

# ZONING PERMIT APPLICATION

FULL NAME Double E Homeowners Assoc. Debbie Frank TELE # 507-843-4914  
 BIRTHDATE & DL # 11-1-54 7654-139-343-841  
 MAIL ADDRESS RR #2 Box 409 Mazeppa, MN 55956  
 911 ADDRESS N/A  
 TOWNSHIP Waukenabo  
 LEGAL DESCRIPTION Lot 10 Bk 1 Lys Simmons Double E  
 SECTION 20 TOWNSHIP 49 RANGE 24

OFFICE USE ONLY	
DATE _____	APPROVE / DENY _____
PERMIT# <u>30261</u>	
PARCEL# <u>35-1-087100</u>	
RECEIPT# <u>5485</u>	
CONFORMING SEPTIC	
YES <input type="checkbox"/> P# _____	NO <input type="checkbox"/> NEW <input type="checkbox"/>

(circle) RESIDENTIAL COMMERCIAL ACCESSORY NEW BUILDING ALTERATION OPP# 104  
 BUILDING CONTRACTOR AND LICENSE NUMBER: \_\_\_\_\_  
 SIZE OF ALL BUILDINGS COVERED BY THIS APPLICATION "Other" Septic Systems

\*2 Systems same property

COMMENTS: \*System for Assoc. - they have Lot 10 Bk 1 (35-1-087100)  
lots 3, 5, 7, 9, 11 Bk 2 (35-1-087400)  
Lot 12 Bk 2 (35-1-088300)  
430 file

DESIGN: Dikeeffe's  
 DATA FOR SEWER CONSTRUCTION: INSTALLER Ritter Sewer + Excavating #BEDROOMS/GPD \_\_\_\_\_

**DO NOT WRITE BELOW THIS LINE**

**ZONING DISTRICT & FLOOD PLAIN**  
 ZONING DISTRICT S/L  
 LAKE/STREAM/RIVER NAME Round  
 LAKE/RIVER ID NUMBER 1-0137  
 LAKE/RIVER/STREAM CLASSIF. R1D  
 PARCEL LOCATED IN FLOOD PLAIN? Y  N  Perly  
 10/100 YR FLOOD ELEVATION \_\_\_\_\_  
 LOWEST FLOOR ELEVATION \_\_\_\_\_  
 ELEV. CERTIFICATE REQUIRED Y  N   
 BEFORE CONSTRUCTION Y  N   
 AFTER CONSTRUCTION Y  N

**STRUCTURE SETBACK DISTANCE REQUIREMENTS**  
 (Measure from eaves or overhang)  
 OHW TO LAKE/RIVER/STREAM 100'  
 PROPERTY LINE SETBACK 10'  
 SETBACK TO ROAD R-O-W 30' township 50' county  
 SETBACK TO BLUFF 30'

**SEPTIC SYSTEM SETBACK DISTANCES**  
 SETBACK TO STRUCTURES 10' tank 20' denfed  
 OHW TO LAKE/RIVER 75'  
 PROPERTY LINE SETBACK 10'  
 SETBACK TO ROAD R-O-W 10'

**\*\*ATTACH COPY OF ELEVATION CERTIFICATES\*\***

SOIL BORINGS \_\_\_\_\_ SEPTIC DESIGN \_\_\_\_\_ GARBAGE DISP/HOT TUB YES  NO   
 PERK RATES \_\_\_\_\_ DEPTH TO RESTRICTING LAYER \_\_\_\_\_  
 MIN. SIZE SEPTIC TANK \_\_\_\_\_ MIN. SIZE PUMP TANK \_\_\_\_\_  
 DRAINFIELD: MINIMUM SQ.FT \_\_\_\_\_ WITH \_\_\_\_\_ INCHES ROCK BELOW PIPE  
 MOUND: MINIMUM ROCK BED SQ.FT \_\_\_\_\_ WITH 9 INCHES ROCK BELOW PIPE  
 MIN. UPSLOPE SAND WIDTH \_\_\_\_\_ MIN. DOWNSLOPE SAND WIDTH \_\_\_\_\_ END SAND WIDTHS \_\_\_\_\_  
 RECOMMENDATIONS: \_\_\_\_\_

Deborah L. Frank  
Rahel L. Frank  
 SIGNATURE APPLICANT/AGENT

400.00 Septics  
50.00 Op. Permits  
25.00 (Op. Permit)  
\$ 200.00  
225.00

Julie RSC  
 RECEIVED BY  
4-25-03  
 DATE

**EXPIRES IN ONE YEAR**

Aitkin County Zoning, Courthouse — AITKIN, MINNESOTA 56431 — Telephone 218/927-7342

# AITKIN COUNTY ENVIRONMENTAL SERVICES

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

PERMITTEE Double E Homeowner's Association PARCEL NUMBER 35-1-087100  
c/o Debbie Frank  
ADDRESS RR2 Box 409 CITY Mezeppa STATE MN ZIP 55956  
SEC 20 TWP 49 RGE 26 BLOCK \_\_\_\_\_ LOT \_\_\_\_\_ ACRES \_\_\_\_\_  
TELEPHONE (507) 843-4914 GIS LOCATION \_\_\_\_\_  
SITE LOCATION Round Lake, Waukenabo Township

### A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM:

This ISTS is to gravity from the dwelling into a new precast concrete 1860 gallon combination tank. The liquids will pump from the lift tank into a 47' x 94' 3 foot sand base Mound with a 7' x 54' Rockbed excavated & shaped to a zero percent (0%) slope.

Number of Bedrooms 3

Flow = 450 gpd

Hydraulic Loading Rate = 1.0 - 1.2 gpd/ft<sup>2</sup>

Organic Loading Rate = 0.00015 BOD/sqft

$$\text{Flow} \times \text{BOD}(\text{mg}/1) \times 8.35 \div 1,000,000 = \# \text{BOD}$$
$$(450 \times 15 \times 8.35 \div 1,000,000 = .056 \text{ BOD})$$

$$\text{System Loading} = \text{organic loading} \div \text{area} = \text{BOD}/\text{sqft}$$
$$(.056 \div 378 = 0.00015 \text{ BOD}/\text{sqft})$$

Anticipated System Life = 20 - 30 years

#### Estimated Cost of:

System Construction = \$12,000.00 +  
Operation = \$10.00 per month  
Monitoring, Testing & Service = \$100.00 - per year

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the date of the Operating Permit and lasting until the Permit's expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted.

The discharge from the wastewater treatment unit shall be limited by the Permittee as specified below:

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Flow	450 gpd	Water Meter	Monthly	Record on Log Sheet	At time of Operating Permit Renewal
5-Day BOD					
Total Nitrogen					
Total Phosphorus					
TSS					
Fats, Oils, Grease (FOG)					
Fecal Coliform					
Separation Distance	3 foot Separation beneath Rock layer	Mound	Annually	Shoot Elevations Soil Borings	Annually for 2 Years

**C. MAINTENANCE REQUIREMENTS**

PARAMETER	LOCATION	FREQUENCY
Daily Flow	Water Meter	Monthly (record on log sheet)
Sludge & Scum Level	Septic Tank	Annually for 2 Years
Pump, Timers, Alarm, Floats, etc	Lift Tank	Annually for 2 Years
Acceptance of Effluent into ground and 3 feet of separation to water table.	Mound	Annually for 2 Years
Overall visual of entire system for landscaping, drainage and cover material	Mound & Tanks	Annually for 2 Years

**D. MONITORING AND REPORTING REQUIREMENTS:**

1. Monitoring results obtained during each calendar year shall be submitted no later than December 31<sup>st</sup> of each year to:  
Aitkin County Environmental Services  
209 2<sup>nd</sup> St NW  
Aitkin, MN 56431
2. The monitoring reports shall be signed by the Permittee. Copies are to be retained for your records.
3. The Permittee or designated agent shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of the Operating Permit.
4. Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.
5. Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory.

**E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area.
2. A different or another Performance or Other System may be installed at the owner's expense.
3. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

**F. SPECIAL REQUIREMENTS:**

1. A.M. & ASSOCIATES, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of 1 Year(s), only upon signing a contract stating so.

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.

MICHAEL O'KEEFFE  
(Name)

  
(Signature)

1357      10/16/2002  
(License #)      (Date)

A.M. & ASSOCIATES, INC.  
(Company Name)

29465 442<sup>nd</sup> LANE PALISADE, MN 56469  
(Address)

(218) 768-4430  
(Telephone)

**A. M. & Associates, Inc.**

29465 442<sup>nd</sup> Lane  
Palsade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
Annette M. O'Keeffe

Septic Systems  
Designs & Inspections  
MPCA #1357

**THE ENCLOSED INDIVIDUAL SEWAGE TREATMENT SYSTEM (ISTS)  
IS DESIGNED SPECIFICALLY FOR:**

**Double E Homeowner's Association  
c/o Debbie Frank  
RR2 Box 409  
Mezeppa, MN 55956  
(218)**

**For property located on Round Lake**

**Waukenabo Township  
Sec. 20, Twp. 49, Rge. 26**

**Parcel# 35-1-087100  
35-1-087400  
35-1-88300**

**October 16, 2002**

**APPROVED**  
 **ONSITE INSPECTION**  
 **NO ONSITE INSPECTION**  
SIGN RS DATE 10/24/02

**3 FOOT SAND BASE MOUND**

**Note to Property Owner:**

Please be advised that with the installation of the enclosed designed septic system, the Property Owner(s) understands and accepts full responsibility of that which is outlined below.

The State of Minnesota has classified the attached ISTS Design as an "Other System", because the new Mound System is to be installed partially over an existing Mound, in an area with less than 1 foot of separation, and in an area where the Rockbed will be excavated and shaped to a zero percent slope. Therefore the Property Owner(s) accepts all responsibility and risks involved with the installation and hydraulic performance of this Septic System, and holds A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.

An Operating Permit for Wastewater Treatment and Dispersal is required.

A Maintenance Service, Monitoring and Inspection Contract is required *before* Aitkin Planning & Zoning will accept an application for an Operating Permit.

The Property Owner(s) accepts the responsibility of recording water meter readings on a monthly basis.

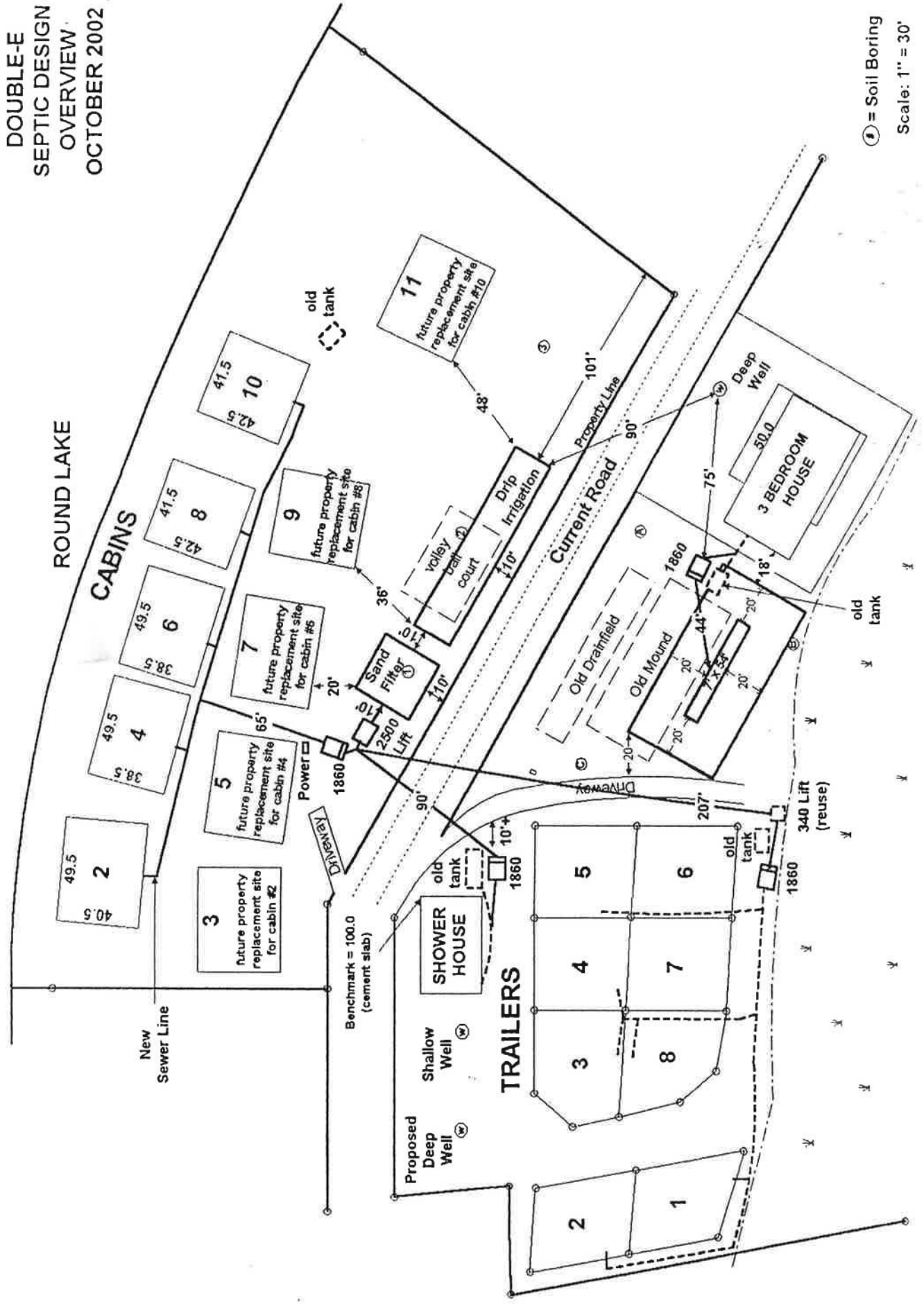
The Property Owner(s) accepts the responsibility of all costs involved for the servicing, monitoring, maintenance and mitigation of this system, that may occur.

Note to Property Owner and Installer:

1. This ISTS is to gravity from the dwelling into a new precast concrete 1860 gallon combination tank. The liquids will pump from the lift tank into a 47' x 94' 3 foot sand base Mound with a 7' x 54' Rockbed excavated & shaped to a zero percent (0%) slope.
2. Installer is to *verify* all measurements and elevations on jobsite.
3. This system *must* be installed according to *current* Minnesota Chapter 7080 and Aitkin County's current ISTS & Wastewater Ordinance requirements.
4. Excavate out New Mound 7' x 54' Rockbed area PLUS an extra 10 feet around the Rockbed to a zero percent (0%) slope at the elevation of 106.8 (approximately 3' 3" deep).
5. Construct Mound using 3 feet of "Clean" sand.
6. Use Center Manifold.
7. Landscape accordingly into existing Mound.
8. Pump & collapse existing tank & replace with 1860 Combination Tank & tie into existing sewer line.
9. Tank lids *must* be installed at ground level for monitoring and maintenance purposes.
10. Landscape accordingly between house and Mound / Tank.
11. A WATER METER *MUST* BE INSTALLED.
12. Installer is to contact Designer for any questions and/or *prior* to making any changes to the enclosed designed drainfield.



