24-042

Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information

Date	4/14/2024	Sec / Twp / Rng	S-25, T-49, R-23
Parcel ID	29-0-054204	LUG (county, city, township)	Aitkin Co.
Property Owner:	Terrylee Tervola	Owners address (if different)	
Property Address:	47442 165th Pl. McGregor Mn 55760		1172 Aquarius Ln.
City / State / Zip:			Eagan Mn 55123

Flow Information and Waste Type / Strength

Estimated Design flow: 450

Comments: Old Resort 3 small Cabins, one bedroom each
Reuse the existing sewer pipe from Cabin 7 & 8
Cabin 6 will need new sewer pipe from clean-out to new tank.
Bench Mark Nail on in tree near cabin 8
Downslope absorption area 15 ft from So. Property Line.

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) By Owner	☑ 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: 3 cabins connected to one septic tank

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) 0.78

Percolation rate (if applicable) _____

Depth/elev to SHWT 27"

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

Depth to system bottom maximum (or elev minimum) (+ 12")

Flood elevation (if applicable) _____

Depth/elev to standing water (if applicable) _____

Elevation of ordinary high water level (if applicable) 1253.6'

Depth/elev to bedrock (if applicable) _____

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

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 #
	Brummer Septic LLC.	L-1347

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information

Property Owner / project: Terrylee Tervola Date 4/14/2024

Property Address / PID: 47442 165th Pl. 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: 564 slope 3 % direction- South

Soil Log #1

☑ Boring ☐ Pit Elevation 98.1' Depth to SHWT 27"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 4	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
4 - 27	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
27 - 34	Sandy Loam	<35	10YR4/4	Faint 7.5YR5/4	Loose	Loose	Granular
34 - 39	Med Sand	<35	10YR5/4	7.5YR5/6	Loose	Loose	Granular

Comments:

47442 165th Pl. McGregor Mn 55760			**Soil Log #2**				
		☑ Boring ☐ Pit	Elevation 98'		Depth to SHWT 27"		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 4	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
4 - 27	Med Sand	<35	7.5YR5/4		Loose	Loose	Granular
27 - 36	Med Sand	<35	7.5YR5/4	7.5YR6/6 & 7.5YR4/6	Loose	Loose	Granular

47442 165th Pl. 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: Terrylee Tervola **Date:** 4/14/2024

Site Address: 47442 165th Pl. McGregor Mn 55760 **PID:** 29-0-054204

Comments: 3 - one bedroom cabins

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

1) 3 bedroom Type I Residential System

2) 450 GPD design flow

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

4) 1000 Gal Septic tank (code minimum) 1000 Gal Septic tank (design size / LUG req'd)
Tank options: none

5) 1.2 GPD/ft^2 mound sand loading rate contour loading rate of 12 req's a min 37.5 ft. long rockbed

6) 10.0 ft rockbed width 38.0 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 36.0 feet long 13.0 perfs / lateral 39 perfs total
(1/2 a perf means the 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 & spacing, & pipe size on line 12, max perfs/lateral = 16, line #8 must be less --> OK

10) 7.0 doses per day (4 minimum)

11) 64 gallons per dose (treatment volume)

1.50 5x

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

2.00 3x

13) 135 feet of 2.0 inch supply line leads to 23 gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) 87 gallons TOTAL pump out volume (treatment + drainback)

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

16) 29 GPM @ 24 feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)

17) 500 gal Dose tank (code minimum) 533 gal Dose tank (design size / LUG req'd) at 12.69 gpi
leads to a

18) 6.9 inch swing on Demand float, or timed dosing of 3 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) 19 inches from bottom of tank to "Pump ON" float, or 12 inches to "Timer ON" float if time dosed

21) 22 inches from bottom of tank to "Hi Level" float, or 32 inches to "Hi Level" float if time dosed

22) 254 gallons reserve capacity (after High Level Alarm is activated)

23) 0.78 gpd/ft² Absorption area Soil Loading Rate, (this must match the soil boring log) which gives a mound ratio of 1.5 (minimum) desired mound ratio 1.5

24) 3 percent site slope (0-20% range) 3 (% downslope site slope, if different than upslope)

25) 24 inches, or 2.0 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) 12 inch, or 1.0 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 15.0 ft. base absorption width (with sand beyond rockbed as follows:)

