

**FIELD EVALUATION SHEET**

PRELIMINARY EVALUATION DATE 8-25-22 , FIELD EVALUATION DATE 8-25-22  
PROPERTY OWNER: STEVE AND DIANA JOST PHONE \_\_\_\_\_  
ADDRESS: 32699 NUTHATCH AVE CITY, STATE, ZIP: AITKIN MN 56431  
LEGAL DESCRIPTION: W 100 FT OF LOT 2 AS IN DOC 444004  
PIN# 09-1-092202 SEC 10 T 46 R 25 TWP NAME GLEN TWP  
FIRE# \_\_\_\_\_ LAKE/RIVER LONG LAKE LAKE CLASS \_\_\_\_\_ OHWL \_\_\_\_\_ FT.

**DESCRIPTION OF SOIL TREATMENT AREAS**

	AREA #1	AREA #2	REFERENCE BM ELEV. <u>100</u> FT
DISTURBED AREAS	YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	REFERENCE BM DESCRIPTION _____
COMPACTED AREAS	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	ELEVATION OF _____
FLOODING	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	EXISTING DIRT PAD _____
RUN ON POTENTIAL	YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	YES <input type="checkbox"/> NO <input type="checkbox"/>	_____
SLOPE %	<u>3</u>	_____	_____
DIRECTION OF SLOPE	<u>W</u>	_____	_____
LANDSCAPE POSITION	<u>TOP OF HILL</u>	_____	_____
VEGETATION TYPES	<u>LAWN AREA</u>	_____	_____

DEPTH TO STANDING WATER OR MOTTLED SOIL: BORING# 1 2' , 1A 2' , 2 \_\_\_\_\_ , 2A \_\_\_\_\_

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

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

CONSTRUCTION RELATED ISSUES: 2 BEDROOM "OTHER" SYSTEM - 1650 COMBO.  
DIG OUT EXISTING TRENCHES AND PLACE SEWER SAND UNDER  
ROCK AND ABSORPTION AREA.

LIC# 127 SITE EVALUATOR SIGNATURE: Larry Liljenquist

SITE EVALUATOR NAME: LARRY LILJENQUIST TELEPHONE# 218 820 8886

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

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

SOIL BORING LOGS ON REVERSE SIDE

# SOILS CHARTS FOR BOTH PROPOSED AND ALTERNATE SITES

1 (PROPOSED) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0-5	TOPSOIL	10YR 5/3
5-16"	LOAM	
16"-22'	LOAM	10YR 5/4
22"	CLAY	10YR 5/3

2 (PROPOSED) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR
0-7	TOPSOIL	10YR 5/3
7-24"	LOAM	
	NO CLAY	

1 (ALTERNATE) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR

2 (ALTERNATE) SOILS DATA

DEPTH (INCHES)	TEXTURE	MUNSELL COLOR

ADDITIONAL SOIL BORINGS MAY BE REQUIRED



# MOUND DESIGN WORK SHEET (For Flows up to 1200 gpd)

## A. Average Design FLOW

Estimated 300 gpd (see figure A-1)  
 or measured \_\_\_\_\_ x 1.5 (safety factor) = \_\_\_\_\_ gpd

## B. SEPTIC TANK Capacity

1000 gallons (see figure C-1)

## C. SOILS (refer to site evaluation)

1. Depth to restricting layer = 2 feet
2. Depth of percolation tests = \_\_\_\_\_ feet
3. Texture LOAM  
 Percolation rate 16-30 mpi
4. Soil loading rate .60 gpd/sqft (see figure D-33)
5. Percent land slope 3 %

A-1: Estimated Sewage Flows in Gallons per Day

number of bedrooms	Class I	Class II	Class III	Class IV
2	300	225	180	60%
3	450	300	218	of the
4	600	375	256	values
5	750	450	294	in the
6	900	525	332	Class I,
7	1050	600	370	II, or III
8	1200	675	408	columns.

