Preliminary & Field Evaluation Form 23-149

Type III Mound

www.SepticResource.com vers 12.4

Owner Information								
Date	9/9/2023			Sec / Twp / Rng	S-25, T-49, R-	23		
Parcel ID	29-1-500200			LUG (county, city, township)	Aitkin Co.			
Property Owner:	: Jesse Dill			Owners address (if different)	Addition.			
Property Address:	16225 Gosha	wk St. McGr	egor MN	10140 Pond	s Circle			
City / State / Zip:								
Elko New Market MN 55020								
Flow Information and Waste Type / Strength								
Estimated Desire 6				W 027 A	•			
Estimated Design f	low600			Anticipated Waste strength	Hi Strength	✓ Domestic		
Comments: Type II	I mound (8" to	Mottles)		Any Non-Domestic Waste	Yes (class V)	✓ No		
	g onto an Existi	ng Mound	th end	Sewage ejector/grinder pump	Yes	✓ No		
Installer will raise	the existing was	hed Sand to E	lv.= 100'	Water softener	Yes	✓ No		
Bottom of New Rockbed will be at Elv.= 100'				Garbage Disposal	Yes	✓ No		
Aitkin Co Operatin Event Cour	g Permit Requirenter or Water Me			Daycare / In home business	Yes	☑ No		
			Site I	Information				
Existing & proposed lot Yes No improvements located (see site map)			✓ No	Well casing depth	Existing deep well			
Easements on lot lo (see site map)	ecated	Yes	✓ No	Drainfield w/in 100' of residential well	Yes	✓ No		
Property lines deter (see site map)	mined Found Su	✓ Yes rvey Pins	☐ No	Site w/in 200' of transient noncommunity water supply (T	Yes	✓ No		
Req'd setbacks dete (see site map)	rmined	✓ Yes	☐ No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	Yes	✓ No		
Utilities located & (gopher state one call		Yes	✓ No	Buried water supply pipe w/in 50' of system	Yes	✓ No		
Access for system r (shown on site map)	naintenance	✓ Yes	☐ No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	✓ Yes	☐ No		
Soil treatment area	protected	✓ Yes	☐ No	Site map prepared with previous items included	✓ Yes	□ No		
Construction related issues Reuse existing Tank 1830 2/Compartment tank.								
		Will need a	new Pump,	will need 2 new manhole cove	rs			

		Soil Information		
Original soils	✓ Yes 🔲 No	Evidence of site: Cut Filled Compacted Disturbed	☐ Yes☐ Yes☐ Yes☐ Yes☐ Yes☐ Yes☐ Yes☐ Yes	✓ No ✓ No ✓ No ✓ No
Soil logs completed and attached	Yes No	Perk test completed and attached (if applicable)	Yes	✓ No
Soil loading rate (gpd/ft ²)	0.60	Percolation rate (if applicable)		_
Depth/elev to SHWT Depth to system bottom	8" (+36")	Flooding or run-on potential (comments)	Yes	✓ No
maximum (or elev minimum) Depth/elev to standing water (if applicable)		Flood elevation (if applicable)		_
Depth/elev to bedrock (if applicable)		Elevation of ordinary high water level (if applicable)	1253.6	_
Soil Survey information determined (see attachment)	✓ Yes	Floodplain designation and elev - 100 yr/10 yr (if applicable)	NA	_
Differences between soil survey and field evaluation (if applicable)		Mound Grade Approx. Elv.= 1256'	Aitkin Co GIS M	ap.
I hereby certify this evaluation wa	s completed in accord	lance with MN 7080 and any local req's.		
all Browner	В	rummer Septic LLC.		L-1347
Designer Signature		ompany		License #

