FIELD EVALUATION SHEET

PRELIMINARY EVALUATION DATE 1/27/24, FIELD EVALUATION DATE _____
PROPERTY OWNER: Kyle & Stacy Strong PHONE _____
ADDRESS: 20713 487th Ln CITY,STATE,ZIP: McGregor MN 55760
LEGAL DESCRIPTION: _____
PIN# 29-0-044100 SEC ___ T ___ R ___ TWP NAME Shamrock
FIRE# _____ LAKE/RIVER _____ LAKE CLASS _____ OHWL _____ FT.

DESCRIPTION OF SOIL TREATMENT AREAS

	AREA #1	AREA #2
DISTURBED AREAS	YES ___ NO X	YES ___ NO X
COMPACTED AREAS	YES ___ NO X	YES ___ NO X
FLOODING	YES ___ NO X	YES ___ NO X
RUN ON POTENTIAL	YES ___ NO X	YES ___ NO X
SLOPE %	3	
DIRECTION OF SLOPE	South	
LANDSCAPE POSITION		
VEGETATION TYPES	Heavily wooded	

REFERENCE BM ELEV. 100' FT.
REFERENCE BM DESCRIPTION Pin in ground near home building site

DEPTH TO STANDING WATER OR MOTTLED SOIL: BORING# 1 20", **1A** 20", **2** 22", **2A** 18"

BOTTOM ELEVATION--FIRST TRENCH OR BOTTOM OF ROCK BED: #1 _____ **FT., #2** _____ **FT.**

SOIL SIZING FACTOR: SITE # 1 .76, **SITE #2** .76

CONSTRUCTION RELATED ISSUES: _____

LIC# 559 SITE EVALUATOR SIGNATURE: [signature]
SITE EVALUATOR NAME: Bradley Eddy TELEPHONE# _____
LUG REVIEW _____ DATE _____

Comments: Designed with 1650 Combo Septic tank with additional 520 gallon pump tank

Zoeller Bn 152 pump

SOIL BORING LOGS ON REVERSE SIDE

Form des 2/20/98

SOILS CHARTS FOR BOTH PROPOSED AND ALTERNATE SITES

1 (PROPOSED) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0-6"	Topsoil	
6"-20"	loamy sand	10YR 5/6
20"-24"	Sandy loam	10YR 7/2 mottled

2 (PROPOSED) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0"-6"	Topsoil	
6"-22"	loamy sand	10YR 5/6
22"-26"	Sandy loam	10YR 6/2 mottled

1 (ALTERNATE) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0"-6"	Topsoil	
6"-12"	loamy sand	10YR 5/4
12"-16"	Sandy loam	10YR 4/6 mottled

2 (ALTERNATE) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0"-6"	Topsoil	
6"-12"	loamy sand	10YR 5/4
12"-18"	Sandy loam	10YR 6/2 mottled

