new

Preliminary & Field Evaluation Form

Type III Mound

www.SepticResource.com vers 12.4

Owner Information

Date	11/29/2023	Sec / Twp / Rng	S-34, T-50, R-23
Parcel ID	32-1-061900	LUG (county, city, township)	Aitkin Co.
Property Owner:	Wendy Gamache	Owners address (if different)	
Property Address:	52805 Loon Ave. McGregor MN 55760		10 Farmstead Rd
City / State / Zip:			Esko MN 55733

Flow Information and Waste Type / Strength

Estimated Design flow: 300

Comments: Type III Mound
Type III Mound 8" to mottles & onDisturbed soils.
Requires an Aitkin Co Operating Permit
May require a variance for absorption width 10 ft from West property line.
Both Neighbor's (East & West) mound rockbeds are Less than 15 ft to property line.

Follow Aitkin County Operating permit requirments.

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 and Shallow wells	
Easements on lot located (see site map)	☐ Yes	☑ No	Drainfield w/in 100' of residential well	☐ Yes	☑ No
Property lines determined (see site map)	☑ Yes Surveyed	☐ 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: New mound West berm will be right on the West property line
West Neighbor's mound is to the East property line. (He is Ok with berm on line)
May need a variance for Aborpsion width 10 ft from property line.(Code is 15 ft)

Soil Information

Evidence of site:

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

Original soils ☐ Yes ☑ No

Soil logs completed and attached ☑ Yes ☐ No

Perk test completed and attached (if applicable) ☐ Yes ☑ No

Soil loading rate (gpd/ft^2) 0.60

Percolation rate (if applicable) _____

Depth/elev to SHWT 8"

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

Depth to system bottom maximum (or elev minimum) (+ 36")

Flood elevation (if applicable) _____

Depth/elev to standing water (if applicable) _____

Elevation of ordinary high water level (if applicable) 1216.5

Depth/elev to bedrock (if applicable) _____

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

Floodplain designation and elev - 100 yr/10 yr (if applicable) 1223.9

Estimated Mound Area Elevation 1242' from Aitkin Co. GIS Map

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: Wendy Gamache Date 11/29/2023

Property Address / PID: 52805 Loon Ave. McGregor MN 557

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: 504B slope 0 % direction-

Soil Log #1

☑ Boring ☐ Pit Elevation 96.8' Depth to SHWT 8"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 8	Silt Loam	<35	10YR 5/3		Friable	Loose	Blocky
8 - 12	Silt Loam	<35	10YR 5/3	7.5YR5/6	Friable	Loose	Blocky

Comments:

52805 Loon Ave. McGregor MN 55760 **Soil Log #2**

☑ Boring ☐ Pit Elevation 96.9' Depth to SHWT 8"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 8	Silt Loam	<35	10YR 5/3		Friable	Loose	Blocky
8 - 12	Silt Loam	<35	10YR 5/3	7.5YR5/6	Friable	Loose	Blocky

52805 Loon Ave. McGregor MN 55760 **Soil Log #3**

☑ Boring ☐ Pit Elevation 96.9' Depth to SHWT 8"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 8	Silt Loam	<35	10YR 5/3		Friable	Loose	Blocky
8 - 12	Silt Loam	<35	10YR 5/3	7.5YR5/6	Friable	Loose	Blocky

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 #

52805 Loon Ave. McGregor MN 55760 **Soil Log #4**

☑ Boring ☐ Pit Elevation 96.9' Depth to SHWT 8"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 8	Silt Loam	<35	10YR 5/3		Friable	Loose	Blocky
8 - 12	Silt Loam	<35	10YR 5/3	7.5YR5/6	Friable	Loose	Blocky

52805 Loon Ave. McGregor MN 55760 **Soil Log #5**

☐ 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: Wendy Gamache **Date:** 11/29/2023

Site Address: 52805 Loon Ave. McGregor MN 55760 **PID:** 32-1-061900

Comments: Type III Mound (8" to mottles and on Disturbed soils).

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

1) [2] bedroom Type [III] Residential System

2) [300] 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) — [1120] 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 [25] ft. long rockbed

6) [6.0] ft rockbed width [42.0] ft rockbed length

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

8) [2] laterals [40.0] feet long [14.0] perfs / lateral [28] 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) [6.0] doses per day (4 minimum)

11) [50] 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) [30] feet of [2.0] inch supply line leads to [5] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [55] gallons TOTAL pump out volume (treatment + drainback)

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

16) [21] GPM @ [18] 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) [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) [6] 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) [292] gallons reserve capacity (after High Level Alarm is activated)

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

25) 0 inches, or 0.0 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) 36 inch, or 3.0 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 12.0 ft. base absorption width (with sand beyond rockbed as follows:)
16.0 greater of: absorption width OR sand slope

28) 3.0 ft. upslope and sideslope sand upslope 5.0
3.0 ft. Downslope sand down slope 5.0

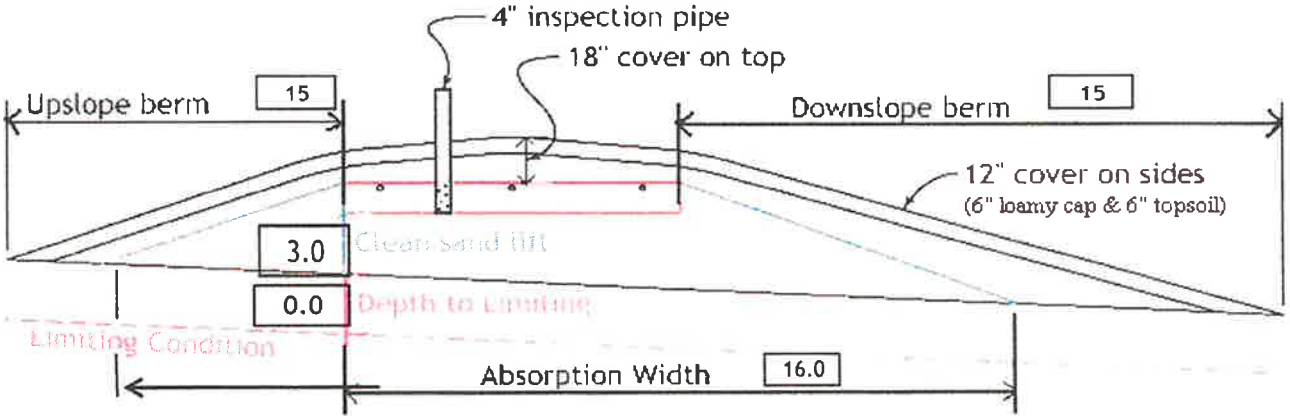
Individual slope ratios give BERM widths (topsoil beyond rockbed) of:

29) 3:1 upslope ratio 15 ft. upslope berm

30) 3:1 sideslope 15 ft. sideslope berms

31) 3:1 downslope 15 ft. downslope berm

32) Overall Dimensions: 6.0 ft. wide by 42.0 ft. long Rock bed
36 ft. wide by 72 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:
6.0 ft. by 42.0 ft. by 9 inches under pipe, plus 20% gives 12 yd³ or *1.4= 17 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)
58.7 up + 58.7 downslope + 10.7 ends + 28.0 under rock = 187 yd³ or *1.4= 262 ton
plus 20%

35) Loamy Cap:
32 ft. by 68 ft. 6" deep, plus 20% gives 49 yd³ or *1.4= 69 ton

36) Topsoil:
36 ft. by 72 ft. 6" deep, plus 20% gives 58 yd³ or *1.4= 81 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	11/29/2023

Installer Summary

1120 gallon Septic tank (minimum)

Tank options: none

Install 1650 Jacobson 2/Compartment Septic/Pump Tank.

