Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information

Date	4/19//2022	Sec / Twp / Rng	S-7, T-49, R-23
Parcel ID	29-1-545800	LUG (county, city, township)	Aitkin Co.
Property Owner:	Jeremy Paquette	Owners address (if different)	
Property Address:	50274 217th Ave. McGregor MN 55760		50801 237th Pl.
City / State / Zip:			McGregor MN 55760

Flow Information and Waste Type / Strength

Estimated Design flow: 600

Comments: Lake house is 2 bedrooms
Future building will be 2 bedrooms or total of 4 bedrooms.

Pump under road to 520 gal pump tank for mound

There are 3 electric alarms in this system
Installer try to install all alarms at house

Anticipated Waste strength	☐ Hi Strength	☑ Domestic
Any Non-Domestic Waste	☐ Yes (class V)	☑ No
Sewage ejector/grinder pump	☐ Yes	☑ No
Water softener	☐ Yes	☑ No
Garbage Disposal	☐ Yes	☑ No
Daycare / In home business	☐ Yes	☑ No

Site Information

Existing & proposed lot improvements located (see site map)	☐ Yes	☑ No	Well casing depth	Existing deep well
Easements on lot located (see site map)	☐ Yes	☑ No	Drainfield w/in 100' of residential well	☐ Yes ☑ No
Property lines determined (see site map)	☑ Yes	☐ No	Site w/in 200' of transient noncommunity water supply (TNCWS)	☐ Yes ☑ No
Req'd setbacks determined (see site map)	☑ Yes	☐ No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	☐ Yes ☑ No
Utilities located & identified (gopher state one call)	☐ Yes	☑ No	Buried water supply pipe w/in 50' of system	☐ Yes ☑ No
Access for system maintenance (shown on site map)	☑ 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: Directional bore from House Septic/Pump tank to Mound Pump tank

Alternate Site was done at time of lot split North of Mound area

Soil Information

Evidence of site:

Cut	☐ Yes	☑ No
Filled	☐ Yes	☑ No
Compacted	☐ Yes	☑ No
Disturbed	☐ Yes	☑ No

Original soils ☑ Yes ☐ 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 20"

Flooding or run-on potential (comments) ☐ Yes ☑ No

Depth to system bottom maximum (or elev minimum) (+ 18")

Flood elevation (if applicable) _____

Depth/elev to standing water (if applicable) _____

Elevation of ordinary high water level (if applicable) _____

Depth/elev to bedrock (if applicable) _____

Floodplain designation and elev - 100 yr/10 yr (if applicable) _____

Soil Survey information determined (see attachment) ☑ Yes ☐ No

Differences between soil survey and field evaluation (if applicable) _____

I hereby certify this evaluation was completed in accordance with MN 7080 and any local req's.

Designer Signature	Company	License #
Jeff Brummer	Brummer Septic LLC.	L-1347

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information

Property Owner / project: Jeremy Paquette Date 4/19//2022

Property Address / PID: 50274 217th Ave. McGregor MN 55760

Soil Survey Information

☐ refer to attached soil survey

Parent matl's: ☑ Till ☑ Outwash ☐ Lacustrine ☐ Alluvium ☐ Organic ☐ Bedrock

landscape position: ☐ Summit ☐ Shoulder ☑ Side slope ☐ Toe slope

soil survey map units: 1353B & 204B slope 2 % direction- West

Soil Log #1

☐ Boring ☑ Pit Elevation 94.5' Depth to SHWT 20"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 14	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
14 - 20	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
20 - 24	Sandy Loam	<35	10YR5/4	7.5YR5/6 & 10YR6/2	Loose	Loose	Granular

Comments: Hand dug Soil Pits

50274 217th Ave. McGregor MN 55760			**Soil Log #2**				
		☐ Boring ☑ Pit	Elevation 95.4'		Depth to SHWT 20"		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 14	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
14 - 20	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
20 - 24	Sandy Loam	<35	10YR5/4	7.5YR5/6 & 10YR6/2	Loose	Loose	Granular

50274 217th Ave. McGregor MN 55760			**Soil Log #3**				
		☐ Boring ☐ Pit	Elevation ______		Depth to SHWT ______		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive
		<35 35 - 50 >50			loose friable firm rigid	loose weak moderate strong	single grain granular blocky prismatic platy massive

I hereby certify this work was completed in accordance with MN 7080 and any local req's.

Designer Signature

Brummer Septic LLC.
Company

L-1347
License #

2011 purple code

Mound Design - Aitkin county

www.SepticResource.com (vers 15.2)

Property Owner: Jeremy Paquette **Date:** 4/19//2022

Site Address: 50274 217th Ave. McGregor MN 55760 **PID:** 29-1-545800

Comments: Lake lot is 29-0-016400 and 29-0-016300

instructions: [ ] = enter data [ ] = adjust if desired [ ] = computer calculated - DO NOT CHANGE!

1) [4] bedroom Type [I] Residential System

2) [600] GPD design flow

3) [No] Garbage disposal or pumped to septic — Install Jacobson 1650 2/Compartment tank

4) [1000] Gal Septic tank (code minimum) — [1000] Gal Septic tank (design size / LUG req'd)
Tank options: ~~none~~ XXXX Effluent Filter & Alarm

5) [1.2] GPD/ft^2 mound sand loading rate — contour loading rate of [12] req's a min [50] ft. long rockbed

6) [10.0] ft rockbed width [50.0] ft rockbed length

7) [3.0] ft lateral spacing [3.0] ft perforation spacing (maximum of 3 for both)
[end feed] manifold connection

8) [3] laterals [48.0] feet long [17.0] perfs / lateral [51] perfs total
(1/2 a perf means the first perf starts at the middle feed manifold)

9) [7/32] inch perfs at [1] feet residual head gives [0.56] gpm flow rate per perforation

for this perf size & spacing, & pipe size on line 12, max perfs/lateral = [19], line #8 must be less --> OK

10) [7.0] doses per day (4 minimum)

11) [86] gallons per dose (treatment volume)

1.50 5x

12) [1.50] inch diameter laterals must be used to meet "4x pipe volume" requirement

Mound Pump Tank Settings

2.00 3x

13) [40] feet of [2.0] inch supply line leads to [7] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [93] gallons TOTAL pump out volume (treatment + drainback)

Install 520 Jacobson pump tank for Mound

15) [12] feet vertical lift from pump to mound laterals, leads to a:

16) [29] GPM @ [19] feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)

17) [500] gal Dose tank (code minimum) [520] gal Dose tank (design size / LUG req'd) at [16.57] gpi
leads to a

18) [5.6] inch swing on Demand float, or timed dosing of [3.2] min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) [5.1] hrs OFF test and adjust as necessary)

19) [12] inches from bottom of tank to "Pump OFF" float

20) [18] inches from bottom of tank to "Pump ON" float, or [12] inches to "Timer ON" float if time dosed

21) [21] inches from bottom of tank to "Hi Level" float, or [31] inches to "Hi Level" float if time dosed

22) [172] gallons reserve capacity (after High Level Alarm is activated)

23) 0.60 gpd/ft^2 Absorption area Soil Loading Rate, (this must match the soil boring log) which gives a mound ratio of 2 (minimum) desired mound ratio 2.0

24) 2 percent site slope (0-20% range) 2 (% downslope site slope, if different than upslope)

25) 18 inches, or 1.5 ft. to Redox or other limiting condition (need at least 12" to be a Type I)

Treatment zone contains 0 inches of 0% soil credit, and 0 inches of 50% soil credit. Giving a:

26) 18 inch, or 1.5 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 20.0 ft. base absorption width (with sand beyond rockbed as follows:)

31.0 greater of: absorption width OR sand slope

28) 0.0 ft. upslope and sideslope sand upslope 9.3

10.0 ft. Downslope sand down slope 11.7

Individual slope ratios give BERM widths (topsoil beyond rockbed) of:

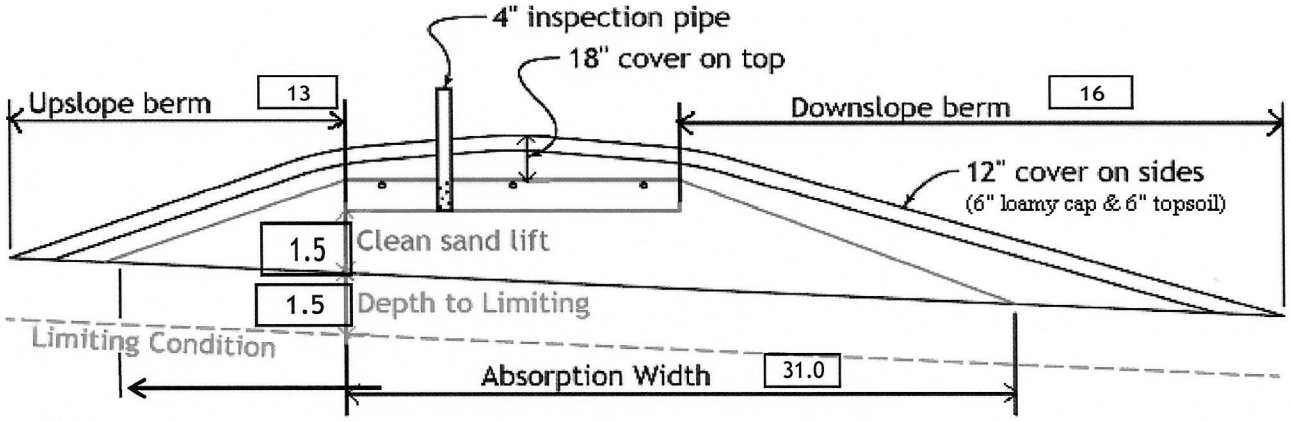
29) 4:1 upslope ratio 13 ft. upslope berm

30) 4:1 sideslope 15 ft. sideslope berms

31) 4:1 downslope 16 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 50.0 ft. long Rock bed

39 ft. wide by 80 ft. long Mound footprint



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*.

