

Goodhue County Board of Adjustment Government Center- Board Room 509 West 5th St, Red Wing MN 55066

Virtual Meeting Notice

Virtual Meeting Notice: The Goodhue County Board of Adjustment will be conducting a meeting on January 25th, 2021 at 5:00 p.m. Due to concerns surrounding the spread of COVID-19, the meeting and all public hearings will be conducted by telephone or other electronic means.

The public may monitor the meeting from a remote site by logging into https://global.gotomeeting.com/join/426791997 or calling 1-877-568-4106 beginning at 4:50 PM or any time during the meeting. Access Code: 426-791-997

Public Comments: Interested persons must submit comments by phone, in writing, or via email until noon on Monday, January 25th, 2021. To submit your comments please email them to samantha.pierret@co.goodhue.mn.us or mail them to the Land Use Management Department at 509 West 5th Street, Red Wing, MN 55066. Comments received by this deadline will be read into the record during the public hearing for that item, including name and address.

Call Meeting To Order

Approval Of Current Agenda

Approval Of Previous Month's Meeting Minutes

1. November 16, 2020 BOA Minutes

Documents:

MINUTES_NOVEMBER_BOA_DRAFT.PDF

Appointment Of Chair And Vice-Chair

Conflict/Disclosure Of Interests

PUBLIC HEARING: Request For Variance To Setback Standards

Request for Variance, submitted by Dan Bauer (Owner) to Shoreland setback standards to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse. Parcel 38.033.0700. 45451 145th AVE Zumbrota, MN 55992. Part of the SE ¼ of the NW ¼ of Section 33 TWP 110 Range 16 in Minneola Township.

Documents:

BOAPACKET_BAUER_REDACTED.PDF

Other-Discussion

Adjourn

Anyone interested is invited to attend. Agenda items may be subject to change.

Goodhue County Land Use Management

* Goodhue County Government Center * 509 West Fifth Street * Red Wing * Minnesota * 55066 * Building * Planning * Zoning * Telephone: 651/385-3104 * Fax: 651/385-3106 *

BOARD OF ADJUSTMENT GOODHUE COUNTY, MN November 16th, 2020 MEETING MINUTES

DRAFT

The meeting of the Goodhue County Board of Adjustment was called to order at 5:00 PM by Chair Knott virtually via GoToMeeting with staff members present at the Goodhue County Government Center Basement IT Conference Room.

Roll Call

Commissioners Present virtually via GoToMeeting: Daniel Knott, Rich Ellingsberg, Darwin Fox, Robert Benson and Denny Tebbe

Commissioners Absent: None

Staff Present: Land Use Director Lisa Hanni (virtually via GoToMeeting), Zoning Administrator Ryan Bechel and Zoning Assistant Samantha Pierret

1. Approval of Agenda

¹Motion by **Fox**, and seconded by **Benson** to approve the meeting agenda.

Motion carried 5:0

2. Approval of Minutes

Chair Knott noted an error on page three of the October meeting minuted regarding the motions. Staff noted they would correct this error.

²Motion by **Tebbe** and seconded by **Benson** to approve the previous month's meeting minutes as corrected.

Motion carried 5:0

3. Conflict/Disclosure of Interest

Commissioner Ellingsberg noted he is close neighbors to the Ostertags but does not feel that there is a conflict of interest.

4. Public Hearings:

PUBLIC HEARING: Request for Variance to Feedlot Setback Standards

Request for Variance, submitted by Benjamin and Dana Ostertag (Owners/Operators), to Article 13 (Confined Feedlot Regulations) setback standards to allow establishment of a new Feedlot within 1000 feet of existing dwellings. Parcel 36.012.0800. 5163 480th Street, Kenyon, MN 55946. Part of the SW ½ of Section 12 TWP 109 Range 18 in Kenyon Township. A1 Zoned District.

Pierret presented the staff report and attachments.

Chair Knott opened the Public Hearing.

Staff read an email received prior to the meeting:

Cory Loudy (neighboring property owner) questioned the variance request given past County regulations regarding feedlots.

 \mathcal{C} hair Knott guestioned who the commenter was.

Staff confirmed the commenter was Cory Loudy who received a public hearing notice.