ADDITIONAL SOIL BORINGS MAY BE REQUIRED

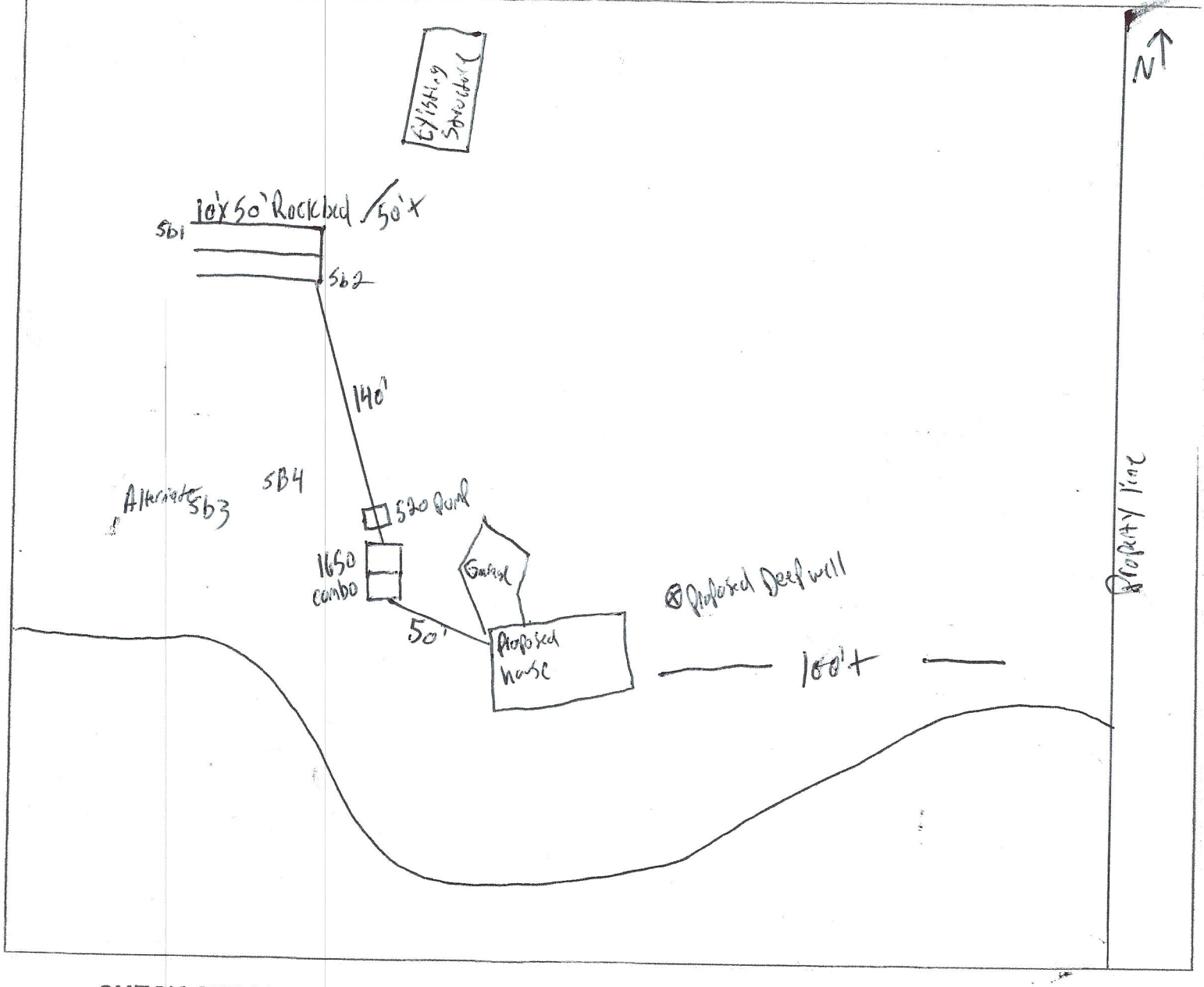
SKETCH SHEET

CLIENT: Streng

DATE: 1/28/24

29-0-04400

MAP DRAWN TO SCALE [redacted] 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
- ☐ LOT IMPROVEMENTS
- ☐ ALL SOIL TREATMENT AREAS
- ☐ ALL ISTS COMPONENTS
- ☐ HORIZONTAL AND VERTICALREFERENCE
- ☐ POINT OF SOIL BORINGS
- ☐ DIRECTION OF SLOPE
- ☐ LOT EASEMENTS
- ☐ ALL LOT DIMENSIONS
- ☐ DISTURBED/ COMPACTED AREAS
- ☐ SITE PROTECTION--LATHE AND RIBBON EVERY 15 FT
- ☐ ACCESS ROUTE FOR TANK MAINTENANCE

REQUIRED SETBACKS

- ☐ STRUCTURES
- ☐ PROPERTY LINES
- ☐ OHWL

COMMENTS:

INDICATE ELEVATIONS

BENCHMARK	100'
ELEVATION OF SEWER LINE @ HOUSE	99.16'
ELEVATION @ TANK INLET	94.91
ELEVATION @ BOTTOM OF ROCK LAYER	105.82
ELEVATION @ BOTTOM OF BORING OR RESTRICTIVE LAYER	102.66
ELEVATION OF PUMP	90.91
ELEVATION OF DISTRIBUTION DEVICE	106.82'

DESIGNER SIGNATURE [signature]

LICENSE# L552

DATE 1/28/24

2011 purple code

Mound Design - Aitkin county

www.SepticResource.com (vers 15.2)

Property Owner: Kyle & Satcy Strang **Date:** 1/28/2024

Site Address: 20713 487th ln Mcgregor MN 55760 **PID:** 29-0-044100

Comments:

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

1) [4] bedroom Type [I] Residential System

2) [600] GPD design flow

3) [No] Garbage disposal or pumped to septic

4) [1500] Gal Septic tank (code minimum) [1500] Gal Septic tank (design size / LUG req'd)
Tank options: none

5) [1.2] GPD/ft^2 mound sand loading rate contour loading rate of [12] req's a min [50] ft. long rockbed

6) [10.0] ft rockbed width [50.0] ft rockbed length

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

8) [6] laterals [24.0] feet long [8.5] perfs / lateral [51] perfs total
(1/2 a perf means the first perf starts at the middle feed manifold)

9) [7/32] inch perfs at [1] feet residual head gives [0.56] gpm flow rate per perforation

for this perf size & spacing, & pipe size on line 12, max perfs/lateral = [30], line #8 must be less -->

10) [4.0] doses per day (4 minimum)

11) [150] gallons per dose (treatment volume)

12) [2.00] inch diameter laterals must be used to meet "4x pipe volume" requirement
2.00 5x
2.00 3x

13) [140] feet of [2.0] inch supply line leads to [24] gallons of drainback volume
(Tip: "top feed" manifold to control the drainback)

14) [174] gallons TOTAL pump out volume (treatment + drainback)

15) [16] feet vertical lift from pump to mound laterals, leads to a:

16) [29] GPM @ [25] feet of head, Pump requirement (note: >50gpm may require an extra 3-6' of head)

17) [500] gal Dose tank (code minimum) [500] gal Dose tank (design size / LUG req'd) at [ ] gpi
leads to a

18) [######] inch swing on Demand float, or timed dosing of [6] 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) [######] inches from bottom of tank to "Pump ON" float, or [12] inches to "Timer ON" float if time dosed

21) [######] inches from bottom of tank to "Hi Level" float, or [#####] inches to "Hi Level" float if time dosed

22) [######] gallons reserve capacity (after High Level Alarm is activated)

23) 0.78 gpd/ft² Absorption area Soil Loading Rate, (this must match the soil boring log) which gives a mound ratio of 1.5 (minimum)
desired mound ratio 1.5

24) 3 percent site slope (0-20% range) 3 (% downslope site slope, if different than upslope)

25) 18 inches, or 1.5 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) 18 inch, or 1.5 ft. Sand Lift Mound **CRITICAL FOR FUTURE CERTIFICATIONS!!!**

27) 15.0 ft. base absorption width (with sand beyond rockbed as follows:)
31.6 greater of: absorption width OR sand slope

28) 0.0 ft. upslope and sideslope sand upslope 8.9
5.0 ft. Downslope sand down slope 12.7