533 gallon Dose tank (minimum) at 12.69 gpi

21 GPM @ 18 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 & 6 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

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

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

36 inch, or 3.0 ft. Sand Lift Mound

6.0 ft. wide by 42.0 ft. long Rock bed

2 laterals 1.50 inch diameter 40.0 ft. long 3.0 ft. lateral spacing

1/4" inch perfs 3.0 ft. perforation spacing

No Effluent filter & alarm

2 clean out & valve box assemblies

16.0 ft.Total sand ABSORPTION width (minimum)

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

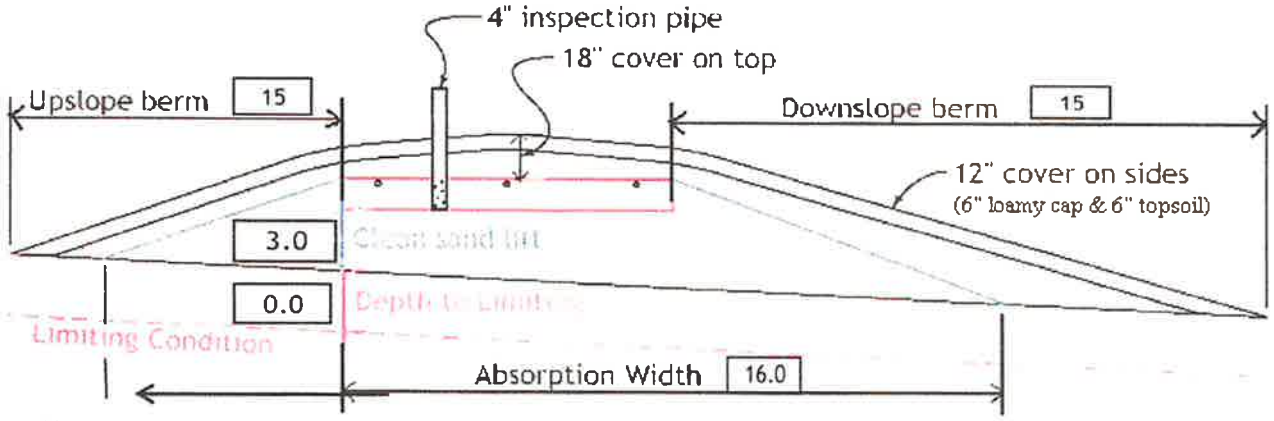
5.0 ft. Downslope (sand beyond rockbed, minimum)

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

3:1 upslope ratio 15 ft. upslope berm

3:1 sideslope 15 ft. sideslope berms

3:1 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:	12.0	yd^3 or *1.4=	17	ton	9 inches under pipe
Mound Sand:	187	yd^3 or *1.4=	262	ton	
Loamy Cap:	49	yd^3 or *1.4=	69	ton	6" deep
Topsoil:	58	yd^3 or *1.4=	81	ton	6" deep

INSPECTOR CHECKLIST - mound

52805 Loon Ave. McGregor MN 55760

☐ WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min)
50' to everything 100' to dispersal area with shallow well

☐ PROPERTY LINES setback: 10' to everything

☐ Road setback: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch.

☐ LAKE / BLUFF setback: 20' for bluff. Lakes: GD ___, RD ___, NE ____. Protected wetland ___.

☐ Building setbacks: 10' for everything, 20' for dispersal area.

☐ WATER LINE under pressure se 10' to bed,tank & sewer line. (else sewer line > 12" below, else ok w/pvc)

☐ Sewer line & baffle connection (no 90's, 3' between 45's, slope min 1" in 8', max 2" in 8')
(no depth req's, clean out every 100', Sch 40 pipe)

☐ Septic tank and risers (water tight, insulated, proper depth, existing verified by pumping)
mfg_____ 1120 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 _____ 21 gpm 18 head VERIFY PUMP CURVE 2.6 min ON 6 hr OFF

☐ float setting drop 4.3 inches at 12.7 gpi "DESIGNED" 3.2 inches approx float tether length
55.0 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 6.0 X 42.0

☐ Sand lift depth 36 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)

