

**FIELD EVALUATION SHEET**

PRELIMINARY EVALUATION DATE 10/30/24, FIELD EVALUATION DATE 10/30/24  
PROPERTY OWNER: DARRIN W FRYER PHONE \_\_\_\_\_  
ADDRESS: 68080 353RD AVE CITY, STATE, ZIP: HILL CITY MN 55748  
LEGAL DESCRIPTION: \_\_\_\_\_  
PIN# 12-0-019104 SEC T R  TWP NAME HILL LAKE  
FIRE# \_\_\_\_\_ LAKE/RIVER HILL LAKE LAKE CLASS \_\_\_\_\_ OHWL \_\_\_\_\_ FT.

**DESCRIPTION OF SOIL TREATMENT AREAS**

	AREA #1	AREA #2	REFERENCE BM ELEV. _____ FT
DISTURBED AREAS	YES <input checked="" type="checkbox"/> NO _____	YES _____ NO _____	REFERENCE BM DESCRIPTION _____
COMPACTED AREAS	YES <input checked="" type="checkbox"/> NO _____	YES _____ NO _____	_____
FLOODING	YES _____ NO <input checked="" type="checkbox"/>	YES _____ NO _____	_____
RUN ON POTENTIAL	YES _____ NO <input checked="" type="checkbox"/>	YES _____ NO _____	_____
SLOPE %	<u>0</u>	_____	_____
DIRECTION OF SLOPE	<u>—</u>	_____	_____
LANDSCAPE POSITION	<u>FLATS</u>	_____	_____
VEGETATION TYPES	<u>GRASS - TREES</u>	_____	_____

DEPTH TO STANDING WATER OR MOTTLED SOIL: BORING# 1 17", 1A 17", 2 18", 2A 18"

BOTTOM ELEVATION—FIRST TRENCH OR BOTTOM OF ROCK BED: #1 +18 FT., #2 +18 FT.

SOIL SIZING FACTOR: SITE # 1 1.67, SITE #2 \_\_\_\_\_

CONSTRUCTION RELATED ISSUES: FILL OVER TOPSOIL TYPE 3

LIC# 697 SITE EVALUATOR SIGNATURE: Ron Myers

SITE EVALUATOR NAME: RON MYERS TELEPHONE# 218-259-9273

LUG REVIEW \_\_\_\_\_ DATE \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**SOIL BORING LOGS ON REVERSE SIDE**

# SOILS CHARTS FOR BOTH PROPOSED AND ALTERNATE SITES

1 (PROPOSED) SOILS DATA

2 (PROPOSED) SOILS DATA

FILL ↗

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0-2"	TOPSOIL	10YR 2/2
2-10"	FINE SAND	10YR 7/4
10-18"	MED SAND	10YR 7/3
18-24"	TOPSOIL	10YR 2/2

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR

1 (ALTERNATE) SOILS DATA

2 (ALTERNATE) SOILS DATA

FILL ↗

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0-4"	TOPSOIL	10YR 2/2
4'-18"	FINE SAND	10YR 7/3
18"-24"	TOPSOIL	10YR 2/2

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR

ADDITIONAL SOIL BORINGS MAY BE REQUIRED

# Mound Design - Aitkin county

Property Owner: Darren Weyer

Date: 10/30/2024

Site Address: 68080 353rd Ave Hill City MN 55748

PID: 12-0-019104

Comments: \_\_\_\_\_

Instructions:      = enter data           = adjust if desired           = computer calculated - DO NOT CHANGE!

- 1) 3 bedroom      Type III      Residential      System
- 2) 450 GPD design flow
- 3) No Garbage disposal or pumped to septic
- 4) 1000 Gal Septic tank (code minimum)      1650 Gal Septic tank (design size / LUG req'd)  
 Tank options: none
- 5) 1.2 GPD/ft<sup>2</sup> mound sand loading rate      contour loading rate of 12 req's a min      37.5 ft. long rockbed
- 6) 10.0 ft rockbed width      37.5 ft rockbed length
- 7) 3.0 ft lateral spacing      3.0 ft perforation spacing      (maximum of 3 for both)  
end feed manifold connection
- 8) 3 laterals      35.5 feet long      12.0 perms / lateral      36 perms total  
 (1/2 a perf means the first perf starts at the middle feed manifold)
- 9) 1/4" inch perms at 1 feet residual head      gives 0.74 gpm flow rate per perforation  
 for this perf size & spacing, & pipe size on line 12, max perms/lateral = 25, line #8 must be less --> OK
- 10) 4.0 doses per day      ( 4 minimum)
- 11) 113 gallons per dose      (treatment volume) 2.00 5x
- 12) 2.00 inch diameter laterals must be used to meet "4x pipe volume" requirement 2.00 3x
- 13) 30 feet of 2.0 inch supply line      leads to 5 gallons of drainback volume  
 (Tip: "top feed" manifold to control the drainback)
- 14) 118 gallons TOTAL pump out volume (treatment + drainback)
- 15) 10 feet vertical lift from pump to mound laterals, leads to a:
- 16) 27 GPM @ 16 feet of head, Pump requirement      (note: >50gpm may require an extra 3-6' of head)
- 17) 500 gal Dose tank (code minimum)      533 gal Dose tank (design size / LUG req'd)      at 12.69 gpi  
 leads to a
- 18) 9.3 inch swing on Demand float,      or timed dosing of 4.4 min ON      (confirm pump rate with drawdown  
 (this delivers Average flow, =70% of Peak design flow)      9 hrs OFF      test and adjust as necessary)
- 19) 12 inches from bottom of tank to "Pump OFF" float
- 20) 21 inches from bottom of tank to "Pump ON" float, or 12 inches to "Timer ON" float if time dosed
- 21) 24 inches from bottom of tank to "Hi Level" float, or 34 inches to "Hi Level" float if time dosed
- 22) 228 gallons reserve capacity      (after High Level Alarm is activated)

