

# Preliminary & Field Evaluation Form

24-183

www.SepticResource.com vers 12.4

Owner Information			
Date	<u>10/4/2024</u>	Sec / Twp / Rng	<u>S-17, T-45, R-27</u>
Parcel ID	<u>11-0-041101</u>	LUG (county, city, township)	<u>Aitkin Co.</u>
Property Owner:	<u>Mitchell Gustner</u>	Owners address (if different)	
Property Address:	<u>25307 445th Pl. Aitkin Mn 56431</u>		<u>2121 West 104th St.</u>
City / State / Zip:			<u>Blommington MN 55431</u>

Flow Information and Waste Type / Strength			
Estimated Design flow	<u>450 GPD</u>	Anticipated Waste strength	<input type="checkbox"/> Hi Strength <input checked="" type="checkbox"/> Domestic
Comments: Gravity flow, No lift, No GD		Any Non-Domestic Waste	<input type="checkbox"/> Yes (class V) <input checked="" type="checkbox"/> No
Owner will install soil pit privy		Sewage ejector/grinder pump	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
3 trenches 44ft. long, 3 ft wide, 18" rock under pipe		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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well casing depth	Proposed deep well No Well on Site Now	
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
	By Owner				
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	<u>Owner will install a soil pit privy with pit depth approx 3.5 ft deep ( Max Depth 4 ft )</u>				
	<u>Slab on grad house, Gravity flow, No GD</u>				
Did 2 Soil Gradations One in each Pit					

### 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 <sup>2</sup> )	<u>0.78</u>	Percolation rate (if applicable)	_____
Depth/elev to SHWT	<u>Plus 84"</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>48"</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>Mitchell Gustner</u>	Date <u>10/4/2024</u>
Property Address / PID: <u>25307 445th Pl. 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>454C &amp; 685</u> slope <u>4</u> %    direction- <u>NW</u>

Soil Log #1							
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
		<input type="checkbox"/> Boring <input checked="" type="checkbox"/> Pit		Elevation <u>89.5'</u>	Depth to SHWT <u>Below 84"</u>		
0 - 6	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
6 - 21	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
21 - 52	Sandy Loam	<35	10YR4/4		Loose	Loose	Granular
52 - 84	Med Sand	Gradation = 29.5% Rock	10YR4/4		Loose	Loose	Granular
Comments: Gradation for Pit # 1 = 29.5 % Rock , Gradation for Pit #2 = 20.5% Samples are from rockiest layer per pit							

25307 445th Pl. Aitkin Mn 56431 **Soil Log #2**

		<input type="checkbox"/> Boring	<input checked="" type="checkbox"/> Pit	Elevation <u>98.5'</u>	Depth to SHWT <u>Below 84"</u>		
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 10	Topsoil Sandy Loam	<35	10YR3/2		Loose	Loose	Granular
10 - 32	Sandy Loam	<35	10YR5/4		Loose	Loose	Granular
32 - 44	Sandy Loam	<35	7.5YR4/4		Loose	Loose	Granular
44 - 58	Sandy Loam		10YR4/4		Loose	Loose	Granular
58 - 84	Med Sand	Gradation = 20.5% Rock	10YR4/4		Loose	Loose	Granular

25307 445th Pl. Aitkin Mn 56431 **Soil Log #3**

		<input type="checkbox"/> Boring	<input type="checkbox"/> 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 #

Job # 24-183 Property Owner Mitchell Gustner Date 10/4/2024  
 Parcel ID # 11-0-041101 Design Initial's JB  
 Sample ID Soil Pits #1 & #2

**Field Method for Determining the % by Volume of Gravel**  
**Water Volume Displacement Method**

Equipment :

- 1000mL graduated cylinder
- 1000mL or 2000mL plastic container ( Prefer one with 3 in. or smaller opening to exclude cobble )
- Number 10 Sieve
- Bucket large enough to wash your sieve and gravel sample.
- Ample Water

- 1 Collect representative sample and fill plastic container to the top. Pack firmly.
- 2 Sieve the sample thru #10 sieve, save the gravel not the fines.
- 3 Wash the gravel sample in the bucket to remove any soil and hard clods/peds.
- 4 Place washed sample back into plastic container
- 5 Fill Graduated cylinder with 1000mL of water
- 6 Pour water from Grad Cylinder into plastic container to the very top without going over the top.
- 7 Record the milliliters of water that were poured into container.
- 8 If using a 2000mL plastic container repeat steps 5 thru 7 as necessary and add the milliliters together.

We have recorded the total number of milliliters of water poured into the plastic container, this number along with the total volume of your plastic container will give you the volume of gravel in the sample.

