Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information

Date	8/21/2022	Sec / Twp / Rng	S-9, T-46, R-27
Parcel ID	07-0-017501	LUG (county, city, township)	Aitkin Co.
Property Owner:	Kenneth Hiller	Owners address (if different)	
Property Address:	43318 329th Ln Aitkin MN 56431		43318 329th Ln
City / State / Zip:			Aitkin MN 56431

Flow Information and Waste Type / Strength

Estimated Design flow: 450

Comments: Proposed 3 bedroom house Walk-out
Lift in Basement , Proposed Deep Well SE of 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	Proposed 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) County marked lake setback	☑ 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: 15% slope in mound area Alternate Site set-up in 2007

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) 9 MPI

Depth/elev to SHWT 22"

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) _____

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

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

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

Brummer Septic LLC.
Company

L-1347
License #

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information

Property Owner / project: Kenneth Hiller Date 8/21/2022

Property Address / PID: 43318 329th Ln Aitkin MN 56431

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: 502 slope 15 % direction- N - NW

Soil Log #1

☑ Boring ☐ Pit Elevation 97.4' Depth to SHWT 22"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 22	Loam	<35	10YR4/4		Loose	Loose	Granular
22 - 26	Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

Comments:

43318 329th Ln Aitkin MN 56431 **Soil Log #2**

☑ Boring ☐ Pit Elevation 97.8' Depth to SHWT 24"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 24	Loam	<35	10YR4/4		Loose	Loose	Granular
24 - 26	Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

43318 329th Ln Aitkin MN 56431 **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 #

Percolation Data Sheet

1. Contact Information

Property Owner: Kenneth Hiller

Site Address: 43318 329th Ln Aitkin MN 56431

2. General Percolation Information

Diameter: 7 in

Date prepared and/or soaked: 8/20/22

Method of scratching sidewall: Scratcher

Is pre-soak requiried*? Yes * *Not required in sandy soils*

Soak* start time: 1:00 AM

Soak* end time: 7:00 AM

6:00 hrs of soak

Method to maintain 12 in of water during soak: Float

3. Percolation Test Data

Test hole: #1

Location: Rockbed Area

Date reading taken: 8/21/22

Elevation:

Starting time: 7:15

Depth**: 22" inches

Soil texture description:

Depth (in)	Soil Texture
0 - 6	Top Soil
6 - 22	Loam

*** 12 inches for mounds & at-grades, depth of absorption area for trenches & beds*

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1	7:25	7:35	12.25	10.38	5.3	NA	NA
2	7:37	7:42	12.00	11.00	5.0	NA	NA
3	7:46	7:53	12.25	10.88	5.1	6.5	Yes

Chosen Percolation Rate for Test Hole #1: 6.0 mpi

Additional percolation test data may be included on attached pages

Design Percolation Rate (maximum of all tests) = 9.00 mpi

Additional Percolation Data

Percolation Test Data

Test hole: #2 Location: Rockbed Area

Date reading taken: 8/21/2022 Elevation:

Starting time: 7:15 Depth**: 16" inches

Soil texture description:

Depth (in)	Soil Texture

*** 12 in. for mounds & at-grades, depth of absorption area for trenches and beds*

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1	7:20	7:30	11.75	10.63	8.9	NA	NA
2	7:32	7:39	11.75	10.88	8.0	NA	NA
3	7:40	7:50	11.75	10.63	8.9	9.9	Yes

Chosen Percolation Rate for Test Hole #2 9.0 mpi

Percolation Test Data

Test hole: #3 Location:

Date reading taken: Elevation:

Starting time: Depth**: inches

Soil texture description:

Depth (in)	Soil Texture

*** 12 in. for mounds & at-grades, depth of absorption area for trenches and beds*

Reading	Start Time	End Time	Start Reading (in)	End Reading (in)	Perc rate (mpi)	% Difference Last 3 Rates	Pass
1						NA	NA
2						NA	NA
3							

Chosen Percolation Rate for Test Hole #3 mpi

2011 purple code

Mound Design - Aitkin county

www.SepticResource.com (vers 15.2)

Property Owner: Kenneth Hiller **Date:** 8/21/2022

Site Address: 43318 329th Ln Aitkin MN 56431 **PID:** 07-0-017501

Comments: 15% slope 2 Alt Site found when lot was established

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

1) [3] bedroom Type [I] Residential System

2) [450] GPD design flow

3) [Yes] Garbage disposal or pumped to septic 50% larger tank with multiple comp/tanks

4) [1500] Gal Septic tank (code minimum) [1500] Gal Septic tank (design size / LUG req'd)
Tank options: Multiple tanks or compartments req'd

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 [37.5] 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 [35.5] feet long [12.0] perfs / lateral [36] 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) [40] feet of [2.0] inch supply line leads to [7] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [71] gallons TOTAL pump out volume (treatment + drainback)

15) [18] feet vertical lift from pump to mound laterals, leads to a:

16) [27] GPM @ [24] 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 [16.67] gpi
leads to a

18) [4.3] inch swing on Demand float, or timed dosing of [2.6] min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) [5.2] hrs OFF test and adjust as necessary)

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

20) [16] inches from bottom of tank to "Pump ON" float, or [12] inches to "Timer ON" float if time dosed

21) [19] inches from bottom of tank to "Hi Level" float, or [29] inches to "Hi Level" float if time dosed

22) [203] gallons reserve capacity (after High Level Alarm is activated)

Designer Recommends an Effluent filter & alram on it because of lift in basement

23) 0.60 gpd/ft² 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) 15 percent site slope (0-20% range) 15 (% 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:)

