protection	1	Acres	Code(s) 12	\$14,400.00			58.8
Livestock Fencing	1,000	Feet	Code(s) 12	\$8,000.00			
Livestock Watering Facilities	3	No.	Code(s) 12	\$3,000.00			
Manure Storage Systems	1	No.	Code(s) 4	\$32,500.00			
Waterway Systems	1	Acres	Code(s) 8	\$3,600.00			8.6
Nutrient Management	138	Acres	Code(s) 9	\$3,864.00			

### Site Location Attachment - 1

Check the box if the required information for the site is attached:

☒ Photos of pre-and post-implementation of BMP(s)

☒ Load reduction modeling documents

☐ Aerial photo map of site with BMPs labeled

☐ Water quality monitoring results/summary, if applicable

### Site Information - 1

*Narrative space will expand to fit*

The project site is a dairy facility for 128 animal units. The dairy barn is located on a side hill where the cattle walked on bare earth uphill to the feed bunk area. The dairy young stock are housed in separate sheds adjacent to the feed bunk. There was no runoff containment at the feed bunk area or the sheds where the dairy young stock are located. The side hill adjacent to barn and young stock housing was a bare earth feedlot. All of the runoff from the bare earth areas and feed bunk went to a concentrated flow channel that then led to an unnamed tributary of the Black River.

The various BMPs installed corrected the existing uncontrolled runoff.

The access road provided the ability for the landowners to reach the short term manure storage system and barnyard runoff control system to clean them with equipment. The trails and walkway provide the cattle firm footing to move from the barn to the feed bunk eliminating the constant bare earth mud area decreasing the soil runoff. The barnyard runoff control system provided a better access to feed the dairy cattle and young stock while capturing all the manure generated by the cattle using the feed bunk. The young stock manure generated outside their shed is also captured. This manure is spread on the fields according to the Nutrient Management Plan. The critical area stabilization and heavy use area protection was utilized to reshape the bare earth side hill and other adjacent areas near the project site to decrease soil erosion while limiting the cattle to certain areas. The diversion was installed to redirect water from impacting the trails/walkways and the waterway system. Livestock fencing was installed to limit cattle access to the waterway crossing as well as installation around the barnyard runoff control system and cattle trails/walkways to direct cattle movement. The livestock watering facilities were needed to supply adequate water for the cattle while using the barnyard runoff control system and eliminate cattle traffic congestion around the dairy young stock facilities. The short-term manure storage system was installed to meet the current NRCS standards for runoff control since the vegetated treatment area criteria could not be achieved. The runoff from the site does not have a filter strip, instead is a total containment facility. The waterway system was installed to fix the gully that was at the base of the side hill where the cattle had unlimited access



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creating a bare earth feedlot. A nutrient management plan was completed to provide direction on manure management along with other fertilizers and legume crediting.

☐ DNR may use this site as a success story to meet state and federal reporting needs.

### Additional Project Information and/or Comments

*Narrative space will expand to fit*

### Grantee Certification

A responsible government official (authorized signatory) must authorize and date the final report form prior to submittal to DNR.

I certify that, to the best of my knowledge, the project is complete and the information contained in this final report and attachments are correct and true.

Name of Authorized Government Official

Title of Authorized Government Official

Date

Gaylord E. Olson II

County Conservationist

01/08/2018

### For DNR Use Only

☒ Received complete reports with all attachments ☒ Practices implemented were consistent with the grant agreement

Comments about this project:

Name of Region Nonpoint Source Coordinator

Date

*Cynthia A. Koperski*

*1-19-18*

Send the Final Report and attachments to the Community Financial Assistance Grants Manager and to the Runoff Management Grant Coordinator. Keep a printed copy for the Region file.