Subtract the milliliters of water added from the total volume of the plastic container, Divide this number by the total volume in the plastic container, Multiply by 100, this is the percent by volume of gravel in the sample

Sample #	Pit #1	Pit #2	Example	
	1000	1000	1000	<b>A</b> mL in plastic container
	705	795	785	<b>B</b> mL of water added
	295	205	215	<b>C</b> Ml for gravel    A - B = C
	29.5%	20.5%	21.5	% by Vol. Gravel    C/A x 100

**Aitkin County { Gravity Trench Design }**

Property Owner: Mitchell Gustner Date: 10/4/2024 Cell: 612-919-0181  
 Mailing Address: 2121 West 104th St. Home Phone #: \_\_\_\_\_  
 City: Bloomington State: mn Zip: 55431  
 Site Address: 25307 445th PL. Parcel Number: 11-0-041101  
 City: Aitkin State: Mn Zip: 56431  
 Driving Directions if no address issued : \_\_\_\_\_

Legal Description : 2.83 Acres  
 Sec : 17 Twp: 45 Range : 27 Twp Name : Hazelton  
 Lake / River : Spectacle Lake Lake / River Classification : NE

**FLOW DATA**

Number of Bedrooms : 3  
 Dwelling Classification : I  
 System Type : I  
 Gallons per Day ( GPD ) : 450

**Estimated Flow in Gallons per Day (GPD)**

Bedrooms	Class I	Class II	Class III
2	300	225	180
3	<b>450</b>	300	218
4	600	375	256
5	750	450	294
6	900	525	332
7	1050	600	370
8	1200	675	408

**WELLS**

Deep Well : Proposed Deep  
 Shallow Well : None Wells to be sealed ( if Applicable ) ? None

**SETBACKS**

Tank(s) to Well : +50 Drainfield to Well : +50 Sewer Line to Well : +50  
 Tank(s) to House : +20 Drainfield to House : +35 Air Test NO  
 Tank(s) to Property Line : + 15' Drainfield to Property Line : + 15'

**Additional System Notes and Information:** New Construction, 3 bedroom, 2 Soil Pits, Good to plus 84"

Owner will install a privy near soils pit # 2 Max depth of soil vault is 4 ft pwner plans on 3.5 ft deep pit  
 Proposed house will be gravity flow, no lift, no GD. 3 bedroom  
 3 gravity trenches with 18" rock under 4" pipe, 24" total rock depth

Designer Name : Jeff Brummer License Number : L-1347  
 Address : 7450 Burr Ln. City : Brainerd State : Mn  
 Zip Code : 56401 Home Phone # : \_\_\_\_\_ Cell: 218-821-0704  
 E-Mail Address : brummerseptic@gmail.com

Designer Signature :  Date: 10/4/2017

## Crow Wing / Cass County { Trench / Pressure Bed Design }

Property Owner:                     Mitchell Gustner                                          Date: 10/4/2024                      Designer's Initials :           JB          

**Tank Sizing**                      Min tank is 1000 gal. Recommend 1500 2/Compartment

A. Septic Tank Capacity : 1000 Gallons

Tank Type : 1 Compartment

Filter : NO

Garbage Disposal / Basement Lift Station : No Disposal or Lift

Bedrooms	Minimum	GD / BL
6 or Less	1,000	1,500
7 or 8	2,000	3,000

B. Pump Tank Capacity :                      Gallons ( 7080.2100 )

Alarm Type :                                     

**Soils**

C. Depth to Restricting Layer : 84" inches

D. Native SSF : 1.27 { Perc. Rate ( optional ) }                      MPI

\*\* Enter GPD next to the Type of System \*\*

**ROCK TRENCHES**

E. 6 in. Trench Depth                      GPD x D = 0.0 sq. ft. Cubic Yards of Rock : 0.00 yds.

F. 12 in. Trench Depth                      GPD x D x .80 = 0.0 sq. ft. Cubic Yards of Rock : 0.00 yds.

G. 18 in. Trench Depth 450 GPD x D x .66 = 377.2 sq. ft. Cubic Yards of Rock : 27.94 yds.

H. 24 in. Trench Depth                      GPD x D x .60 = 0.0 sq. ft. Cubic Yards of Rock : 0.00 yds.

I. Divide (E-H) by Trench Width for Lineal feet : 377.19 ÷ 3 = 125.7                      126 / 3 = 42 ft min.

**CHAMBER TRENCHES**

J. Brand :                                      Dimensions of one Chamber ( L x W ) : 0 ft. x 0 ft.

K. 6 - 11 in. Chamber Depth :                      GPD x D = 0 sq. ft.

L. 12 in. Chamber Depth :                      GPD x D x .80 = 0 sq. ft.

M. Select from either ( K or L ) if installing Chamber Trenches : Select One

N. Divide ( M ) by Trench Width for lineal feet : Select One ÷ 0 ft. width = #VALUE! Lineal ft.

O. Total Chambers Needed ( **Round up** ) = #VALUE! Chambers needed                      #VALUE!

**SEEPAGE BEDS**

P. Seepage Bed                      GPD x D x 1.5 = 0 sq. ft.                      Bed Dimensions : 46 ft. x 0 ft.

Cubic Yards of Rock = ( Bed Length x Bed Width x            ft. Rock Depth ) 0 ÷ 27 = 0.0 yds.