54.5 greater of: absorption width OR sand slope

28) 0.0 ft. upslope and sideslope sand upslope 6.2

10.0 ft. Downslope sand down slope 38.3

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

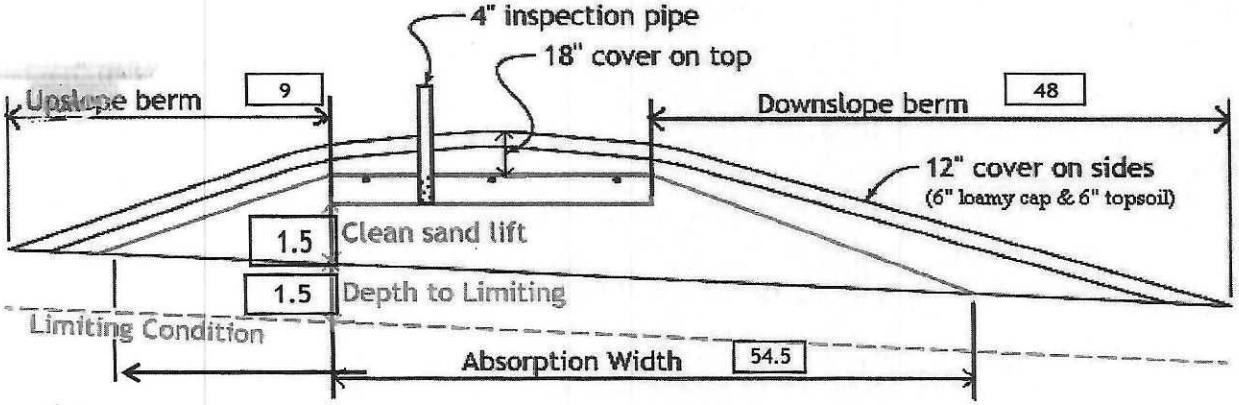
29) 4:1 upslope ratio 9 ft. upslope berm

30) 4:1 sideslope 20 ft. sideslope berms

31) 4:1 downslope 48 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 37.5 ft. long Rock bed

67 ft. wide by 78 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 37.5 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)

19.9 up + 197.1 downslope + 23.7 ends + 31.3 under rock = 326 yd³ or *1.4= 457 ton
plus 20%

35) Loamy Cap:

63 ft. by 74 ft. 6" deep, plus 20% gives 103 yd³ or *1.4= 144 ton

36) Topsoil:

67 ft. by 78 ft. 6" deep, plus 20% gives 116 yd³ or *1.4= 162 ton

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

Jeff Brummer	Brummer Septic LLC.	L-1347	8/21/2022
Designer Signature	Company	License#	Date

Installer Summary

1500 gallon Septic tank (minimum)

Tank options: Multiple tanks or compartments req'd
50% larger tank with multiple comp/tanks
at 16.67 gpi

520 gallon Dose tank (minimum)

27 GPM @ 24 ft. of head, Pump required
4.3 inch swing on Demand float which translates to roughly 3.2 inches of float tether length
if time dosing is required --> 2.6 minutes ON time & 5.2 hours OFF time
16 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float
19 inches from bottom of tank to "Hi Level Alarm" or 29 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)

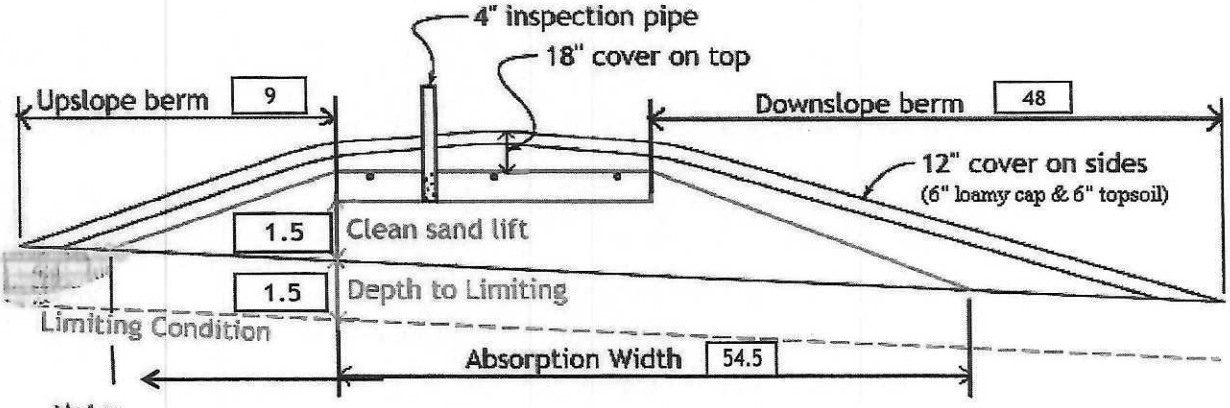
18 inch, or 1.5 ft. Sand Lift Mound
10.0 ft. wide by 37.5 ft. long Rock bed
3 laterals 1.50 inch diameter 35.5 ft. long 3.0 ft. lateral spacing
1/4" inch perfs 3.0 ft. perforation spacing

No Effluent filter & alarm
3 clean out & valve box assemblies

54.5 ft.Total sand ABSORPTION width (minimum)
6.2 ft. upslope and sideslope (sand beyond rockbed, minimum)
38.3 ft. Downslope (sand beyond rockbed, minimum)

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

4:1 upslope ratio 9 ft. upslope berm
4:1 sideslope 20 ft. sideslope berms
4:1 downslope 48 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:	326 yd^3 or *1.4=	457	ton	
Loamy Cap:	103 yd^3 or *1.4=	144	ton	6" deep
Topsoil:	116 yd^3 or *1.4=	162	ton	6" deep

INSPECTOR CHECKLIST - mound

45318 329th Ln Aitkin MN 56431

☐ 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_____ 1500 gallons Multiple tanks or compartments req'd

☐ 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_____ 520 gallons

☐ dose pump _____ 27 gpm 24 head VERIFY PUMP CURVE 2.6 min ON 5.2 hr OFF

☐ float setting drop 4.3 inches at 16.7 gpi "DESIGNED" 3.2 inches approx float tether length
71.0 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 37.5

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

☐ Absorption Sand beyond rock 6.2 upslope 38.3 downslope

☐ Bermed topsoil beyond rockbed 9 upslope 20 sideslope 48 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