☐ Absorption Sand beyond rock 5.0 upslope 5.0 downslope

☐ Bermed topsoil beyond rockbed 15 upslope 15 sideslope 15 downslope

☐ cover depth of 12-18"+ VERIFY

☐ 2 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 _____

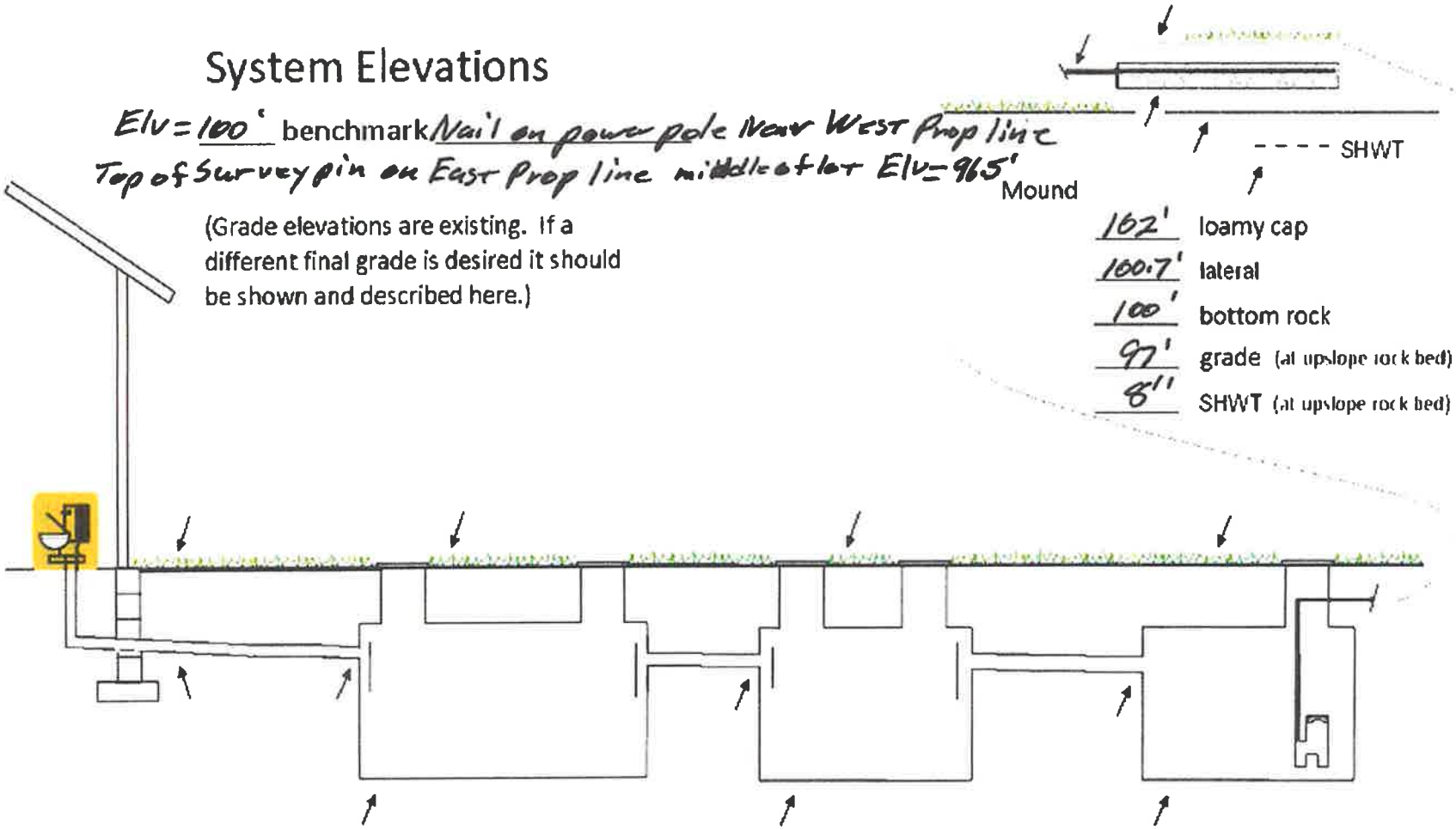
☐ well abandonment form - if necessary

System Elevations

Elv = 100' benchmark Nail on power pole near West Prop line

Top of Survey pin on East Prop line middle of lot Elv = 965'

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



162' loamy cap
100.7' lateral
100' bottom rock
97' grade (at upslope rock bed)
8" SHWT (at upslope rock bed)

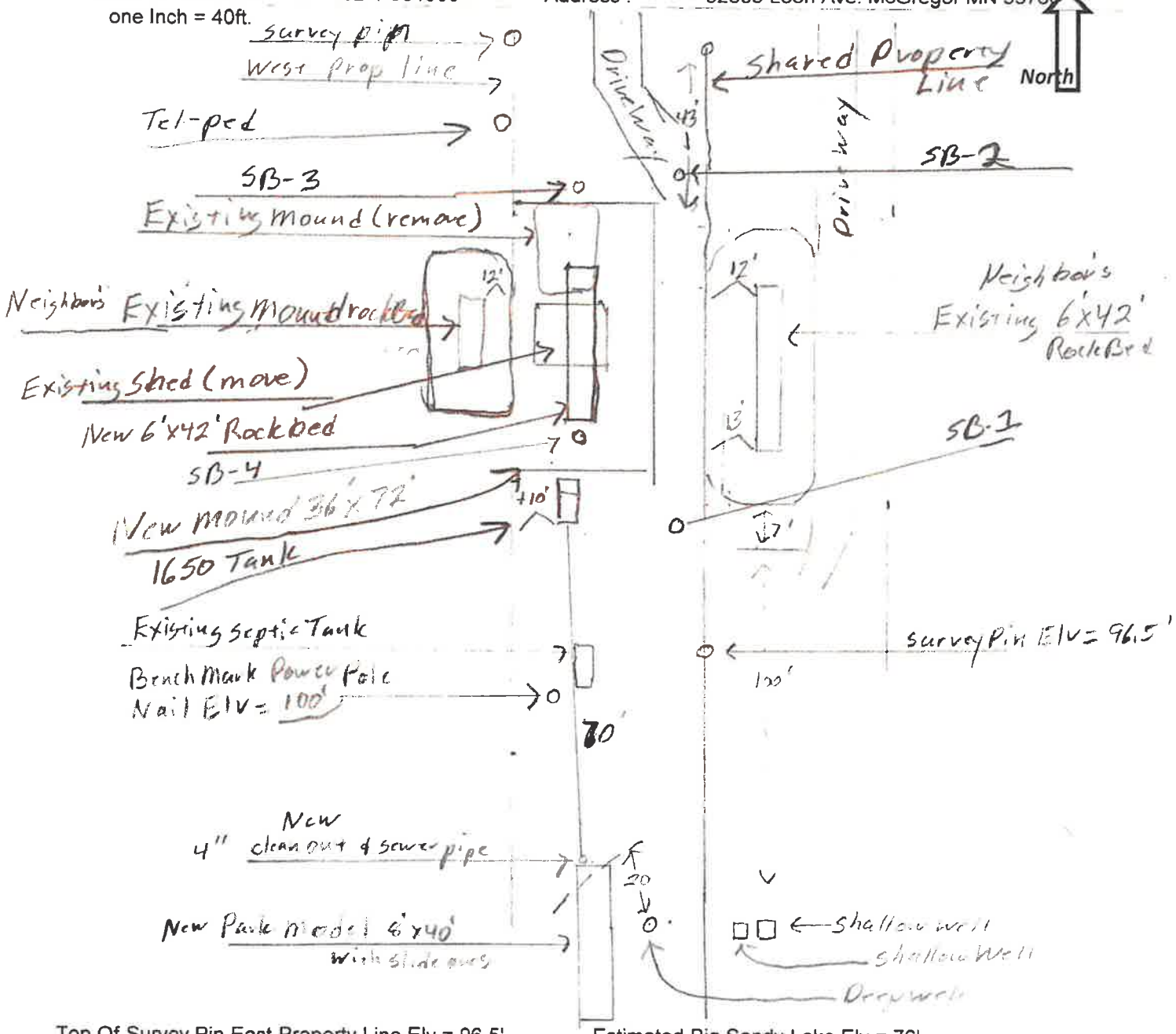
	Sewer pipe	Septic Tank	Septic Tank (if applicable)	Pump Tank
Proposed	~~exiting~~ house			
	96.5' Grade	96.8' Grade	_____ Grade	96.6' Grade
Estimated	95' Pipe	93.5' inlet	_____ inlet	93.2' inlet
		89.5' Tank bottom	_____ Tank bottom	89.5' Tank bottom

{ Design Drawing }

Property Owner: Wendy Gamache Date: Designer's Initials : JB

Parcel ID. Number : 32-1-061900 Address : 52805 Loon Ave. McGregor MN 55760

one Inch = 40ft.



