Wisconsin Department of Natural Resources
Bureau of Watershed Management (WT/3)
101 S. Webster Street
PO Box 7921
Madison, WI 53707-7921
dnr.wi.gov

Final Report

Agricultural Targeted Runoff Management & Notice of Discharge Grant Programs

Form 3400-189A (R 8/15)

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		
Bush Barnyard Runoff Project		
Grant Number	**Governmental Unit Name**	
BR03-27000-N14B	Jackson County Land Conservation Department	
County	**Watershed Name**	**12-Digit HUC**
Jackson	Big and Douglas Creek	070400071203
Project Contact Name	**Phone Number**	**E-mail Address**
Bush Barnyard Runoff Project	(715) 284-0256	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					Animal Units	Nearest Receiving Waterbody	
Lucille and Bert Bush					123	Woodward Creek	
Township	**Range**	**E / W**	**Section**	**Quarter**	**Quarter/Quarter**	**Latitude**	**Longitude**
20	05	W	31	NE	SE	44.169	-91.0164

Compliance Requirements - 1

Chs. NR 151 or 243 Wis. Adm. Code Notice Type	Notice letter attached	Compliance achieved? If no, explain in site information	Compliance determination letter attached
NOI / NOD	☒	◉ Yes ○ No	☒

☒ 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.

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	500	Feet	Code(s) 13	$4,500.00			
Trail And Walkways	200	Feet	Code(s) 13	$1,000.00			41
Barnyard Runoff Control Systems	1	No.	Code(s) 11,12,13	$73,592.60	109		
Livestock Fencing	1,000	Feet	Code(s) 13	$1,000.00			
Livestock Watering Facilities	3	No.	Code(s) 13	$3,000.00			
Roofs	1	No.	Code(s) 10,11,12	$25,400.00			
Well Decommissioning	1	No.	Code(s)	$211.00			
Nutrient Management	87	Acres	Code(s) 9	$1,566.00			

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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 structural Best Management Practices were completed by August 2015. The Nutrient Management Plan was submitted in March 2016. The project is now complete as of April 2016.

☐ 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
Ron Carney	Land Conservation and Agriculture Committee Chair	04/19/2016