27.1 greater of: absorption width OR sand slope

28) 0.0 ft. upslope and sideslope sand upslope 7.1

5.0 ft. Downslope sand down slope 10.0 Use 10 ft

Individual slope ratios give BERM widths (topsoil beyond rockbed) of: (stay 15 from property line)

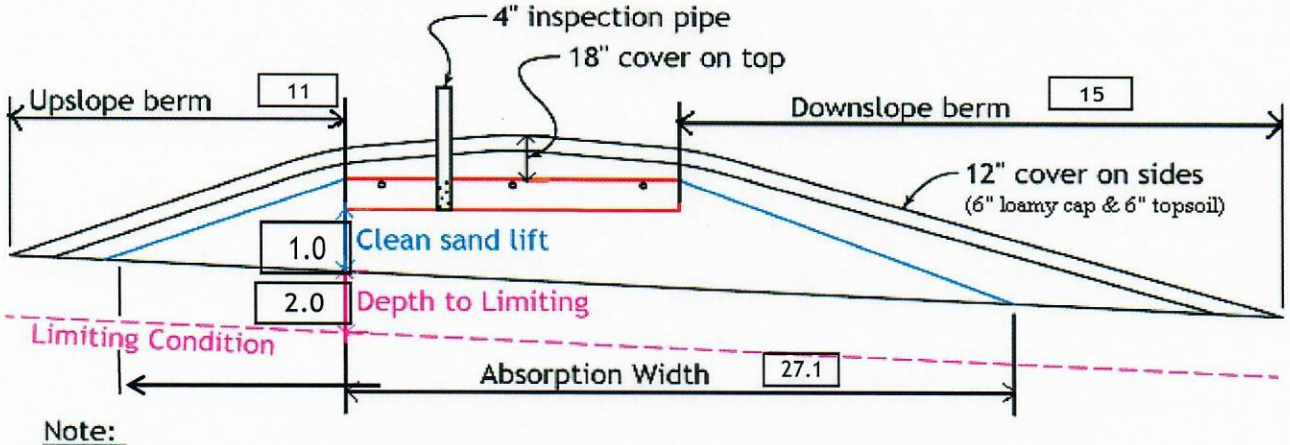
29) 4:1 upslope ratio 11 ft. upslope berm

30) 4:1 sideslope 13 ft. sideslope berms

31) 4:1 downslope 15 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 38.0 ft. long Rock bed

36 ft. wide by 64 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 38.0 ft. by 9 inches under pipe, plus 20% gives 17 yd³ or *1.4= 24 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)

14.8 up + 24.9 downslope + 7.8 ends + 16.2 under rock = plus 20% 76 yd³ or *1.4= 107 ton

35) Loamy Cap:

32 ft. by 60 ft. 6" deep, plus 20% gives 43 yd³ or *1.4= 60 ton

36) Topsoil:

36 ft. by 64 ft. 6" deep, plus 20% gives 52 yd³ or *1.4= 73 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	4/14/2024

Installer Summary

1000 gallon Septic tank (minimum)

Tank options: none

Install 1650 Jacobson 2/Compartment septic/pump tank at 12.69 gpi

533 gallon Dose tank (minimum)

29 GPM @ 24 ft. of head, Pump required

6.9 inch swing on Demand float which translates to roughly 4.5 inches of float tether length

if time dosing is required --> 3 minutes ON time & 5.1 hours OFF time

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

22 inches from bottom of tank to "Hi Level Alarm" or 32 inches to "Hi level alarm" if time dosed

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

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

12 inch, or 1.0 ft. Sand Lift Mound

10.0 ft. wide by 38.0 ft. long Rock bed

3 laterals 1.50 inch diameter 36.0 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

27.1 ft.Total sand ABSORPTION width (minimum)

