Becker County Planning & Zoning
915 Lake Ave
Detroit Lakes, MN 56501
(218) 846-7314
www.co.becker.mn.us

Certificate of Compliance
Inspection Report - Permit #: SS2025-2365

Owner & Property Information

Owner Name:	KURT JANKOWSKI
Mailing Address:	KURT JANKOWSKI 1523 14 1/2 ST S FARGO ND 58103
Parcel #:	280159000
Secondary Parcel #:	

Site Address:	23309 BASS LAKE RD
Township - Sec/Twp/Rng:	SHELL LAKE - 25/140/038
Legal Description:	25-140-38 PT GOVT LOT 6, PT SE1/4 SW1/4: BEG NW COR LOT 12 BLK 1 THE TIMBERS, S 221.47', SE 64.93', SW 24.41' TO CTR RD, N AL CTR RD 408.2' NE 69.20', ELY 315.80' TO BASS LK, SL AL LK 98.86', W 248. TO POB. PT LOT 12 THE TIMBERS: BEG NW COR LOT 12, S 49', NE 224.89', W 220' TO POB. (.12AC) LESS 0.12AC (PT 28-313).
Designer:	Roisum, LLC, L4095 (Trevor Roisum)
Installer:	OTHER – Not listed (please add in next field and we will add to our list)

Inspector Verified Specifications

Insp- Effluent Screen Installed:	No
Insp- Alarm Required:	Yes
Insp- Lift Pump in System:	Yes
Insp- Number of Bedrooms:	2

Insp- Tank Nbr/Size:	0/EXISTING /COMPLIANT
Insp- Drainfield Type:	Mound
Insp- Drainfield Size:	10x25 rock bed
Insp- Soil Verification:	#1:SEE ATTACHED #2:N/A #3:N/A

Inspector Verified Setbacks

Insp- Tank Dist to Road	EXISTING
Insp- Tank Dist to Nearest Prop Line	EXISTING
Insp- Tank Dist to Nearest Structure	EXISTING
Insp- Tank Dist to Well	EXISTING
Insp- Tank Dist to OHW	EXISTING
Insp- Tank Dist to Pond/Wetland	EXISTING
Insp- Tank Dist to Pressure Line	

Insp- Drainfield Dist to Road	10+
Insp- Drainfield Dist to Nearest Prop Line	10+
Insp- Drainfield Dist to Nearest Structure	20+
Insp- Drainfield Dist to Well	50+
Insp- Drainfield Dist to OHW	150
Insp- Drainfield Dist to Pond/Wetland	NA
Insp- Drainfield Dist to Pressure Line	

Certificate of Compliance

(Yes) Certificate is hereby granted based upon the application, addendum from, plans, specifications and all other supporting data. With proper maintenance, this system can be expected to function satisfactory, however this is not a guarantee.

Certification Date: 07/01/2025

Zoning Office Signature:

Jeff Rusness - ISTS Inspector

*** Certificate of Compliance is not valid unless signed by a Registered Qualified Employee ***

Field Review Form

Permit # SS2025-2365

Property and Owner

Owner: **KURT JANKOWSKI**	Parcel Number: **280159000**
Site Address: **23309 BASS LAKE RD**	Secondary Parcel:

Home Information

Does the structure contain any of the following elements?	Designer submitted	Inspector verified
	Garbage disposal: No Dishwasher: Grinder pump: Lift pump in bsmt:	Garbage disposal? Y (N) Dishwasher? (Y) N Grinder pump? Y (N) Lift pump in basement? Y (N)
Number of bedrooms: **2**	Review - Number of bedrooms: 2	
Effluent screen	Effluent screen installed? Y (N) Mfr:	
Alarm: **Yes** Type: **PED WITH ALARM AND COUNTER**	Review - Alarm? (Y) N Type & Mfr: EXISTING	
Lift pump in system: **Yes**	Review - Lift pump in system? (Y) N Mfr: EXISTING	

Component Information

Tank size: **1500/2**	Review - Tank nbr: EXISTING Size: Mfr: Compliant
Drainfield type: **Mound**	Review - Drainfield type: mound
Drainfield size: Full size - **250** Reduced/warr. size -	Review - Drainfield status: none / (installed) / next spring Review - Drainfield size: 10 X 25 Rock Bed
Absorption area size: **6**	Review - Absorption area size:
Chamber type/num: Trench sqft/chamber -	Review - Chamber type: N/A Num: Review - Trench sqft/chamber:
Drainfield rock depth: **6**	Review - Rock depth: 6"

Soil Verification

Vertical separation verified See Attached	Boring #1: Boring #2: Boring #3:

Setback Verification

	Designer submitted		Inspector verified	
Distance to...	Tank	Drainfield	Tank	Drainfield
Road	60 existing	20	EXISTING	10
Nearest prop line	50 existing	18		10
Nearest structure	10 existing	106		20
Well	80 existing	120		100+
OHW		150		150+
Pond/Wetland	existing	NA		200+
Pressure line				

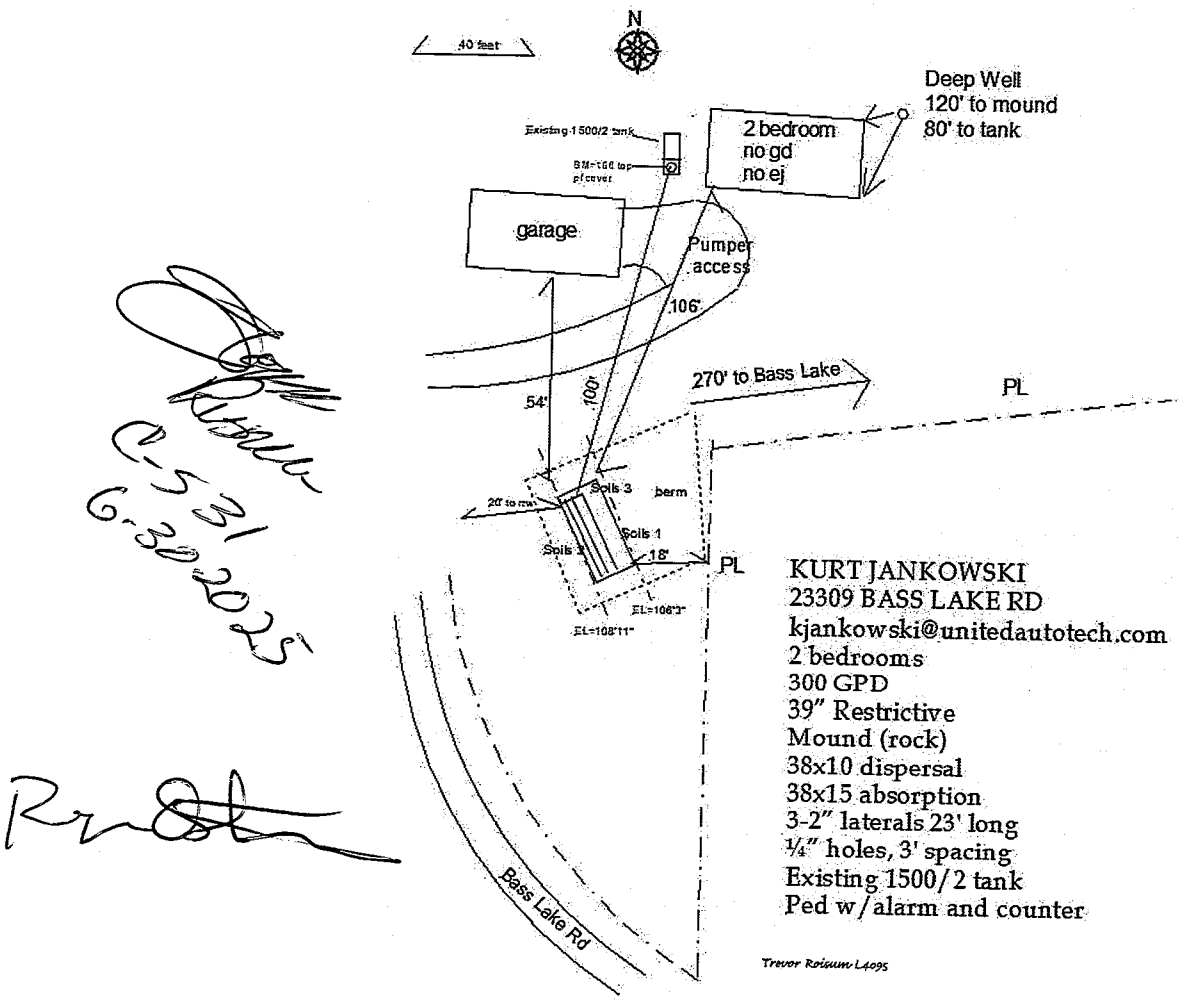
Date System Installed: 6-30-2025 Installer: RYAN OSTERMAN EXC. Inspector:

Roisum LLC
Septic Design
& Inspection

Trevor Roisum
218-849-8921
trevor.roisum@gmail.com

Roisum LLC
19368 Co Hwy 24
Erhard, MN 56534

KURT JANKOWSKI
23309 BASS LAKE RD
kjankowski@unitedautotech.com
2 bedrooms
300 GPD
39″ Restrictive
Mound (rock)
38x10 dispersal
38x15 absorption
3-2″ laterals 23′ long
¼″ holes, 3′ spacing
Existing 1500/2 tank
Ped w/alarm and counter



C-531
6-30-2025

UNIVERSITY OF MINNESOTA
ONSITE SEWAGE TREATMENT PROGRAM

Design Summary Page

MINNESOTA POLLUTION CONTROL AGENCY

1. PROJECT INFORMATION

v 04.02.2024

Property Owner/Client:	KURT JANKOWSKI	Project ID:	
Site Address:	23309 BASS LAKE RD	Date:	05/29/25
Email Address:	kjankowski@unitedautotech.com	Phone:	

2. DESIGN FLOW & WASTE STRENGTH

Design Flow: 300 GPD Anticipated Waste Type: Residential

BOD: 170 mg/L TSS: 60 mg/L Oil & Grease: 25 mg/L

Treatment Level: C *Select Treatment Level C for residential septic tank effluent*

3. HOLDING TANK SIZING

Holding Tank Sizing: see 7080.2290

Code Minimum **Holding Tank** Capacity: _____ Gallons with _____ Tanks or Compartments

Recommended **Holding Tank** Capacity: _____ Gallons with _____ Tanks or Compartments

The holding tank(s) will be: _____ *Existing tank reuse requires a tank integrity assessment*

Type of High Level Alarm: _____

(Alarm Set @ 75% tank capacity measured from inlet to bottom)

Comments: _____

4. SEPTIC TANK SIZING

Sizing: See 7080.1930

A. Residential dwellings:

Number of Bedrooms (Residential): 2

Code Minimum **Septic Tank** Capacity: 1000 Gallons with 1 Tanks or Compartments

Recommended **Septic Tank** Capacity: 1000 Gallons with 1 Tanks or Compartments

The septic tank(s) will be: All Existing *Existing tank reuse requires a tank integrity assessment*

Comments: _____

Effluent Screen & Alarm (Y/N): Recommended Model/Type: _____

B. Other Establishments:

Waste received by: _____ _____ GPD x _____ Days Hyd. Retention Time

7080 Minimum **Septic Tank** Capacity: _____ Gallons with _____ Tanks or Compartments

Designed **Septic Tank** Capacity: _____ Gallons with _____ Tanks or Compartments

The septic tank(s) will be: _____ *Existing tank reuse requires a tank integrity assessment*

Comments: _____

Effluent Screen & Alarm (Y/N): _____ Model/Type: _____

*** Other Establishments Require Department of Labor and Industry Approval and Inspection for Building Sewer ***

University of Minnesota Onsite Sewage Treatment Program

Design Summary Page

MINNESOTA POLLUTION CONTROL AGENCY

5. PUMP TANK SIZING *Sizing: see 7080.2100*

Soil Treatment Dosing Tank				Other Component Dosing Tank:			
Pump Tank Capacity (7080 Minimum):	500 Gal			Pump Tank Capacity (7080 Minimum):	Gal		
Pump Tank Capacity (Designed):	500 Gal			Pump Tank Capacity (Designed):	Gal		
Pump Req:	18.0 GPM	Total Head	22.2 ft	Pump Req:	GPM	Total Head	ft
Supply Pipe Dia.	2.00 in	Dose Vol:	60.0 gal	Supply Pipe Dia.	in	Dose Vol:	Gal

* Flow measurement device must be incorporated for any system with a pump *

6. SYSTEM AND DISTRIBUTION TYPE

Project ID:

Soil Treatment Type:	Mound	Distribution Type:	Pressure Distribution-Level
Elevation Benchmark:	100.00 ft	Benchmark Location:	top of cover on existing tank
MPCA System Type:	Type I	Distribution Media:	Rock
Type III/IV/V Details:			

7. SITE EVALUATION SUMMARY:

Describe Limiting Condition: Redoximorphic Features/Saturated Soils

Layers with >35% Rock Fragments? (yes/no) No If yes, describe below: % rock and layer thickness, amount of soil credit and any additional information for addressing the rock fragments in this design.

Note:

	Depth		Depth		Elevation	
Limiting Condition:	36.0	inches	3.00	ft	105.90	ft
Minimum Req'd Separation:	36	inches	3.00	ft		
Distribution Media Bottom*:	0	inches	0.00	ft	Elevation 109.90	ft

Elevations are critical for system compliance.

,"Media Bottom Elevation OK",

*This is the maximum depth to the bottom of the distribution media for required separation. Negative Depth (ft) requires a mound.

Designed Distribution Bottom Elevation: ft Mound Minimum Sand Depth: 12 inches

A. Soil Texture: Medium Sandy Loam

B. Soil Hyd. Loading Rate: 0.78 GPD/ft^2 C: Percolation Rate: MPI

D. Contour Loading Rate: 12.0 Note:

E. Measured Land Slope: 18.0 % Note:

Comments:

8. SOIL TREATMENT AREA DESIGN SUMMARY

Trench:

Dispersal Area	sq.ft	Sidewall Depth	in	Trench Width	ft
Total Lineal Feet	ft	No. of Trenches		Code Max. Trench Depth	in
Contour Loading Rate	ft	Minimum Length	ft	Designed Trench Depth	in

Bed:

Dispersal Area	sq.ft	Sidewall Depth	in	Maximum Bed Depth	in
Bed Width	ft	Bed Length	ft	Designed Bed Depth	in

University of Minnesota Onsite Sewage Treatment Program

Design Summary Page

MINNESOTA POLLUTION CONTROL AGENCY

Project ID:

Mound:

Dispersal Area	250.0	sq.ft	Bed Length	25.0	ft	Bed Width	10.0	ft
Absorption Width	15.0	ft	Clean Sand Lift	1.0	ft	Berm Width (0-1%)		ft
Upslope Berm Width	6.4	ft	Downslope Berm	30.5	ft	Endslope Berm Width	13.8	ft
Total System Length	52.6	ft	System Width	46.9	ft	Contour Loading Rate	12.0	gal/ft

At-Grade:

Dispersal Area		sq.ft	Bed Length		ft	Bed Width		ft
Upslope Berm		ft	Downslope Berm		ft	Finished Height		ft
System Length		ft	Endslope Berm		ft	System Width		ft

Level & Equal Pressure Distribution Soil Treatment Area

No. of Laterals	3		Lateral Diameter	2.00	in	Lateral Spacing	2.5	ft
Perforation Spacing	3.0	ft	Perforation Diameter	1/4	in	Drainback Volume	17.0	gal
Min Dose Volume	46.9	gal	Max Dose Volume	75.0	gal	Total Dosing Volume	77.0	gal

Non-Level and Unequal Pressure Distribution Soil Treatment Area

	Elevation (ft)	Pipe Size (in)	Pipe Volume (gal/ft)	Pipe Length (ft)	Perf Size (in)	Spacing (ft)	Spacing (in)
Lateral 1							
Lateral 2							
Lateral 3							
Lateral 4							
Lateral 5							
Lateral 6							

Minimum Dose Volume: gal

Maximum Dose Volume: gal

Total Dosing Volume: gal

9. Organic Loading and Additional Info for HSW or Type IV/V Design - See Organic Loading tab

Organic Loading to Soil Treatment (Based on Waste Strength Data and Organic Loading Design)

A. Organic Loading Based on: B. Minumum required area sq.ft

Technology Strength Reduction (Tretment Level or HSW)

A. Starting Waste Strength Treatment desinged to meet:

Pretreatment Technology: *Must Meet or Exceed Target Level

Model: Units:

Disinfection Technology: *Required for Levels A & B

Model: Units:

10. Comments/Special Design Considerations:

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

Trevor Roisum	Trevor Roisum L4095	4095	5/29/2025
(Designer)	(Signature)	(License #)	(Date)

University of Minnesota Onsite Sewage Treatment Program

Mound Design Worksheet
≥1% Slope

MINNESOTA POLLUTION CONTROL AGENCY

1. SYSTEM SIZING: Project ID: v 04.02.2024

A. Design Flow:	300	GPD
B. Soil Loading Rate:	0.78	GPD/sqft
C. Depth to Limiting Condition	3.0	ft
D. Percent Land Slope:	18.0	%
E. Media (Sand) Loading Rate:	1.2	GPD/sqft
F. Mound Absorption Ratio:	1.50	

Table I
MOUND CONTOUR LOADING RATES:

Measured Perc Rate	← OR →	Texture - derived mound absorption ratio		Contour Loading Rate:
≤ 60mpi		1.0, 1.3, 2.0, 2.4, 2.6	→	≤12
61-120 mpi	← OR →	5.0	→	≤12
≥ 120 mpi*		>5.0*	→	≤6*

TABLE IXa
LOADING RATES FOR DETERMINING BOTTOM ABSORPTION AREA AND ABSORPTION RATIOS USING PERCOLATION TESTS

Percolation Rate (MPI)	Treatment Level C		Treatment Level A, A-2, B,	
	Absorption Area Loading Rate (gpd/ft²)	Mound Absorption Ratio	Absorption Area Loading Rate (gpd/ft²)	Mound Absorption Ratio
<0.1	-	1	-	1
0.1 to 5	1.2	1	1.6	1
0.1 to 5 (fine sand and loamy fine sand)	0.6	2	1	1.6
6 to 15	0.78	1.5	1	1.6
16 to 30	0.6	2	0.78	2
31 to 45	0.5	2.4	0.78	2
46 to 60	0.45	2.6	0.6	2.6
61 to 120	-	5	0.3	5.3
>120	-	-	-	-

*Systems with these values are not Type I systems. Contour Loading Rate (linear loading rate) is a recommended value.