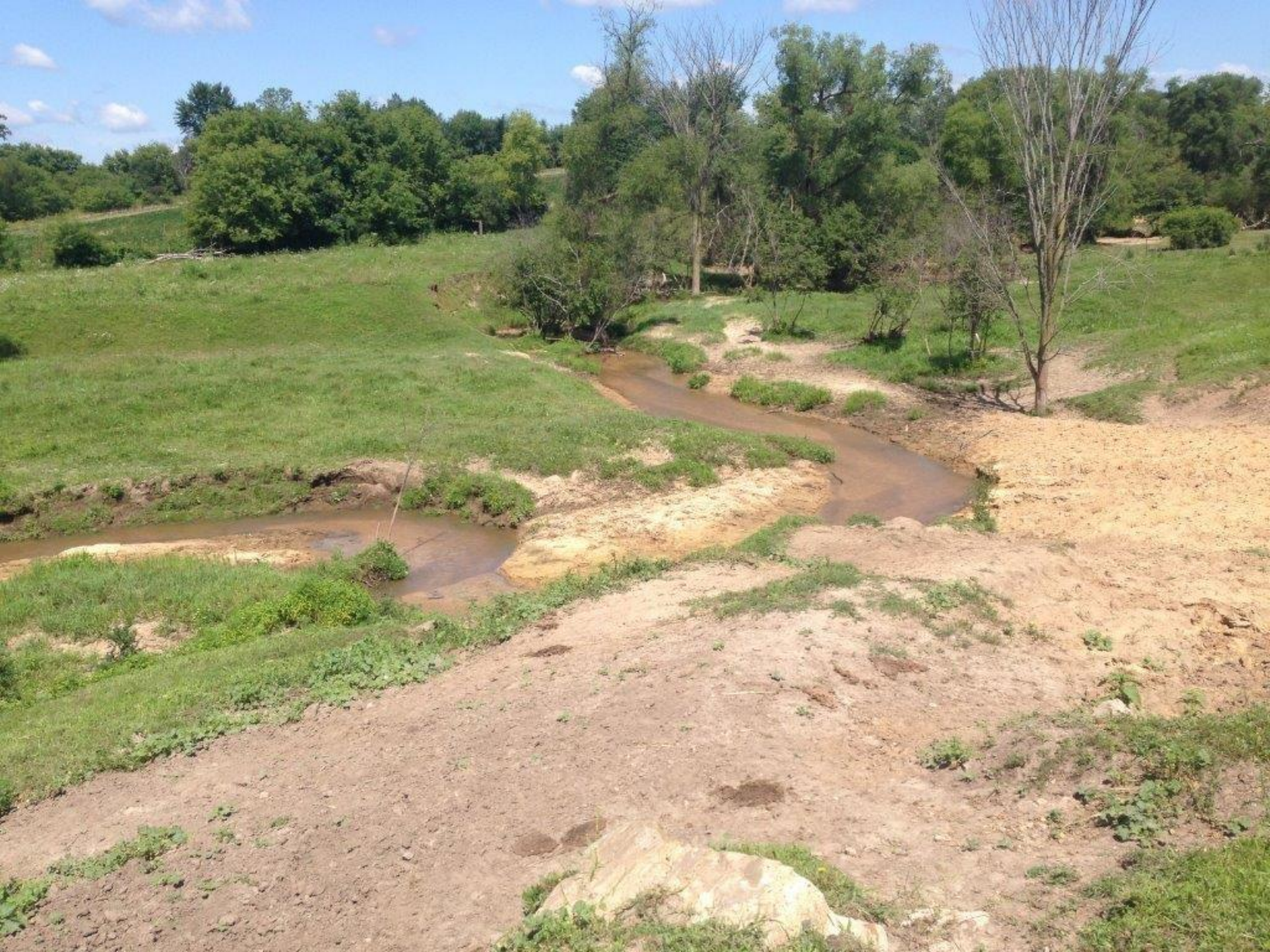
For DNR Use Only

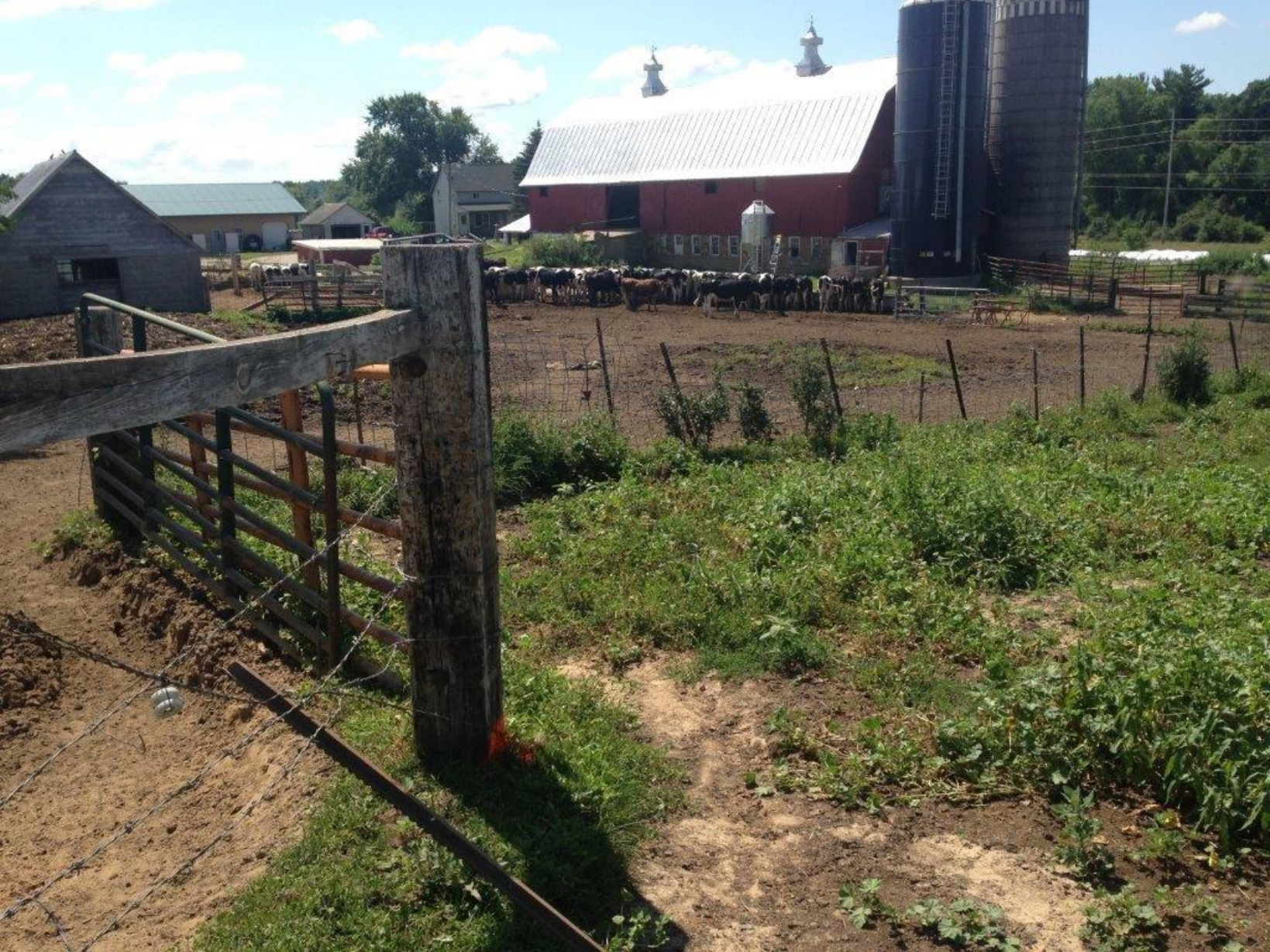
- ☐ Received complete reports with all attachments
- ☐ Practices implemented were consistent with the grant agreement

