University of Minnesota Onsite Sewage Treatment Program

Preliminary Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

v 04.02.2024

1. Contact Information

Property Owner/Client: Mille Lacs Veterans Park | Date Completed: 6/5/2024

Site Address: 24552 385th AVE, Aitkin MN 56431 | Project ID: 031003

Email: | Phone:

Mailing Address: 4920 Upton AVE S, Minneapolis MN 55410 | Alt Phone:

Legal Description: S 330ft of SW-NE

Parcel ID: 36-0-031003 | SEC: 20 | TWP: 45 | RNG: 26

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: | Dwelling sq.ft.: | Unfinished sq.ft.:

Adults: | # Children: | # Teenagers:

In-home business (Y/N): | 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: Holding Tanks only

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: 1900 GPD | Anticipated Waste Type: Other Est. - At-Risk

Maximum Concentration BOD: mg/L | TSS mg/L | Oil & Grease 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	4" Casing, drilled well						
2							
3							
4							

Additional Well Information:

Field
Evaluation Worksheet

MINNESOTA POLLUTION CONTROL AGENCY

1. Project Information

v 03.15.2023

Property Owner/Client: Mille Lacs Veterans Park | Project ID: 031003

Site Address: 24552 385th AVE, Aitkin MN 56431 | Date Completed:

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): Grass | Landscape position: Manmade

Percent slope: 2 % | Slope shape: Linear, Concave | Slope direction: south

Describe the flooding or run-on potential of site:

Describe the need for Type III or Type IV system:

Note: Design for Holding tanks only

Proposed soil treatment area protected? (Y/N): Yes | If yes, describe: No drive area

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):

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

Number of soil observations: 0 | Soil observation logs attached (Y/N): No

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

5. Phase I. Reporting Information

	Depth		Elevation	
Limiting Condition*:		in		ft
Periodically saturated soil:		in		ft
Standing water:		in		ft
Bedrock:		in		ft
Benchmark Elevation:		ft		

*Most Restrictive Depth Identified from List Below

Soil Texture:

Percolation Rate: min/inch

Soil Hyd Loading Rate: gpd/sq.ft

Elevations and Benchmark on map? (Y/N):

Benchmark Elevation Location: 100 / grade at well house

Differences between soil survey and field evaluation:

Site evaluation issues / comments:

Anticipated construction issues: Application for holding tanks only

University of Minnesota Onsite Sewage Treatment Program

Design Summary Page

Minnesota Pollution Control Agency

1. PROJECT INFORMATION

v 04.02.2024

Property Owner/Client: Mille Lacs Veterans Park
Project ID: 031003
Site Address: 24552 385th AVE, Aitkin MN 56431
Date:
Email Address:
Phone:

2. DESIGN FLOW & WASTE STRENGTH

Design Flow: 1900 GPD
Anticipated Waste Type: Other Est. - At-Risk
BOD: mg/L TSS: mg/L Oil & Grease: 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: 2500 Gallons with 4 Tanks or Compartments
Recommended **Holding Tank** Capacity: 2500 Gallons with 4 Tanks or Compartments
The holding tank(s) will be: All New *Existing tank reuse requires a tank integrity assessment*
Type of High Level Alarm: Mechanical float device
(Alarm Set @ 75% tank capacity measured from inlet to bottom)
Comments: 25 sites total. 2500 gallon tank per 5 sites

4. SEPTIC TANK SIZING *Sizing: See 7080.1930*

A. Residential dwellings:

Number of Bedrooms (Residential):
Code Minimum **Septic Tank** Capacity: Gallons with Tanks or Compartments
Recommended **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:

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

Project ID: 031003

Mound:

Dispersal Area	sq.ft	Bed Length	ft	Bed Width	ft
Absorption Width	ft	Clean Sand Lift	ft	Berm Width (0-1%)	ft
Upslope Berm Width	ft	Downslope Berm	ft	Endslope Berm Width	ft
Total System Length	ft	System Width	ft	Contour Loading Rate	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		Lateral Diameter	in	Lateral Spacing	ft
Perforation Spacing	ft	Perforation Diameter	in	Drainback Volume	gal
Min Dose Volume	gal	Max Dose Volume	gal	Total Dosing Volume	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.