# JACKSON COUNTY LAND CONSERVATION DEPARTMENT

307 Main Street, Courthouse  
Black River Falls, WI. 54615

Telephone: (715) 284-0256

Fax: (715) 284-0238

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January 4, 2018

Carol and Bradley Anderson  
N985 Red School Road  
Melrose, WI 54642

Subject: NR 151 Performance Standards and Prohibitions  
Jackson County Livestock and Animal Facility License 2017 – 231 – L

Dear Carol and Bradley,

Thank you for your most recent efforts to improve and protect our state's water resources. This letter is to acknowledge that you have successfully implemented nonpoint source pollution control best management practices on your farm under cost-share agreement NOD-JC-08-2016. Installing practices under this cost share agreement has brought you into compliance with performance standards and prohibitions as described in the table below.

Standard/Prohibition	Description of Compliance Location
NR 151.07 Nutrient Management	Cropland acres described in the Nutrient Management Plan
NR 151.08 (3) Prohibition on unconfined manure in the Water Quality Management Area	T. 19 N., R. 6 W. Section 23, The Southeast Quarter of the Southeast Quarter
NR 151.08 (4) Prohibition on direct runoff from a feedlot or stored manure NR 151.08 (5) Prohibition on unlimited livestock access to waters of the state	T. 19 N., R. 6 W. Section 23, The Southeast Quarter of the Southeast Quarter

In accordance with Ch. NR 151, Wis. Adm. Code, any cropland practice or livestock facility that is brought into compliance with a state performance standard or prohibition must remain in compliance in perpetuity regardless of future cost sharing. Since you are now deemed in compliance with state standards and prohibitions as identified above, it is required that you and any future landowners or operators maintain compliance with the standards and prohibitions at the parcels identified.

The site is licensed by the Jackson County Livestock and Animal Facility Licensing Ordinance for up to 128 animal units. If the site exceeds 1000 animal units in the next twelve months, from this date, the cost-share money will be repaid to Jackson County or the Wisconsin Department of Natural Resources as agreed to in the cost-share agreement signed in June 2016.

Compliance with the state and county performance standards listed in this letter and the cost-share agreement NOD-JC-08-2016 are required. Compliance with the Operations and Maintenance Plans listed as part of the designs in the Best Management Practices that were installed on your farm is also required.

The facilities and site must meet and maintain the following state and county environmental standards:

- a. No overflow of manure storage structures
- b. No unconfined manure stacking (piling) within the Water Quality Management Areas.
- c. No direct runoff from facilities or stored manure to the waters of the State.
- d. No unlimited livestock access to waters of the State where sod cover is compromised in the process and/or a pollution hazard is created by a concentration of livestock.

A site inspection by the Land Conservation Department will occur at least once every five years to monitor compliance with the ordinance.

If you have any further questions, please contact the Jackson County Land Conservation Department at 715.284.0217.