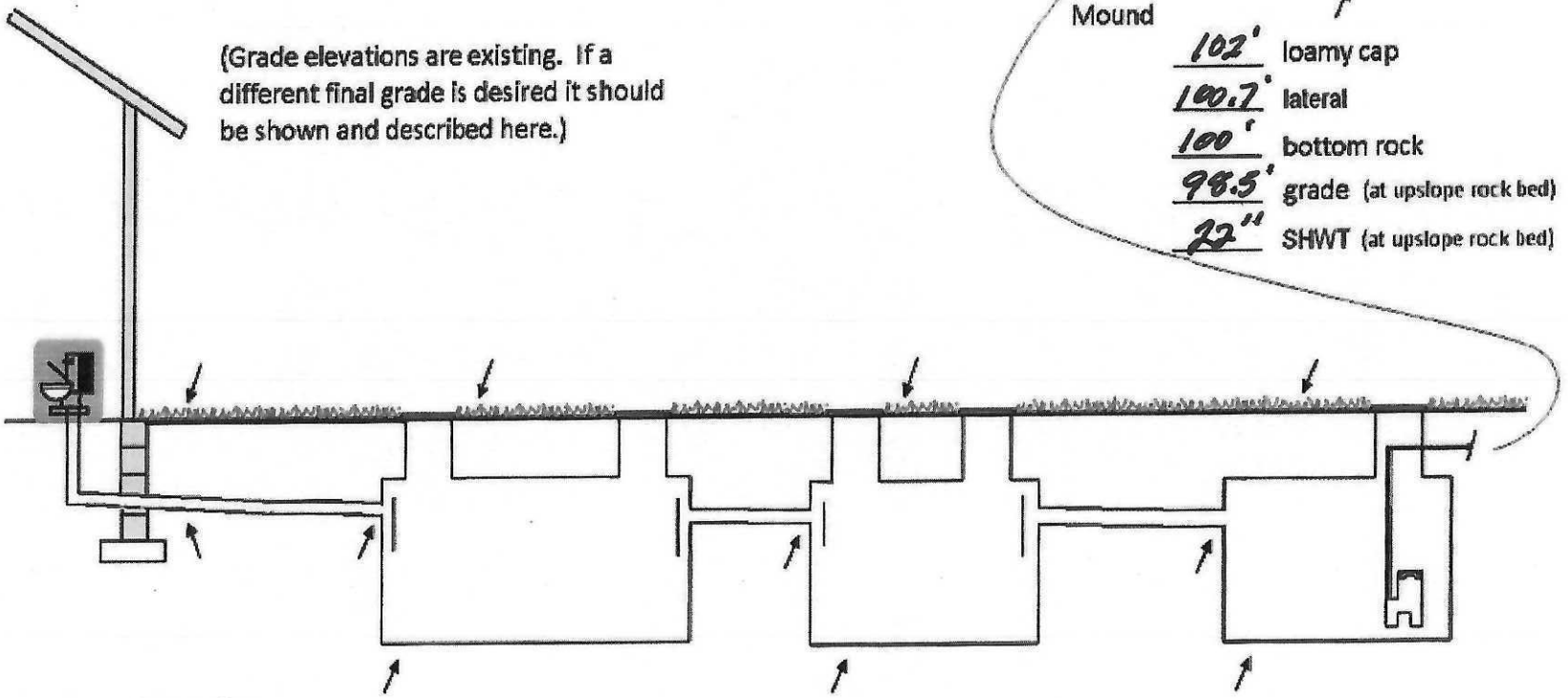
☐ Abandon existing system - if necessary ☐ Re-use existing tank certification

☐ monitoring plan and type _____

☐ well abandonment form - if necessary

System Elevations

Elv = 100' benchmark Nail on Oak Tree



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

102' loamy cap
100.7' lateral
100' bottom rock
98.5' grade (at upslope rock bed)
22" SHWT (at upslope rock bed)

Sewer pipe

Proposed ~~exiting~~ house

wall out 93 Grade

Estimated 96' Pipe

Septic Tank

96' Grade

95' inlet

91' Tank bottom

Septic Tank (if applicable)