Top Of Survey Pin East Property Line Elv.= 96.5' Estimated Big Sandy Lake Elv.= 76'

	Surface/ SHWT	Nail on Power pole = Bench Mark 100'			Existing Grade
Soil Bore 1	96.8' / 8"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 97'
Soil Bore 2	96.9' / 8"	Ground Elv. BM	96.4'		Bottom of Rockbed Elv.= 100'
Soil Bore 3	96.9' / 8"	Ground Elv. Tank	96.8'	New	Top of Washed Sand Elv.= 100'
		Ground at Proposed house	96.5'		Estimated Sewer pipe at Cabin Elv.= 95'

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:

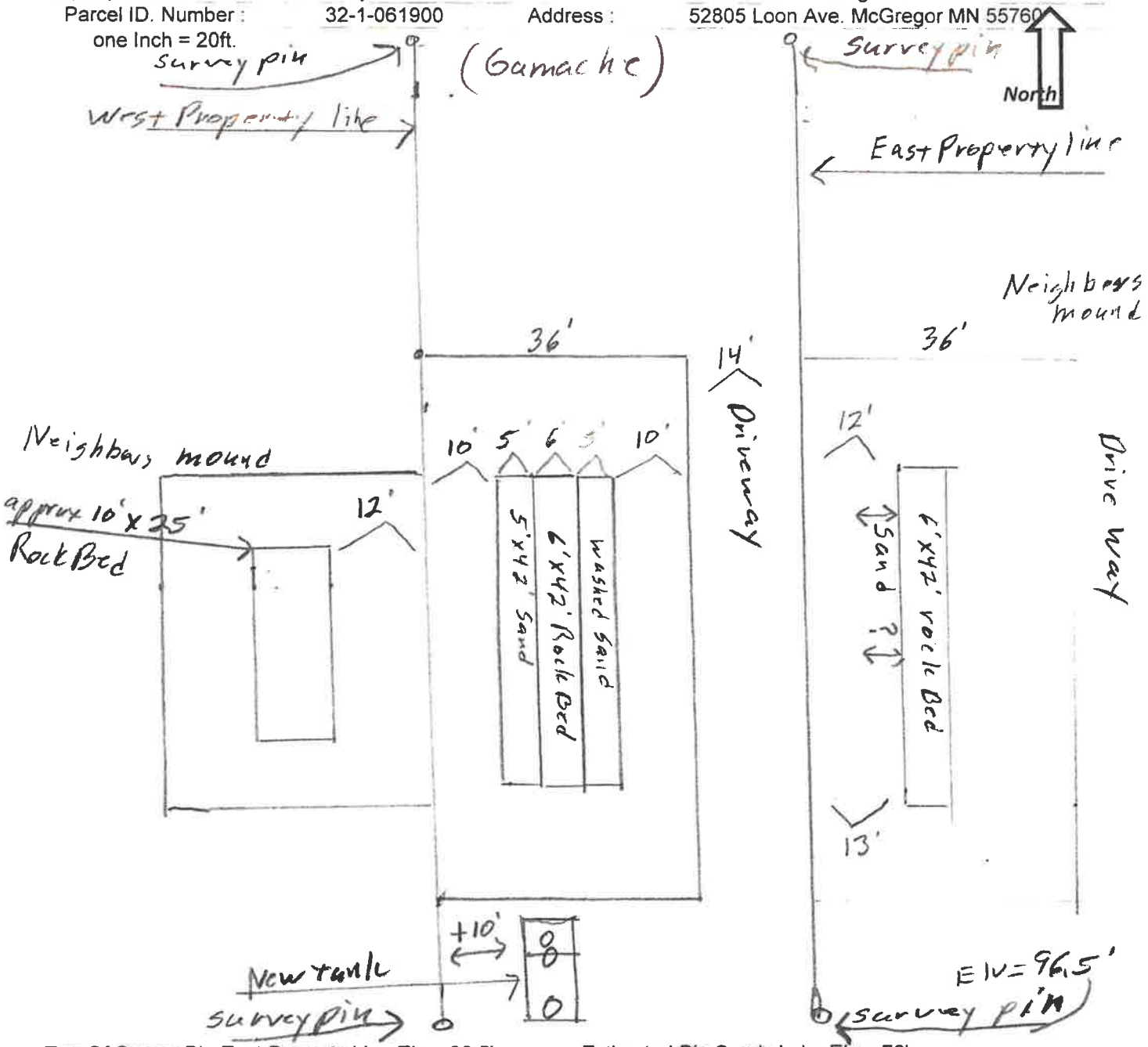
Disturbed/Compacted Areas	Access Route for Tank Maintenance
Component Location	Property Lines
OHW ordinary high water	Structures
Lot Easements	Setbacks

{ Design Drawing }

Property Owner: Wendy Gamache Date: Designer's Initials : JB

Parcel ID. Number : 32-1-061900 Address : 52805 Loon Ave. McGregor MN 55760

one Inch = 20ft.



Top Of Survey Pin East Property Line Elv.= 96.5' Estimated Big Sandy Lake Elv.= 76'

	Surface/ SHWT	*Nail on Power pole = Bench Mark 100'*			Existing Grade
Soil Bore 1	96.8' / 8"	Bench Mark	100'		Upslope Edge of Rockbed Elv.= 97'
Soil Bore 2	96.9' / 8"	Ground Elv. BM	96.4'		Bottom of Rockbed Elv.= 100'
SB 3&4	96.9/8"	Ground Elv. Tank	96.8'	New	Top of Washed Sand Elv.= 100'
		Ground at Proposed house	96.5'		Estimated Sewer pipe at Cabin Elv.= 95'

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: Wendy Gamache **Date:** 11/29/23

Site Address: 52805 Loon Ave. McGregor MN 55760 **PID:** 32-1-061900

Comments: ***See Notes on shared property line easement reasons. (next Page)***

1 This is a type III mound , (Soil Separation 8") sized for a 2 bedroom system.
Constructed on same site as existing mound and old shed. Disturbed soils.

2 There is an existing deep well near trailer house, Neighbors 2 Shallow wells are near same deep well.

3 Existing tank to be pumped collapsed, filled, or removed. Existing Mound will be removed to good original soils.
Existing Shed / cabin to be moved.

4 The Proposed house (Park Model) will be gravity flow from NW corner of house, install clean-out near house.
The new sewer pipe once outside of the park model foot print must be 20 ft from any well.
Owner will have to locate Park model to insure that sewer pipe is 20 ft away from well. Air test new sewer pipe.

5 Lot is Flat, install 1650 Jacobson compartment tank for gravity flow from house.
Install tank low enough for drainback from mound to pump tank.

6 The berm slopes are at 3:1, lot is only 50 ft wide. West mound berm will be on the West property line.
See notes on Aitkin Co. Possible variance on this mound.

7 Elevation contour of rock bed upslope edge is 97' . North berm will be approx. 43 ft. from property line/ RW .
The area size of the rock bed is 6' x 42' . Absorption area is 42' x 16'.
Sand absorption area is 5 ft. up slope + 6 ft. rockbed + 5 ft. downslope = 16ft. wide sand base.
Berms are 15ft. Upslope, 15ft. Down slope, 6ft. Rock bed = approx. 36ft. Wide.
Overall mound size is approx. 36' wide x 72' long and approx. 5' high. End berms are 15ft. Wide.

8 The bench mark is the nail on the Power Pole near West Property line 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.
The top of the sand and bottom of rock bed is Elv. 100'.

9 It is important that the soils do not get compacted, and that clean Washed sand is used.
If old Mound / Shed area is compacted, remove (Subcut area and fill with washed sand).