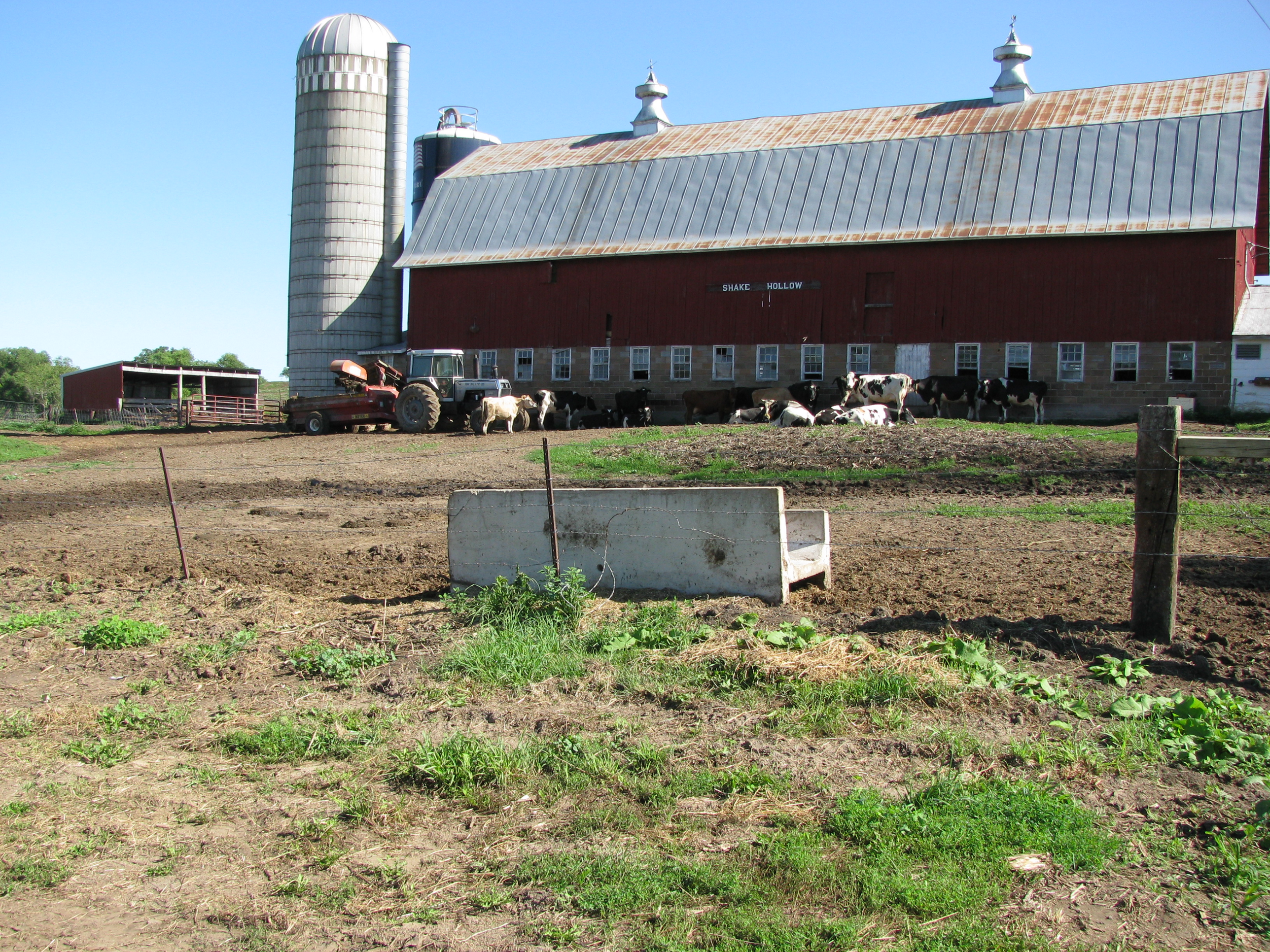
Comments about this project:

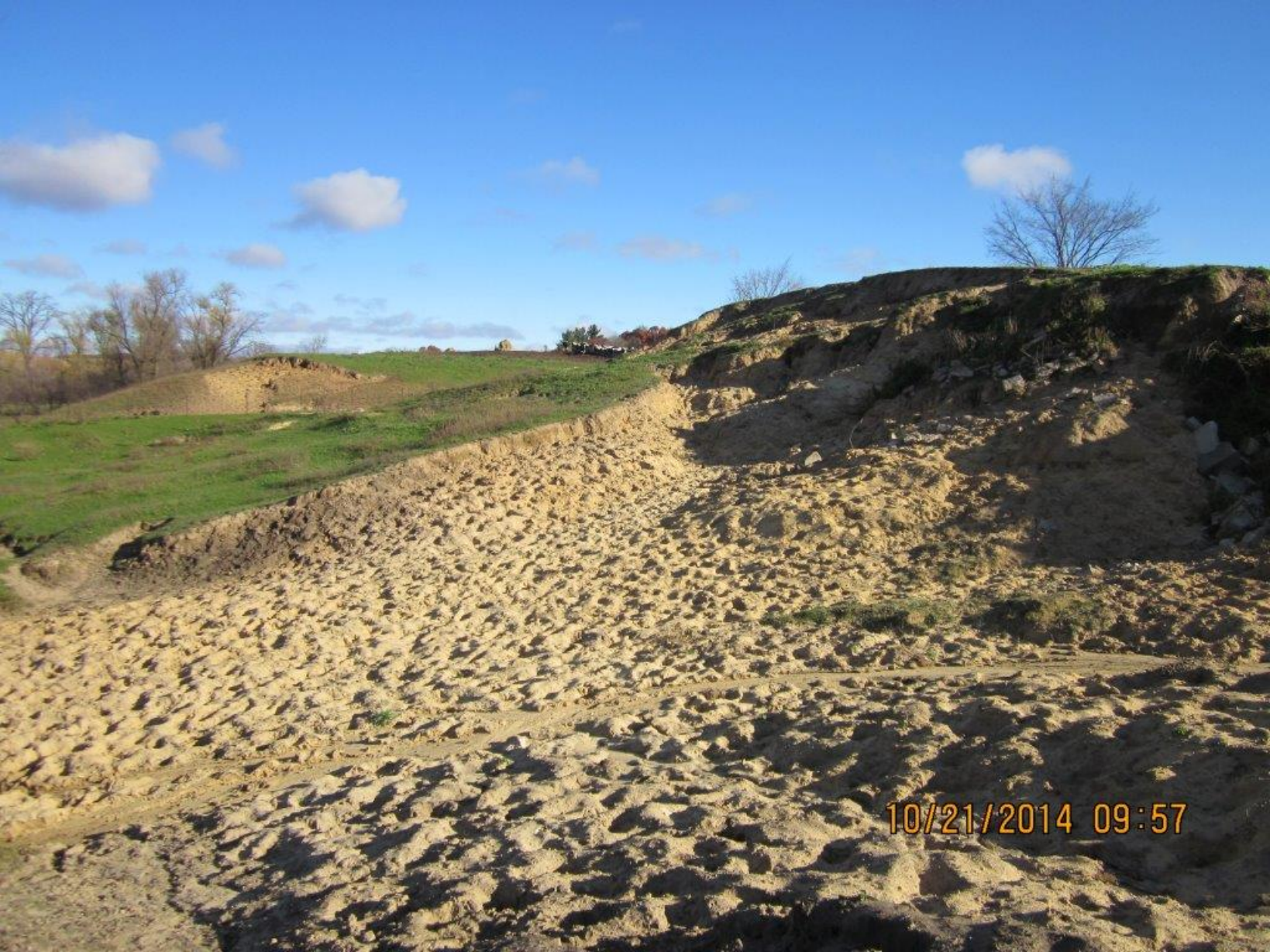
Name of Region Nonpoint Source Coordinator	Date