C-1: Septic Tank Capacities (in gallons)

Number of Bedrooms	Minimum Liquid Capacity	Liquid capacity with garbage disposal	Liquid capacity with disposal & lift inside
2 or less	750	1125	1500
3 or 4	1000	1500	2000
5 or 6	1500	2250	3000
7, 8 or 9	2000	3000	4000

## D. ROCK LAYER DIMENSIONS

1. Multiply average design flow (A) by 0.83 to obtain required rock layer area.  
300 gpd x 0.83 sqft/gpd = 250 sqft
2. Determine rock layer width = 0.83 sqft/gpd x linear Loading Rate (LLR)  
 0.83 sqft/gpd x 17 gpd/sqft = 10 ft
3. Length of rock layer = area ÷ width =  
250 sqft (D1) ÷ 10 ft (D2) = 25 ft

Mound LLR

< 120 MPI ≤ 12

≥ 120 MPI ≤ 6

## E. ROCK VOLUME

1. Multiply rock area (D1) by rock depth of 1 ft to get cubic feet of rock  
250 sqft x 1 ft = 250 cuft
2. Divide cuft by 27 cuft/cuyd to get cubic yards  
250 cuft ÷ 27 cuyd/cuft = 9.25 cuyd
3. Multiply cubic yards by 1.4 to get weight of rock in tons  
9.25 cuyd x 1.4 ton/cuyd = 13 tons

## F. SEWAGE ABSORPTION WIDTH

Absorption width equals absorption ratio (See Figure D-33) times rock layer width (D2)

2 x 10 ft = 20 ft

D-33: Absorption Width Sizing Table

Percolation Rate in Minutes per Inch (MPI)	Soil Texture	Loading Rate Gallons per day per square foot	Absorption Ratio
Faster than 5	Coarse Sand Medium Sand Loamy Sand Fine Sand	1.20	1.00
6 to 15	Sandy Loam	0.79	1.50
16 to 30	Loam	0.60	2.00
31 to 45	Silt Loam	0.50	2.40
46 to 60	Silt Sandy Clay Loam Silty Clay Loam Clay Loam	0.45	2.67
61 to 120	Silty Clay Sandy Clay Clay	0.24	5.00
Slower than 120*			

\*System designed for these soils must be other or performance

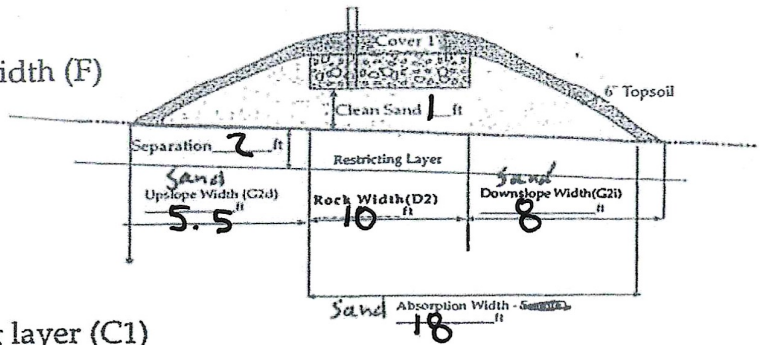


G. MOUND SLOPE WIDTH & LENGTH

(landslope greater than 1%)

1. Downslope absorption width = absorption width (F) minus rock layer width (D2)

20 ft - 10 ft = 10 ft



2. Calculate mound size

UPSLOPE

a. Depth of clean sand fill at upslope edge of rock layer = 3 ft minus the distance to restricting layer (C1)

3 ft - 2 ft = 1 ft

b. Mound height at the upslope edge of rock layer = depth of clean sand for separation (G2a) at upslope edge plus depth of rock layer (1 ft) plus depth of cover (1 ft)

1 ft + 1ft + 1ft = 3 ft

c. Upslope berm multiplier based on land slope 3.57 (see figure D-34)

d. Upslope width = berm multiplier (G2c) x upslope mound height (G2b):