2. DISPERSAL MEDIA SIZING

A. Hydraulic Absorption Required Bottom Area: Design Flow (1A) ÷ Design Media Loading Rate(1E)

300 GPD ÷ 1.20 GPD/sqft = 250.0 sq.ft

Optional Upsizing of Dispersal Media Area

B. Larger Bed Area Size or Organic Sizing of Bed Area *[see organic loading sheet(2G)]* _____ sq.ft

C. Designed Dispersal Media Area: 250.0 sq.ft *Larger of 2A or 2B*

D. Enter Dispersal Bed Width: 10.0 ft *Can not exceed 10 feet*

E. Calculate Contour Loading Rate: Bed Width(2D) X Design Media Loading Rate(1E)

10.0 ft X 1.2 GPD/sqft = 12.0 gal/ft *Can not exceed Table 1*

F. Calculate Minimum Dispersal Bed Length: Dispersal Bed Area(2C) ÷ Bed Width(2D)

250 sqft ÷ 10.0 ft = 25.0 ft

If a larger dispersal media Length is desired, enter Length(ft): 25 ft

3. ABSORPTION AREA SIZING

A. Calculate Absorption Width: Bed Width(2D) X Mound Absorption Ratio(1F)

10.0 ft X 1.5 = 15.0 ft

B. For slopes >1%, the Absorption Width is measured downhill from the upslope edge of the Bed.

Calculate Downslope Absorption Width: Absorption Width(3A) - Bed Width(2D)

15.0 ft - 10.0 ft = 5.0 ft

4. DISTRIBUTION MEDIA:

Project ID:

Select Dispersal Media: Rock — Enter Either 4A or 4B

A. Rock Depth Below Distribution Pipe

6 in

B. Registered Media

Registered Media Depth in

Check registered product information for specific application details and design

Specific Media Comments:

5. MOUND SIZING

Project ID:

A. Clean Sand Lift: Required Separation - Depth to Limiting Condition = Clean Sand Lift (1 ft minimum)

3.00 ft - 3.00 ft = 1.00 ft Design Sand Lift (optional): 1 ft

B. Upslope Height: Clean Sand Lift(5A) + Depth of Media(4AorB) +Depth to Cover Pipe+ Depth of Cover (1 ft)

1.00 ft + 0.50 ft + 0.30 ft + 1.00 ft = 2.80 ft

Land Slope %		0	1	2	3	4	5	6	7	8	9	10	11	12
Upslope Berm Ratio	3:1	3.00	2.91	2.83	2.75	2.68	2.61	2.54	2.48	2.42	2.36	2.31	2.26	2.21
	4:1	4.00	3.85	3.70	3.57	3.45	3.33	3.23	3.12	3.03	2.94	2.86	2.78	2.70

C. Select Upslope Berm Multiplier (based on land slope): 2.29

D. Calculate Upslope Berm Width: Multiplier (5C) X Upslope Mound Height (5B)

2.29 X 2.80 ft = 6.41 ft

E. Calculate Drop in Elevation Under Bed: Bed Width(2D) X Land Slope(1D) ÷ 100 = Drop (ft)

10.00 ft X 18.0 % ÷ 100 = 1.80 ft

F. Calculate Downslope Mound Height: Upslope Height(5B) + Drop in Elevation(5E)

2.80 ft + 1.80 ft = 4.60 ft

Land Slope %		0	1	2	3	4	5	6	7	8	9	10	11	12
Downslope Berm Ratio	3:1	3.00	3.09	3.19	3.30	3.41	3.53	3.66	3.80	3.95	4.11	4.29	4.48	4.69
	4:1	4.00	4.17	4.35	4.54	4.76	5.00	5.26	5.56	5.88	6.25	6.67	7.14	7.69

G. Select Downslope Berm Multiplier (based on land slope): 6.63

H. Calculate Downslope Berm Width: Downslope Multiplier(5G) X Downslope Height (5F)

6.63 x 4.60 ft = 30.50 ft

I. Calculate Minimum Berm to Cover Absorption Area: Downslope Absorption Width(3B) + 4 feet

5.00 ft + 4.00 ft = 9.00 ft

J. Design Downslope Berm = greater of 5H and 5I: 30.50 ft

K. Select Endslope Berm Multiplier: 3.0 *(usually 3.0 or 4.0)*

L. Calculate Endslope Berm Width = Endslope Berm Multiplier(5K) X Downslope Mound Height(5F)

3.00 X 4.6 ft = 13.80 ft

M. Calculate Mound Width: Upslope Berm Width(5D) + Bed Width(2D) + Downslope Berm Width(5J)

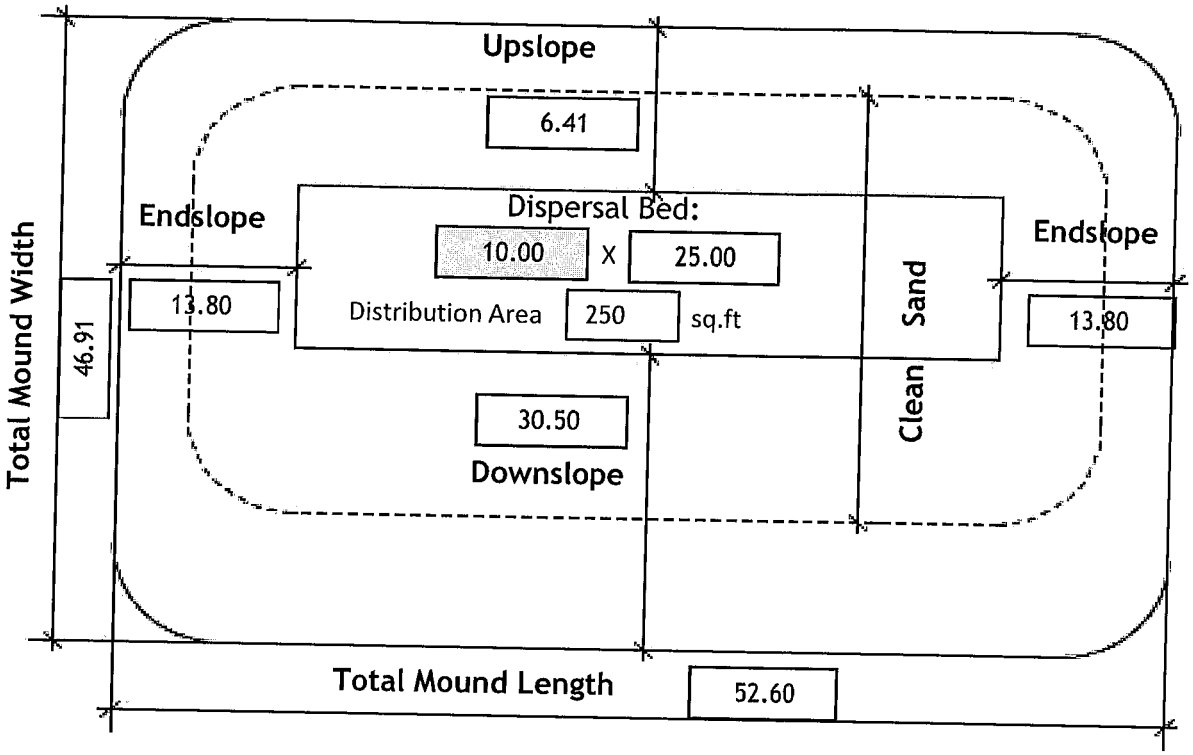
6.41 ft + 10.00 ft + 30.50 ft = 46.91 ft

