

**{ Type III Design Notes for Owner and Installer }**

Property Owner: John Wolney Date: \_\_\_\_\_ Installer's Initials : \_\_\_\_\_  
 PIN : 08-0-027107 Site Address: \_\_\_\_\_

This is a TYPE III Septic System, Operating Permit Required of Owner. Permit # \_\_\_\_\_

Reason for Type III Type III 2 bedroom mound, less than 12" to mottles, 3 ft washed sand under rockbed.

Description of System \_\_\_\_\_

1st Tank Gal. _____	1st compartment gal. _____	2nd Comp _____	3rd _____
2nd Tank Gal. _____	1st compartment gal. _____	2nd Comp _____	3rd _____
3rd Tank Gal. _____	1st compartment gal. _____	2nd Comp _____	3rd _____
1st Pump tank Gal. _____		1st Pump Brand and model # _____	
1st Pump GPM _____	1st Pump Ft. of Head _____	1st Pump Gal. per Dose _____	
1st Pump tank Gal. per inch. _____	1st Pump Inches per Dose _____	1st Pump Doses per Day _____	
1st Pump Design GPD _____	1st Pump Measured dose per day _____	Timed or demand Dose _____	
Time Settings: Minutes ON _____	Minutes OFF _____	Inches Pumped after drainback _____	
Notes : _____			
2nd Pump tank Gal _____		2nd Pump Brand and model # _____	
2nd Pump GPM _____	2nd Pump Ft. of Head _____	2nd Pump Gal. per Dose _____	
2nd Pump tank Gal. per inch. _____	2nd Pump Inches per Dose _____	2nd Pump Doses per Day _____	
2nd Pump Design GPD _____	2nd Pump Measured dose per day _____	Timed or demand Dose _____	
Time Settings: Minutes ON _____	Minutes OFF _____	Inches Pumped after drainback _____	
Notes : _____			

1st Alarm: Tank \_\_\_\_\_ Reason: \_\_\_\_\_  
 2nd Alarm: Tank \_\_\_\_\_ Reason: \_\_\_\_\_  
 3rd Alarm: Tank \_\_\_\_\_ Reason: \_\_\_\_\_

Water Meter Installed on house hold water: \_\_\_\_\_ Where is it located : \_\_\_\_\_

Event counter Installed on pump: \_\_\_\_\_ Which Pump: \_\_\_\_\_ Gal. Per Event \_\_\_\_\_

Where is Event Counter Located: \_\_\_\_\_

**Requirement of Operating Permit**

- Owner to UNDERSTAND System Operation: Required to do monthly readings of water meter or event counter.
- Owner to record readings every month that system is being used, should know calculations for Gal. per day.
- Owner to REPORT to Aitkin Co. once a year with log of monthly readings and annual Inspection Report
- Owner to Hire an Inspector for a Once a year Inspection of the system's, Operation, Mechanical functions, and Compliance with Operating Permit.

# Preliminary & Field Evaluation Form

www.SepticResource.com vers 12.4

Owner Information			
Date	<u>10/14/2019</u>	Sec / Twp / Rng	<u>S-17, T-48, R-25</u>
Parcel ID	<u>08-0-027107</u>	LUG (county, city, township)	<u>Aitkin Co.</u>
Property Owner:	<u>John Wolney</u>	Owners address (if different)	
Property Address:	<u>Next to 32475 435th Ln Palisade MN 56469</u>	<u>6956 Lakeview Dr.</u>	
City / State / Zip:		<u>Lino Lakes MN 55014</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:      Type III Mound 3 ft washed sand Requires Aitkin Co. Operating Permit Location between RW and wetlands. 3:1 slopes.  Wetland was delineated and marked		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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	Well casing depth	Proposed deep 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 checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
Property lines determined (see site map)      By Others	<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	<u>Next to wetland, up against RW of 435th Lane, next to North property line.</u>				
	<u>Lowest Floor Elv. = 1218' Aitkin Co. 1218' = approx. Elv. = 99.1'</u>				

### 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>0.50</u>	Percolation rate (if applicable)	_____
Depth/elev to SHWT	<u>7"</u>	Flooding or run-on potential (comments)	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Depth to system bottom maximum (or elev minimum)	_____	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 type="checkbox"/> Yes <input type="checkbox"/> No	Aitkin Co. Lowest Floor Elv. = 1218'	
Differences between soil survey and field evaluation (if applicable)	On 10/14/2019 OHW evl= 95.1 or approx. 1214" GIS Map Approx. Elv. = 99.1' = 1218'		
	_____		
	_____		

*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: John Wolney Date 10/14/2019  
 Property Address / PID: Next to 32475 435th Ln Palisade MN 56469

## Soil Survey Information

refer to attached soil survey

Parent mat'l's:       Till       Outwash       Lacustrine       Alluvium       Organic       Bedrock  
 landscape position:       Summit       Shoulder       Side slope       Toe slope  
 soil survey map units:      759      slope 2 %      direction- East

## Soil Log #1

Boring       Pit      Elevation 96.9'      Depth to SHWT 7"

Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 7	Loam	<35	10YR5/3		Friable	Loose	Granular
7 - 12	Clay Loam	<35	2.5Y6/2	7.5YR5/8	Friable	Weak	Blocky
		<35					
		<35					

Comments:

Next to 32475 435th Ln Palisade MN 56469 <b>Soil Log #2</b>							
<input checked="" type="checkbox"/> Boring <input type="checkbox"/> Pit		Elevation <u>96.7'</u>		Depth to SHWT <u>7"</u>			
Depth (in)	Texture	fragment %	matrix color	redox color	consistence	grade	shape
0 - 5	Topsoil Loam	<35	10YR3/2		Loose	Loose	Granular
5 - 7	Loam	<35	10YR5/3		Friable	Loose	Granular
7 - 12	Clay Loam	<35	2.5Y6/2	7.5YR5/8	Friable	Weak	Blocky
		<35					
		<35					

Next to 32475 435th Ln Palisade MN 56469 <b>Soil Log #3</b>							
<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 #