**ADDITIONAL SYSTEM NOTES and INFORMATION :** Gravity flow from house. Install clean-out near house

Gravity flow to tank ( approx. 25' from house), Install tank for gravity flow to three trenches.

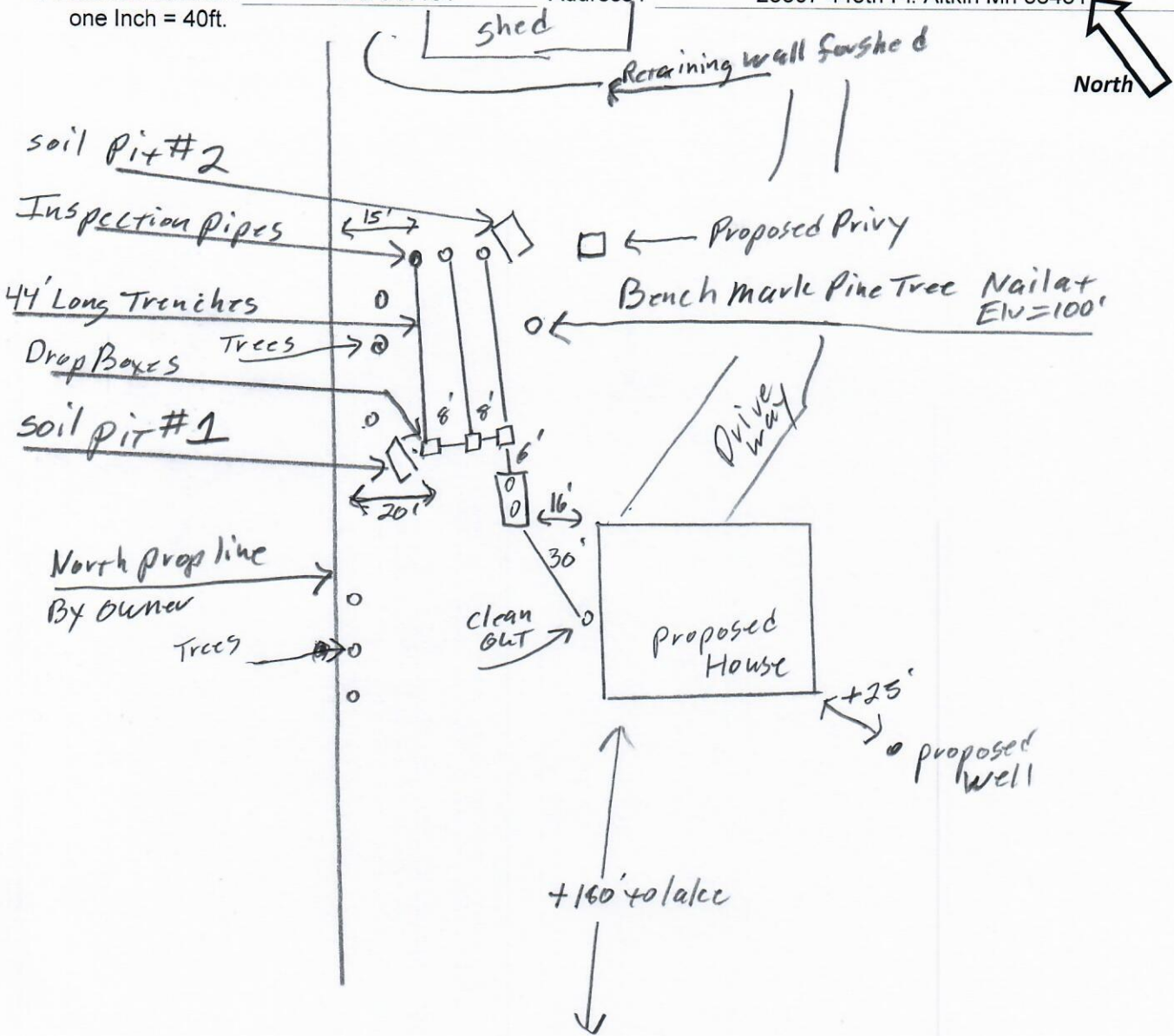
Trenches will be 3' wide, 18" of rock under 4" perf. pipe and 44' long. Install trenches along contour of slope.

Install tank manhole and baffle inspection pipe to above ground. Install inspection pipes at ends of trenches, to bottom of trench and extend to above ground. Bottom of trenches shouldn't be deeper than 4'.

Recommend 2/Compartment Septic tank, and inspection pipes in bopboxes also.