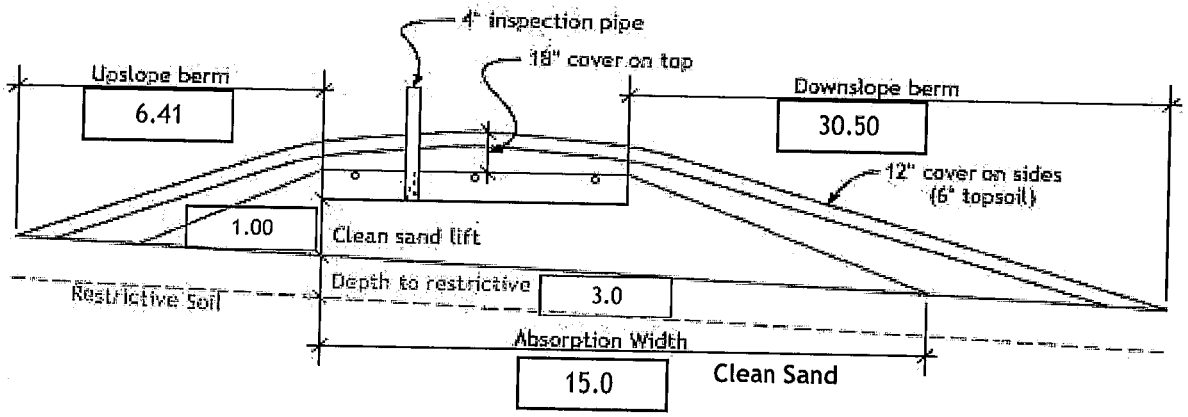
N. Calculate Mound Length: Endslope Berm Width (5L) + Bed Length(2F) + Endslope Berm Width(5L)

13.80 ft + 25.00 ft + 13.80 ft = 52.60 ft

6. MOUND DIMENSIONS (Feet)

Project ID:





Elevation to Benchmark

Required Separation: 36.0 (in)

Elevation Limiting Layer: 105.90 ft

Distribution Media: Rock

Elevation required Separation: 108.90 ft

Media Depth *Below Pipe*: 6 (in)

Elevation Distribution Media Bottom: ft

Manifold Connection: end

Lateral Pipe Diameter: 2.00 (in)

Perforation Size: 1/4 (in)

Perforation Spacing: 36.0 (in)

If Split and Non-Level Pressure Distribution Used: See Non-Level Pressure Distribution Form

Comments:

University of Minnesota Onsite Sewage Treatment Program

Estimated Mound Materials Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Mound to be constructed to dimensions in design. This is an estimate of materials needed.
Individual construction practices may vary quantities.

Project ID:

v 04.02.2024

A. Rock *Volume* : (Rock Below Pipe + Rock to cover pipe (*pipe outside dia + ~2 inch*)) X *Bed Length* X *Bed Width* = *Volume*

(6 in + 3.0 in) ÷ 12 X 25.0 ft X 10.0 ft = 187.5 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 187.5 cu.ft ÷ 27 = 6.9 cu.yd

Add 30% for constructability: 6.9 cu.yd X 1.3 = 9.0 cu.yd

B. Calculate *Clean Sand Volume:*

Volume Under Rock bed : *Average Sand Depth* x *Media Width* x *Media Length* = cubic feet

1.9 ft X 10.0 ft X 25 ft = 475 cu.ft

For a Mound on a slope from 0-1%

Volume from Length = ((Upslope Mound Height - 1) X Absorption Width Beyond Bed X Media Bed Length)

ft - 1) X X ft =

Volume from Width = ((Upslope Mound Height - 1) X Absorption Width Beyond Bed X Media Bed Width)

ft - 1) X X ft =

Total Clean Sand Volume : *Volume from Length* + *Volume from Width* + *Volume Under Media*

cu.ft + cu.ft + cu.ft = cu.ft

For a Mound on a slope greater than 1%

Upslope Volume : ((*Upslope Mound Height - 1*) x 3 x *Bed Length*) ÷ 2 = cubic feet

((2.8 ft - 1) X 3.0 ft X 25.0) ÷ 2 = 67.5 cu.ft

Downslope Volume : ((*Downslope Height - 1)* x Downslope Absorption Width x *Media Length*) ÷ 2 = cubic feet

((4.6 ft - 1) X 5.0 ft X 25.0) ÷ 2 = 225.0 cu.ft

Endslope Volume : (*Downslope Mound Height - 1)* x 3 x *Media Width* = cubic feet

(4.6 ft - 1) X 3.0 ft X 10.0 ft = 108.0 cu.ft

Total Clean Sand Volume : *Upslope Volume* + *Downslope Volume* + *Endslope Volume* + *Volume Under Media*

67.5 cu.ft + 225.0 cu.ft + 108.0 cu.ft + 475.0 cu.ft = 875.5 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 875.5 cu.ft ÷ 27 = 32.4 cu.yd

Add 30% for constructability: 32.4 cu.yd X 1.3 = 42.2 cu.yd

C. Calculate *Sandy Berm Volume:*

Total Berm Volume (approx.) : ((Avg. Mound Height - 0.5 ft topsoil) x Mound Width x Mound Length) ÷ 2

(3.7 - 0.5)ft X 46.9 ft X 52.6) ÷ 2 = 3947.9 cu.ft

Total Mound Volume - Clean Sand volume -Rock Volume = cubic feet

3947.9 cu.ft - 875.5 cu.ft - 187.5 cu.ft = 2884.9 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 2884.9 cu.ft ÷ 27 = 106.8 cu.yd

Add 30% for constructability: 106.8 yd^3 x 1.3 = 138.9 cu.yd

D. Calculate *Topsoil Material Volume: Total Mound Width X Total Mound Length X .5 ft*

46.9 ft X 52.6 ft X 0.5 ft = 1233.7 cu.ft

Divide cu.ft by 27 cu.ft/cu.yd to calculate cubic yards: 1233.7 cu.ft ÷ 27 = 45.7 cu.yd

Add 30% for constructability: 45.7 cu.yd X 1.3 = 59.4 cu.yd

University of Minnesota Onsite Sewage Treatment Program

Pressure Distribution Design Worksheet

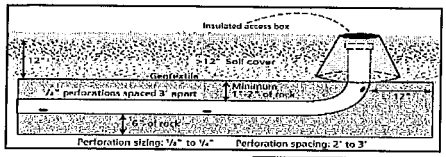
MINNESOTA POLLUTION CONTROL AGENCY

Project ID: v 04.02.2024

1. Media Bed Width: 10.0 ft
2. Media Bed Length: 25.0 ft
3. Minimum Number of Laterals in system/zone = Rounded up number of [(Media Bed Width(1.) - 4) ÷ 3] + 1.

   [(10 - 4) ÷ 3] + 1 = 3 laterals *Does not apply to at-grades*
4. Designer Selected *Number of Laterals*: 3 laterals

   Cannot be less than line 2 (Except in at-grades)



5. Lateral spacing in Bed; *Must be greater than 1 foot and no more than 2 feet from Edge*: 2.50 ft
6. *Length of Laterals* = Media Bed Length(2.) - 2 Feet.

   25.0 - 2ft = 23.0 ft *Perforation can not be closer then 1 foot from edge.*
7. Select *Perforation Spacing*: 3.0 ft
8. Determine the *Number of Perforation Spaces*. Divide the *Length of Laterals(6.)* by the *Perforation Spacing* (7.) and round down to the nearest whole number.

   Number of Perforation Spaces = 23.0 ft ÷ 3.0 ft = 7 Spaces
9. *Number of Perforations per Lateral* is equal to 1.0 plus the *Number of Perforation Spaces(8.)*. Check table below to verify the number of perforations per lateral guarantees less than a 10% discharge variation. The value is double with a center manifold.

   Perforations Per Lateral = 7 Spaces + 1 = 8 Perfs. Per Lateral
10. Select *Perforation Diameter Size:* 1/4 in 0.25
11. *Select Lateral Diameter (See Table)*: 2.00 in
12. Select *Manifold Connection* (End or Center): end

If Center Manifold Connection the max number of perfs per lateral in the table can be doubled.