## Mound Design - Aitkin county

Property Owner: John Wolney

Date: 10/14/2019

Site Address: Next to 32475 435th Ln Palisade MN 56469

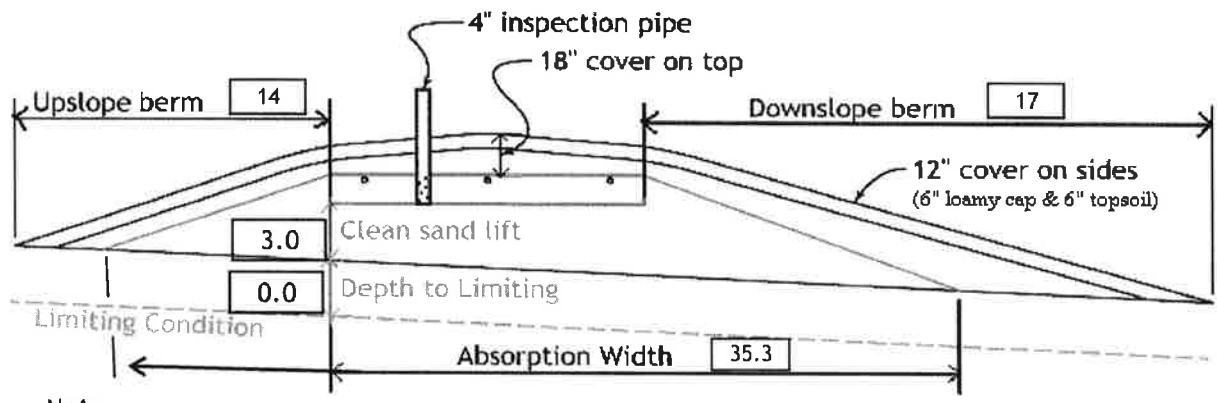
PID: 08-0-027107

Comments: Type III Mound Will Require Aitkin Co. Operating Permit

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 Jacobson 1650 2/Compartment Tank
- 4)  Gal Septic tank (code minimum)  Gal Septic tank (design size / LUG req'd)  
Tank options: Effluent filter & alarm req'd
- 5)  GPD/ft<sup>2</sup> 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)

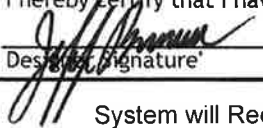
- 23) 0.50 gpd/ft<sup>2</sup> Absorption area Soil Loading Rate, which gives a mound ratio of 2.4 (minimum)  
 (this must match the soil boring log) desired mound ratio 2.4
- 24) 2 percent site slope (0-20% range) 2 (% downslope site slope, if different than upslope)
- 25) 0 inches, or 0.0 ft. to Redox 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) 24.0 ft. base absorption width (with sand beyond rockbed as follows):  
 35.3 greater of: absorption width OR sand slope
- 28) 0.0 ft. upslope and sideslope sand upslope 11.3  
 14.0 ft. Downslope sand down slope 13.4
- Individual slope ratios give BERM widths (topsoil beyond rockbed) of:
- 29) 3:1 upslope ratio 14 ft. upslope berm
- 30) 3:1 sideslope 16 ft. sideslope berms
- 31) 3:1 downslope 17 ft. downslope berm
- 32) Overall Dimensions: 10.0 ft. wide by 25.0 ft. long Rock bed  
 41 ft. wide by 57 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 25.0 ft. by 9 inches under pipe, plus 20% gives 12 yd<sup>3</sup> 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)  
 42.8 up + 53.1 downslope + 19.6 ends + 28.7 under rock = 173 yd<sup>3</sup> or \*1.4= 242 ton  
 plus 20%
- 35) Loamy Cap: 37 ft. by 53 ft. 6" deep, plus 20% gives 44 yd<sup>3</sup> or \*1.4= 62 ton
- 36) Topsoil: 41 ft. by 57 ft. 6" deep, plus 20% gives 52 yd<sup>3</sup> or \*1.4= 73 ton

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


 Brummer Septic LLC. L-1347 10/14/2019  
 Design Signature Company License# Date

System will Require Aitkin Co. Operator Permit  
 System will have an Effluent filter and alarm on septic tank outlet, Also alarm on pump tank.  
 Water proof tank, raise sewer pipe at house as high as possible.

# Installer Summary

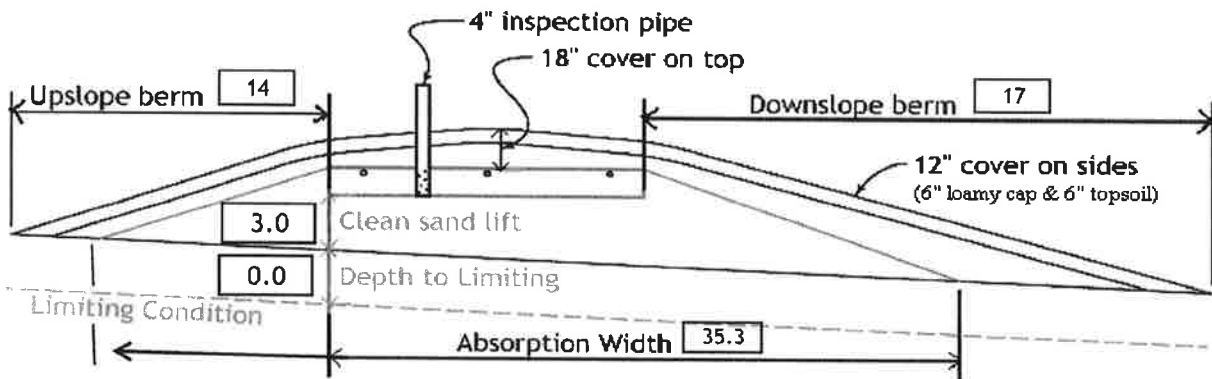
- 1120 gallon Septic tank (minimum)      Tank options: Effluent filter & alarm req'd
- 533 gallon Dose tank (minimum)      Install Jacobson 1650 2/Compartment Tank at  12.69 gpi
- 18 GPM @  18 ft. of head, Pump required
- 3.9 inch swing on Demand float      which translates to roughly 3.0 inches of float tether length if time dosing is required -->  2.7 minutes ON time &  5.1 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
- 35 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
- 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

- Yes Effluent filter & alarm
- 3 clean out & valve box assemblies

- 35.3 ft. Total sand ABSORPTION width (minimum)
- 11.3 ft. upslope and sideslope (sand beyond rockbed, minimum)
- 14.0 ft. Downslope (sand beyond rockbed, minimum)