23) 1.60 gpd/ft<sup>2</sup> Absorption area Soil Loading Rate, which gives a mound ratio of 0.8 (minimum)  
 (this must match the soil boring log) desired mound ratio 0.8

24) 0 percent site slope (0-20% range) 0 (% downslope site slope, if different than upslope)

25) 0 inches, or 0.0 ft. to Redox or other limiting condition (need at least 12" to be a Type I)  
 Treatment zone contains 0 inches of 0% soil credit, and 0 inches of 50% soil credit. Giving a:

26) 36 inch, or 3.0 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

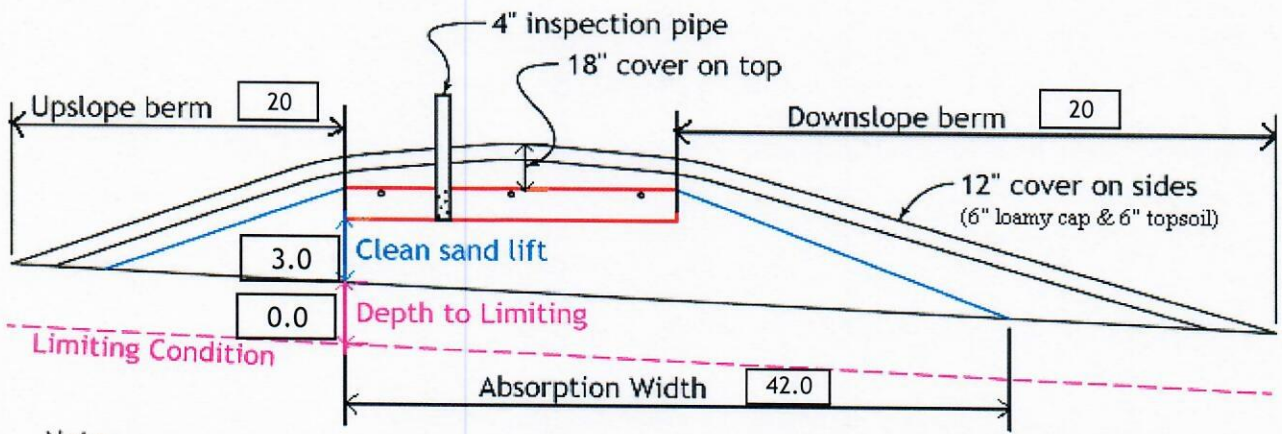
27) 10.0 ft. base absorption width (with sand beyond rockbed as follows):  
 42.0 greater of: absorption width OR sand slope

28) 0.0 ft. upslope and sideslope sand upslope 16.0  
 0.0 ft. Downslope sand down slope 16.0

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

29) 4:1 upslope ratio 20 ft. upslope berm  
 30) 4:1 sideslope 20 ft. sideslope berms  
 31) 4:1 downslope 20 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 37.5 ft. long Rock bed  
 50 ft. wide by 78 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 37.5 ft. by 8 inches under pipe, plus 20% gives 16 yd<sup>3</sup> or \*1.4= 22 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)  
 82.4 up + 82.4 downslope + 23.7 ends + 41.7 under rock = 276 yd<sup>3</sup> or \*1.4= 387 ton  
 plus 20%

35) Loamy Cap: 46 ft. by 74 ft. 6" deep, plus 20% gives 76 yd<sup>3</sup> or \*1.4= 106 ton

36) Topsoil: 50 ft. by 78 ft. 6" deep, plus 20% gives 87 yd<sup>3</sup> or \*1.4= 122 ton

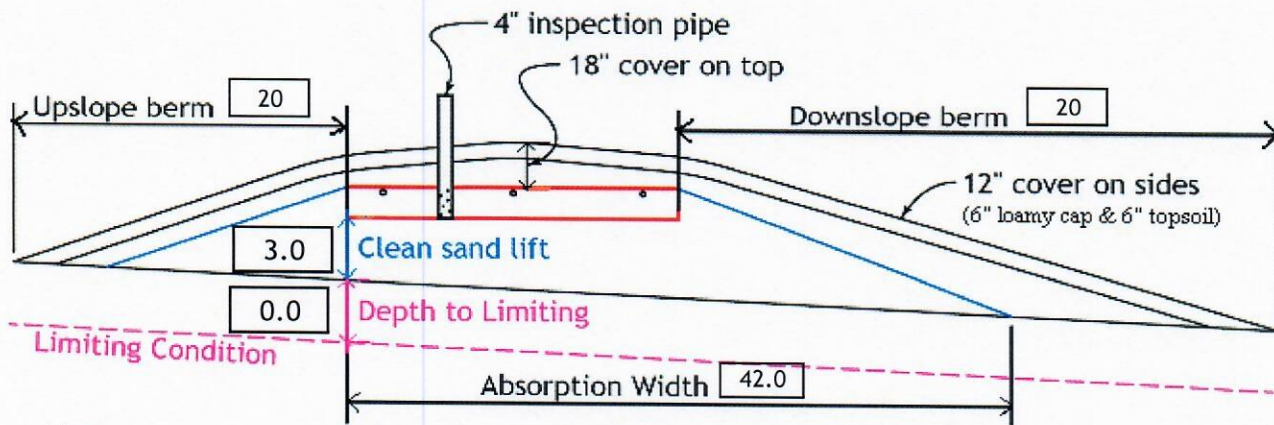
I hereby certify that I have completed this work in accordance with all applicable ordinances, rules and laws.