____ Grade

____ inlet

____ Tank bottom

Pump Tank

95' Grade

94.7' inlet

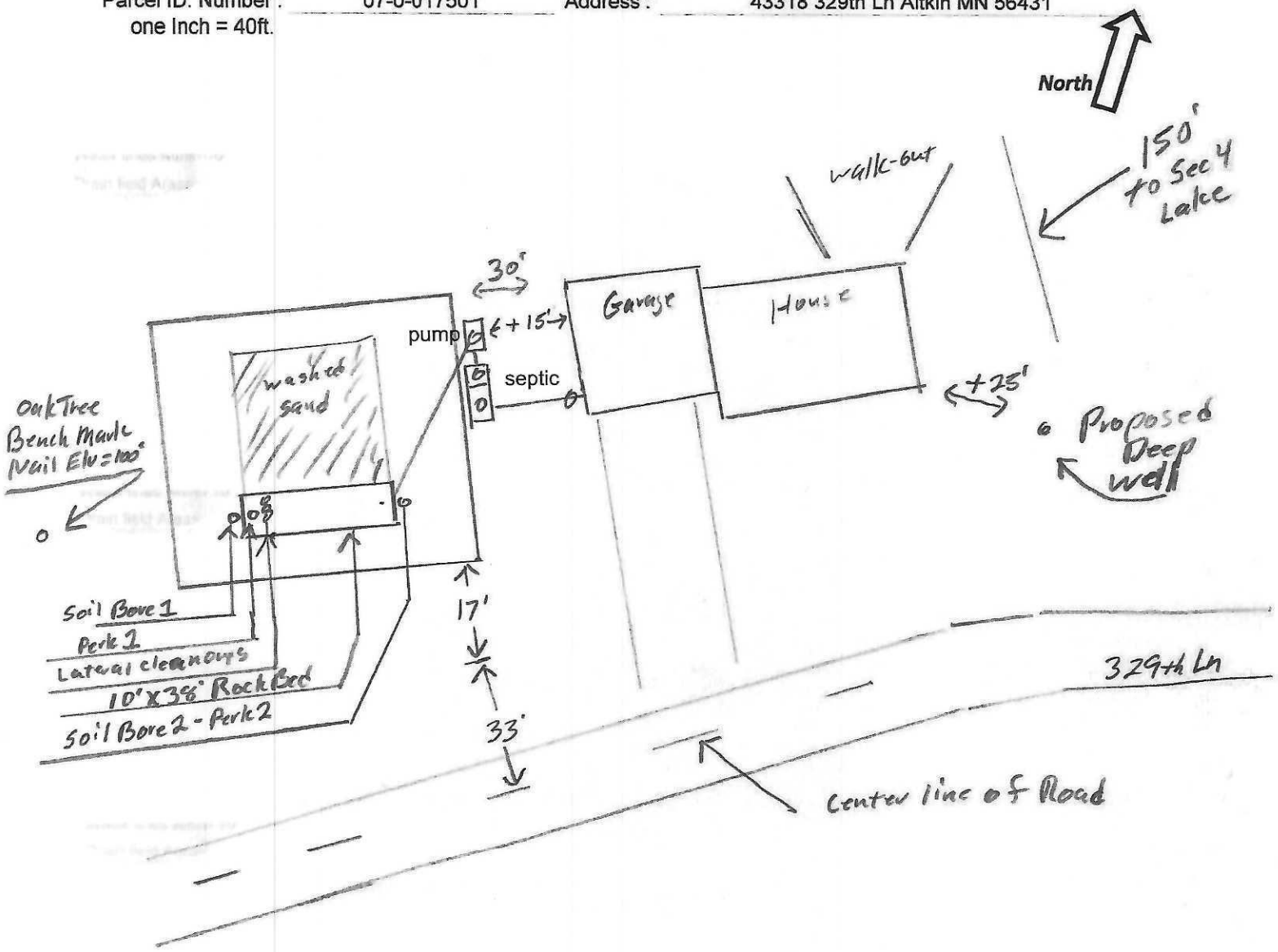
91' Tank bottom

{ Design Drawing }

Property Owner: Kenneth Hiller Date: 8/21/22 Designer's Initials : JB

Parcel ID. Number : 07-0-017501 Address : 43318 329th Ln Aitkin MN 56431

one Inch = 40ft.



Existing Grade at Walk-out Corner of House Elv.=93'

Existing Grade at Front of House Elv. = 97.8'

House Elevation not set at time of design

Highest grade infront of house Elv. = 101.6'

Center line of street in front of garage Elv. = 103.3'

	Surface/ SHWT	*Nail on Oak Tree = Bench Mark 100'*			Existing Grade
Soil Bore 1	97.4' / 22"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 98.5'
Soil Bore 2	97.8' / 24"	Ground Elv. BM	98.3		Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank	96'		Top of Washed Sand Elv.= 100'
	Ground at	Proposed house	93'	walkout	Estimated Sewer pipe at House Elv.= 96'

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

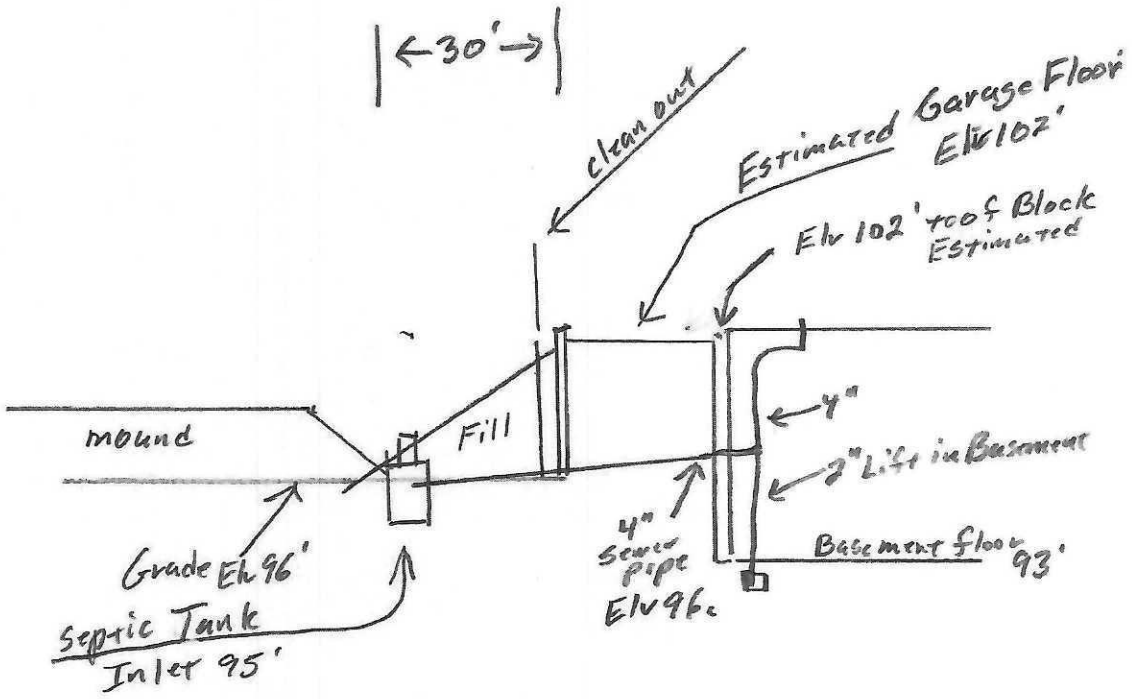
{ Design Drawing }

Property Owner: Kenneth Hiller Date: 8/21/22 Designer's Initials : JB

Parcel ID. Number : 07-0-017501 Address : 43318 329th Ln Aitkin MN 56431

one Inch = 40ft.

North



102

	Surface/ SHWT	Nail on Oak Tree = Bench Mark 100'			Existing Grade
Soil Bore 1	97.4' / 22"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 98.5'
Soil Bore 2	97.8' / 24"	Ground Elv. BM	98.3		Bottom of Rockbed Elv.= 100'
Soil Bore 3		Ground Elv. Tank	96'		Top of Washed Sand Elv.= 100'
	Ground at	Proposed house	92.5'	walkout	Estimated Sewer pipe at House Elv.= 96'

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: Kenneth Hiller **Date:** 8/21/22

Site Address: 43318 329th Ln Aitkin MN 56431 **PID:** 07-0-017501

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 House. Proposed deep well location will be SE of House.
House will be walk-out with a lift in the basement.