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.






SHAKE HOLLOW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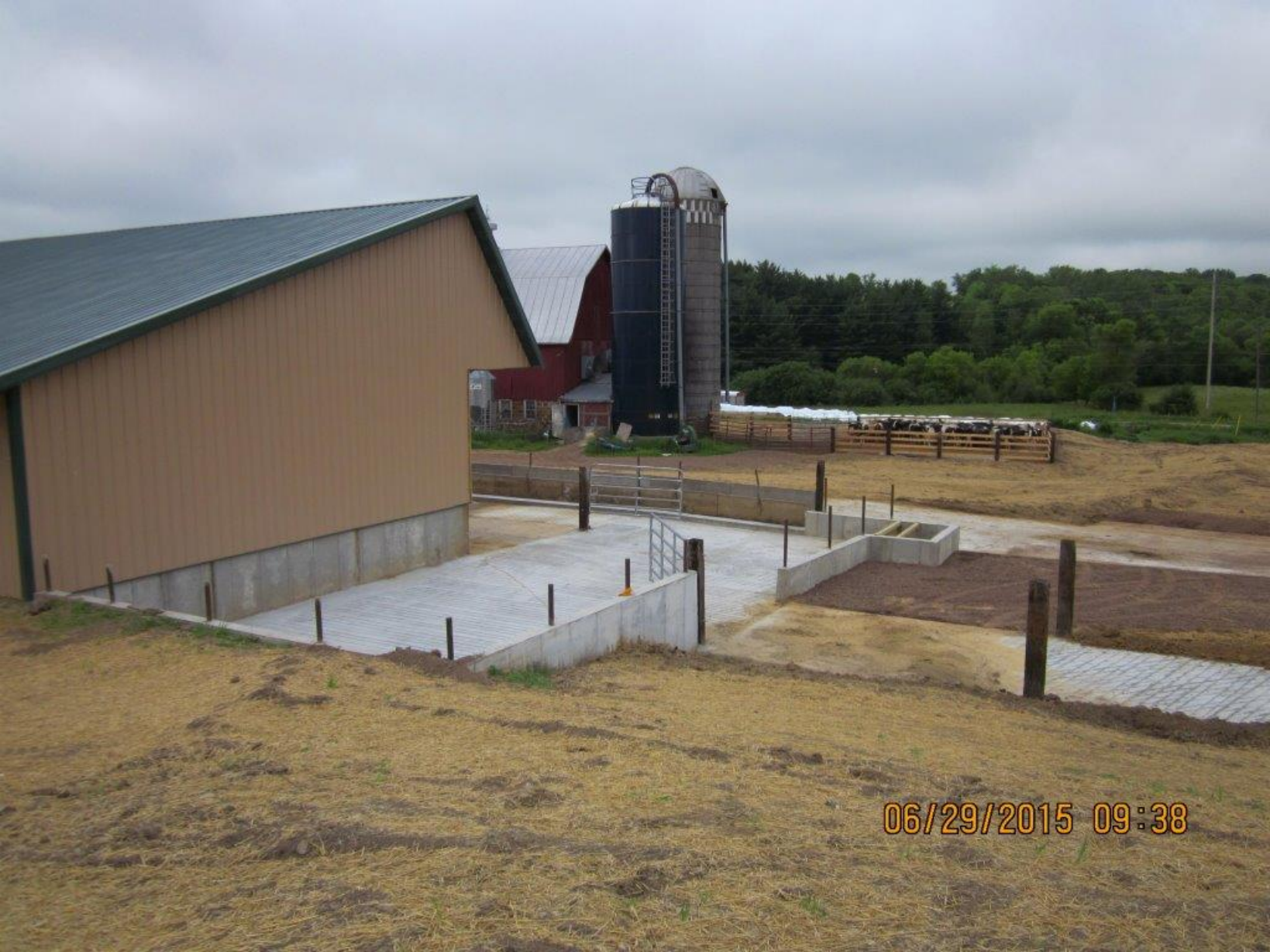
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