

Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information			
Date	<u>5/2/2023</u>	Sec / Twp / Rng	<u>S-33, T-45, R-27</u>
Parcel ID	<u>11-0-071602</u>	LUG (county, city, township)	<u>Aitkin Co.</u>
Property Owner:	<u>Steven Durben</u>	Owners address (if different)	
Property Address:	<u>23007 430th Ave. Aitkin Mn 56431</u>	<u>2946 Orchard Ave. No.</u>	
City / State / Zip:		<u>Golden Valley MN 55422</u>	


Flow Information and Waste Type / Strength			
Estimated Design flow	<u>300</u>	Anticipated Waste strength	<input type="checkbox"/> Hi Strength <input checked="" type="checkbox"/> Domestic
Comments: New Septic System to replace failing one. Shallow Well in front of house. Existing Septic tank will be pumped and remove (Steel) Existing Gravity Bed to be Abandon in-place.		Any Non-Domestic Waste	<input type="checkbox"/> Yes (class V) <input checked="" type="checkbox"/> No
		Sewage ejector/grinder pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Water softener	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Garbage Disposal	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Daycare / In home business	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Site Information					
Existing & proposed lot improvements located (see site map)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Well casing depth	Existing Shallow well	
Easements on lot located (see site map)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Drainfield w/in 100' of residential well	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Property lines determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in 200' of transient noncommunity water supply (TNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Req'd setbacks determined (see site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site w/in an inner wellhead mgmt zone (CWS/NTNCWS)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Utilities located & identified (gopher state one call)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Buried water supply pipe w/in 50' of system	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Access for system maintenance (shown on site map)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site located in Shoreland (w/in 1000' of lake, 300' of river)	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Soil treatment area protected	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Site map prepared with previous items included	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Construction related issues	_____ _____				

Soil Information

		Evidence of site:	
		Cut	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Filled	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Compacted	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
		Disturbed	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Original soils	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
Soil logs completed and attached	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Perk test completed and attached (if applicable)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Soil loading rate (gpd/ft ²)	<u>0.78</u>	Percolation rate (if applicable)	_____
Depth/elev to SHWT	<u>27"</u>	Flooding or run-on potential (comments)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to system bottom maximum (or elev minimum)	<u>(+ 12")</u>	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)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> 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 

Brummer Septic LLC.
Company

L-1347
License #

Soil Observation Log

www.SepticResource.com vers 12.4

Owner Information	
Property Owner / project: <u>Steven Durben</u>	Date <u>5/2/2023</u>
Property Address / PID: <u>23007 430th Ave. Aitkin Mn 56431</u>	

Soil Survey Information	
<input type="checkbox"/> refer to attached soil survey	
Parent mat'l's:	<input type="checkbox"/> Till <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Alluvium <input type="checkbox"/> Organic <input type="checkbox"/> Bedrock
landscape position:	<input type="checkbox"/> Summit <input type="checkbox"/> Shoulder <input checked="" type="checkbox"/> Side slope <input type="checkbox"/> Toe slope
soil survey map units:	<u>268B & 732B</u> slope <u>0</u> % direction- <u>South</u>

Soil Log #1							
		<input checked="" type="checkbox"/> Boring	<input type="checkbox"/> Pit	Elevation <u>99.3'</u>	Depth to SHWT <u>27"</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 27	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
27 - 32	Sandy Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

Comments:

23007 430th Ave. Aitkin Mn 56431

Soil Log #2

Boring

Pit

Elevation 98.8'

Depth to SHWT 27"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 27	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
27 - 30	Sandy Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

23007 430th Ave. Aitkin Mn 56431

Soil Log #3

Boring

Pit

Elevation 98.5'

Depth to SHWT 30"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 30	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
30 - 36	Sandy Loam	<35	10YR4/4	7.5YR5/6	Loose	Loose	Granular

