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Sam Jones



070316000

2018 Onsite Septic System Application

Becker County Planning & Zoning
915 Lake Ave, Detroit Lakes, MN 56501
Phone (218)-846-7314; Fax (218)-846-7266

PARCEL	
APP	SEPTIC
YEAR	
SCANNED	
LAKE	

1. PROPERTY DATA (as it appears on the tax statement, purchase agreement or deed)

Parcel Number(s) of property where the system will be installed: 070316000

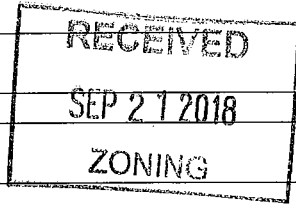
Is this a split of an existing property? Yes No
(If yes and a parcel number has not yet been assigned, indicate the main parcel number from which the new parcel was split.)

Section 34 Township 140 Range 43 Township Name Cuba

Lake Name _____ Lake Classification _____

Legal Description: _____

Project Address: 14395 Leisure Lane



2. PROPERTY OWNER INFORMATION (as it appears on the tax statement, purchase agreement or deed)

Owner's First Name Ron Owner's Last Name Anderson

Mailing Address 14395 Leisure Lane City, State, Zip CAKE PARK MN 56554

Phone Number 218-841-8463

3. DESIGNER/INSTALLER INFORMATION

Designer Name David Ohm Company Name OHM Excavating License # 932

Address P.O. Box 273 Audubon Phone Number 218-234-1256

Installer Name David Ohm Company Name OHM Excavating License # 932

Address P.O. Box 273 Audubon Phone Number 218-839-6428

4. SYSTEM DESIGN INFORMATION

System Status

What will new system serve? Check one

- Vacant Lot-No existing system-new structure
- Replacement - structure removed and being rebuilt
- Failing -Replacement- cesspool/seepage pit or other
- Enlargement of system-Undersized
- Repairs Needed to existing
- Additional system on property

- Dwelling
- Resort/Commercial
- Commercial (Non-resort)
- Other - explain below

9-1-18 Date of site evaluation

Design Flow 300 Gallons Per Day

Well Depth 750

Original Soil Compacted Soil

Number of Bedrooms 2

Depth of other wells within 100 ft of system _____

Type of Soil Observation

Garbage Disposal Yes No

Pit Probe Boring

Dishwasher Yes No

Depth to Restricting Layer 3

Lift station in House Yes No

Maximum Depth of System 0

Grinder pump in House Yes No

Size of All Tanks to be installed
1500 gal Single Compartment Septic Tank 625 gal Separate Lift Station

Existing tank w/new Additional Tank

gal Compartmented Tank gal Holding Tank

Existing tank w/new Lift Station

Pit Privy Existing Tank to be used

Holding Tank with Privy

Total Number of tanks to be installed in this system 2 (This # will be reported to MPCA at end of year.)

PARCEL	
APP	SEPTIC
YEAR	

Type of Drainfield	Full Size of Drainfield	Reduced/Warrantied size
_____ Chamber Trench	_____ sq ft	_____ sq ft
_____ Rock Trench	_____ sq ft	_____ sq ft
_____ Gravelless	_____ sq ft	_____ sq ft
<input checked="" type="checkbox"/> Mound	_____ sq ft ***	
_____ Pressure Bed	<u>300</u> sq ft ***	
_____ Seepage Bed	_____ sq ft ***	
_____ At-grade	_____ sq ft ***	
_____ Alternative / Performance	_____ sq ft ***	***Attach Worksheets

Type of chamber _____
 Depth of Rock 1 foot
 Alarm? Yes No _____
 Type of Alarm Electric
 Size of Lift Pump 1/2 hp
 Size of Lift Line 2"

PROPOSED SETBACKS

	TANK	DRAINFIELD
Distance to Well	<u>80</u>	<u>80</u>
Distance to Building	<u>25</u>	<u>35</u>
Distance to Property Line	<u>40</u>	<u>40</u>
Distance to OHW of Lake	_____	_____
Distance to Pressure Line	_____	_____
Distance to Wetland/Protected Water	_____	_____

Perc Rate _____ Soil Sizing Factor _____ *If SSF other than .83, attach Perc Test Data

Soil Borings (three are required)

Depth	Texture	Color	Structure		Depth	Texture	Color	Structure
0-8	Clay loam	10y 3/2 Black	Blocky		0-6	Clay loam	10y 3/2 Black	Blocky
9-36	Clay	10y 5/4 Brown	Blocky		7-37	Clay	10y 5/4 Brown	Blocky
DAMP Soil					DAMP Soil			

Depth	Texture	Color	Structure		Depth	Texture	Color	Structure
0-9	Clay loam	10y 3/2 Black	Blocky					
10-36	Clay	10y 5/4 Brown	Blocky					

5. REQUIRED DOCUMENTS

U of MN worksheets are required for mounds, pressure beds, seepage beds, at-grades or Type IV or Type V systems. Are the required worksheets attached? Yes _____ No

6. DESIGNER'S CERTIFIED STATEMENT

I, David Chen certify that I have completed the preceding design work in accordance with all applicable requirements (including, but not limited to Minnesota Chapter 7080 and the Becker County Individual Sewage Treatment System Ordinance).