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

- 3:1 upslope ratio  14 ft. upslope berm
- 3:1 sideslope  16 ft. sideslope berms
- 3:1 downslope  17 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:	<input type="checkbox"/> 12.0 yd <sup>3</sup> or *1.4=	<input type="checkbox"/> 17 ton	<input type="checkbox"/> 9 inches under pipe
Mound Sand:	<input type="checkbox"/> 173 yd <sup>3</sup> or *1.4=	<input type="checkbox"/> 242 ton	calculation based on 3:1/4:1 slope from top of rockbe
Loamy Cap:	<input type="checkbox"/> 44 yd <sup>3</sup> or *1.4=	<input type="checkbox"/> 62 ton	6" deep
Topsoil:	<input type="checkbox"/> 52 yd <sup>3</sup> or *1.4=	<input type="checkbox"/> 73 ton	6" deep



## INSPECTOR CHECKLIST - mound

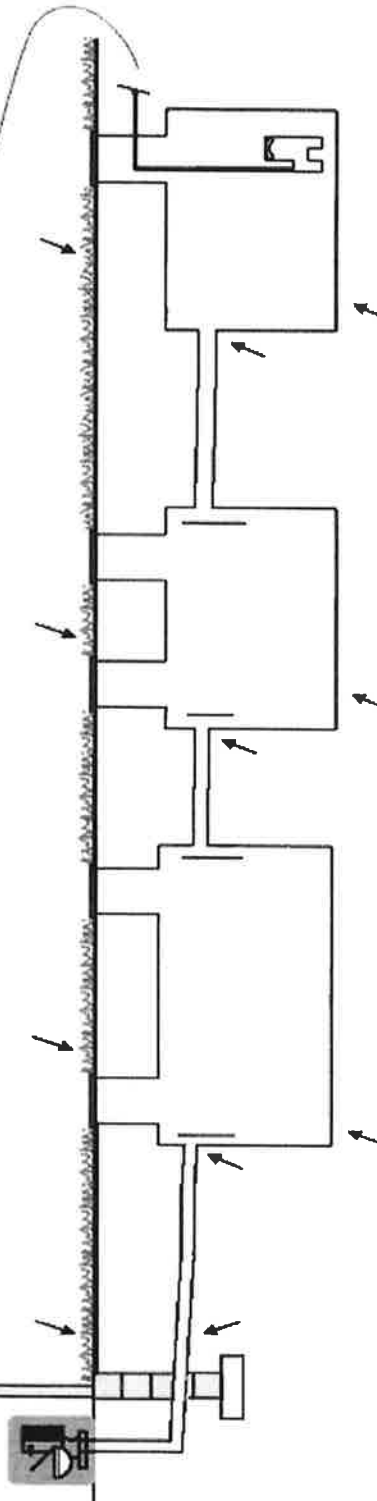
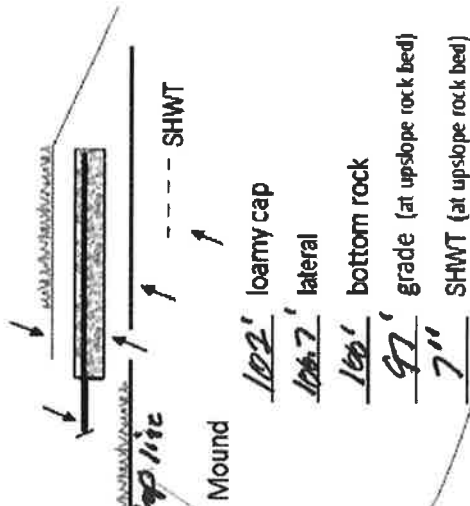
Next to 324/3 435th Ln Palisade MN 56469

- 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 set 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 Effluent filter & alarm req'd
  
- Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.  
Yes \_\_\_\_\_ effluent filter & alarm
- Dose tank risers and piping (water tight, insulated, proper depth, drainback)  
mfg \_\_\_\_\_ 533 gallons
- dose pump \_\_\_\_\_ 18 gpm 18 head VERIFY PUMP CURVE 2.7 min ON 5.1 hr OFF
- float setting drop 3.9 inches at 12.7 gpi "DESIGNED" 3.0 inches approx float tether length  
49.0 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 36 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)
- Absorption Sand beyond rock 11.3 upslope 14.0 downslope
- Bermed topsoil beyond rockbed 14 upslope 16 sideslope 17 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 Power Meter Post North Property line  
 Nail on Poplar Tree SE of House Elv = 100'

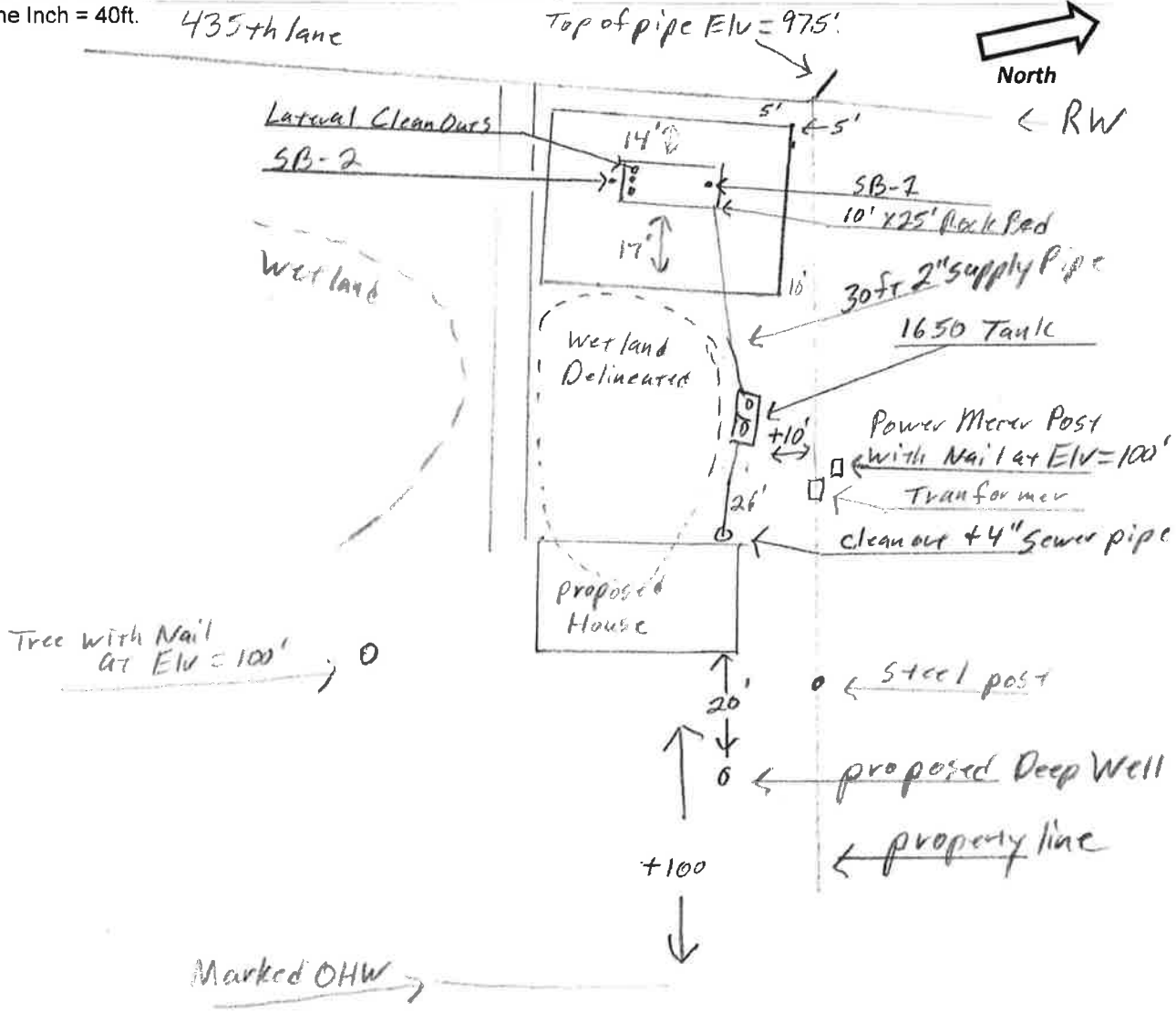
(Grade elevations are existing. If a different final grade is desired it should be shown and described here.)