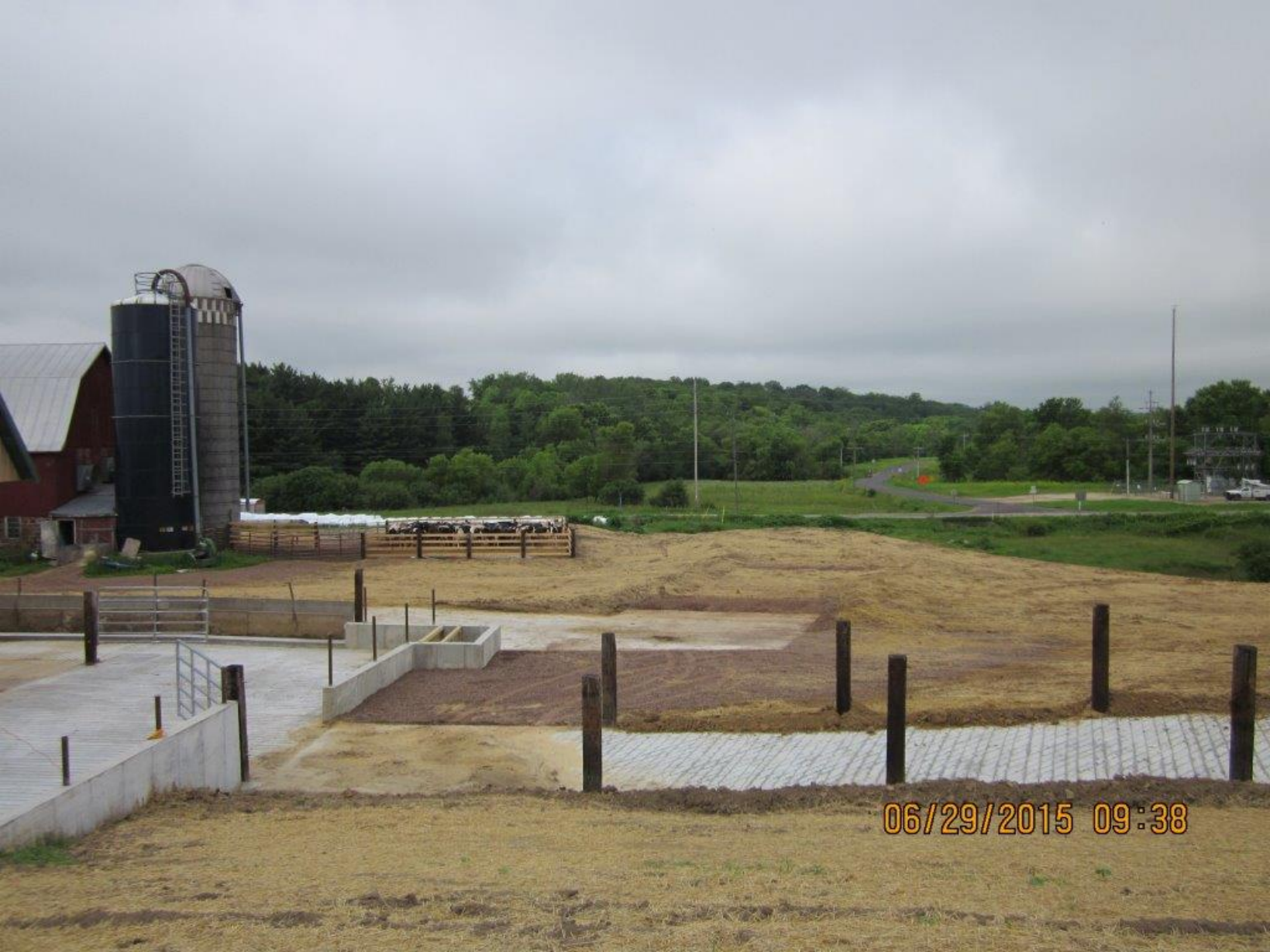
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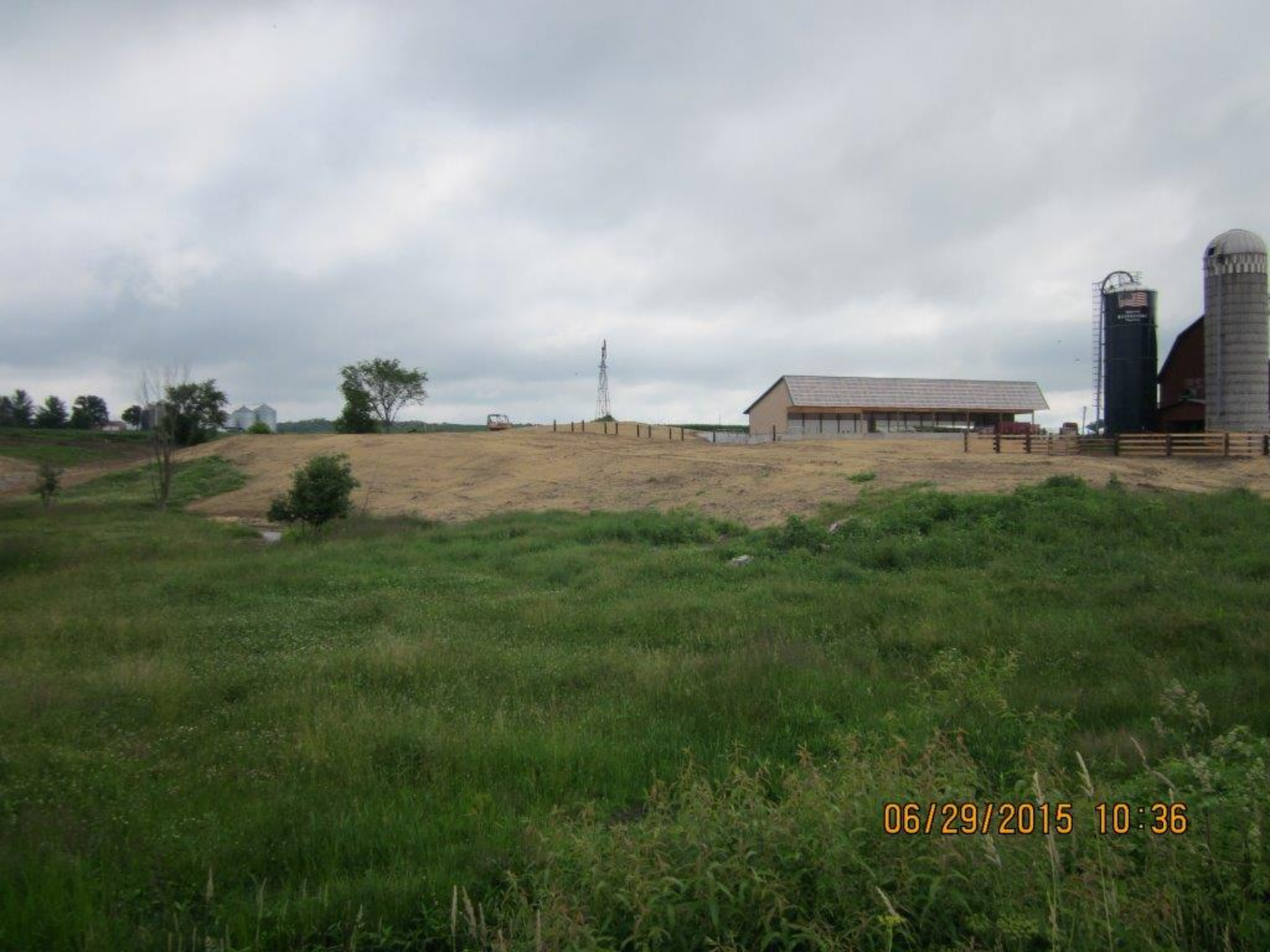
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BUFFER DESIGN USING BARNY