Soil Observation Log

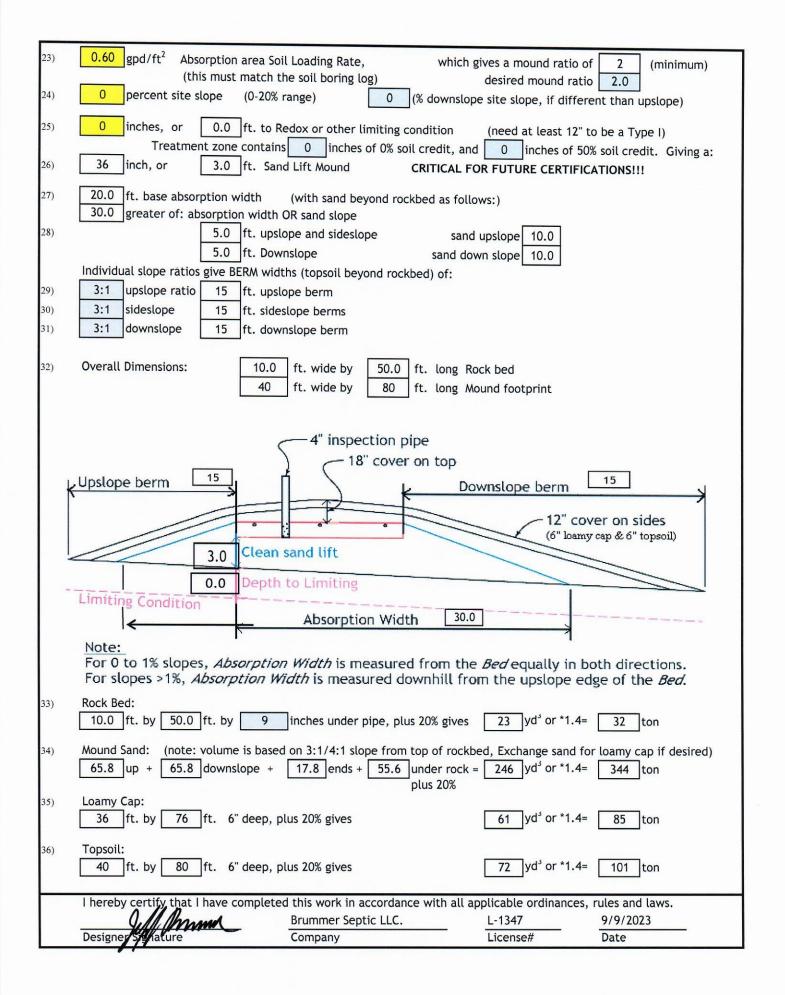
Vicinity in			Owner Inf	armation	www	.SepticResour	ce.com vers 12.4
Property Owner / project: Property Address / PID:		Jesse Dill 16225 Goshawk St. McGregor MN			Date	9/9	0/2023
			Soil Survey I	nformation	refe	r to attached s	oil survey
Parent matl's:		Till [✓ Outwash			Organic	Bedrock
landscape po	sition:	Summit	Shoulder	Side slope	Toe slope		
soil survey m	ap units:	564		slope 0	% direction-	,	_
			0.31	114			
		.	Soil Lo				
Depth (in)	Texture	Boring	Pit Elevation matrix color	97' redox color	Depth to SHWT consistence	grade	- alama
0 - 8	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	shape Granular
8 - 13	Peat /Loam	<35	10YR3/2		Loose	Loose	Granular
13 - 16	Med Sand	<35	10YR4/3	7.5YR5/6	Loose	Loose	Granular
Comments:				1			1

2011 purple code

Mound Design - Aitkin county

www.SepticResource.com (vers 15.2)

Property Owner:	Jesse Dill	Date: 9/9/2023
Site Address:	16225 Goshawk St. McGregor MN	PID: 29-1-500200
Comments:	Type III Mottles at 8", Extending Existing Mo	ound to 4 Bedrooms.
instructions: = ent	er data = adjust if desired	= computer calculated - DO NOT CHANGE!
1) 4 bedroom	Type III Residential	System
2) 600 GPD design fl	low	
3) No Garbage disp	osal or pumped to septic Reuse Existing	g 1860 Jacobson 2/Compartment tank (1230/630)
4) 1000 Gal Septic ta		eptic tank (design size / LUG req'd) options: none
5) 1.2 GPD/ft ² moul	nd sand loading rate contour loading i	rate of 12 req's a min 50 ft. long rockbed
6) 10.0 ft rockbed w	ridth 50.0 ft rockbed length	
7) 3.0 ft lateral spa		(maximum of 3 for both) old connection
8) 3 laterals	48.0 feet long 17.0 perfs / lateral (1/2 a perf means the	ol 51 perfs total e first perf starts at the middle feed manifold)
9) 1/4" inch perfs at	1 feet residual head gives 0.74	gpm flow rate per perforation
for this perf size & sp	pacing, & pipe size on line 12, max perfs/later	ral = 25 , line #8 must be less> OK
10) 7.0 doses per day	(4 minimum)	
11) 86 gallons per de	ose (treatment volume)	
12) 2.00 inch diamete	r laterals must be used to meet "4x pipe volun	
13) 20 feet of 14) 89 gallons TOTA	2.0 inch supply line leads to 3 L pump out volume (treatment + drainback)	gallons of drainback volume (Tip: "top feed" manifold to control the drainback)
gattons TOTA	c pump out volume (treatment + drainback)	
15)	lift from pump to mound laterals, leads to a: 18 feet of head, Pump requirement	(note: >50gpm may require an extra 3-6' of head)
17) 600 gal Dose tank leads to a	(code minimum) 630 gal Dose tank	(design size / LUG req'd) at 14.50 gpi
(this delivers A	verage flow, =70% of Peak design flow) 5.2	min ON (confirm pump rate with drawdown hrs OFF test and adjust as necessary)
	pottom of tank to "Pump ON" float	inches to "Timer ON" fleet if time decad
	pottom of tank to "Pump ON" float, or 12 oottom of tank to "Hi Level" float, or 31	inches to "Timer ON" float if time dosed inches to "Hi Level" float if time dosed
22) 326 gallons reserv	ve capacity (after High Level Alarm is activat	ted)