Maximum Number of Perforations Per Lateral to Guarantee <10% Discharge Variation

¼ Inch Perforations

Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3
2	10	13	18	30	60
2½	8	12	16	28	54
3	8	12	16	25	52

7/32 Inch Perforations

Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3
2	11	16	21	34	68
2½	10	14	20	32	64
3	9	14	19	30	60

3/16 Inch Perforations

Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3
2	12	18	26	46	87
2½	12	17	24	40	80
3	12	16	22	37	75

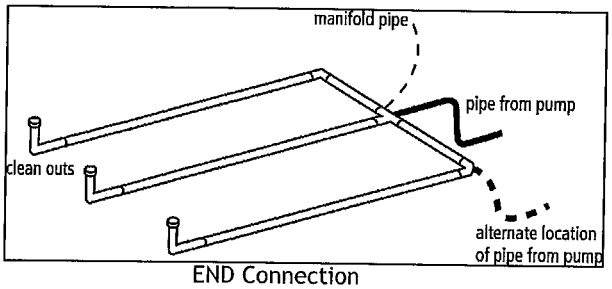
1/8 Inch Perforations

Perforation Spacing (Feet)	Pipe Diameter (Inches)				
	1	1¼	1½	2	3
2	21	33	44	74	149
2½	20	30	41	69	135
3	20	29	38	64	128

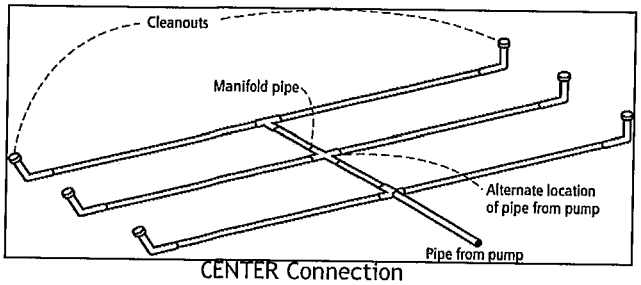
University of Minnesota Onsite Sewage Treatment Program

Pressure Distribution Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY



END Connection



CENTER Connection

Perf Per Lateral: 8

Perf Per Lateral Equal Split: 4 | 4

OPTIONAL Perf Per Lateral Non-Equal Split*: ____ | ____

* must not exceed maximum number perfs per lateral in table

End Feed Lateral Min Diameter: ____

Center Feed Lateral Min Diameter: ____

13. *Total Number of Perforations* equals the *Number of Perforations per Lateral (9.)* multiplied by the *Number of Perforated Laterals.(4.)*

8 Perf. Per Lat. X 3 Number of Perf. Lat. = 24 Total Number of Perf.

14. Calculate the *Square Feet per Perforation.*

Recommended value is 4-11 ft2 per perforation, Does not apply to At-Grades

a. *Bed Area* = Bed Width (ft)(1.) X Bed Length (ft)(2.)

10.00 ft X 25.00 ft = 250 sq.ft

b. *Square Foot per Perforation = Bed Area (14a)* ÷ by *Total Number of Perfs (13)*

250 sqft ÷ 24 perf = 10 sq.ft/perf

15. Select *Minimum Average Head*: 1.0 ft

16. Select *Perforation Discharge* based on Table: 0.74 GPM per Perf

17. *Flow Rate = Total Number of Perfs(13.) X Perforation Discharge(16.)*

24 Perfs X 0.74 GPM per Perforation = 18.0 GPM

18. *Volume of Liquid Per Foot of Distribution Piping (Table II)*: 0.170 Gallons/ft

19. *Volume of Distribution Piping = Number of Perforated Laterals(4.) X Length of Laterals(6.) X Volume of Liquid Per Foot of Distribution Piping (18.)*

3 X 23.0 ft X 0.170 gal/ft = 11.7 Gallons

20. Minimum Delivered Volume = Volume of Distribution Piping (19.) X 4

11.7 gal X 4 = 46.9 Gallons

21. Maximum Delivered Volume = Design flow x 25%

300 gpd X 25% = 75.0 Gallons

22. Minimum Delivered vs Maximum Delivered evaluation: Volume ratio correct

Perforation Discharge (GPM)				
Head (ft)	Perforation Diameter			
	1/8	3/16	7/32	1/4
1.0[a]	0.18	0.41	0.56	0.74
1.5	0.22	0.51	0.69	0.9
2.0[b]	0.26	0.59	0.80	1.04
2.5	0.29	0.65	0.89	1.17
3.0	0.32	0.72	0.98	1.28
4.0	0.37	0.83	1.13	1.47
5.0[c]	0.41	0.93	1.26	1.65
1 foot	Dwellings with 3/16 inch to 1/4 inch perforations			
2 feet	Dwellings with 1/8 inch perforations			
	Other establishments and MSTS with 3/16 inch to 1/4 inch perforations			
5 feet	Other establishments and MSTS with 1/8 inch perforations			

Table II Volume of Liquid in Pipe	
Pipe Diameter (inches)	Liquid Per Foot (Gallons)
1	0.045
1.25	0.078
1.5	0.110
2	0.170
3	0.380
4	0.661

Comments/Special Design Considerations:

University of Minnesota Onsite Sewage Treatment Program

Basic STA Pump Selection Design Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. PUMP CAPACITY

Project ID:

v 04.02.2024

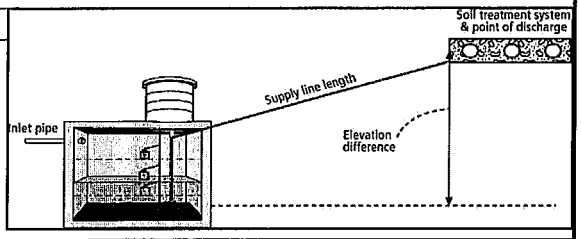
Pumping to Gravity or Pressure Distribution: Pressure

A. If pumping to gravity enter the gallon per minute of the pump: _____ GPM *(10 - 45 gpm)*

B. If pumping to a pressurized distribution system: 18.0 GPM

C. Enter pump description: Demand Dosing

2. HEAD REQUIREMENTS



A. Elevation Difference between pump and point of discharge: 16.0 ft

B. Distribution Head Loss: 5 ft

C. Additional Head Loss*: _____ ft (due to special equipment, etc.)

* Common additional head loss: gate valve = 1 ft each, globe valve = 1.5 ft each, splitter valve = see manufacturers details

Distribution Head Loss	
Gravity Distribution = 0ft	
Pressure Distribution based on Minimum Average Head Value on Pressure Distribution Worksheet:	
Minimum Average Head	**Distribution Head Loss**
1ft	5ft
2ft	6ft
5ft	10ft

D. 1. Supply Pipe Diameter: 2.0 in

2. Supply Pipe Length: 100 ft

E. **Friction Loss in Plastic Pipe per 100ft** from Table I:

Friction Loss = 0.9 ft per 100ft of pipe

Table I.Friction Loss in Plastic Pipe per 100ft

Flow Rate (GPM)	Pipe Diameter (inches)			
	1	1.25	1.5	2
10	9.1	3.1	1.3	0.3
12	12.8	4.3	1.8	0.4
14	17.0	5.7	2.4	0.6
16	21.8	7.3	3.0	0.7
18		9.1	3.8	0.9
20		11.1	4.6	1.1
25		16.8	6.9	1.7
30		23.5	9.7	2.4
35			12.9	3.2
40			16.5	4.1
45			20.5	5.0
50				6.1
55				7.3
60				8.6
65				10.0
70				11.4
75				13.0
85				16.4
95				20.1

F. Determine *Equivalent Pipe Length* from pump discharge to soil dispersal area discharge point. Estimate by adding 25% to supply pipe length for fitting loss.
Supply Pipe Length X 1.25 = *Equivalent Pipe Length*

100 ft X 1.25 = 125.0 ft

G. Calculate *Supply Friction Loss* by multiplying *Friction Loss Per 100ft(E.)* by the *Equivalent Pipe Length(F.)* and divide by 100.

Supply Friction Loss =

0.9 ft per 100ft X 125.0 ft ÷ 100 = 1.2 ft

H. *Total Head* requirement is the sum of the *Elevation Difference(2A)* + Distribution Head Loss(2B) + Additional Head Loss(2C) + Supply Friction Loss(2G)

16 ft + 5.0 ft + _____ ft + 1.2 ft = 22.2 ft

3. PUMP SELECTION

A pump must be selected to deliver at least **18.0** GPM with at least **22.2** feet of total head.

Comments:

Zoeller 152

ONSITE SEWAGE TREATMENT PROGRAM

STA Dosing Pump Tank Design Worksheet (Demand Dose)

MINNESOTA POLLUTION CONTROL AGENCY

DETERMINE TANK CAPACITY AND DIMENSIONS Project ID: v 04.02.2024

1. A. Design Flow: 300 GPD C. Tank Use: Dosing
   B. Code minimum pump tank capacity: 500 Gal D. Designed pump tank capacity: 500 Gal

2. A. Tank Manufacturer: wippler B. Tank Model: 1500/2
   C. Capacity from manufacturer: 503 Gallons
   D. Liquid depth of tank from manufacturer: 42.0 inches
   E. Gallons per inch from manufacturer: 12.0 Gallons per inch

Note: Design calculations are based on this specific tank. Substituting a different tank model will change the pump float or timer settings. Contact designer if changes are necessary.