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

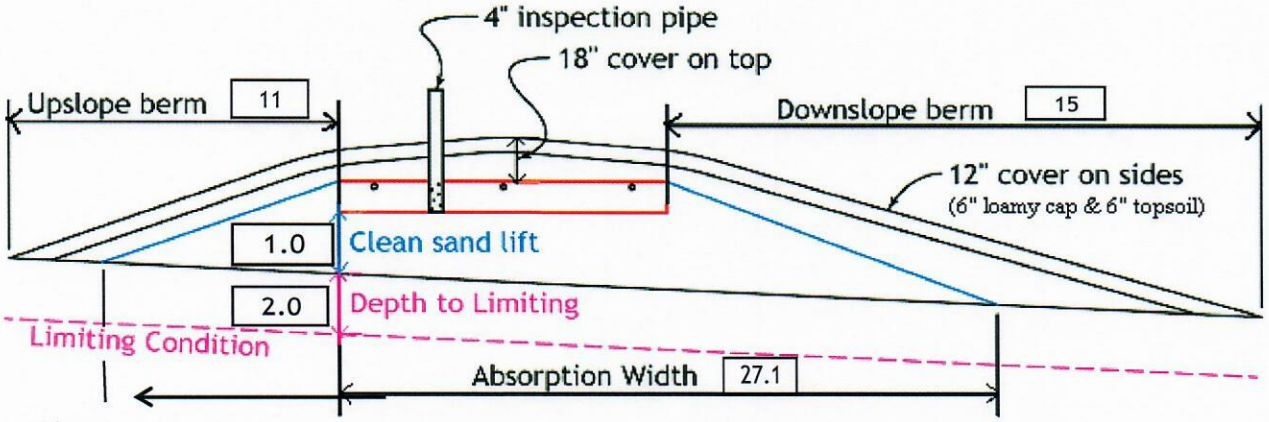
10.0 ft. Downslope (sand beyond rockbed, minimum)

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

4:1 upslope ratio 11 ft. upslope berm

4:1 sideslope 13 ft. sideslope berms

4:1 downslope 15 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:	17.0	yd^3 or *1.4=	24	ton	9 inches under pipe
Mound Sand:	76	yd^3 or *1.4=	107	ton	
Loamy Cap:	43	yd^3 or *1.4=	60	ton	6" deep
Topsoil:	52	yd^3 or *1.4=	73	ton	6" deep

INSPECTOR CHECKLIST - mound

4/442 165th Pl. 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 effluent filter & alarm

☐ Dose tank risers and piping (water tight, insulated, proper depth, drainback)
mfg_____ 533 gallons

☐ dose pump _____ 29 gpm 24 head VERIFY PUMP CURVE 3 min ON 5.1 hr OFF

☐ float setting drop 6.9 inches at 12.7 gpi "DESIGNED" 4.5 inches approx float tether length
87.0 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 38.0

☐ Sand lift depth 12 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

☐ Absorption Sand beyond rock 7.1 upslope 10.0 downslope

☐ Bermed topsoil beyond rockbed 11 upslope 13 sideslope 15 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