10 The Jacobson 1650 tank will be gravity flow from dwelling. Install the pump for 6 demand doses
per day. approx. 55 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. (Recommend min. 4" above grade)
Recommend Raising tank manholes at least 4" above finished grade. Shape tank area to shed surface water.
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" perf holes spaced 3 ft. on center.**
Install 4" inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.

12 Install Event counter on Effluent pump, calibrate pump and give gallons per event to Owner.

13 Designer does not guarantee or warranty any Type III systems.
Designed to Aitkin Co. and MPCA recommendations and requirements.

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

This System will require an Aitkin Co. Operator permit, annual inspection
Owner and installer are responsible for owner knowing how system is maintained.

Possible Variance Mound Design Notes - Aitkin county

Property Owner: Gamache & [redacted] **Date:** 11/29/23

Site Address: 52805 Loon Ave. McGregor MN 55760 **PID:** 32-1-061900 & 32-1-062000

Comments: ***Shared property line Use And Reasons why***

1 Gamache has to install a new Type III mound 2 bedroom. The lot is 50 ft wide.
New mound design has been design as narrow as possible
to allow for a driveway on east side of proposed mound
To fit on lot where existing mound is to be removed.

2 Gamache may / will need a variance for absorption width to West property line.
Gamache's proposed mound absorption area will be 10 ft from property line.
Aitkin Co, Code for absorption area setback to property line is 15 ft.

4 Both of the Neighbors (Nielsen on the West) (Rodriques on the East) have mounds.

Both of these mounds have rockbeds that are closer than 15 ft to their property line.

The designer could not tell how close the Sand (Absorption area) is to the property line.

But both are less that 15 ft.

5 Gamache's mound will be as high as Rodriques's mound, with approx. 14 ft between the berms for a driveway.
Rodriques's mound is on East property line.

6 Nielsen's mound is on the West property line.
Nielsen is OK with Gamache's mound right on the line.

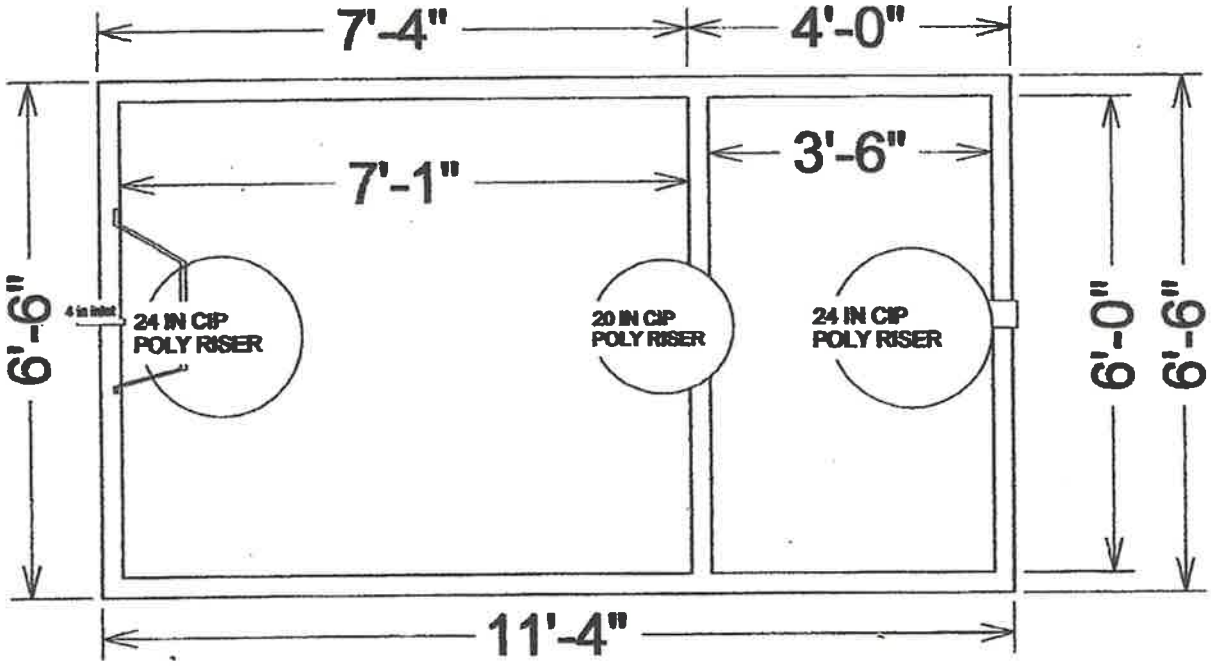
7 The way all 3 of these mounds are/ were installed they should be able to be replaced with out damage to each other.

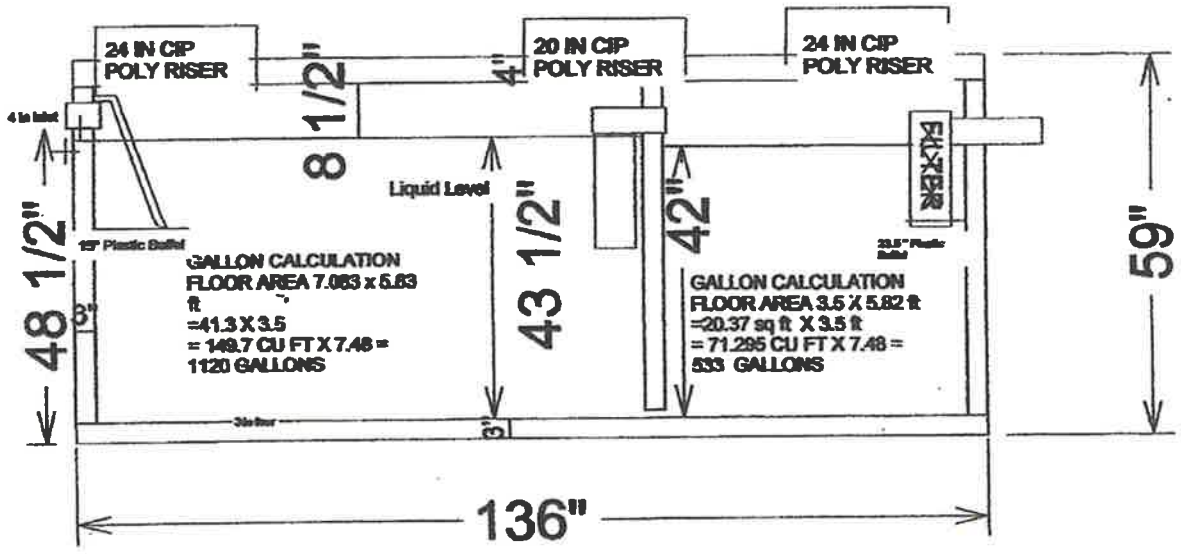
Designed to Aitkin Co. and MPCA recommendations and requirements.