Designer Signature: [Signature] Company: Ron-Ex License#: 687 Date: 10/30/2024

# Installer Summary

- 1650 gallon Septic tank (minimum) Tank options: none
- 533 gallon Dose tank (minimum) at 12.69 gpi
- 27 GPM @ 16 ft. of head, Pump required
- 9.3 inch swing on Demand float which translates to roughly 5.7 inches of float tether length  
if time dosing is required --> 4.4 minutes ON time & 9 hours OFF time
- 21 inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float
- 24 inches from bottom of tank to "Hi Level Alarm" or 34 inches to "Hi level alarm" if time dosed
- 30 ft. of 2.0 inch supply line with end feed manifold connection  
(Tip: "top feed" manifold to control drainback)
- 36 inch, or 3.0 ft. Sand Lift Mound
- 10.0 ft. wide by 37.5 ft. long Rock bed
- 3 laterals 2.00 inch diameter 35.5 ft. long 3.0 ft. lateral spacing
- 1/4" inch perfs 3.0 ft. perforation spacing
- No Effluent filter & alarm
- 3 clean out & valve box assemblies

- 42.0 ft. Total sand ABSORPTION width (minimum)
- 16.0 ft. upslope and sideslope (sand beyond rockbed, minimum)
- 16.0 ft. Downslope (sand beyond rockbed, minimum)
- Specific slope ratios give BERM widths (topsoil beyond rockbed) of:
- 4:1 upslope ratio 20 ft. upslope berm
- 4:1 sideslope 20 ft. sideslope berms
- 4:1 downslope 20 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:	16.0 yd <sup>3</sup> or *1.4=	22 ton	8 inches under pipe
Mound Sand:	276 yd <sup>3</sup> or *1.4=	387 ton	calculation based on 3:1/4:1 slope from top of rockbed
Loamy Cap:	76 yd <sup>3</sup> or *1.4=	106 ton	6" deep
Topsoil:	87 yd <sup>3</sup> or *1.4=	122 ton	6" deep