DOUBLE-E  
SEPTIC DESIGN -  
OVERVIEW  
OCTOBER 2002



⊙ = Soil Boring  
Scale: 1" = 30'



**DOUBLE-E  
SEPTIC DESIGN  
FOR  
3 BEDROOM HOUSE  
OCTOBER 2002.**

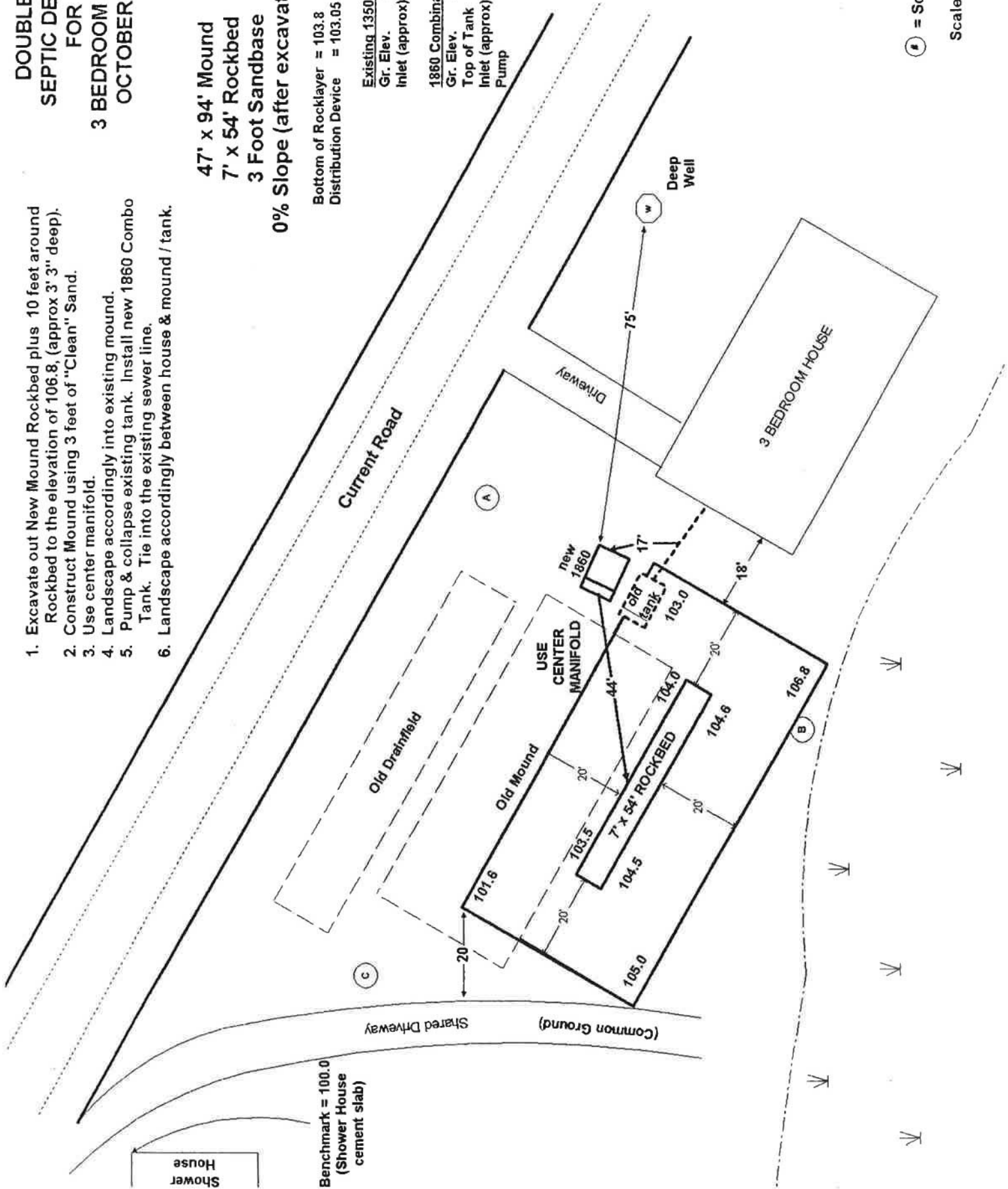
1. Excavate out New Mound Rockbed plus 10 feet around Rockbed to the elevation of 106.8, (approx 3' 3" deep).
2. Construct Mound using 3 feet of "Clean" Sand.
3. Use center manifold.
4. Landscape accordingly into existing mound.
5. Pump & collapse existing tank. Install new 1860 Combo Tank. Tie into the existing sewer line.
6. Landscape accordingly between house & mound / tank.

**47' x 94' Mound  
7' x 54' Rockbed  
3 Foot Sandbase  
0% Slope (after excavated)**

Bottom of Rocklayer = 103.8  
Distribution Device = 103.05

Existing 1350 Tank  
Gr. Elev. = 103.6  
Inlet (approx) = 105.2

1860 Combination Tank  
Gr. Elev. = 103.6  
Top of Tank = 104.5  
Inlet (approx) = 105.5  
Pump = 109.5



● = Soil Boring  
Scale: 1" = 30'

# MOUND DESIGN SHEET

COUNTY: Aitkin

PROPERTY OWNER: DoubleE Homeowner's Association TWP: Waukenaubo

PERMIT#: \_\_\_\_\_ PIN#: 35-1-087100,400,830C DATE: \_\_\_\_\_

DESIGNER NAME: Michael D. and Annette M. O'Keeffe LICENCE#: 1357

SIGNATURE:  DATE: 10/16/2002

# OF BEDROOMS: 3 TYPE: I GARBAGE DISPOSAL: No AIR TEST No  
 WELL: Deep (50+) X Shallow \_\_\_\_\_ SETBACKS: Tank 75' Drainfield 85' Sewer Line 75'

### FLOW

- A. ESTIMATED 450 GPD OR MEASURED GPD  
 B. SEPTIC TANK VOLUME 1860 Combo GALLONS  
 C. MINIMUM PUMP TANK VOLUME 630 GALLONS  
 C1. ALARM TYPE Installer's Preference

EST SEWAGE FLOW IN GPD			
NUMBER OF BEDROOMS	TYPE I	TYPE II	TYPE III
2	300	225	180
<u>3</u>	<u>450</u>	300	218
4	600	375	256
5	750	450	294
6	900	525	332
7	1050	600	372
8	1200	675	408

### SOILS

- D. DEPTH TO RESTRICTING LAYER = 0 FEET  
 E. DEPTH OF SAND ON UPSLOPE EDGE 3 FEET  
 F. SOIL TEXTURE = Sandy Loam  
 G. PERCOLATION RATE = 6 to 15 MPI  
 H. SOIL SIZING FACTOR = 1.27 SQ FT/GPD  
 I. LAND SLOPE % = 0 %

SEPTIC TANK CAPACITIES/VOLUME (gal)		
NUMBER OF BEDROOMS	MINIMUM CAPACITIES	
	TANK	GARBAGE DISPOSAL
2 OR LESS	1000	1500
<u>3 OR 4</u>	<u>1000</u>	<u>1500</u>
5 OR 6	1500	2250
7 OR 8	2000	3000
OVER 9	SEE FIG C-6	(x 1.5)

### ROCK LAYER DIMENSIONS

- J. (A) 450 x 0.83 = 373.5 SQ FT  
 K. ROCK LAYER WIDTH = 7.0 FEET  
 L. LENGTH OF ROCK BED = (J) ÷ (K) = 54 FT  
(rounded up)

### ROCK VOLUME

- M. (J) 373.5 x 1 Ft. (Rock Depth) = 373.5 CU FT  
 N. (M) 373.5 ÷ 27 = 13.8 CU YD  
 O. (N) 13.8 x 1.4 = 19.4 TONS OF ROCK

### ABSORPTION WIDTH

- P. ABSORPTION WIDTH RATIO = 1.50  
 Q. ABSORPTION WIDTH = (P) x (K)  
 (P) 1.50 x (K) 7 = 10.5 FEET

SIZING TABLE			
PERC RATE	SOIL TEXTURE	(SSF) SQ FT GAL/DAY	ABSORPTION WIDTH RATIO
< THAN 0.1	COARSE SAND	---	1.00
0.1 TO 5	SAND	0.83	1.00
0.1 TO 5	FINE SAND	1.67	2.00
<u>6 TO 15</u>	<u>SANDY LOAM</u>	<u>1.27</u>	<u>1.50</u>
16 TO 30	LOAM	1.67	2.00
31 TO 45	SILT LOAM	2.00	2.40
46 TO 60	CLAY LOAM	2.20	2.67
> THAN 60	CLAY	---	5.00
> THAN 120	CLAY	---	6.00

**MOUND SIZE**

Property Owner: DoubleE Homeowner's As

1. **MINIMUM DOWNSLOPE BERM TOE**  
 = Absorption Width (Q) - Rock Layer Width (K)  
 (Q) 10.5 - (K) 7 = 3.5 Feet

2. **DEPTH OF CLEAN SAND FILL AT UPSLOPE EDGE OF ROCK LAYER**  
 = Separation 3' - 0 ft = 3 Feet

3. **MOUND HEIGHT AT UPSLOPE EDGE OF ROCK BED**  
 = Depth of Clean Sand for Separation (2) + Depth of Rock Layer (1ft) + Depth of Cover (1ft)  
 (2) 3.0 + 1ft + 1ft = 5.0 Feet

4. **3:1 = UPSLOPE BERM MULTIPLIER** 3  
**4:1 = UPSLOPE BERM MULTIPLIER** 4

5. **UPSLOPE BERM WIDTH**  
 = Upslope Berm Multiplier (4) x Upslope Mound Height (3)  
 3:1 = (4) 3.00 x (3) 5 = 15.0 Feet  
 4:1 = (4) 4.00 x (3) 5 = 20.0 Feet

6. **DROP IN ELEVATION**  
 = Rock Layer Width (K) x Landslope % (I) + 100  
 (K) 7 x (I) 0 + 100 = 0.0 Feet

7. **DOWNSLOPE HEIGHT**  
 = Drop in Elevation (6) + Upslope Mound Height (3)  
 (6) 0.0 + (3) 5 = 5.0 Feet

8. **3:1 = DOWNSLOPE BERM MULTIPLIER** 3  
**4:1 = DOWNSLOPE BERM MULTIPLIER** 4

9. **DOWNSLOPE BERM WIDTH**  
 = Downslope Berm Multiplier (8) x Downslope Height (7)  
 3:1 = (8) 3.00 x (7) 5.0 = 15.0 Feet  
 4:1 = (8) 4.00 x (7) 5.0 = 20.0 Feet

10. **ACTUAL DOWNSLOPE BERM WIDTH** = Compare Step (1) 3.5  
 3:1 = with Step (9) 15.0  
 Select the Greater of the two values 15.0 Feet  
 4:1 = with Step (9) 20.0  
 Select the Greater of the two values 20.0 Feet

11. **TOTAL MOUND WIDTH**  
 = Upslope Berm Width (5) + Rock Layer Width (K) + Downslope Berm Width (10)  
 3:1 = (5) 15.0 + (K) 7 + (10) 15.0 = 37.0 Ft  
 4:1 = (5) 20.0 + (K) 7 + (10) 20.0 = 47.0 Ft

12. **TOTAL MOUND LENGTH**  
 = Upslope Berm Width (5) + Rock Layer Length (L) + Upslope Berm Width (5)  
 3:1 = (5) 15.0 + (L) 54 + (5) 15.0 = 84.0 Ft  
 4:1 = (5) 20.0 + (L) 54 + (5) 20.0 = 94.0 Ft

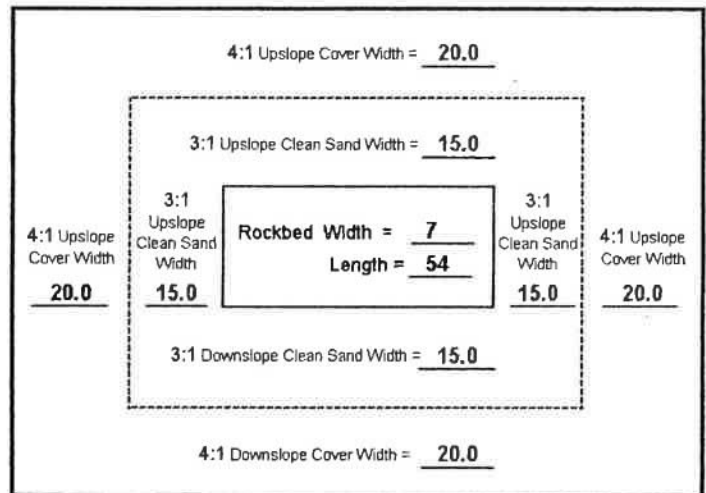
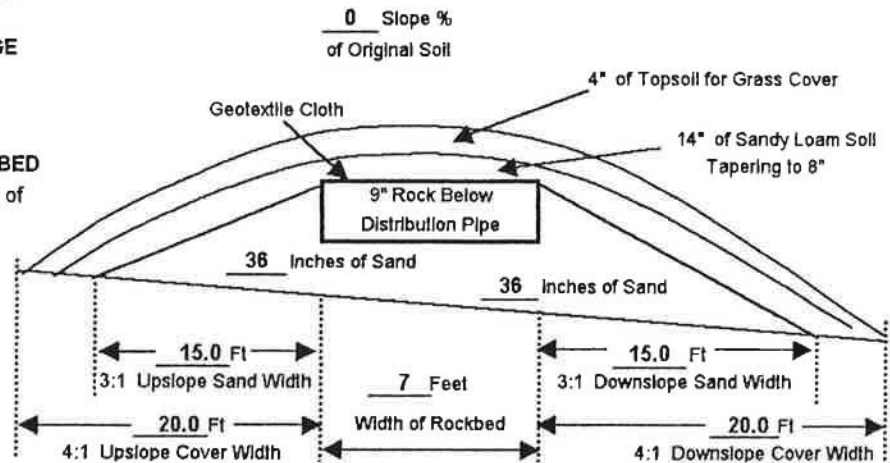
**FINAL DIMENSIONS**

Width                  Length

3:1 Clean Sand = 37.0 x 84.0

4:1 Total Cover = 47.0 x 94.0

**MOUND CROSS-SECTION**



Final Dimensions = Width 47.0 Ft x Length 94.0 Ft

Land Slope %	Berm Multipliers for various berm slope ratios			
	DOWNSLOPE		UPSLOPE	
	3:1	4:1	3:1	4:1
0	3.00	4.00	3.00	4.00
1	3.09	4.17	2.91	3.85
2	3.19	4.35	2.83	3.70
3	3.30	4.54	2.75	3.57
4	3.41	4.76	2.68	3.45
5	3.53	5.00	2.61	3.33
6	3.66	5.26	2.54	3.23
7	3.80	5.56	2.48	3.12
8	3.95	5.88	2.42	3.03
9	4.11	6.25	2.36	2.94
10	4.29	6.67	2.31	2.86
11	4.48	7.14	2.26	2.78
12	4.69	7.69	2.21	2.70