☐ 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

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

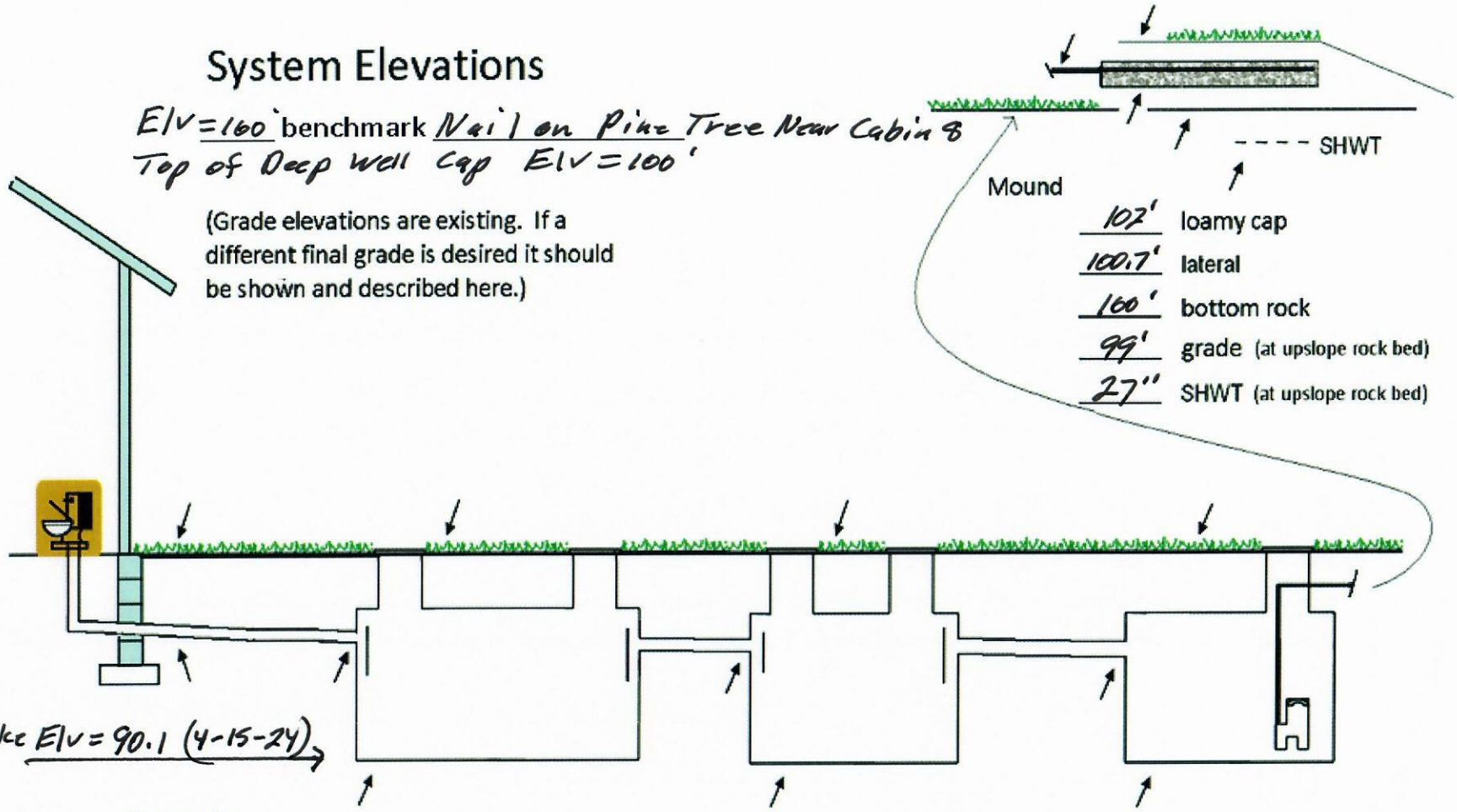
☐ monitoring plan and type _____

☐ well abandonment form - if necessary

System Elevations

Elv = 160' benchmark Nail on Pine Tree Near Cabin 8
Top of Deep well cap Elv = 100'