Greg Westerlund	Greg Westerlund	6063	6/5/24
(Designer)	(Signature)	(License #)	(Date)

AITKIN COUNTY Link GIS-Public

GIS

Search by Parcel ID or Address

Parcels: 36-0-031003

- Tax and Sales
- Plat Drawings
- Septic Compliance Inspections
- Permits

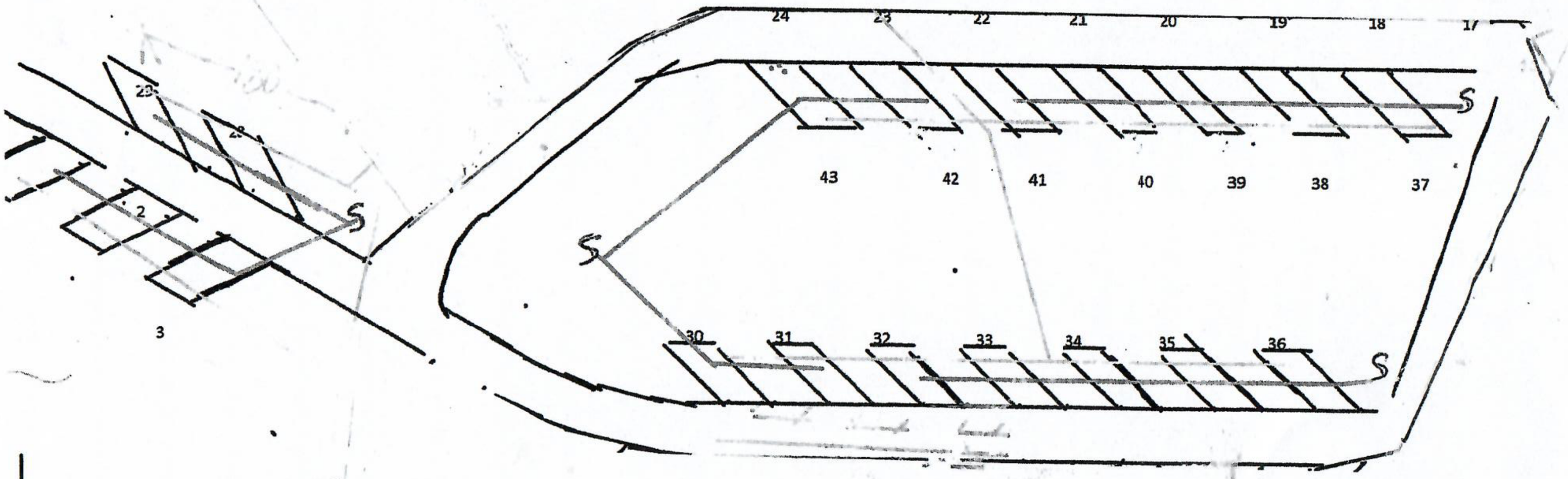
Property ID (PIN):	36-0-031003
Tax District:	WEALTHWOOD TWP
Taxpayer Name:	MILLE LACS VETERANS RV PARK
Taxpayer Address:	4920 UPTON AVE S
Taxpayer Address 2:	MINNEAPOLIS MN 55410
Taxpayer Address 3:	
Taxpayer Address 4:	
Owner Name:	MILLE LACS VETERANS RV PARK
Owner Address:	4920 UPTON AVE S
Owner Address 2:	MINNEAPOLIS MN 55410

Zoom to

36-0-031004
36-0-031102
36-0-031800
36-0-031806
36-0-031802
36-0-031805
36-0-032406
36-0-032401
36-0-032402
36-0-032403
36-0-032404
36-0-032300
36-0-034102
36-0-033200
36-0-033701
36-0-033801
36-0-033702
36-0-034101
36-1-047000
24608
24552
24514
24421
24401
24394
24365
24337
38404
38398
38373
38335
38309
38274
38254
38247
38236
38231
38211
38192
38184
38427
38421
245TH LN
385TH AVE
STATE HWY 18
18
51
20
1:4514
-93.638 46.367 Degrees