Sincerely,

  
on II

County Conservationist

Cc: Cindy Koperski - DNR Regional Coordinator



Brad and Carol Anderson

Notice of Discharge

Before Pictures



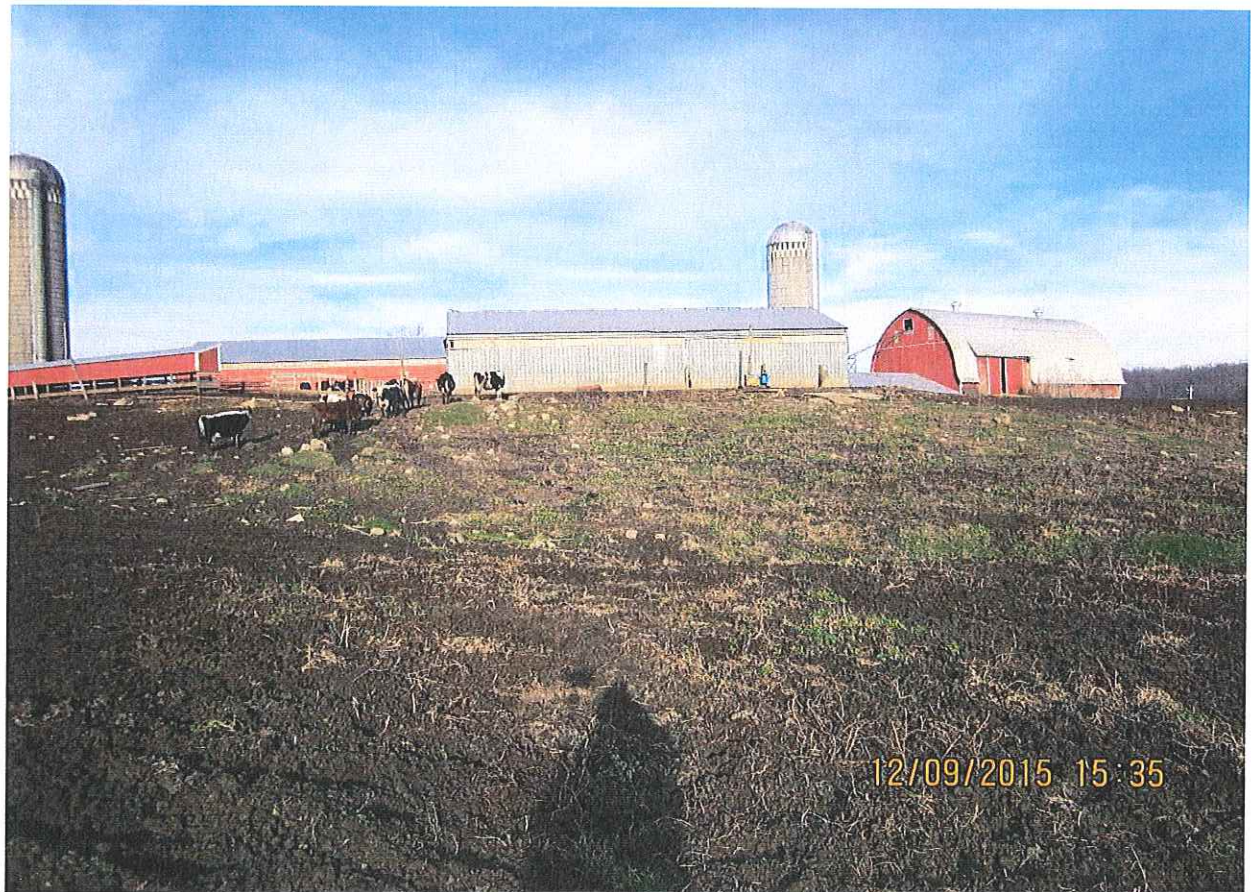














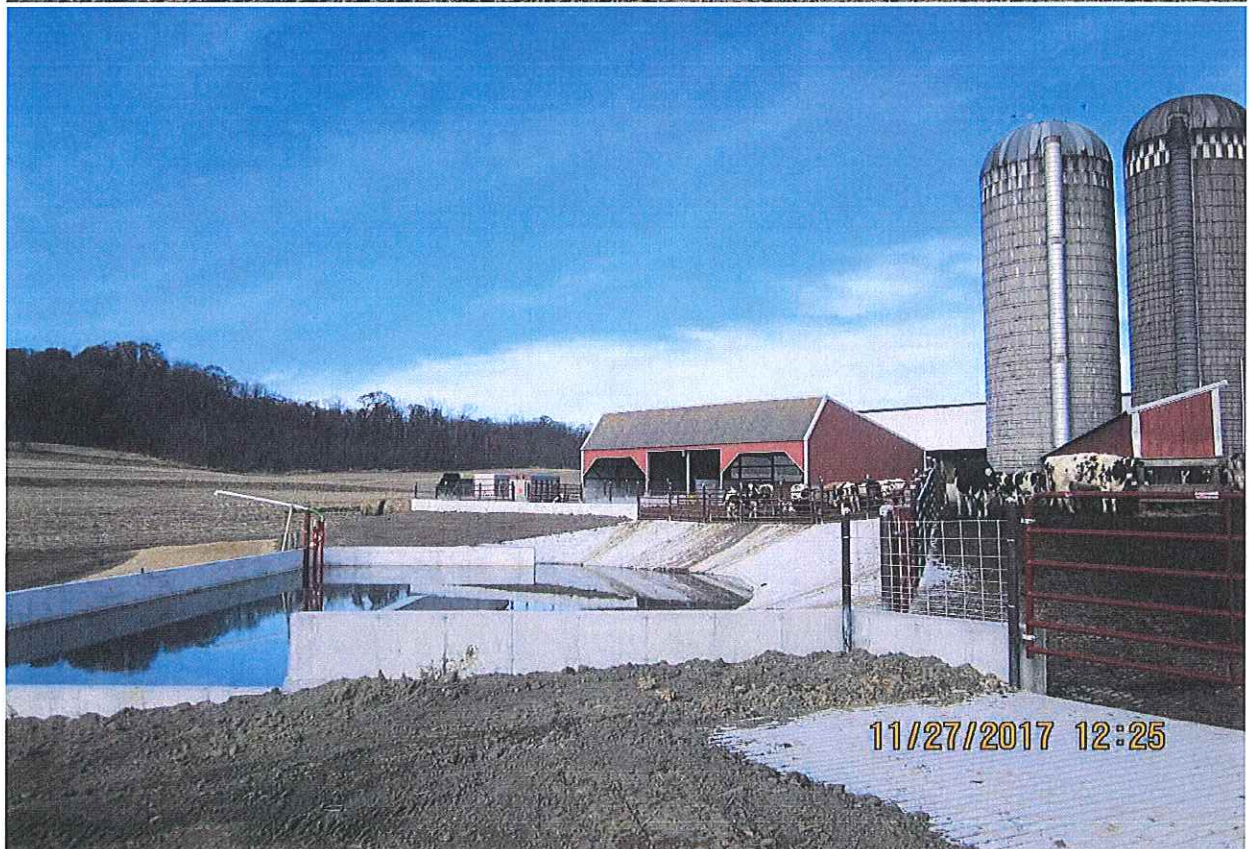
Brad and Carol Anderson

Notice of Discharge

After Pictures













# SOIL LOSS

UNITED CREEK WATERSHED  
3-2016

① Trails & Walkways to barnyard area. 34.2

$$200' \times 95' \times \frac{90 \#/\text{ft}^3}{2000 \#/\text{ton}} \times \frac{1/2" \text{ thick}}{12} / \text{yr.} = 34.2 \text{ ton Soil loss / yr.}$$

② Critical Area Stabilization and Heavy use area protection "PASTURE"

$$\text{3AC. } 130,680 \text{ ft}^2 \times \frac{90 \#/\text{ft}^3}{2000 \#/\text{ton}} \times \frac{1/4" \text{ thick}}{12} / \text{yr.} = 117.6 \text{ ton Soil loss / yr.}$$

$\div 2$   
58.8 use for each practice.

③ Grassed Waterways