Commissioner Ellingsberg clarified the location of Mr. Loudy's property.

BOARD OF ADJUSTMENT GOODHUE COUNTY, MN November 16th, 2020 MEETING MINUTES

DRAFT

³ After Chair Knott asked three times for comments it was moved by Fox and seconded by Benson to close the public hearing.

Motion carried 5:0

Commissioner Tebbe questioned the number of animals that could be registered on the site.

Bechel stated the A-1 Zoning District allows for 500 animal units before a Conditional Use Permit is required. He noted the Applicants have requested 100 head of cattle or 102.5 Animal Units.

4Motion by Benson, seconded by Fox, for the Board of Adjustment to:

- adopt the staff report into the record;
- adopt the findings of fact;
- accept the application, testimony, exhibits, and other evidence presented into the record; and

APPROVE the request for variance, submitted by Benjamin and Dana Ostertag (Owners/Operators) to Article 13 (Confined Feedlot Regulations) setback standards to allow a new feedlot to be established no closer than 475 feet from two existing dwellings.

Motion carried 5:0

ADJOURN

⁵Motion by Tebbe, seconded by Benson to adjourn the BOA meeting at 5:24 PM.

Motion carried 5:0

Respectfully submitted:

Samantha Pierret, Goodhue County Zoning Assistant

MOTIONS

¹ APPROVE the meeting agenda. Motion carried 5:0

² APPROVE the previous meeting's minutes as corrected. Motion carried 5:0

³ Close the Public Hearing. Motion carried 5:0

⁴ APPROVE the request for variance to allow a new feedlot within 1000 feet of two dwellings. Motion carried 5:0

⁵ ADJOURN. Motion carried 5:0

Goodhue County Land Use Management

Goodhue County Government Center | 509 West Fifth Street | Red Wing, Minnesota 55066

Lisa M. Hanni, L.S. Director

Building | Planning | Zoning Telephone: 651.385.3104 Fax: 651.385.3106



County Surveyor / Recorder

Environmental Health | Land Surveying | GIS Telephone: 651.385.3223 Fax: 651.385.3098

To: Board of Adjustment **From:** Land Use Management **Meeting Date:** January 25, 2021 **Report date:** January 15, 2021

PUBLIC HEARING: Request for Variance, submitted by Dan Bauer (Owner) to Shoreland setback standards to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse.

Application Information:

Applicant: Dan Bauer (Owner)

Address of zoning request: 45451 145th AVE Zumbrota, MN 55992

Parcel: 38.033.0700

Abbreviated Legal Description: Part of the SE 1/4 of the NW 1/4 of Section 33 TWP 110 Range 16 in

Minneola Township.

Township Information: Minneola Township signed acknowledgment of the variance request on

December 17th, 2020.

Attachments and Links:

Application and submitted project summary

Site Maps

Goodhue County Zoning Ordinance:

http://www.co.goodhue.mn.us/DocumentCenter/View/2428

Background:

Dan Bauer (owner), has applied for a variance to Shoreland minimum setback standards to construct a 40-foot x 48-foot cattle shed addition to an existing shed in the southeast corner of his property. The proposed addition would be 87-feet from the Ordinary High Water Mark (OHWM) of a public watercourse where 100 feet is required by Ordinance.

Variance Standards:

Variances shall only be permitted when they are in harmony with the general purposes and intent of the Goodhue County Zoning Ordinance and when consistent with the adopted comprehensive plan. Variances may be granted when the applicant establishes "practical difficulties" exist in complying with the existing official controls. Practical difficulties mean the applicant proposes to use the property in a reasonable manner not permitted by an official control, the plight of the landowner is due to circumstances unique to the property not created by the landowner, and the variance, if granted, will not alter the essential character of the locality. Economic considerations alone do not constitute practical difficulties.

Draft Findings of Fact:

1) Harmony with the general purposes and intent of the official control:

- Goodhue County has adopted state Shoreland regulations (Chapter 103F) by reference in Article 31 of the Zoning Ordinance. Shoreland District setbacks are intended to prevent sediment and nutrient pollution into public water bodies by providing a vegetated area for runoff to be naturally slowed and filtered prior to draining into adjacent waters.
- The Applicant's proposed shed addition would encroach 13-feet into the required 100-foot Ordinary High Water Mark setback for the unnamed creek crossing the property. The shed addition is proposed to relocate the existing open-air cattle feeding area to the covered shed. Doing so would improve manure management and reduce the potential for nutrient and sediment runoff into the adjacent stream.