MILLE LACS VETERANS RV PARK

24552 385th AVE, Aitkin MN 56431 / Parcel# 36-0-031003



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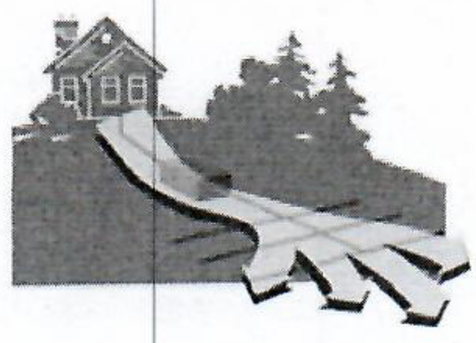

Septic System Management Plan for Holding Tank Systems

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 holding tank system is designed to store your used water before it is recycled back into our lakes, streams and groundwater.

This **management plan** will identify the operation and maintenance activities necessary to ensure compliance with applicable rules and regulations. Some of these activities must be performed by you, the homeowner. Other tasks must be performed by a licensed septic maintainer. 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: Mille Lacs Veterans Park

Property Address: 24552 385th Ave, Aitkin MN 56431 Property ID: 36-0-031003

System Designer: Greg Westerlund License #: 663

System Installer: Westerlund Construction LLC License #: 663

Service Provider/Maintainer: Timber Lakes Septic Phone: 218-927-3175

Permitting Authority: Aitkin County Envronmental Phone: 218-927-7342

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-builts 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*, call 1-800-876-8636 or go to http://shop.extension.umn.edu/