3.57 x 3 ft = 11 ft

D-34: SLOPE MULTIPLIER TABLE

Land Slope in %	UPSLOPE multipliers for various slope ratios						DOWNSLOPE multipliers for various slope ratios				
	3:1	4:1	5:1	6:1	7:1	8:1	3:1	4:1	5:1	6:1	7:1
0	3.0	4.0	5.0	6.0	7.0	8.0	3.0	4.0	5.0	6.0	7.0
1	2.91	3.85	4.76	5.66	6.54	7.41	3.09	4.17	5.26	6.38	7.53
2	2.83	3.70	4.54	5.36	6.14	6.90	3.19	4.35	5.56	6.82	8.14
3	<u>2.75</u>	<u>3.57</u>	4.35	5.08	5.79	6.45	<u>3.30</u>	<u>4.54</u>	5.88	7.32	8.86
4	2.68	3.41	4.17	4.84	5.46	6.06	3.41	4.76	6.25	7.89	9.72
5	2.61	3.33	4.00	4.62	5.19	5.71	3.53	5.00	6.67	8.57	10.77
6	2.54	3.23	3.85	4.41	4.93	5.41	3.66	5.26	7.14	9.38	12.07
7	2.48	3.12	3.70	4.23	4.70	5.13	3.80	5.56	7.69	10.34	13.73
8	2.42	3.03	3.57	4.05	4.49	4.88	3.95	5.88	8.33	11.54	15.91
9	2.36	2.94	3.45	3.90	4.30	4.65	4.11	6.25	9.09	13.04	18.92
10	2.31	2.86	3.33	3.75	4.12	4.44	4.29	6.67	10.00	15.00	23.33
11	2.26	2.78	3.23	3.61	3.95	4.26	4.48	7.14	11.11	17.65	30.43
12	2.21	2.70	3.12	3.49	3.80	4.08	4.69	7.69	12.50	21.43	43.75

DOWNSLOPE

e. Drop in elevation = rock layer width (D2) x percent landslope (C5) ÷ 100

10 ft x 3 % ÷ 100 = .3 ft

f. Downslope mound height = depth of clean sand for slope difference (G2e) at downslope rock edge plus the mound height at the upslope edge of rock layer (G2b)

.3 ft + 3 ft = 3.3 ft

g. Downslope berm multiplier based on percent land slc

4.54 (see figure D-34)

h. Downslope width = downslope multiplier (G2g) times downslope mound height (G2f) 23.5

4.54 x 3.3 ft = 15 ft

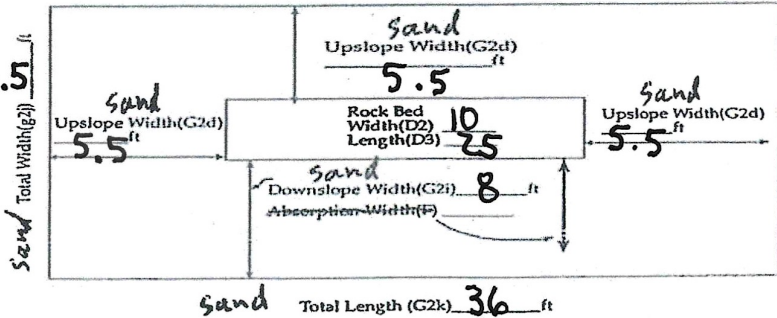
i. Select the greater of G1 and G2h as the downslope width: 15 ft

j. Total mound width is the sum of upslope width (G2d) width plus rock layer width (D2) plus downslope width (G2i)

11 ft + 10 ft + 15 ft = 36 ft

k. Total mound length is the sum of upslope width (G2d) plus rock layer length (D3) plus upslope width (G2d)

11 ft + 25 ft + 11 ft = 47 feet



**Final Dimensions:**  
36 x 47

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

Larry Lyngsund (signature) 127 (license #) 8-27-22 (date)