The request appears in harmony with the purpose and intent of the official control.

2) The variance request is consistent with the adopted Comprehensive Plan:

- The Goodhue County Comprehensive Plan supports animal agriculture operations and the implementation of best management practices for these operations.
- The Comprehensive Plan also prioritizes providing guidance for the responsible development of shorelands of public waters, preserving and enhancing the quality of surface waters.
 - The proposed cattle shed addition is consistent with the Goodhue County Comprehensive Plan.
- 3) There are "practical difficulties" in complying with the official control (the applicant proposes to use the property in a reasonable manner not permitted by an official control, the plight of the landowner is due to circumstances unique to the property not created by the landowner, and the variance, if granted, will not alter the essential character of the locality):
 - The Applicant is proposing to construct a 40-foot x 48-foot cattle shed addition on the property. There are no size restrictions for agriculture buildings in the A-1 Zoning District.
 - The parcel is a conforming size at approximately 30.4-acres in the A-1 Zoning District (2-acre minimum). A majority of the parcel is classified as shoreland along the unnamed public watercourse. A single-family dwelling and associated agricultural buildings are currently on the site.
 - The property is currently a 48 animal unit registered feedlot with the housing heifers and calves. An increase to the animal unit numbers is not proposed with this project, the shed addition will be used to house existing cattle.
 - The Applicant's proposal to construct a cattle shed addition is a reasonable use of the existing residential/agricultural property in the A-1 District.
 - The Applicant will be required to obtain appropriate permits from the Goodhue County Building Permits Department prior to construction of the addition.
 - The land north of the proposed shed addition is occupied by the driveway access to the property. The addition cannot be constructed on the east side of the structure due to Right-of-Way setback requirements from 145th Avenue (minimum 60-feet from edge of R-O-W).
 - The existing structure to be added onto has a lean-to which is closer to the public watercourse than the proposed addition. There is also an existing barn where the cattle currently reside/feed and silos all less than 100 feet from the OHWM. These structures are legal pre-existing non-conforming buildings.
 - The property owner worked with the Goodhue Soil and Water Conservation District and Feedlot Officer during the summer of 2020 to improve manure management on the property and the water quality of the watercourse. Previously, the cattle had 24/7 access to the watercourse.

To reduce sediment and nutrient loading to the stream the applicant implemented the following measures (details found on Site Plan provided by Beau Kennedy, SWCD):

- Concrete was poured creating a cattle lane from the existing cattle feeding area to the proposed addition. A curb was poured on the south side slope and the concrete was sloped away from the watercourse towards a buffer area.
- An "auto-waterer" was installed in the area of the proposed addition.
- A concrete ramp was poured along with a concrete spreader northwest of the existing cattle feeding area.
- Grass buffer areas were installed east and west of the existing feeding area along the watercourse.
- Permanent fencing was installed creating cattle lanes to the newly paved areas. Fencing was also installed to create an equipment access and cattle lane to access land south of the watercourse.
- Approximately 1.5 acres of the property around the watercourse is to be seeded and managed as pasture. When conditions are suitable, flash grazing is allowed so long as permanent vegetation is maintained.
- All adjacent land is zoned A-1 (Agriculture Protection District) and is used primarily for rowcrop agriculture. Much of the land is also classified shoreland due to the public watercourse traversing the area.

New construction on existing feedlots must meet a 91% odor annoyance free rating from any existing dwelling other than those accessory to a feedlot operation. The nearest dwelling, (owned by Thomas Johnson) achieves an odor annoyance free rating of 99%.

The request appears unlikely to alter the essential character of the locality.

4) No variance may be granted that would allow any use that is not allowed in the zoning district in which the subject property is located.

 Agricultural buildings are a permitted use in the A-1 Zoning District. The request does not constitute a use variance.

The draft Findings of Fact shall be amended to reflect concerns conveyed at the Board of Adjustment meeting and public hearing.