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 #

Mound Design - Aitkin county

Property Owner: Steven Durben

Date: 5/2/2023

Site Address: 23007 430th Ave. Aitkin Mn 56431

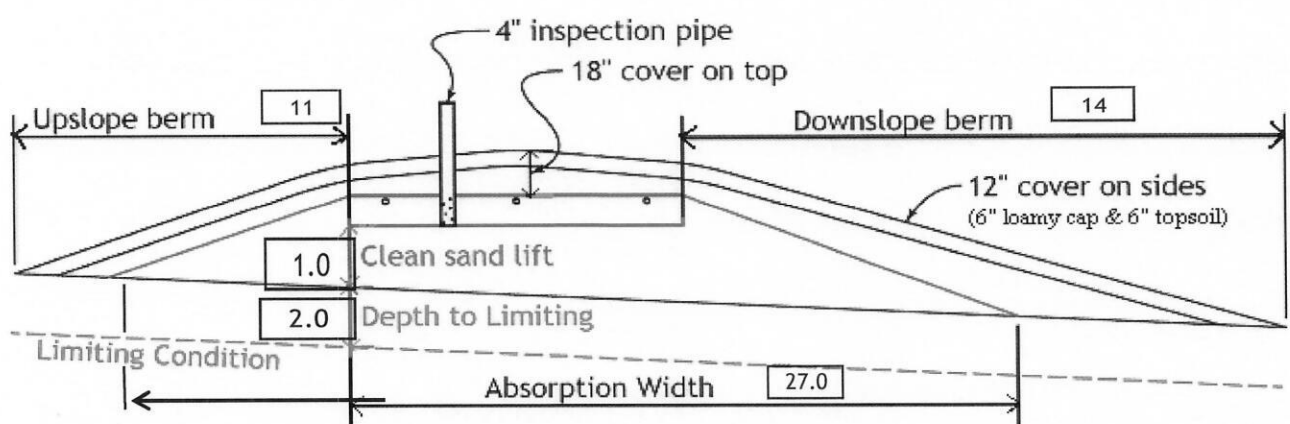
PID: 11-0-071602

Comments: _____

Instructions: = enter data = adjust if desired = computer calculated - DO NOT CHANGE!

- 1) bedroom Type Residential System
- 2) GPD design flow
- 3) Garbage disposal or pumped to septic Install 1650 Jacobson 2?compartment Septic/Pump tank
- 4) Gal Septic tank (code minimum) Gal Septic tank (design size / LUG req'd)
Tank options: none
- 5) GPD/ft² mound sand loading rate contour loading rate of req's a min ft. long rockbed
- 6) ft rockbed width ft rockbed length
- 7) ft lateral spacing ft perforation spacing (maximum of 3 for both)
 manifold connection
- 8) laterals feet long perfs / lateral perfs total
(1/2 a perf means the first perf starts at the middle feed manifold)
- 9) inch perfs at feet residual head gives gpm flow rate per perforation
for this perf size & spacing, & pipe size on line 12, max perfs/lateral = , line #8 must be less --> OK
- 10) doses per day (4 minimum)
- 11) gallons per dose (treatment volume) 1.50 5x
- 12) inch diameter laterals must be used to meet "4x pipe volume" requirement 2.00 3x
- 13) feet of inch supply line leads to gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)
- 14) gallons TOTAL pump out volume (treatment + drainback)
- 15) feet vertical lift from pump to mound laterals, leads to a:
- 16) GPM @ feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)
- 17) gal Dose tank (code minimum) gal Dose tank (design size / LUG req'd) at gpi
leads to a
- 18) inch swing on Demand float, or timed dosing of min ON (confirm pump rate with drawdown
(this delivers Average flow, =70% of Peak design flow) hrs OFF test and adjust as necessary)
- 19) inches from bottom of tank to "Pump OFF" float
- 20) inches from bottom of tank to "Pump ON" float, or inches to "Timer ON" float if time dosed
- 21) inches from bottom of tank to "Hi Level" float, or inches to "Hi Level" float if time dosed
- 22) gallons reserve capacity (after High Level Alarm is activated)

- 23) gpd/ft^2 Absorption area Soil Loading Rate, which gives a mound ratio of (minimum)
 (this must match the soil boring log) desired mound ratio
- 24) percent site slope (0-20% range) (% downslope site slope, if different than upslope)
- 25) inches, or ft. to Redox or other limiting condition (need at least 12" to be a Type I)
 Treatment zone contains inches of 0% soil credit, and inches of 50% soil credit. Giving a:
- 26) inch, or ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**
- 27) ft. base absorption width (with sand beyond rockbed as follows):
 greater of: absorption width OR sand slope
- 28) ft. upslope and sideslope sand upslope
 ft. Downslope sand down slope
- Individual slope ratios give BERM widths (topsoil beyond rockbed) of:
- 29) upslope ratio ft. upslope berm
- 30) sideslope ft. sideslope berms
- 31) downslope ft. downslope berm
- 32) Overall Dimensions: ft. wide by ft. long Rock bed
 ft. wide by 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:
 ft. by ft. by inches under pipe, plus 20% gives yd^3 or $*1.4=$ 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)
 up + downslope + ends + under rock = yd^3 or $*1.4=$ ton
 plus 20%
- 35) Loamy Cap:
 ft. by ft. 6" deep, plus 20% gives yd^3 or $*1.4=$ ton
- 36) Topsoil:
 ft. by ft. 6" deep, plus 20% gives yd^3 or $*1.4=$ ton