DETERMINE DOSING VOLUME

3. Calculate *Volume to Cover Pump* (The inlet of the pump must be at least 4-inches from the bottom of the pump tank & 2 inches of water covering the pump is recommended)

   (Pump and block height + 2 inches) X *Gallons Per Inch* (2E)

   (12 in + 2 inches) X 12.0 Gallons Per Inch = 168 Gallons

4. *Minimum Delivered Volume* = 4 X Volume of Distribution Piping:

   -Item 19 of the Pressure Distribution STA or Item 11 of Non-level STA 46.9 **Gallons (Minimum dose)** 3.91 inches/dose

5. Calculate ***Maximum*** *Pumpout Volume* (25% of Design Flow(1A))

   Design Flow: 300 GPD X 0.25 = 75.0 **Gallons (Maximum dose)** 6.25 inches/dose

6. *Select a pumpout volume that meets both Minimum and Maximum:* 60.0 Gallons

7. Calculate *Doses Per Day* = Design Flow(1A) ÷ *Delivered Volume(6.)*

   300 gpd ÷ 60.0 gal = 5.0 *Doses**

   * Doses need to be equal to or greater than 4

8. Calculate Drainback:

   A. *Diameter of Supply Pipe* = 2 inches

   B. Length of Supply Pipe = 100 feet

   C. *Volume of Liquid Per Lineal Foot of Pipe* = 0.170 Gallons/ft

   D. *Drainback = Length of Supply Pipe(8B) X Volume of Liquid Per Lineal Foot of Pipe(8C)*

   100 ft X 0.170 gal/ft = 17.0 Gallons

9. *Total Dosing Volume = Delivered Volume(6.) + Drainback* (8D)

   60.0 gal + 17.0 gal = 77.0 Gallons

10. Minimum Alarm Volume = Depth of alarm (2 or 3 inches) X gallons per inch of tank(2E)

    3 in X 12.0 gal/in = 36.0 Gallons

11. Reserve Capacity Volume = [Tank Liquid Depth(2D) - Alarm Float Depth(10.)] x gallons per inch of tank(2E)

    [42.0 in - 23.4 in] X 12.0 gal/in = 223.0 Gallons

Volume of Liquid in Pipe	
Pipe Diameter (inches)	Liquid Per Foot (Gallons)
1	0.045
1.25	0.078
1.5	0.110
2	0.170
3	0.380
4	0.661

DEMAND DOSE FLOAT SETTINGS Alarm and Pump are to be wired on separate circuits and inspected by the electrical inspector

12. Calculate *Float Separation Distance* using *Dosing Volume*.

    Total Dosing Volume(9.) ÷ Gallons Per Inch(2E)

    77.0 gal ÷ 12.0 gal/in = 6.42 inches

13. Measuring from bottom of tank:

    A. *Distance to set Pump Off Float* = Pump + block height + 2 inches

    12.0 in + 2 in = 14.0 inches

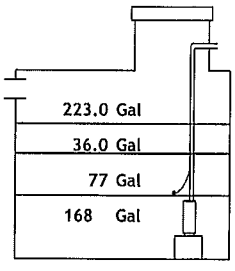
    B. *Distance to set Pump On Float=Distance to Set Pump-Off Float(13A) + Float Separation Distance(12.)*

    14.0 in + 6.4 in = 20.4 inches

    C. *Distance to set Alarm Float = Distance to set Pump-On Float(13B) + Alarm Depth* (2-3 inches)(10.)

    20.4 in + 3.0 in = 23.4 inches

Inches for Dose:	6.4	in
Alarm Depth	23.4	in
Pump On	20.4	in
Pump Off	14.0	in



University of Minnesota Onsite Sewage Treatment Program

Preliminary Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Contact Information

v 04.02.2024

Property Owner/Client:	KURT JANKOWSKI	Date Completed:	
Site Address:	23309 BASS LAKE RD	Project ID:	
Email:	kjankowski@unitedautotech.com	Phone:	
Mailing Address:	1523 14 1/2 ST S FARGO ND 58103	Alt Phone:	
Legal Description:	25-140-38 PT GOVT LOT 6, PT SE1/4 SW1/4: BEG NW COR LOT 12 BLK 1 THE TIMBERS,		
Parcel ID:	280159000	SEC: 25 TWP: 140 RNG: 038	

2. Flow and General System Information

A. Client-Provided Information

Project Type: ☐ New Construction ☐ Replacement ☑ Expansion ☐ Repair

Project Use: ☑ Residential ☐ Other Establishment:

Residential use: # Bedrooms: 2 Dwelling sq.ft.: Unfinished sq.ft.:

Adults: # Children: # Teenagers:

In-home business (Y/N): No If yes, describe:

Water-using devices: *(check all that apply)*

☐ Garbage Disposal/Grinder	☑ Dishwasher	☐ Hot Tub*
☐ Sewage pump in basement	☐ Water Softener*	☐ Sump Pump*
☐ Large Bathtub >40 gallons	☐ Iron Filter*	☐ Self-Cleaning Humidifier*
☑ Clothes Washing Machine	☐ High Eff. Furnace*	☐ Other:

* Clear water source - should not go into system

Additional current or future uses:

Anticipated non-domestic waste:

The above is complete & accurate: *Client signature & date*

B. Designer-determined Flow and Anticipated Waste Strength Information

Attach additional information as necessary.

Design Flow: 300 GPD Anticipated Waste Type: Residential

Maximum Concentration BOD: 170 mg/L TSS 60 mg/L Oil & Grease 25 mg/L

3. Preliminary Site Information

A. Water Supply Wells

#	Description	Mn. ID#	Well Depth (ft.)	Casing Depth (ft.)	Confining Layer	STA Setback	Source
1	deep well						
2							
3							
4							

Additional Well Information:

University of Minnesota Onsite Sewage Treatment Program

Preliminary Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

Site within 200' of noncommunity transient well (Y/N)	No	Yes, source:	
Site within a drinking water supply management area (Y/N)	No	Yes, source:	
Site in Well Head Protection inner wellhead management zone (Y/N)	No	Yes, source:	
Buried water supply pipes within 50 ft of proposed system (Y/N)	No		
B. Site located in a shoreland district/area?	Yes	Yes, name:	Bass #127
Elevation of ordinary high water level:	ft	Source:	
Classification: Lake - Natural Environment	Tank Setback: ft.	STA Setback:	ft.
C. Site located in a floodplain?	No	Yes, Type(s):	N/A
Floodplain designation/elevation (10 Year):	N/A ft	Source:	N/A
Floodplain designation/elevation (100 Year):	N/A ft	Source:	N/A

D. Property Line Id / Source: ☑ Owner ☐ Survey ☑ County GIS ☐ Plat Map ☐ Other:

E. ID distance of relevant setbacks on map: ☐ Water ☐ Easements ☐ Well(s) ☐ Building(s) ☐ Property Lines ☐ OHWL ☐ Other:

4. Preliminary Soil Profile Information From Web Soil Survey (attach map & description)

Map Units: 776c — Slope Range: 8-15 %

List landforms: Hillslopes on moraines

Landform position(s): Back/ Side Slope

Parent materials: Till

Depth to Bedrock/Restrictive Feature: >80 in — Depth to Watertable: >80 in

Map Unit Ratings

Septic Tank Absorption Field- At-grade:	Slightly Limited
Septic Tank Absorption Field- Mound:	Extremely Limited
Septic Tank Absorption Field- Trench:	Slightly Limited

5. Local Government Unit Information

Name of LGU:

LGU Contact:

LGU-specific setbacks:

LGU-specific design requirements:

LGU-specific installation requirements:

Notes:

University of Minnesota Onsite Sewage Treatment Program

Field Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Project Information

v 04.02.2024

Property Owner/Client: KURT JANKOWSKI | Project ID:

Site Address: 23309 BASS LAKE RD | Date Completed: 5/29/2025

2. Utility and Structure Information

Utility Locations Identified ☐ Gopher State One Call # | ☐ Any Private Utilities:

Locate and Verify (*see Site Evaluation map*) ☐ Existing Buildings ☐ Improvements ☐ Easements ☐ Setbacks

3. Site Information

Vegetation type(s): Forest | Landscape position: Back/ Side Slope

Percent slope: 18.0 % | Slope shape: Linear, Linear | Slope direction:

Describe the flooding or run-on potential of site:

Describe the need for Type III or Type IV system:

Note:

Proposed soil treatment area protected? (Y/N): Yes | If yes, describe: staked

4. General Soils Information

Filled, Compacted, Disturbed areas (Y/N): No

If yes, describe:

Soil observations were conducted in the proposed system location (Y/N): Yes

A soil observation in the most limiting area of the proposed system (Y/N): Yes

Number of soil observations: 3 | Soil observation logs attached (Y/N): Yes

Percolation tests performed & attached (Y/N): No

5. Phase I. Reporting Information

	Depth		Elevation		
Limiting Condition*:	36	in	**105.90**	ft	**Most Restrictive Depth Identified from List Below*
Periodically saturated soil:	43	in		ft	Soil Texture: Medium Sandy Loam
Standing water:	na	in		ft	Percolation Rate: min/inch
Bedrock:	na	in		ft	Soil Hyd Loading Rate: 0.78 gpd/sq.ft

Benchmark Elevation: 100.0 ft | Elevations and Benchmark on map? (Y/N): Yes

Benchmark Elevation Location: top of cover on existing tank

Differences between soil survey and field evaluation:

Site evaluation issues / comments:

Anticipated construction issues:

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Septic System Management Plan for Above Grade Systems

The goal of a septic system is to protect human health and the environment by properly treating wastewater before returning it to the environment. Your septic system is designed to kill harmful organisms and remove pollutants before the water is recycled back into our lakes, streams and groundwater.

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 maintainer or service provider. However, it is **YOUR** responsibility to make sure all tasks get accomplished in a timely manner.