Signature of Designer

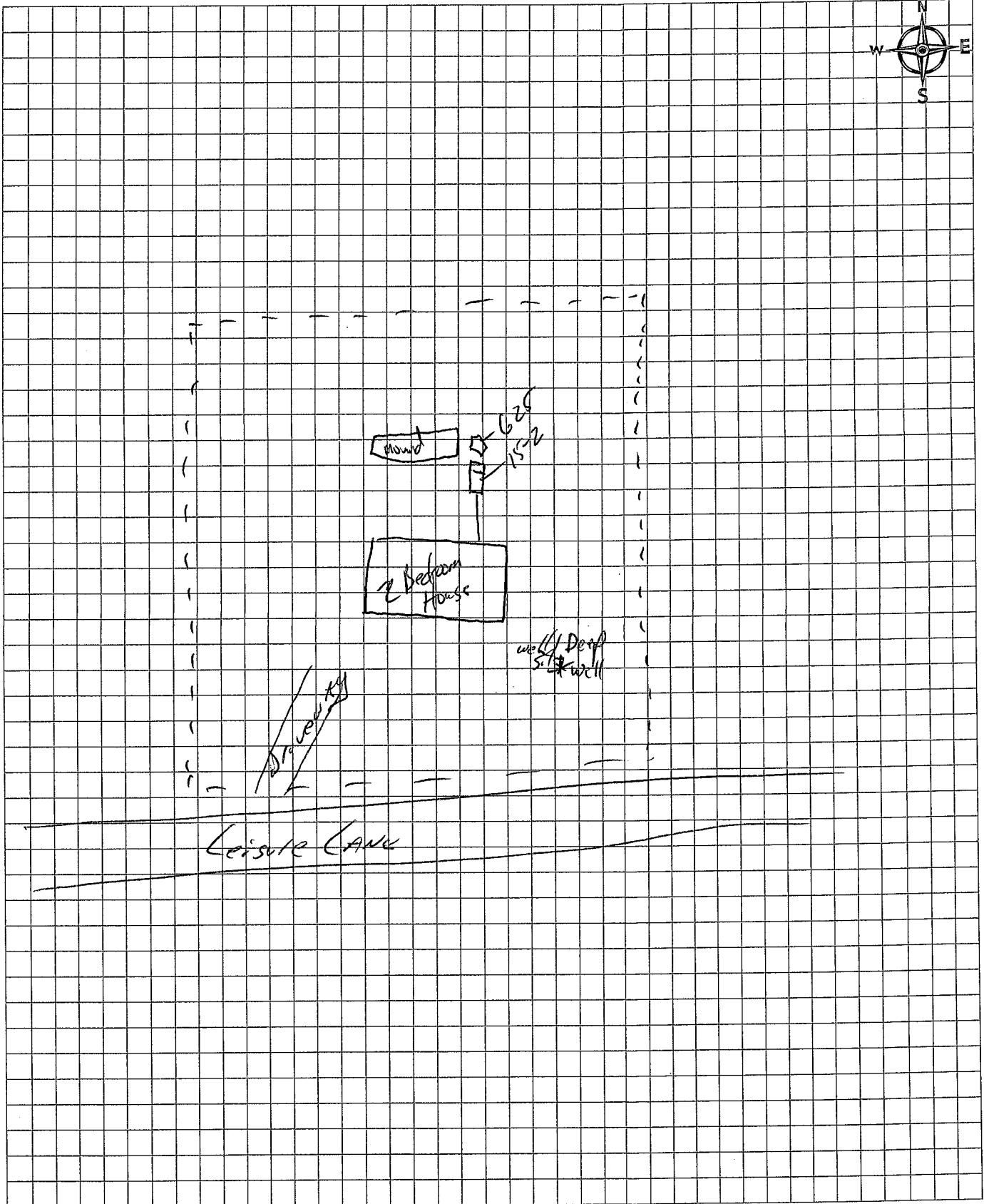
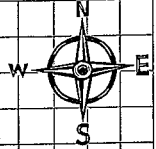
Date

9-20-18

SKETCH OF PROPERTY

Please sketch all structures and septic systems on the property;
Include setbacks and wells within 100 feet of the property.