2 Alternate site to the west of mound area established in 2007.

3 Contractor and installer may want to install septic tank inlet at or above existing grade because of the amount of backfill between garage and mound area.

4 Bench Mark Elevation is a nail on a Oak tree West of mound area.
Mound area is at 15% slope, 2 perk tests completed in rockbed area. 9-MPI is perk rate.

5 Install Jacobson 1650 2/Compartment septic tank for gravity flow from main floor of house (Elv. not set)
Order with side inlet, Designer use Jacobson tanks for calculations, installer may use other MFG.
Installer to be aware of bury depth of tanks, septic and pump.
Install clean-out near house.

6 Elevation contour of rock bed upslope edge is 98.5'.
The area size of the rock bed is 10' x 38' . Absorption area is 38' x 54.5'.

2 Sand absorption area is 6.2 ft. up slope + 10 ft. rockbed + 38.3 downslope = approx. 54.5 ft. wide sand base.

Berms are 9ft. Upslope, 48ft. Down slope, 10ft. Rock bed = approx. 67ft. Wide.
Overall mound size is approx. 67' wide x 78' long and approx. 3.5' high. End Berms are 20 ft wide

7 The bench mark is the nail on the 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 Jacobson 520 pump tank with gravity flow from septic tank . Install the pump for 7 demand doses per day. approx. 71 gallons per dose, 4.3 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, insulate top of tank.

10 Install Effluent filter on septic tank outlet, install electric alarm on filter. (Recommended)
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)

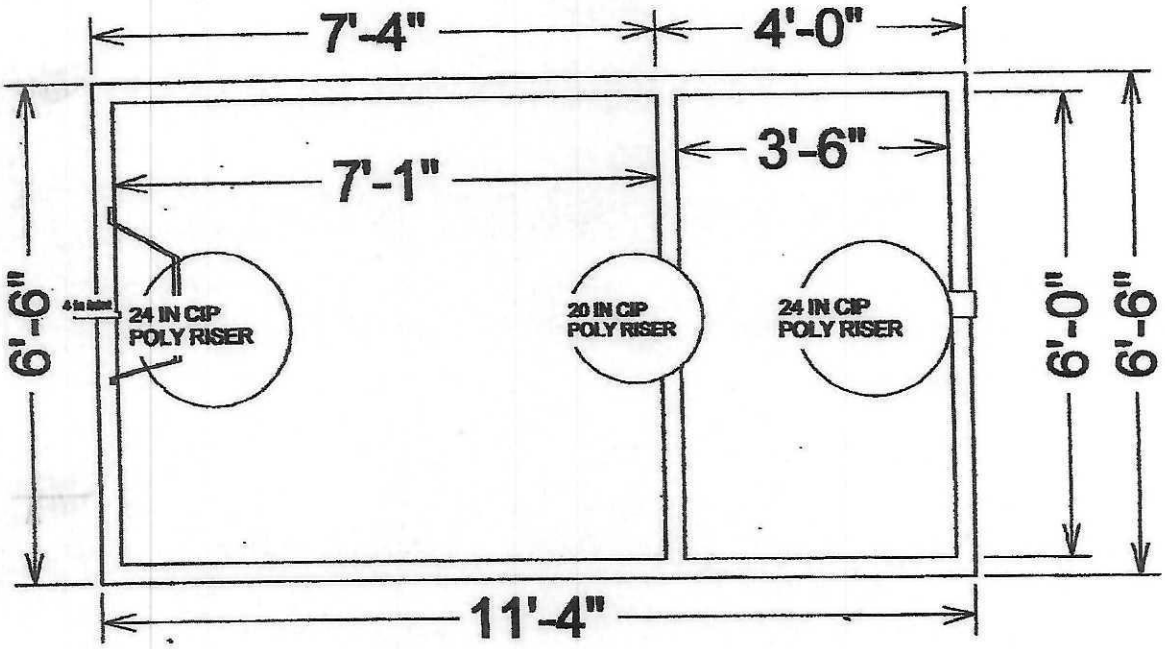
11 **Drill 1/4" holes for Perf sizing, 36" on centers.**
Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.

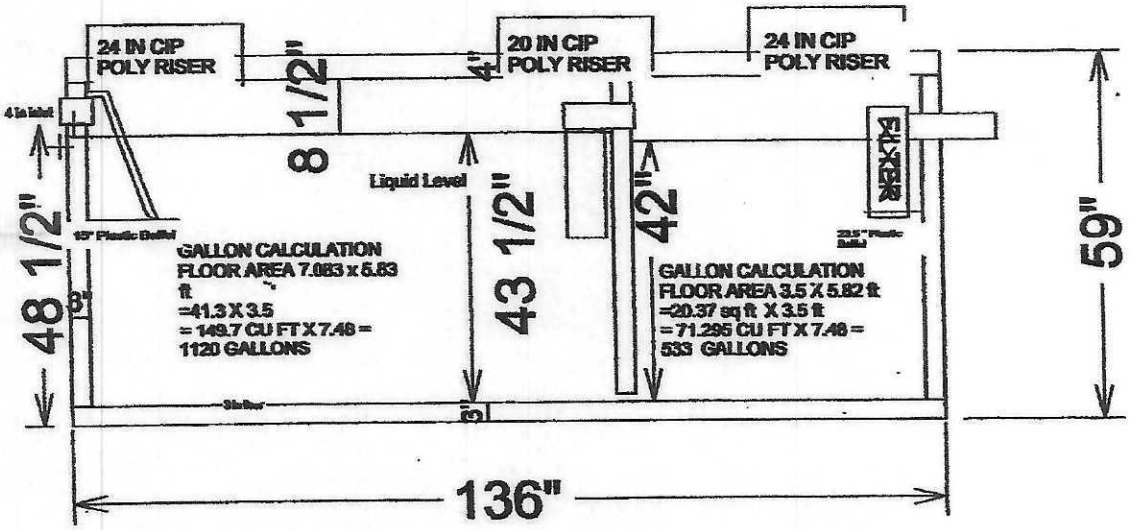
Designed to Aitkin Co. and MPCA recommendations and requirements.