The University of Minnesota's *Septic System Owner's Guide* contains additional tips and recommendations designed to extend the effective life of your system and save you money over time.

Proper septic system design, installation, operation and maintenance means safe and clean water!

Property Owner KURT JANKOWSKI	Email
Property Address 23309 BASS LAKE RD	Property ID
System Designer Trevor Roisum	Contact Info
System Installer Ryan Osterman	Contact Info
Service Provider/Maintainer	Contact Info
Permitting Authority	Contact Info
Permit #	Date Inspected

Keep this Management Plan with your Septic System Owner's Guide. The Septic System Owner's Guide includes a folder to hold maintenance records including pumping, inspection and evaluation reports. Ask your septic professional to also:

- Attach permit information, designer drawings and as-built of your system, if they are available.
- Keep copies of all pumping records and other maintenance and repair invoices with this document.
- Review this document with your maintenance professional at each visit; discuss any changes in product use, activities, or water-use appliances.

For a copy of the *Septic System Owner's Guide*, visit www.bookstores.umn.edu and search for the word "septic" or call 800-322-8642.

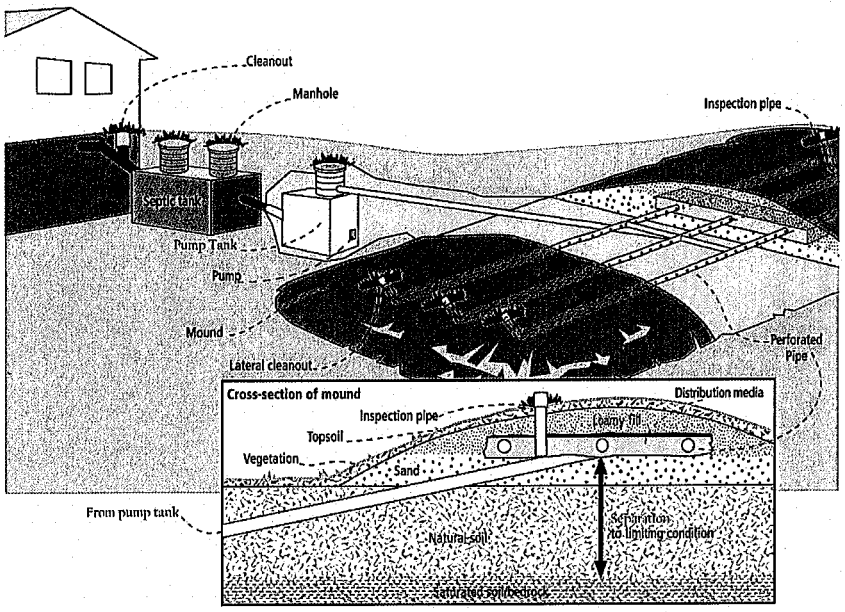
For more information see http://septic.umn.edu

Version: August 2015

UNIVERSITY OF MINNESOTA

Septic System Management Plan for Above Grade Systems

Your Septic System



Septic System Specifics

System Type: (●) I ( ) II ( ) III ( ) IV* ( ) V*

(Based on MN Rules Chapter 7080.2200 – 2400)

**Additional Management Plan required*

☐ System is subject to operating permit*

☐ System uses UV disinfection unit*

Type of advanced treatment unit _____

Dwelling Type

Number of bedrooms: 2

System capacity/ design flow (gpd): 300

Anticipated average daily flow (gpd): _____

Comments _____

Business? : ( ) Y (●) N What type? _____

Well Construction

Well depth (ft): deep well

- ☐ Cased well Casing depth: _____
- ☐ Other (specify): _____

Distance from septic (ft): _____

Is the well on the design drawing? (●) Y ( ) N

Septic Tank

- ☐ First tank *Tank volume:* 1000 *gallons*
  Does tank have two compartments? ( ) Y (●) N
- ☐ Second tank *Tank volume:* _____ *gallons*
- ☐ Tank is constructed of existing 1500/2 cement
- ☐ Effluent screen: (●) Y ( ) N Alarm (●) Y ( ) N

- ☐ Pump Tank 500 *gallons*
- ☐ Effluent Pump *make/model:* _____
  Pump capacity _____ GPM
  TDH _____ Feet of head
- ☐ Alarm location _____

Soil Treatment Area (STA)

Mound/At-Grade area (width x length): 15 ft x 25 ft

Rock bed size (width x length): 10 ft x 25 ft

Location of additional STA: _____

Type of distribution media: _____

- ☑ Inspection ports ☑ Cleanouts
- ☐ Surface water diversions
- ☐ Additional STA not available

Homeowner Management Tasks

These op*eration and maintenance ac*tivities are your responsibility. *Chart on page 6 can help track your activities.*

Your toilet is not a garbage can. Do not flush anything besides human waste and toilet paper. No wet wipes, cigarette butts, disposal diapers, used medicine, feminine products or other trash!

The system and septic tanks needs to be checked every 24 months

Your service provider or pumper/maintainer should evaluate if your tank needs to be pumped more or less often.

Seasonally or several times per year

- *Leaks.* Check (listen, look) for leaks in toilets and dripping faucets. Repair leaks promptly.
- *Soil treatment area.* Regularly check for wet or spongy soil around your soil treatment area. If surfaced sewage or strong odors are not corrected by pumping the tank or fixing broken caps and leaks, call your service professional. *Untreated sewage may make humans and animals sick.* Keep bikes, snowmobiles and other traffic off and control borrowing animals.
- *Alarms.* Alarms signal when there is a problem; contact your service professional any time the alarm signals.
- *Lint filter.* If you have a lint filter, check for lint buildup and clean when necessary. If you do not have one, consider adding one after washing machine.
- *Effluent screen.* If you do not have one, consider having one installed the next time the tank is cleaned along with an alarm.

Annually

- *Water usage rate.* A water meter or another device can be used to monitor your average daily water use. Compare your water usage rate to the design flow of your system (listed on the next page). Contact your septic professional if your average daily flow over the course of a month exceeds 70% of the design flow for your system.
- *Caps.* Make sure that all caps and lids are intact and in place. Inspect for damaged caps at least every fall. Fix or replace damaged caps before winter to help prevent freezing issues.
- *Water conditioning devices.* See Page 5 for a list of devices. When possible, program the recharge frequency based on *water demand (gallons)* rather than *time (days)*. Recharging too frequently may negatively impact your septic system. Consider updating to demand operation if your system currently uses time,
- *Review your water usage rate.* Review the Water Use Appliance chart on Page 5. Discuss any major changes with your service provider or pumper/maintainer.

During each visit by a service provider or pumper/maintainer

- Make sure that your service professional services the tank through the manhole. (NOT though a 4" or 6" diameter inspection port.)
- Ask how full your tank was with sludge and scum to determine if your service interval is appropriate.
- Ask your pumper/maintainer to accomplish the tasks listed on the Professional Tasks on Page 4.

Professional Management Tasks

These are the operation and maintenance activities that a pumper/maintainer performs to help ensure long-term performance of your system. At each visit a written report/record must be provided to homeowner.

Plumbing/Source of Wastewater

- Review the Water Use Appliance Chart on Page 5 with homeowner.
  Discuss any changes in water use and the impact those changes may have on the septic system.
- Review water usage rates (if available) with homeowner.

Septic Tank/Pump Tanks

- *Manhole lid.* A riser is recommended if the lid is not accessible from the ground surface. Insulate the riser cover for frost protection.
- *Liquid level.* Check to make sure the tank is not leaking. The liquid level should be level with the bottom of the outlet pipe. (If the water level is below the bottom of the outlet pipe, the tank may not be watertight. If the water level is higher than the bottom of the outlet pipe of the tank, the effluent screen may need cleaning, or there may be ponding in the soil treatment area.)
- *Inspection pipes.* Replace damaged or missing pipes and caps.
- *Baffles.* Check to make sure they are in place and attached, and that inlet/outlet baffles are clear of buildup or obstructions.
- *Effluent screen.* Check to make sure it is in place; clean per manufacturer recommendation. Recommend retrofitted installation if one is not present.
- *Alarm.* Verify that the alarm works.
- *Scum and sludge.* Measure scum and sludge in each compartment of each septic and pump tank, pump if needed.

Pump

- *Pump and controls.* Check to make sure the pump and controls are operating correctly.
- *Pump vault.* Check to make sure it is in place; clean per manufacturer recommendations.
- *Alarm.* Verify that the alarm works.
- *Drainback.* Check to make sure it is draining properly.
- *Event counter or elapsed time meter.* Check to see if there is an event counter or elapsed time meter for the pump. If there is one or both, calculate the water usage rate and compare to the anticipated use listed on Design and Page 2. Dose Volume: _____ gallons: Pump run time: _____ Minutes

Soil Treatment Area

- *Inspection pipes.* Check to make sure they are properly capped. Replace caps and pipes that are damaged.
- *Surfacing of effluent.* Check for surfacing effluent or other signs of problems.
- *Lateral flushing.* Check lateral distribution; if cleanouts exist, flush and clean at recommended frequency.
- *Vegetation* - Check to see that a good growth of vegetation is covering the system.