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

1650 Gallon 2 Compartment Septic Tank

TOP VIEW





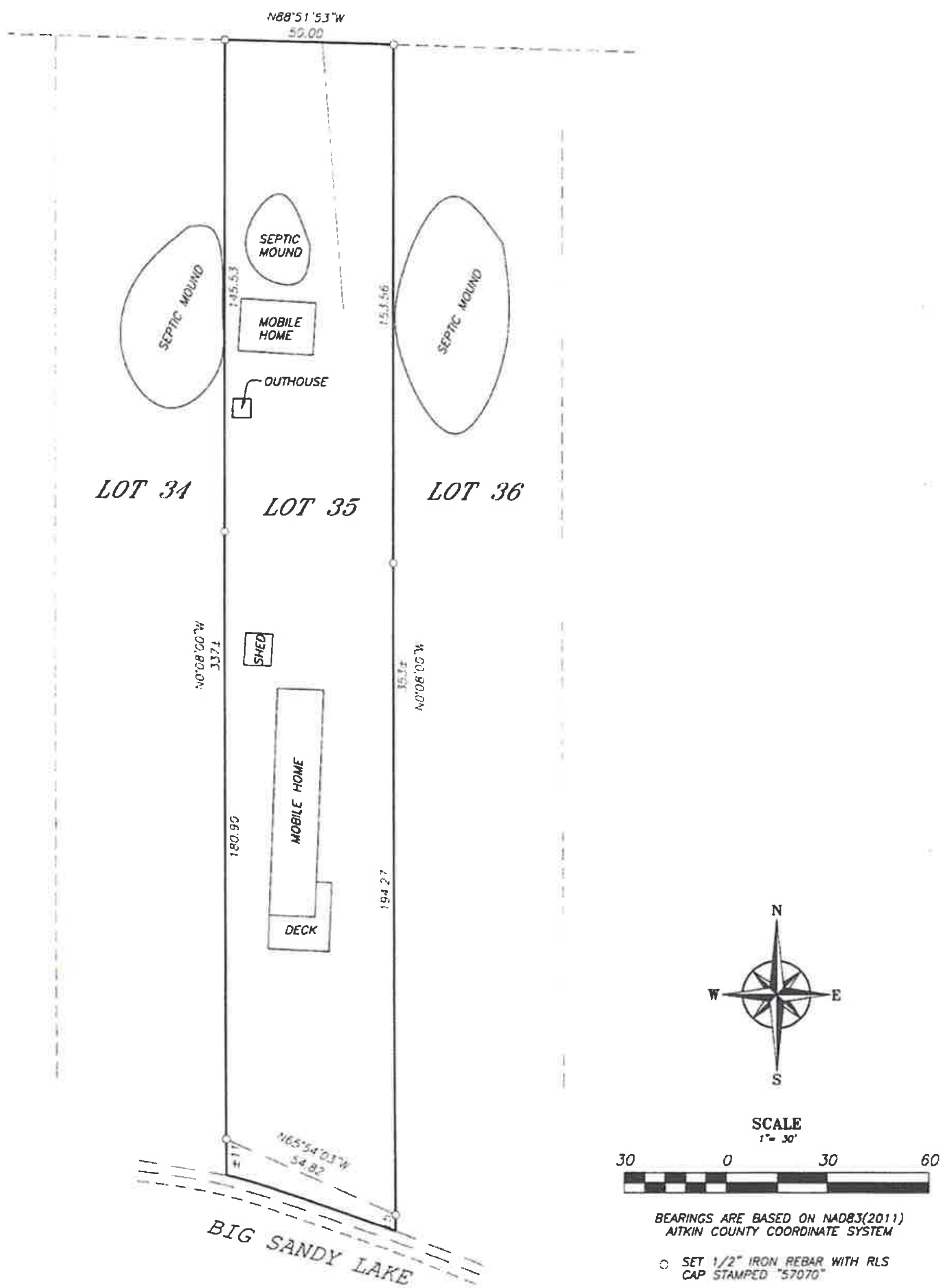
SIDE VIEW

533 / 42" = 12.69 GPI

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

CERTIFICATE OF SURVEY

LOT 35,
BIG SANDY HIGHLANDS FIFTH ADDITION,
AITKIN COUNTY, MINNESOTA



NORTHWESTERN SURVEYING & ENGINEERING, INC.
P.O. Box 2087 · Bemidji, Minnesota · 56619

WENDY GAMACHE
52805 LOON AVE,
MCGREGOR, MN

JOB#: 23401 DRAWN BY: TJB
FILENAME: 23401 WENDY GAMACHE

REV#	DESCRIPTION	DATE

I HEREBY CERTIFY THAT THIS SURVEY, PLAN OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF MINNESOTA.

KALEB J. KADELBACH (LIC. NO. 57070)

10/23/2023
DATE:

Aitkin County

Detailed Parcel Report

Parcel Number: 32-1-061900

General Information

Township/City:	TURNER TWP		
Taxpayer Name:	MATTSON, RICHARD M		
Taxpayer Address:	1407 BILLY JON RD CLOQUET MN 55720		
Property Address:	52805 Loon Ave		
Township:	50	**Lake Number:**	1006200
Range:	23	**Lake Name:**	BIG SANDY LAKE GD
Section:	34	**Acres:**	0.00
Green Acres:	No	**School District:**	4.00
Plat:	BIG SANDY LAKE HIGHLANDS FIFTH ADDITION		
Brief Legal Description:	LOT 35		

Tax Information

OHW - 1216.56

Class Code 1:	Non-Comm Seasonal Residential Recreational 100 YR Flood 1223.9
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Non Homestead
Assessment Year:	2023

Estimated Land Value:	$219,500.00
Estimated Building Value:	$10,100.00
Estimated Total Value:	$229,600.00
Prior Year Total Taxable Value:	$186,900.00
Current Year Net Tax (Specials Not Included):	$1,196.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$0.00
Delinquent Taxes:	No

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

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

Aitkin County

Detailed Parcel Report

Parcel Number: 32-1-061800

General Information

West Neighbor

Township/City:	TURNER TWP		
Taxpayer Name:	NIELSEN, WALTER C JR		
Taxpayer Address:	52809 LOON AVE MCGREGOR MN 55760		
Property Address:			
Township:	50	**Lake Number:**	1006200
Range:	23	**Lake Name:**	BIG SANDY LAKE
Section:	34	**Acres:**	0.00
Green Acres:	No	**School District:**	4.00
Plat:	BIG SANDY LAKE HIGHLANDS FIFTH ADDITION		
Brief Legal Description:	LOT 34		

Tax Information

Class Code 1:	Residential 1-3 units Previously SRR
Class Code 2:	Unclassified
Class Code 3:	Unclassified
Homestead:	Owner Homestead
Assessment Year:	2023

Estimated Land Value:	$162,500.00
Estimated Building Value:	$0.00
Estimated Total Value:	$162,500.00
Prior Year Total Taxable Value:	$123,800.00
Current Year Net Tax (Specials Not Included):	$716.00
Total Special Assessments:	$0.00
****Current Year Balance Not Including Penalty:**	$0.00
Delinquent Taxes:	No

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

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

Aitkin County

Detailed Parcel Report

Parcel Number: 32-1-062000

General Information

East Neighbor.