# PUMP SELECTION PROCEDURE

Property Owner: DoubleE Homeowner's

## A. Determine Pump Capacity:

### Gravity Distribution

1. Minimum suggested is 20 gpm
2. Maximum suggested is 45 gpm

### Pressure Distribution

3. a. Select number of Perforated Laterals = 2 (on each side)
- b. Select Perforation Spacing = 3 feet of manifold)
- c. Rock Layer Length 54 - 2 = 52 feet
- d. Determine the number of spaces between perforations:  
 (c) 52 ÷ (b) 3 = 17 Spaces
- e. (d) 17 + 1 = 18 Perforations/Lateral
- f. (a) 2 x (e) 18 = 36 Total # of Perforations
- g. (f) 36 x gpm/perf 0.56 = 20 gpm

Perforation Discharges (gpm)				
Head (feet)	Perforation diameter (inches)			
	1/8	3/16	7/32	1/4
1.0a	0.18	0.42	0.56	0.74
2.0b	0.28	0.59	0.80	1.04
5.0	0.41	0.94	1.26	1.65

a Use 1.0 foot residential systems  
 b Use 2.0 feet for other establishments  
 \* Potential for plugging

SELECTED PUMP CAPACITY = 20 gpm

## B. Determine Head Requirements:

1. Elevation difference between pump and point of discharge = 8 feet
2. Feet of pressure at manifold = 5 feet  
 5 ft - for pressure required at manifold  
 0 ft - for gravity distribution

Maximum number of quarter inch perforations per lateral to guarantee <10% discharge variation			
Perforation Spacing (feet)	Pipe Diameter		
	1 ¼	1 ½	2
2.5	14	18	28
3.0	13	17	26
3.3	12	16	25
4.0	11	15	23
5.0	10	14	22

3. Friction Loss
  - a. Enter friction loss table with gpm and pipe diameter  
 F.L. = 0.73 ft./100 feet of pipe
  - b. Determine Total Pipe Length from pump to discharge point  
 Pipe length 44 x 1.25 = 55 feet

Friction Loss in Plastic Pipe			
Flow Rate gpm	Nominal pipe diameter		
	1.5"	2"	3"
20	2.47	0.73	0.11
25	3.73	1.11	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

- c. Calculate Total Friction Loss  
 (a) 0.73 x (b) 55 ÷ 100 = 0.4 feet
- d. Total Head Required  
 (1) 8 + (2) 5 + (3c) 0.4 = 13 feet

## C. Pump Selection

A pump must be selected to deliver at least 20 gpm with at least 13 feet of total head

## SIZING OF DOSING CHAMBER

Property Owner: DoubleE Homeowner's Asso

1. Select gallons per inch = 12

2. Calculate Gallons to cover pump (with 2 inches of water covering pump)

$$\text{Height (in)} + 2 \times \text{gallons per inch (1)}$$

$$\underline{14} + 2 \times \underline{12} = \underline{192} \text{ gallons}$$

3. Calculate Total Pumpout Volume

**A. Calculate Minimum Doses Per Day for Even Distribution**

a. Perforated Laterals x Lateral Length + Transport Pipe Length = Total Lateral Length

$$\underline{2} \times \underline{52} = \underline{104} + \underline{44} = \underline{148} \text{ feet}$$

b. Total Lateral Length x Pipe Liquid Volume x 3 = Total Gal/Dose

$$\underline{148} \times \underline{0.17} = \underline{25.16}$$

$$\underline{25.2} \times \underline{3} = \underline{75.48} \text{ gal/dose}$$

c. Total Doses per Day

$$\underline{450} \text{ gpd} \div \underline{75.5} = \underline{10} \text{ doses per day}$$

**B. Calculate Drainback**

a. Total pipe length = 44 feet

b. Liquid volume of pipe = 17.43 gallons per 100 feet

c. Drainback quantity =

$$\text{Total Pipe Length (3Ba)} \times \text{Pipe Liquid Volume (3Bb)} \sim 100$$

$$\underline{44} \times \underline{17.43} \div 100 = \underline{8} \text{ gallons}$$

**C. Total Pump out Volume**

Gallons/dose (3A) + Drainback (3Bc)

$$\underline{75.5} + \underline{8} = \underline{83} \text{ Total Gallons}$$

4. Calculate Volume for Alarm (typically 2 to 3 inches)

2 x Gallons/inch (1)

$$2 \times \underline{12} = \underline{24} \text{ gallons}$$

5. Total Gallons

Gallons to cover pump (2) + Total Pumpout Volume (3) + Alarm Volume (4)

$$\underline{192} + \underline{83} + \underline{24} = \underline{299} \text{ Total Gallons}$$

6. Total Depth

Total Gallons (5) + Gallons/inch (1)

$$\underline{299} \div \underline{12} = \underline{25} \text{ inches}$$

7. Float Separation Distance

Total Pumpout Volume (3c) + Gallons/inch (1)

$$\underline{83.5} \div \underline{12} = \underline{7} \text{ inches}$$

Tank Size	gal/inch
2500	41
1960 Combo	43
1860 Combo	40
1500	33
1350	34
1000	34
730	14
630	12
600	25
350	34

Liquid Volume of Pipe		
Pipe diameter (inches)	Gallons Per 100 ft.	Gallons Per 100 ft.
1	4.49	0.05
1.25	7.77	0.08
1.5	10.58	0.11
2	17.43	0.17
2.5	24.87	0.25
3	38.40	0.38
4	66.10	0.66

# SOIL BORING LOG

PROPERTY OWNER: **DoubleE**  
Homeowner's Assoc.

PARCEL CODE: 35-1-087100

10/16/2002

DEPTH      COLOR              TEXTURE

Soil Boring A    For 3 Bedroom House

0 - 2		Sod
2 - 8	10YR 3/3	Sandy Loam
8 - 10	10YR 4/4	Sandy Loam
10+	10YR 6/2 & 5/8	Mottles

Soil Boring B    For 3 Bedroom House

0 - 2		Sod
2 - 6	10YR 3/3	Sandy Loam
6+	10YR 6/2 & 5/8	Mottles

Soil Boring C    For 3 Bedroom House

0 - 2		Sod
2 - 24	10YR 5/4	Fill
24+	10YR 4/4	Clay Loam with 10YR 5/6 Mottles

**A. M. & Associates, Inc.**

29465 442<sup>ND</sup> LANE  
Palsade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
Annette M. O'Keeffe  
SEPTIC SYSTEMS  
DESIGNS & INSPECTIONS  
MPCA #1357

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

It is hereby agreed this 25 day of April, 20 03 by and between A.M. & Associates, Inc. and

Property Owner(s):	<u>DoubleE Homeowner's Assoc</u>	Parcel Code:	<u>32-0-031500</u>
	<u>c/o Debbie Frank</u>		
Home Address:	<u>RR2 Box 409</u>	Site Address:	<u>Round Lake</u>
	<u>Mazeppa, MN 55956</u>		
Phone	(home) <u>(952) 937-3500</u>	Township	<u>Waukenabo</u>
	(work) _____		
	(cell) _____	Phone:	_____
	(fax) _____		

DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM

**3 FOOT SANDBASE MOUND**

**This ISTS is to gravity from the dwelling into a new precast concrete 1860 gallon combination tank. The liquids will pump from the lift tank into a 47' x 94' 3 foot sand base Mound with a 7' x 54' Rockbed excavated & shaped to a zero percent (0%) slope.**

Installation Date: \_\_\_\_\_ Installer: Mark Ritter Phone#: (218) 927-4125

That A.M. & Associates, Inc. will provide the services to perform Preventative Maintenance, Monitoring and Inspection of the parameters and frequency described herein as your Operating Permit requires for your Individual Sewage Treatment System (ISTS).

Each inspection includes an examination of the ISTS followed by a written report to the Property Owner. 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. A.M. & Associates, Inc. is authorized to submit a copy of the report to the pertaining County's Environmental Services Department.

This contract does not assume any responsibilities or obligations, which are normally the responsibilities of the Property Owner, 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.

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

On-site Service Calls cost of a minimum of \$35.00 per hour for time and labor required from A.M. & Associates and/or Minnesota Onsite Specialties, due to alarms, misuse or abuse of any portion of this System, is the responsibility of the Property Owner(s), payable within 20 days of billing.

All additional cost, time and labor required from A.M. & Associates, Inc. due to modifications made by the pertaining County's Environmental Services Department, is the responsibility of the Property Owner(s), payable within 20 days of billing.

In no event shall A.M. & Associates, Inc. or 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.

A.M. & Associates, Inc. shall be provided access to the site and the system in order to perform the following services that are marked:

**CONTROL/ALARM PANEL (Annually)**

- 1. Check pump operations in manual mode
- 2. Check timer settings
- 3. Record elapsed time meter and counter readings
- 4. Confirm operation of audible and visual alarms

**LIFT PUMPING STATION (Annually)**

- 1. Verify no leaks in riser
- 2. Inspect splice box for moisture and secure connections
- 3. Verify condition of and correct operation of all floats
- 4. Verify neat wrap of float cords
- 5. Pull pump and clean intake screen if necessary
- 6. Visually inspect recirculating splitter valve (if applicable) and liquid level
- 7. Check general appearance

**EFFLUENT FILTERS/PUMP SCREENS (Annually)**

- 1. Check effluent filter for buildup of biomat growth
- 2. Clean (if needed)

**SEPTIC TANK (Annually)**

- 1. Measure sludge and scum level
- 2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel  
\* (If the test results determine a need for solids removal, the Property Owner will bear the cost and responsibility for doing so)
- 3. Check general appearance



**PRETREATMENT DEVICE (Annually)**

- 1. Inspect for ponding; assess character and color of biomat
- 2. Test pressurization of laterals (squirt test)
- 3. Verify proper orifice position, equal spray under orifices, no clogged orifices
- 4. Check for odors: adjust recirculating time (if necessary)
- 5. Clean and flush manifold (if necessary)
- 6. Re-check squirt height (if necessary)
- 7. Inspect the appearance of the wastewater inside the unit for color and turbidity.

**DISPERSAL FIELD (Annually)**

- 1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)
- 2. If liquid level monitors are installed, levels will be observed and recorded.
- 3. Flush filters and clean cartridges, if applicable
- 4. Check field control unit solenoid operations or manual control, if applicable
- 5. Check for required separation

**SAMPLING (As Deemed Necessary)**

- 1. Acquire and deliver samples for analysis of BODs, TSS, Fats Oils and Grease, and Fecal Coliform (cost of sampling analysis plus delivery charges is the responsibility of the Property Owner. If more than one analysis is recommended and required within the duration of this contract, the additional labor costs acquired by A.M. & Associates, Inc. along with sampling analysis fees and delivery charges is the responsibility of the Property Owner).

**MISCELLANEOUS (Annually)**

- 1. Review water usage from water meter records kept by the Property Owner.

**\*\*\* PROPERTY OWNER'S RESPONSIBILITIES (Monthly and/or as Required)**

During the term hereof, I/we as the current Property Owner(s) understand that I/we;

- 1. Must *notify* A.M. & Associates, Inc. of the installation date of this ISTS, a *minimum* of one week *prior* to installation
- 2. Will provide A.M. & Associates, Inc. with access to the System. Access includes electrical controls & disconnects, hose hookup water supply and sufficient workspace to perform the necessary maintenance services
- 3. Will be responsible for recording water meter readings on a monthly basis.
- 4. Must *notify* A.M. & Associates, Inc. *immediately* when signs of weeping problems, sewage smell or any other indication that the system may not be functioning properly.
- 5. Will provide A.M. & Associates, Inc. copies of the water meter records, upon request.
- 6. Must acquire pre-authorization from A.M. & Associates, Inc., *prior* to the Property Owner or any other individual performing or attempts to:
  - a. make alterations or modifications to the System, or
  - b. misuse the System, or
  - c. attach devices to it, or
  - d. execute any type of Maintenance services to the system or any portion thereof
- 7. Will notify A.M. & Associates, Inc. of new ownership of property if within the duration of this contract.
- 8. Will accept all responsibility and risks involved with the installation and hydraulic performance of this Septic System and hold A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.
- 9. May be required to perform additional maintenance responsibilities as deemed necessary by A.M. & Associates, Inc.



# A. M. & Associates, Inc.

29465 442<sup>nd</sup> Lane  
Palsade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
Annette M. O'Keeffe

Septic Systems  
Designs & Inspections  
MPCA #1357

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THE ENCLOSED INDIVIDUAL SEWAGE TREATMENT SYSTEM (ISTS)  
IS DESIGNED SPECIFICALLY FOR:

Double E Homeowner's Association  
c/o Debbie Frank  
RR2 Box 409  
Mezeppa, MN 55956  
(507) 843-4914

For property located on Round Lake

Waukenabo Township  
Sec. 20, Twp. 49, Rge. 26

Parcel# 35-1-087100  
35-1-087400  
35-1-88300

October 22, 2002

*Reviewed  
RPC  
10-24-02*

30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION  
TIME DOSING

Note to Property Owner:

Please be advised that with the installation of the enclosed designed septic system, the Property Owner(s) understands and accepts full responsibility of that which is outlined below.

The State of Minnesota has classified the attached ISTS Design as an "Other System", because the System will be using a Pre-treatment devise (OSI Sand Filter) along with Drip Irrigation. Therefore the Property Owner(s) accepts all responsibility and risks involved with the installation and hydraulic performance of this Septic System, and holds A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.

An Operating Permit for Wastewater Treatment and Dispersal is required.

A Maintenance Service, Monitoring and Inspection Contract is required *before* Aitkin Planning & Zoning will accept an application for an Operating Permit.

The Property Owner(s) accepts the responsibility of recording water meter readings on a monthly basis.

The Property Owner(s) accepts the responsibility of all costs involved for the servicing, monitoring, maintenance and mitigation of this system, that may occur.

Note to Property Owner and Installer:

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

1. Installer *must* verify soils, *all* measurements *and* elevations on jobsite prior to installation.
2. This system *must* be installed according to *current* Minnesota Chapter 7080 and Aitkin County's current ISTS & Wastewater Ordinance requirements.
3. A WATER METER HAS ALREADY BEEN INSTALLED.
4. Installer is to inform property owner of known supplies, contractors, and expenses required in order to make this ISTS operational -that is *not* covered in his contract.
5. Installer is to contact Designer for questions and/or prior to making any changes to the enclosed design.

FOR THE CABINS

1. Pump & Collapse the Tank near Cabin #10.
2. Property owners plan to have a new sewer line installed for the Cabins.
3. Install a 1860 Septic Tank and a 2500 gallon Lift Tank near Sand Filter Site. (the Shower House is to gravity to this 2500 gallon Lift Tank so be sure there is at least 1 foot of elevation difference between the *outlet* of the 1860 Septic Tank for the "Shower House" and the *inlet* of this 2500 gallon Lift Tank)
4. Tank(s) must be water tested for watertightness. If tank(s) are *not* watertight it must be corrected or replaced.
5. Tank lids *must* be installed at ground level for monitoring and maintenance purposes.