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

1650 Gallon 2 Compartment Septic Tank

TOP VIEW

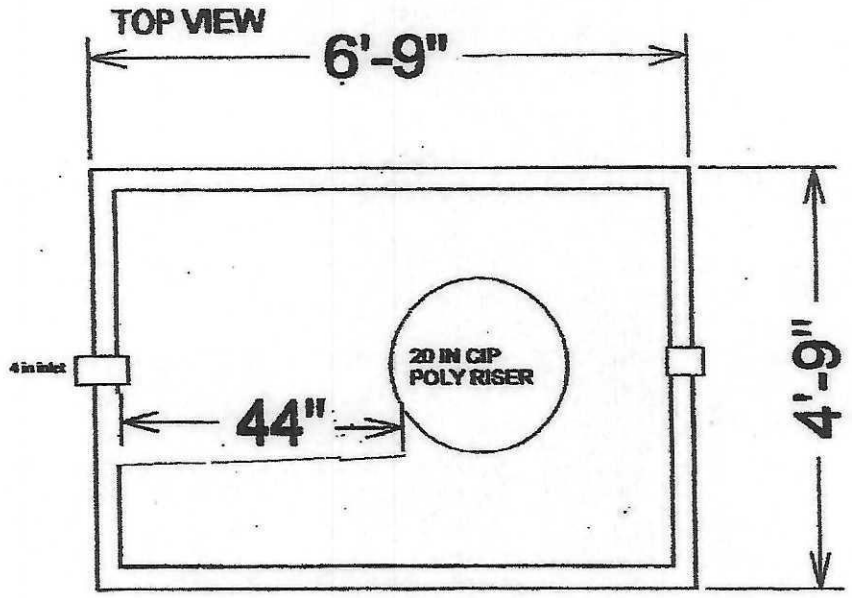


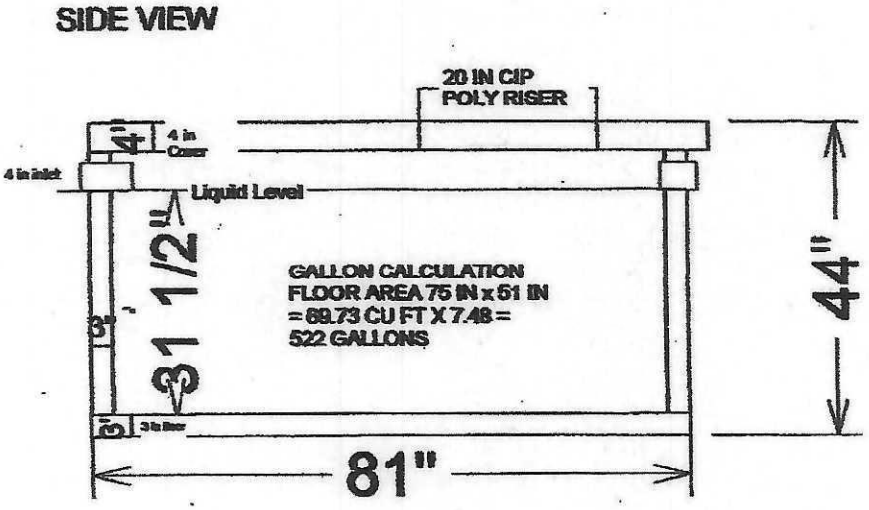


SIDE VIEW

533 / 42" = 12.69 GPI

520 Gallon Pump Tank





522 gals. / 31.5" = 16.57 GPI

JACOBSON PRECAST CONCRETE, LLC

July 15, 2016

Mr. Corey Hower

Minnesota Pollution Control Agency

520 La Fayette Rd. N.

St. Paul, MN 55155-4194

Mr. Hower;

New Septic, Pump and Holding Tank Approval:

At this time we would like to approve the following tanks for 6 ft of cover. Testing has been done and certified under the Engineering from Hawkinson Engineering. Tanks for approval are

520P, 520OH

760P, 760 OH

1000S, 1000P, 1000H, 1000 2H

1500S, 1500P, 1500H, 1500ZH

1650SP, 1650SS, 1650H, 1650SSMH, 1650HMH,

We also submit approval for our, tank for 5 ft of cover.

1820 SP, 1820SS 1820H, 1820SSMH, 1820HMH

Current tanks to be kept:

1650 SP To be Named- 1650 FSP

1820 SP To be Named- 1820 FSP

1000 S To be Named - 1000 OS

Thank You,

Jacobson Precast Concrete

Gordon L. Forsberg

Aitkin County

Detailed Parcel Report

Parcel Number: 07-0-017501

General Information

Township/City:	FARM ISLAND TWP		
Taxpayer Name:	HILLER, KENNETH & TAMMY		
Taxpayer Address:	3825 191ST AVENUE NE WYOMING MN 55092		
Property Address:	43318 329TH LN		
Township:	46	**Lake Number:**	0
Range:	27	**Lake Name:**	
Section:	9	**Acres:**	8.85
Green Acres:	No	**School District:**	1.00
Plat:			
Brief Legal Description:	PART OF NW-NE & GOVT LOT 1 IN DOC 384543		