# { Design Drawing }

Property Owner: Mitchell Gustner Date: 10/4/24 Designer's Initials: JB  
 Parcel ID. Number: 11-0-041101 Address: 25307 445th Pl. Aitkin Mn 56431  
 one Inch = 40ft.



Approx. Lake Elevation = 80'      Grade at proposed Privy Elv.= 99.2'  
 Proposed House Elevation not set at time of design, Estimated top of gravel house pad Elv.= 100'  
 Existing grade at Proposed House staked corners/ NW = 100.2' NE = 101.5', SW = 100.6' SE = 102.2'

	Surface/ SHWT	Nail on Pine Tree = Bench Mark 100'		Existing Grade average for each Trench	
Soil Pit 1	96.5' / 84"	Bench Mark	100'	Trench #1 Elv.= 98.1'	Bottom Elv.= 95'
Soil Pit 2	98.5' / 84"	Ground Elv. BM	99.2'	Trench #2 Elv.= 97.6'	Bottom Elv.= 94.4'
Soil Bore 3		Ground Elv. Tank	98.4'	Trench #3 Elv.= 97'	Bottom Elv.= 93.8'
	Top of Gravel pad	Proposed house	100'	Estimated	Approx. Sewer pipe at House Elv.= 98'

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



**Aitkin County { Design Notes }**

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Property Owner:  Mitchell Gustner  Date:  10/4/2024  Designer's Initials :  JB   
PIN :  11-0-041101  Page :   of

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Owner Proposes slab on grade house, gravity flow, 3 bedrooms. House elevation not set at time of design.  
Owner estimates top of gravel pad for house at elevation 100'. Top of slab about 100.4'  
Estimated sewer pipe at house Elv. = 98' Keep plumbing as high as possible.  
The Proposed deep well will be on the SE side of house, approx. 25'.  
The bench mark is the nail on the Pine tree SE of drainfield area, BM = Elv. 100'.  
Installer to double check bench mark. Installer should confirm bench mark and rock depth Elv. with inspector.  
Installer should record bench mark Elv. and Rock Depth on installation inspection form.  
The proposed house is going to have septic plumbing exist on the NW side of house.  
Minimum tank is a 1000 gal. single compartment tank, Recommend at least 1500 2/compartment tank.  
Install clean-out near house. Install Septic tank for gravity flow from proposed dwelling, insulate tank top.  
Raise all manholes to ground level and secure covers. Install all inspection pipes to above ground level.  
Installer may have to install tank with in-let near existing grade Elevation. If so cover tank with excavated soil landscape for surface water drainage away from tank.  
Install trenches with bottoms level, along contour of slope. Install End drop boxes for serial distribution..  
Construct 3 trenches with 18" of rock under 4" pipe. The trenches will be minimum 44' long and 3 ft. wide.  
Installer to keep trenches shallow if possible. Total rock depth will be 24".  
Install trench so that bottom of trenches are not deeper than 4 ft. at finished grade Elv. ( Try for 3 ft. or less)  
Install 4" inspection pipes at trench ends. It is recommended that inspection pipes be installed in all drop boxes.  
  
Owner will install a soil pit privy near trench ends, max depth of soil pit 4 ft, owner plans on 3.5 ft deep pit.  
  
Owner and Installer to protect drainfield area from damage.

Designed to Morison Co. and MPCA recommendations and requirements.