The Board should specify the facts and reasons that are the basis of the Board's determination. In granting a variance, the Board of Adjustment may impose conditions directly related to, and bearing a rough proportionality with, the impact(s) created by the variance.

Staff Recommendation:

- adopt the staff report into the record;
- adopt the findings of fact;
- accept the application, testimony, exhibits, and other evidence presented into the record; and

APPROVE the request for a variance, submitted by Dan Bauer (owner) to Shoreland setback standards to allow construction of an accessory building addition 87-feet from the Ordinary High Watermark of a public watercourse.

_APPLICATION FOR Variance DEC 2 2 2020

RECEIVED

For Staff Use	only
VARIANCE NUMBER:	720-0072
\$350 RECEIPT	DATE 12, 22-8

process and the second	Land Use Manag	gernene			
SITE ADDRESS, CITY, AND STATE LEGAL DESCRIPTION:	AVE TI	mbrut	a, mN		5599J
ELONE DESCRIPTION.					Attached □
PID#: Z	ONING DISTRICT LOT AREA (SF/A	ACRES): LOT DIMENS	SIONS:	STRUCTURE DIMEN	
R38.038,6706				4014	8 FT
APPLICANT OR AUTHORIZED AGENT'S NAME					
Hersol Ben					
APPLICANT'S ADDRESS:	. ^		TELEPHONE:		
45451 1454	in Hive		- EMAIL:		
Zumbrota	MN 559	9 2			,,
PROPERTY OWNER'S NAME::					
PROPERTY OWNER'S ADDRESS:	. baner		TELEPHONE:		
45451 1454	7 Ave				
Zumbnita.	MN 5594	77	EMAIL:		
	, , , , , , , , ,	1			
CONTACT FOR PROJECTINFORMATION:					
Same as Above					
ADDRESS:			TELEPHONE:		
1					
=			EMAIL:		
A STATE OF THE STA					
		Lauperuranner	MAUA VAC	-11-202-11-3-7/7-1	
VARIANCE REQUESTED TO: (check all that apply)	CURRENT OR PREV	1003 05E:		
Road Right-Of-Way Setbacks	% Lot Coverage				
	_	PROPOSED USE:			
Property Line Setbacks	Bluff Setbacks				
☐Height Limits	Shoreland Setbacks	BUILDING APPLICA	FION PERMIT NO.: (iffiled)	DATEFI	,ED:
		1			
Lot Width &/or Area	Other (specify)				
Subdivision Regulations					
TOWNSHIP SIGNATURE: By signing this form, the Township act	cnowledges they are suggested	no Appliance	anno roquest		
In no way does signing this application	n indicate the Township's posit	ion on the varianc	erequest.		Attached
TOWNSHIP OFFICAL'S SIGNATURE	11	TOWNSHIP OFFICA	L'S PRINTED NAME AND TITLE		DATE
They then		Rilein L	Sidensiek	Chair	1=/17/20
By signing below, the applicant ac	knowledges:				
1. The undersigned is the owner		wner of this pro	perty.		
2. The information presented is t					
3. If I am unable to be present at t		st is acted upon,	I agree to accept the	Notice of Decision	via mail.
4. Additional information or app	lications may be required				
\mathcal{D}_{2}	3				
Applicant's Signature:	Jan			Date:	
34	UKT				
Dani Ra	10 6			an and the said and the said	
Print name: 1/1 N BA	, w. x. v		(owner o	or authorized agent	IJ

(owner or authorized agent)

Please cite the	Ordinance Articl	e(s) and Section(s) you are	e requesting a va	riance from:		
Article:	Section:	Name:		·		
Article:	Section:	Name:				
You, or your a	gent, bear the bur	FION & JUSTIFICATI den of providing information aces below or in an attached ard to review.	on to convince th			
Pobl	on co	property and the reason for the Shed -	to hous	e cattle	during	Winter rs.
Not	ableto	erty if the variance is not have Cattle	granted:	isting pr	operty	Which
Describe any						
complying w	th the provisions	mitations that exist on your of the current ordinance:				
Discuss alterr for rejecting to	natives you consider the Hear	of the current ordinance	sting standards.	If compliant altern	atives exist, provi	de your reasoning
Discuss alterr for rejecting to Onc Cost	natives you consider the Hear and uncertainty	ered that comply with exication of the current profile of the comply with exication of the comply with exication of the comply which the comply which ered that would require a	sting standards. Anot for forme Wood Id lesser variance.	If compliant alternation of the other	actives exist, provi	de your reasoning INCE: INCVENCE to Sarm San vide your