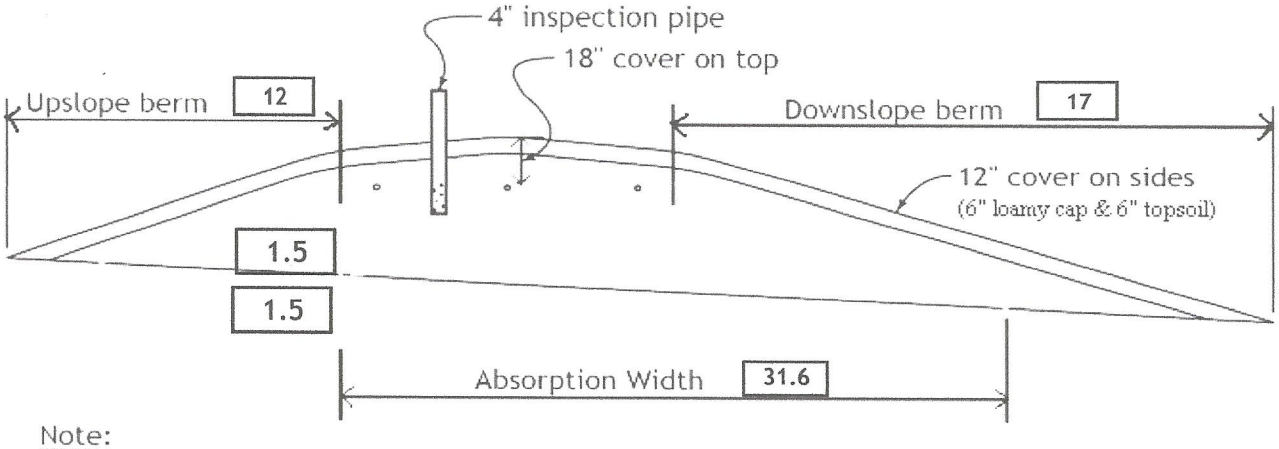
Individual slope ratios give BERM widths (topsoil beyond rockbed) of:

29) 4:1 upslope ratio 12 ft. upslope berm

30) 4:1 sideslope 15 ft. sideslope berms

31) 4:1 downslope 17 ft. downslope berm

32) Overall Dimensions: 10.0 ft. wide by 50.0 ft. long Rock bed
39 ft. wide by 80 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 50.0 ft. by 6 inches under pipe, plus 20% gives 17 yd³ or *1.4= 24 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)
29.8 up + 47.5 downslope + 11.6 ends + 30.6 under rock = 143 yd³ or *1.4= 201 ton
plus 20%

35) Loamy Cap:
35 ft. by 76 ft. 6" deep, plus 20% gives 60 yd³ or *1.4= 84 ton

36) Topsoil:
39 ft. by 80 ft. 6" deep, plus 20% gives 70 yd³ or *1.4= 98 ton

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

Designer Signature	Company	License#	Date
	Ekelund Excavating	L552	1/28/2024

Installer Summary

1500 gallon Septic tank (minimum) Tank options: none

520 gallon Dose tank (minimum) at 16.58 gpi

29 GPM @ 25 ft. of head, Pump required

inch swing on Demand float which translates to roughly ##### inches of float tether length

if time dosing is required --> 6 minutes ON time & 9 hours OFF time

inches from bottom of tank to "pump ON" float, or 12 inches to "timer ON" float

inches from bottom of tank to "Hi Level Alarm" or ##### inches to "Hi level alarm" if time dosed

140 ft. of 2.0 inch supply line with middle feed manifold connection

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

18 inch, or 1.5 ft. Sand Lift Mound

10.0 ft. wide by 50.0 ft. long Rock bed

6 laterals 2.00 inch diameter 24.0 ft. long 3.0 ft. lateral spacing

7/32 inch perfs 3.0 ft. perforation spacing

No Effluent filter & alarm

6 clean out & valve box assemblies

31.6 ft.Total sand ABSORPTION width (minimum)