## INSPECTOR CHECKLIST - mound

6808U 353rd Ave Hill City MN 55748

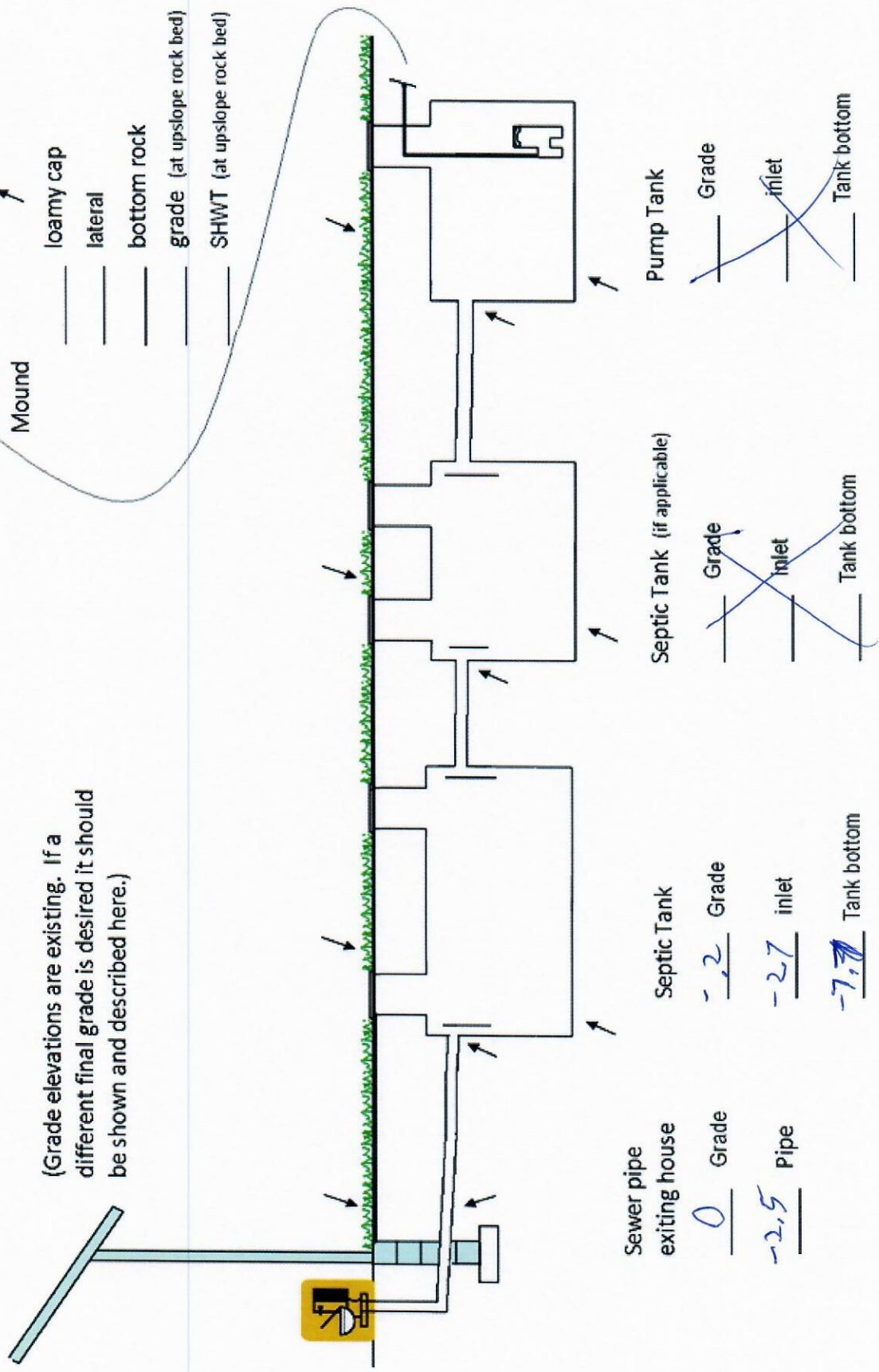
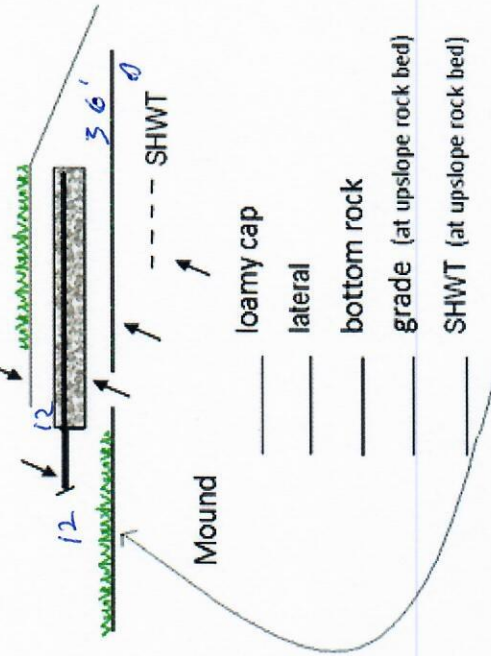
- WELL setbacks: 20' to pressure tested sewer line (5 psi for 15 min)  
50' to everything 100' to dispersal area with shallow well
- PROPERTY LINES setback: 10' to everything
- Road setback: platted: 10' prop line. Metes & bounds: out of road easement, or outer ditch.
- LAKE / BLUFF setback: 20' for 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 \_\_\_\_\_ 1650 gallons none \_\_\_\_\_
  
- Riser over outlet, riser over inlet or center, and 6"+ inspection pipe over any remaining baffles.
- No \_\_\_\_\_ effluent filter & alarm
- Dose tank risers and piping (water tight, insulated, proper depth, drainback)  
mfg \_\_\_\_\_ 533 gallons
- dose pump \_\_\_\_\_ 27 gpm 16 head VERIFY PUMP CURVE 4.4 min ON 9 hr OFF
- float setting drop 9.3 inches at 12.7 gpi "DESIGNED" 5.7 inches approx float tether length  
118.0 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 37.5
- Sand lift depth 36 inches. (Jar test : 2" sand leaves < 1/8" silt after 30 min)
  
- Absorption Sand beyond rock 16.0 upslope 16.0 downslope
- Bermed topsoil beyond rockbed 20 upslope 20 sideslope 20 downslope
  
- cover depth of 12-18"+ VERIFY
- 3 laterals (1-2' from edge of rock)
- 2.00 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 \_\_\_\_\_