OWNER: Bert Bush — DESIGNER: mg — DATE: 8/1/2014

UPPER LOT (BEFORE) — CHK BY: — DATE:

	Input	Output	
Closest City of similar climate:	4		1 Madison, 2 Appleton, 3 Wausau, 4 Eau Claire
Paved lot area:	0		sq ft
Earth lot area:	14,400		sq ft
Animal Lot size:		14,400	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	2,400	sq ft		sq ft
Runoff Curve Number:	90			
Roof area:	600	sq ft		

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

Maximum permissible P Output that can be released: 0 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	0	ft (See Note Below)
	Slope:	0	
	"c" :	0	→
Second Buffer	Length:	0	ft
	Slope:	0	
	"c" :	0	

P (lbs) after the buffers: 43.8 lbs P per year

NO GOOD - Too much P released

"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

BUFFER SIZING

		14,400 sq ft	Min. Acceptable Buffer Area
Chosen Buffer Width	0 feet		
		0 feet	Min. Bfr. Len. Based on BARNY
		#DIV/0! feet	Min. Bfr. Len. Based on Area
Chosen Buffer Length	0 feet	#DIV/0!	

SOIL LOSS CALCULATION

$$2'' \times 43560\ FT^2 \times \frac{90\#/FT^3}{2000\#/TON} \times 1/8\ YRS = 40.8\ TONS/YEAR$$

BUFFER DESIGN USING BARNY

OWNER: Bert Bush (UPPER LOT CAFFERS)

DESIGNER: mg

DATE: 8/1/2014

CHK BY:

DATE:

	input	Output	
			1 Madison 2 Appleton 3 Wausau 4 Eau Claire
Closest City of similar climate:	4		
Paved lot area:	4,153		sq ft
Earth lot area:	0		sq ft
Animal Lot size:		4,153	sq ft
Is there a DESIGNED settling basin	1		Yes= 1; No= 2
Animals on lot:	50 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	800 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	0 sq ft	sq ft
Runoff Curve Number:	90	
Roof area:	754 sq ft	

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

Maximum permissible P Output that can be released: 5 lbs

Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	143	ft (See Note Below)
	Slope:	4	%
	"c" :	0.29	→
Second Buffer	Length:	65	ft
	Slope:	2	%
	"c" :	0.22	

P (lbs) after the buffers: 4.9 lbs P per year

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below.

"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

BUFFER SIZING

6,230 sq ft — Min. Acceptable Buffer Area

Chosen Buffer Width: 20 feet

208 feet — Min. Bfr. Len. Based on BARNY

311 feet — Min. Bfr. Len. Based on Area

Chosen Buffer Length: 208 feet

No Good- Area is too small

BUFFER DESIGN USING BARNY

OWNER: Bert Bush — DESIGNER: mg — DATE: 8/1/2014

LOWER LOT (BEFORE) — CHK BY: — DATE:

	Input	Output	
			1 Madison 2 Appleton 3 Wausau 4 Eau Claire
Closest City of similar climate:	4		
Paved lot area:	0		sq ft
Earth lot area:	16,000		sq ft
Animal Lot size:		16,000	sq ft
Is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	40 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	1,400 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:	3,000	sq ft		sq ft
Runoff Curve Number:	90			
Roof area:	2,200	sq ft		

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

Maximum permissible P Output that can be released: 0 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	0	ft (See Note Below)
	Slope:	0	
	"c" :	0	→
Second Buffer	Length:	0	ft
	Slope:	0	
	"c" :	0	

P (lbs) after the buffers: 74.8 lbs P per year

NO GOOD - Too much P released

"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

BUFFER SIZING

16,000 sq ft — Min. Acceptable Buffer Area

Chosen Buffer Width: 0 feet

0 feet — Min. Bfr. Len. Based on BARNY

#DIV/0! feet — Min. Bfr. Len. Based on Area

Chosen Buffer Length: 0 feet — #DIV/0!