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



Sewer pipe exiting ~~house~~ Inlet
96.8' Grade
93.7' Pipe

Septic Tank
97.2' Grade
93.8 inlet
90' Tank bottom

Septic Tank (if applicable)
____ Grade
____ inlet
____ Tank bottom

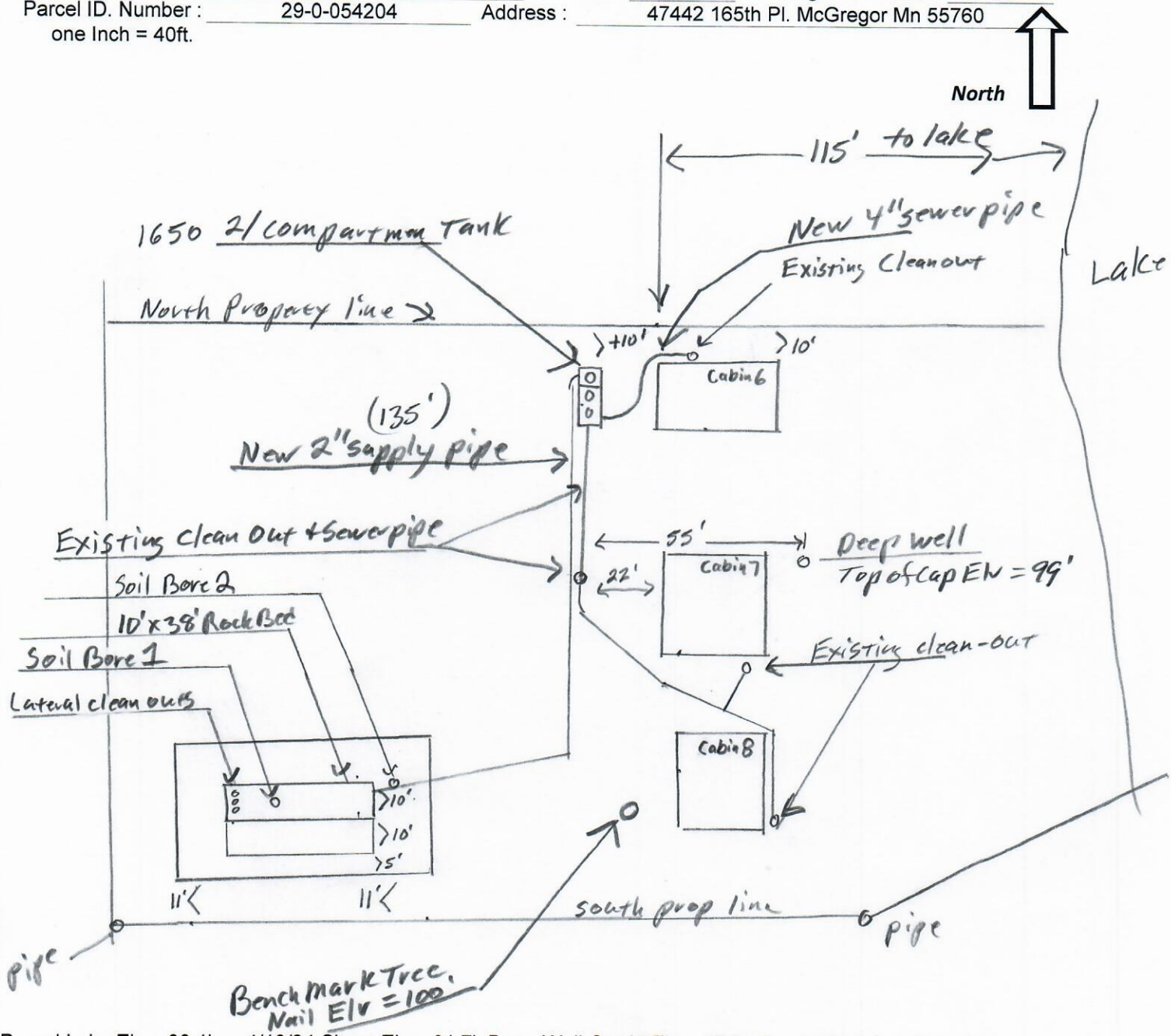
Pump Tank
97.2' Grade
93.6' inlet
90' Tank bottom

{ Design Drawing }

Property Owner: Terrylee Tervola Date: 4/14/24 Designer's Initials : JB

Parcel ID. Number : 29-0-054204 Address : 47442 165th Pl. McGregor Mn 55760

one Inch = 40ft.



Round Lake Elv.= 90.1' on 4/13/24 Shore Elv.= 91.7' Deep Well Grade Elv.= 97.7' Top of Well Cap Elv.= 99'

	Surface/ SHWT	***Nail on Pine Tree= Bench Mark 100'***			Existing Grade
Soil Bore 1	98.1' / 27"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 99'
Soil Bore 2	98' / 27"	Ground Elv. BM	97.7'		Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank	97.2		Top of Washed Sand Elv.= 100'
Grade at Clean-out middle of yard Elv.= 98.1'		Sewer Pipe Elv.= 94.4'			Existing tank Inlet Elv.= 93.7'

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: Terrylee Tervola Date: 4/14/24 Designer's Initials : JB
Parcel ID. Number : 29-0-054204 Address : 47442 165th Pl. McGregor Mn 55760
one Inch = 40ft.

Cabin # 6 Grade at NW corner Elv.= 97' SW corner Grade Elv. = 97.4'
Cabin # 7 Grade at NW corner Elv.= 97.4' SW corner Grade Elv. = 97.8'
Cabin # 8 Grade at NW corner Elv.= 97.6' SW corner Grade Elv. = 96.7'

Deep Well Grade Elv.= 97.7' Top of Well Cap Elv.= 99'

Grade at Clean-out middle of yard Elv.= 98.1'
Sewer Pipe at Clean-out middle of yard Elv.= 94.4'

New Septic Tank Grade Elv.= 97.2'
Estimated New Septic tank In-let Elv.= 93.8'
Estimated Bottom of tank Elv.= 90'
Round Lake Elv.= 90.1' on 4/13/24 Shore Elv.= 91.7'

Round Lake Elv.= 90.1' on 4/13/24 Shore Elv.= 91.7' Deep Well Grade Elv.= 97.7' Top of Well Cap Elv.= 99'