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

Brummer Septic LLC. L-1347 5/2/2023
 Designer Signature Company License# Date

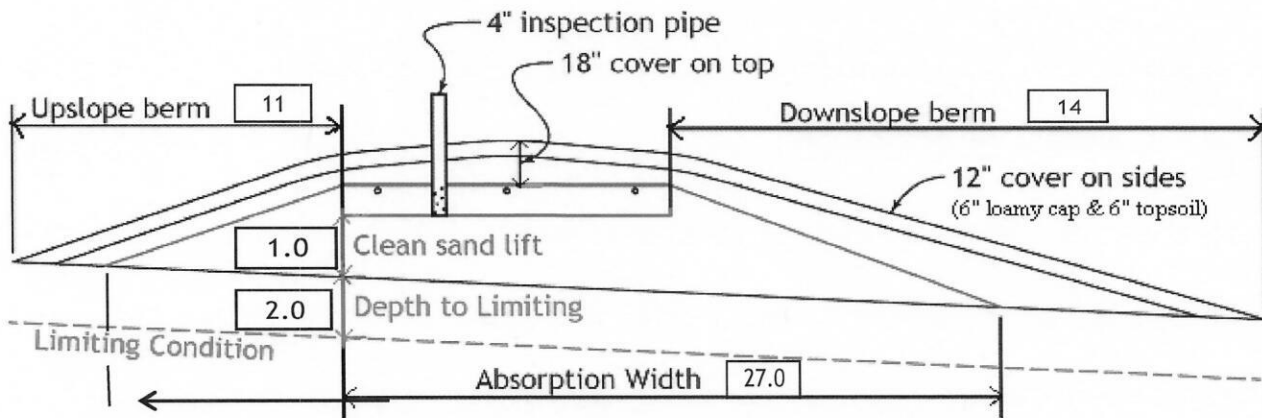
Installer Summary

1000	gallon Septic tank (minimum)	Tank options: none
533	gallon Dose tank (minimum)	Install 1650 Jacobson 2-compartment Septic/Pump tank at 12.69 gpi
18	GPM @ 22 ft. of head, Pump required	
4.9	inch swing on Demand float which translates to roughly 3.5 inches of float tether length	
	if time dosing is required -->	3.4 minutes ON time & 5.1 hours OFF time
17	inches from bottom of tank to "pump ON" float, or	12 inches to "timer ON" float
20	inches from bottom of tank to "Hi Level Alarm" or	30 inches to "Hi level alarm" if time dosed
110	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 25.0 ft. long Rock bed	
3	laterals 1.50 inch diameter	23.0 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	

27.0	ft. Total sand ABSORPTION width (minimum)
7.4	ft. upslope and sideslope (sand beyond rockbed, minimum)
9.6	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	14	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:	12.0 yd ³ or *1.4=	17 ton	9 inches under pipe
Mound Sand:	55 yd ³ or *1.4=	77 ton	
Loamy Cap:	33 yd ³ or *1.4=	46 ton	6" deep
Topsoil:	40 yd ³ or *1.4=	56 ton	6" deep

INSPECTOR CHECKLIST - mound

2300/ 430th Ave. Atkin 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 _____ 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 _____ 18 gpm 22 head VERIFY PUMP CURVE 3.4 min ON 5.1 hr OFF

- float setting drop 4.9 inches at 12.7 gpi "DESIGNED" 3.5 inches approx float tether length
62.0 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 25.0
Sand lift depth 12 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

- Absorption Sand beyond rock 7.4 upslope 9.6 downslope

- Bermed topsoil beyond rockbed 11 upslope 13 sideslope 14 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