33) Rock Bed:

10.0 ft. by 50.0 ft. by 9 inches under pipe, plus 20% gives 23 yd^3 or *1.4= 32 ton

34) Mound Sand: (note: volume is based on 3:1/4:1 slope from top of rockbed, Exchange sand for loamy cap if desired)

30.8 up + 42.3 downslope + 10.8 ends + 29.6 under rock = plus 20% 136 yd^3 or *1.4= 191 ton

35) Loamy Cap:

35 ft. by 76 ft. 6" deep, plus 20% gives 60 yd^3 or *1.4= 84 ton

36) Topsoil:

39 ft. by 80 ft. 6" deep, plus 20% gives 70 yd^3 or *1.4= 98 ton

I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

Designer Signature	Company	License#	Date
	Brummer Septic LLC.	L-1347	4/19//2022

There are 3 electric alarms in this system

Lift Tank, Filter, pump tank Installer try to install all alarms at house

Installer Summary

1000 gallon Septic tank (minimum)

Tank options: none

Install Jacobson 1650 2/Compartment tank at 16.57 gpi

520 gallon Dose tank (minimum)

29 GPM @ 19 ft. of head, Pump required

5.6 inch swing on Demand float which translates to roughly 3.8 inches of float tether length

if time dosing is required --> 3.2 minutes ON time & 5.1 hours OFF time

18 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float

21 inches from bottom of tank to "Hi Level Alarm" or 31 inches to "Hi level alarm" if time dosed

40 ft. of 2.0 inch supply line with end feed manifold connection

(Tip: "top feed" manifold to control drainback)

18 inch, or 1.5 ft. Sand Lift Mound

10.0 ft. wide by 50.0 ft. long Rock bed

3 laterals 1.50 inch diameter 48.0 ft. long 3.0 ft. lateral spacing

7/32 inch perfs 3.0 ft. perforation spacing

Yes ~~No~~ Effluent filter & alarm

3 clean out & valve box assemblies

31.0 ft.Total sand ABSORPTION width (minimum)

9.3 ft. upslope and sideslope (sand beyond rockbed, minimum)

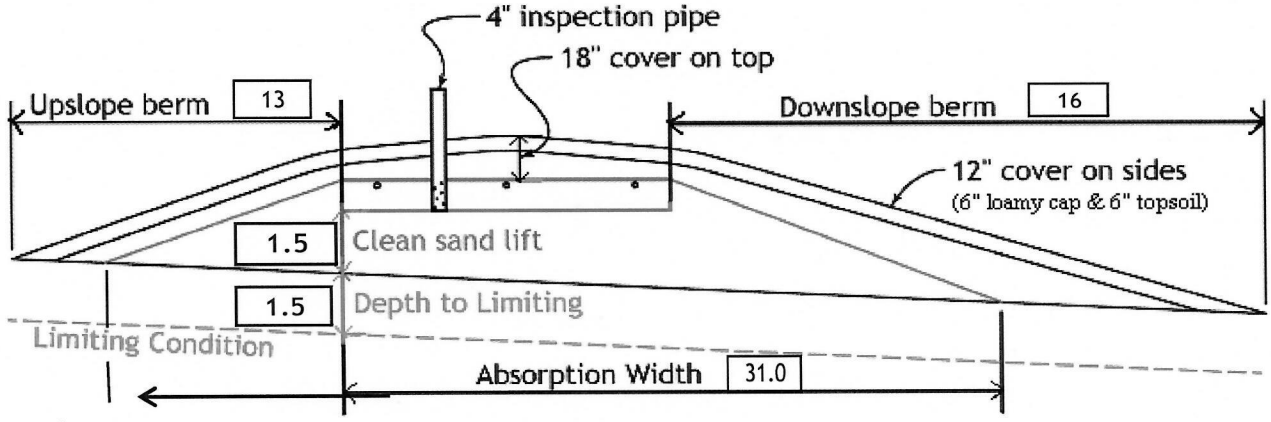
11.7 ft. Downslope (sand beyond rockbed, minimum)

Specific slope ratios give BERM widths (topsoil beyond rockbed) of:

4:1 upslope ratio 13 ft. upslope berm

4:1 sideslope 15 ft. sideslope berms

4:1 downslope 16 ft. downslope berm



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*.

Rock Bed:	23.0	yd^3 or *1.4=	32	ton	9 inches under pipe
Mound Sand:	136	yd^3 or *1.4=	191	ton	
Loamy Cap:	60	yd^3 or *1.4=	84	ton	6" deep
Topsoil:	70	yd^3 or *1.4=	98	ton	6" deep

INSPECTOR CHECKLIST - mound

50274 217th Ave. McGregor MN 55760

☐ 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)
mfg_____ 1000 gallons none

☐ Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.

☐ ~~No~~ Yes effluent filter & alarm

☐ Dose tank risers and piping (water tight, insulated, proper depth, drainback)
mfg_____ 520 gallons

☐ dose pump _____ 29 gpm 19 head VERIFY PUMP CURVE 3.2 min ON 5.1 hr OFF

☐ float setting drop 5.6 inches at 16.6 gpi "DESIGNED" 3.8 inches approx float tether length
93.0 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 10.0 X 50.0

☐ Sand lift depth 18 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

☐ Absorption Sand beyond rock 9.3 upslope 11.7 downslope

☐ Bermed topsoil beyond rockbed 13 upslope 15 sideslope 16 downslope

☐ cover depth of 12-18"+ VERIFY

☐ 3 laterals (1-2' from edge of rock)

☐ 1.50 inch pipe size (Sch40 pipe & fittings)

☐ 3.0 ft lateral spacing

☐ 7/32 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

☐ Abandon existing system - if necessary ☐ Re-use existing tank certification

☐ monitoring plan and type _____

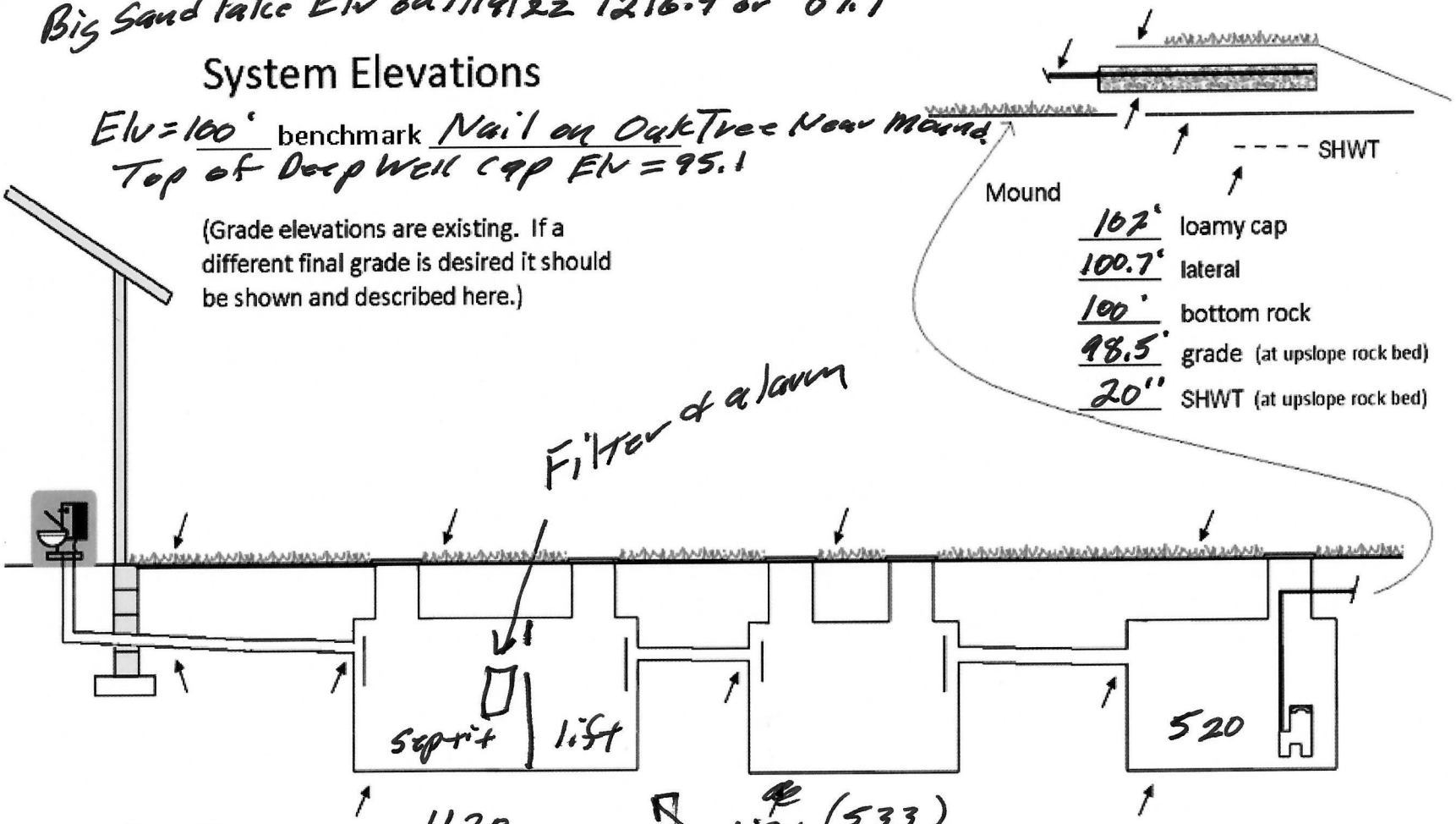
☐ well abandonment form - if necessary

Big Sand lake Elv on 4/19/22 1216.4 or 87.9'

System Elevations

Elv = 100' benchmark Nail on Oak Tree Near Mound
Top of Deep Well cap Elv = 95.1

(Grade elevations are existing. If a different final grade is desired it should be shown and described here.)