PARCEL	
APP	SEPTIC
YEAR	2018



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

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.

B. SEPTIC TANK Capacity

1000 gallons (see figure C-1)

C. SOILS (refer to site evaluation)

- Depth to restricting layer = 3 feet
- Depth of percolation tests = 1 feet
- Texture Clay.
Percolation rate _____ mpi
- Soil loading rate .45 gpd/sqft (see figure D-33)
- Percent land slope 0 %

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

- Multiply average design flow (A) by 0.83 to obtain required rock layer area.
 $\frac{300}{\text{gpd}} \times 0.83 \text{ sqft/gpd} = \underline{249} \text{ sqft}$
- Determine rock layer width = $0.83 \text{ sqft/gpd} \times \text{linear Loading Rate (LLR)}$
 $0.83 \text{ sqft/gpd} \times \underline{12} \text{ gpd/sqft} = \underline{9.96} \text{ ft}$
- Length of rock layer = $\text{area} \div \text{width} =$
 $\frac{249}{\text{sqft}} \div \underline{10} \text{ ft} = \underline{24.5} \text{ ft}$

< 120 MPI	≤ 12
≥ 120 MPI	≤ 6

E. ROCK VOLUME

- Multiply rock area (D1) by rock depth of 1 ft to get cubic feet of rock
 $\frac{249}{\text{sqft}} \times 1 \text{ ft} = \underline{249} \text{ cuft}$
- Divide cuft by 27 cuft/cuyd to get cubic yards
 $\frac{249}{\text{cuft}} \div 27 \text{ cuyd/cuft} = \underline{9.2} \text{ cuyd}$
- Multiply cubic yards by 1.4 to get weight of rock in tons
 $\frac{9.2}{\text{cuyd}} \times 1.4 \text{ ton/cuyd} = \underline{12.88} \text{ tons}$

F. SEWAGE ABSORPTION WIDTH

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

$\underline{10} \times \underline{2.67} \text{ ft} = \underline{26.7} \text{ ft}$

ONSITE
SEWAGE
TREATMENT
PROGRAM



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	0.45	2.67
61 to 120	Silty Clay Loam Clay Loam Silty Clay Sandy Clay	0.24	5.00
Slower than 120	Clay		

*System designed for these soils must be other or performance

G. Mound Slope Width and Length
(landslope less than or equal to 1%)

<=1% land slope



1. Absorption width (F) 26.7 ft

2. Calculate mound size

a. Determine depth of clean sand fill

at upslope edge of rock layer = 3 ft

minus the distance to restricting layer (C1)

3 ft - 3 ft = 0 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)

0 ft + 1ft + 1ft = 2 ft

c. Berm width = upslope mound height (G2b) times 4 (4 is recommended, but could be 3-12)

2 x 4 = 8 ft

d. The total landscape width is the sum of berm (G2c) width plus rock layer width (D2) plus berm width (G2c): 8 ft + 10 ft + 8 ft = 26 ft

e. Additional width necessary for absorption = absorption width (F) minus the landscape width (G2d)

26.7 ft - 26 ft = .7 ft, if number is negative (<0) skip to g

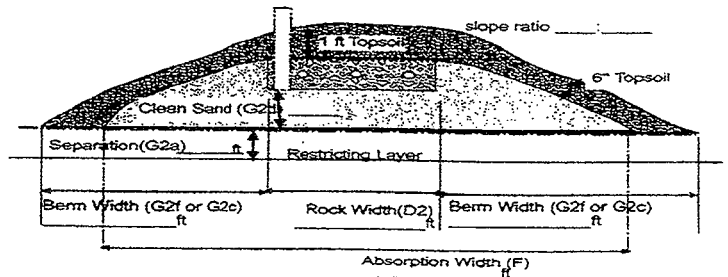
f. Final berm width = additional width (G2e) plus the berm width (G2c)

26 ft + .7 ft = 26.7 ft

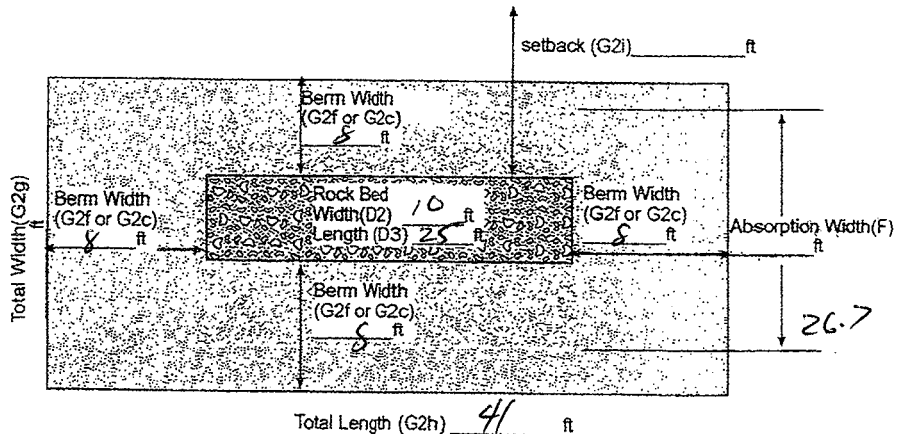
g. Total mound width is the sum of berm width (G2f or G2c) plus rock layer width (D2) plus berm width (G2f or G2c): 26.7 ft + 10 ft + 8 ft = 44.7 ft