CUTOUT COMPACTED TO OLD TAP BAIL  
BRING IN CLEAN SAND TO GRT 3' MOUND  
TYPE III WITH OPERATING PERMIT

# System Elevations

0 benchmark SURFACE AT HOUSE

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



Sewer pipe exiting house  
0 Grade  
-2.5 Pipe

Septic Tank  
-2.2 Grade  
-2.7 inlet  
-7.7 Tank bottom

Septic Tank (if applicable)  
Grade  
inlet  
Tank bottom

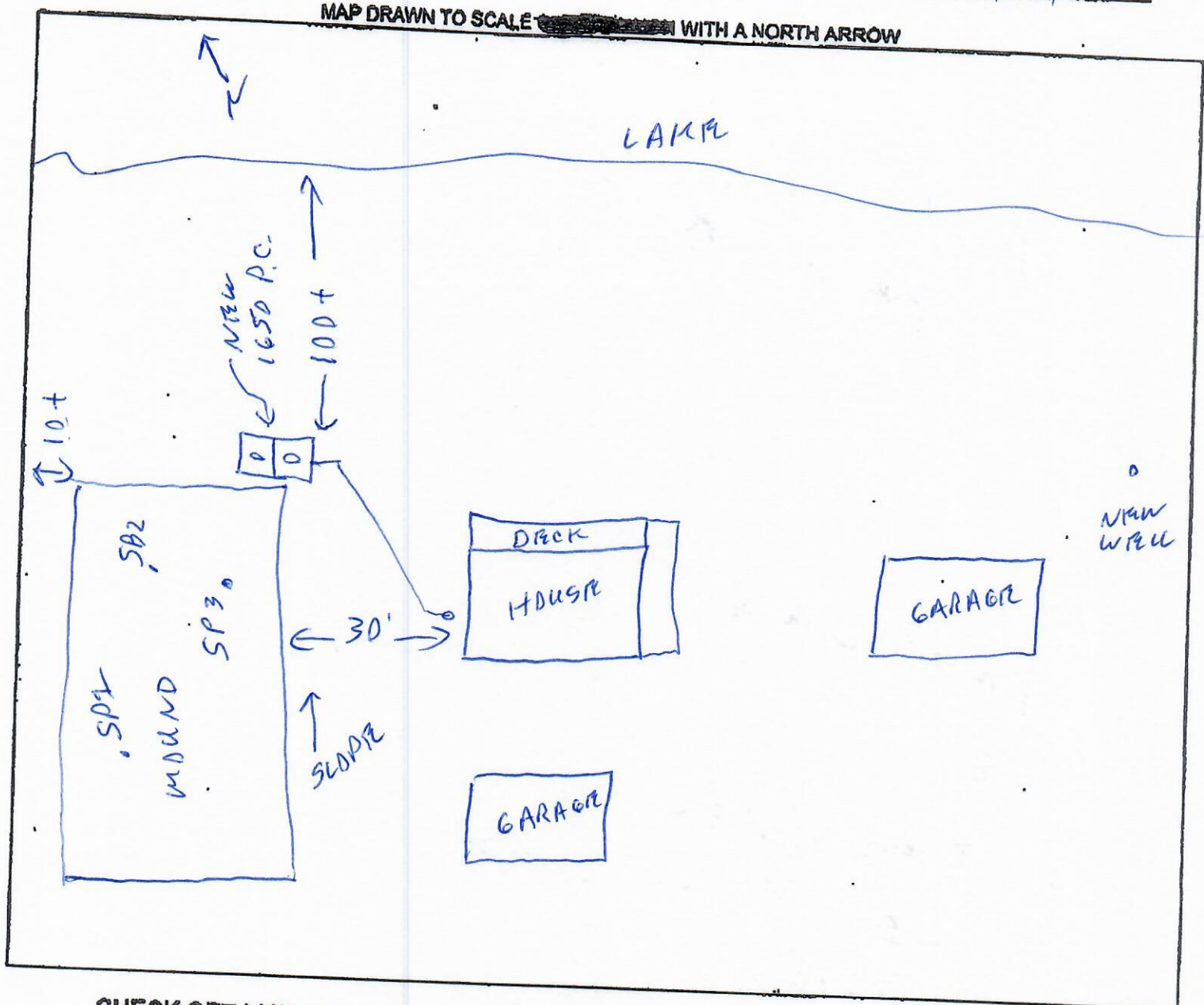
Pump Tank  
Grade  
inlet  
Tank bottom

Mound  
loamy cap  
lateral  
bottom rock  
grade (at upslope rock bed)  
SHWT (at upslope rock bed)

CLIENT: WYER

DATE: 11/4/24

MAP DRAWN TO SCALE WITH A NORTH ARROW



**CHECK OFF LIST—HAVE ALL OF THE FOLLOWING BEEN DRAWN ON THE MAP??**

- SHOW EXISTING OR PROPOSED
- WATER WELLS WITHIN 100 FT OF TREATMENT AREAS
  - PRESSURE WATER LINES WITHIN 10 FT OF TREATMENT AREAS
  - STRUCTURES
  - ALL SOIL TREATMENT AREAS
  - HORIZONTAL AND VERTICAL REFERENCE
  - POINT OF SOIL BORINGS
  - LOT EASEMENTS
  - DISTURBED/ COMPACTED AREAS
  - SITE PROTECTION—LATHE AND RIBBON EVERY 15 FT
  - ACCESS ROUTE FOR TANK MAINTENANCE
  - REQUIRED SETBACKS
  - STRUCTURES
  - OHWL
  - LOT IMPROVEMENTS
  - ALL ISTS COMPONENTS
  - DIRECTION OF SLOPE
  - ALL LOT DIMENSIONS
  - PROPERTY LINES

- INDICATE ELEVATIONS *ON OTHER SHEET*
- BENCHMARK
  - ELEVATION OF SEWER LINE @ HOUSE
  - ELEVATION @ TANK INLET
  - ELEVATION @ BOTTOM OF ROCK LAYER
  - ELEVATION @ BOTTOM OF BORING OR RESTRICTIVE LAYER
  - ELEVATION OF PUMP
  - ELEVATION OF DISTRIBUTION DEVICE