Sewer pipe exiting house
94.1' Grade
93' Pipe

1120
Septic Tank
95.3' Grade
92.5' inlet
89' Tank bottom

lift (533)
~~Septic~~ Tank (if applicable)
95.3' Grade
92' outlet ~~inlet~~
89' Tank bottom

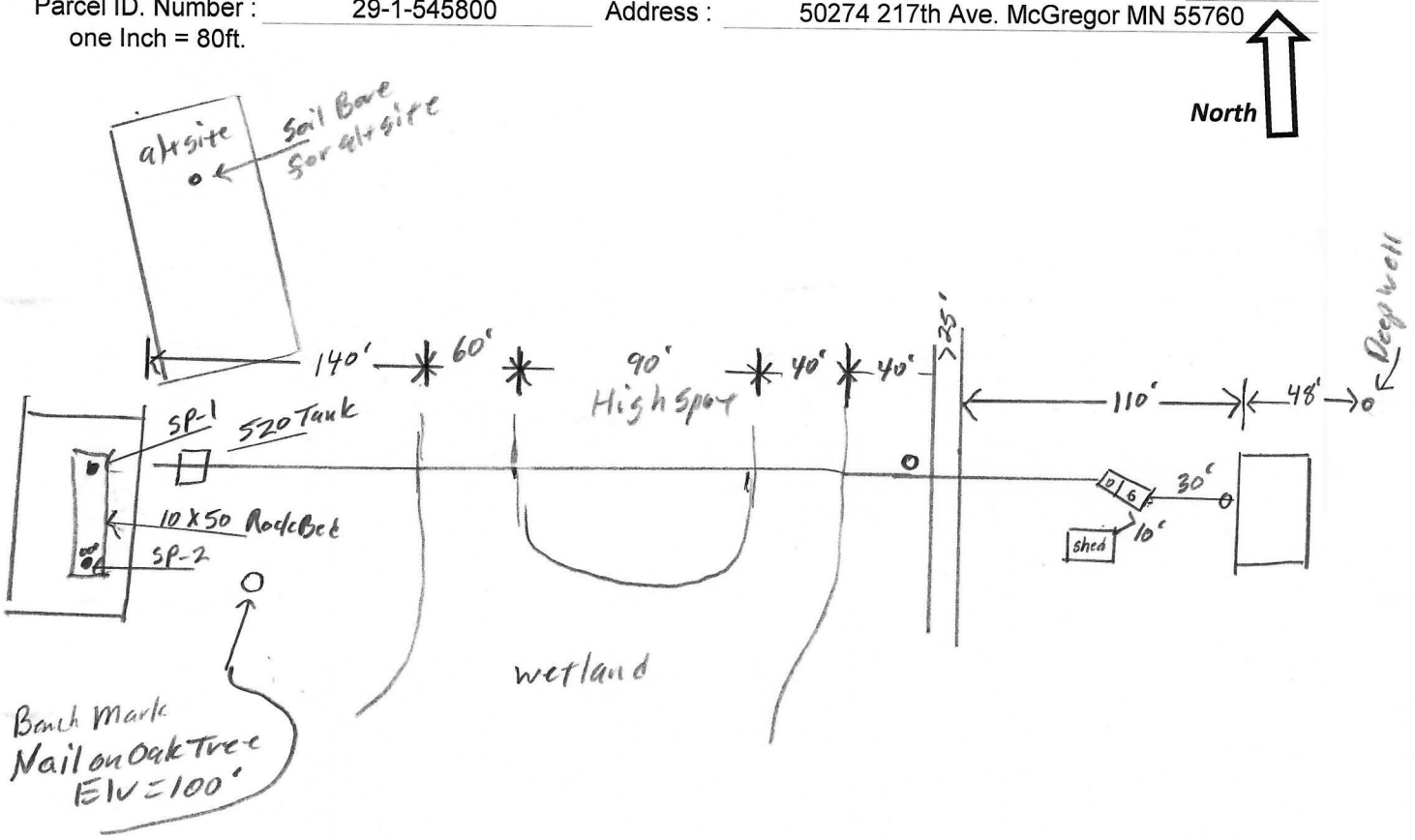
Pump Tank 520 mound
98.4' Grade
97' inlet
94.5' Tank bottom

{ Design Drawing }

Property Owner: Jeremy Paquette Date: 4/19//2022 Designer's Initials : JB

Parcel ID. Number : 29-1-545800 Address : 50274 217th Ave. McGregor MN 55760

one Inch = 80ft.



approx 465 ft of Directional Bore from 1650 to 520 Tanks

Grade of 217th Pl. Ceter line Elv.= 95.8'
Wetland Elv. = 93.6'
High Spot Future shed Elv. = 95.4'
Grade of 520 gal Mound Pump Tank Elv. = 98.4'

	Surface/ SHWT	***Nail on Tree= Bench Mark 100'***			Existing Grade
Soil Pit 1	98.5' / 20"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 98.5'
Soil Pit 2	98.4' / 20"	Ground Elv. BM	98.4'	Red Oak	Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank	95.3'	Septic	Top of Washed Sand Elv.= 100'
	Ground at	house	94.1'		Elv. Of Sewer pipe at Cabin Elv.= 93.5'

Please show all that apply (Existing)	Please Draw to Scale with North to Top or Left Side of Page:	
Wells within 100ft. Of Drain field.	Disturbed/Compacted Areas	Access Route for Tank Maintenance
Water lines within 10 ft. of Drain field.	Component Location	Property Lines
Drain field Areas:	OHW ordinary high water	Structures
	Lot Easements	Setbacks

{ Design Drawing }

Property Owner: Jeremy Paquette Date: 4/19//2022 Designer's Initials : JB

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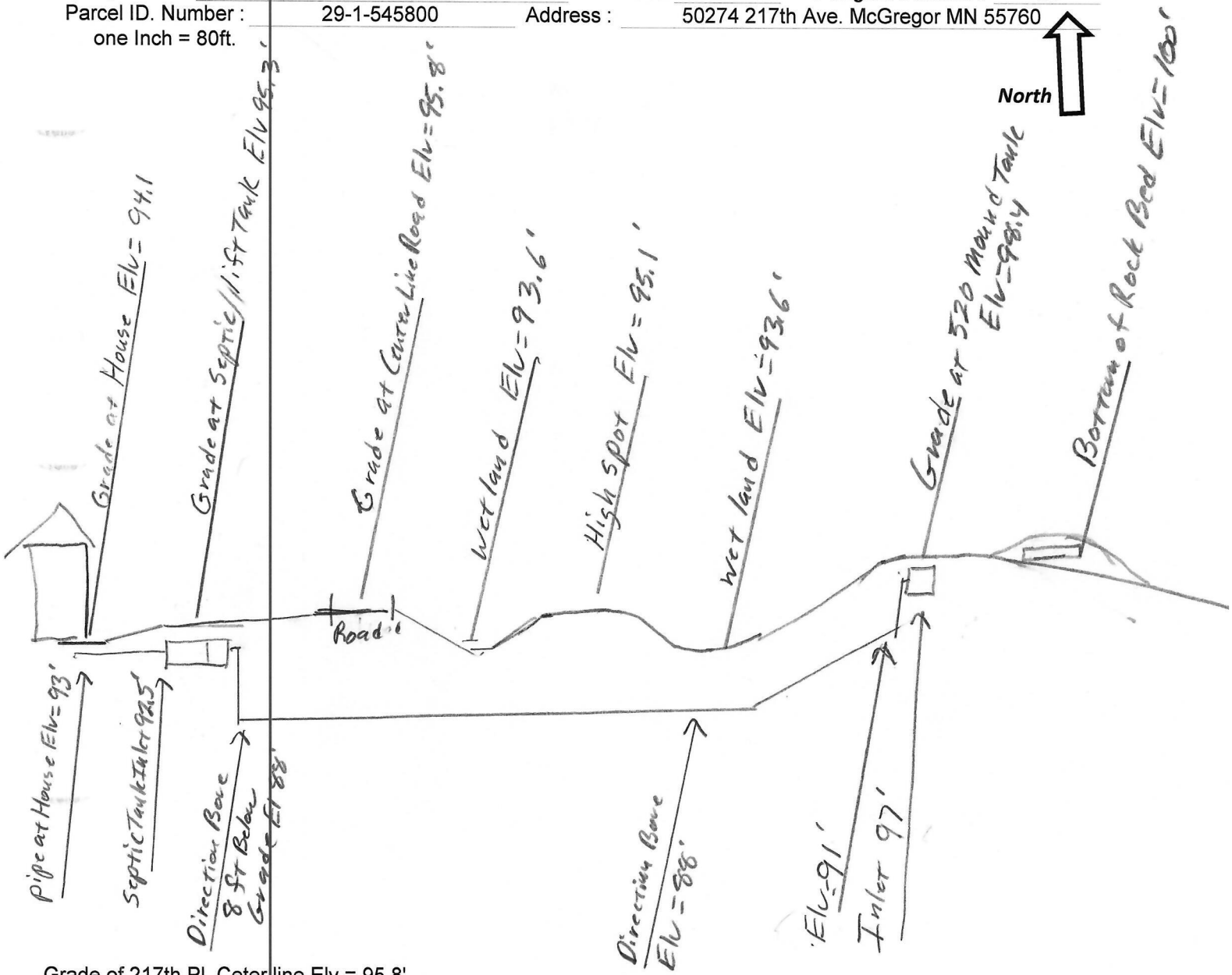