Sewer pipe	Septic Tank	Septic Tank (# applicable)	Pump Tank
Proposed - exiting house			
Existing 96.1' Grade	96.5' Grade	___ Grade	96.5' Grade
Estimated 96' Pipe	95.5' inlet Estimated	___ inlet	95.2' inlet
	91.5' Tank bottom	___ Tank bottom	91.5' Tank bottom

# { Design Drawing }

Property Owner: John Wolney      Date: 10/14/19      Designer's Initials: JB  
 Parcel ID. Number: 08-0-027107      Address: Next to 32475 435th Ln Palisade MN 56469  
 one Inch = 40ft.      435th lane      Top of pipe Elevation = 975'



Nail on Power Meter Post North Prop. Line at Elevation = 100'  
 Water Elevation Where Becky marked OHW = 95.1' approx. = Elevation 1214'

	Surface/ SHWT	Nail on Post = Bench Mark 100'		Existing Grade	
Soil Bore 1	96.9'7"	Bench Mark	100'	Upslope Edge Rockbed	Elevation = 97'
Soil Bore 2	96.7'7"	Ground Elevation	BM	Bottom of Rockbed	Elevation = 100'
Soil Bore 3		Ground Elevation	Tank	Top of Washed Sand	Elevation = 100'
	Ground at Proposed house	96.1'	NE Corner	New Tank Grade	Elevation = 96.5'

- |   |   |   |
|---|---|---|
| Please show all that apply ( Existing )<br>Wells within 100ft. Of Drain field.<br>Water lines within 10 ft. of Drain field.<br>Drain field Areas: | Please Draw to Scale with North to Top or Left Side of Page:<br>Disturbed/Compacted Areas<br>Component Location<br>OHW ordinary high water<br>Lot Easements | Access Route for Tank Maintenance<br>Property Lines<br>Structures<br>Setbacks |
|---|---|---|

## Mound Design Notes - Aitkin county

Property Owner: John Wolney Date: 10/14/19

Site Address: Next to 32475 435th Ln Palisade MN 56469 PID: 08-0-027107

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

- 1 This is a type III mound , ( Soil Separation 7" to Mottles ) sized for a 2 bedroom system.
- 2 Proposed deep well location is +20ft. on lake side of cabin. No Existing well on property.
- 3 Aitkin Co. Lowest floor Elv. = 1218' or approx. Elv.= 99.1' Designer use Aitkin Co. GIS map for Elv. Comparison.  
Recommended that owner gets Elevation Survey done for lowest floor of building.  
There may be buried power lines near RW and along North Property line to transformer.
- 4 Owner will plumb cabin for gravity flow from NW side of cabin, install clean-out near cabin.  
Elevation of sewer pipe outlet not set, designer used approx. 96' as sewer pipe at house.  
If possible owner should raise grade between house and tank so tank can be higher.
- 5 Lot is Flat, install 1650 Jacobson compartment tank low enough for drainback from mound.  
Install effluent filter in septic tank outlet. Install alarm on Effluent filter. Insulate tank tops.  
Approx.. Inlet Elv.= 95.5', Gun Lake Elv. = 95.1 on 10/14/2019. Order tank with water proofing.  
Install approx. 2 ft. of cover soil over tank to keep it from floating.
- 6 The berm slopes are at 3:1 to make the mound fit in the area between RW and Wetland Delineation.
- 7 Elevation contour of rock bed upslope edge is 97' . North and West berms will be approx. 5 ft. from property line.  
The area size of the rock bed is 10' x 25' . Absorption area is 25' x 35.3'.  
Sand absorption area is 11.3 ft. up slope + 10 ft. rockbed + 13.4' downslope = approx. 35.3 ft. wide sand base.  
Berms are 14ft. Upslope, 17ft. Down slope, 10ft. Rock bed = approx. 41ft. Wide.  
Overall mound size is approx. 41' wide x 57' long and approx. 5' high.
- 8 The bench mark is the nail on the power meter post near North property line, BM = Elv. 100'.  
There is a nail at Elv.= 100', on a poplar tree SE of proposed house location.  
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.
- 10 The Jacobson 1650 tank will be gravity flow from dwelling. Install the pump for 7 demand doses per day. approx. 49 gallons per dose, 3.9 inches of tank level. Install alarm at 3 inches from pump on level.  
Install all manholes, inspection pipes and clean-outs to Elv. 99.1' or above. ( Recommend min. 4" above finished grade)  
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 clean-outs at far end of laterals.  
**Drill 1/4" perf holes spaced 3 ft. on center.**  
Install inspection pipe to bottom of rock bed, secure in rock bed and raise to above final grade.
- 11 Installer will pressure test and squirt height laterals when finished.
- 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.