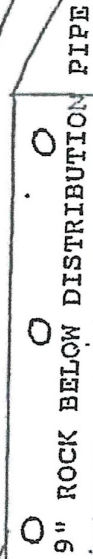
BOUND CROSS-SECTION

3 PERCENT SLOPE OF ORIGINAL SOIL      10 FT. X 25 FT. SIZE OF ROCKBED      23.5 FT. X 36 FT. SIZE OF SANDBASE

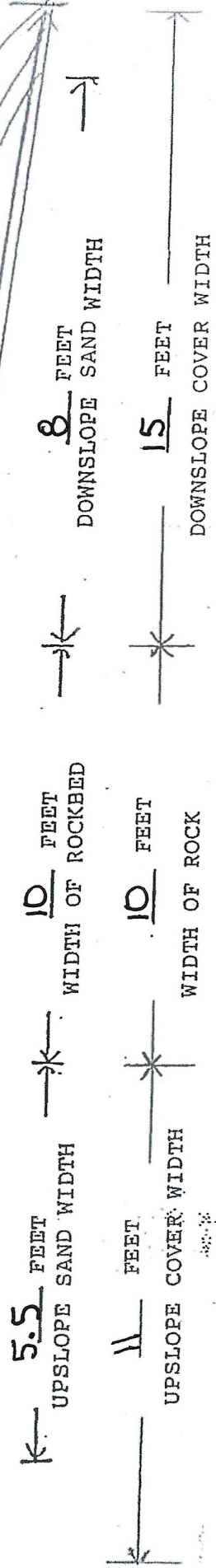
GEOTEXTILE CLOTH

4 INCHES OF TOPSOIL FOR GRASS COVER

14 INCHES OF SANDY LOAM SOIL TAPERING TO 8 INCHES



12 INCHES OF SAND \*      15 INCHES OF SAND \*  
ORIGINAL GRADE      ROUGHENED SOIL SURFACE



# PRESSURE DISTRIBUTION SYSTEM

1. Select number of perforated laterals 3
2. Select perforation spacing = 2.5 ft
3. Since perforations should not be placed closer than 1 foot to the edge of the rock layer (see diagram), subtract 2 feet from the rock layer length.

$$\frac{25}{\text{Rock layer length}} - 2 \text{ ft} = \underline{23} \text{ ft}$$

4. Determine the number of spaces between perforations. Divide the length (3) by perforation spacing (2) and round down to nearest whole number.

$$\text{Perforation spacing} = \underline{23} \text{ ft} \div \underline{2.5} \text{ ft} = \underline{9} \text{ spaces}$$

5. Number of perforations is equal to one plus the number of perforation spaces(4). Check figure E-4 to assure the number of perforations per lateral guarantees <10% discharge variation.

$$\underline{9} \text{ spaces} + 1 = \underline{10} \text{ perforations/lateral}$$

6. A. Total number of perforations = perforations per lateral (5) times number of laterals (1)

$$\underline{10} \text{ perfs/lat} \times \underline{3} \text{ lat} = \underline{30} \text{ perforations}$$

- B. Calculate the square footage per perforation. Should be 6-10 sqft/perf. Does not apply to at-grades.

Rock bed area = rock width (ft) x rock length (ft)

$$\underline{10} \text{ ft} \times \underline{25} \text{ ft} = \underline{250} \text{ sqft}$$

Square foot per perforation = Rock bed area ÷ number of perfs (6)

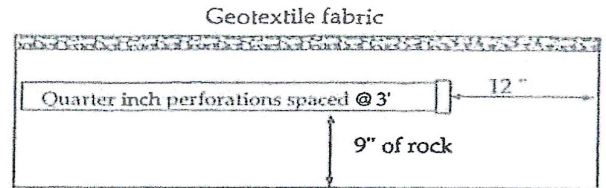
$$\underline{250} \text{ sqft} \div \underline{30} \text{ perfs} = \underline{8.3} \text{ sqft/perf}$$

7. Determine required flow rate by multiplying the total number of perforations (6A) by flow per perforation (see figure E-6)

$$\underline{30} \text{ perfs} \times \underline{.74} \text{ gpm/perfs} = \underline{22.5} \text{ gpm}$$

8. If laterals are connected to header pipe as shown on upper example, to select minimum required lateral diameter; enter figure E-4 with perforation spacing (2) and number of perforations per lateral (5) Select minimum diameter for perforated lateral = 1 1/4 inches.

9. If perforated lateral system is attached to manifold pipe near the center, lower diagram, perforated lateral length (3) and number of perforations per lateral (5) will be approximately one half of that in step 8. Using these values, select minimum diameter for perforated lateral = \_\_\_\_\_ inches.