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	Ground at	house	94.1'		Elv. Of Sewer pipe at Cabin Elv.= 93.5'

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

Mound Design Notes - Aitkin county

Property Owner: Jeremy Paquette **Date:** 4/19//2022

Site Address: 50274 217th Ave. McGregor MN 55760 **PID:** 29-1-545800

Comments: ***Mound design may not follow Aitkin co. Auto fill form for mound design.***

1 This is a type I mound for a 2 bedroom House. Owner wants a 4 bedroom mound for future use.
Deep Well 25 ft from NE corner of House Lake side. House will have new sewer pipe out-let on West side of house.
Libby Dam's Elv.= 1216.4 on 4/19/2022. (Big Sandy Flood is Elv.= 1223.9 or 95.4') (Lake Elv.= 1216.4 is 87.9').
Bench Mark Elevation = 100' or 1228.5' is a nail on a Oak tree near SE corner of mound area.

2 Because of the wetlands and grade elevations between house and mound installer will directional bore from septic/lift tank by house to the 520 Mound pump tank. (Approx. 465 ft.)

3 The Back Lot has the property lines marked with Blue steel posts on corners. Wetlands have been delineated.

4 Install Jacobson 1650 2/Compartment tank for gravity flow from existing house (Pipe Elv. not set)
Install Effluent filter on septic tank outlet, install electric alarm on filter.
The 533 lift tank will pump effluent to the Mound 520 pump tank, install pump with 20 GPM at 20 ft of head.
(See Lift pump Sheet) Insulate Tank top and end where 2" pipe is installed up against the end of the tank.

5 Installer will directional bore 2" pipe from septic tank to the Mound pump tank approx. 8 ft deep.
The 2" directional bored pipe will not Drain-Back but only equalize in the pipe (Approx. 10 ft of drainback)
The out let on the lift tank will be approx. 92'. The inlet on the 520 Mound Pump tank will be Approx. Elv.= 97'
Insulate 520 pump tank top and the end where the 2" pipe is installed up against the end of the tank.

6 Elevation contour of rock bed upslope edge is 98.5'.
The area size of the rock bed is 10' x 50' . Absorption area is 50 ' x 31'.
Sand absorption area is 9.3 ft. up slope + 10 ft. rockbed + 11.7 downslope = approx. 31 ft. wide sand base.
Berms are 13ft. Upslope, 16ft. Down slope, 10ft. Rock bed = approx. 39ft. Wide.
Overall mound size is approx. 39' wide x 80' long and approx. 3.5' high. End Berms are 15 ft wide.

7 The bench mark is the nail on the Oak tree near mound area, BM = Elv. 100'.
Installer to double check bench mark. Installer should confirm bench mark and sand height Elv. with inspector.
Installer should record bench mark Elv. and sand height on installation inspection form.

8 The top of the washed sand and bottom of rock bed is Elv. 100'.
It is important that the soils do not get compacted, and that clean washed sand is used.

9 Install the 520 Mound pump tank inlet with 2" pipe dumping down into tank. Install the pump for 7 demand doses per day. approx. 93 gallons per dose, 5.6 inches of tank level. Install alarm at 3 inches from pump on level.
Install all manholes, inspection pipes and clean-outs to 6" above, insulate top of tank.
Try to install Mound Pump Tank Alarm at the house, Some directional boring company's will pull 2 pipe one for wires?

10 Install a 2" supply pipe from tank to end manifold in rock bed, install so pipe drains back to tank.
Install 1.5" laterals with 9" of rock under them. (Install Lateral clean-outs at far end of laterals. Recommended)

11 **Drill 7/32" holes for Perf sizing, 36" on centers.**

Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
Designed to Aitkin Co. and MPCA recommendations and requirements.

Designer Signature | Brummer Septic LLC. Design Company | L-1347 License#

There are 3 electric alarms in this system Installer try to install all alarms at house

Suggested Install

{ Design Drawing }

Property Owner: Jeremy Paquette Date: 4/19//2022 Designer's Initials : JB

Parcel ID. Number : 29-1-545800 Address : 50274 217th Ave. McGregor MN 55760

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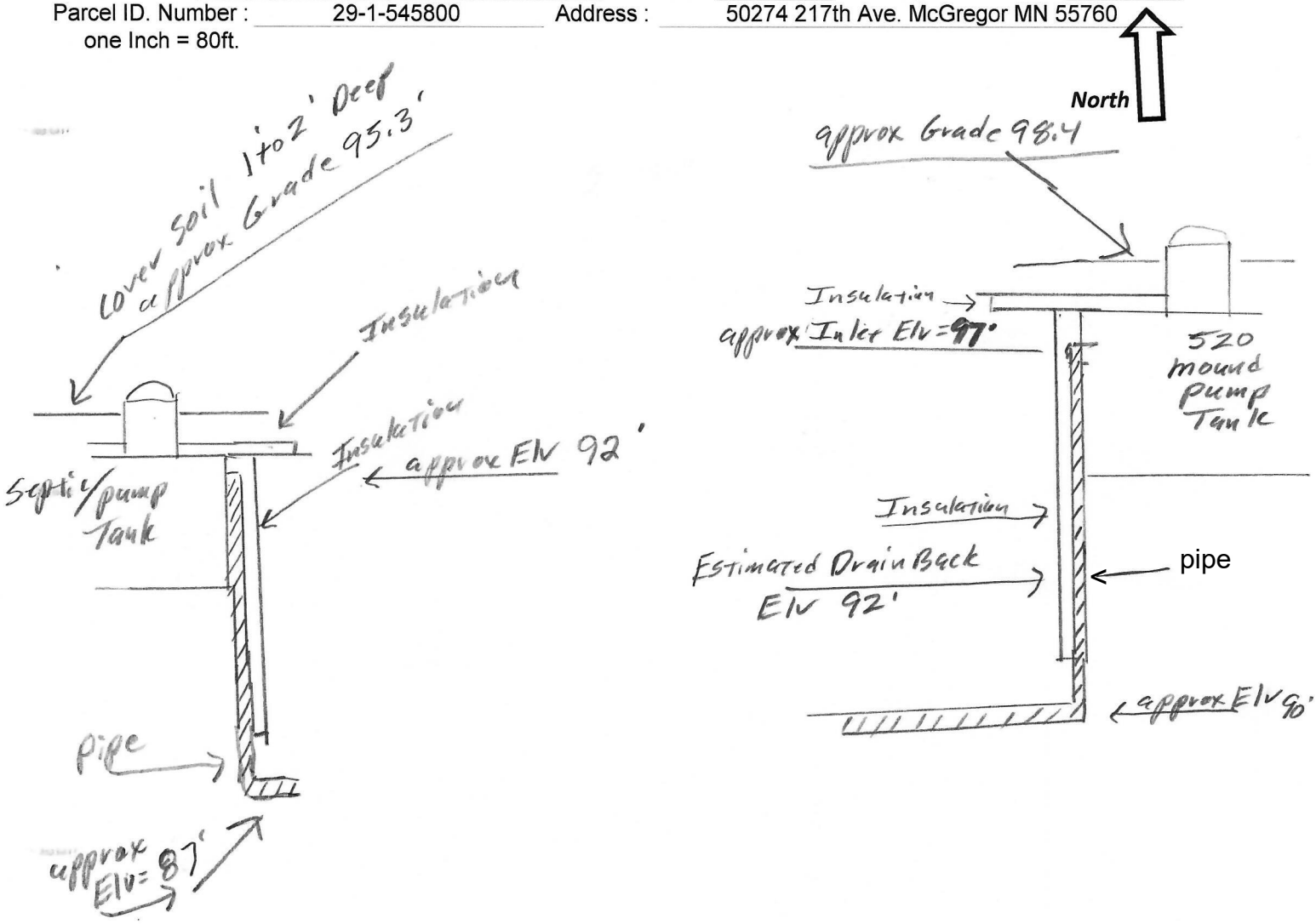