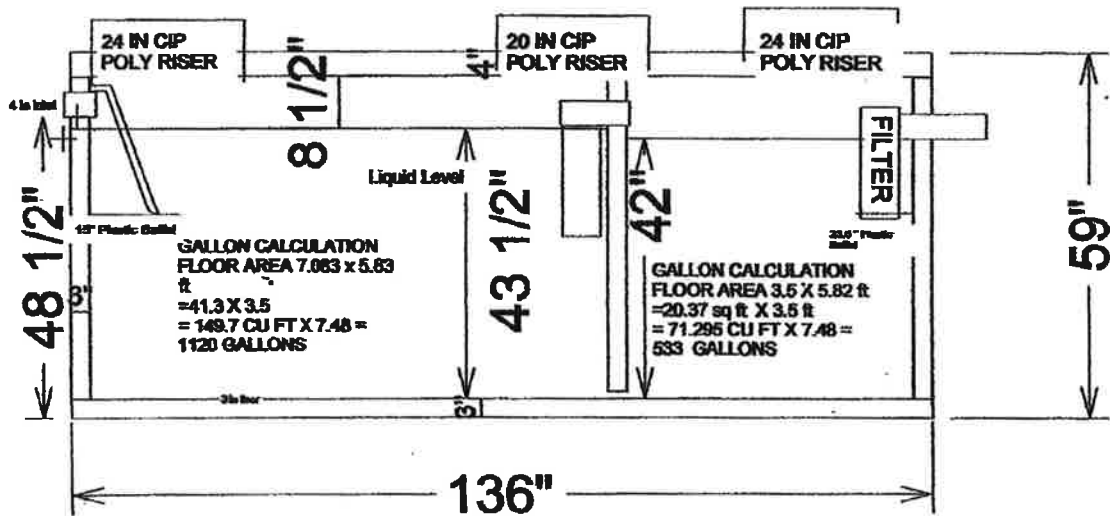
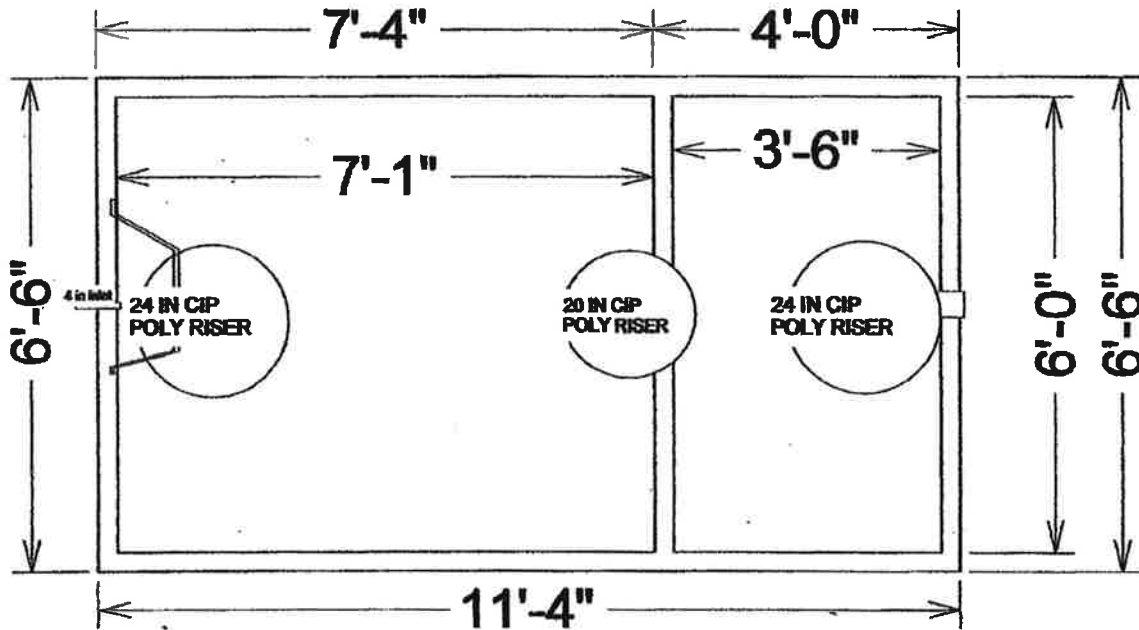
  