MAP 01: PROPERTY OVERVIEW



BOARD OF ADJUSTMENT

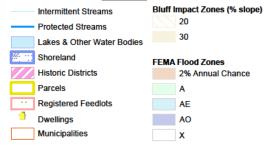
Public Hearing January 25th, 2021

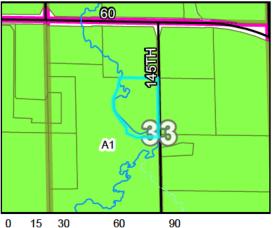
Dan Bauer (Owner) A1 Zoned District

Part of the SE 1/4 of the NW 1/4 of Section 33 TWP 110 Range 16 in Minneola Township

Variance request to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse

Legend





DATA DISCLAIMER: Goodhue County assumes NO liability for the accuracy or completeness of this map OR responsibility for any associated direct, indirect, or consequential damages that may result from its use or misuse. Goodhue County Copyright 2021.

US Feet

MAP 01: PROPERTY OVERVIEW



BOARD OF ADJUSTMENT

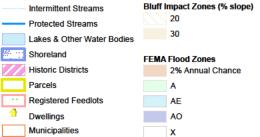
Public Hearing January 25th, 2021

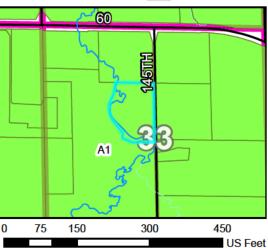
Dan Bauer (Owner) A1 Zoned District

Part of the SE 1/4 of the NW 1/4 of Section 33 TWP 110 Range 16 in Minneola Township

Variance request to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse

Legend

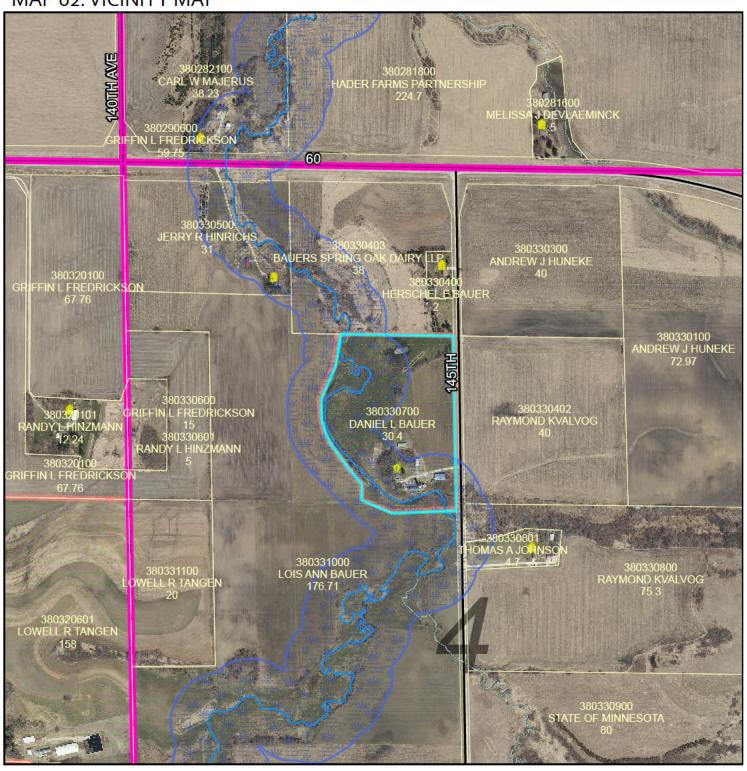




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MAP 02: VICINITY MAP



BOARD OF ADJUSTMENT

Public Hearing January 25th, 2021

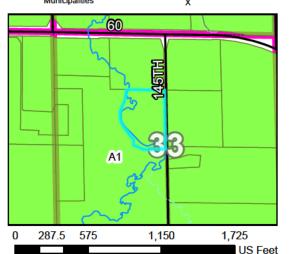
Dan Bauer (Owner) A1 Zoned District

Part of the SE 1/4 of the NW 1/4 of Section 33 TWP 110 Range 16 in Minneola Township