Installer Summary

1230 gallon Septic tank (minimum) Tank options: none Reuse Existing 1860 Jacobson 2/Compartment tank (1230/630) 630 gallon Dose tank (minimum) 38 GPM @ ft. of head, Pump required inch swing on Demand float which translates to roughly 4.1 inches of float tether length if time dosing is required --> 2.3 minutes ON time & 5.2 hours OFF time inches from bottom of tank to "pump ON" float, or inches to "timer ON" float 21 inches from bottom of tank to "Hi Level Alarm" or inches to "Hi level alarm" if time dosed 20 ft. of 2.0 inch supply line with end feed manifold connection (Tip: "top feed" manifold to control drainback) 36 inch, or 3.0 ft. Sand Lift Mound 10.0 ft. wide by 50.0 ft. long Rock bed 3 laterals 2.00 inch diameter 48.0 ft. long 3.0 ft. lateral spacing 1/4" inch perfs 3.0 ft. perforation spacing No Effluent filter & alarm 3 clean out & valve box assemblies 30.0 ft. Total sand ABSORPTION width (minimum) 10.0 |ft. upslope and sideslope (sand beyond rockbed, minimum) 10.0 ft. Downslope (sand beyond rockbed, minimum) Specific slope ratios give BERM widths (topsoil beyond rockbed) of: 3:1 upslope ratio 15 ft. upslope berm 3:1 sideslope 15 ft. sideslope berms 3:1 15 ft. downslope berm downslope 4" inspection pipe 18" cover on top 15 Upslope berm 15 Downslope berm 12" cover on sides (6" loamy cap & 6" topsoil) 3.0 Clean sand lift Depth to Limiting 0.0 Limiting Condition Absorption Width 30.0 Note: For 0 to 1% slopes, Absorption Width is measured from the Bed equally in both directions. For slopes >1%, Absorption Width is measured downhill from the upslope edge of the Bed. yd³ or *1.4= 23.0 Rock Bed: 32 ton inches under pipe vd³ or *1.4= 246 Mound Sand: 344 ton yd³ or *1.4= Loamy Cap: 61 85 ton 6" deep yd³ or *1.4= Topsoil: 72 101 6" deep