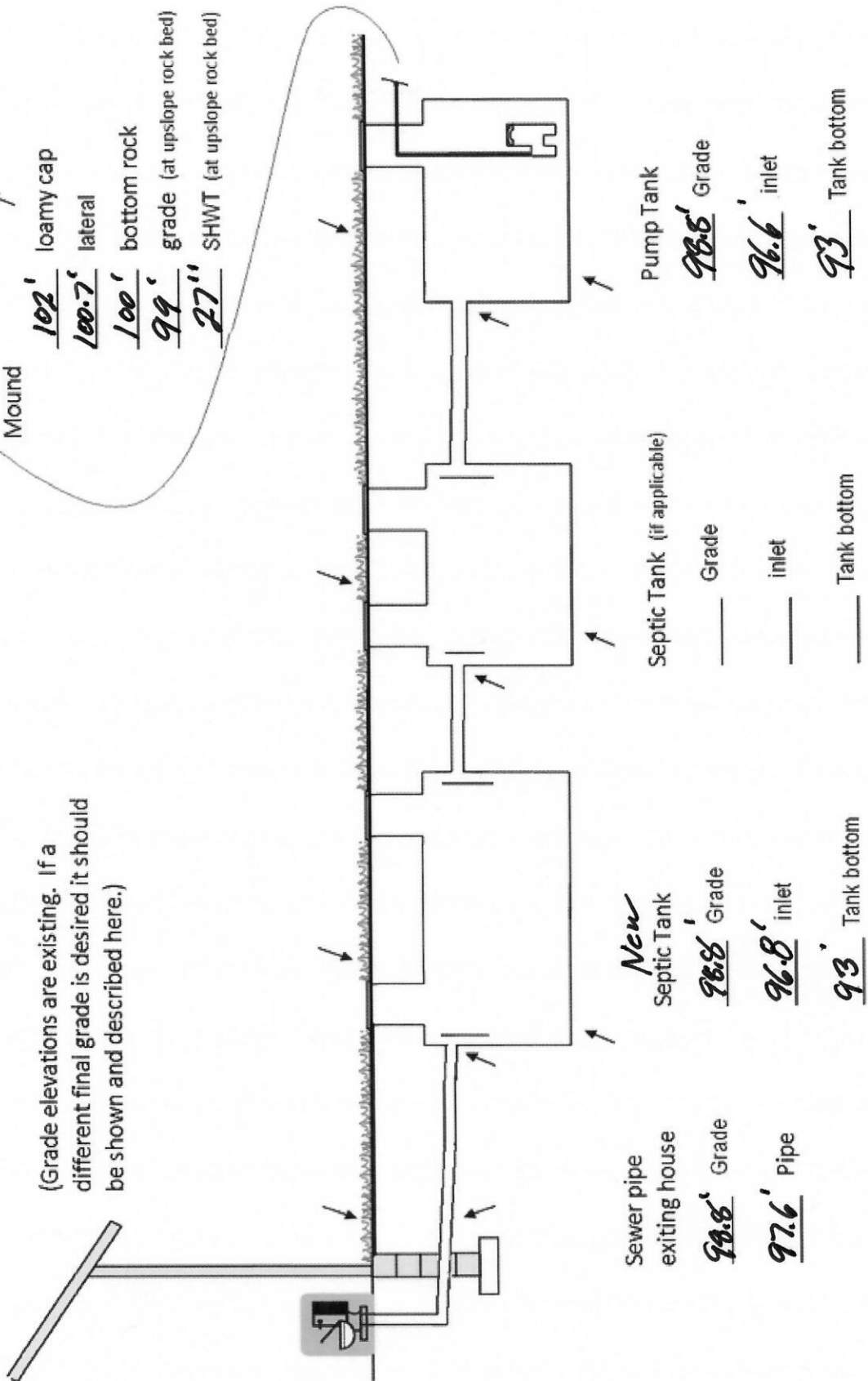
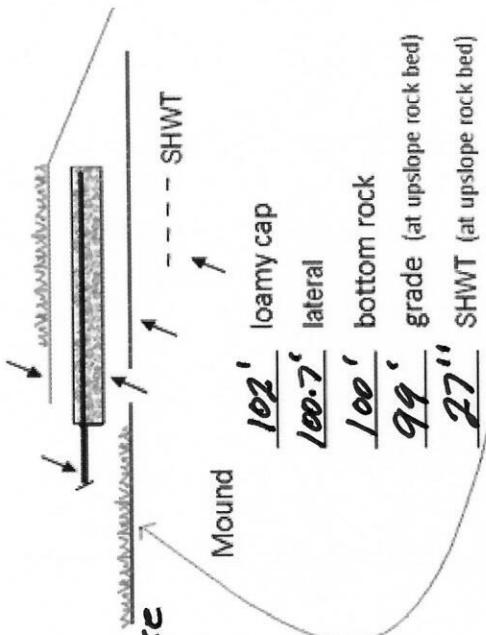
- Air inlet at end of laterals, and at top feed manifold if necessary. VERIFY
clean outs (no hard 90's)
- 4" inspection pipe to bottom of rock, anchored VERIFY

- Abandon existing system - if necessary Re-use existing tank certification
monitoring plan and type _____
well abandonment form - if necessary