Variance request to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse

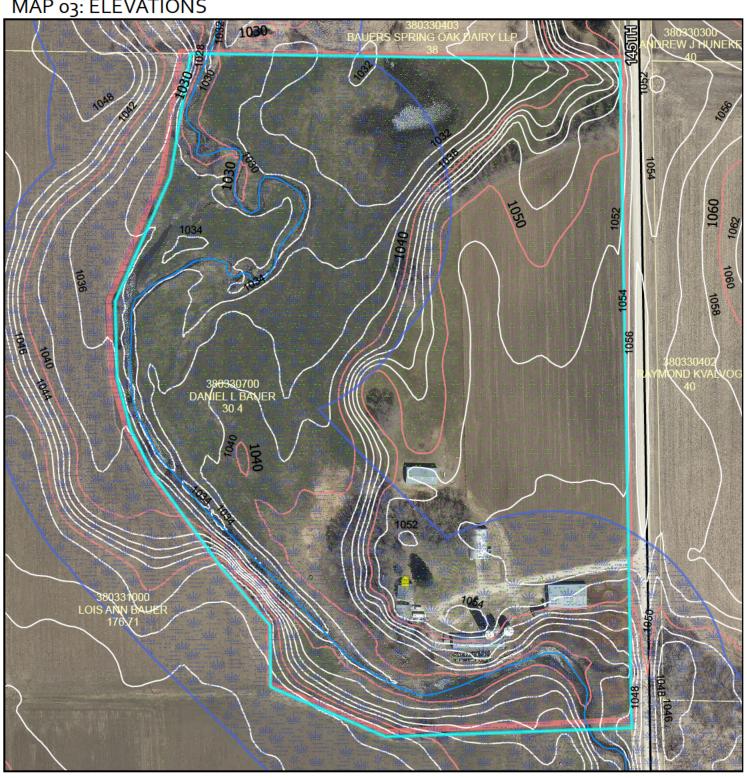
Legend

	Intermittent Streams	Bluff Impact Zones (% slope
	Protected Streams	20
	Lakes & Other Water Bodies	30
	Shoreland	FEMA Flood Zones
	Historic Districts	2% Annual Chance
	Parcels	Α
	Registered Feedlots	AE
1	Dwellings	AO
	Municipalities	V



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MAP 03: ELEVATIONS



BOARD OF ADJUSTMENT

Public Hearing January 25th, 2021

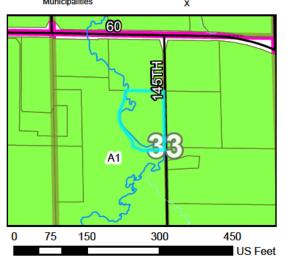
Dan Bauer (Owner) A1 Zoned District

Part of the SE 1/4 of the NW 1/4 of Section 33 TWP 110 Range 16 in Minneola Township

Variance request to construct a cattle shed addition less than 100 feet from the Ordinary High Water Mark of a public watercourse

Legend

	Intermittent Streams	Biuli impact Zones (% stope
	Protected Streams	20
	Lakes & Other Water Bodies	30
	Shoreland	FEMA Flood Zones
	Historic Districts	2% Annual Chance
	Parcels	Α
	Registered Feedlots	AE
1	Dwellings	AO
	Municipalities	



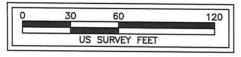
DATA DISCLAIMER: Goodhue County assumes NO liability for the accuracy or completeness of this map OR responsibility for any associated direct, indirect, or consequential damages that may result from its use or misuse. Goodhue County Copyright 2021.