http://septic.umn.edu

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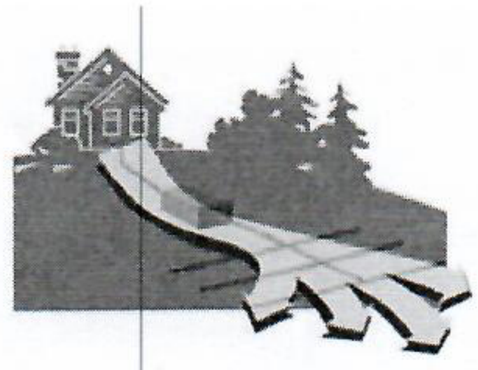
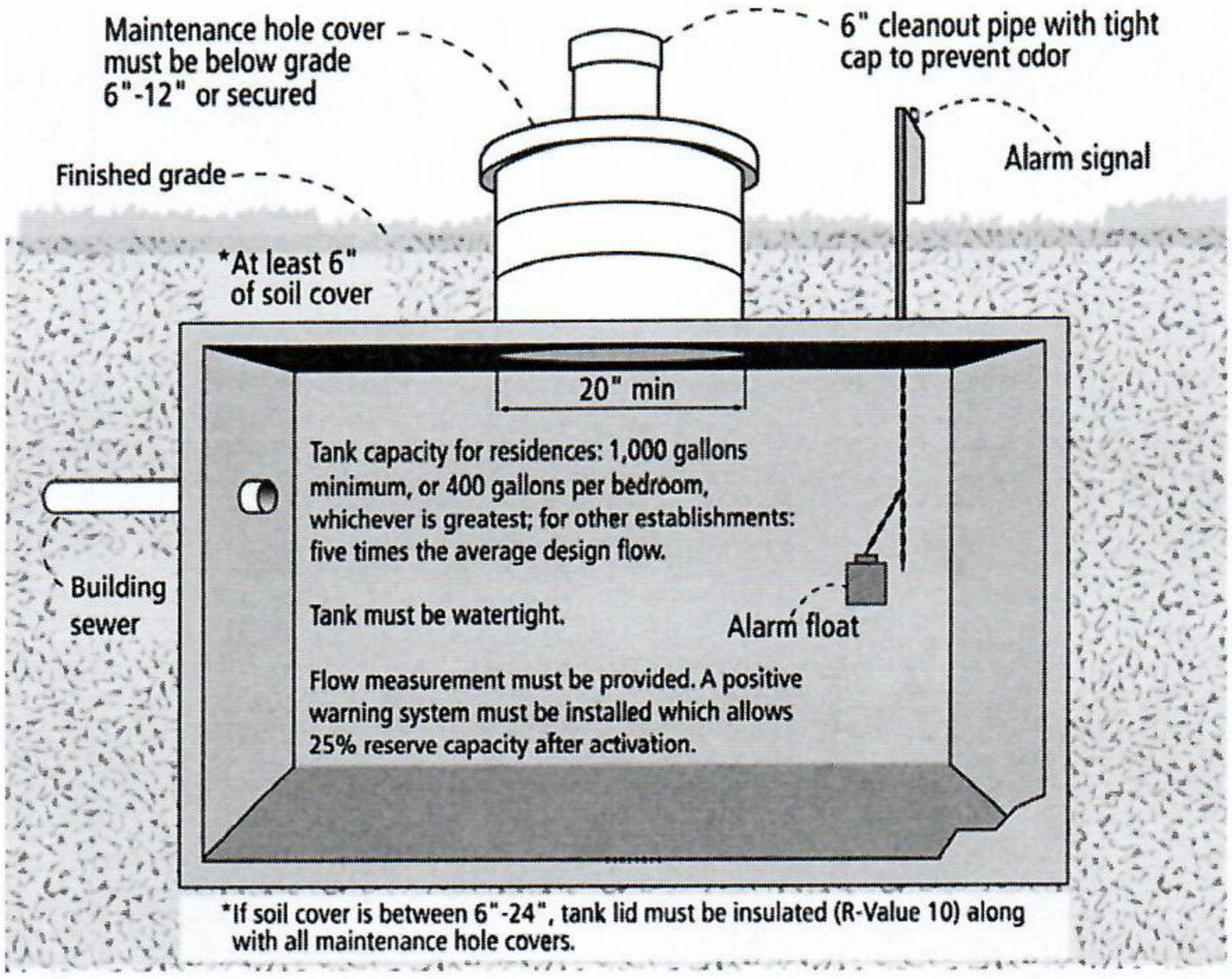
Septic System Management Plan
For Holding Tank Systems



Your Holding Tank



Dwelling Type	Well Construction
Number of bedrooms: RV Park System capacity/ design flow (gpd): 1,900 Anticipated average daily flow (gpd): 1,000 Comments Holding Tanks Only In-home business? ___ What type? _____ Number of occupants _____	Well depth (ft): _____ ❑ Cased well Casing depth: _____ ❑ Other (specify): _____ Distance from septic (ft): 200 ft+ Is the well on the design drawing? ○ Y ◉ N

Holding Tank

○ One tank: *Tank volume:* 2500 x 4 *gallons* ○ Two tanks: *Tank volume:* _____ *gallons* ❑ Tank is constructed of pre cast concrete	❑ Flow measurement device: mechanical float ❑ Location: Holding tank manhole cover ❑ Alarm ✔ visual _____ audible ❑ Reserve %: 75

❑ Service contract held by: Timber Lakes Septic

✔ Service contract is attached to this management plan

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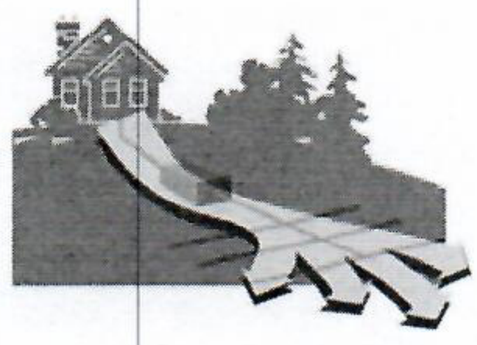
Septic System Management Plan
For Holding Tank Systems



Homeowner Management Tasks

These o*peration and maintenance a*ctivities are your responsibility. *Use the chart on page 6 to track your activities.*

Identify the service intervals recommended by your system designer and your local government. The tank assessment for your system will be the **shortest interval of these three intervals**. Your pumper/maintainer will determine if your tank needs to be pumped.