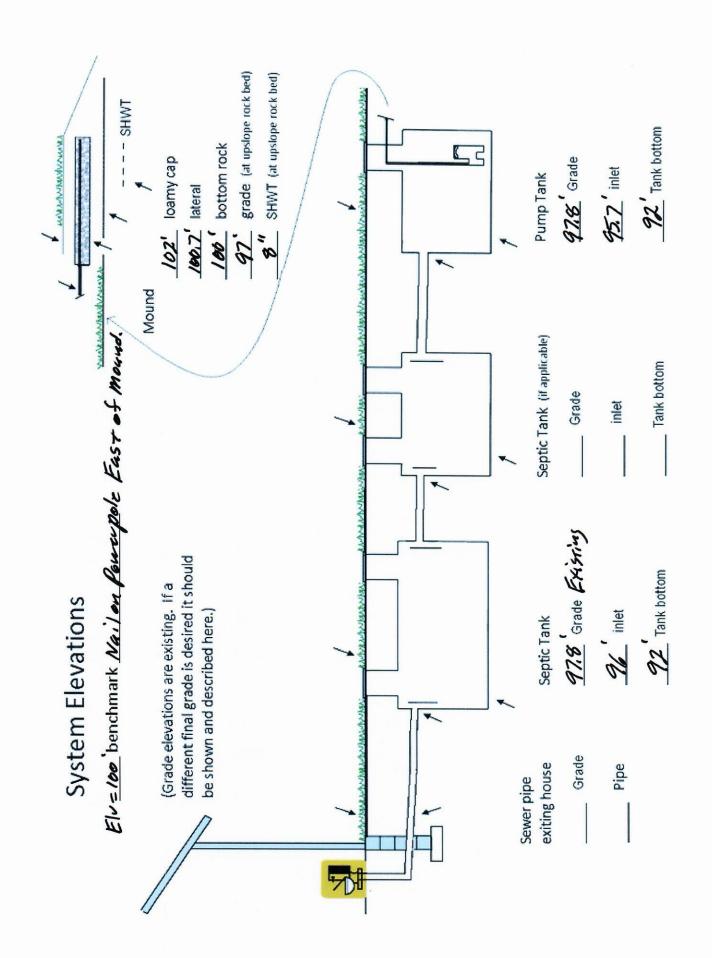
INSPECTOR CHECKLIST - mound 16225 Goshawk St. McGregor MN WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min) 50' to everything 100' to dispersal area with shallow well PROPERTY LINES setback: 10' to everything Road setback: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch. LAKE / BLUFF setback: 20' for bluff. Lakes: GD ____, RD ____, NE ____. Protected wetland ____. Building setbacks: 10' for everything, 20' for dispersal area. WATER LINE under pressure se 10' to bed, tank & sewer line. (else sewer line > 12" below, else ok w/pvc) Sewer line & baffle connection (no 90's, 3' between 45's, slope min 1" in 8', max 2" in 8') (no depth req's, clean out every 100', Sch 40 pipe) Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping) 1230 gallons none Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles. effluent filter & alarm Dose tank risers and piping (water tight, insulated, proper depth, drainback) 630 gallons dose pump ____ 38 gpm 18 head VERIFY PUMP CURVE 2.3 min ON 5.2 hr OFF float setting drop 6.1 inches at 14.5 gpi "DESIGNED" 4.1 inches approx float tether length 89.0 gal dose divided by gpi "INSTALLED" = inches float drop (field corrected LABEL pump requirements and drawdown on riser or panel Cam lock reachable from grade - 30" max. J-hook weep hole. Supply line access (no hard 90's) 2.0 inch supply pipe: Sch40, sloped 1/8"+, supported by 4" sch40 sleeve or compacted, and buried 6"+. splice box / control panel / electrical connections flow measurement: CT, ETM, time dosed, home water meter mound absorption area rough up mound rock dimensions X 10.0 50.0 Sand lift depth inches. (Jar test: 2" sand leaves < 1/8" silt after 30 min) Absorption Sand beyond rock 10.0 upslope 10.0 downslope Bermed topsoil beyond rockbed 15 upslope 15 sideslope 15 downslope cover depth of 12-18"+ **VERIFY** 3 laterals (1-2' from edge of rock) 2.00 inch pipe size (Sch40 pipe & fittings) 3.0 ft lateral spacing 1/4" inch perforations 3.0 ft perforation spacing Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY clean outs (no hard 90's) 4" inspection pipe to bottom of rock, anchored **VERIFY**

Re-use existing tank certification

Abandon existing system - if necessary

well abandonment form - if necessary

monitoring plan and type



Property Owner:

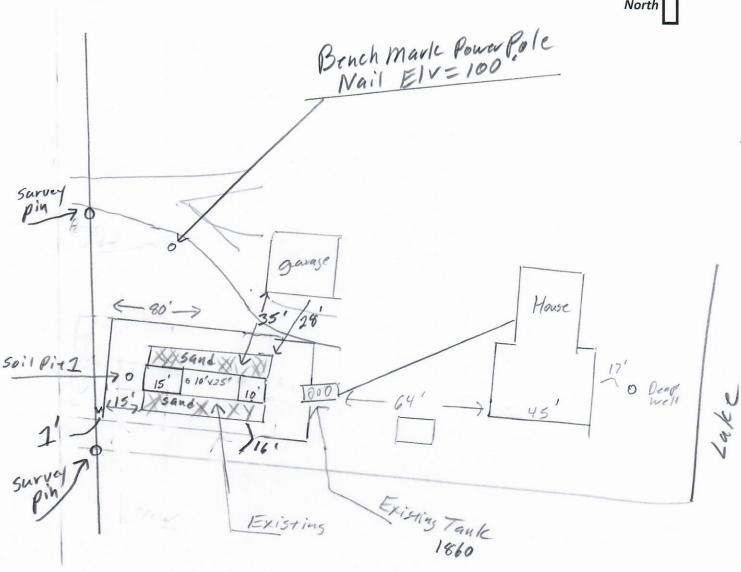
Jesse Dill

Date:

1/0/00 Designer's Initials: JB

Parcel ID. Number: one Inch = 40ft.