System Elevations

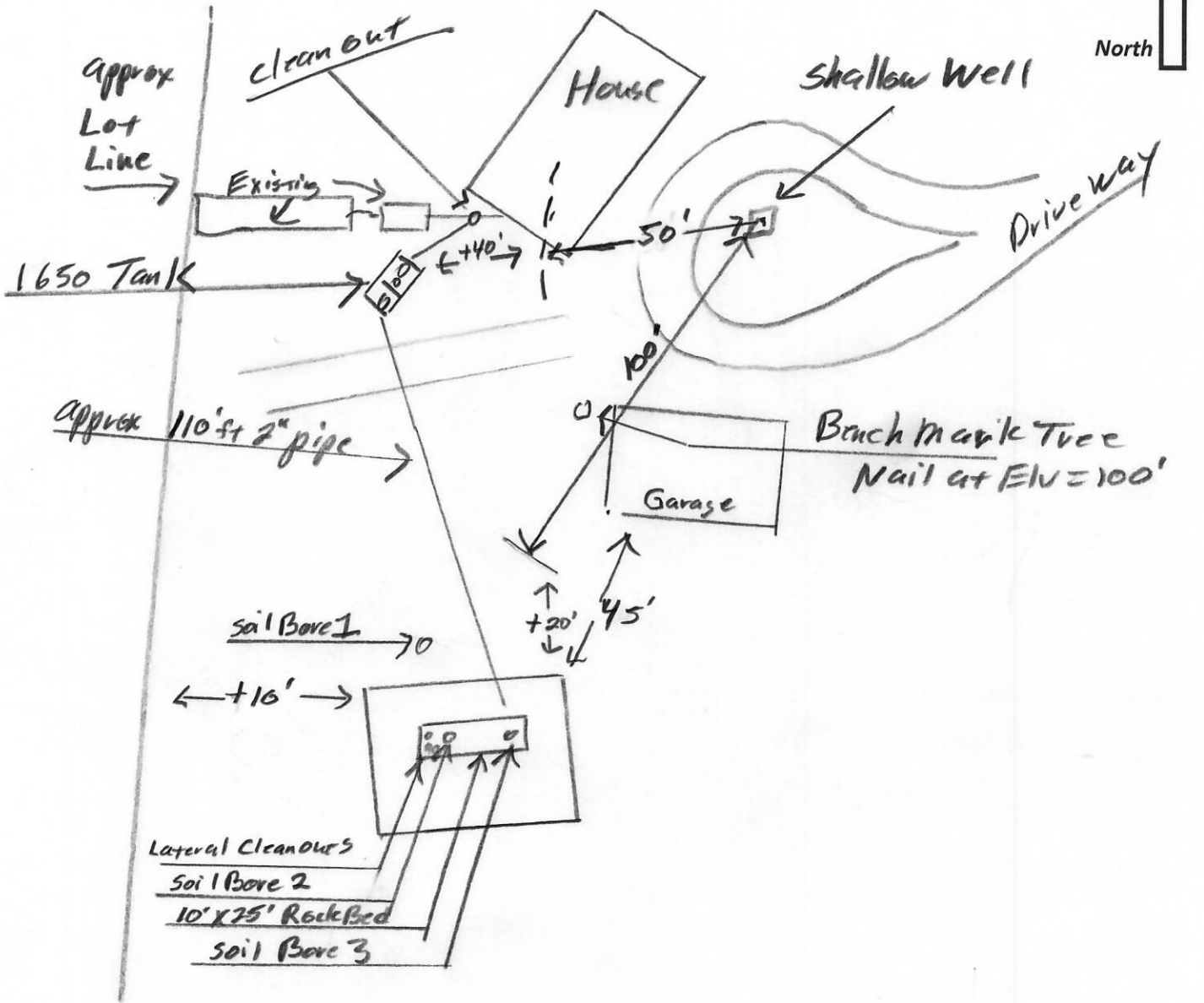
Elv = 10' benchmark Nail on Oak Tree near Garage

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



{ Design Drawing }

Property Owner: Steven Durben Date: 5/2/23 Designer's Initials: JB
 Parcel ID. Number: 11-0-071602 Address: 23007 430th Ave. Aitkin Mn 56431
 one Inch = 40ft.



Shallow Well House Grade Elv. = 97.6'

Surface/ SHWT		Nail on Tree = Bench Mark 100'		Existing Grade	
Soil Bore 1	99.3' / 27"	Bench Mark	100'	Upslope Edge of Rockbed	Elv. = 99'
Soil Bore 2	98.8' / 27"	Ground Elv. BM	98.6'	Bottom of Rockbed	Elv. = 100'
Soil Bore 3	98.5' / 30"	Ground Elv. Tank	98.8'	Top of Washed Sand	Elv. = 100'
	Ground at	Existing house	98.8'	Existing Septic Tank in-let pipe	Elv. = 97.3'

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.
- Water lines within 10 ft. of Drain field.
- Drain field Areas:

- Disturbed/Compacted Areas
- Component Location
- OHW ordinary high water
- Lot Easements