Tank capacity ÷ (# of occupants X 50 Gallons/day) = # of days between cleaning

OR

Within 24 hours of alarm signal

System Designer: check every 30 days

Local Government: check every _____ days

My tank needs to be emptied every _____ days

Seasonally

- ❑ *Monitor alarm daily – make sure the alarm has not signaled.* Alarms signal when your holding tank is nearly full; contact your maintainer.
- ❑ *Measure* and note your average daily water usage on page 5. Conserving water saves you money!
- ❑ *Leaks.* Check (listen, look) for leaks in toilets and dripping faucets. Repair leaks promptly.

Annually

- ❑ Establish a contract for tank cleaning services with a state licensed maintenance business.
- ❑ *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, discharge clear water sources to another location. Program the recharge frequency based on *water demand (gallons)* rather than *time (days)*. Recharging too frequently will result in increased pumping costs.
- ❑ *Review your water usage rate.* Review the Water Use Appliance chart on Page 5. Discuss any major changes with your pumper/maintainer.

During each visit by a pumper/maintainer

- ❑ Ask if your pumper/maintainer is licensed in Minnesota.
- ❑ Make sure that your pumper/maintainer has clear access to the holding tank and completely empties the tank
- ❑ 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. Professionals should refer to the O/M Manual for detailed checklists for tanks, pumps, alarms and other components. Call 800-322-8642 for more details.

- ❑ Written record provided to homeowner after each visit.

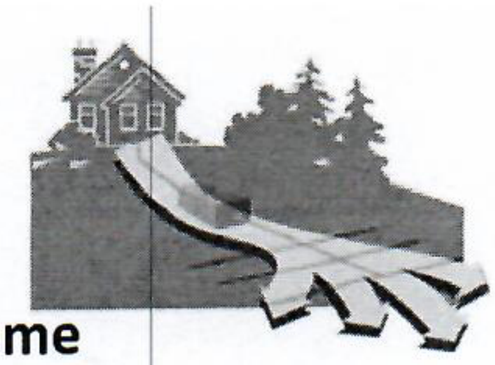
Plumbing/Source of Wastewater

- ❑ 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 frequency of maintenance.
- ❑ Review and document water usage rates with homeowner.

Holding Tanks

- ❑ *Maintenance hole 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.
- ❑ *Inspection pipes*. Replace damaged caps.
- ❑ *Alarm*. Verify that the alarm works and that there is at least 25% reserve capacity.
- ❑ *End of year seasonal property pumping*. Remind homeowner of most frequent causes of tank and building sewer freeze-ups. Ensure that there are no "micro-sources" of water such as a high efficiency furnace or other dripping devices. Determine a logical winter water use plan that will not result in need for emergency visit(s).

All other components – inspect as listed here:



Water-Use Appliances and Equipment in the Home

Appliance	Impacts on Holding Tank	Management Tips
Garbage disposal	• Uses water and increases pumping frequency and expense.	• Use of a garbage disposal is not recommended. • Minimize garbage disposal use. Compost instead.
Washing machine	• Uses water and increases pumping frequency and expense.	• Choose a front-loader or water-saving top-loader, these units use less water than older models. • Wash only full loads. • Do laundry off site.
Dishwasher	• Uses water and increases pumping frequency and expense.	• Wash only full loads.
Large bathtub (whirlpool)	• Uses water and increases pumping frequency and expense.	• Take short showers to conserve water.
Clear Water Uses	**Impacts on Holding Tank**	**Management Tips**
High-efficiency furnace	• Drip may result in frozen pipes during cold weather.	• Re-route water into a sump pump or directly out of the house. Do not route furnace recharge to your holding tank.
Water softener Iron filter Reverse osmosis	• Uses water and increases pumping frequency and expense.	• These sources produce water that is not sewage and should not go into your holding tank. • Reroute water from these sources to another outlet, such as a dry well, drain tile 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	• Uses water and increases pumping frequency and expense.	