### FOR THE SHOWER HOUSE

1. Pump & Collapse the 4000 gallon Septic Tank. Replace with 1860 Septic Tank. Tie into existing Sewer Line. (be sure there is 1 foot of elevation difference between the *outlet* of this 1860 Septic Tank and the *inlet* of the main 2500 gallon Lift Tank)
2. Tank must be water tested for watertightness. If tank is *not* watertight it must be corrected or replaced.
3. GRAVITY from the 1860 gallon Septic Tank to the main 2500 gallon Lift Tank going into the OSI Sand Filter.
4. Use insulated pipe for pump line running beneath the driveway and the road. Be sure to include extra on both sides of the road in case of future widening.
5. Tank lids *must* be installed at ground level for monitoring and maintenance purposes.

### FOR THE TRAILERS

1. Pump & Collapse the 1000 gallon Septic Tank. Replace with 1860 Septic Tank. Tie into existing Sewer Line.
2. Pump & Inspect the 340 gallon Lift Tank. Reuse if watertight else collapse and replace with 600 gallon Lift Tank.
3. Tanks must be water tested for watertightness. If tank(s) are *not* watertight it must be corrected or replaced.
4. Pump from the 340 gallon Lift Tank (or new 600 gallon Lift Tank) to the 2500 gallon Lift Tank going into the OSI Sand Filter.
5. Use insulated pipe for pump line running beneath the driveway and the road. Be sure to include extra on both sides of the road in case of future widening.
6. Suggest installing clean-outs on pump line between the two lift tanks -approximately every 50 feet or so.
7. Tank lids *must* be installed at ground level for monitoring and maintenance purposes.

### FOR THE OSI SAND FILTER AND DRIP IRRIGATION

1. Minnesota Onsite Specialties is to provide the required OSI Sand Filter, Drip Lines and related equipment, *onsite* expertise of installation, start-up, maintenance and all other related requirements when installing the OSI Sand Filter and Drip Irrigation System. (lumber for sand filter, sand & rock not included)

(contact John Walsh, 12428 Tamarack Road, Floodwood, MN 55736, (218) 476-2201)

NOTE: Be sure you understand any *additional* supplies *you* must provide.

2. Installer *must* schedule installation date with John Walsh with Minnesota Onsite Specialties (218) 476-2201 and Annette O'Keeffe with A.M. & Associates, Inc. (218) 768-4430 of whom *must* be present at time of installation.

3. Installer *must* schedule an Electrician to be on site *during* installation of Sand Filter and Drip Irrigation to wire Control Panel for testing Time Dosing, Pumps, Alarms, Squirt Levels, etc.
4. OSI Telemetry is *highly recommended* for remote monitoring of this system. Long distance phone service is REQUIRED for OSI Telemetry Control Panel.
5. Scarify a 100' x 20' area for Drip Irrigation at approximately 4 to 6 inches deep.
6. Spread at least 4 inches of "Clean Sand" over scarified area covering the scarification, making the area a smooth surface.
7. Install Drip Irrigation according to Manufacturer's requirements and specifications.
8. Install 4 inches of SSF 1.27 Sandy Loam over Drip Irrigation.
9. Install minimum of 2 inches of black dirt over Sandy Loam, spread grass seed over Drainfield.
10. The System is to have Timed Dosing set at a MAXIMUM of 1000 gallons per day from the 2500 gallon Lift Tank to the Sand Filter and from the Sand Filter to the Drip Irrigation dispersal field.
11. Install the OSI Control Panel next to the existing Power Panel near future property replacement site for cabin #5. The Control Panel *must* be a minimum of 4 feet from the ground surface for easy access.
12. Pumps and Alarms *must* be on separate circuits.







## DOUBLE-E WATER USAGE

<u>DATE</u>	<u># DAYS</u>	<u>READING</u>	<u>GAL USED</u>	<u>GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL GPD PER PERSON</u>
06/21/01	0	0				
06/29/01	8	1050	1050	131	unknown	
07/01/01	2	1610	560	280	unknown	
07/06/01	5	4360	2750	550	unknown	
07/08/01	2	8250	3890	<b>1945</b>	60	32
07/13/01	5	10150	1900	380	unknown	
07/15/01	2	12300	2150	<b>1075</b>	35	31
07/26/01	11	17690	5390	490	unknown	
07/29/01	3	19480	1790	597	43	14
08/03/01	5	21550	2070	414	unknown	
08/05/01	2	22670	1120	560	26	22
08/10/01	5	24050	1380	276	unknown	
08/12/01	2	25230	1180	590	26	23
08/17/01	5	29400	4170	834	unknown	
08/19/01	2	29600	200	100	19	5
08/24/01	5	30050	450	90	unknown	
08/26/01	2	31130	1080	540	19	28
08/31/01	5	35070	3940	788	unknown	
09/02/01	2	35920	850	425	53	8
09/07/01	5	36130	210	42	unknown	
09/09/01	2	36980	850	425	18	24
09/14/01	5	37970	990	198	unknown	
09/16/01	2	38920	950	475	19	25
09/21/01	5	39050	130	26	unknown	
09/23/01	2	39630	580	290	12	24
09/28/01	5	39830	200	40	2	20
09/30/01	2	40630	800	400	16	25
10/05/01	5	40830	200	40	unknown	
10/07/21	2	41720	890	445	17	26
10/12/01	5	41740	20	4	unknown	
10/14/01	2	42900	1160	580	14	41
10/19/01	5	44670	1770	354	unknown	
10/21/01	2	46670	2000	<b>1000</b>	33	30
12/21/01	31	47070	400	13	unknown	
04/05/02	105	47400	330	3	unknown	
05/03/02	30	48810	1410	47	unknown	
05/05/02	2	49930	1120	560	16	35
05/10/02	5	50070	140	28	unknown	
05/12/02	2	51240	1170	585	14	42
05/17/02	5	51240	0	0	unknown	
05/19/02	2	51970	730	365	15	24
05/23/02	4	51970	0	0	unknown	
05/27/02	3	54520	2550	850	26	33
05/31/02	4	54830	310	78	unknown	
06/02/02	2	55230	400	200	13	15
06/07/02	5	55560	330	66	unknown	
06/09/02	2	56130	570	285	13	22
06/14/02	5	56800	670	134	unknown	

<u>DATE</u>	<u># DAYS</u>	<u>READING</u>	<u>GAL USED</u>	<u>GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL GPD PER PERSON</u>
06/16/02	2	58730	1930	965	34	28
06/21/02	5	60010	1280	256	unknown	
06/23/02	2	61830	1820	910	24	38
06/28/02	5	63730	1900	380	unknown	
06/30/02	2	65700	1970	985	32	31
07/05/02	5	67500	1800	360	unknown	
07/07/02	2	71760	4260	2130	52	41
07/12/02	5	72050	290	58	unknown	
07/14/02	2	74750	2700	1350 **	12	113
07/19/02	5	75970	1220	244	unknown	
07/21/02	2	77990	2020	1010	45	22
07/26/02	5	81590	3600	720	unknown	
07/28/02	2	83740	2150	1075	46	23
08/02/02	5	86300	2560	512	unknown	
08/04/02	2	92300	6000	3000 **	35	86
08/09/02	5	97200	4900	980	unknown	
08/11/02	2	105100	7900	3950 **	19	208
08/16/02	5	112100	7000	1400 **	unknown	
08/18/02	2	117860	5760	2880 **	24	120
08/23/02	5	118800	940	188	unknown	
08/26/02	3	120880	2080	693	18	39
08/30/02	4	121200	320	80	unknown	
09/02/02	3	126300	5100	1700	54	31

**\*\* NOTE: IT APPEARS THAT DURING THE MONTH OF AUGUST 2002 THERE WAS A LEAKY FAUCET OR RUNNING TOILET.**

# PUMP SELECTION PROCEDURE

Property Owner: DOUBLE-E

## FROM 340 LIFT TO 2500 GAL LIFT

### A. Determine Pump Capacity:

#### Gravity Distribution

1. Minimum suggested is 20 gpm
2. Maximum suggested is 45 gpm

#### Pressure Distribution

3. a. Select number of Perforated Laterals = \_\_\_\_\_
- b. Select Perforation Spacing = \_\_\_\_\_ feet
- c. Rock Layer Length \_\_\_\_\_ - 2 = \_\_\_\_\_ feet
- d. Determine the number of spaces between perforations:  
 (c) \_\_\_\_\_ ÷ (b) \_\_\_\_\_ = \_\_\_\_\_ Spaces
- e. (d) \_\_\_\_\_ + 1 = \_\_\_\_\_ Perforations/Lateral
- f. (a) \_\_\_\_\_ x (e) \_\_\_\_\_ = \_\_\_\_\_ Total # of Perforations
- g. (f) \_\_\_\_\_ x gpm/perf \_\_\_\_\_ = \_\_\_\_\_ gpm

Head (feet)	Perforation Discharges (gpm)			
	Perforation diameter (inches)			
	1/8	3/16	7/32	1/4
1.0a	0.18	0.42	0.56	0.74
2.0b	0.26	0.59	0.80	1.04
5.0	0.41	0.94	1.26	1.65

a Use 1.0 foot residential systems  
 b Use 2.0 feet for other establishments  
 \* Potential for plugging

SELECTED PUMP CAPACITY = 32 gpm

### B. Determine Head Requirements:

1. Elevation difference between pump and point of discharge = 13 feet
2. Feet of pressure at manifold = 0 feet  
 5 ft - for pressure required at manifold  
 0 ft - for gravity distribution
3. Friction Loss
  - a. Enter friction loss table with gpm and pipe diameter  
 F.L. = 2.06 ft./100 feet of pipe
  - b. Determine Total Pipe Length from pump to discharge point  
 Pipe length 207 x 1.25 = 259 feet
  - c. Calculate Total Friction Loss  
 (a) 2.06 x (b) 259 ÷ 100 = 5.3 feet
  - d. Total Head Required  
 (1) 13 + (2) 0 + (3c) 5.3 = 18 feet

Perforation Spacing (feet)	Pipe Diameter		
	1 ¼	1 ½	2
2.5	14	18	28
3.0	13	17	26
3.3	12	16	25
4.0	11	15	23
5.0	10	14	22

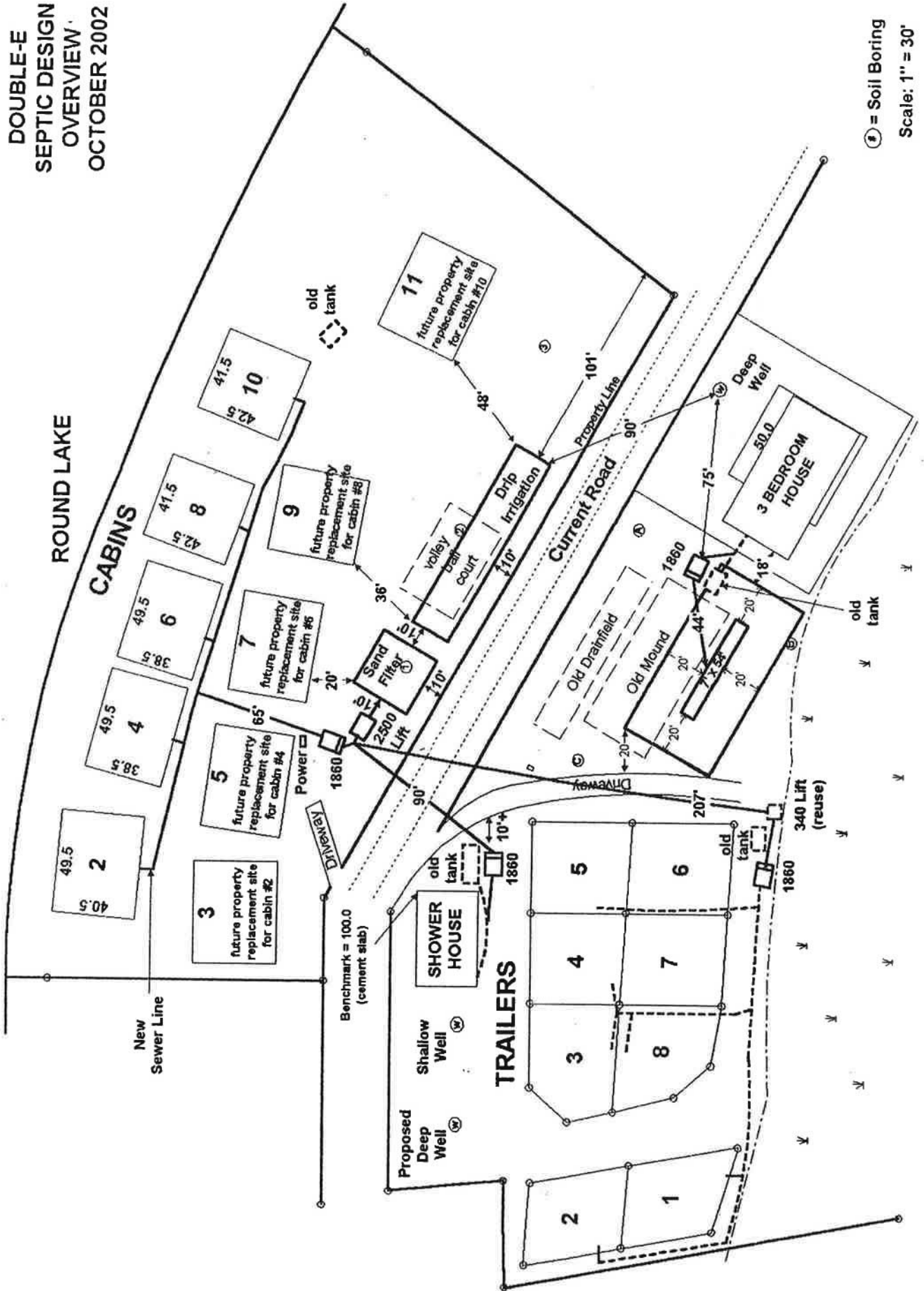
Maximum number of quarter inch perforations per lateral to guarantee <10% discharge variation

Flow Rate gpm	Friction Loss in Plastic Pipe		
	Nominal pipe diameter		
	1.5"	2"	3"
20	2.47	0.73	0.11
25	3.73	1.11	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