All other components – evaluate as listed here:

Water-Use Appliances and Equipment in the Home

Appliance	Impacts on System	Management Tips
Garbage disposal	• Uses additional water. • Adds solids to the tank. • Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.	• Use of a garbage disposal is not recommended. • Minimize garbage disposal use. Compost instead. • To prevent solids from exiting the tank, have your tank pumped more frequently. • Add an effluent screen to your tank.
Washing machine	• Washing several loads on one day uses a lot of water and may overload your system. • Overloading your system may prevent solids from settling out in the tank. Unsettled solids can exit the tank and enter the soil treatment area.	• Choose a front-loader or water-saving top-loader, these units use less water than older models. • Limit the addition of extra solids to your tank by using liquid or easily biodegradable detergents. Limit use of bleach-based detergents and fabric softeners. • Install a lint filter after the washer and an effluent screen to your tank • Wash only full loads and think even – spread your laundry loads throughout the week.
Dishwasher	• Powdered and/or high-phosphorus detergents can negatively impact the performance of your tank and soil treatment area. • New models promote "no scraping". They have a garbage disposal inside.	• Use gel detergents. Powdered detergents may add solids to the tank. • Use detergents that are low or no-phosphorus. • Wash only full loads. • Scrape your dishes anyways to keep undigested solids out of your septic system.
Grinder pump (in home)	• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.	• Expand septic tank capacity by a factor of 1.5. • Include pump monitoring in your maintenance schedule to ensure that it is working properly. • Add an effluent screen.
Large bathtub (whirlpool)	• Large volume of water may overload your system. • Heavy use of bath oils and soaps can impact biological activity in your tank and soil treatment area.	• Avoid using other water-use appliances at the same time. For example, don't wash clothes and take a bath at the same time. • Use oils, soaps, and cleaners in the bath or shower sparingly.
Clean Water Uses	**Impacts on System**	**Management Tips**
High-efficiency furnace	• Drip may result in frozen pipes during cold weather.	• Re-route water directly out of the house. Do not route furnace discharge to your septic system.
Water softener Iron filter Reverse osmosis	• Salt in recharge water may affect system performance. • Recharge water may hydraulically overload the system.	• These sources produce water that is not sewage and should not go into your septic system. • Reroute water from these sources to another outlet, such as a dry well, draintile or old drainfield. • When replacing, consider using a demand-based recharge vs. a time-based recharge. • Check valves to ensure proper operation; have unit serviced per manufacturer directions
Surface drainage Footing drains	• Water from these sources will overload the system and is prohibited from entering septic system.	

UNIVERSITY OF MINNESOTA

Septic System Management Plan for Above Grade Systems

Homeowner Maintenance Log

Track maintenance activities here for easy reference. See list of management tasks on pages 3 and 4.

Activity	Date accomplished									
Check frequently:										
Leaks: check for plumbing leaks*										
Soil treatment area check for surfacing**										
Lint filter: check, clean if needed*										
Effluent screen (if owner-maintained)***										
Alarm**										
Check annually:										
Water usage rate (maximum gpd ____)										
Caps: inspect, replace if needed										
Water use appliances – review use										
Other:										

*Monthly

**Quarterly

***Bi-Annually

Notes: 2 Bedroom

NO GP
NO EJ

Kjankowski@unitedautotech.com
701 866 2817

"As the owner of this SSTS, 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 this 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: Kurt P Jankowski Date

Management Plan Prepared By: Certification #

Permitting Authority:

University of Minnesota
Onsite Sewage Treatment Program

Soil Observation Log

Project ID:

v 04.02.2024

Client:	KURT JANKOWSKI	Location / Address:	23309 BASS LAKE RD

Soil parent material(s): (Check all that apply) ☐ Outwash ☐ Lacustrine ☐ Loess ☑ Till ☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill

Landscape Position:	Back/Side Slope	Slope %:	18.0	Slope shape:	Linear, Linear	Flooding/Run-On potential:	No
Vegetation:	Forest	Soil survey map units:	776c	Surface Elevation-Relative to benchmark:			
Date/Time of Day/Weather Conditions:	5/29/2025	1pm cloudy		Limiting Layer Elevation:			
Observation #/Location:	#1			Observation Type:	Auger		

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)		Mottle Color(s)		Redox Kind(s)	Indicator(s)	Structure		
									Shape	Grade	Consistence
0-3	Medium Sandy Loam	3	10YR	3/2	None		None	None	Blocky	Weak	Friable
3-19	Medium Loamy Sand	10	10YR	4/4	None		None	None	Blocky	Weak	Friable
19-36	Medium Sand	20	10YR	5/4	None		None	None	Single grain	Structureless	Loose
36-43	Medium Sand	15	10YR	4/6	None		None	None	Single grain	Structureless	Loose
43	Medium Sand	15	10YR	6/2	None		None	None	Single grain	Structureless	Loose

Comments: 39" restrictive

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

Trevor Roisum	Trevor Roisum L4095	4095	5/29/2025
(Designer/Inspector)	(Signature)	(License #)	(Date)

Optional Verification: I hereby certify that this soil observation was verified according to Minn. R. 7082.0500 subp. 3 A. The signature below represents an infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal site.

(LGU/Designer/Inspector)	(Signature)	(Cert #)	(Date)

University of Minnesota Onsite Sewage Treatment Program

Soil Observation Log

Project ID:

v 04.02.2024

Client:	KURT JANKOWSKI			Location / Address:	23309 BASS LAKE RD
Soil parent material(s): (Check all that apply)	☐ Outwash	☐ Lacustrine	☐ Loess	☑ Till	☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill
Landscape Position:	Back/Side Slope	Slope %: 18.0	Slope shape:	Linear, Linear	Flooding/Run-On potential: No
Vegetation:	Forest	Soil survey map units:	776c		Surface Elevation-Relative to benchmark:
Date/Time of Day/Weather Conditions:	5/29/2025	1pm cloudy			Limiting Layer Elevation:
Observation #/Location:	#2			Observation Type:	Auger

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure Shape	Structure Grade	Structure Consistence
0-3	Medium Sandy Loam	3	10YR 3/2	None	None	None	Blocky	Weak	Friable
3-19	Medium Loamy Sand	10	10YR 4/4	None	None	None	Blocky	Weak	Friable
19-36	Medium Sand	20	10YR 5/4	None	None	None	Single grain	Structureless	Loose
36-39	Medium Sand	10	10YR 5/4	None	None	None	Single grain	Structureless	Loose
39	Silt Loam	15	10YR 6/2	None	None	None	Single grain	Structureless	Loose

Comments: 39" restrictive

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

Trevor Roisum	Trevor Roisum L4095	4095	5/29/2025
(Designer/Inspector)	(Signature)	(License #)	(Date)

Optional Verification: I hereby certify that this soil observation was verified according to Minn. R. 7082.0500 subp. 3 A. The signature below represents an infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal site.

(LGU/Designer/Inspector)	(Signature)	(Cert #)	(Date)

University of Minnesota
Onsite Sewage Treatment Program

Soil Observation Log

Project ID:

v 04.02.2024

Client:	KURT JANKOWSKI			Location / Address:	23309 BASS LAKE RD
Soil parent material(s): (Check all that apply)	☐ Outwash	☐ Lacustrine	☐ Loess	☑ Till	☐ Alluvium ☐ Bedrock ☐ Organic Matter ☐ Disturbed/Fill
Landscape Position:	Back/Side Slope	Slope %: 18.0	Slope shape:	Linear, Linear	Flooding/Run-On potential: No
Vegetation:	Forest	Soil survey map units:	776c		Surface Elevation-Relative to benchmark:
Date/Time of Day/Weather Conditions:	5/29/2025	1pm cloudy			Limiting Layer Elevation:
Observation #/Location:	#3			Observation Type:	Pit

Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure Shape	Structure Grade	Structure Consistence
0-5	Medium Sandy Loam	3	10YR 3/2	None	None	None	Blocky	Weak	Friable
5-20	Medium Loamy Sand	20	10YR 4/4	None	None	None	Blocky	Weak	Friable
20-33	Medium Sand	20	10YR 5/4	None	None	None	Single grain	Structureless	Loose
33-39	Medium Sand	10	10YR 5/4	None	None	None	Single grain	Structureless	Loose
39	Silt Loam	15	10YR 6/2	None	None	None	Single grain	Structureless	Loose

Comments: 39" restrictive

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

Trevor Roisum	Trevor Roisum L4095	4095	5/29/2025
(Designer/Inspector)	(Signature)	(License #)	(Date)

Optional Verification: I hereby certify that this soil observation was verified according to Minn. R. 7082.0500 subp. 3 A. The signature below represents an infield verification of the periodically saturated soil or bedrock at the proposed soil treatment and dispersal site.

(LGU/Designer/Inspector)	(Signature)	(Cert #)	(Date)