  
\_\_\_\_\_  
Designer Signature

\_\_\_\_\_  
Brummer Septic LLC.  
Design Company

\_\_\_\_\_  
L-1347  
License#

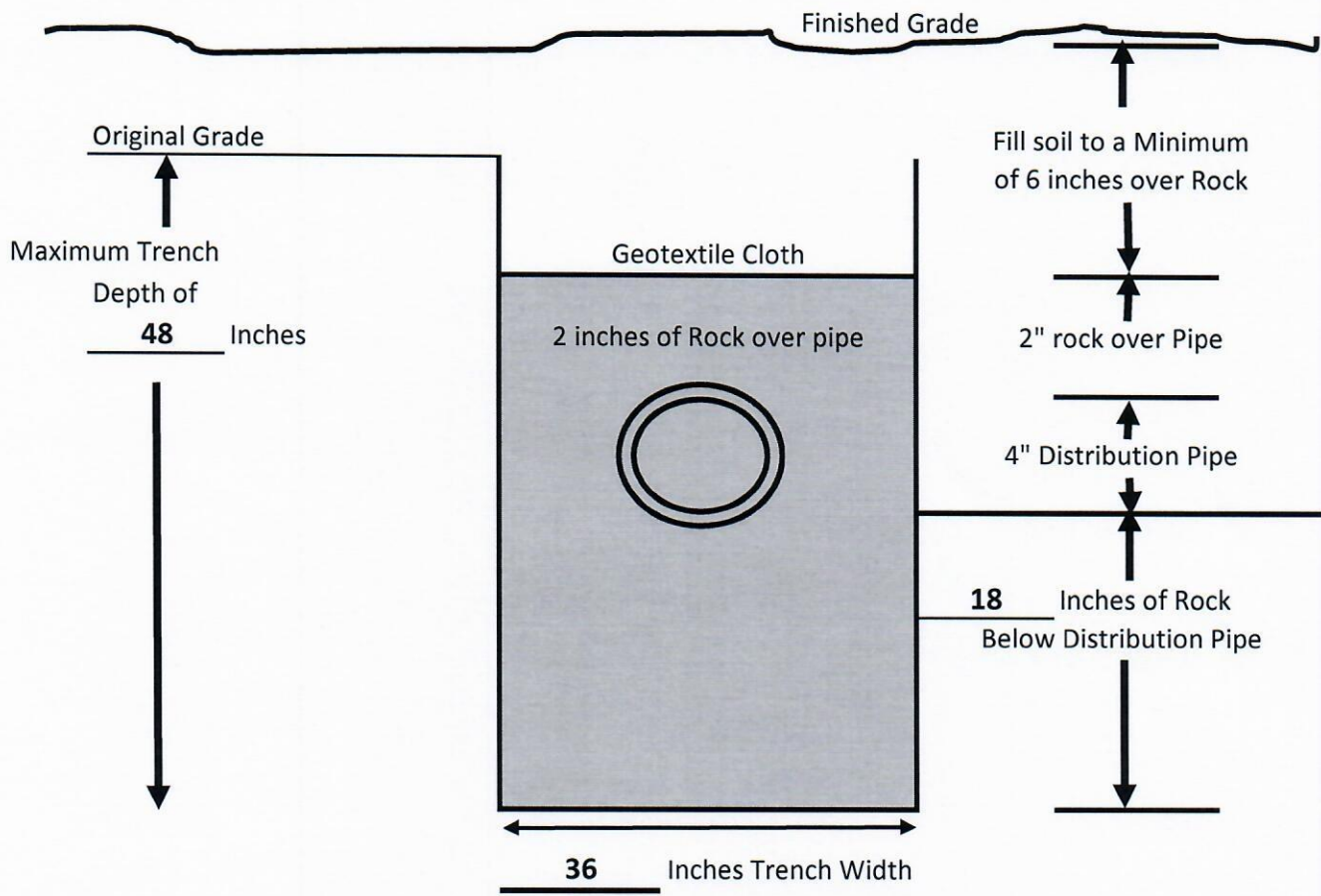
# Trench Cross-Section

Property Owner: Mitchell Gustner

Date: 10/4/2024

PIN : 11-0-041101

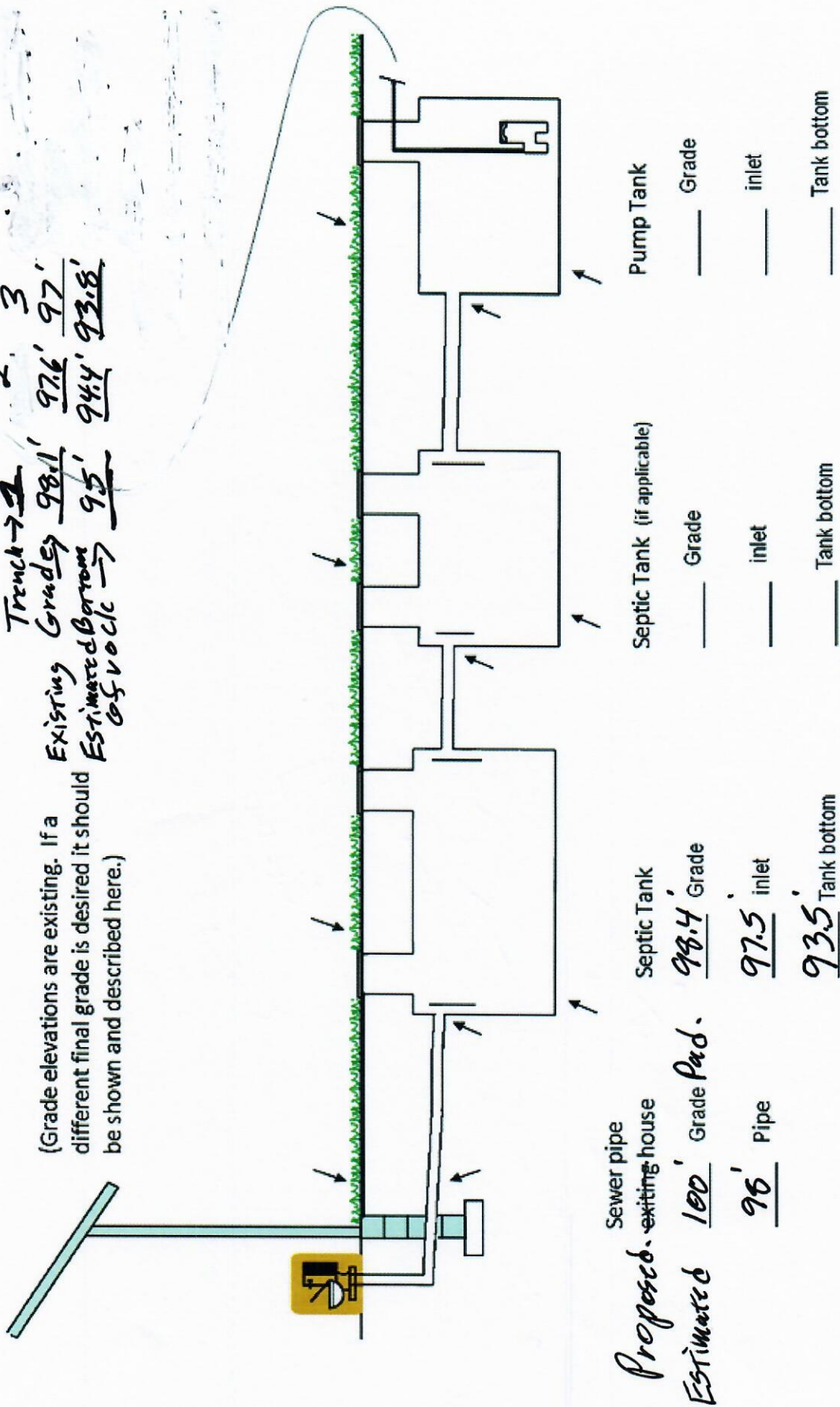
Designer's Initials : JB



# System Elevations

EN = 100' benchmark Nail on Pine Tree East of Trenches.  
 Trench → 2. 3  
 Existing Grades 98.1' 97.6' 97'  
 Estimated Bottom of Vole → 95' 94.4' 93.8'

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





# Detailed Parcel Report

Parcel Number: 11-0-041101

## General Information

Township/City: HAZELTON TWP  
Taxpayer Name: GUSTNER, MITCHELL R & CATHY J  
Taxpayer Address: 2121 WEST 104TH ST  
BLOOMINGTON MN 55431  
Property Address: 25307 445th Pl  
Township: 45 Lake Number: 1015600  
Range: 27 Lake Name: SPECTACLE LAKE  
Section: 17 Estimated Acres: 2.83  
Green Acres: No School District: 1.00  
Plat:  
Brief Legal Description: PTS GOVT LOTS 3 & 4 AS IN DOC 334433