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	Lot Easements	Setbacks

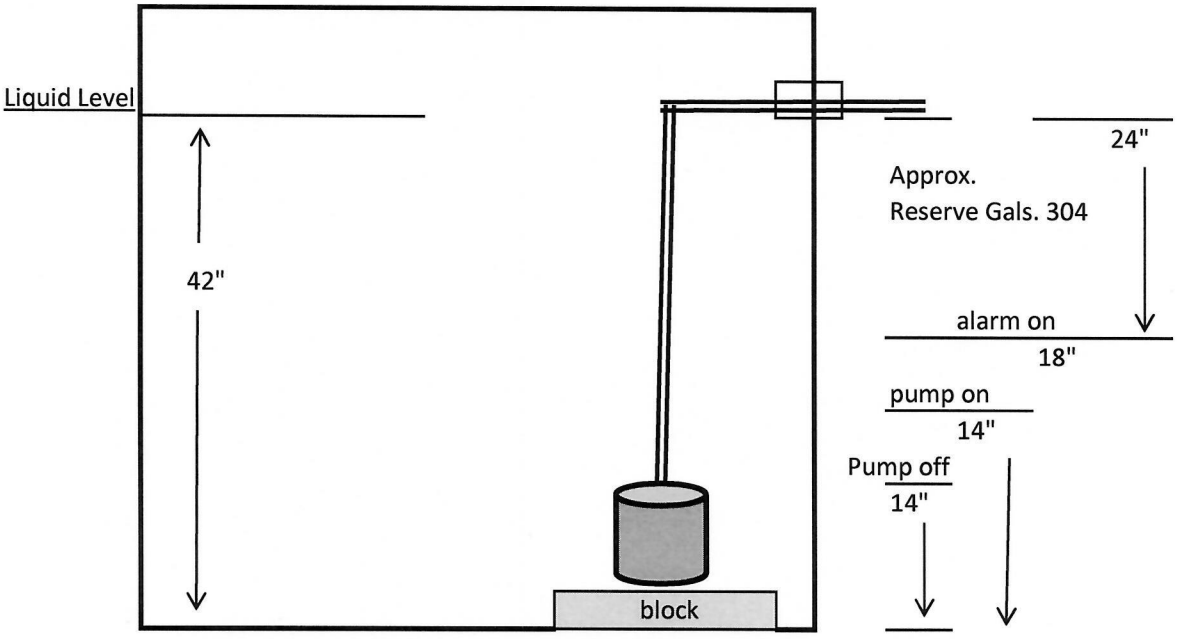
Pump settings for Jacobson 533 gal Lift pump tank at house

Jeremy Paquette

Parcel ID. 29-1-545800

This pump will be sized at 20 GPM and 20 ft of head (gravity discharge at mound tank end).

Tank Mfg. Jacobson 533 Gallon Pump tank Lift tank at house
Tank Size: MFG. 12.69 gals. Per inch

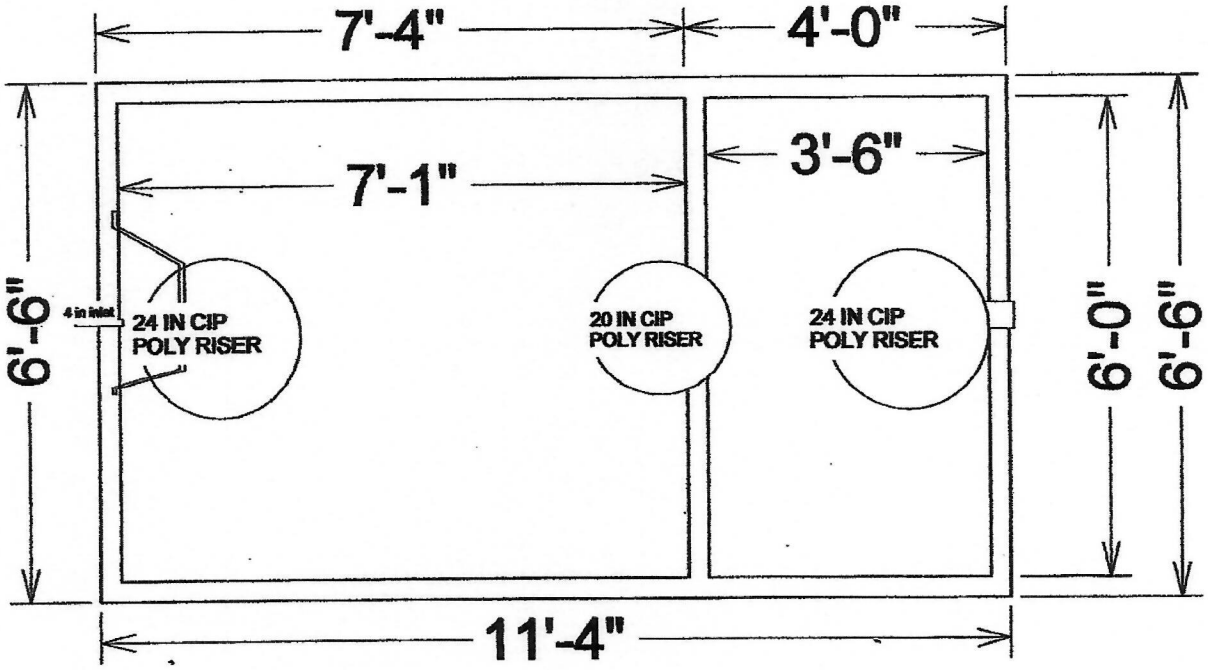


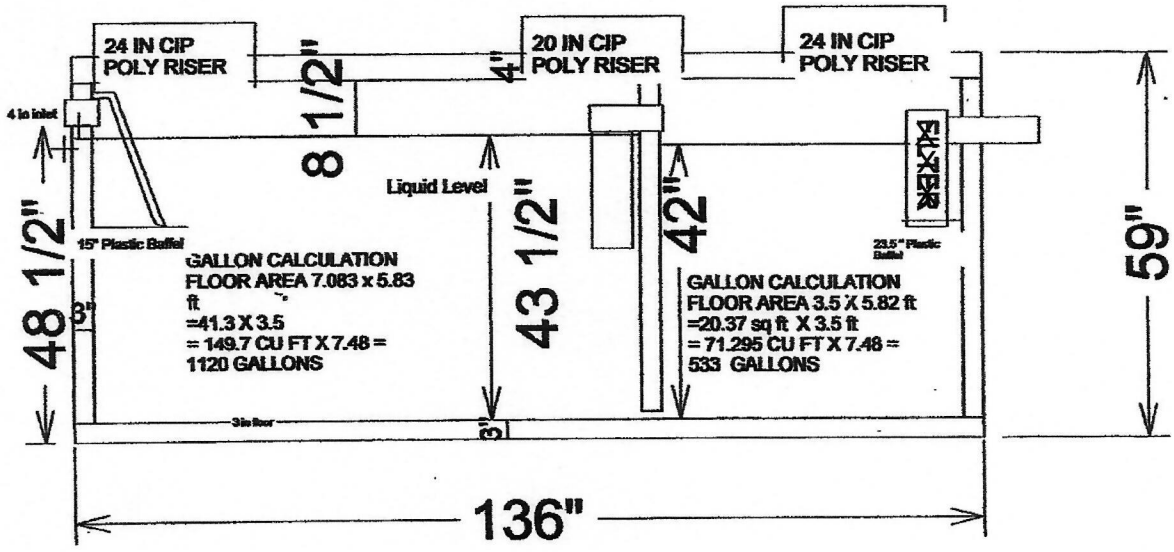
Assumes 10" pump
Pump out dose at 4" = (50 gals. dose + 2 drain back) = 52 pump out gals.
300 gpd ÷ 6 = 50 gals. Per Dose

Approx. 10 ft of 2" pipe will drain back into this tank or 2 gallons

1650 Gallon 2 Compartment Septic Tank

TOP VIEW





SIDE VIEW

533 / 42" = 12.69 GPI

Drawings Owned BY Jacobson Precast, Inc.
36641 HWY 169, Aitkin, Mn 56431

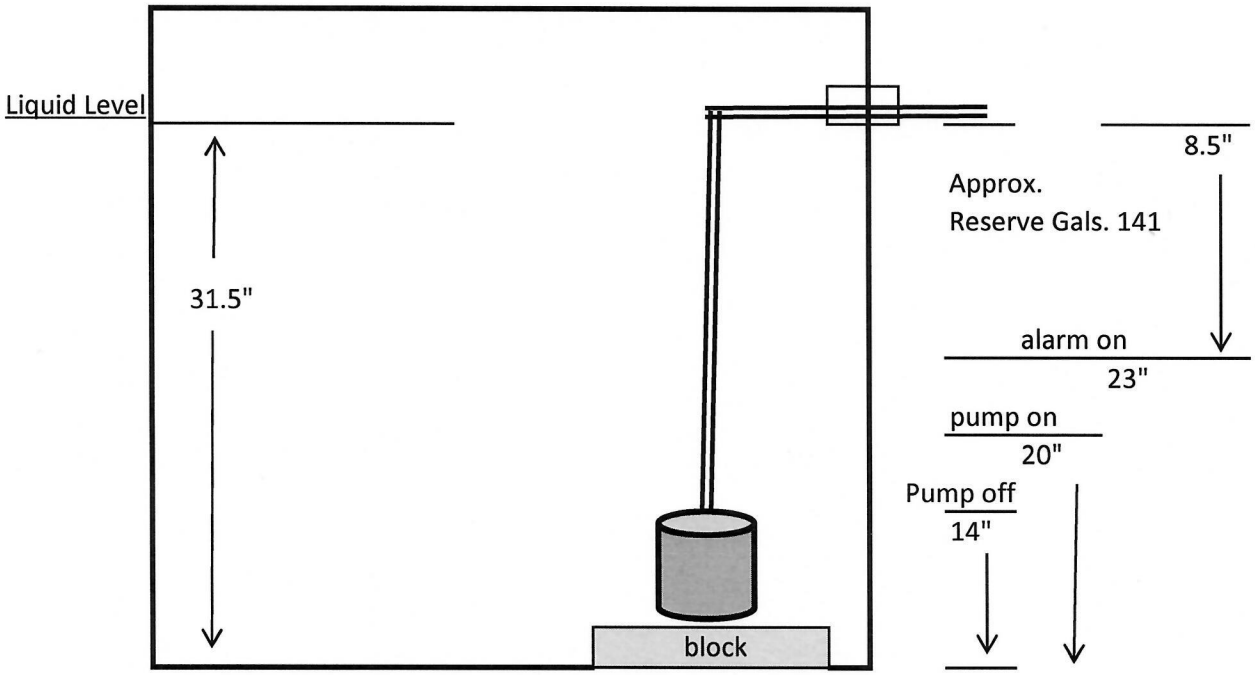
Pump settings for Jacobson 520 gal pump tank for Mound