Site Plan - Feed Fix Herschel Bauer CONCRETE FLATWORK AROUND AUTO WATERER 20FTX40FT WIT 30FT OF 1FT CURB ON SOUTH SIDE SLOPE SURROUNDING LAND SURFACE AN Y FROM CONCRETE, SLOPE CONCRETE TOWARDS BUFFER AREA CONCRETE CATTLE LANE WITH PERMANENT FENCING. CONCRETE TOWARDS BUFFE AREA CONCRETE SPREADER Y 20FT SEE CONCRETE RAMP 10:1 S MAX SEE DETAIL EQUIPMENT ACCESS FIELD ROAD AND CATTLE LANE WITH PERMANENT FENCING, 20FT WIDE GRASS BUFFER AREA PERMANENT FENCING, CATTLE LANE, 8FT WIDE EARTHEN PORTION OF EXISTING OPEN LOT MUST BE SEEDED DOWN AND MANAGED AS PASTURE FLASH GRAZING IS ALLOWED WHEN CONDITIONS ARE SUITABLE AS LONG AS PERMANENT VEGETATION IS MAINTAINED

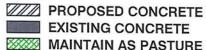
Landowner: Bauer Practice: Feedlot Fix

Location: Section 33, Minneola Township Goodhue County MN



LEGEND:







RECEIVED

APR 7 5 2019

GOODHUE SWCD 104 EAST 3RD AVENUE - PO Box 335 GOODHUE, MN 55027 651-923-5286 Ext 4

Feedlot registration form

Feedlot Program

Doc Type: Feedlot Registration

Instructions: Minn. R. ch. 7020 requires most owners of livestock operations to provide information requested in this form to the Minnesota Pollution Control Agency (MPCA) at least once in a four-year cycle, unless a permit application has been made. Feedlots with a National Pollutant Discharge Elimination System (NPDES) or State Disposal System (SDS) permit cannot use this form to document change of name or ownership.

dress The information	n below reflect	s a change	to the name of a	an existing r	egistered	facility.
451 145th Ave						
a		State:				
Email:		5.00000 A				
n The information bel	ow reflects a c	hange of ow	nership of an ex	xisting regis	tered facil	itv.
		Name:				
1480 Ave		Address:				
	e: MN	City:			8	State:
Zip: _559°	12	Phone:				
ormation						
	City/Town	ship:	Minne	ala		
Range (1-51)	Section (1-36)	1	1/4 Section			
10W	33		SE			
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ormation (indicate comp	ponents that ar	re currently p	part of your lives	stock or pou	ltry operat	lion)
of the year					F	
her) that are designed as a	nimal holding	areas			X Yes	□ No
hat is the shortest distance	from an				Yes Yes	☐ No
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Number of animals at the facility

If you currently do not maintain animals at the site, list the date that you last had animals (mm/dd/yyyy):	1 1
if you cantonly do not maintain an inc one increase and i	

Enter in column C the maximum number of animals that you have maintained (standing herd or flock size) at the facility at any given time in the past five years.

Then calculate the animal units in column D by multiplying the value in column C by the value in column B.

Α	В	С	D
Animal type	Animal unit factor	Maximum number (head) maintained at anytime in past 5 years	Animal Units (B x C)
Dairy – mature cow (milked or dry) over 1,000 lbs.	1.4	20	28
Dairy – mature cow (milked or dry) under 1,000 lbs.	1.0		
Dairy – heifer	0.7	60	42
Dairy – calf	0.2	26	- 4
Beef – slaughter steer or stock cow	1.0		
Beef - feeder cattle (stocker or backgrounding) or heifer	0.7		
Beef – cow and calf pair	1.2		
Beef – calf	0.2		
Veal – calf	0.2		
Swine – over 300 pounds	0.4		
Swine – between 55 and 300 pounds	0.3		
Swine – under 55 pounds (and separated from sow)	0.05		
Horse	1.0		
Sheep or lamb	0.1		
Chickens – all sizes with liquid manure system	0.033		
Chickens – broiler 5 lbs. and over – dry manure system	0.005		
Chickens – broiler under 5 lbs. – dry manure system	0.003		
Chickens – layers 5 lbs. and over – dry manure system	0.005		
Chickens – layers under 5 lbs. – dry manure system	0.003		
Turkeys – over 5 lbs.	0.018		
Turkeys – under 5 lbs.	0.005		
Ducks – dry manure system	0.01		
Ducks – liquid manure system	0.01		
Other animals (not listed above - specify in space below):			
		100	Total AU

Signature (perso	on completing the form) and Submittal	0 11 0
Print name:	Kelsey Petit	TILLO: Goodhue, County
Signature:	Kilsey & Pily	Date:4/15/19

* updated at the 4/15/19 inspection with Dan Baner.