	Surface/ SHWT	***Nail on Pine Tree= Bench Mark 100'***			Existing Grade
Soil Bore 1	98.1' / 27"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 99'
Soil Bore 2	98' / 27"	Ground Elv. BM	97.7'		Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank	97.2		Top of Washed Sand Elv.= 100'
Grade at Clean-out middle of yard Elv.= 98.1'		Sewer Pipe Elv.= 94.4'			Existing tank Inlet Elv.= 93.7'

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: Terrylee Tervola **Date:** 4/14/24

Site Address: 47442 165th Pl. McGregor Mn 55760 **PID:** 29-0-054204

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

1 This is a type I mound for a 3 bedroom total, 3 cabins one bedroom each.
Existing deep well location is NE corner Cabin #7. (These 3 cabins are un-hooking from North Holding tank system).

2 Reuse sewer line from Cabins #7 & #8, ran pipe camera down pipe, looks OK.
Raise clean-out at middle of yard to finished grade and protect it.
Cabin #6 will need a new sewer pipe to the septic tank. Installer may want a side and end inlet on septic tank.
Owner wants new 2" supply pipe to run straight South to cabin #8 area, then turn west to mound.

3 Property lines marked by owner, has pipes on corners, tank will be + 10' from North Property line.
Installer to construct downslope Mound absorption area +15 ft from South property line.

4 Bench Mark Elevation = 100', is a nail on a Pine tree East of mound area.

5 Install Jacobson 1650 Compartment tank for gravity flow from cabins #7 & #8, new pipe from #6.
Installer may order tank with end and side inlets. Install should have tank waterproofed if possible, bottom in water?
Install tank with drainback from mound to pump tank.

6 Elevation contour of rock bed upslope edge is 99'.
The area size of the rock bed is 10' x 38' . Absorption area is 38' x 27.1'.
Sand absorption area is 7.1 ft. up slope + 10 ft. rockbed + 10 downslope = approx. 27.1 ft. wide sand base.
Berms are 11ft. Upslope, 15ft. Down slope, 10ft. Rock bed = approx. 36ft. Wide.
Overall mound size is approx. 36' wide x 64' long and approx. 3' high. End berms are 13 ft wide.

7 The bench mark is the nail on the Pine 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 The Jacobson 1650 compartment tank will be gravity flow from Cabins. Install the pump for 7 demand doses per day. approx. 87 gallons per dose, 6.9 inches of tank level. Install alarm at 3 inches from pump on level.
Install all manholes, inspection pipes and clean-outs to grade or above, recommend 4" above finished grade.

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)

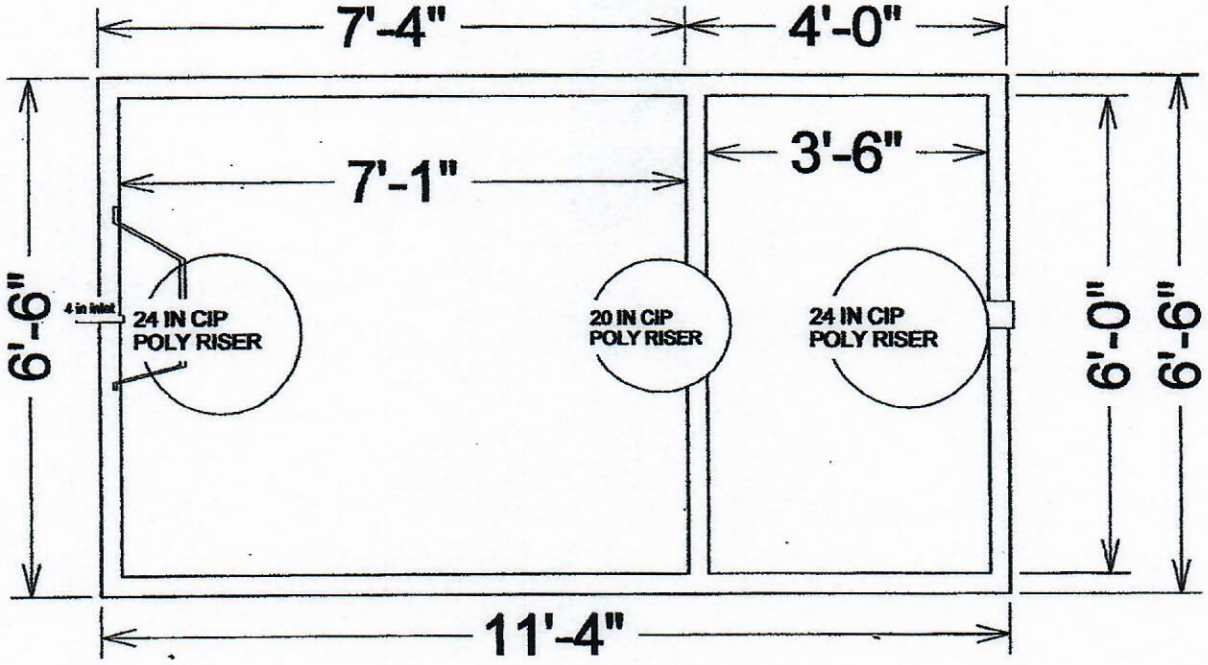
11 **Drill 1/4" holes for Perf sizing, 36" on centers.**
Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
MPCA recommends Installing an Effluent filter and Alarm on septic tank outlet.
MPCA recommends installing an event counter on all systems with a pump.