Jeremy Paquette

Parcel ID. 29-1-545800

Tank Mfg. Jacobson 520 Gallon Pump tank

Tank Size: MFG. 16.57 gals. Per inch

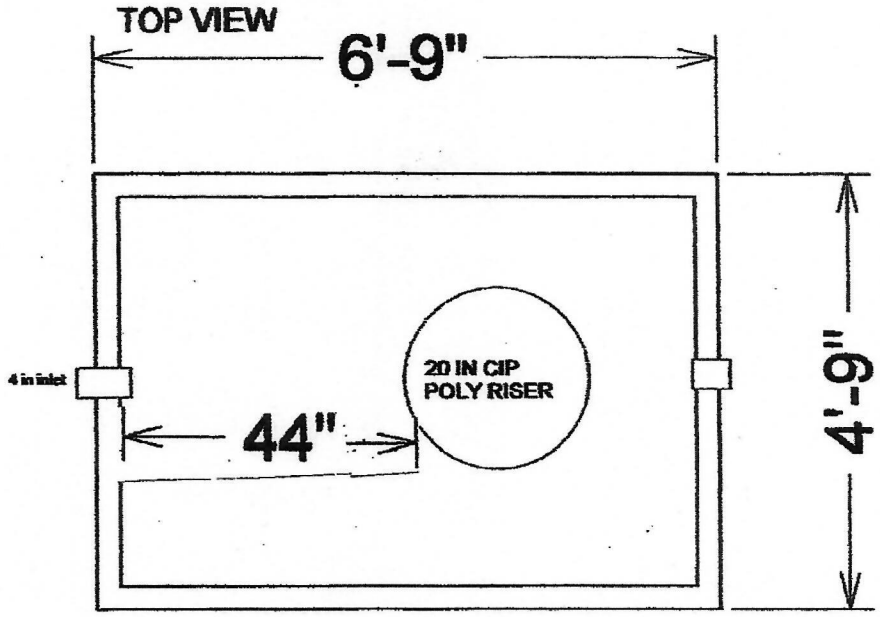


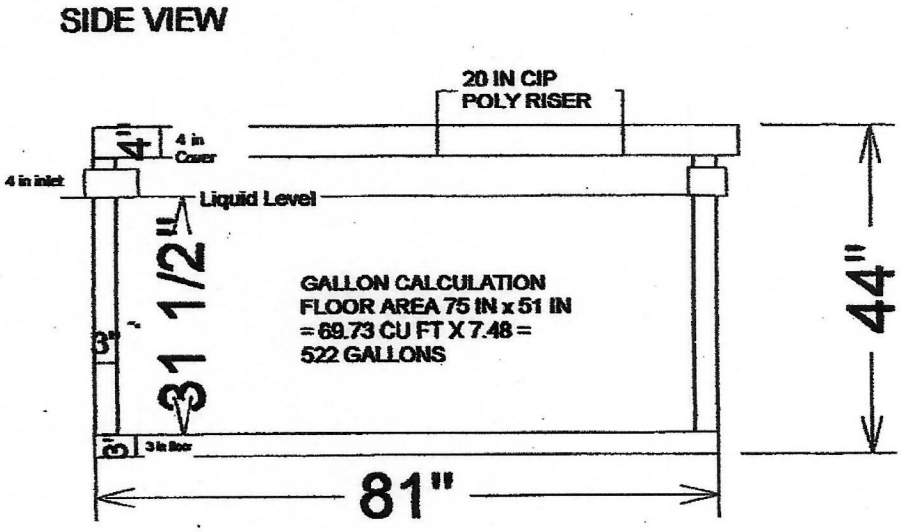
Assumes 10" pump

Pump out dose at 5.6" = (85 gals. dose + 8 drain back) = 93 pump out gals.

600 gpd ÷ 7 = 85 gals. Per Dose

520 Gallon Pump Tank





522 gals. / 31.5" = 16.57 GPI

Recommendation for a buried sewer pipe near or under a Road or Easement.

When crossing a Road or Easement the pipe line should be marked.

When installing a buried supply pipe across a Road or Easement there should be a tracer wire installed with the pipe for Future location .

Fiberglass Survey, Field & Utility Markers

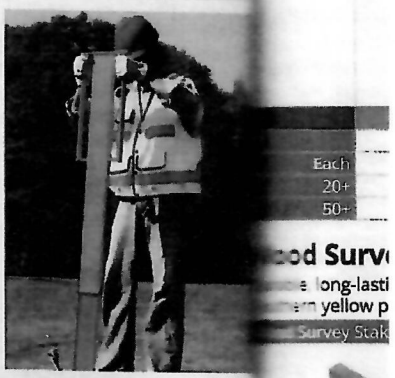
Identify boundaries, pipelines, cables, valve boxes, manholes, right of way easements, meter locations, etc., with these professional fiberglass markers. Weather-resistant fiber reinforced composite is temperature stable and UV resistant. Use the optional marker driver (SN 39222, sold separately) for easy installation. *Note: Custom labels and colors are available by special order. Call 800-647-5368 for details.*

5784

Fiberglass Markers

	Survey	Wetland	Sewer	Water	Gas	Utility	Utility	Utility	Utility	Utility
Color	Orange	Brown	Green	Blue	Yellow	Orange	Green	Blue	Red	Yellow
W	2-5/8	3-3/4	3-3/4	3-3/4	3-15/16	3-3/4	3-3/4	3-3/4	3-3/4	3-3/4
L	66	66	66	66	66	66	66	66	66	66
	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗
	⚠	⚠	⚠	⚠	⚠	⚠	⚠	⚠	⚠	⚠
SN	39220	38852	38851	38850	38853	39221	38847	38848	38849	38846
Each	$19.95	$23.50	$23.50	$23.50	$23.50	$19.95	$19.95	$19.95	$19.95	$19.95
20+	$16.95	$20.25	$20.25	$20.25	$20.25	$16.85	$16.85	$16.85	$16.85	$16.85
50+	$15.75	$18.75	$18.75	$18.75	$18.75	$15.60	$15.60	$15.60	$15.60	$15.60

⚠ **WARNING:** Cancer – www.P65Warnings.ca.gov. ⊗ Carrier may require an additional handling charge.



Utility Marker Driver

For installing fiberglass bour and utility markers (sold separately). Insert the marke into the driver with the point end exposed. Rotate the dri into installation position and drive the marker into the so with a series of light taps un desired depth is reached.

Utility Marker Driver ⚠ 39222 $1

Each
20+
50+

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Survey Stak

2 Flats
SN Bundl
39514 50
39516 50
39520 50
39523 ⊗ 25

may requ

654 ORDERS 800.647.5368 | FAX 800.543.4203 | WWW.FORESTRY-SUPPLIERS.COM | CATALO OG 71 |

Forestry Suppiers Catolog

MDH Minnesota Department of Health

Version 2.0.85 11/19/21 3:34PM

Minnesota Well Index

General Information

Unique Well ID:	**672973**	*Well Name:*	**MATTES, DENNIS**	*County:*	**Aitkin**	*Aquifer:*	**Quat. buried artes. aquifer**
Well Elevation (msl in feet):	**1221**	*Drilled Depth (ft):*	**123**	*Well Completed (ft):*	**123**	*Date Drilled:*	**08/07/2002**
Township:	**49**	*Range:*	**23**	*Dir:*	**W**	*Section:*	**7**
Subsection:	**CDBCDA**	*Use:*	**domestic**	*Well Status:*	**Active**	*Depth To Bedrock:*	
Driller:	**Hasskamp Bros. Well**	*Entry Date:*	**01/08/2003**	*Update Date:*	**12/13/2017**		