### C. Pump Selection

**A pump must be selected to deliver at least 32 gpm with at least 18 feet of total head**

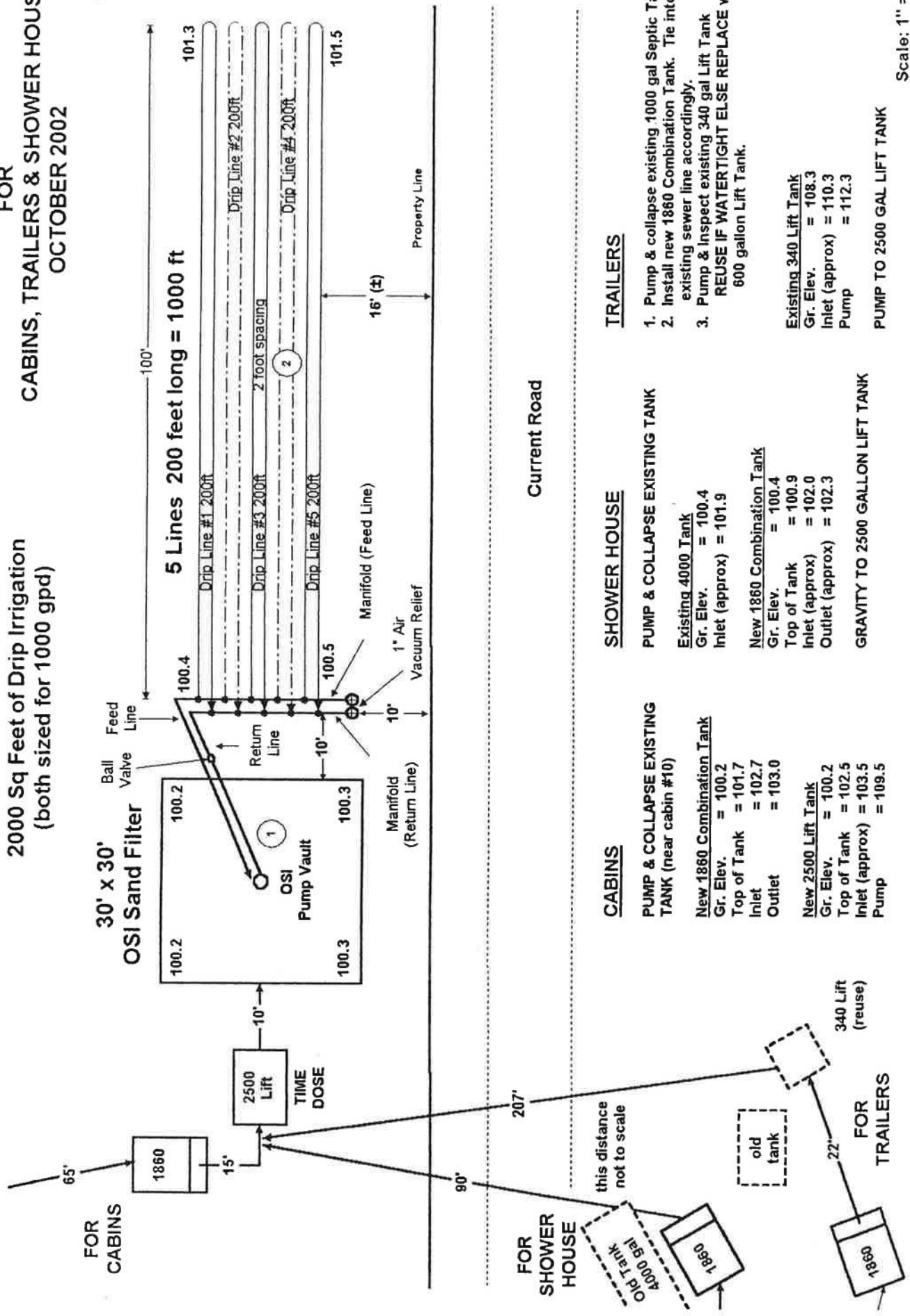
DOUBLE-E  
SEPTIC DESIGN  
OVERVIEW  
OCTOBER 2002



⊕ = Soil Boring  
Scale: 1" = 30'

**DOUBLE-E  
SEPTIC DESIGN  
FOR  
CABINS, TRAILERS & SHOWER HOUSE  
OCTOBER 2002**

**30' x 30' OSI Sand Filter  
with  
2000 Sq Feet of Drip Irrigation  
(both sized for 1000 gpd)**



**CABINS**

**PUMP & COLLAPSE EXISTING TANK (near cabin #10)**

New 1860 Combination Tank  
Gr. Elev. = 100.2  
Top of Tank = 101.7  
Inlet = 102.7  
Outlet = 103.0

New 2500 Lift Tank  
Gr. Elev. = 100.2  
Top of Tank = 102.5  
Inlet (approx) = 103.5  
Pump = 109.5

**SHOWER HOUSE**

**PUMP & COLLAPSE EXISTING TANK**

Existing 4000 Tank  
Gr. Elev. = 100.4  
Inlet (approx) = 101.9

New 1860 Combination Tank  
Gr. Elev. = 100.4  
Top of Tank = 100.9  
Inlet (approx) = 102.0  
Outlet (approx) = 102.3

**GRAVITY TO 2500 GALLON LIFT TANK**

**TRAILERS**

1. Pump & collapse existing 1000 gal Septic Tank.
2. Install new 1860 Combination Tank. Tie into existing sewer line accordingly.
3. Pump & inspect existing 340 gal Lift Tank  
**REUSE IF WATERTIGHT ELSE REPLACE with 600 gallon Lift Tank.**

Existing 340 Lift Tank  
Gr. Elev. = 108.3  
Inlet (approx) = 110.3  
Pump = 112.3

**PUMP TO 2500 GAL LIFT TANK**

Scale: 1" = 20'

# Intermittent Sand Filters

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This section includes intermittent sand filter designs suitable for providing pretreatment of residential strength wastewater. The designs are for the use of engineers, sanitarians and other onsite wastewater system designers and may be copied without permission from OSI. One caveat: all designs have been thoroughly field tested and will assure successful results *if implemented as shown*. We recommend that OSI's engineers be consulted if modifications to these standard drawings are contemplated.

Key features incorporated into OSI's designs include:

- **high head turbine pumps**
- **smaller diameter manifolds and laterals**, so that resulting higher velocities scour the pipe walls and prevent buildup of biological growths that can slough off and clog distribution orifices.
- **lateral flushing valve assemblies**, so annual maintenance can be performed conveniently.
- **improved sand and gravel specifications**, based on research done at OSI and the University of California at Davis.
- **orifice shields**, which prevent blockage of orifices by the rock cover, improve effluent distribution to the sand and eliminate the possibility of pressurized effluent breaking through the sand filter surface.
- **underdrain pipes with 1/4" slots**
- **"smart" control panels:**
  - (a) incorporate timers and counters for optimizing doses and diagnosing problems.
  - (b) prevent flooding of the sand filter in case of pump malfunction.
  - (c) utilize programmable timers for very precise dosing.

The effluent from each of the designs can be expected to meet the following standards of quality:

**BOD<sub>5</sub> < 5 mg/l**

**TSS < 5 mg/l**

**NH<sub>3</sub> < 1 mg/l**

**Nitrate Nitrogen avg. 30mg/l**

**FC avg. 400**

**TC after disinfection = 0**

# Intermittent Sand Filters

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The following designs are improved versions of the 360 sq. ft. "Oregon Intermittent Sand Filter." Each design can also be fitted with an automatic distributing valve to dose the sand more effectively and provide high pressure to ensure the orifices will remain clear.

20'x18'	10'x48'
10'x36'	20'x20'
12'x30'	20'x24'
10'x30'	20'x30'
10'x40'	30'x30'

## Gravity Discharge

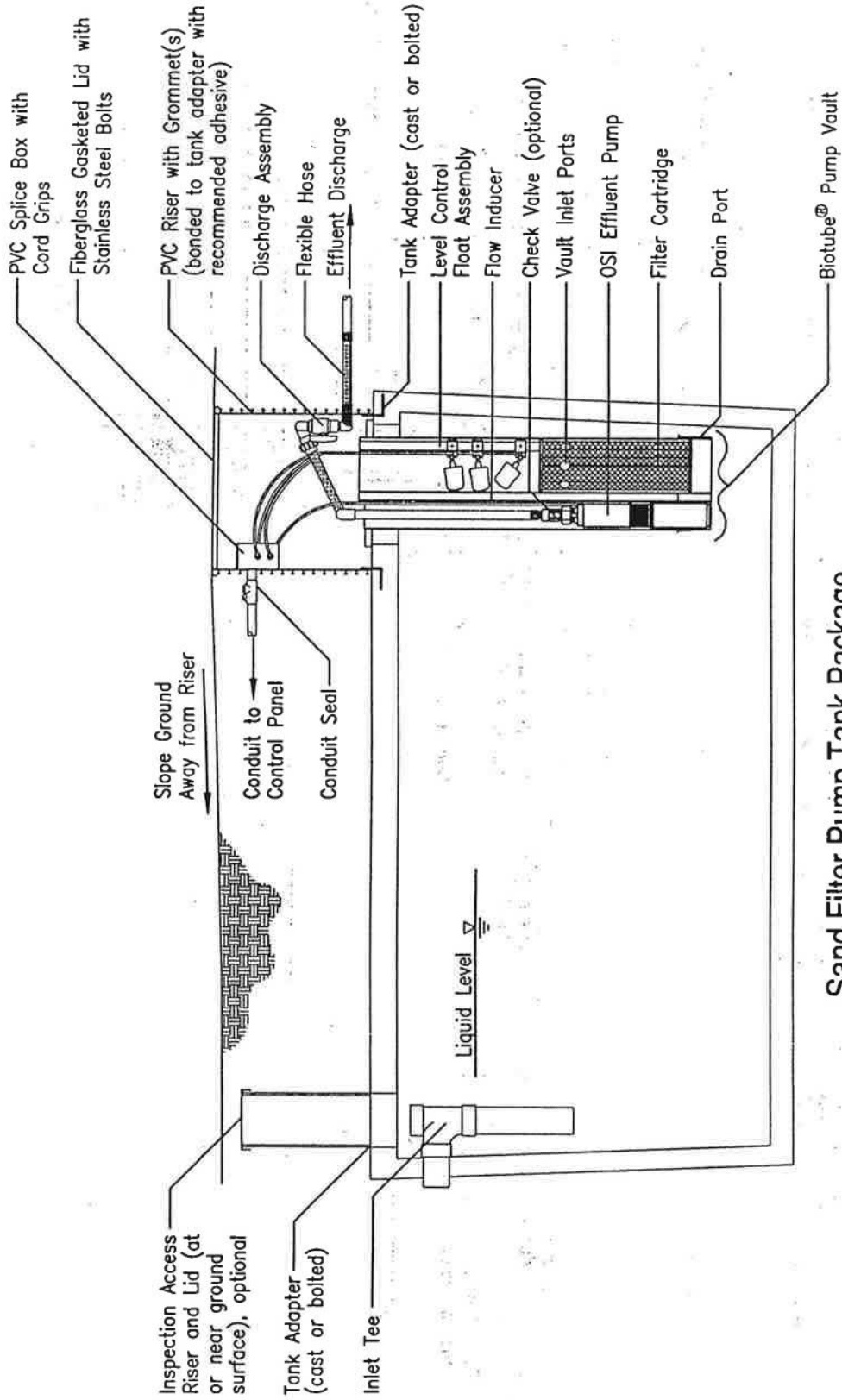
Usually located on a hillside with the long axis perpendicular to the slope in order to minimize the excavation required. The sand filter must be several feet higher than the drainfield area. To achieve that difference in elevation, a sand filter may be constructed partially above ground (figure 4).

## Pump Discharge Design

Usually placed on level ground but its location in relation to the drainfield is not critical since the pump within the sand filter allows effluent to be pumped to a drainfield at any location and elevation.

The designs above are accepted by most health departments currently permitting intermittent sand filters. However, it is the responsibility of the designer to secure all necessary approvals. Drawings of the above filters are included in this catalog section. A suggested filter sand specification for sand filters with low loading rates is located at the front of the filter drawings. Deviation from that specification will increase the potential for plugging of the filter or reduced treatment. Effluent should be applied to the sand filters described above at a rate of approximately 0.5 gallons per dose per orifice.

# Effluent Pumping System



**Sand Filter Pump Tank Package**  
 Typical 1500 gal. Septic Tank



Orenco Systems<sup>®</sup>  
 Incorporated

814 AIRWAY AVENUE  
 SUTHERLIN, OREGON  
 97479-9012

TELEPHONE:  
 (541) 459-4449  
 FACSIMILE:  
 (541) 459-2884





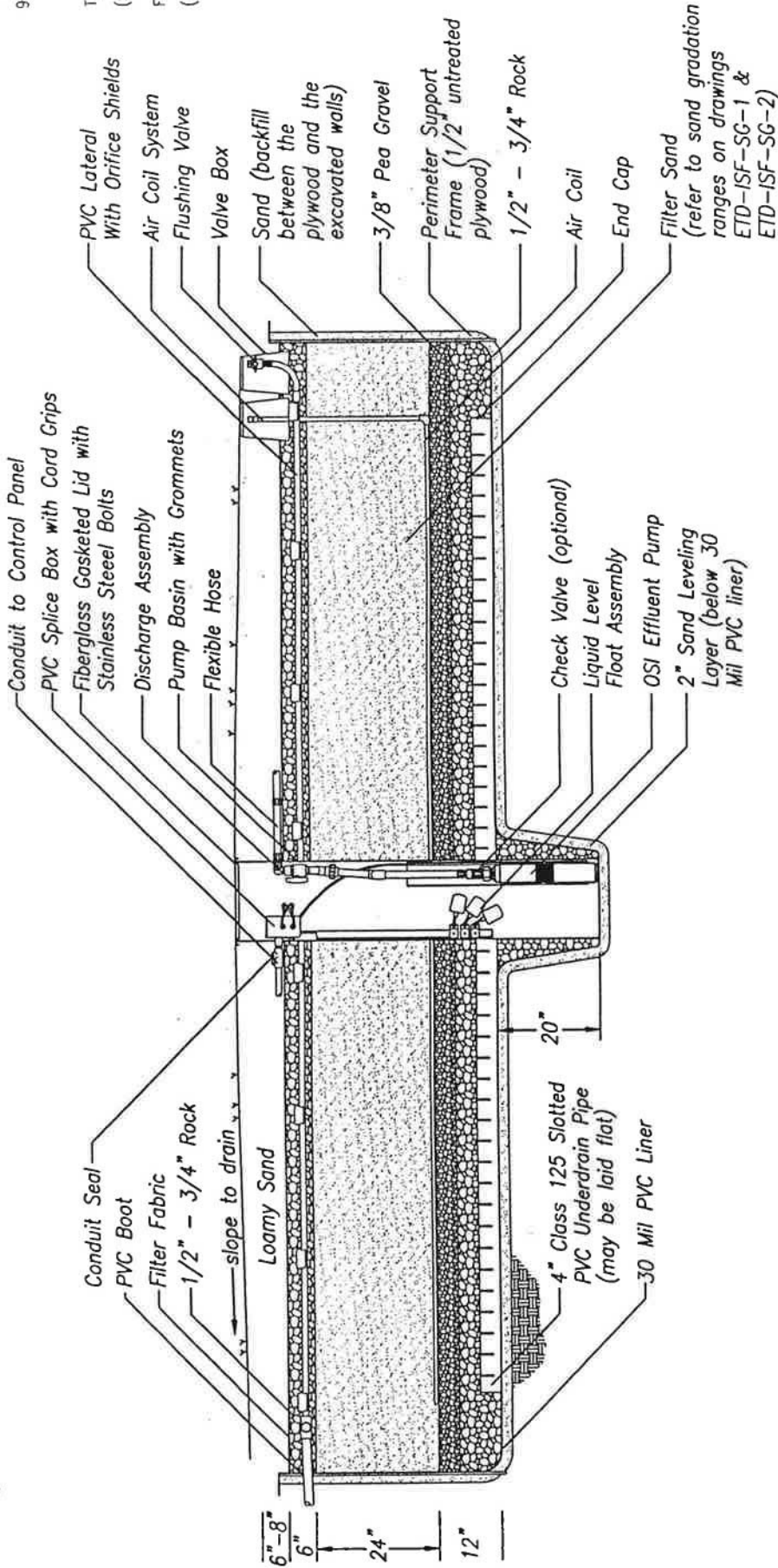
Orencia Systems<sup>®</sup>  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON  
97479-9012

TELEPHONE:  
(541) 459-4449  
FACSIMILE:  
(541) 459-2884

# Typical Intermittent Sand Filter with Pump Discharge

In cold weather applications, slope entire transport line and manifold system to drain back into tank. If draining back is not possible, refer to non-drainback orifice detail on drawing EDW-ISF-S-3.