Tax Information

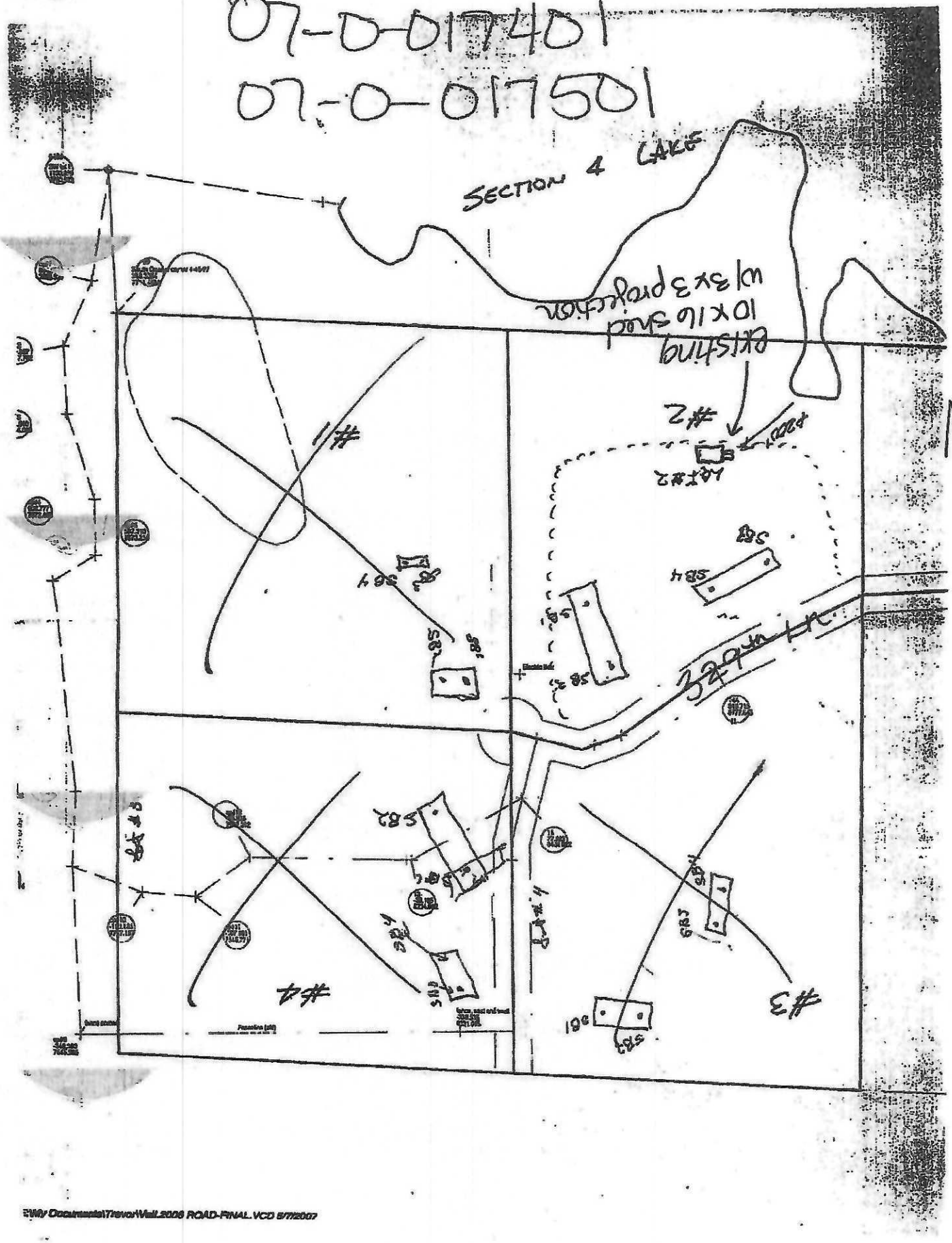
Class Code 1:	Non-Comm Seasonal Residential Recreational
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2022

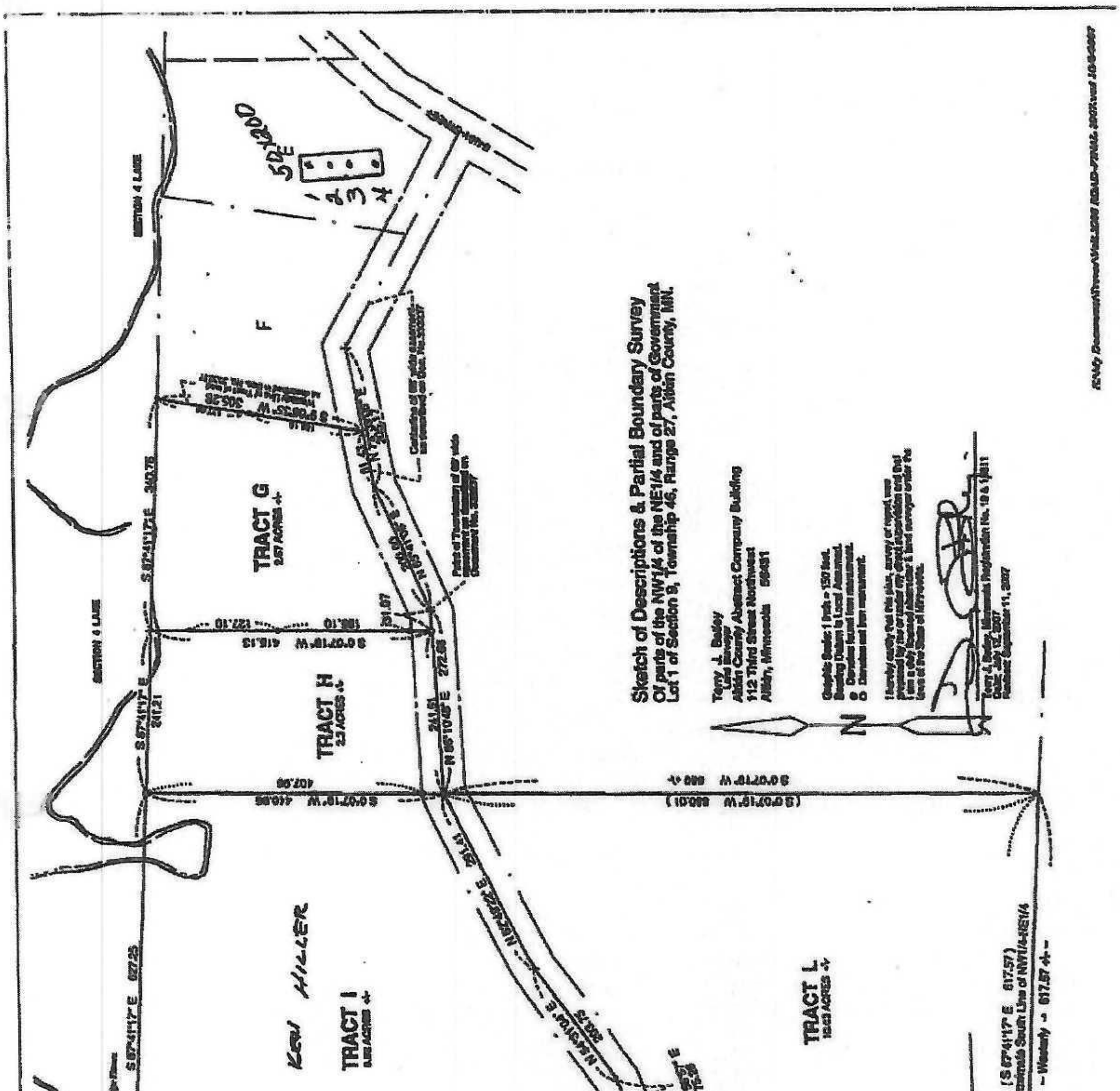
Estimated Land Value:	$41,300.00
Estimated Building Value:	$800.00
Estimated Total Value:	$42,100.00
Prior Year Total Taxable Value:	$26,600.00
Current Year Net Tax (Specials Not Included):	$182.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$0.00
Delinquent Taxes:	No