Maintenance Log

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

Activity	Date accomplished/measured water usage									
Check daily for a period of time and weekly once average use is determined:										
Water usage rate (gallons per day)										
Leaks: check for plumbing leaks										
Annually:										
Establish and maintain contract for holding tank pumping services										
Water use appliances – review use										

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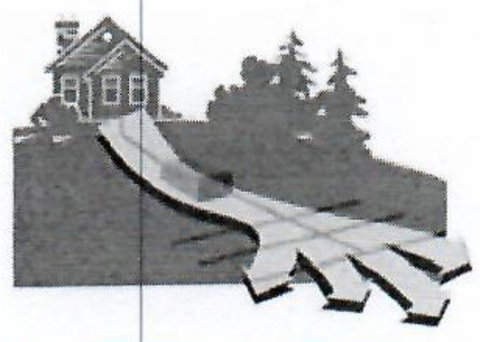
Septic System Management Plan
For Holding Tank Systems



Water Meter Reading and Tank Evacuation Schedule			
Date	**Water Meter Reading (in gallons)**	**Tank Contents Removed?**	**Total Gallons Removed**

Notes:

Mitigation/corrective action plan:

"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.

Property Owner Signature: Date 10-7-24

Management Plan Prepared By: Greg Westerlund Certification # 827

Permitting Authority: Aitkin County Envronmental

HOLDING TANK PUMPING SERVICE AGREEMENT

Permit # _____ Address 24552 385th Ave, Aitkin

THIS AGREEMENT, entered into by and between Aitkin County Registered Septic Tank Pumper, Timber Lakes Septic Service, hereinafter referred to as "Contractor", and Veterans Park hereinafter referred to as "Homeowner".

WHEREAS, Homeowner desires and is required to retain individual sewage treatment system holding tank services to protect the environment and to obtain a certificate of compliance from Aitkin County; and

WHEREAS, the Contractor desires to provide sewage treatment system pumping services to Homeowner as necessary and in accordance with the terms and conditions outlined herein.

NOW THEREFORE, in consideration of the mutual promises contained herein, Parties do hereby agree as follows:

1. **TERM**. The term of this Agreement shall be from 6/6/24 to final installation of an Aitkin County approved sewage treatment system or connection to a Municipal Sewage Treatment System, unless earlier terminated as provided herein. The parties understand and agree that this Agreement is intended to arrange for the provision of pumping services so that Homeowner may occupy the home pursuant to a certificate of compliance to be issued by the Aitkin County Environmental Services Department upon execution of this Agreement. Homeowner further agrees that at the earliest possible date, Homeowner shall have a permanent sewage treatment system installed in accordance with the Aitkin County Subsurface Sewage Treatment System Ordinance and as approved by the Aitkin County Environmental Services Department or connect to a Municipal Sewage Treatment System. Upon approval by the County of Aitkin of the individual sewage treatment system or connection to a municipal sewer, or approval by Aitkin County Environmental Services of an amended or different contract, this Agreement shall terminate.

2. **FREQUENCY OF PUMPING**. Homeowner agrees that he/she shall not allow the holding tank to overflow or discharge in any manner. Contractor and Homeowner agree that the holding tank shall be pumped in accordance with the following:

- Tank size (gal.) _____ / (number of household occupants multiplied by 75 gallons per day) = frequency of pumping: or
- Within 24 hours of indication by tank alarm of lack of capacity (applicable only if system has a functional alarm):
- Whichever is greater

Contractor agrees to provide pumping services according to the regular pumping schedule or as needed to prevent discharge. Homeowner shall compensate Contractor as agreed by the parties for pumping services rendered.

3. **INSPECTION.** Holding tanks will be inspected by a licensed pumper at the time of servicing for leaks below the operating depth and whether tank tops, riser joints, and connections leak through visual evidence of major defects.