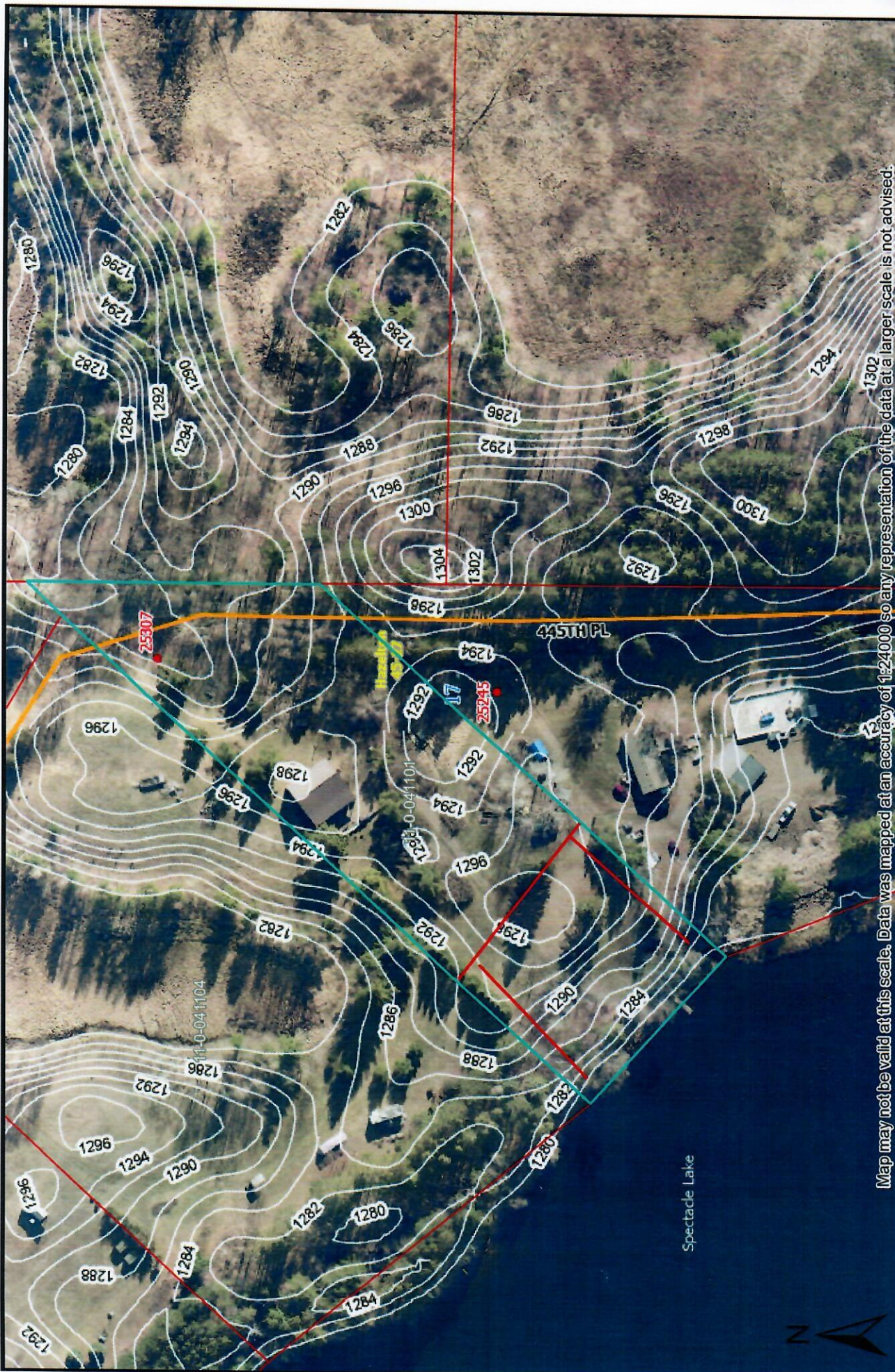
## Tax Information

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

Estimated Land Value: \$67,700.00  
Estimated Building Value: \$81,500.00  
Estimated Total Value: \$149,200.00  
Prior Year Total Taxable Value: \$147,800.00  
Current Year Net Tax (Specials Not Included): \$792.00  
Total Special Assessments: \$0.00  
\*\*Current Year Balance Not Including Penalty: \$396.00  
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.**



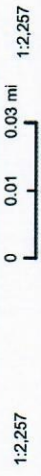
Map may not be valid at this scale. Data was mapped at an accuracy of 1:24000 so any representation of the data at a larger scale is not advised.

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.