Designer Signature

Brummer Septic LLC.  
Design Company

L-1347  
License#

# 1650 Gallon 2 Compartment Septic Tank

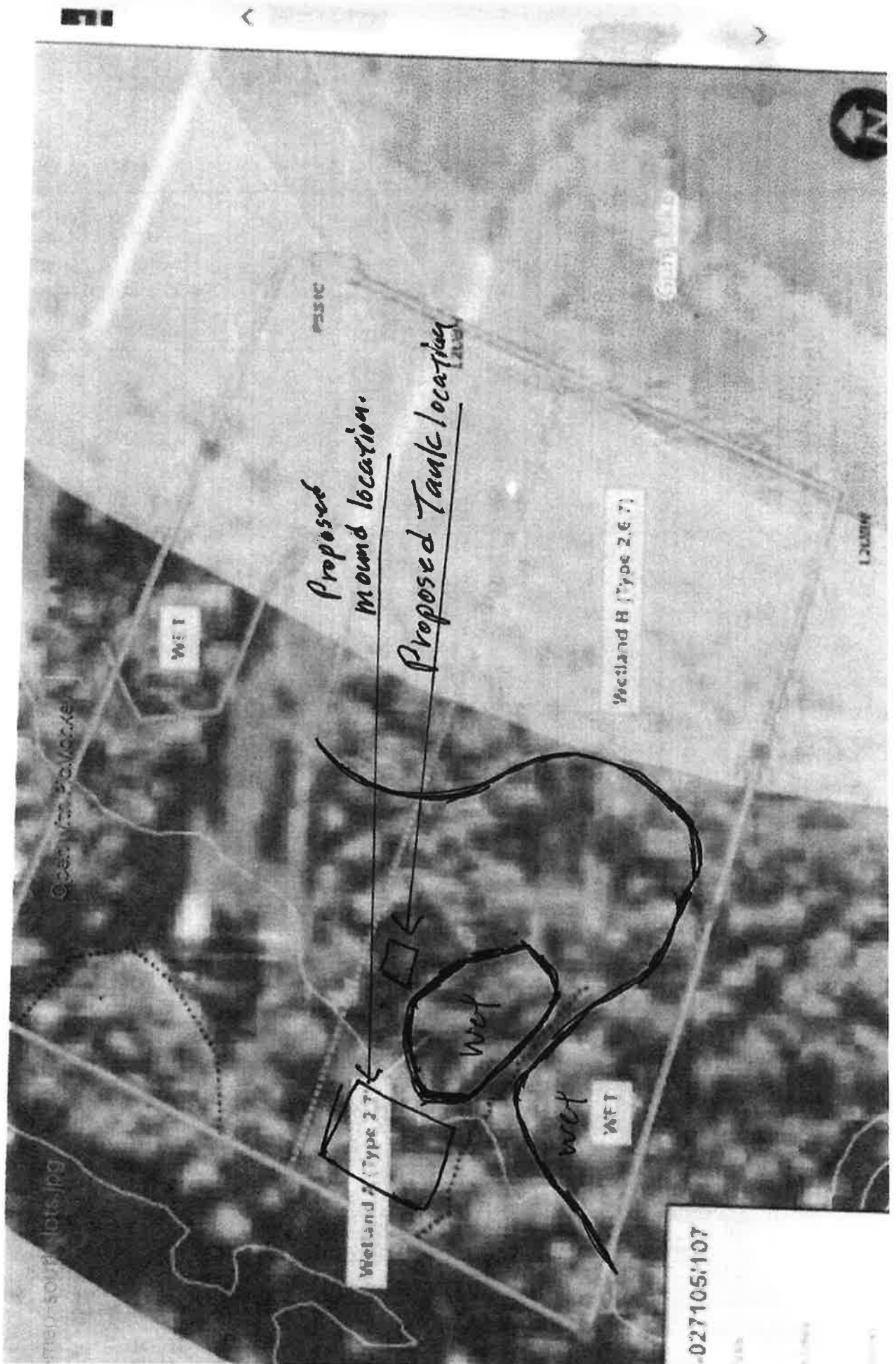
## TOP VIEW



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

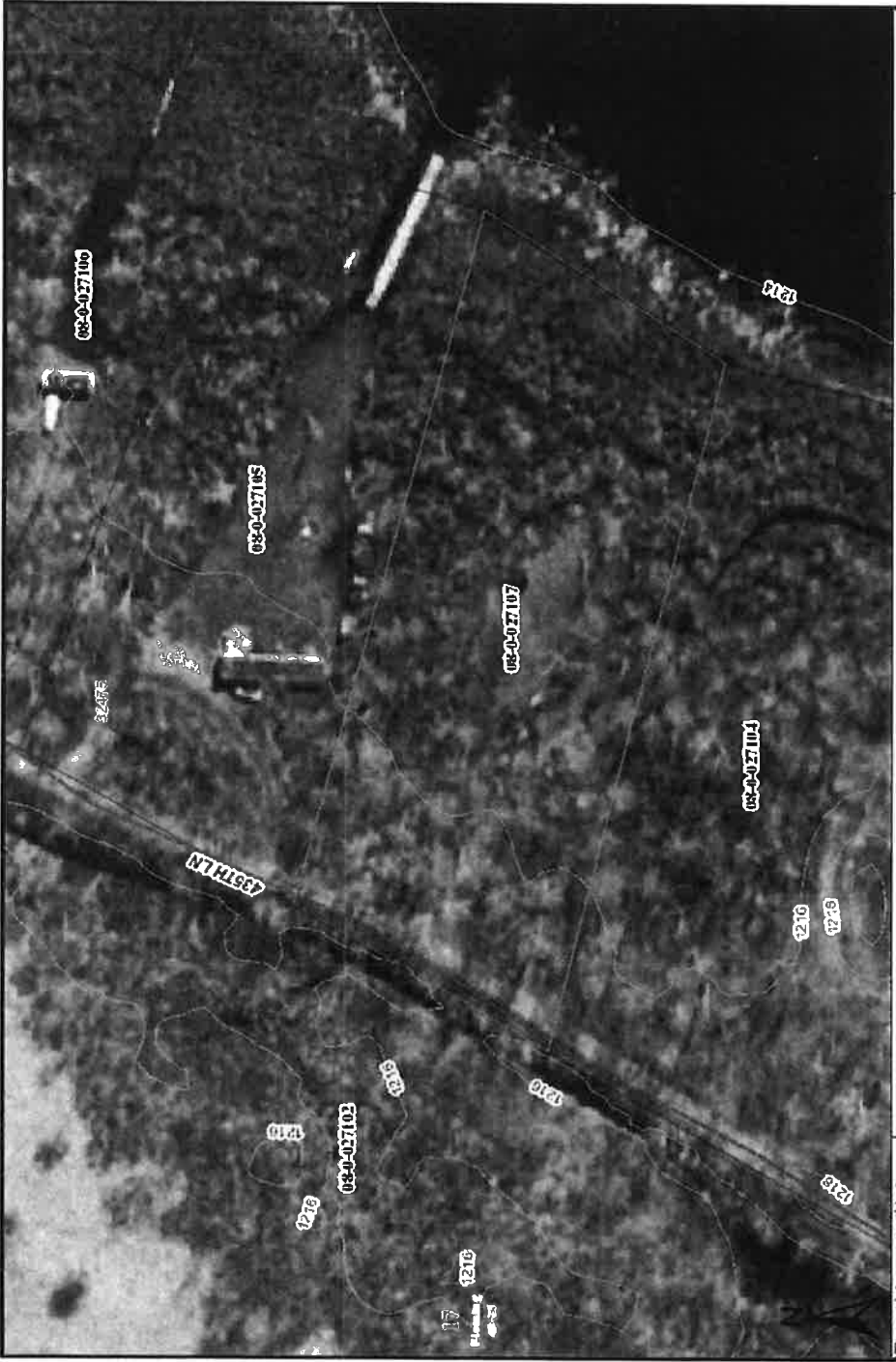
## SIDE VIEW

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



LAKE NAME	OHW	100 YR FLOOD ELEV	HIGHEST KNOWN H2O LEVEL	HIGHEST RECORDED H2O LEVEL	LOWEST FLOOR ELEVATION
Esquagamah-0147	1233.7 - 1929	1236.9 FEMA	See PID52-1-045300	1234.88 > 6-6-43	1237.9
Farm Island-0159	1255.5 - 1912	1257.5 DNR		1257.25 > 7-11-12	1258.5
Fleming-0105	1216.4 - 1929			1218.35 > 5-28-12	1221.35
Flowage-0061	1216.56 - 1929	1223.9			1224.9
French-0104	1211.6 - 1929		1213.8 > 1-8-81	1213.49 > 6-20-05	1216.8
Gun-0099	1214.4 - 1929		1215.0 > 1-8-81	1214.87 > 6-1-12	1218
Hammal-0161	1240.4 - 1929		1240.8	1240.45 > 8-1-12	1243.8
Hanging Kettle-0170	1227.5 - 1912	1230.8 CoHwy		1230.52 > 6-19-43	1231.8
Hanson-0132	1230.0 - 1929			1230.68 > 7-13-10	1233.68
Hay-0059	1267.6 - 1929			1268.51 > 5-1-91	1271.51
Hickory-0179	1255.0 - 1912	1256.7 DNR		1255.73 > 6-22-94	1257.7
Hill-0142	1270.9 - 1929	1275.6		1273.61 > 4-27-82	1276.6
Horseshoe (Shamrock)-0034	1224.7 - 1929	1225.4 FIS	1226.2 > 4-01	1225.49 > 4-26-01	1226.4
Horseshoe (Hazelton)-0154	1258.2 - 1988			1258.36 > 6-9-10	1261.36
Jenkins-0100	1222.9 - 1929		1223.5 > 12-30-85	1223.4 > 5-6-09	1226.5
Johnson-0131	1222.9 - 1929		1223.8 > 4-19-83	1222.85 > 4-19-83	1226.8
Lily-0088	1219.3 - 1929	1224.0 CoHwy		1218.83 > 1-16-96	1225
Little Ball Bluff-0057	1245.4 - 1929	1247.3 DNR	1246.6 > 8-11-98	1246.25 > 10-21-07	1248.3