h. Total mound length is the sum of berm (G2f or G2c) plus rock layer length (D3) plus berm (G2f or G2c): _____ ft + _____ ft + _____ ft = _____ ft

i. Setbacks from the rockbed are calculated as follows: the absorption width (F) minus the rock bed width (D2) divided by 2: (_____ ft - _____ ft) ÷ 2 = _____ ft



Final Dimensions:
27 x 41



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

(signature) 932 (license #) 9-20-18 (date)

PERCOLATION TEST DATA SHEET

Company Name Ottm Excavating License Number 932

Percolation Test Performed by David Ott

Homeowner Name Anderson

Address _____

Test Hole # _____ Diameter of hole _____ inches

Location _____



Method of scratching sidewall NA

Depth at bottom of hole 12 inches Depth of gravel at bottom _____ inches

Date presoak started _____ Starting at _____ AM / PM

Depth of initial water filling _____ above hole bottom

Method used to maintain 12" of water depth in hole for 4 hours

Date presoak ended _____ Ending at _____ AM / PM

Date perc readings conducted _____ Starting at _____ AM / PM

Maximum depth above hole bottom during test _____ inches

Surface elevation (in reference to benchmark): _____ feet

Directions: Enter elapsed time and drop in water level and the rest will be calculated

#	Elapsed Time		Drop in Water Level (inches)	Percolation Rate		% Difference	10% Goal Reached?
	(min)	Time Interval (min)		(mpd)			
1	60	0	1 1/8	0.0	53	NA	NA
2	60	0	1 1/8	0.0	53	0.0	0
3	60	0	1	0.0	60	0.0	0
4	60	0	1	0.0	60	0.0	0
5	60	0	1	0.0	60	0.0	0
6		0		0.0		0.0	0
7		0		0.0		0.0	0
8		0		0.0		0.0	0

* 3 consecutive percolation rates must be within 10% or less of each other

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

David Ott (signature) 932 (license #) 9-20-18 (date)

***** FOR OFFICE USE ONLY *****

Application Approved by: Laird A Stoll Date: 9/24/18
Amount Paid 150.00 Receipt Number 137765-692767 Permit Number _____
NOTES: # 9.25.18

INSPECTION REPORT

Home Information

Does the structure contain any of the following elements?

Garbage disposer Yes No Dishwasher Yes No
Grinder pump Yes No Lift pump in basement Yes No
Effluent screen installed? Yes No Effluent screen manufacturer _____
Alarm required? Yes No Alarm Type Electric Alarm manufacturer _____
Lift pump in system? Yes No Pump manufacturer 1/2 hp
Number of bedrooms 2

Component Information

Tank size 1500 2k + 625 Tank manufacturer Brown
Drainfield size 300 sq. ft. Medium manufacturer 10' x 30' mound
Drainfield medium _____ 12" sand in mound
Drainfield medium size/depth _____

Soil Verification

Vertical separation verified for Boring #1 on _____ Depth +36"
Vertical separation verified for Boring #2 on _____ Depth _____
Vertical separation verified for Boring #3 on _____ Depth _____

Setback Verification

	TANK	DRAINFIELD
Distance to Well	<u>+50</u>	<u>+50</u>
Distance to Building	<u>+10</u>	<u>+20</u>
Distance to Property Line	<u>+10</u>	<u>+10</u>
Distance to OHW of Lake	<u>N/A</u>	<u>N/A</u>
Distance to Pressure Line	<u>N/A</u>	<u>N/A</u>
Distance to Wetland/Protected Water	<u>N/A</u>	<u>N/A</u>

Date System Installed 10/1/18 Installer OHM EXC. Inspector Laird A Stoll

CERTIFICATE OF COMPLIANCE

() Certificate Is Hereby Denied
(X) Certificate is Hereby Granted Based upon the Application, addendum from, plans, specifications and all other supporting data.
With property maintenance, this system can be expected to function satisfactory, however, this is not a guarantee.

Laird A Stoll _____ IS ts inspector _____ 10/1/18
Signature Title Date

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