BUFFER DESIGN USING BARNY

OWNER: Bert Bush — DESIGNER: mg — DATE: 6/15/2015

Lower Lot (After) — CHK BY: _____ — DATE: _____

	Input	Output	
			1 Madison 2 Appleton 3 Wausau 4 Eau Claire
Closest City of similar climate:	4		
Paved lot area:	3,854		sq ft
Earth lot area:	0		sq ft
Animal Lot size:		3,854	sq ft
is there a DESIGNED settling basin	2		Yes= 1; No= 2
Animals on lot:	40 number		number
Type of animal:	1		(Dairy = 1; Beef=2)
Ave. Animal Weight:	1,400 lbs		lbs
Lot Use:	1		1= Heavy; 2= Medium; 3= Light)

TRIBUTARY AREAS

Tributary area:		sq ft	sq ft
Runoff Curve Number:			
Roof area:		sq ft	

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

Maximum permissible P Output that can be released: 5 lbs — Your choice based on impacted resources- Max is 15

BUFFERS - Size by trial and error

First Buffer	Length:	110	ft (See Note Below)
	Slope:	2	%
	"c" :	0.29	→
Second Buffer	Length:	90	ft
	Slope:	3.7	%
	"c" :	0.59	

P (lbs) after the buffers: 4.9 lbs P per year

GOOD - Buffer length, slope, and type is OK; proceed with final area sizing calcs below.

"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

BUFFER SIZING

5,781 sq ft — Min. Acceptable Buffer Area

Chosen Buffer Width: 43 feet

200 feet — Min. Bfr. Len. Based on BARNY

200 feet — Min. Bfr. Len. Based on Area

Chosen Buffer Length: 200 feet — Good Design

ARM-LWR-480 (06/10)

Wisconsin Department of Agriculture, Trade & Consumer Protection
Division of Agricultural Resource Management
Bureau of Land and Water Resources
PO Box 8911, Madison WI 53708-8911, Phone: 608-224-4605

Nutrient Management Plan Checklist

Sec. 92.05(3)(k), Wis. Stats.
ATCP 50.04(3) Wis. Admin. Code

Use this form to check nutrient management (NM) plans for compliance with the WI NRCS 590 Standard (Sept. 2005).

County name: Jackson Date Plan Submitted: 3/2016 Growing season year NM plan is written for 2016 (from harvest to harvest)
Township (T. 20 N) – (R. 6 W ☒Initial Plan or ☐ Updated Plan (choose one)

Name of qualified nutrient management planner		Planner's business name, address, phone:
Mark Schaffner CCA # 359887		Dairyland Labs 608-323-0044
Circle the planner's qualification: 1. ☐ NAICC-CPCC 2. ☒ ASA-CCA 3. ☐ ASA-Professional Agronomist 4. ☐ SSSA-Soil Scientist 5. ☐ DATCP approved training course 6. ☐ Other credentials approved by DATCP	Cropland Acres (owned & rented) 87	Name of farm operator receiving nutrient management plan: Bushway Farms. LLC (Bert Bush)
		Rented farm(s) landowner name(s) and acreage:

Check relevant program requirement/regulation plan developed for: ☐Ordinance ☐USDA ☒DATCP ☐DNR ☐NR 243 – ☐NOD or ☐WPDES

		Yes	No	NA
1.	**Are the following field features identified on maps or aerial photos in the plan?**			
a.	Field location, soil survey map unit(s), field boundary, acres and field identification number	x		
b.	Areas prohibited from receiving nutrient applications: Surface water, established concentrated flow channels with perennial cover, permanent non-harvested vegetative buffer, non-farmed wetlands, sinkholes, lands where established vegetation is not removed, nonmetallic mines, and fields eroding at a rate exceeding tolerable soil loss (T)	x		
c.	Areas within 50 feet of a potable drinking water well where mechanically-applied manure is prohibited	x		
d.	Areas prohibited from receiving winter nutrient applications: Slopes > 9% (12% if contour-cropped); Surface Water Quality Management Area (SWQMA) defined as land within 1,000 ft of lakes and ponds or within 300 ft of perennial streams draining to these waters, unless manure is deposited through winter gleaning/pasturing of plant residue and not exceeding the N and P requirements of this standard; Additional areas identified within a conservation plan as contributing runoff to surface or groundwater	x		
e.	Areas where winter applications are restricted unless effectively incorporated within 72 hours: Land contributing runoff within 200 feet upslope of direct conduits to groundwater such as a well, sinkhole, fractured bedrock at the surface, tile inlet, or nonmetallic mine	x		
f.	Sites vulnerable to N leaching: Areas within 1,000 feet of a municipal well, and soils listed in Appendix 1 of the Conservation Planning Technical Note WI-1	x		
2.	**Are erosion controls implemented so the crop rotation will not exceed T on fields that receive nutrients according to the conservation plan or WI P Index model?**	x		
3.	**Were soil samples collected and analyzed within the last 4 years according to UW Publication A2100 recommendations?**		x	
4.	**Using the field's predominant soil series and realistic yield goals, are planned nutrient application rates, timing, and methods of all forms of N, P, and K listed in the plan and consistent with UW Publication A 2809, *Soil Test Recommendations for Field, Vegetable and Fruit Crops,* and the 590 standard?**	x		
5.	**Do manure production and collection estimates correspond to the acreage needed in the plan? Are manure application rates realistic for the calibrated equipment used?**	x		
6.	**Is a single phosphorus (P) assessment of either the P Index or soil test P management strategy uniformly applied to all fields within a tract?**	x		
7.	**Are areas of concentrated flow, resulting in reoccurring gullies, planned to be protected with perennial vegetative cover?**	x		
8.	**Will nutrient applications on non-frozen soil within the SWQMA comply with the following?**			
a.	Unincorporated liquid manure on unsaturated soils will be applied according to Table 1 of the 590 standard to minimize runoff			x
b.	One or more of the following practices will be used: 1) Install/maintain permanent vegetative buffers, or 2) Maintain greater than 30% crop residue or vegetative coverage on the surface after nutrient application, or 3) Incorporate nutrients leaving adequate residue to meet tolerable soil loss, or 4) Establish fall cover crops promptly following application	x		