800-657-3864

Odors From Feedlots Setback Estimation Tool

Farm Name Dan Bauer

Address or County Goodhue Couny

Evaluator K. Pe it

12/22/2020

Clear All

OFFSET Ver 2.0 University of Minnesota 1/21/2017

OFFSET
Annoyance-free
more than 99%

Source Edge to Nearest Neighbor (ft) 1000
Source Edge to Property Line (ft) 175

Building Sources

Building Type	•	Width (ft)	Length (ft)	# of Similar Sources	Total Area (sqft)	Control Technology	% air treated
Dairy - loose housing	•	40	42	1	1680	None ▼	
None	•				0	None	
None	•				0	None ▼	
None	•				0	None ▼	
None	•				0	None ▼	
None	•				0	None	
None	-				0	Biofilter	

AREA SOURCES

Source Description	on	Shape		Width (ft) (or Dia)	Length (ft)	-	Area (sqft)	Control Technology
None	•	Rectangle					0	None ▼
None	•	Rectangle	•				0	None ▼
None	•	Rectangle	•				0	None ▼
None	•	Rectangle	•				0	None ▼
None	•	Rectangle	•				0	None ▼
None	•	Rectangle	•				0	None
None	•	Rectangle	,				0	None

Building Sources

Add Source Type

Name of Source
Odor Flux (ou/s/m2)
H2S Flux (ug/s/m2)
NH3 Flux (ug/s/m2)
Documentation

Add a Control Technology
Name of technology
Odor reduction (%)
H2S reduction (%)
NH3 Reduction (%)
Documentation

Area Sources	
Add a Source	Туре
Name of Source	
Odor Flux (ou/s/m2)	
H2S Flux (ug/s/m2)	
NH3 Flux (ug/s/m2)	
Documenta ion	
Add Control Ted	chnology
Add Control Tec	chnology
	hnology
Name of technology	hnology
Name of technology Odor reduction (%)	hnology
Name of technology Odor reduction (%) H2S reduction (%)	chnology
Name of technology Odor reduction (%) H2S reduction (%) NH3 Reduction (%)	chnology

OFFSET Summary and Results

Farm Name Dan Bauer County Goodhue Couny Evaluator K. Petit Date 12/22/2020

OFFSET Ver 2.0 **University of Minnesota**

*includes control technologies

Source Characteristics Summary					Flux Rates (with control technology)				Source Emission Rates*		
	Similar	Emit Area	Control Technology	Percent	Odor	OFFSET		Ammonia	Odor	H2S	Ammonia
	Sources	sq ft	Type	Treated	ou/s/m2	OER	ug/s/m2	ug/s/m2	ou/s	ug/s	ug/s
Buildings											
Dairy - loose housing	1	1680	None	0%	1.8	6.0	0.9	13.0	287	134	2030
				\bot							
Area Sources											
										ı	1

		. 99% -	
Total Site Area (ft2)	1,680	98% -	
ission Factor (TOEF)	1	97% -	
2S Emissions (mg/s)	0	9 0,70	
AVERAGE (lbs/day)	0	≥ 96% -	
ission MAX (lbs/day)	0	> 95% -	
S Emissions (tons/vr)	Λ	E 0.40/-	

Source Edge to Nearest Neighbor (ft)	1000
OFFSET Annoyance-free frequency	0%

Total Site H2S Emission AVERAGE (lbs/day) Total Site H2S Emission MAX (lbs/day) Total Site H2S Emissions (tons/yr)

Total Site Ammonia Emissions MAX (lbs/day) Total Site Ammonia Emissions (tons/yr)

Total Site Ammonia Emission AVERAGE (lbs/day)

Total Odor Emission Factor (TOEF) Total Site H2S Emissions (mg/s)

Total Site Ammonia Emissions (mg/s)

Site Emissions