$$8'_{\text{width}} \times 600'_{\text{length}} \times \frac{90 \#/\text{ft}^3}{2000 \#/\text{ton}} \times \frac{1/2" \text{ thick}}{12} / \text{yr.} = 8.6 \text{ ton soil loss / yr.}$$



# BUFFER DESIGN USING BARNY

OWNER: Brad and Carol Anderson

DESIGNER: mg

DATE: 3/1/2016

CHK BY: \_\_\_\_\_

DATE: \_\_\_\_\_

	Input	Output	1 Madison
			2 Appleton
			3 Wausau
			4 Eau Claire
Closest City of similar climate:	<u>4</u>		
Paved lot area:	<u>16,492</u>	sq ft	
Earth lot area:	<u>0</u>	sq ft	
Animal Lot size:		<u>16,492</u> sq ft	
Is there a DESIGNED settling basin	<u>2</u>	Yes= 1; No= 2	
Animals on lot:	<u>50</u> number	<u>20</u> number	
Type of animal:	<u>1</u>	<u>1</u>	( Dairy = 1; Beef=2 )
Ave. Animal Weight:	<u>1,400</u> lbs	<u>700</u> lbs	
Lot Use:	<u>1</u>		1= Heavy; 2= Medium; 3= Light)

## TRIBUTARY AREAS

Tributary area: 0 sq ft

Runoff Curve Number: 0

Roof area: 1,700 sq ft

112.4 lbs P per year  
at D.S. Lot edge:

Maximum permissible P Output            lbs  
that can be released

Your choice based on impacted  
resources- Max is 15

## BUFFERS - Size by trial and error

First Buffer Length:            ft (See Note Below)

Slope:           

"c" :            →

Second Buffer Length:            ft

Slope:           

"c" :           

"c" Value Table	
Permanent Meadow	0.59
Woods, Heavy Litter	0.59
Woods, Lt Ltr	0.29
Well managed grazing	0.44
Fair managed grazing	0.29
Good Pasture	0.22
Fair Pasture	0.15
Small Grain	0.29
Legume	0.29
Contoured Row Crop	0.29
Non-contoured row crop	0.05

P (lbs) after the buffers: 112.4 lbs P per year

NO GOOD - Too much P released

## BUFFER SIZING

Chosen Buffer Width            feet

24,738 sq ft

Min. Acceptable Buffer Area

0 feet

Min. Bfr. Len. Based on BARNY

#DIV/0! feet

Min. Bfr. Len. Based on Area

Chosen Buffer Length            feet

#DIV/0!



# WASTE STORAGE FACILITY DESIGN - 313 STANDARD

Ver. March 2016

CLIENT: Brad Anderson

COUNTY: JACKSON

DATE: 4/21/16

DSN BY: M.Goehring

CHK BY:

DATE:

COMMENTS: ZERO DISCHARGE FACILITY

ANIMAL TYPE>

1

(1=DAIRY, 2=BEEF, 3=VEAL, 4=SWINE(finishing), 5=SWINE(farrowing), 6=POULTRY, 0=OTHER)

For Dairy: Rolling Herd Average

10,000

lbs/cow/yr

Is it a stanchion barn?

n

(Y or N)

## MANURE AND WASTEWATER

LIVESTOCK		AVG. WT. PER HEAD	DAILY OUTPUT, CU FT			DAYS OF STORAGE	VOLUME REQUIRED	ANIMAL UNITS
KIND	NUMBER		MANURE	BEDDING	TOTAL			
Cows	50	1,400	1.69	0.0	84.5	5	423	70
Heifers	20	700	1.12	0.0	22.4	5	112	14
Calves		350						

WASTEWATER:

0

GAL/DAY

0.0

CU FT/DAY

84 TOT. A.U.

TOTAL DAILY VOLUME:

107.0 CU FT / DAY

Total Manure and Wastewater  
Expected % solids in waste (Includes runoff and precip.)

3,998

GALLONS

535

CU FT

1.2

%

## RUNOFF VOLUME STORED BELOW THE MOL

### RUNOFF VOLUME (ENTIRE DRAINAGE AREA)

#### MONTHLY RUNOFF

RCN

90

0.90 IN.

X

18,192

Ft<sup>2</sup> Drainage Area=

1,366 CU FT

(Do not include waste storage facility area)

#### 5-Year, 24-HOUR RUNOFF

RCN

90

3.90 IN.

X

18,192

Ft<sup>2</sup> Drainage Area=

5,906 CU FT

(Do not include waste storage facility area)

## VOLUME STORED BELOW THE MOL

### WASTEWATER (from other sources)

17,234

GALLONS (for entire storage period)

2,304 CU FT

### ACHATE VOLUME

Area #1

Area #2

Area #3

0 CU FT

Length =

Width =

Height =

Total for Manure, Milking Center, Runoff Volume, and 25 Yr Runoff

75,624

GALLONS

10,110

CU FT

## PRECIPITATION

Does the facility collect precipitation? (No roof or lid)

1

(1 for yes, 2 for no)

Beginning Month for Precip. Collection

4

(1 = Jan, 2 = Feb, etc.)