Little Pine (Farm Island)-0176	1255.5 - 1912	1257.0 DNR		1256.78 > 6-28-12	1258
Lone-0125	1264.6 - 1912			1265.06 > 8-16-73	1268.06
Long (Glen)-0089	1219.4 - 1929	1224.0 CoHwy		1220.38 > 9-13-10	1225
Long (Fleming)-0101	1245.1 - 1929			1245.33 > 7-6-93	1248.33
Mille Lacs-48-0002	1252.8 - 1929	1253.6 FIS	1253.6	1253.43 > 8-22-72	1254.6
LAKE NAME	OHW	100 YR FLOOD ELEV	HIGHEST KNOWN H2O LEVEL	HIGHEST RECORDED H2O LEVEL	LOWEST FLOOR ELEVATION





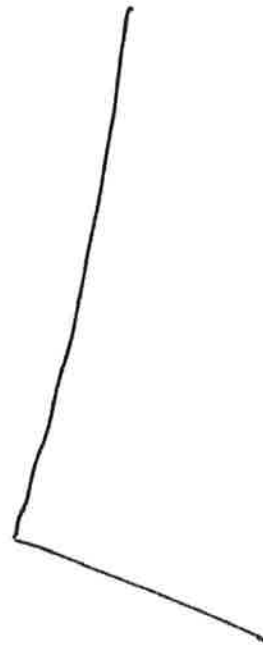
These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

**Wolney**

Aitkin County

Date: 10/13/2013

0 40 80 ft 1 inch = 105 feet







# Detailed Parcel Report

Parcel Number: 08-0-027107

## General Information

Township/City: FLEMING TWP  
 Taxpayer Name: WOLNEY, JOHN R  
 Taxpayer Address: 6956 LAKEVIEW DR  
 LINO LAKES MN 55014 *Palisa de Mn.*  
 Property Address:  
 Township: 48 Lake Number: 1009900  
 Range: 25 Lake Name: GUN LAKE  
 Section: 17 Acres: 1.30  
 Green Acres: No School District: 1.00  
 Plat:  
 Brief Legal Description: PT GOVT LOT 2 (TRACT C)

## Tax Information

Class Code 1: Rural Vacant Land  
 Class Code 2: Unclassified  
 Class Code 3: Unclassified  
 Homestead: Non Homestead  
 Assessment Year: 2019

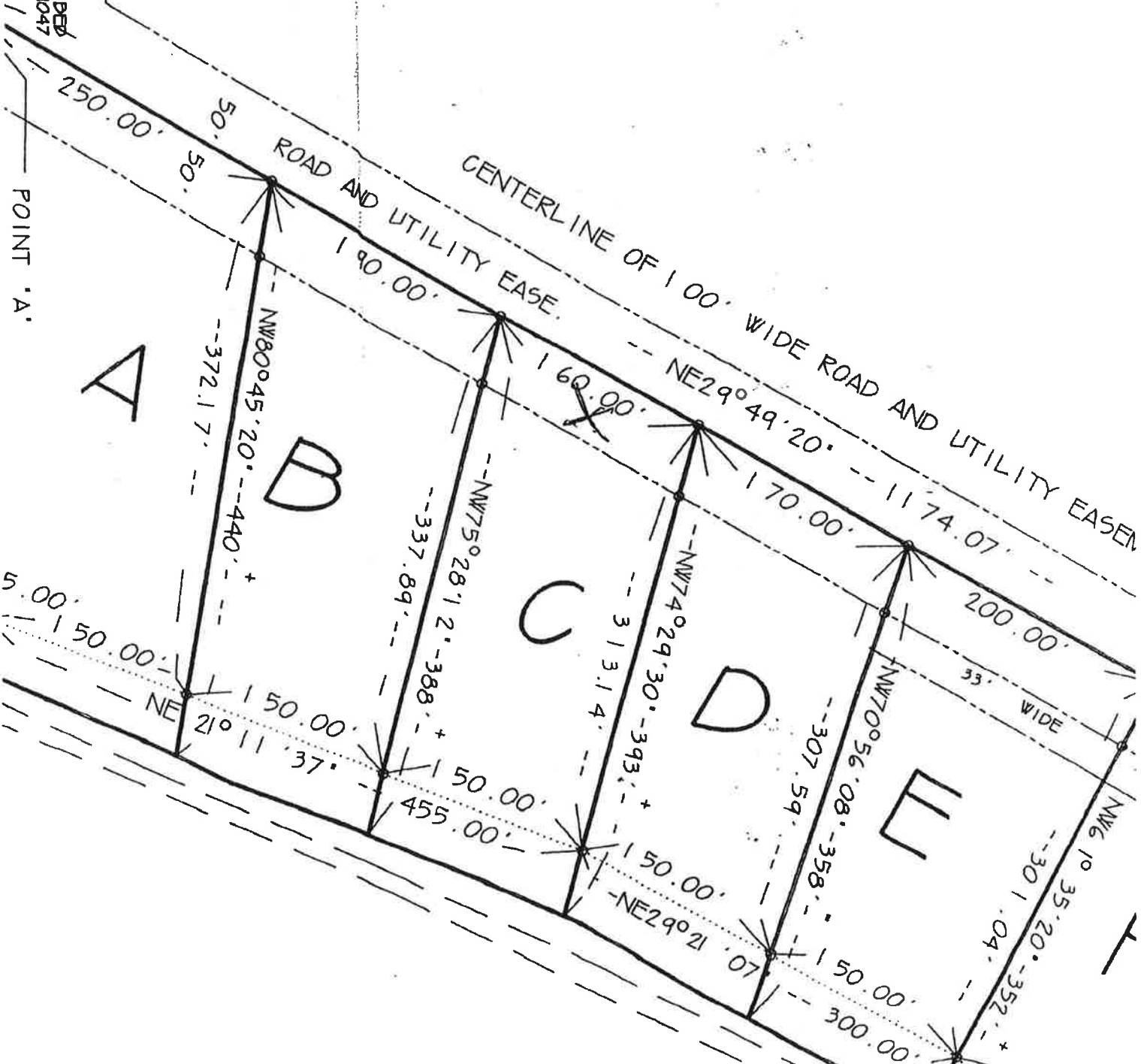
Estimated Land Value:	\$27,800.00
Estimated Building Value:	\$100.00
Estimated Total Value:	<u>\$27,900.00</u>
Prior Year Total Taxable Value:	\$27,900.00
Current Year Net Tax (Specials Not Included):	\$196.00
Total Special Assessments:	\$0.00
**Current Year Balance Not Including Penalty:	\$98.00
Delinquent 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.**