**Gustner**

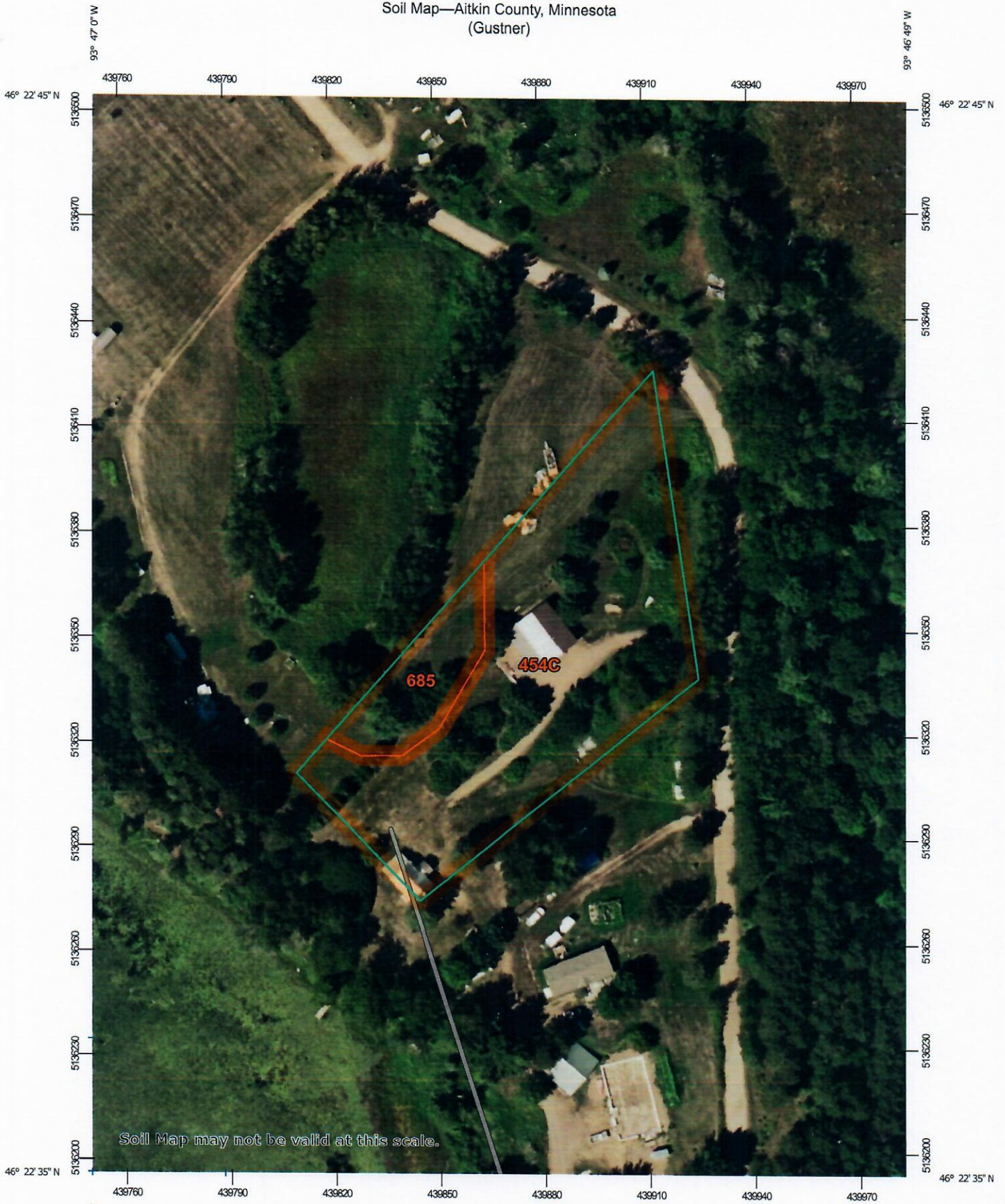


Web AppBuilder for ArcGIS



Date: 9/29/2024

Soil Map—Aitkin County, Minnesota  
(Gustner)



Soil Map may not be valid at this scale.

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



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



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

## Aitkin County, Minnesota

### 454C—Mahtomedi loamy coarse sand, 6 to 12 percent slopes

#### Map Unit Setting

*National map unit symbol:* gjgx  
*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

*Mahtomedi and similar soils:* 90 percent  
*Minor components:* 10 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Mahtomedi

##### Setting

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

##### Typical profile

*A - 0 to 4 inches:* loamy coarse sand  
*E - 4 to 17 inches:* gravelly coarse sand  
*Bw - 17 to 38 inches:* gravelly sand  
*C - 38 to 60 inches:* gravelly sand

##### Properties and qualities

*Slope:* 6 to 12 percent  
*Depth to restrictive feature:* More than 80 inches  
*Drainage class:* Excessively 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:* More than 80 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum content:* 15 percent  
*Available water supply, 0 to 60 inches:* Low (about 4.1 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 6s  
*Hydrologic Soil Group:* A  
*Ecological site:* F090AY019WI - Dry Sandy Uplands  
*Forage suitability group:* Sandy (G090AN022MN)

*Other vegetative classification:* Sandy (G090AN022MN)  
*Hydric soil rating:* No

**Minor Components**

**Soils with less gravel**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

**Soils with more gravel**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

**Leafriver**

*Percent of map unit:* 2 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

**Meehan**

*Percent of map unit:* 2 percent  
*Hydric soil rating:* No

**Newson**

*Percent of map unit:* 2 percent  
*Landform:* Swales  
*Hydric soil rating:* Yes

**Data Source Information**

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



## Aitkin County, Minnesota

### 685—Oesterle fine sandy loam

#### Map Unit Setting

*National map unit symbol:* gjjd  
*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

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

#### Description of Oesterle

##### Setting

*Landform:* Outwash plains  
*Landform position (two-dimensional):* Toeslope, footslope  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Parent material:* Sandy and gravelly outwash

##### Typical profile

*A - 0 to 2 inches:* fine sandy loam  
*E,E/B,B/E,Bt - 2 to 21 inches:* sandy loam  
*Bt2 - 21 to 34 inches:* stratified loamy coarse sand to gravelly sand  
*2C - 34 to 60 inches:* gravelly sand

##### Properties and qualities

*Slope:* 0 to 3 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 high to high (0.60 to 6.00 in/hr)  
*Depth to water table:* About 12 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Available water supply, 0 to 60 inches:* Low (about 5.7 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 2w  
*Hydrologic Soil Group:* A/D  
*Ecological site:* F090AY011WI - Moist Loamy Lowland  
*Forage suitability group:* Level Swale, Low AWC, Acid (G090AN007MN)

*Other vegetative classification:* Level Swale, Low AWC, Acid  
(G090AN007MN)  
*Hydric soil rating:* No

### **Minor Components**

#### **Loamy till substratum**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### **Meehan**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### **Nemadji**

*Percent of map unit:* 4 percent  
*Hydric soil rating:* No

#### **Leafriver**

*Percent of map unit:* 3 percent  
*Landform:* Depressions  
*Hydric soil rating:* Yes

## **Data Source Information**

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