I certify that the nutrient management plan represented by this checklist complies with Wisconsin's NRCS 590 nutrient management standard.

Signature of qualified nutrient management planner 3/5/16

JACKSON COUNTY LAND CONSERVATION DEPARTMENT
307 Main Street, Courthouse
Black River Falls, WI. 54615

Telephone: (715) 284-0256
Fax: (715) 284-0238

April 15, 2016

Bert and Lucille Bush
N2750 County Road N
Melrose, WI 54642

Subject: NR 151 Performance Standards and Prohibitions
Jackson County Livestock and Animal Facility License 2014 – 198 – L

Dear Bert and Lucille,

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-07-2014. 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. 20 N., R. 5 W. Section 31, Part of the East One-Half of the Northeast 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. 20 N., R. 5 W. Section 31, Part of the East One-Half of the Northeast 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 123 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 September 2014.

Compliance with the state and county performance standards listed in this letter and the cost-share agreement NOD-JC-07-2014 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 715.284.0256.

Sincerely,

Gaylord E. Olson II

Gaylord E. Olson II
County Conservationist

Cc: Cindy Koperski - DNR Regional Coordinator

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
3550 Mormon Coulee Road
La Crosse WI 54601

Scott Walker, Governor
Cathy Stepp, Secretary
Scott Humrickhouse, Regional Director
Telephone 608-785-9000
FAX 608-785-9990

WISCONSIN
DEPT. OF NATURAL RESOURCES

July 29, 2014

Bert E. and Lucille Bush
N2750 County Road N
Melrose, WI 54642

Subject: Notice of Discharge - Category II

Dear Mr. Bush:

I am writing to you regarding water quality impacts associated with your dairy operation. In August, 2013, Gaylord Olson of the Jackson County Land Conservation Department and I visited your property located in the East One-Half of the Northeast Quarter, Section 31, Township 20 North, Range 5 West, in the Town of Irving. A noncompliant feedlot was causing manure runoff to flow overland towards Woodward Creek. The Department considers this discharge a serious violation, especially since Woodward Creek is an impaired water of the state.

This letter is official notification that you are hereby issued a Category II Notice of Discharge (NOD) in accordance with section NR 243.24(1)(b), Wis. Adm. Code. This NOD serves as an order to correct these unacceptable management practices. State Law requires you to meet the requirements of this NOD without the guarantee of cost share dollars.

Since you have cooperatively agreed to correct the problem and work with the Jackson County Land Conservation Department, they have worked to secure funding for your project. They were successful in securing funding from the Wisconsin DNR on your behalf.

In order to comply with this NOD, you must take corrective action on your property identified above by **September 30, 2015.** If the discharge is not permanently eliminated or significantly reduced by this date, the Department may take additional stepped enforcement action that includes issuance of citations, issuance of a WPDES permit or take other appropriate enforcement action such as referral to the Department of Justice for prosecution.

Specifically, you must install permanent best management practices to address discharges from your operation. There are a number of best management practices that could be used to address discharges from your facility including but not limited to the following:

Roofed Feedlot
Animal Trails & Walkways
Livestock Watering Facilities
Streambank Rip-rapping
Streambank Fencing
Barnyard Runoff Control Systems
Livestock Fencing
Sediment Basins
Streambank Shaping and Seeding

By taking these measures to address the discharges, you will also find that you have achieved compliance with one or more state agricultural performance standards and prohibitions contained in subchapter II of Chapter NR

151. In accordance with NR 151, once you achieve compliance with a state performance standard or prohibition, you and all future landowners must maintain that compliance without regard to future cost sharing.

I encourage you to continue to work cooperatively with the Jackson County Land Conservation Department to take the necessary management actions to improve the water quality of Woodward Creek.

Your cooperation in this matter is appreciated. Feel free to contact me at (608) 785-9984 if you have further questions.

Sincerely,

Cindy Koperski
Runoff Management Specialist

Cc: Gaylord Olson, Jackson County Land Conservation Department
Bob Baczynski – WD – Baldwin DNR
Amy Callis – WT/3, Madison DNR
Dave Calhoon – CF/2, Madison DNR