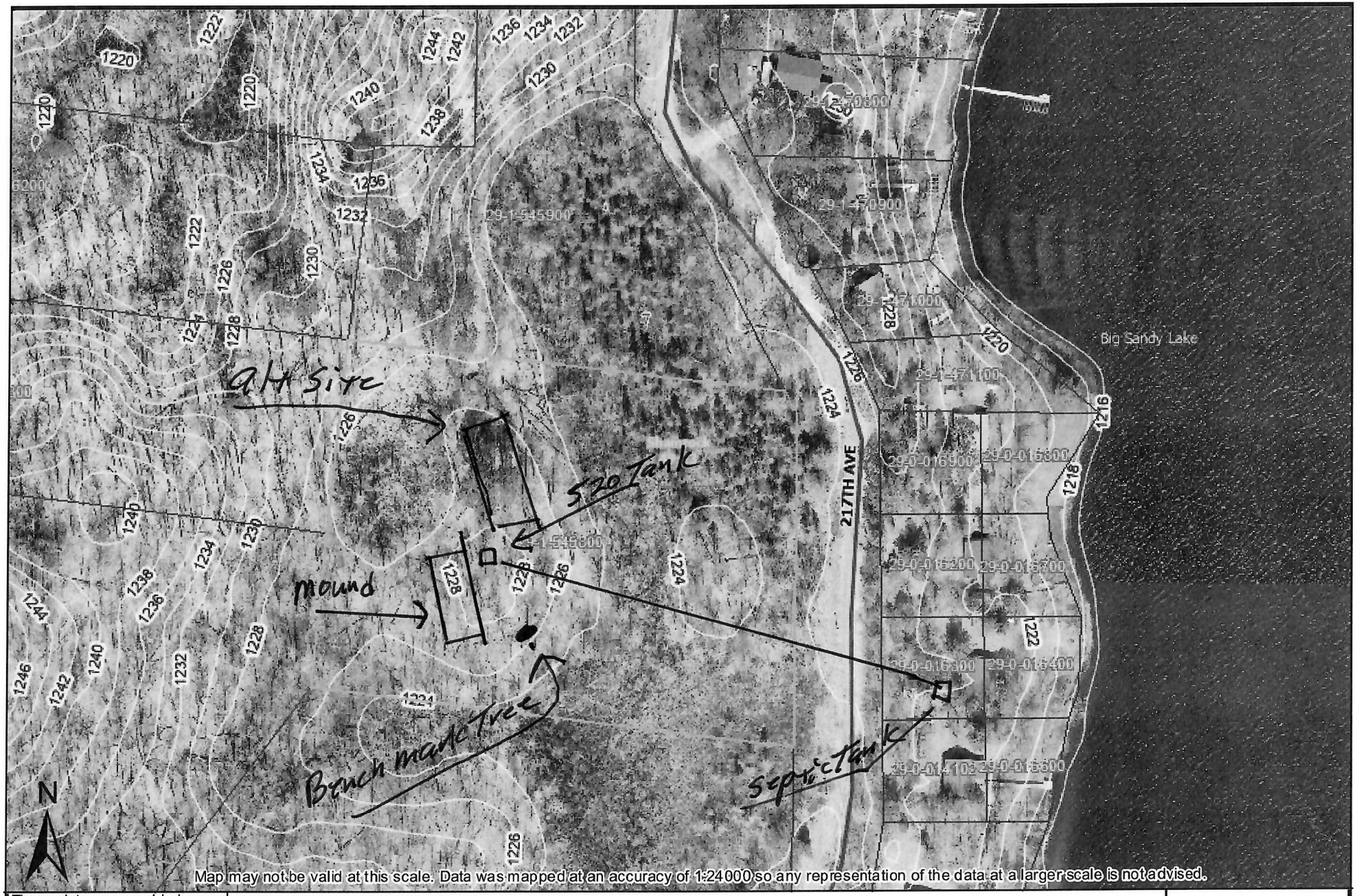
Related Resources:

Go to MN Well Index Map *Well Log Report* *Scanned Record(s)* *Stratigraphy Report*

More Details | **Stratigraphy** | **Address** | **Chemical Data** | **Construction** | **Pump Test**

Static Water | **Comments** | **Location Changes** | **Overview Map**

Description	*From(ft)*	*To(ft)*	*Color*	*Hardness*	*Lith Primary*	*Lith Secondary*	*Interpretation*
SANDY CLAY	0	6	BROWN	MEDIUM	CLAY		clay+sand-brown
SAND	6	15	BROWN	MEDIUM	SAND		sand-brown
CLAY	15	56	GRAY	MEDIUM	CLAY		clay-gray
MUD	56	82	GRAY	SOFT	MUDD		cly/snd/slt-no peb.-gry
CLAY & ROCKS	82	117	GRAY	HARD	CLAY		pebbly sand/silt/clay-gray
SAND	117	123	BROWN	MEDIUM	SAND		sand-brown



These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

J Parquette

1:2,257 | 0 0.01 0.02 mi | 1 inch = 188 feet | Web AppBuilder for ArcGIS

Aitkin County

Date: 2/10/2022

Aitkin County

Detailed Parcel Report

Parcel Number: 29-1-545800

General Information

west of 217th ave.
Mound location

Township/City:	SHAMROCK TWP
Taxpayer Name:	PAQUETTE, JEREMY M & BECKY J
Taxpayer Address:	50801 237TH PL MCGREGOR MN 55760
Property Address:	

Township:	49	**Lake Number:**	1906200
Range:	23	**Lake Name:**	BIG SANDY - BACK LOT
Section:	7	**Acres:**	0.00
Green Acres:	No	**School District:**	4.00
Plat:	GAP ACRES		
Brief Legal Description:	LOT 6 BLK 1		

Tax Information

Class Code 1:	Rural Vacant Land
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2021

Estimated Land Value:	$4,000.00
Estimated Building Value:	$0.00
Estimated Total Value:	$4,000.00

Prior Year Total Taxable Value:

Current Year Net Tax (Specials Not Included):

Total Special Assessments:

****Current Year Balance Not Including Penalty:**

Delinquent Taxes: No

*** 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.**

Aitkin County

Detailed Parcel Report

Parcel Number: 29-0-016400

General Information

Lake Shore - Lot

Township/City:	SHAMROCK TWP		
Taxpayer Name:	PAQUETTE, JEREMY M & BECKY J		
Taxpayer Address:	50801 237TH PL MCGREGOR MN 55760		
Property Address:	50274 217th Ave		
Township:	49	**Lake Number:**	1006200
Range:	23	**Lake Name:**	BIG SANDY LAKE
Section:	7	**Acres:**	0.42
Green Acres:	No	**School District:**	4.00
Plat:			
Brief Legal Description:	S 100 FT OF N 300 FT LOT 10		

Tax Information

Class Code 1:	Non-Comm Seasonal Residential Recreational
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2021

Estimated Land Value:	$176,000.00
Estimated Building Value:	$57,800.00
Estimated Total Value:	$233,800.00
Prior Year Total Taxable Value:	$228,700.00
Current Year Net Tax (Specials Not Included):	$2,068.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$0.00
Delinquent Taxes:	No

*** 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.**

Aitkin County

Detailed Parcel Report

Parcel Number: 29-0-016300

General Information

Between lake & Street. 217th ave
Tank location

Township/City:	SHAMROCK TWP		
Taxpayer Name:	PAQUETTE, JEREMY M & BECKY J		
Taxpayer Address:	50801 237TH PL MCGREGOR MN 55760		
Property Address:			
Township:	49	**Lake Number:**	1906200
Range:	23	**Lake Name:**	BIG SANDY - BACK LOT
Section:	7	**Acres:**	0.23
Green Acres:	No	**School District:**	4.00
Plat:			
Brief Legal Description:	100 X 100 FT LOT 9 IN DOC 202217		

Tax Information

Class Code 1:	Rural Vacant Land
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2021

Estimated Land Value:	$1,000.00
Estimated Building Value:	$0.00
Estimated Total Value:	$1,000.00
Prior Year Total Taxable Value:	$1,000.00
Current Year Net Tax (Specials Not Included):	$8.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$0.00
Delinquent Taxes:	No

*** 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.**

University of Minnesota Site Evaluation Form 5/16/2005

Onsite Sewage Treatment Program

Property Owner(s) 4 J Development LLC. C/O Jeremy Paquette Phone Number 218-244-4443

Address Lot Split On Bridge Road sewer sites For Parcel 7 PID# 29-1-545800

P.I.D. 29-0-014101 Section __ Township 49 N Range 23

Date 11/6/2020 Time 10:00 AM Weather conditions sunny and clear

Location Information (check all that apply)
- x shoreland
- x lot split info
- __ connecting to a compliant system
- __ other establishment
- __ replacement system
- __ new home construction

Homeowner Information

No. of bedrooms *(if applicable)* lot split bedrooms (includes possible additions)

No. of residents in home __ adults __ children

Estimated flow _____ gpd

Well casing depth deep feet

Discharge location if checked

Water using devices *(check)*
- __ Garbage disposal
- __ Dishwasher
- __ Large bathtub
- __ Laundry/large tub on 2nd floor
- __ Water softener
- __ Sump pump
- __ High eff. furnace
- __ Jucuzzi/hottub

Water use concerns *(check)*
- __ Toilet/faucet leaks
- __ Max load laundry/day
- __ Long term prescription medications
- __ Home business
- __ Lint screen
- __ Antibact. soap
- __ Frequent parties or out of town guests

Soil Data

Soil texture classification: _____

Unnatural soil *(check)*	__ Yes	__ No			
Type of observation *(check)*	__ Probe	__ Pit	__ Boring		
Parent material *(check)*	__ Till	__ Outwash	__ Loess	__ Bedrock	__ Alluvium
Vegetation type *(check)*	__ Wet	__ Dry	__ Unknown		
Slope form *(check)*	__ Summit	__ Shoulder	__ Back	__ Foot	__ Toe
Drainage *(check)*	__ Good	__ Fair	__ Poor	__ Ponding	__ Flooding
Located in floodplain *(check)*	__ Yes	__ No			