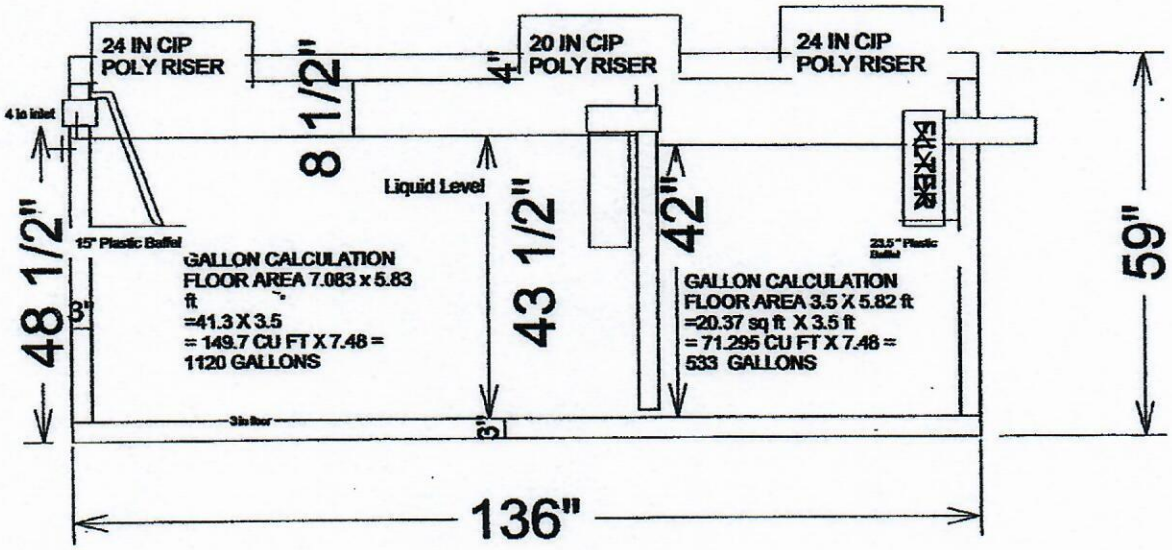
Designed to Aitkin Co. and MPCA recommendations and requirements.

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

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

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.

Tervola

1:564 0 0.003 0.006 mi 1 inch = 47 feet

Web AppBuilder for ArcGIS

Aitkin County

Date: 4/15/2024

Detailed Parcel Report

Parcel Number: 29-0-054204

General Information

Township/City:	SHAMROCK TWP		
Taxpayer Name:	TERVOLA, STEPHEN & TERRYLEE TRUSTEE		
Taxpayer Address:	TERVOLA FAMILY TRUST MCCABE, KELLY & DEBRA ANN 1172 AQUARIUS LN EAGAN MN 55123		
Property Address:	47442 165th Pl		
Township:	49	**Lake Number:**	1002300 RD
Range:	23	**Lake Name:**	ROUND LAKE (SHAM/HAUG TWPS)
Section:	25	**Acres:**	0.80
Green Acres:	No	**School District:**	4.00
Plat:			
Brief Legal Description:	.80 AC OF LOT 4 IN DOC #267369		