COMMENTS:  
DESIGNER SIGNATURE Rumms  
LICENSE# 697

DATE 11/4/24





## 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	Darren Weyer	Email
Property Address	68080 353rd ave Hill City MN 55748	Property ID 12-0-019104
System Designer	Ron Myers	Contact Info 327-9273
System Installer	Ron Myers	Contact Info 327-9273
Service Provider/Maintainer	Ron Myers	Contact Info 327-9273
Permitting Authority	Aitkin county	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:

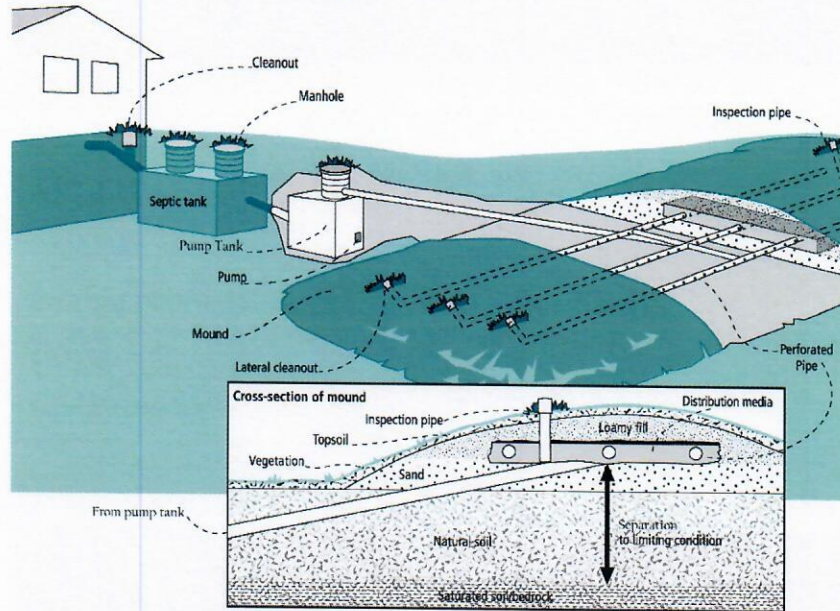
- Attach permit information, designer drawings and as-built of your system, if they are available.
- Keep copies of all pumping records and other maintenance and repair invoices with this document.
- Review this document with your maintenance professional at each visit; discuss any changes in product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

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

**For more information see <http://septic.umn.edu>**



Your Septic System



Septic System Specifics	
System Type: <input type="radio"/> I <input type="radio"/> II <input checked="" type="radio"/> III <input type="radio"/> IV* <input type="radio"/> V* (Based on MN Rules Chapter 7080.2200 – 2400) *Additional Management Plan required	<input checked="" type="checkbox"/> System is subject to operating permit* <input type="checkbox"/> System uses UV disinfection unit* Type of advanced treatment unit _____

Dwelling Type	Well Construction
Number of bedrooms: <u>3</u> System capacity/ design flow (gpd): <u>450</u> Anticipated average daily flow (gpd): <u>300</u> Comments _____ Business? : <input type="radio"/> Y <input checked="" type="radio"/> N What type? _____	Well depth (ft): <u>50+</u> <input type="checkbox"/> Cased well Casing depth: _____ <input type="checkbox"/> Other (specify): _____ Distance from septic (ft): <u>100</u> Is the well on the design drawing? <input checked="" type="radio"/> Y <input type="radio"/> N

Septic Tank	
<input type="checkbox"/> First tank Tank volume: <u>1000</u> gallons Does tank have two compartments? <input checked="" type="radio"/> Y <input type="radio"/> N <input type="checkbox"/> Second tank Tank volume: _____ gallons <input type="checkbox"/> Tank is constructed of <u>concrete</u> <input type="checkbox"/> Effluent screen: <input type="radio"/> Y <input checked="" type="radio"/> N Alarm <input type="radio"/> Y <input checked="" type="radio"/> N	<input type="checkbox"/> Pump Tank <u>533</u> gallons <input type="checkbox"/> Effluent Pump make/model: <u>pe-41</u> Pump capacity <u>27</u> GPM TDH <u>16</u> Feet of head <input type="checkbox"/> Alarm location <u>ped on tank</u>

Soil Treatment Area (STA)	
Mound/At-Grade area (width x length): <u>50</u> ft x <u>78</u> ft Rock bed size (width x length): <u>10</u> ft x <u>38</u> ft Location of additional STA: <u>no</u> Type of distribution media: <u>rock</u>	<input checked="" type="checkbox"/> Inspection ports <input checked="" type="checkbox"/> Cleanouts <input type="checkbox"/> Surface water diversions <input type="checkbox"/> Additional STA not available