Township/City:	TURNER TWP		
Taxpayer Name:	RODRIQUES, RONALD & WANDA		
Taxpayer Address:	5851 MEADOWVIEW DR WHITE BEAR LAKE MN 55110		
Property Address:	52801 Loon Ave		
Township:	50	**Lake Number:**	1006200
Range:	23	**Lake Name:**	BIG SANDY LAKE
Section:	34	**Acres:**	0.00
Green Acres:	No	**School District:**	4.00
Plat:	BIG SANDY LAKE HIGHLANDS FIFTH ADDITION		
Brief Legal Description:	LOT 36		

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:	$219,500.00
Estimated Building Value:	$91,700.00
Estimated Total Value:	$311,200.00
Prior Year Total Taxable Value:	$263,700.00
Current Year Net Tax (Specials Not Included):	$1,710.00
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.**

BIG SANDY LAKE HIGHLANDS
FIFTH ADDITION
AITKIN CO. MINN.
Scale 1" = 200'

State of Minnesota } ss
County of Hennepin }
I do hereby certify that I have surveyed and platted the property described on this plat as "Big Sandy Lake Highlands Fifth Addition" that this plat is a correct representation of said survey, that all distances are correctly shown on the plat in feet and decimals of a foot, that the monuments for guidance of future surveys have been correctly placed in the ground as shown on the plat, that the outside boundary lines are correctly designated on the plat, that the topography of the land is correctly shown on the plat and that there are no wet lands or public highways to be designated on said plat other than as shown hereon.

[signature], Surveyor

Above certificate subscribed and sworn to before me this 15 day of August A.D. 1924.

E M Anderson

E M Anderson
Notary Public Hennepin County Minn.
My Commission expires March 6th 1931

Above plat accepted and approved by the Board of County Commissioners of Aitkin County Minn. at a regular meeting thereof held this 13th day of [illegible] AD 1924.

[signature]   [signature] County Auditor   Wm [signature] Chairman Co. Comm.

73903

Know all men by these presents that we, Hay-Knights Incorporated, owner and proprietor, and Charles H Gustafson, mortgagee, of the following described property lying in the State of Minnesota and County of Aitkin to wit, All of Government Lots One (1) and Two (2) and the South One-half of the Northeast Quarter of Section Thirty-four (34), Township Fifty (50) North, Range Twenty-three (23) West of the Fourth Principal Meridian, have caused the same to be surveyed and platted as "Big Sandy Lake Highlands Fifth Addition" and we do hereby donate and dedicate to the Public for public use forever the Roads, Drives, Lanes and Landings as shown on the annexed plat. In witness whereof we have hereunto set our hands and seals and Hay Knights Incorporated has caused these presents to be signed by its President and its Secretary and its corporate seal to be hereunto affixed this 16th day of August AD 1924.

In presence of
[signature]
[signature]

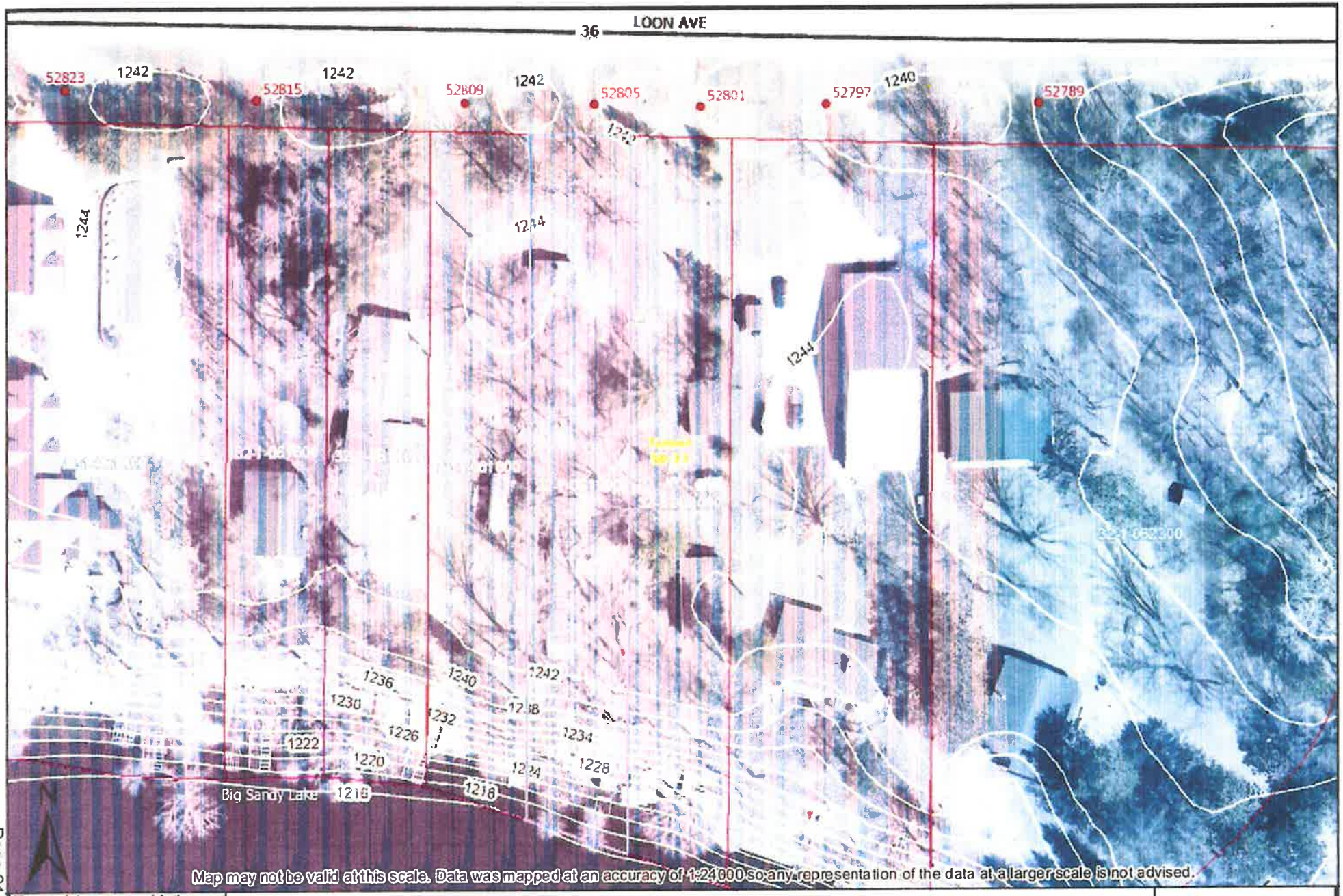
HAY-KNIGHTS INCORPORATED
Marcus Nelson, its President
[signature] Knights, its Secretary
Charles H. Gustafson

State of Minnesota } ss
County of Hennepin }
On this 16th day of August AD 1924 before me a Notary Public within and for said County, personally appeared Marcus Nelson and I.K Knights to me personally known, who, being by me each duly sworn did say that they are respectively the President and Secretary of Hay Knights Incorporated the corporation named in the above instrument and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors and said Marcus Nelson and I.K Knights acknowledged said instrument to be the free act and deed of said corporation.