- Access Route for Tank Maintenance
- Property Lines
- Structures
- Setbacks

Mound Design Notes - Aitkin county

Property Owner: Steven Durben

Date: 5/2/23

Site Address: 23007 430th Ave. Aitkin Mn 56431

PID: 11-0-071602

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. Existing Shallow well location is SE of House.
- 2 Existing Septic system is failing soil separation and the tank is a Steel septic tank.
Abandon existing gravity bed in-place. Pump, collapse and remove Steel tank.
- 3 Owner will have to verified the West property line between the 2 lots with same owner.
To make sure mound is on East lot, if owner is selling lots separate.
- 4 Bench Mark Elevation is a nail on a tree near NW corner of Garage.
- 5 Install Jacobson 1650 2/Compartment Septic/Pump tank for gravity flow from house.
Install Clean-out at connection of new sewer pipe and existing sewer pipe.
- 6 Elevation contour of rock bed upslope edge is 98'.
The area size of the rock bed is 10' x 25' . Absorption area is 25' x 27'.
Sand absorption area is 7.4 ft. up slope + 10 ft. rockbed + 9.6 downslope = approx. 27 ft. wide sand base.
Berms are 11ft. Upslope, 14ft. Down slope, 10ft. Rock bed = approx. 35ft. Wide.
Overall mound size is approx. 35' wide x 51' long and approx. 3' high. End Berms are 13 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 The Jacobson 1650 2/compartment tank will be gravity flow from dwelling. Install the pump for 7 demand doses per day. approx. 62 gallons per dose, 4.9 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, insulate top of tank.
Recommend raising manholes 4" above finished grade for access.
- 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.
Recommend Installing an Effluent filter and Alarm on septic tank outlet.
Recommend installing an event counter on all systems with a pump.

Designed to Aitkin Co. and MPCA recommendations and requirements.

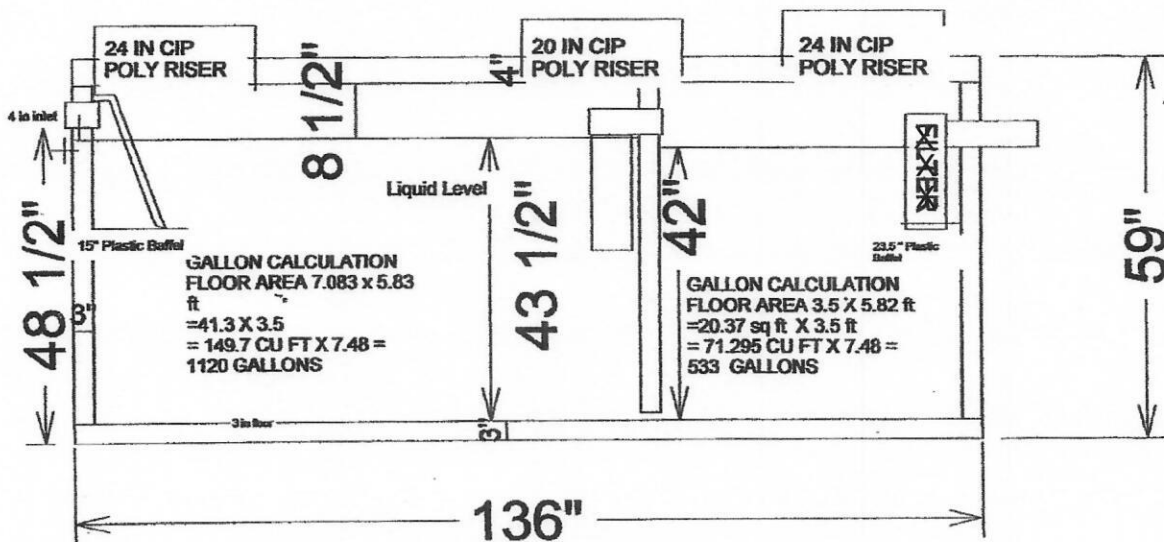
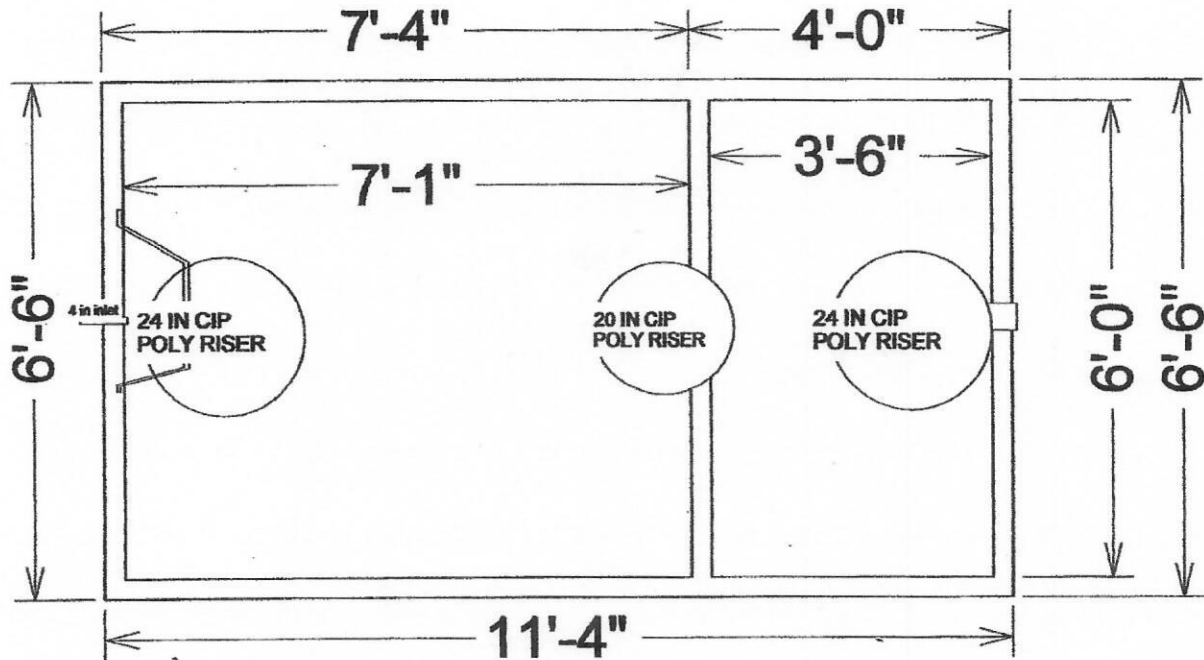