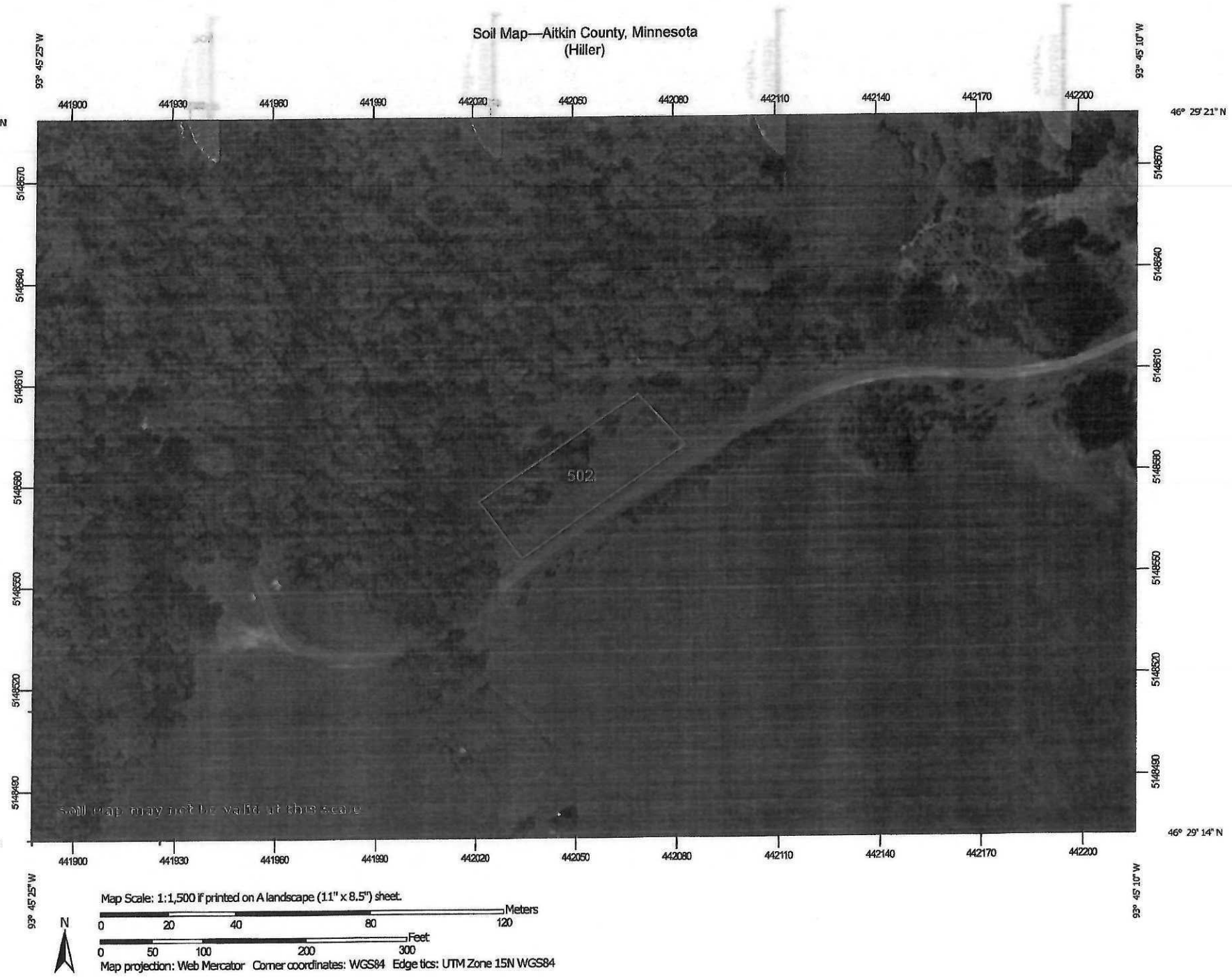
*** For more information on delinquent taxes, please call the Aitkin County Treasurer's Office at 218-927-7325.**

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

07-0-017401
07-0-017501




Sketch of Descriptions & Partial Boundary Survey
Of parts of the NW1/4 of the NE1/4 and of parts of Government Lot 1 of Section 9, Township 46, Range 27, Aitkin County, MN.
TRACT G
TRACT H
TRACT I
TRACT J
TRACT K
TRACT L
F



USDA **Natural Resources Conservation Service**

Web Soil Survey
National Cooperative Soil Survey

Aitkin County, Minnesota

502—Dusler silt loam

Map Unit Setting

National map unit symbol: gjh6
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: Prime farmland if drained

Map Unit Composition

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

Description of Dusler

Setting

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

Typical profile

A - 0 to 5 inches: silt loam
Eg,2B/E - 5 to 21 inches: fine sandy loam
2Bt1,2Bt2 - 21 to 50 inches: clay loam
2C - 50 to 60 inches: loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 10.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Forage suitability group: Level Swale, Acid (G090AN005MN)
Other vegetative classification: Level Swale, Acid (G090AN005MN)

Hydric soil rating: No

Minor Components

Duluth and similar soils
Percent of map unit: 7 percent
Hydric soil rating: No

Mahtowa and similar soils
Percent of map unit: 4 percent
Landform: Swales
Hydric soil rating: Yes

Blackhoof and similar soils
Percent of map unit: 4 percent
Landform: Depressions
Hydric soil rating: Yes

Data Source Information

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