29-1-500200 Address: 16225 Goshawk St. McGregor MN



Surfa	ice/ SHWT Nail on Power Po	ole = Bench Mark 100'	Existing Grade
Soil Bore 1	Bench Mark	100'	Upslope Edge of Rockbed Elv.= 97'
Soil Bore 2	Ground Elv. BM		Bottom of Rockbed Elv.= 100'
Soil Bore 3	Ground Elv. Tank		Top of Washed Sand Elv.= 100'
	Ground at Existing house		Elv. Of Sewer pipe at Cabin Elv.=

Please show all that apply (Existing) Wells within 100ft. Of Drain field. Water lines within 10 ft. of Drain field.

Drain field Areas:

Please Draw to Scale with North to Top or Left Side of Page:

Disturbed/Compacted Areas Access Route for Tank Maintenance Component Location Property Lines OHW ordinary high water Structures Lot Easements Setbacks

{ Design Drawing }

Property Owner:

Jesse Dill

Date:

9/9/23

Designer's Initials:

JB

Parcel ID. Number: one Inch = 40ft.

29-1-500200 Address:

16225 Goshawk St. McGregor MN

Soil Pit #1 Elv.= 97'

Power Pole Grade Elv.= 97.7'

Bench Mark Nail on Power pole Elv. = 100'

Survey Pin NE lot Corner Elv.= 97.9'

Survey Pin NW lot Corner Elv.= 97.1'

Existing Septic/Pump tank Grade Elv.= 97.8'

Septic Tank Inlet Elv. = 96'

Pump Elv.= 93'

Concrete pad by front Door Elv.= 99.2'

House Grade at NW corner Elv.= 99.2'

Deep Well Grade Elv.= 99.4'

Top of Deep Well Cap Elv.= 101.1'

Shore of Round Lake Elv.= 96.2'

Round Lake Water Elv.= 93.8'

	Surface/ SHWT	Nail on Power Pole = Bench Mark 100'		k 100' Existing Grade
Soil Bore 1		Bench Mark	100'	Upslope Edge of Rockbed Elv.= 97'
Soil Bore 2		Ground Elv. BM		Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank		Top of Washed Sand Elv.= 100'
	Ground at	Existing house		Elv. Of Sewer pipe at Cabin Elv.=

Please show all that apply (Existing)

Wells within 100ft. Of Drain field.

Water lines within 10 ft. of Drain field.

Drain field Areas:

Please Draw to Scale with North to Top or Left Side of Page:

Disturbed/Compacted Areas

Component Location OHW ordinary high water Access Route for Tank Maintenance

Property Lines

Structures

Mound Design Notes - Aitkin county

Property Owner:	Jesse Dill	Date	e:	9/9/23		
Site Address	16225 Goshawk St. McGregor MN	l PIE): 2	9-1-500200	-	
Comments					sign.	
2 Existing well loo 3 Existing 1860 J	I mound , (Soil Separation 8") size cation is on the Lake side of House. acobson 2/Compartment Septic/ Pu	of house. mp tank to be reused		Septic / 630 Pu	ump)	
	will be added on to (adding 2 bedr	- 3				
	will have to have its washed sand r					
	adding 10 ft of rockbed to the South			the North end.		
	m corner will be 1 ft from property lin					
4 The house is gr	ravity flow from NE side of house, in	stall clean-out near h	ouse.			
5 Lot is Flat, Reu	se existing 1860 tank.					
South Mound B	erm will be approx. 3 ft over tank. Ir	staller will Raise mar	nholes to	above grade.		
	tall new manhole covers as the exis					
6 The berm slope	es are at 3:1. The SE Berm corner w	ill be 23 ft from garag	je, Absor	rption area will b	oe 28 ft.	
	ion area will be 16 ft from RW, 28 ft					
	Rockbed is 26 ft from Property line		on area	16 ft from West	Property line	
	our of rock bed upslope edge is 97'.					
	of the rock bed is 10' x 40' . Absorption	on area is 40' x 30 '.				
	n area is 10 ft. up slope + 10 ft. rock		= appro	x 30 ft wide sa	and hase	
	Upslope, 15ft. Down slope, 10ft. Ro				ind base.	
	size is approx. 40' wide x 80' long a				_	
	k is the nail on the Power Pole NE of					
	ole check bench mark. Installer shou				with inspector	
	record bench mark Elv. and sand h					
The top of the s	sand and bottom of rock bed is Elv.	100'.				
	nat the soils do not get compacted, a					
	cobson 1860 tank is gravity flow fro					
	89 gallons per dose, 6.1 inches of np with pump curve at 38GPM at 18		rm at 3 ii	ncnes from pum	p on level.	
	oles, inspection pipes and clean-out		(Recom	mend min. 4" at	oove grade)	
Install a 2" supp	oly pipe from tank to end manifold in	rock bed, install so p	oipe drain	ns back to tank.		
	s with 9" of rock under them. (Insta		at far end	d of laterals. Re	commended)	
	rf holes spaced 3 ft. on cent					
Install 4" inspec	ction pipe to bottom of rock bed, sec	ure in rock bed and r	aise to a	bove final grade) .	
	2 Install Event counter on Effluent pump, calibrate pump and give gallons per event to Owner.					
Owner can install a water meter on the inside of house water supply, instead of an event counter. 3 Designer does not guarantee or warranty any Type III systems.						
	kin Co. and MPCA recommendatio					
2/1	muse	Brummer Septic LLC		L-1347		
Design Sig	hature	Design Company		License#		

This System will require an Aitkin Co. Operator permit, annual inspection Owner and installer are responsible for owner knowing how system is maintained.



Sewage tank integrity assessment form

520 Lafayette Road North St. Paul, MN 55155-4194

Subsurface Sewage Treatment Systems (SSTS) Program

Doc Type: Compliance and Enforcement

Purpose: This form *may* be used to certify the compliance status of the sewage tank components of the SSTS. This form is not a complete SSTS inspection report, only a tank integrity assessment, and may only certify sewage tank compliance status when entirely completed and signed by a qualified professional. SSTS compliance inspection report forms can be found at: https://www.pca.state.mn.us/water/inspections.

Instructions: This form may be completed, and signed, by a Designated Certified Individual (DCI) of a licensed SSTS inspection, maintenance, installation, or service provider business who personally conducts the necessary procedures to assess the compliance status of each sewage tank in the system. Only a licensed maintenance business is authorized to pump the tank for assessment. A copy of this information should be submitted to the system owner and be maintained by the licensed SSTS business for a period of five (5) years from the assessment date.

When this form is signed by a qualified certified professional, it becomes *necessary supporting documentation* to an Existing System Compliance Inspection Report: <u>Compliance inspection form - Existing system (wq-wwists4-31b)</u>. This form can be found on the MPCA website at https://www.pca.state.mn.us/water/inspections.

The information and certified statement on this form is **required** when existing septic tank compliance status is determined by an individual other than the SSTS Inspector that submits an inspection report. This form represents a third party assessment of SSTS component compliance and is allowable under Minn. R. 7082.0700, subp. 4(B)(1). This form is valid for a period of three years beyond the signature date on this form unless a new evaluation is requested by the owner or owner's agent or is required according to local regulations. Additional Administrative Rule references for this activity can be found at Minn. R. 7082.0700, subp. 4(B),(C), and (D) and; Minn. R. 7083.0730(C).

Owner information		
Owner/Representative Dill, Jesse		1
Property address: 16225 Goshawk St		
Local Regulatory Authority: Aitkin County	Parcel ID	: 29-1-500200
System status		
System status on date (mm/dd/yyyy): 9/12/2	023	
□ Certificate of sewage tank com	npliance	ank non-compliance
	Compliance criteria:	
The SSTS has a seepage pit, cesspool, drywe Groundwater."	II, leaching pit, or other pit - "Failure to Protect	☐ Yes* ⊠ No
The SSTS has a sewage tank that leaks below Groundwater."	the designed operating depth - "Failure to Protect	☐ Yes* ⊠ No
The SSTS presents a threat to public safety by or weak) maintenance hole cover(s) or lids or a Public Health or Safety. "	reason of structurally unsound (damaged, cracked, any other unsafe condition - "Imminent Threat to	☐ Yes* ⊠ No
Any "yes" answ	er above indicates sewage tank non-complian	ce.
Company information	Designated Certified Individ	lual (DCI) information
Company name: Timber Lakes Septic Service		
Business license number: L455	Certification number: C6023	
I personally conducted the work described abomaintenance, installation, or service provider Estatus of each sewage tank in this SSTS.	ove as a Designated Certified Individual of a Minnesota- Business. I personally conducted the necessary procedu	licensed SSTS inspection, res to assess the compliance
By typing/signing my name below, I certify this information can be used for the purpose of	the above statements to be true and correct, to the best f processing this form.	of my knowledge, and that
Designated Certified Individual's signature: Da	an Swanson Date (m	m/dd/yyyy): 9/12/2023
	his document has been electronically signed.)	
		Page 12 of 18
554 205 5200	00 557 0054	A 10 CT 1 CT 12 CT 12