Designer Signature

Brummer Septic LLC.
Design Company

L-1347
License#

1650 Gallon 2 Compartment Septic Tank

TOP VIEW



$533 / 42" = 12.69 \text{ GPI}$

SIDE VIEW

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



Detailed Parcel Report

Parcel Number: 11-0-071602

General Information

Township/City: HAZELTON TWP
Taxpayer Name: DURBEN, MARVIN K
Taxpayer Address: 23007 430TH AVENUE
 AITKIN MN 56431
Property Address: 23007 430th Ave
Township: 45 **Lake Number:** 0
Range: 27 **Lake Name:**
Section: 33 **Acres:** 9.70
Green Acres: No **School District:** 1.00
Plat:
Brief Legal Description: 9.70 ACS IN NE NE IN DOC 176570

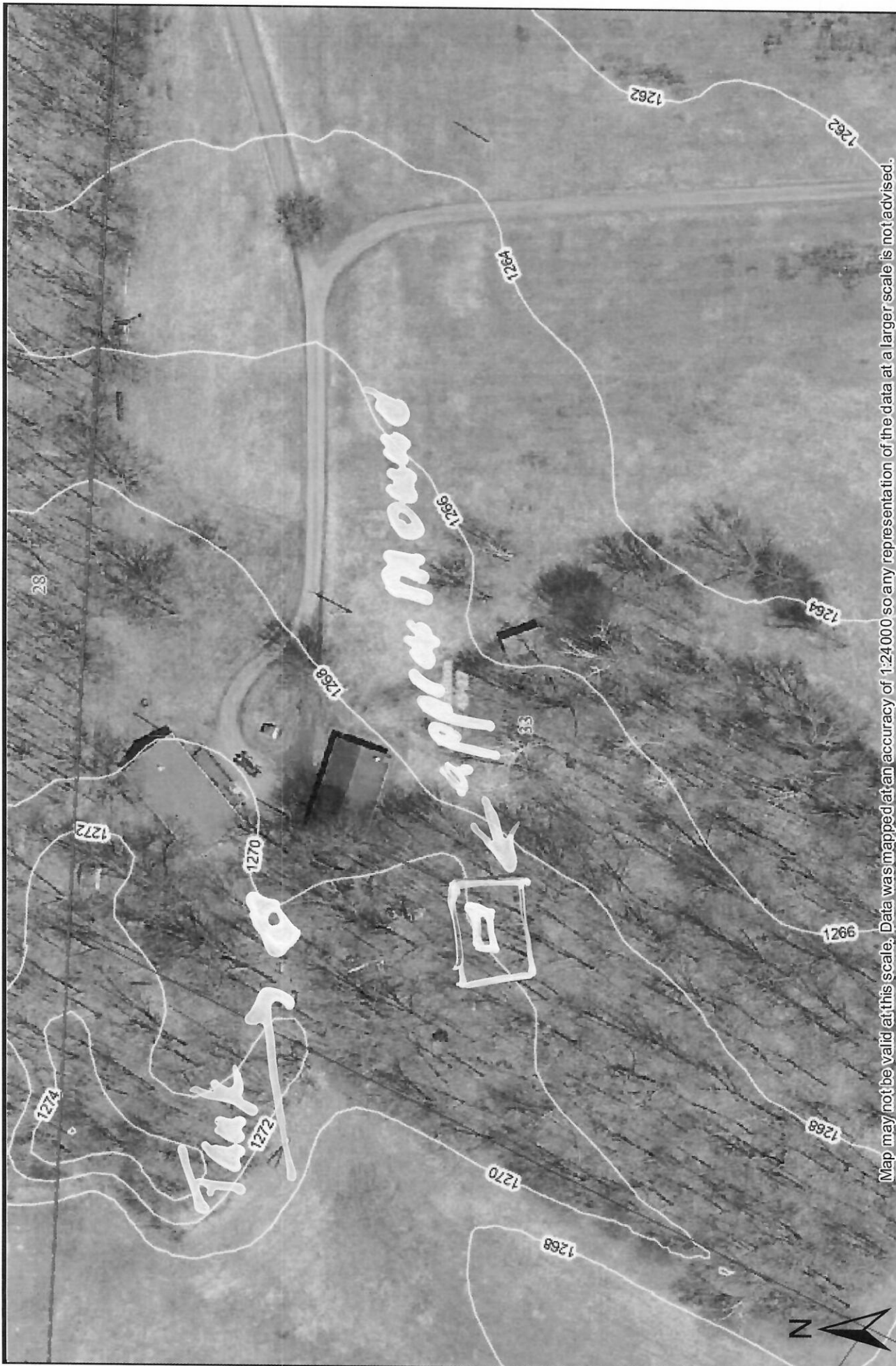
Tax Information

Class Code 1: Non-Comm Seasonal Residential Recreational
Class Code 2: Unclassified
Class Code 3: Unclassified
Homestead: Non Homestead
Assessment Year: 2023

Estimated Land Value:	\$64,600.00
Estimated Building Value:	\$196,600.00
Estimated Total Value:	<u>\$261,200.00</u>
Prior Year Total Taxable Value:	\$202,887.00
Current Year Net Tax (Specials Not Included):	\$854.00
Total Special Assessments:	\$0.00
**Current Year Balance Not Including Penalty:	\$854.00
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.**



Map may not be valid at this scale. Data was mapped at an accuracy of 1:24,000 so any representation of the data at a larger scale is not advised.

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.

Durben



Web AppBuilder for ArcGIS

1:1,128 0 0.005 0.01 mi 1 inch = 94 feet

Date: 5/2/2023

Soil Map—Aitkin County, Minnesota
(Durben)



Soil Map may not be valid at this scale.

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



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

Aitkin County, Minnesota

268B—Cromwell fine sandy loam, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjgc
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: Farmland of statewide importance

Map Unit Composition

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

Description of Cromwell

Setting

Landform: Outwash plains
Landform position (two-dimensional): Backslope, summit
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Sandy outwash

Typical profile