Site Summary Data

Standing water: _____ inches

Bedrock: _____ inches

Saturated soil: _____ inches

Maximum depth of system: _____ inches

Max elevation at system bottom: _____ feet

Soil sizing factor (SSF): _____ gpd/ft^2

Linear loading rate (LLR): _____ gpd/ft

Was a perc test done ? __ Yes _____ mpi

__ No

Pref. Site

Soil Survey Data	Soil #1	Soil #2
Map unit sym & name		
Landscape position		
Flooding		
Slope		
Watertable depth		
Bedrock depth		
Possible system depth		
Texture at depth		
Permeability (P)		
Perc(MPI) = 60 / P		
NRCS onsite suitability		

Soil Boring Data

Boring 1 Elevation: Location:

Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence
0-2"	top soil	10 yr 3/2		
2-15"	loamy sand-some clay	10 yr 4/4		
	mottles @ 15"			

Boring 2 Elevation: Location:

Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence
0-2"	top soil	10 yr 3/2		
2-15"	loamy sand	10 yr 4/4		
	Mottles @ 15"			

Alt. Site

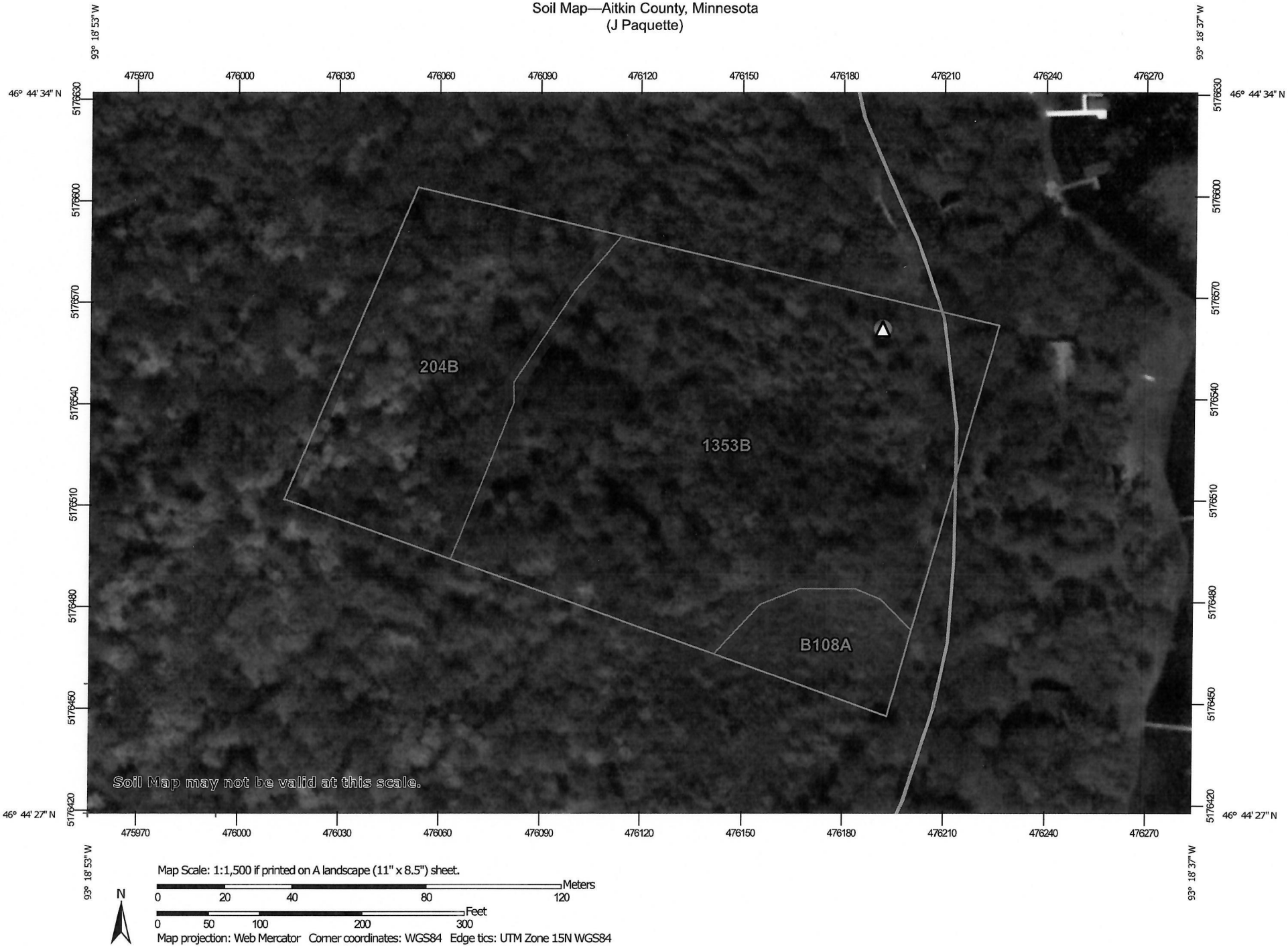
Boring 3 Elevation:		Location:		
Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence
0-2"	top soil	10 yr 3/2		
2-15"	loamy sand	10 yr 4/4		
	mottles @ 15"			

Boring 4 Elevation:		Location:		
Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence
0-2"	top soil	10 yr 3/2		
2-15"	sandy loam	10 yr 4/4		
	Mottles @ 15"			

Boring 5 Elevation:		Location:		
Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence

Boring 6 Elevation:		Location:		
Soil Horizons Depth (inches)	Texture	Color	Structure	Consistence

Soil Map—Aitkin County, Minnesota
(J Paquette)



Map Scale: 1:1,500 if printed on A landscape (11" x 8.5") sheet.

N

Meters
0 20 40 80 120

Feet
0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

Aitkin County, Minnesota

204B—Branstad loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjfx
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: All areas are prime farmland

Map Unit Composition

Branstad and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Branstad

Setting

Landform: Moraines
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Loamy till

Typical profile

A - 0 to 2 inches: loam
E,Bw,E',E/B - 2 to 17 inches: fine sandy loam
Bt1,Bt2 - 17 to 36 inches: loam
Bt3 - 36 to 43 inches: loam
C - 43 to 60 inches: loam

Properties and qualities

Slope: 2 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 30 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Forage suitability group: Sloping Upland, Neutral (G090AN002MN)

Other vegetative classification: Sloping Upland, Neutral (G090AN002MN)
Hydric soil rating: No

Minor Components

Alstad and similar soils
Percent of map unit: 3 percent
Hydric soil rating: No

Cutaway and similar soils
Percent of map unit: 3 percent
Hydric soil rating: No

Cromwell and similar soils
Percent of map unit: 3 percent
Hydric soil rating: No

Hamre and similar soils
Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Talmoon and similar soils
Percent of map unit: 2 percent
Landform: Swales
Hydric soil rating: Yes

Seelyeville and similar soils
Percent of map unit: 2 percent
Landform: Bogs
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 22, Sep 10, 2021

Aitkin County, Minnesota

1353B—Cutaway loamy fine sand, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjd4
Elevation: 980 to 1,310 feet
Mean annual precipitation: 20 to 27 inches
Mean annual air temperature: 37 to 41 degrees F
Frost-free period: 95 to 105 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Cutaway and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cutaway

Setting

Landform: Moraines
Landform position (two-dimensional): Summit, backslope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash over loamy till

Typical profile

A - 0 to 2 inches: loamy fine sand
E,Bw,E' - 2 to 26 inches: loamy sand
2E/B,2B/E - 26 to 49 inches: loam
2C - 49 to 60 inches: loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: About 41 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 20 percent
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: B
Forage suitability group: Sloping Upland, Acid (G088XN006MN)

Other vegetative classification: Sloping Upland, Acid (G088XN006MN)
Hydric soil rating: No

Minor Components

Northwood and similar soils
Percent of map unit: 6 percent
Landform: Depressions
Hydric soil rating: Yes

Sandwick and similar soils
Percent of map unit: 6 percent
Landform: Swales
Hydric soil rating: Yes

Dusler and similar soils
Percent of map unit: 3 percent
Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 22, Sep 10, 2021

Aitkin County, Minnesota

B108A—Cathro muck, occasionally ponded, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 2v0ln
Elevation: 1,020 to 1,710 feet
Mean annual precipitation: 23 to 30 inches
Mean annual air temperature: 36 to 41 degrees F
Frost-free period: 90 to 140 days
Farmland classification: Not prime farmland

Map Unit Composition

Cathro, occasionally ponded, and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cathro, Occasionally Ponded

Setting

Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Herbaceous organic material over till

Typical profile

Oa - 0 to 40 inches: muck
Cg - 40 to 79 inches: loam

Properties and qualities

Slope: 0 to 1 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Very poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 6.00 in/hr)
Depth to water table: About 0 inches
Frequency of flooding: None
Frequency of ponding: Occasional
Calcium carbonate, maximum content: 15 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Very high (about 19.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6w
Hydrologic Soil Group: A/D
Forage suitability group: Not Suited (G088XN024MN)
Other vegetative classification: Not Suited (G088XN024MN)

Hydric soil rating: Yes

Minor Components

Cathro, frequently ponded
Percent of map unit: 10 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Not Suited (G088XN024MN)
Hydric soil rating: Yes

Seelyeville
Percent of map unit: 5 percent
Landform: Depressions
Down-slope shape: Linear
Across-slope shape: Linear
Other vegetative classification: Not Suited (G088XN024MN)
Hydric soil rating: Yes

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 22, Sep 10, 2021