www.pca.state.mn.us • 651-296-6300 • 800-657-3864 • Use your preferred relay service • Available in alternative formats wg-wwists4-91 • 5/10/21 Page 1 of 1



Detailed Parcel Report

Parcel Number: 29-1-500200

General Information

Township/City:

SHAMROCK TWP

Taxpayer Name:

DILL, JESSE & BICKNELL, ALI &

Taxpayer Address:

STOVER, LISA & MASLAK, MARK

10140 PONDS CIR

ELKO NEW MARKET MN 55020

Property Address:

16225 Goshawk St

Township:

49

Lake Number:

1002300

Range:

23

Lake Name:

ROUND LAKE (SHAM/HAUG TWPS)

Section:

25

Acres:

0.00

Green Acres:

No

School District:

4.00

Plat:

OBERNOLTES ADDITION

Brief Legal Description:

LOT 16

Tax Information

Class Code 1:

Non-Comm Seasonal Residential Recreational

Class Code 2:

Unclassified

Class Code 3:

Unclassified

Homestead:

Non Homestead

Assessment Year:

2023

Estimated Land Value:

\$191,000.00

Estimated Building Value:

\$339,900.00

Estimated Total Value:

\$530,900.00

Prior Year Total Taxable Value:

\$489,200.00

Current Year Net Tax (Specials Not Included):

\$3,266.00

Total Special Assessments:

\$0.00

**Current Year Balance Not Including Penalty:

\$0.00

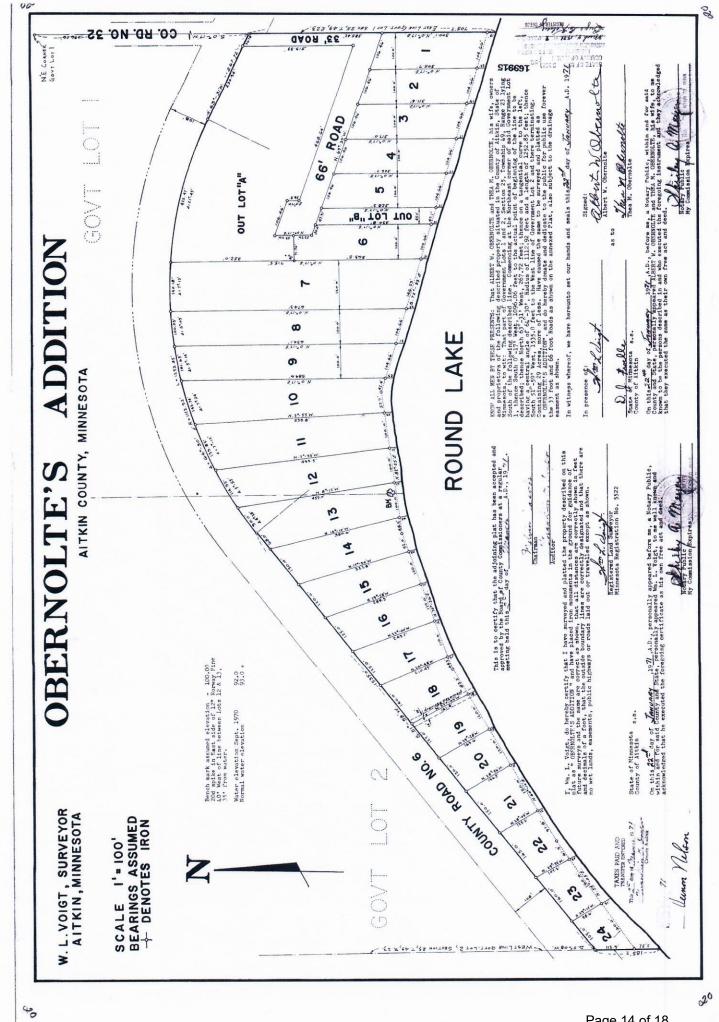
Delinquent Taxes:

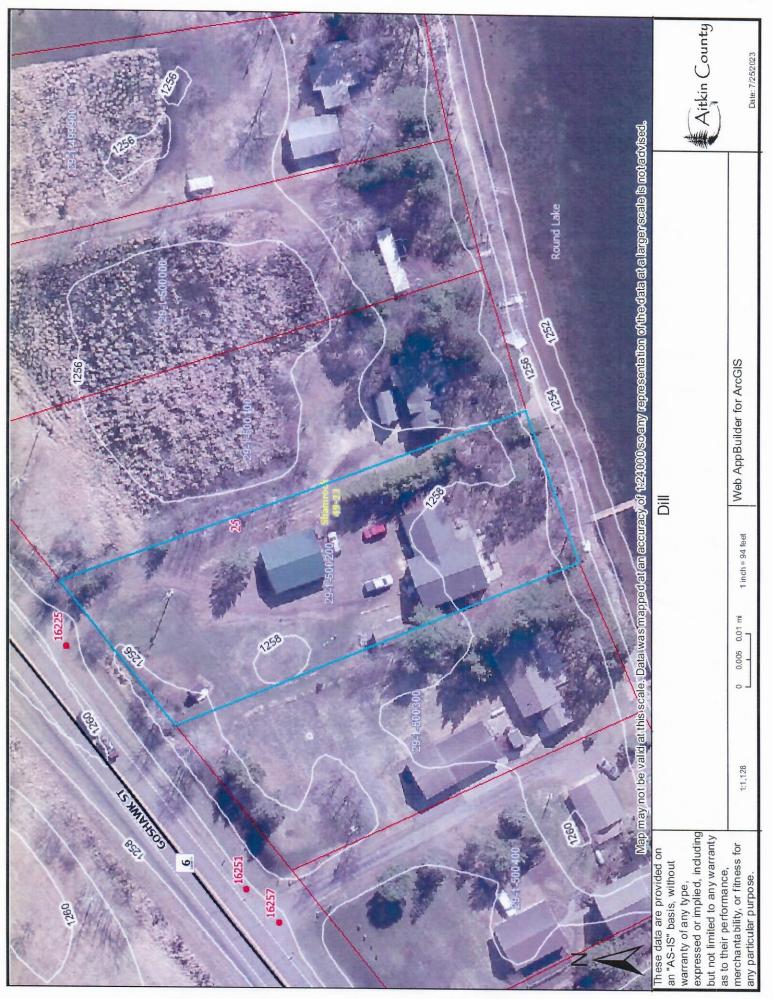
No

Sale History

^{*} For more information on delinquent taxes, please call the Aitkin County Treasurer's Office at 218-927-7325.

^{**} Balance Due on a parcel does not include late payment penalties.





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Aitkin County, Minnesota

564—Friendship loamy sand

Map Unit Setting

National map unit symbol: gjhw Elevation: 980 to 1,640 feet

Mean annual precipitation: 25 to 30 inches Mean annual air temperature: 39 to 45 degrees F

Frost-free period: 120 to 140 days

Farmland classification: Not prime farmland

Map Unit Composition

Friendship and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Friendship

Setting

Landform: Outwash plains

Landform position (two-dimensional): Backslope, summit

Down-slope shape: Linear Across-slope shape: Concave Parent material: Sandy outwash

Typical profile

E - 0 to 3 inches: loamy sand Bw1 - 3 to 6 inches: loamy sand Bw2,Bw3,BC - 6 to 39 inches: sand C1,C2 - 39 to 60 inches: sand

Properties and qualities

Slope: 0 to 3 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): High to

very high (6.00 to 20.00 in/hr)

Depth to water table: About 41 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 4s

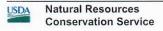
Hydrologic Soil Group: A

Ecological site: F057XY023MN - Dry Sandy Upland Coniferous

Forest

Forage suitability group: Sloping Upland, Low AWC, Acid

(G090AN008MN)



Other vegetative classification: Sloping Upland, Low AWC, Acid

(G090AN008MN) Hydric soil rating: No

Minor Components

Leafriver and similar soils

Percent of map unit: 5 percent Landform: Depressions Hydric soil rating: Yes

Menahga and similar soils

Percent of map unit: 5 percent Hydric soil rating: No

Meehan and similar soils

Percent of map unit: 5 percent Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota Survey Area Data: Version 23, Sep 6, 2022