Perf Sizing 3/16" - 1/4"  
Perf Spacing 1.5' - 5'

E-4: Maximum allowable number of 1/4-inch perforations per lateral to guarantee <10% discharge variation

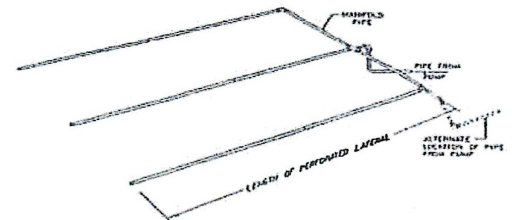
perforation spacing (feet)	1 inch	1.25 inch	1.5 inch	2.0 inch
2.5	8	14	18	28
3.0	8	13	17	26
3.3	7	12	16	25
4.0	7	11	15	23
5.0	6	10	14	22

E-6: Perforation Discharge in gpm

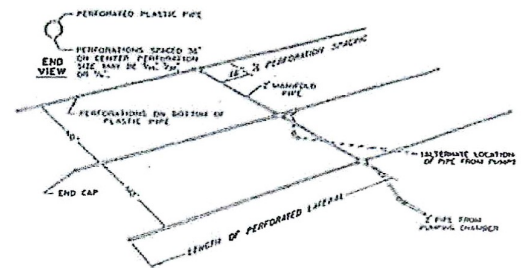
head (feet)	perforation diameter (inches)			
	1/8	3/16	7/32	1/4
1.0 <sup>a</sup>	0.18	0.42	0.56	0.74
2.0 <sup>b</sup>	0.26	0.59	0.80	1.04
5.0	0.41	0.94	1.26	1.65

<sup>a</sup> Use 1.0 foot for single-family homes.  
<sup>b</sup> Use 2.0 feet for anything else.

MANIFOLD LOCATED AT END OF PRESSURE DISTRIBUTION SYSTEM



LAYOUT OF PERFORATED PIPE LATERALS FOR PRESSURE DISTRIBUTION IN MOUND



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

Larry Lyngstad (signature)

(signature)

127 (license #)

(license #)

8-27-22 (date)

(date)



# PUMP SELECTION PROCEDURE

## 1. Determine pump capacity:

### A. Gravity distribution

1. Minimum required discharge is 10 gpm
2. Maximum suggested discharge is 45 gpm. For other establishments at least 10% greater than the water supply rate, but no faster than the rate at which effluent will flow out of the distribution device.

### B. Pressure distribution

See pressure distribution work sheet

From A or B Selected pump capacity: 22.5 gpm

## 2. Determine pump head requirements:

### A. Elevation difference between pump and point of discharge?

17 feet

### B. Special head requirement? (See Figure at right - Special Head Requirements)

5 feet

### C. Calculate Friction loss

1. Select pipe diameter 2 in

2. Enter Figure E-9 with gpm (1A or B) and pipe diameter (C1).

Read friction loss in feet per 100 feet from Figure E-9

Friction Loss = 1.11 ft/100ft of pipe

3. Determine total pipe length from pump discharge to soil treatment discharge point. Estimate by adding 25 percent to pipe length for fitting loss. Total pipe length times 1.25 = equivalent pipe length

25 feet x 1.25 = 31.25 feet

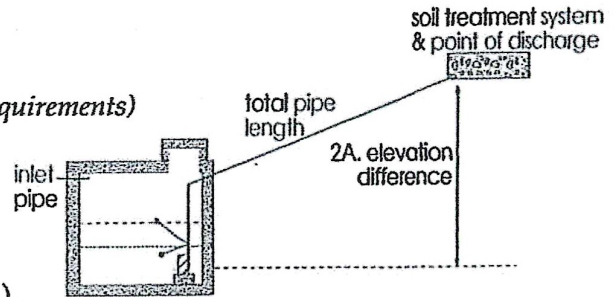
4. Calculate total friction loss by multiplying friction loss (C2) in ft/100 ft by the equivalent pipe length (C3) and divide by 100.

= 1.11 ft/100ft x 31.25 ÷ 100 = .35 ft

### D. Total head required is the sum of elevation difference (A), special head requirements (B), and total friction loss (C4)

17 ft + 5 ft + .35 ft =

Total head: 17.5 feet



Special Head Requirements	
Gravity Distribution	0 ft
Pressure Distribution	5 ft

flow rate gpm	E-9: Friction Loss in Plastic Pipe Per 100 feet		
	nominal pipe diameter		
	1.5"	2"	3"
20	2.47	0.73	0.11
25	3.73	<u>1.11</u>	0.16
30	5.23	1.55	0.23
35	6.96	2.06	0.30
40	8.91	2.64	0.39
45	11.07	3.28	0.48
50	13.46	3.99	0.58
55		4.76	0.70
60		5.60	0.82
65		6.48	0.95
70		7.44	1.09