**SIDE VIEW - TYPICAL SAND FILTER WITH PUMP DISCHARGE**

SCALE: 3/8" = 1'-0"

Note: See additional details on EDW-ISF-S-3

EDW-ISF-S-2  
Rev. 1.0 (2/98)

Patent # 5,360,556  
© 1998, Orencia Systems, Inc.

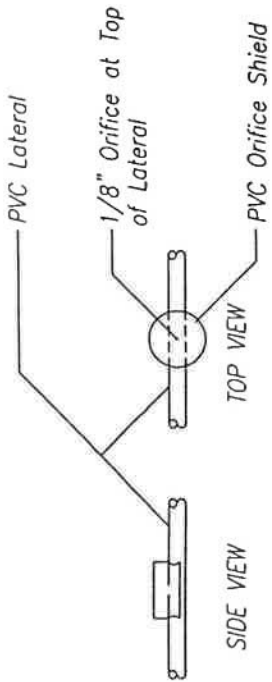


Orencia Systems<sup>®</sup>  
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97479-9012

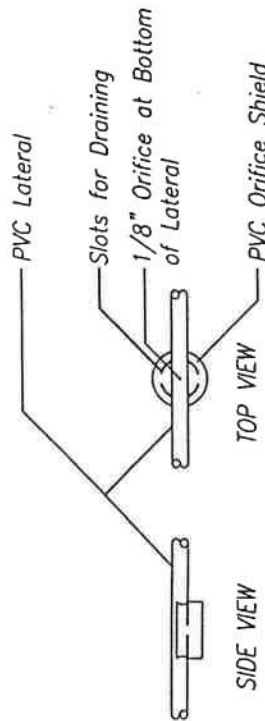
TELEPHONE:  
(541) 459-4449  
FACSIMILE:  
(541) 459-2884

# Typical Intermittent Sand Filter Detail Sheet



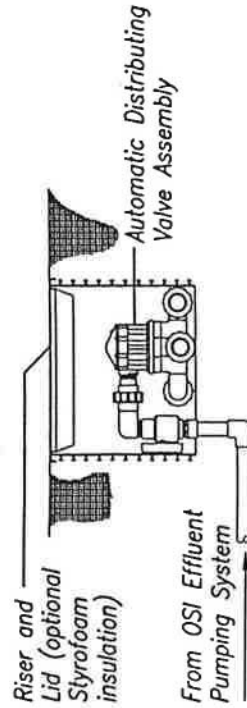
## STANDARD ORIFICE SHIELD DETAIL

SCALE: 1" = 1'-0"



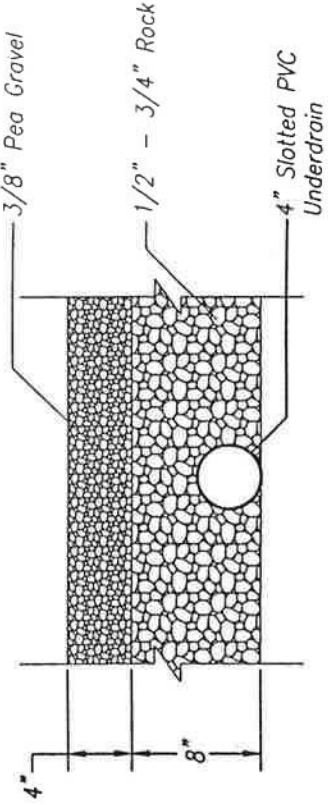
## NON-DRAINBACK ORIFICE DETAIL

SCALE: 1" = 1'-0"



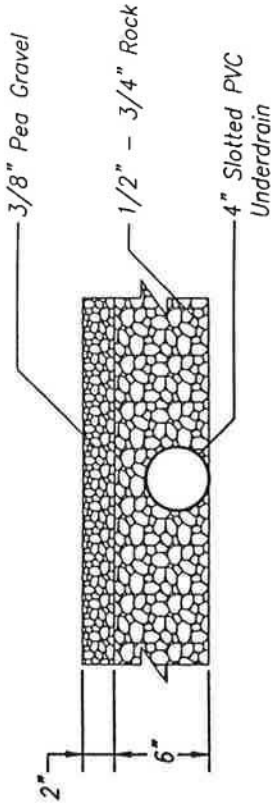
## DISTRIBUTING VALVE DETAIL

SCALE: 1/2" = 1'-0"



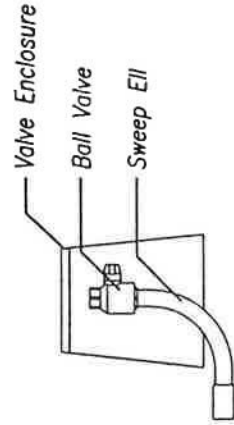
## UNDERDRAIN DETAIL FOR PUMP DISCHARGE

SCALE: 1" = 1'-0"



## UNDERDRAIN DETAIL FOR GRAVITY DISCHARGE

SCALE: 1" = 1'-0"



## FLUSHING VALVE DETAIL

SCALE: 1" = 1'-0"



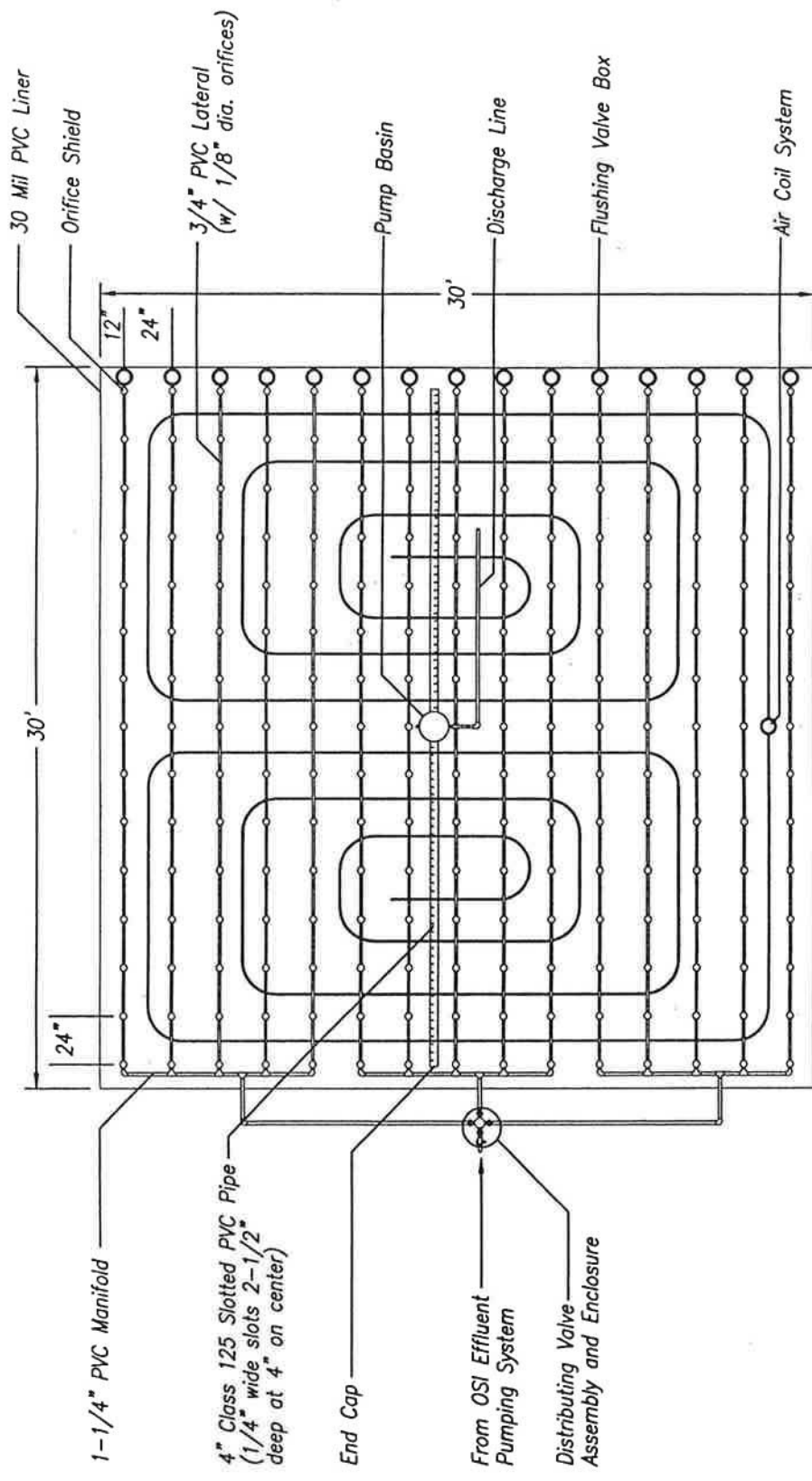
Oreco Systems<sup>®</sup>  
Incorporated

814 AIRWAY AVENUE  
SUTHERLIN, OREGON  
97479-9012

TELEPHONE:  
(541) 459-4449  
FACSIMILE:  
(541) 459-2884

# 30'x30' Intermittent Sand Filter\* with Zoned Distribution and Pump Discharge

\* Configured for loading rates up to 1.25 GPD/FT.<sup>2</sup> Follow appropriate intermittent sand filter design criteria.



**TOP VIEW - 30'X30' PUMP DISCHARGE SAND FILTER**

SCALE: 1" = 7'-0"

Note: See additional details on  
EDW-ISF-S-3

# SOIL BORING LOG

PROPERTY OWNER: **DoubleE**  
Homeowner's Assoc.

PARCEL CODE: 35-1-087100 10/22/2002

DEPTH    COLOR            TEXTURE

Soil Boring 1    For Drip Irrigation Area

0 - 2		Sod
2 - 16	10YR 5/4	Sandy Loam
16+	10YR 6/2	Mottled Clay Loam

Soil Boring 2    For Drip Irrigation Area

0 - 2		Sod
2 - 7	10YR 3/2	Top Soil Sandy Loam
7 - 14	10YR 6/3	Sandy Loam
14+	10YR 4/4	Clay Loam with 10YR 6/2 & 5/6 Mottles

Soil Boring 3    Outside Drip Irrigation Area

0 - 2		Sod
2 - 10	10YR 5/4	Sandy Loam
10+	10YR 6/2	Mottled Clay Loam

**ATTERBERG LIMITS WORKSHEET**

DATE DRILLED 9/14/02 RECEIVED 9/14/02  
COUNTY AITKEN DATE: 9/27/02  
NAME DOUBLE EE BY = D.A.CHRISTIANSON  
PROJECT SEWER SYSTEM LL = 25  
HOLE NO. 1 PL = 16  
SPL. NO. 1-1 PI = 9  
FIELD CLASS CL  
LAB CLASS CL  
DEPTH 0.5 - 1'

<u>LIQUID LIMIT</u>	<u>WET WT.</u>	<u>DRY WT.</u>	<u>BLOWS</u>
CAN # <u>58</u>			
TARE WT. <u>11.23</u>	<u>33.59</u>	<u>29.26</u>	<u>32</u>

CAN # <u>63</u>			
TARE WT. <u>11.33</u>	<u>34.38</u>	<u>29.72</u>	<u>24</u>

CAN # <u>64</u>			
TARE WT. <u>11.30</u>	<u>31.41</u>	<u>27.21</u>	<u>19</u>

**PLASTIC LIMIT**

CAN # <u>50</u>		
TARE WT. <u>11.32</u>	<u>15.50</u>	<u>14.92</u>

**ATTERBERG LIMITS WORKSHEET**

DATE DRILLED 9/14/02 RECEIVED 9/14/02  
COUNTY AITKEN DATE: 9/27/02  
NAME DOUBLE EE BY = D.A.CHRISTIANSON  
PROJECT SEWER SYSTEM LL = 24  
HOLE NO. 2 PL = 18  
SPL. NO. 2-1 PI = 6  
FIELD CLASS CL  
LAB CLASS CL-ML  
DEPTH 0.5 - 1'

<u>LIQUID LIMIT</u>	<u>WET WT.</u>	<u>DRY WT.</u>	<u>BLOWS</u>
CAN # <u>61</u>			
TARE WT. <u>11.32</u>	<u>32.20</u>	<u>28.25</u>	<u>32</u>

CAN # <u>44</u>			
TARE WT. <u>11.34</u>	<u>29.76</u>	<u>26.20</u>	<u>26</u>

CAN # <u>46</u>			
TARE WT. <u>11.21</u>	<u>34.07</u>	<u>29.48</u>	<u>18</u>

PLASTIC LIMIT

CAN # <u>57</u>			
TARE WT. <u>11.25</u>	<u>15.19</u>	<u>14.59</u>	

**WORK SHEET FOR ATTERBERG LIMITS**  
**LIQUID LIMIT DATA**

Can No.	Wet Wt.	Dry Wt.	H2O Wt.	Empty Wt.	Dry Soil	Moist. Cont. (%)	No. Blows	Lab Sample
<b>LIQUID LIMIT DATA</b>								
58	33.59	29.26	4.33	11.23	18.03	24.0	32	DOUBLE EE
63	34.38	29.72	4.66	11.33	18.39	25.3	24	L.L.= 25
64	31.41	27.21	4.20	11.30	15.91	26.4	19	P.L.= 16
								P.I.= 9

Regression Output:

Constant	39.865
Std Err of Y Est	0.0076
R Squared	1
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	-10.52844
Std Err of Coef.	0.047119

**PLASTIC LIMIT DATA**

50	15.50	14.92	0.58	11.32	3.60	16.1	SPL. 1-1
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**LIQUID LIMIT DATA**

61	32.20	28.25	3.95	11.32	16.93	23.3	32	DOUBLE EE
44	29.76	26.20	3.56	11.34	14.86	24.0	26	L.L.= 24
46	34.07	29.48	4.59	11.21	18.27	25.1	18	P.L.= 18
								P.I.= 6

Regression Output:

Constant	34.138
Std Err of Y Est	0.0170
R Squared	0.9998
No. of Observations	3
Degrees of Freedom	1
X Coefficient(s)	-7.18591
Std Err of Coef.	0.094870

**PLASTIC LIMIT DATA**

57	15.19	14.59	0.60	11.25	3.34	18.0	SPL. 2-1
----	-------	-------	------	-------	------	------	----------

In account with  
 Goble's Sewer Service  
 30731 Pioneer Avenue  
 Aitkin, MN 56431

# Invoice

Invoice #	1012451
Date	07/11/02

Phone: (218)927-6175

<b>Bill To:</b>
Double E Homeowners Association c/o MerriLee Muenkel Route 2 Box 404 Mazeppa MN 55956

--

--

Quantity	Description	Tax	Amount
1.	4000 Open and clean tank behind bath house, baffles ok	SHOWER HOUSE	0.00
2.	1340 Open and clean septic (1000 gal.) and lift (340 gal.) tanks at south end, tank has crack in bottom	TRAILERS	<del>0.00</del>
3.	1350 Will return to clean tanks on N end (1000/350 gal.)	CABINS	0.00
4.	1350 Open and clean house tank (1000/350 gal.), baffles ok	HOUSE	.00
<p style="text-align: center; font-size: 2em; font-weight: bold;">COPY</p>			
Subtotal			<del>0.00</del>
Tax @ 0.00%			0.00
Total			<del>0.00</del>

A service charge of 1.5% per month will be added on accounts not paid within 30 days of billing. Please report billing errors to this office immediately.  
 Thank You! We appreciate your business.