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

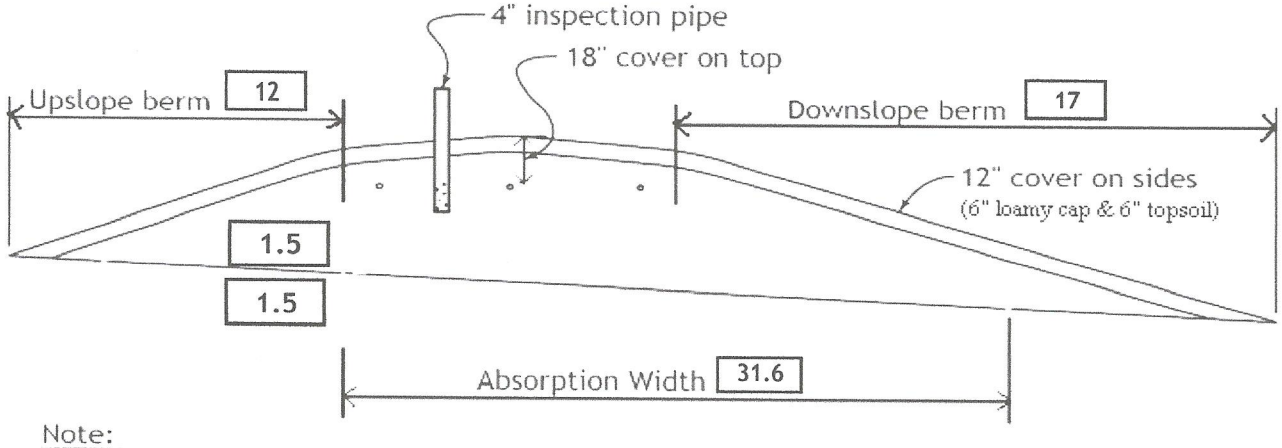
12.7 ft. Downslope

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

4:1 upslope ratio 12 ft. upslope berm

4:1 sideslope 15 ft. sideslope berms

4:1 downslope 17 ft. downslope berm



Note:
For 0 to 1% slopes, *Absorption Width* is measured from the *Bed* equally in both directions.
For slopes >1%, *Absorption Width* is measured downhill from the upslope edge of the *Bed*.

Rock Bed:	17.0	yd^3 or *1.4=	24	ton
Mound Sand:	143	yd^3 or *1.4=	201	ton
Loamy Cap:	60	yd^3 or *1.4=	84	ton
Topsoil:	70	yd^3 or *1.4=	98	ton

6 inches under pipe

calculation based on 3:1/4:1 slope from top of rockbe

6" deep

6" deep

Subsurface Sewage Treatment System Management Plan

Property Owner: Kyle & Stacy Strong Phone: _____ Date: 1/28/24

Mailing Address: _____ City: _____ Zip: _____

Site Address: 20713 487th Ln City: McGregor Zip: 55760

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

System Designer: Recommends SSTS check every _____ months.
Local Government: Recommends SSTS check every _____ months.
State Requirement: Requires SSTS check every 36 months.
(State requirements are based on MN Rules Chapter 7080.2450, Subp. 2 & 3)

My System needs to be checked every ____ months.

Homeowner Management Tasks:

Leaks – Check (look, listen) for leaks in toilets and dripping faucets. Repair leaks promptly.
Surfacing sewage – Regularly check for wet or spongy soil around your soil treatment area.
Effluent filter – Inspect and clean twice a year or more.
Alarms – Alarm signals when there is a problem. Contact a service or maintenance provider any time an alarm signals.
Event counter or water meter – Record your water use.
-recommend meter readings be conducted (*circle one:* *DAILY* *WEEKLY* *MONTHLY* *N/A*)

Licensed septic service provider or maintenance provider (Check all that apply):

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

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

Property Owner Signature: _____ Date: 1-28-24

Designer Signature: _____ Date: 1/28/24

See Reverse Side for Management Log

Maintenance Log

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										
Water usage rate (monitor frequency _____)										
Check annually:										
Caps: inspect, replace if needed										
Sludge & Scum/Pump										
Inlet & Outlet baffles										
Drainfield effluent leaks										
Pump, alarm, wiring										
Flush & clean laterals if cleanouts exists										
Other:_____										
Other:_____										

Notes:_____