## Homeowner Management Tasks

These *operation and maintenance* activities 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: 100 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	<ul style="list-style-type: none"> <li>• Uses additional water.</li> <li>• Adds solids to the tank.</li> <li>• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Use of a garbage disposal is not recommended.</li> <li>• Minimize garbage disposal use. Compost instead.</li> <li>• To prevent solids from exiting the tank, have your tank pumped more frequently.</li> <li>• Add an effluent screen to your tank.</li> </ul>
Washing machine	<ul style="list-style-type: none"> <li>• Washing several loads on one day uses a lot of water and may overload your system.</li> <li>• Overloading your system may prevent solids from settling out in the tank. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Choose a front-loader or water-saving top-loader, these units use less water than older models.</li> <li>• 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.</li> <li>• Install a lint filter after the washer and an effluent screen to your tank</li> <li>• Wash only full loads and think even – spread your laundry loads throughout the week.</li> </ul>
Dishwasher	<ul style="list-style-type: none"> <li>• Powdered and/or high-phosphorus detergents can negatively impact the performance of your tank and soil treatment area.</li> <li>• New models promote “no scraping”. They have a garbage disposal inside.</li> </ul>	<ul style="list-style-type: none"> <li>• Use gel detergents. Powdered detergents may add solids to the tank.</li> <li>• Use detergents that are low or no-phosphorus.</li> <li>• Wash only full loads.</li> <li>• Scrape your dishes anyways to keep undigested solids out of your septic system.</li> </ul>
Grinder pump (in home)	<ul style="list-style-type: none"> <li>• Finely-ground solids may not settle. Unsettled solids can exit the tank and enter the soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Expand septic tank capacity by a factor of 1.5.</li> <li>• Include pump monitoring in your maintenance schedule to ensure that it is working properly.</li> <li>• Add an effluent screen.</li> </ul>
Large bathtub (whirlpool)	<ul style="list-style-type: none"> <li>• Large volume of water may overload your system.</li> <li>• Heavy use of bath oils and soaps can impact biological activity in your tank and soil treatment area.</li> </ul>	<ul style="list-style-type: none"> <li>• Avoid using other water-use appliances at the same time. For example, don’t wash clothes and take a bath at the same time.</li> <li>• Use oils, soaps, and cleaners in the bath or shower sparingly.</li> </ul>
<b>Clean Water Uses</b>	<b>Impacts on System</b>	<b>Management Tips</b>
High-efficiency furnace	<ul style="list-style-type: none"> <li>• Drip may result in frozen pipes during cold weather.</li> </ul>	<ul style="list-style-type: none"> <li>• Re-route water directly out of the house. Do not route furnace discharge to your septic system.</li> </ul>
Water softener Iron filter Reverse osmosis	<ul style="list-style-type: none"> <li>• Salt in recharge water may affect system performance.</li> <li>• Recharge water may hydraulically overload the system.</li> </ul>	<ul style="list-style-type: none"> <li>• These sources produce water that is not sewage and should not go into your septic system.</li> <li>• Reroute water from these sources to another outlet, such as a dry well, drain tile or old drainfield.</li> </ul>
Surface drainage Footing drains	<ul style="list-style-type: none"> <li>• Water from these sources will overload the system and is prohibited from entering septic system.</li> </ul>	<ul style="list-style-type: none"> <li>• When replacing, consider using a demand-based recharge vs. a time-based recharge.</li> <li>• Check valves to ensure proper operation; have unit serviced per manufacturer directions</li> </ul>



**Homeowner Maintenance Log**

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

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

- \*Monthly
- \*\*Quarterly
- \*\*\*Bi-Annually

Notes:

*"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: \_\_\_\_\_ Date \_\_\_\_\_

Management Plan Prepared By: **Ron Myers** Certification # **697**

Permitting Authority: **Itasca County**



**MAINTENANCE SERVICE AND OPERATING CONTRACT**

It is hereby agreed this 11/4/24 between Ron-Ex (service provider) and Client:

CLIENT NAME AND SITE ADDRESS	
Owner/Contact:	Darren Weyer
Client/Company Name:	
Site Address:	68080 353 <sup>rd</sup> ave
City, State, Zip:	Hill City MN 55748
Parcel ID:	12-0-019104
LGU or Permitting Authority:	Aitkin County

That in consideration of the payments provided herein, the Service Provider shall provide operation and maintenance services for the wastewater treatment system located at the property described in this Contract. The operation and maintenance services to be defined in this Contract include the responsibilities of the Client and Service Provider. The specific tasks shall be agreed upon by the Service Provider and Client as outlined in the Maintenance Service and Operating Contract, Operation and Maintenance Manual, and the Operating Permit of the Local Governmental Unit (LGU) listed above. The Service Provider agrees to make regularly scheduled visits to the facility, oversee and review system operation, provide/oversee sample collection as required, prepare and file reports including those required under the LGU Operating Permit listed above.

**Licensing.** The Service Provider shall maintain its Minnesota Pollution Control Agency licensing at all times. The minimum licensing requirement shall be Service Provider.

**Performance Specifications.** The Service Provider shall perform all services directly or indirectly required under this Contract in a good workmanlike manner consistent with industry standards. The Service Provider warrants that it has the necessary equipment, training, and certification/ license(s) to provide the services required by this Contract. The Client has the right to inspect and may reject any services provided that were not completed in a workmanlike manner.

**Responsibilities.** In no event shall the Service Provider be responsible for special or consequential damages, including but not limited to, loss of time, injury to property, or any other consequential damages or incidental or economic loss due to equipment failure or for any other reason. This Contract does not assume any responsibilities or obligations which are normally the responsibility of the Client as related to parts or labor, and does not extend to cover any costs that are associated to work not outlined in this Contract.

**SCOPE OF WORK:**

Service Provider will provide all the labor and equipment necessary to perform Basic Service outlined below:

- **Labor:** Annual site visit one (1) time per year to perform routine service requirements for the wastewater system.