## 3. Pump selection

A pump must be selected to deliver at least 22.5 gpm (1A or B) with at least 17.5 feet of total head (2D)

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

Larry Lyngstad

(signature)

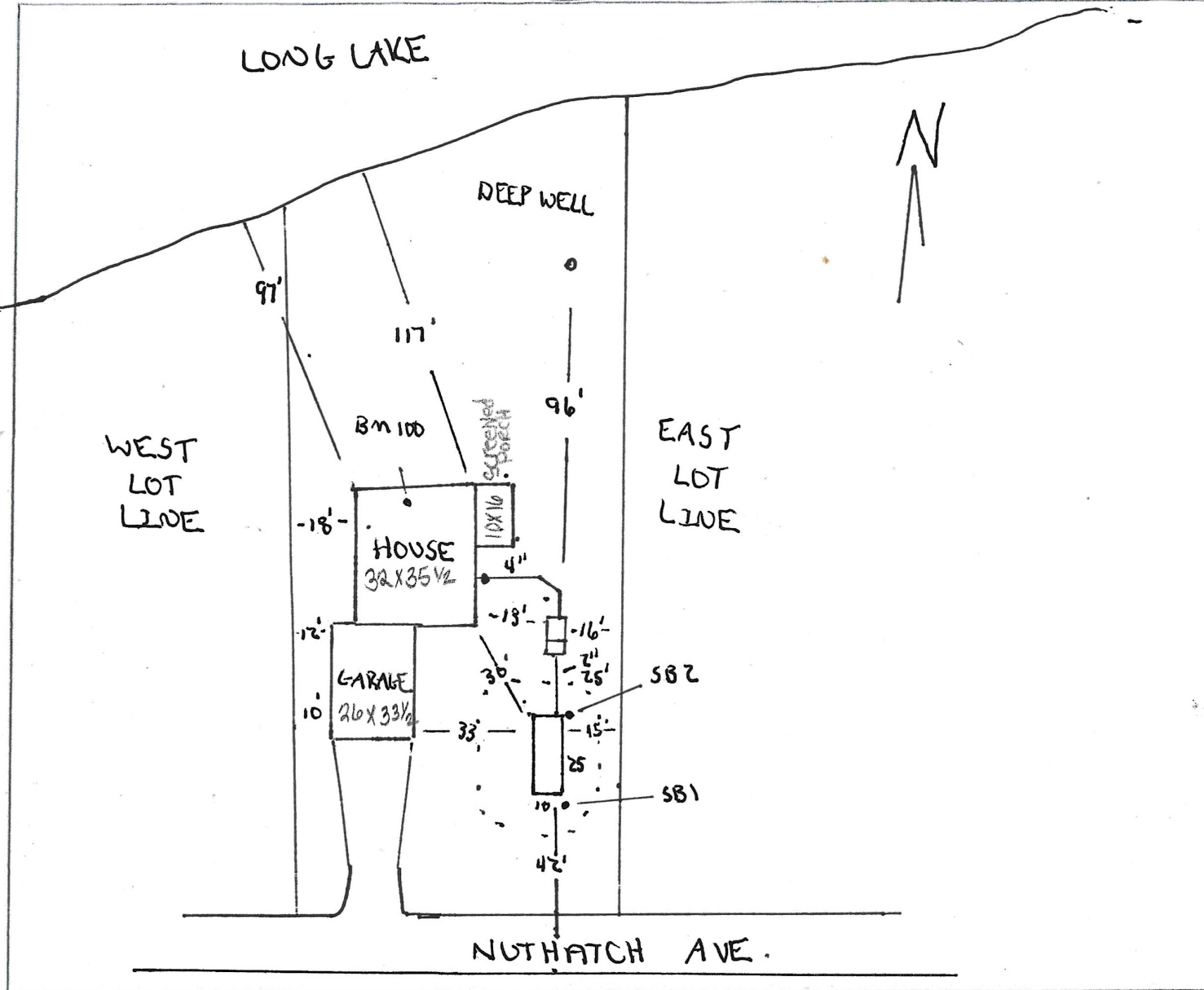
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(license #)