Precipitation minus evaporation

Average Precipitation on Storage Surface

2.9 INCH

0.2 FT

Average Evaporation from Storage Surface

0.6 INCH

0.1 FT

Net Precipitation on Storage Surface

2.3 INCH

0.2 FT

25 Yr, 24-Hr Precip on Storage Surface

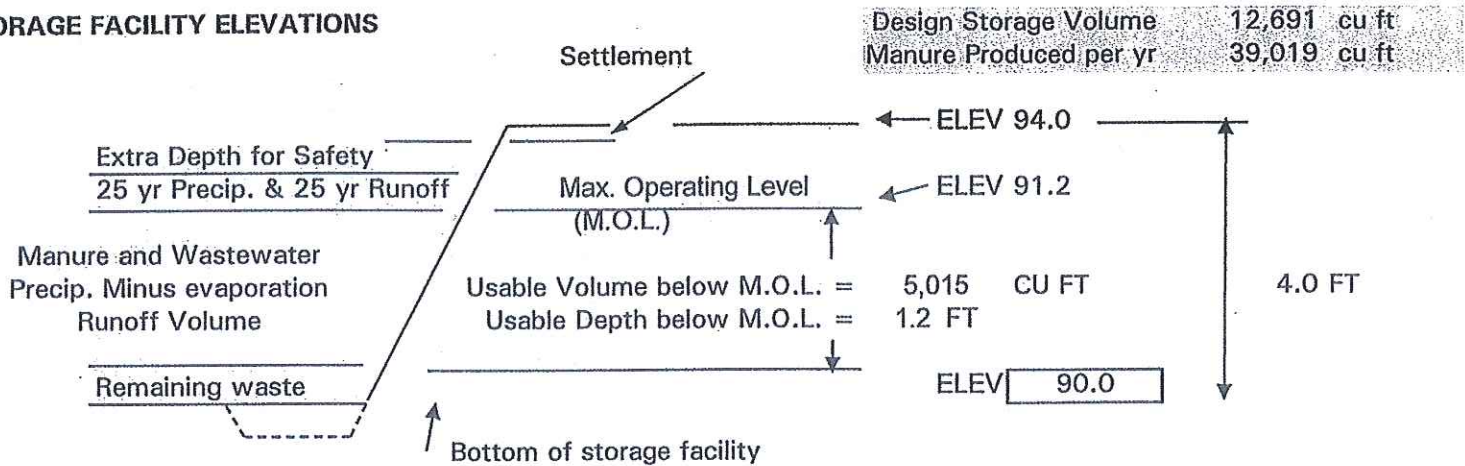
5.0 INCH

0.4 FT



REMAINING WASTE	(If no sump, use these minimums: ponds -2', tanks-1')	0.0	FT
EXTRA DEPTH FOR SAFETY	(1-ft. Minimum)	1.0	FT
SETTLEMENT	(5% of Embankment Height)		FT
M.O.L. DEPTH	(Depth to hold Manure, Wastewater, Runoff, and Precip.)	1.19	FT
Total Depth of the Storage Facility		4.0	FT

#### STORAGE FACILITY ELEVATIONS



STORAGE SIZING	IS STORAGE RECTANGULAR OR ROUND ?	1	(1 = Rectangular; 2 = Round)
	SIDE SLOPES OF STORAGE	0.0	:1 (Use "0" for walls)
	CHOOSE A BOTTOM WIDTH	45	FT
	BOTTOM LENGTH REQUIRED	94	FT
	ROUND STORAGE BOTTOM DIAMETER REQUIRED	N.A.	FT

#### STORAGE SIZING SUMMARY

RECTANGULAR	BOTTOM SIDE 1:	45	FT	
	BOTTOM SIDE 2:	94	FT	
	M.O.L. VOLUME PROVIDED:	5,015	CU FT	37,513 GALLONS
	DAYS STORAGE PROVIDED:	5	DAYS	
	TOTAL VOLUME FROM BOTTOM TO SETTLED TOP:	16,921	CU FT	126,567 GALLONS
ROUND	CHOOSE BOTTOM:	N.A.	FT DIAM	
	M.O.L. VOLUME PROVIDED:	0	CU FT	0 GALLONS
	DAYS STORAGE PROVIDED:	0	DAYS	
	TOTAL VOLUME FROM BOTTOM TO SETTLED TOP:	0	CU FT	0 GALLONS