Tax Information

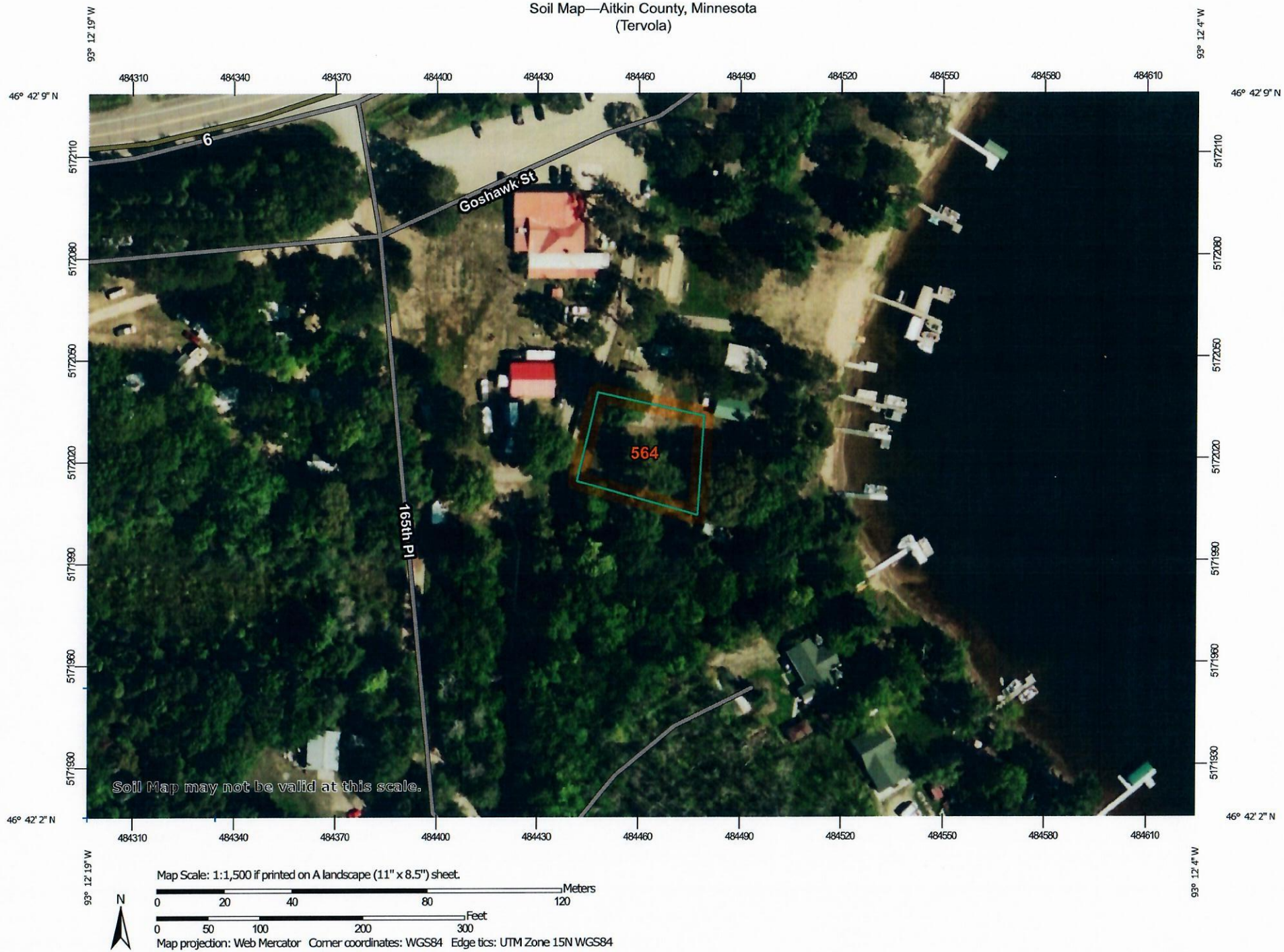
Class Code 1:	Non-Comm Seasonal Residential Recreational OHW = 1253.6'
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2024

Estimated Land Value:	$194,000.00
Estimated Building Value:	$53,700.00
Estimated Total Value:	$247,700.00
Prior Year Total Taxable Value:	$242,700.00
Current Year Net Tax (Specials Not Included):	$1,442.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$1,442.00
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.**

Soil Map—Aitkin County, Minnesota
(Tervola)



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

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

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

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

Data Source Information

Soil Survey Area: Aitkin County, Minnesota
Survey Area Data: Version 24, Sep 9, 2023