4. **REPORTING**. Grievances of Homeowner or Contractor shall be reported to the Aitkin County Environmental Services Department by Homeowner or Contractor. Homeowner and Contractor understand that failure to have holding tank pumped as herein specified or the discharge of any contents from the holding tank, regardless of fault, may result in the suspension, cancellation or revocation of the certificate of compliance, and the homeowner may be required to vacate the premises.

_____
Contractor

Date 6/4/24

_____
Homeowner

Date _____

P:\PZSHARE\Forms\Pumping Agreement.DOC\Pumping Agreement

University of Minnesota Onsite Sewage Treatment Program

Design Elevations Summary

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: 0700 v 04.02.2

Property Owner/Client: Ammon & Rachel Miller

Property Address: 46342 20th AVE, Isle MN 56342

Date Completed: 6/4/2024

Elevations in feet Benchmark: 100.0 ft BM Location - Existinng grade at SW corner stake on proposed new

Primary STA

Elevations From Soil Logs

STA Area		Soil Observation Location Elev		Restictive Layer Depth		Restictive Layer Elev	
Corner 1	ft	SO 1	ft		inches		ft
Corner 2	ft	SO 2	ft		inches		ft
Corner 3	ft	SO 3	ft		inches		ft
Corner 4	ft	SO 4	ft		inches		ft
Average Slope	3.0 %	SO 5	ft		inches		ft
		SO 6	ft		inches		ft
		SO 7	ft		inches		ft

Mound

Upslope Elevation (ground)		ft
Sand Top Designed	in @	ft
Distribution Bottom 7080 Min		ft
Bottom of Laterals (+0.5' min)		ft
Top of Media (+0.3' min)		ft
Top of System (+1.0') Rockbed edge		ft

Mound Dimensions *details in mound design*

Width		Length	
	ft x		ft Rockbed
	ft x		ft Absorption Area
	ft x		ft Berm

Corners

1 2

3 4

Site Plan and Label Corners

Atgrade

Upslope Elevation (ground)	ft
Bottom of Laterals (+0.5' min)	ft
Top of Media (+0.3' min)	ft
Top of System (+1.0')	ft

At Grade Dimensions *details in atgrade design*

Width		Length	
	ft x		ft Rockbed/Absorption
	ft x		ft Berm

Trenches *details in trench design*

Total Length ft long Width ft Total Area ft²

	Ground Elevation		Max. Depth		Design Depth		Trench Length	
				in		in		Trenches at ft long
#1		ft		ft		ft		ft
#2		ft		ft		ft		ft
#3		ft		ft		ft		ft
#4		ft		ft		ft		ft
#5		ft		ft		ft		ft
#6		ft		ft		ft		ft
#7		ft		ft		ft		ft

Bed

Upslope Elevation (ground)	ft
Bottom of Bed (excavation depth)	ft
Bottom of Laterals (+0.5' min)	ft
Top of Media (+0.3' min)	ft
Top of System (+1.0')	ft

Bed Corners

Corner 1	ft
Corner 2	ft
Corner 3	ft
Corner 4	ft

Bed Dimensions details in bed design

Width		Length	
	ft x		ft Rockbed

University of Minnesota
Onsite Sewage Treatment Program

Proposed Design Map

MINNESOTA POLLUTION CONTROL AGENCY

Project ID: 0700 v 04.02.2024

Property Owner/Client: Ammon & Rachel Miller

Map scale: 1/4" = 10' ☑ Indicated north ☐ Show slope/contours

System Corners

1 2

↑

3 4 N

Elevations in feet

Benchmark Elev: 100 ft Benchmark Location: SW Corner of new house

System Corners:

Corner 1		ft
Corner 2		ft
Corner 3		ft
Corner 4		ft

Soil Observation:

#1:		ft
#2:		ft
#3:		ft
#4:		ft

Tank Outlet: ft

Other: ft

ft

Date Completed: 5/25/2024