- **Sampling:** Annual effluent sampling for CBOD, TSS, and FOG collected from the final dose tank to the drainfield systems. Sampling outside of what is required to meet permit requirements, or what is outlined specifically in the Operation and Maintenance Manual will be billed separately.
- **Septic Tanks:** The septic tanks and the pump tanks will be monitored annually for solids accumulation. Service Provider will coordinate tank cleaning and will inspect the tank as it is cleaned. Effluent filters in the final tank will be inspected annually and cleaned as necessary. Tank cleaning by a certified pumper is not included in the basic fee.
- **Aerobic Treatment Unit:** Maintain per manufacturer's recommendations.
- **Pumps:** Pumps will be maintained and cleaned per manufacturer's recommendations. Any parts or repairs necessary beyond general maintenance will be billed separately.
- **Control Panel:** The control panels will be inspected for proper operation. Pump run times and cycle counts will be recorded. Flow will be calculated using this data.
- **Drainfield:** The drainfield will be inspected annually by completing a "walk around" to observe any obvious signs of problems and ponding.
- **Annual Reporting:** Reports will be completed as required by the Permitting Agency. An annual service report and sample report will be submitted to the Client when the work is completed.

### **OUTSIDE SCOPE OF WORK:**

**Non-Basic Service** will include items such as alarm response and repairs or maintenance not described in the Basic Service. Labor and transportation for such service are listed in Exhibit A.

The Client is responsible for maintaining the following:

- **Alarm Response:** Service Provider will be available to respond to alarm conditions as notified by the owner or automatic dialer (if installed).
- **Repairs:** Parts/material costs will be as needed for each repair.
- **Collection System Maintenance:** Gravity and pressure collection lines in the system will be maintained by the Client.
- **Tank Pumping:** Tank pumping (as needed) will be invoiced to the Client when work is completed by the Service Provider.

**Site Visits.** During the Contract period, employees and agents of Service Provider will be provided access to the treatment system location for the purpose of operation, testing, and maintenance. Access will be necessary 24 hours a day, 7 days per week. Unexpected conditions may occur in the process that require unplanned site visits, but Service Provider will make every effort to visit on a schedule agreed to in advance with the Client.

**Monitoring.** The Client will provide the Service Provider with access to remote monitoring capabilities if the treatment system has been constructed with remote monitoring equipment and capabilities. Access includes any utility requirements necessary for remote viewing of the main control panel such as a wireless internet connection, DSL modem, wireless modem, or phone line connection. Only the Client and Service Provider will be provided this access.

**Equipment.** The Client owns all equipment within the wastewater treatment system and is therefore responsible for any repairs and periodic maintenance required to keep the treatment system operating efficiently. The Service Provider will complete all the necessary routine maintenance requirements on behalf of the Client. Major repairs will be coordinated by the Service Provider, but the costs associated with the repairs are to be paid by the Client. The Service Provider will provide all necessary equipment to complete the maintenance tasks outlined in this Contract.

**Sampling Procedure.** Effluent testing will consist of grab samples collected and delivered to a Minnesota State Certified Laboratory for third party independent testing. The samples required and frequencies are outlined by the Operating Permit. Sample handling will be conducted by Service Provider personnel. Costs associated with the sampling and sample delivery are included in the Contract fees. Additional testing outside the requirements of the



permit or to be used for trouble shooting will be billed separately.

**Reports.** The Service Provider will compile records of the results and dates of sampling. These records will be delivered to the Client, after the work is completed, and Permitting Agency annually, or more frequently at the Client's request.

**Permit.** The Client will maintain a current Wastewater Disposal Permit with the Permitting Agency at all times. The Service Provider will be available on behalf of the Client to attend meetings involving the Operating Permit. The Service Provider will develop a working relationship with Permitting Agency officials and alert them prior to any changes to the wastewater system operation on behalf of the Client. The Service Provider will make every effort to meet compliance limits set by the Permitting Agency agreement. The Service Provider will complete all the Permitting Agency reporting requirements on behalf of the Client.

**Emergency Service Calls, Alarm Calls, and Repairs.** Emergency services or repairs above and beyond the Contract requirements will be billed at an hourly rate.

**Slug Loads and Accidental Spills.** Service Provider is not responsible for any illicit discharges into the wastewater system that may harm the treatment efficiency such as: accidental release of cleansers/oils/degreaser, slug flows of water or high strength waste, or other chemical discharges. Trucking or hauling the waste may be required in those circumstances.

**CONTRACT TERMS**

**Contract Length:** This Contract will be in effect for a period of three (3) years. At Contract termination each party reserves the right to renegotiate Contract terms, fees, and conditions.

**Frequency of Regular Service Visits:** 1x/year

**Cost for Operation and Maintenance Contract:** \$400/year.

**Basic Service, Billing Amount, and Terms:** All charges are due net 30 days from the date of the invoice.

**Alarm/Emergency Call, and Repair Charges:** Billed at an hourly rate

**Termination.** The Client or Service Provider may terminate this Contract, without cause, upon 30 days written notice.

**Client:**

**Service Provider:**

Ron EX

Sign: \_\_\_\_\_  
Signed by: \_\_\_\_\_  
Date: \_\_\_\_\_

Sign: Ron Myers  
Signed by: Ron Myers  
Date: 11/9/29  
License #: 697