# Goble's Sewer Service

30731 Pioneer Ave  
Aitkin, MN 56431

218-927-6175 800-713-5234

MPCA registered company  
Company License Number 455

## Septic tank fact sheet:

System inspector or installer (O'Keeffe)

Current septic tank owner: Double E Homeowners Association  
% MerriLee Muenkel

Address: Route. 2 Box 404 Mazeppa MN 55956  
North Round Lake (south shore near public access)

Phone number:

Tank Type: Bath house tank cement block tank with poured bottom

Approximate size (gal.): 4000

Approximate age in years: 30

Lift station: no

## Our procedure for inspecting a septic tank is as follows:

Open the access cover

Clean the septic and lift tanks removing all liquid and solids.

Do a fresh water rinse. (Not available during cold weather months.)

Take a look at the septic tank from the access opening; included is looking for cracks, breaks,  
or other signs of deterioration.

Check to see if the baffles are still in place.

Replace the access cover.

### Defects are listed below:

No defects were noted on the receipt, however I can't remember if the walls  
were plastered and if there was evidence of leaking.

### Recommendations or comments:

Slabs on surface (surface water can leak in this tank.)

This report generated from and invoice dated 7-11-2

Inspection performed by: Gaylen Goble

9/5/2

Note: This is a septic tank fact sheet, not a complete sewer inspection form and does not replace a  
complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction

# Goble's Sewer Service

30731 Pioneer Ave  
Aitkin, MN 56431

218-927-6175 800-713-5234

MPCA registered company  
Company License Number 455

Septic tank fact sheet:

System inspector or installer (O'Keeffe)

Current septic tank owner: Double E Homeowners Association  
% MerriLee Muenkel

Address: Route. 2 Box 404 Mazeppa MN 55956  
North Round Lake (south shore near public access)

Phone number:

Tank Type: (S. tank) precast concrete septic and lift tanks

Approximate size (gal.): 1000/340

Approximate age in years: 25

Lift station: yes

### Our procedure for inspecting a septic tank is as follows:

Open the access cover

Clean the septic and lift tanks removing all liquid and solids.

Do a fresh water rinse.(Not available during cold weather months.)

Take a look at the septic tank from the access opening; included is looking for cracks, breaks,  
or other signs of deterioration.

Check to see if the baffles are still in place.

Replace the access cover.

Defects are listed below:

This septic tank has a leaking crack in the bottom.

Recommendations or comments:

Inspection performed by: Gaylen Goble

9/5/2

Note: This is a septic tank fact sheet, not a complete sewer inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

# Goble's Sewer Service

30731 Pioneer Ave  
Aitkin, MN 56431

218-927-6175 800-713-5234

MPCA registered company  
Company License Number 455

## Septic tank fact sheet:

System inspector or installer (O'Keeffe)

Current septic tank owner: Double E Homeowners Association  
% MerriLee Muenkel

Address: Route. 2 Box 404 Mazeppa MN 55956  
North Round Lake (south shore near public access)

Phone number:

Tank Type: (N. tank) precast concrete septic and lift tanks  
combo tank

Approximate size (gal.): 1000/350

Approximate age in years: 20

Lift station: yes

## Our procedure for inspecting a septic tank is as follows:

Open the access cover

Clean the septic and lift tanks removing all liquid and solids.

Do a fresh water rinse. (Not available during cold weather months.)

Take a look at the septic tank from the access opening; included is looking for cracks, breaks,  
or other signs of deterioration.

Check to see if the baffles are still in place.

Replace the access cover.

Defects are listed below:  
NONE

## Recommendations or comments:

Manhole inlet 12" down on septic, lift surface

Inspection performed by: Gaylen Goble

9/5/2

Note: This is a septic tank fact sheet, not a complete sewer inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

# A. M. & Associates, Inc.

29465 442<sup>ND</sup> LANE  
Pallsade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
Annette M. O'Keeffe  
SEPTIC SYSTEMS  
DESIGNS & INSPECTIONS  
MPCA #1357

## ONE YEAR MAINTENANCE, MONITORING AND INSPECTION SERVICE CONTRACT FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM

It is hereby agreed this 25 day of April, 20 03 by and between A.M. & Associates, Inc. and

Property Owner(s): DoubleE Homeowner's Assoc Parcel Code: 32-0-031500  
c/o Debbie Frank  
Home Address: RR2 Box 409 Site Address: Round Lake  
Mazeppa, MN 55956  
Phone (home) (952) 937-3500 Township Waukenabo  
(work) \_\_\_\_\_  
(cell) \_\_\_\_\_ Phone: \_\_\_\_\_  
(fax) \_\_\_\_\_

### DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM

#### **30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

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

Installer: Mark Ritter

Phone#: (218) 927-4125

That A.M. & Associates, Inc. will provide the services to perform Preventative Maintenance, Monitoring and Inspection of the parameters and frequency described herein as your Operating Permit requires for your Individual Sewage Treatment System (ISTS).

Each inspection includes an examination of the ISTS followed by a written report to the Property Owner(s). 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. A.M. & Associates, Inc. is authorized to submit a copy of the report to the pertaining County's Environmental Services Department.

This contract does not assume any responsibilities or obligations, which are normally the responsibilities of the Property Owner(s), 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.

A.M. & Associates, Inc. can only contract or subcontract for parts or labor after authorization by you. Billings for service calls shall be made on a case by case basis. This contract *only* covers maintenance, monitoring and inspection services per current pertaining County Operating Permit and does not cover alarm calls of any kind.

On-site Service Calls cost of a minimum of \$35.00 per hour for time and labor required from A.M. & Associates and/or Minnesota Onsite Specialties, due to alarms, misuse or abuse of any portion of this System, is the responsibility of the Property Owner(s), payable within 20 days of billing.

All additional cost, time and labor required from A.M. & Associates, Inc. due to modifications made by the pertaining County's Environmental Services Department, is the responsibility of the Property Owner(s), payable within 20 days of billing.

In no event shall A.M. & Associates, Inc. or 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.

A.M. & Associates, Inc. shall be provided access to the site and the system in order to perform the following services that are marked:

**CONTROL/ALARM PANEL (Annually)**

- 1. Check pump operations in manual mode
- 2. Check timer settings
- 3. Record elapsed time meter and counter readings
- 4. Confirm operation of audible and visual alarms

**LIFT PUMPING STATION (Annually)**

- 1. Verify no leaks in riser
- 2. Inspect splice box for moisture and secure connections
- 3. Verify condition of and correct operation of all floats
- 4. Verify neat wrap of float cords
- 5. Pull pump and clean intake screen if necessary
- 6. Visually inspect recirculating splitter valve (if applicable) and liquid level
- 7. Check general appearance

**EFFLUENT FILTERS/PUMP SCREENS (Annually)**

- 1. Check effluent filter for buildup of biomat growth
- 2. Clean (if needed)

**SEPTIC TANK (Annually)**

- 1. Measure sludge and scum level
- 2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel  
\* (If the test results determine a need for solids removal, the Property Owner(s) will bear the cost and responsibility for doing so)
- 3. Check general appearance

**PRETREATMENT DEVICE (Annually)**

- 1. Inspect for ponding; assess character and color of biomat
- 2. Test pressurization of laterals (squirt test)
- 3. Verify proper orifice position, equal spray under orifices, no clogged orifices
- 4. Check for odors: adjust recirculating time (if necessary)
- 5. Clean and flush manifold (if necessary)
- 6. Re-check squirt height (if necessary)
- 7. Inspect the appearance of the wastewater inside the unit for color and turbidity.

**DISPERSAL FIELD (Annually)**

- 1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)
- 2. If liquid level monitors are installed, levels will be observed and recorded.
- 3. Flush filters and clean cartridges, if applicable
- 4. Check field control unit solenoid operations or manual control, if applicable
- 5. Check for required separation

**SAMPLING (As Deemed Necessary)**

- 1. Aquire and deliver samples for analysis of BODs, TSS, Fats Oils and Grease, and Fecal Coliform (cost of sampling analysis plus delivery charges is the responsibility of the Property Owner(s). If more than one analysis is recommended and required within the duration of this contract, the additional labor costs aquired by A.M. & Associates, Inc. along with sampling analysis fees and delivery charges is the responsibility of the Property Owner(s)).

**MISCELLANEOUS (Annually)**

- 1. Review water usage from water meter records kept by the Property Owner(s).

\*\*\* **PROPERTY OWNER(S)'S RESPONSIBILITIES** *(Monthly and/or as Required)*

During the term hereof, I/we as the current Property Owner(s) understand that I/we;

1. Must *notify* A.M. & Associates, Inc. of the installation date of this ISTS, a *minimum* of one week *prior* to installation.
2. Will provide A.M. & Associates, Inc. with access to the System. Access includes electrical controls & disconnects, hose hookup water supply and sufficient workspace to perform the necessary maintenance services.
3. (IF TELEMETRY IS INSTALLED), will subscribe to and will remain active with long distance phone service *without* Call Waiting, Call Forwarding and Phone Company Voice Mail features. This is required in order to monitor your Septic System by use of Telemetry.
4. Will be responsible for recording water meter readings on a *monthly* basis.
5. Must *notify* A.M. & Associates, Inc. *immediately* when signs of weeping problems, sewage smell or any other indication that the system may not be functioning properly.
6. Will provide A.M. & Associates, Inc. copies of the water meter records, upon request.
7. Must acquire pre-authorization from A.M. & Associates, Inc., *prior* to the Property Owner(s) or any other individual performing or attempts to:
  - a. make alterations or modifications to the System or Control Panel, or
  - b. misuse the System or Control Panel, or
  - c. attach devices to it, or
  - d. execute any type of Maintenance services to the System or Control Panel, or any portion thereof
8. Will notify A.M. & Associates, Inc. of new Owner(s)ship of property if within the duration of this contract.
9. Will accept all responsibility and risks involved with the installation and hydraulic performance of this Septic System and hold A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.
10. May be required to perform additional maintenance responsibilities as deemed necessary by A.M. & Associates, Inc.

This contract shall remain in force for a period of one year, beginning on date of installation and ending December 31<sup>st</sup> of the following year.

**FEES**

Maintenance, Monitoring & Inspection Service Contract	\$500.00	Due at time of signing contract
Sample Analysis Fees & Supplies	(approx) N/A	Due at time of sampling
*Time & Mileage to Deliver Samples for Analysis	N/A	Due at time of sampling

NOTE: SAMPLING OF FECAL COLIFORM, BOD, TSS, AND FATS OIL AND GREASE IS *NOT* REQUIRED AT THIS TIME. IF SAMPLING IS FOUND TO BE NECESSARY DURING THE DURATION OF THE USE OF THIS SEPTIC SYSTEM, THE PROPERTY OWNER(S) IS RESPONSIBLE FOR ALL COSTS INVOLVED, AND IS DUE AT TIME THE SAMPLES ARE TO BE TAKEN.

\*If at time of sampling, the Property Owner(s) wishes to transport the samples to Brainerd himself for analysis, within the *required time limit*, A.M. & Associates, Inc. will wave the time, mileage delivery fees of \$100.00.

A.M. & Associates, Inc. agrees to provide inspection, monitoring and routine maintenance service only under this contract.

I hereby certify with my signature as the Property Owner(s) that I understand the provisions, requirements and responsibilities of this Maintenance, Monitoring and Inspection Service Contract. I also understand failure to comply with the requirements outlined in my Operating Permit, this Contract, along with any future requirements that may arise, set forth by Aitkin County Environmental Services, Orenco Systems, Inc. (OSI) or A.M. & Associates, Inc., could result in the condemning of my septic system, removal of the use of the drainfield, and require the use of Holding Tanks with a pumping Contract.

Property Owner(s):

Name: Robert Lubahn (please print)      Robert Lubahn (signature)      Date: 4-25-03

Name: Deborah I Frank (please print)      Deborah I Frank (signature)      Date: 4-25-03

Name: \_\_\_\_\_ (please print)      \_\_\_\_\_ (signature)      Date: \_\_\_\_\_

Name: \_\_\_\_\_ (please print)      \_\_\_\_\_ (signature)      Date: \_\_\_\_\_

A.M. & Associates, Inc.:

Name: MICHAEL D. O'KEEFFE (please print)      Michael D O'Keefe (signature)      Date: 4-25-03



# AITKIN COUNTY ENVIRONMENTAL SERVICES

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

PERMITTEE Double E Homeowner's Association PARCEL NUMBER 35-1-087100  
c/o Debbie Frank  
 ADDRESS RR2 Box 409 CITY Mezeppa STATE MN ZIP 55956  
 SEC 20 TWP 49 RGE 26 BLOCK \_\_\_\_\_ LOT \_\_\_\_\_ ACRES \_\_\_\_\_  
 TELEPHONE (507) 843-4914 GIS LOCATION \_\_\_\_\_  
 SITE LOCATION Round Lake, Waukenabo Township

**A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM:**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- d) Shower House
- e) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Number of Bedrooms N/A

Flow = 1000 gpd

Hydraulic Loading Rate = 1.0 - 1.2 gpd/ft<sup>2</sup>

Organic Loading Rate = 0.00013 BOD/sqft

Anticipated System Life = 20 - 30 years

$Flow \times BOD(mg/l) \times 8.35 \div 1,000,000 = \#BOD$   
 $(1000 \times 15 \times 8.35 \div 1,000,000 = .125 BOD)$

System Loading = organic loading  $\div$  area = BOD/sqft  
 $(.125 \div 1000 = 0.00013 BOD/sqft)$

**Estimated Cost of:**

System Construction =	<u>\$25,000.00 +</u>
Operation =	<u>\$15.00 per mo.</u>
Monitoring, Testing & Service =	<u>\$300.00 - per yr.</u>

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the date of the Operating Permit and lasting until the Permit's expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted.