8-27-22

(date)

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
- LOT IMPROVEMENTS
- ALL ISTS COMPONENTS
- DIRECTION OF SLOPE
- ALL LOT DIMENSIONS

REQUIRED SETBACKS

- STRUCTURES
- OHWL
- PROPERTY LINES

COMMENTS:

INDICATE ELEVATIONS

- BENCHMARK 100
- ELEVATION OF SEWER LINE @ HOUSE 99
- ELEVATION @ TANK INLET 98
- ELEVATION @ BOTTOM OF ROCK LAYER 105
- ELEVATION @ BOTTOM OF BORING OR RESTRICTIVE LAYER 102
- ELEVATION OF PUMP 94
- ELEVATION OF DISTRIBUTION DEVICE 106

DESIGNER SIGNATURE *Larry Lyngard*

LICENSE# 8-27-22 # 927

DATE 8-27-22



# Subsurface Sewage Treatment System Management Plan

Property Owner: STEVE JOST Phone: \_\_\_\_\_ Date: 8-27-22  
Mailing Address: 3762 139<sup>TH</sup> AVE NW City: ANDOVER Zip: 55304  
Site Address: 32699 NUTHATCH AVE City: AITKIN Zip: 56431

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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 17 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: \_\_\_\_\_

Designer Signature: Larry Lyngquist Date: 8-27-22

See Reverse Side for Management Log

## Maintenance Log

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

Notes: \_\_\_\_\_

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# AITKIN COUNTY ENVIRONMENTAL SERVICES

## APPLICATION for an OPERATING PERMIT FOR WASTEWATER TREATMENT AND DISPERSAL

PERMITTEE STEVE JOST PARCEL NUMBER 09-1-092202

ADDRESS 32699 NUTHATCH AVE

LEGAL DESCRIPTION W 100 FT OF LOT 2 AS IN DOC 444004

TELEPHONE # \_\_\_\_\_ GIS LOCATION \_\_\_\_\_

**A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM:**  
(Attach ISTS site evaluation and design; estimated cost of system construction, operation, monitoring, service, component replacement, and management; anticipated system life, hydraulic and organic loading rates)

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**B. MONITORING PLAN AND REPORTING FREQUENCY:**

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
FLOW	300	CTANK	MONTHLY	EVENT COUNTER	ANNUAL
5-DAY BOD					
TOTAL NITROGEN					
TOTAL PHOSPHORUS					
TSS					
FATS, OILS AND GREASE					
FECAL COLIFORM					
SEPARATION DISTANCE					

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LARRY LILJENQUIST will perform the monitoring of this septic system.

**C. MAINTENANCE PLANS**

PARAMETER	LOCATION	FREQUENCY

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**D. MITIGATION PLAN:**

IF DRAINFIELD WERE TO FAIL, DISCONTINUE  
USE AND USE HOLDING TANK ONLY

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I hereby certify with my signature as the designer, that all data for the operating permit application is true and correct to the best of my knowledge. I agree to indemnify and hold Aitkin County harmless from loses, damages, costs and charges that may be incurred by the County because of the information submitted with this application.

Larry Liljenquist  
 Signature

127  
 License Number

8-27-22  
 Date

LARRY LILJENQUIST  
 Name (please print)

30477 ST HWY 47  
 Address

218 B2D 8886  
 Telephone #



**MAINTENANCE SERVICE, MONITORING AND INSPECTION  
CONTRACT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM**

It is hereby agreed this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_ by and between  
\_\_\_\_\_ (Inspector) and \_\_\_\_\_ (client)

(Client) Name & Address  
\_\_\_\_\_

Street Address \_\_\_\_\_

City, State, Zip \_\_\_\_\_

That in consideration of the payments provided herein, the Inspector shall provide services to perform Preventative Maintenance, Monitoring and Inspection of the Individual Sewage Treatment System (ISTS) located at the property described in the Aitkin County Operating Permit.

Each inspection includes an examination of the ISTS followed by a written report to the client. This inspection report shall contain recommendations for operation and maintenance for failure-preventative measures, if any are deemed appropriate by the inspector and a list of recommended corrective measures or replacement parts. The Inspector is authorized to submit a copy of the report to the Aitkin County Environmental Services Department.