FLEMING TOWNSHIP ROAD

EASEMENT AS DESCRIBED  
IN DOCUMENT NO. 279047



Soil Map—Aitkin County, Minnesota  
(Wainey)



Soil map may not be valid for use.

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



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

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres In AOI	Percent of AOI
759	Waukenabo fine sandy loam	0.2	100.0%
<b>Totals for Area of Interest</b>		<b>0.2</b>	<b>100.0%</b>



## Aitkin County, Minnesota

### 759—Waukenabo fine sandy loam

#### Map Unit Setting

*National map unit symbol:* gjjn  
*Elevation:* 980 to 1,310 feet  
*Mean annual precipitation:* 20 to 27 inches  
*Mean annual air temperature:* 37 to 41 degrees F  
*Frost-free period:* 95 to 105 days  
*Farmland classification:* Prime farmland if drained

#### Map Unit Composition

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

#### Description of Waukenabo

##### Setting

*Landform:* Swales on lake plains  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Parent material:* Sandy and silty glaciolacustrine deposits

##### Typical profile

*A - 0 to 6 inches:* fine sandy loam  
*Eg1,Eg2 - 6 to 15 inches:* loamy sand  
*Btg1,Btg2 - 15 to 28 inches:* sandy loam  
*Bkg - 28 to 30 inches:* very fine sandy loam  
*Cg1,Cg2 - 30 to 80 inches:* stratified fine sand to silt loam

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Poorly 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:* About 6 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 30 percent  
*Available water storage in profile:* Moderate (about 8.5 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 4w  
*Hydrologic Soil Group:* B/D  
*Forage suitability group:* Level Swale, Acid (G088XN005MN)  
*Hydric soil rating:* Yes

**Minor Components**

**Sage and similar soils**

*Percent of map unit:* 8 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

**Cowhorn and similar soils**

*Percent of map unit:* 7 percent

*Hydric soil rating:* No

**Data Source Information**

Soil Survey Area: Aitkin County, Minnesota

Survey Area Data: Version 20, Sep 16, 2019

# Subsurface Sewage Treatment System Management Plan

Property Owner: John Wolney Phone: 612-963-6192 Date: 10/14/2019  
Mailing Address: 6956 Lakeview DR City: Lino Lakes MN Zip: 55014  
Site Address: Next to 32475 435th Ln. City: Palisade MN Zip: 56469

This management plan will identify the operation and maintenance activities necessary to ensure long-term performance of your septic system. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic service provider.

System Designer: check every 12 months.  
Local Government: check every 12 months.  
State Requirement: check every 36 months.

*(State requirements are based on MN Rules Chapter 7080.2450, Subp. 2 & 3)*

**My System needs to be checked every 12 months.**

### Homeowner Management Tasks

*Leaks* – Check (look, listen) for leaks in toilets and dripping faucets. Repair leaks promptly.

*Surfacing sewage* – Regularly check for wet or spongy soil around your soil treatment area.

Owner ---> *Effluent filter* – Inspect and clean twice a year or more.

Owner ---> *Alarms* – Alarm signals when there is a problem. Contact a service provider any time an alarm signals.

Owner ---> *Event counter or water meter* – Record your water use.

-recommend meter readings be conducted (circle one: DAILY WEEKLY **MONTHLY**)

### Professional Management Tasks

- Check to make sure tank is not leaking
- Check and clean the in-tank effluent filter
- Check the sludge/scum layer levels in all septic tanks
- Recommend if tank should be pumped
- Check inlet and outlet baffles
- Check the drainfield effluent levels in the rock layer
- Check the pump and alarm system functions
- Check wiring for corrosion and function
- Check dissolved oxygen and effluent temperature in tank
- Provide homeowner with list of results and any action to be taken
- Flush and clean laterals if cleanouts exist

"I understand it is my responsibility to properly operate and maintain the sewage treatment system on this property, utilizing the Management Plan. If requirements in the Management Plan are not met, I will promptly notify the permitting authority and take necessary corrective actions. If I have a new system, I agree to adequately protect the reserve area for future use as a soil treatment system."

Property Owner Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Designer Signature: Jeff Brummer Date: 10/17/2019

**See Reverse Side for Management Log**

## Maintenance Log

Activity	Date Accomplished									
<b><i>Check frequently:</i></b>										
Leaks: check for plumbing leaks										
Soil treatment area check for surfacing										
Lint filter: check, clean if needed										
Effluent screen: if owner-maintained										
Water usage rate (monitor frequency _____)										
<b><i>Check annually:</i></b>										
Caps: inspect, replace if needed										
Sludge & Scum/Pump										
Inlet & Outlet baffles										
Drainfield effluent leaks										
Pump, alarm, wiring										
Flush & clean laterals if cleanouts exists										
Other: _____										
Other: _____										

**Notes:** Follow Operating permit requirements. Pump septic & pump tanks at least once every three years.  
Check & Clean Effluent filter at least twice a year. Check all alarms & pumps at least once a year.  
Mow Mound area at least once a year to keep trees and brush from growing in mound area.  
No Traffic on mound area, No Snowmobiles, No ATV's, No Parking.

Mitigation/corrective action plan: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_