A - 0 to 2 inches: fine sandy loam
Bw,2Bw,2C - 2 to 60 inches: gravelly sand

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.60 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F090AY019WI - Dry Sandy Uplands
Forage suitability group: Sloping Upland, Low AWC, Acid (G090AN008MN)
Other vegetative classification: Sloping Upland, Low AWC, Acid (G090AN008MN)
Hydric soil rating: No

Minor Components

Oesterle and similar soils

Percent of map unit: 6 percent

Hydric soil rating: No

Cutaway and similar soils

Percent of map unit: 4 percent

Hydric soil rating: No

Leafriver and similar soils

Percent of map unit: 3 percent

Landform: Depressions

Hydric soil rating: Yes

Bushville and similar soils

Percent of map unit: 2 percent

Hydric soil rating: No

Data Source Information

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 23, Sep 6, 2022

Aitkin County, Minnesota

732B—Bushville loamy fine sand, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjjh
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: Farmland of statewide importance

Map Unit Composition

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

Description of Bushville

Setting

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

Typical profile

A - 0 to 2 inches: loamy fine sand
E,Bw,BE, - 2 to 26 inches: loamy sand
2Bt - 26 to 31 inches: sandy loam
2BC - 31 to 50 inches: sandy loam
2Cd - 50 to 60 inches: sandy loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: 40 to 60 inches to densic material
Drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 18 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3s
Hydrologic Soil Group: C/D
Ecological site: F090AY009WI - Moist Sandy Lowland
Forage suitability group: Sloping Upland, Low AWC, Acid (G090AN008MN)

Other vegetative classification: Sloping Upland, Low AWC, Acid
(G090AN008MN)
Hydric soil rating: No

Minor Components

Pomroy and similar soils

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

Leafriver and similar soils

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

Watab and similar soils

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

Data Source Information

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