This contract does not assume any responsibilities or obligations, which are normally the responsibilities of the Client, as related to parts or labor and does not extend to cover any costs that may be associated with any recommendations made under this contract.

The Inspector can only contract or subcontract for parts or labor after authorization. Billings for service calls shall be made on a case by case basis. This contract only covers maintenance, monitoring and inspection services per current Aitkin County Operating Permit and does not cover alarm calls of any kind.

The Inspector shall be provided access to the site and the system in order to perform the following services:

**SEPTIC TANK AND LIFT STATIONS INSPECTION**

(check the boxes needed to fill the requirements of the Operating Permit)

\_\_\_ Check septic tank and compartments for solids buildup and general appearance. If necessary, have tanks pumped (cost of pumping is the responsibility of the client).

\_\_\_ Check effluent filter for buildup and clean, if applicable.

\_\_\_ Check pumping system, including control panel and floats.

\_\_\_ Record and date the readings of the elapsed time meter and cycle counter(s), if applicable.

\_\_\_ Check dosing settings (in the control panel, if applicable).

\_\_\_ Other: \_\_\_\_\_  
\_\_\_\_\_

**\*\*If the septic tank or lift stations need pumping to be in compliance with the operating permit the cost of the pumping is the responsibility of the Client.**

### **TREATMENT DEVICE**

\_\_\_ Inspect pretreatment unit (aerobic tank, sand filter, etc.) per manufacturer's recommendations, if applicable.

\_\_\_ Inspect and clean any parts per manufacturer's recommendations.

\_\_\_ Inspect and clean laterals, if applicable.

\_\_\_ Inspect the appearance of the wastewater inside the unit for color, turbidity and examination of odors.

\_\_\_ Sample effluent per Operating Permit monitoring requirements.

**(Cost of sampling and analysis is the responsibility of the Client)**

\_\_\_ Other: \_\_\_\_\_  
\_\_\_\_\_

### **DISPERSAL FIELD**

\_\_\_ Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)

\_\_\_ If liquid level monitors are installed, levels will be observed and recorded.

\_\_\_ Flush filters and clean cartridges, if applicable.

\_\_\_ Check field control unit solenoid operations or manual control, if applicable.

\_\_\_ Other: \_\_\_\_\_  
\_\_\_\_\_



In no event shall the Inspector be responsible for special or consequential damages, including but not limited to, loss of time, injury to personal 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 or as, related to parts or labor and does not extend to cover any costs that may be associated with any recommendations made under this contract.

This contract shall be effective: Beginning \_\_\_\_\_, \_\_\_\_\_  
and Ending \_\_\_\_\_, \_\_\_\_\_

**Cost for Maintenance Service, Monitoring and Inspection Contract is:**

\$ \_\_\_\_\_ /yr. For \_\_\_\_\_ years totaling \$ \_\_\_\_\_

The Inspector agrees to provide inspection, monitoring and routine maintenance service only under this contract. The Client remedies for breach of this contract shall be limited to refund of any of the amounts paid in advance for service. This contract may be renewed 30 days from the ending date.

Payment for all services shall be paid \_\_\_\_\_.

**Client:**

**Inspector:**

Sign: \_\_\_\_\_

Sign: Larry Liljenquist

Print: \_\_\_\_\_

Print: LARRY LILJENQUIST

Date: \_\_\_\_\_

Date: 8-27-22

# LILJENQUIST SEWER AND EXCAVATING

30477 State Hwy 47

Aitkin, MN 56431 | 320-684-2692 | [liljenquistsewer@yahoo.com](mailto:liljenquistsewer@yahoo.com)

August 30, 2022

Aitkin County Environmental Services

Permittee:  
Steve and Diane Jost  
32699 Nuthatch Ave  
Aitkin, MN 56431

Operating Permit  
Zoning Permit  
Parcel # 09-1-092202

## **Dear Aitkin County Environmental Services:**

Our plan with this project is to dig out the old trench system and put a new septic mound over the top. We will dig out the rock, pipe, and any soils 2' down. Then replace with clean sewer sand. We will go 1' above existing ground with sewer sand making it a 1' sand base.

Thank you,



Liljenquist Sewer and Excavating