[signature]
Notary Public Hennepin County Minn.
My commission expires July [illegible] 1931

State of Minnesota } ss
County of [illegible] }
On this [illegible] day of [illegible] AD 1924, before me, a Notary Public within and for said County, personally appeared Charles H Gustafson to me known to be the person described in and who executed the foregoing instrument and acknowledged that he executed the same as his free act and deed.

[signature]
Notary Public
My commission expires



Demask

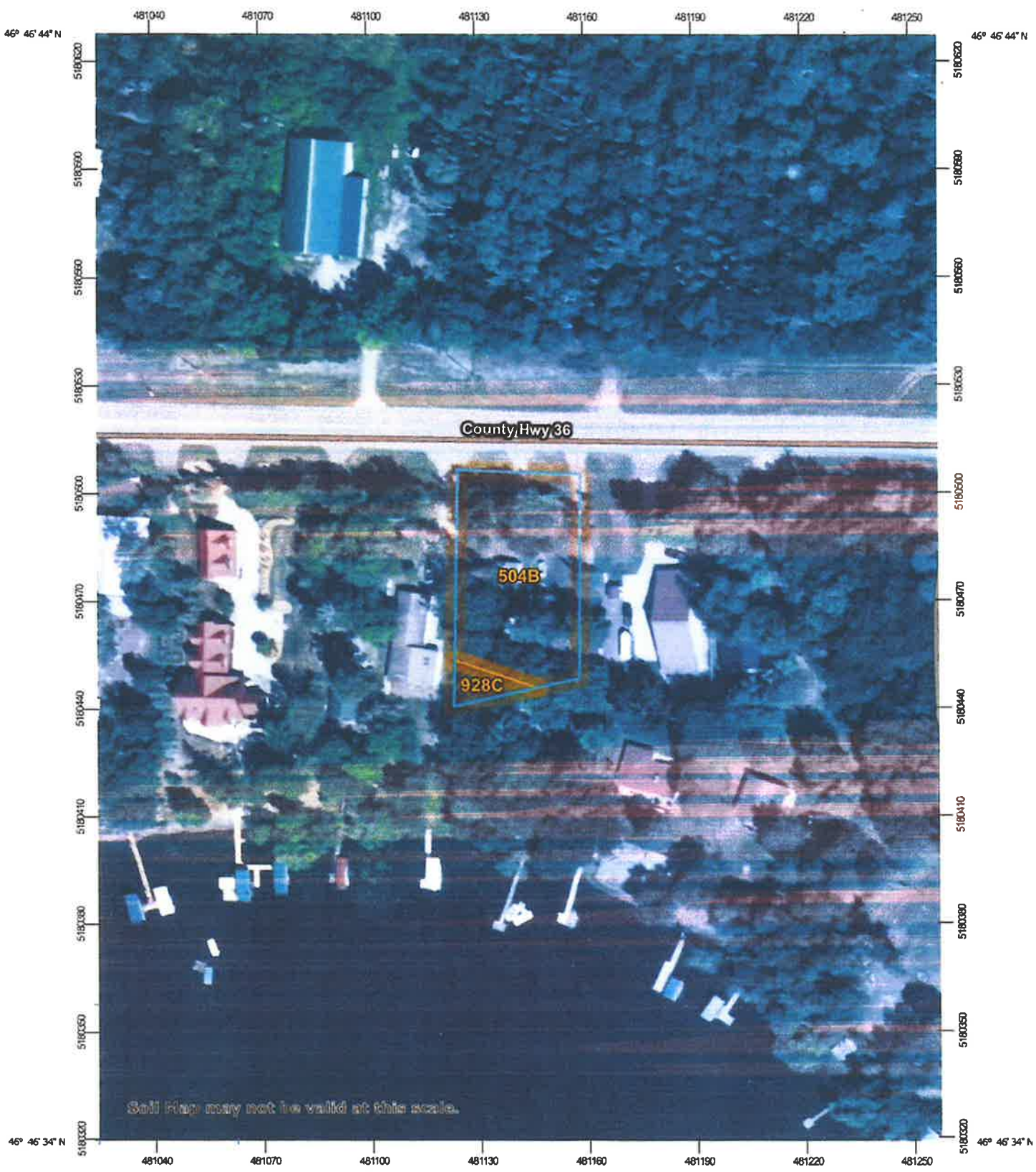
1:1,128 0 0.005 0.01 m 1 inch = 94 feet

Web AppBuilder for ArcGIS

Aitkin County

Date: 9/29/2023

Soil Map—Aitkin County, Minnesota
(Gamache)



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

504B—Duluth fine sandy loam, 1 to 6 percent slopes

Map Unit Setting

National map unit symbol: gjh7
Elevation: 980 to 1,640 feet
Mean annual precipitation: 25 to 30 inches
Mean annual air temperature: 39 to 45 degrees F
Frost-free period: 120 to 140 days
Farmland classification: All areas are prime farmland

Map Unit Composition

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

Description of Duluth

Setting

Landform: Moraines
Landform position (two-dimensional): Backslope, summit
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Loamy till

Typical profile

A - 0 to 3 inches: fine sandy loam
E,Bw,2BE,2Bt - 3 to 41 inches: clay loam
2C - 41 to 60 inches: loam

Properties and qualities

Slope: 1 to 6 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.60 in/hr)
Depth to water table: About 13 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Available water supply, 0 to 60 inches: High (about 10.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Ecological site: F090AY015WI - Loamy Upland with Carbonates
Forage suitability group: Sloping Upland, Acid (G090AN006MN)
Other vegetative classification: Sloping Upland, Acid (G090AN006MN)

Hydric soil rating: No

Minor Components

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

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

Rifle
Percent of map unit: 3 percent
Landform: Bogs
Hydric soil rating: Yes

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

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

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

Data Source Information

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

Aitkin County, Minnesota

928C—Cushing-Mahtomedi complex, 2 to 10 percent slopes

Map Unit Setting

National map unit symbol: gjk4
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

Cushing and similar soils: 50 percent
Mahtomedi and similar soils: 35 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Cushing

Setting

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

Typical profile

E - 0 to 16 inches: very fine sandy loam
B/E - 16 to 19 inches: loam
Bt - 19 to 44 inches: loam
C - 44 to 60 inches: loam

Properties and qualities

Slope: 2 to 10 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20 to 0.60 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 10 percent
Available water supply, 0 to 60 inches: High (about 9.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3e
Hydrologic Soil Group: B
Ecological site: F090AY015WI - Loamy Upland with Carbonates
Forage suitability group: Sloping Upland, Acid (G090AN006MN)

Other vegetative classification: Sloping Upland, Acid (G090AN006MN)
Hydric soil rating: No

Description of Mahtomedi

Setting

Landform: Moraines
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 sand
E - 4 to 15 inches: coarse sand
Bw - 15 to 26 inches: gravelly coarse sand
C - 26 to 60 inches: gravelly sand

Properties and qualities

Slope: 2 to 10 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 4.2 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

Cathro

Percent of map unit: 4 percent
Landform: Bogs
Hydric soil rating: Yes

Meehan

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

Sandwick

Percent of map unit: 4 percent
Landform: Flats
Hydric soil rating: Yes

Alstad

Percent of map unit: 3 percent
Hydric soil rating: No

Data Source Information

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