The discharge from the wastewater treatment unit shall be limited by the Permittee as specified below:

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Flow	1000 gpd	Water Meter	Monthly	Record on Log Sheet	At time of Operating Permit Renewal
5-Day BOD	15/220 mg/l	Sand Filter Pump Vault.	Annually	Take Sample for Testing	Annually
Total Nitrogen					
Total Phosphorus					
TSS	15/65 mg/l	Sand Filter Pump Vault.	Annually	Take Sample for Testing	Annually
Fats, Oils, Grease (FOG)	30 mg/l	Sand Filter Pump Vault.	Annually	Take Sample for Testing	Annually
Fecal Coliform	Less than 1,000 cfu / 100 ml	Sand Filter Pump Vault.	Annually	Take Sample for Testing	Annually
Separation Distance	1 foot Separation beneath Rock layer	Drip Irrigation	Annually	Soil Borings	Annually

**C. MAINTENANCE REQUIREMENTS**

PARAMETER	LOCATION	FREQUENCY
Daily Flow	Water Meter	Monthly (record on log sheet)
Sludge & Scum Level	Septic Tank	Annually
Pump, Timers, Alarm, Floats, etc	Lift Tanks, Pump Vault	Annually
Pressurization of Laterals in Sand Filter (squirt test).	Sand Filter	Annually
Acceptance of Effluent into ground and 1 foot of separation to water table.	Drip Irrigation	Annually
Overall visual of entire system for landscaping, drainage and cover material	Sand Filter, Drip Irrigation & Tanks	Annually

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the date of the Operating Permit and lasting until the Permit's expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted.

The discharge from the wastewater treatment unit shall be limited by the Permittee as specified below:

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Flow	1000 gpd	Water Meter	Monthly	Record on Log Sheet	At time of Operating Permit Renewal
5-Day BOD					
Total Nitrogen					
Total Phosphorus					
TSS					
Fats, Oils, Grease (FOG)					
Fecal Coliform					
Separation Distance	1 foot Separation beneath Rock layer	Drip Irrigation	Annually	Soil Borings	Annually

**C. MAINTENANCE REQUIREMENTS**

PARAMETER	LOCATION	FREQUENCY
Daily Flow	Water Meter	Monthly (record on log sheet)
Sludge & Scum Level	Septic Tank	Annually
Pump, Timers, Alarm, Floats, etc	Lift Tanks, Pump Vault	Annually
Pressurization of Laterals in Sand Filter (squirt test).	Sand Filter	Annually
Acceptance of Effluent into ground and 1 foot of separation to water table.	Drip Irrigation	Annually
Overall visual of entire system for landscaping, drainage and cover material	Sand Filter, Drip Irrigation & Tanks	Annually

**D. MONITORING AND REPORTING REQUIREMENTS:**

1. Monitoring results obtained during each calendar year shall be submitted no later than December 31<sup>st</sup> of each year to:

Aitkin County Environmental Services  
209 2<sup>nd</sup> St NW  
Aitkin, MN 56431

2. The monitoring reports shall be signed by the Permittee. Copies are to be retained for your records.
3. The Permittee or designated agent shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of the Operating Permit.
4. Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.
5. Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory.

**E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area.
2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer, or replace.
3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace.
4. A different or another Performance or Other System may be installed at the owner's expense.
5. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

**F. SPECIAL REQUIREMENTS:**

1. A.M. & ASSOCIATES, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of 1 Year(s), only upon signing a contract stating so.

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.

MICHAEL O'KEEFFE  
(Name)

  
(Signature)

1357  
(License #)

10/22/2002  
(Date)

A.M. & ASSOCIATES, INC.  
(Company Name)

29465 442<sup>nd</sup> LANE PALISADE, MN 56469  
(Address)

(218) 768-4430  
(Telephone)

# AITKIN COUNTY ENVIRONMENTAL SERVICES

## OPERATING PERMIT FOR WASTEWATER TREATMENT AND DISPERSAL

OPERATING PERMIT #: 106

FEE PAID: 25.00

PERMITTEE: Double E Homeowners Association

PHONE: (507) 843-4914

ADDRESS: RR 2 Box 409  
Mazeppa, MN 55956-

ZONING PERMIT # 30261

PARCEL #: 35-1-087100

ISSUE DATE: 4/30/03

RENEW DATE: 12/31/03

LEGALDESCRIPTION: Lot 10 Blk 1 less Part Ln Doc# 224366 Simmons Double E

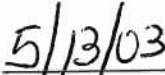
Aitkin County Environmental Services authorizes the Permittee to construct, install and operate a wastewater treatment and dispersal system located on the above described property in accordance with the requirements of this permit.

This permit is effective on the issuance date identified above.

This permit and the authorization to treat and disperse from the above system shall expire on the above expiration date. The Permittee is not authorized to discharge after the date of expiration. The Permittee shall submit such information and forms as required by Aitkin County Environmental Services no later than thirty (30) days prior to the expiration date. When the required information is submitted and approved by Aitkin County Environmental Services, the permit may be renewed. This permit is not transferable from owner to owner.

**I hereby certify with my signature as the permittee that I understand the provisions of this permit including the maintenance and monitoring requirements. I agree to indemnify and hold Aitkin County harmless from all loss, damages, costs and charges that may be incurred by use of this system and if I fail to comply with the provisions of this Operating Permit. If I sell this property during the life of the permit, I will inform the new owner(s) of the permit requirements and the need to renew the permit.**

  
\_\_\_\_\_  
Signature of Permittee

  
\_\_\_\_\_  
Date

  
\_\_\_\_\_  
Signature of Permitting Authority

  
\_\_\_\_\_  
Date

If You have any questions regarding this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact Aitkin County Environmental Services at 218-927-7342.

### A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM

This ISTS is to serve 3 locations on the property of which is strictly seasonal and not in use during the winter months. Sewage will gravity from the Cabin #'s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon lift tank. Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank. Sewage will gravity from the trailers into a new precast 1860 Combo septic tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank. Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI

### B. PERFORMANCE STANDARD REQUIREMENTS:

During the period beginning on the effective date (issuance date) of this permit and lasting until this permits expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted. The following parameters must be monitored and the results must be found within the compliance limits.

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Flow	1000 gpd	Water Meter	MONTHLY	Record on Log Sheet	ANNUALLY
Separation	1 ft beneath rock layer	Dispersal System	ANNUALLY	Measure in Field	ANNUALLY

### C. MAINTENANCE REQUIREMENTS:

PARAMETER	LOCATION	FREQUENCY
Flow	Water Meter	MONTHLY
Pressurization of Laterals	Sand Filter	ANNUAL
Pumps, Floats & Alarms	Lift Tanks, pump vault	ANNUAL
Solids Removal & Water Tightness	Septic tank(s)	ANNUAL
Surface Discharge	Dispersal System	ANNUAL
Vegetative Cover	Dispersal System	ANNUAL

#### **D. MONITORING AND REPORTING REQUIREMENTS:**

Monitoring results obtained during each calendar year shall be submitted no later than December 31st of that year to:

Aitkin County Environmental Services  
209 2nd Street NW  
Aitkin, MN 56431

The monitoring reports shall be signed by the Permittee. Copies are to be retained by the Permittee.

The Permittee shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of this permit.

Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.

Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory. All sampling and testing costs shall be the responsibility of the Permittee.

Monitoring will be done by AM. And Associate

#### **E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area. 2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer or replace. 3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace. 4. A different or another Performance or Other System may be installed at the owner's expense. 5. If in the event that this system should fail and there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

#### **F. SPECIAL REQUIREMENTS:**

A.M. and Associates, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of one year (s), only upon signing a contract stating so.

38261





30261



30761



30261



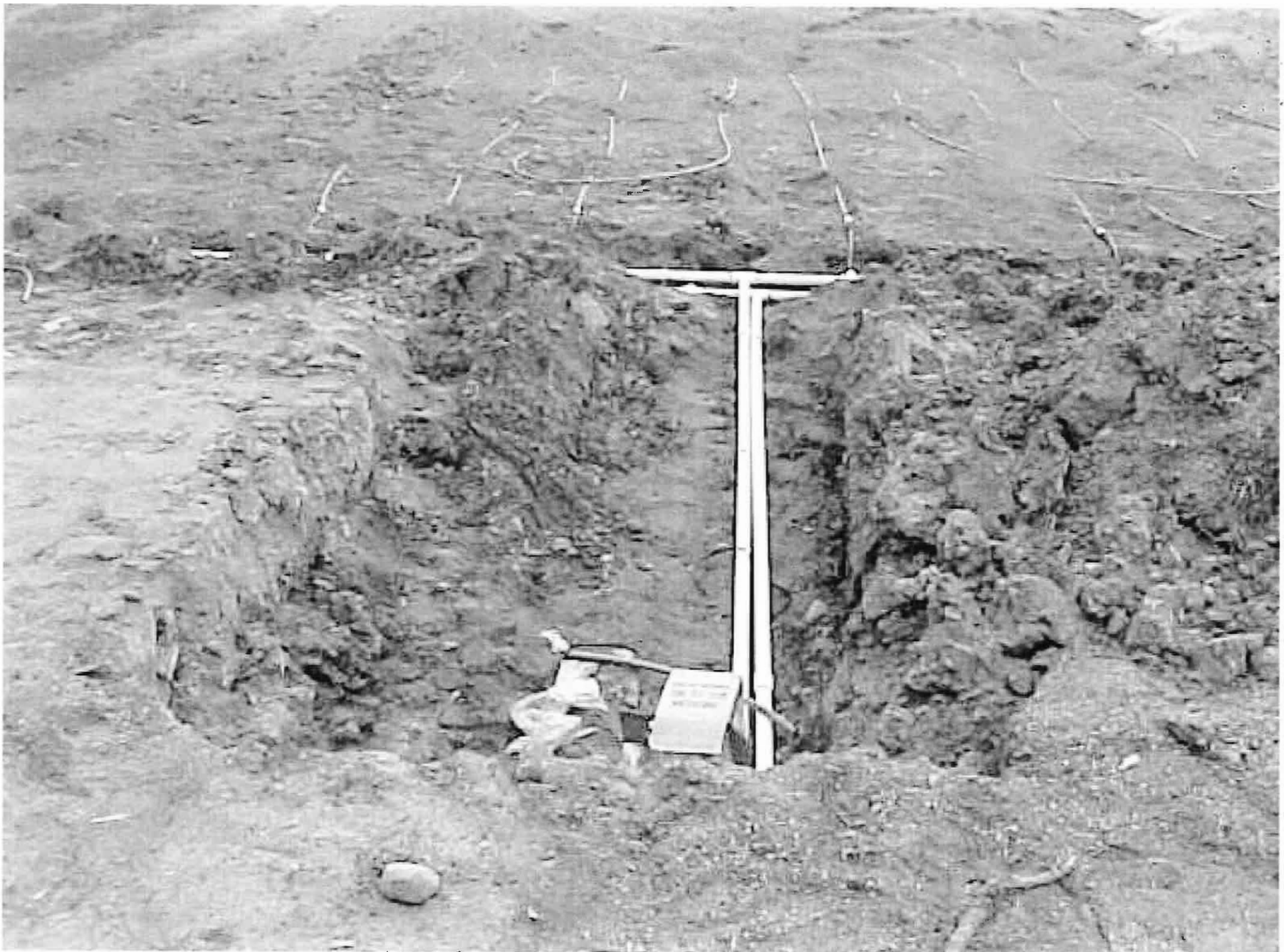
30761



30261

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1969E

**AITKIN COUNTY**  
**CERTIFICATE OF COMPLIANCE/NOTICE OF NONCOMPLIANCE**

This certificate of compliance/notice of noncompliance has been issued this \_\_\_\_\_ day of 6/20/03 to certify compliance/noncompliance with Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No. 1. The premises covered by this certificate are legally described as:

LOT 10 BIK USS Simmons Double E Doc 224366  
Section 20 Township 49 Range 26 Lake Round  
PERMIT NO. 30261 Owner Name Double E Home owners Assoc.  
Address RR #2 Box 409 Mezeppa, mn. 55956  
Installer Name Mc Ritter  
Type of System Inspected "Other" Septic Systems

The certificate of compliance/notice of noncompliance was based on, No 1 of the following:

- 1) Inspection of the installation or construction as in accordance with the above referenced permit and application design.
- 2) Review of as-built plans submitted in accordance with Subdivision 4.21 C. Of Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No. 1.

If the above permitted individual sewage treatment system is in noncompliance with Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No. 1, then the following shall serve as a Notice of Violation:

- 1) Statement of the findings of fact through inspections or investigations: \_\_\_\_\_
- 2) List of specific violations of Ordinance: \_\_\_\_\_
- 3) Requirements for correction or removal of violations: \_\_\_\_\_
- 4) Time schedule for compliance: \_\_\_\_\_

Failure to correct or remove the above violations will result in this matter being turned over to the Aitkin County Attorney's Office for further legal action which may result in revocation of licenses or registrations, fine's and/or imprisonment.

INSPECTOR SIGNATURE \_\_\_\_\_



# INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM AITKIN COUNTY, MINNESOTA

Township Wade Kenabo Date of Inspection 5/21/03 Permit Number 30261  
 Owner Double E Homeowners Ass. Parcel Number 25-1-087100  
 Project Address lot 10 B1K1 455 Simons Double E Installer Mr Ritter  
 City \_\_\_\_\_ Zip Code \_\_\_\_\_ New \_\_\_\_\_ Repair

**SETBACKS:**

Buildings to tank(s) 20'  
 Buildings to drainfield 60  
 Well(s) 50' or 100' 50'  
 Lake/Creek/Wetland 150'

**SEPTIC TANKS:**

Liquid capacity 1-1350 Existing pre-cast  
3-1860 + 1-2500 Combo  
 Manufacturer & type Joe (1860) pre-cast Pkg (2500)  
 Type of baffle plastic  
 Inspection pipes 6-4"  
 Manholes access 4  
 No. & height of risers 24" (4)

**MOUNDS:**

Percent slope \_\_\_\_\_  
 Upslope dike width Sand filter  
 Downslope dike width 30' x 3  
 Sideslope dike width \_\_\_\_\_  
 Drainfield rock below pipe 20' x 100'  
 Depth of sand below rock Drip line  
 Perforation size & spacing \_\_\_\_\_  
 Pipe size & spacing \_\_\_\_\_  
 Dimensions of rock bed \_\_\_\_\_  
 Dimensions of sand base \_\_\_\_\_  
 Final cover \_\_\_\_\_

**DIST. or DROP BOX & TYPE** \_\_\_\_\_

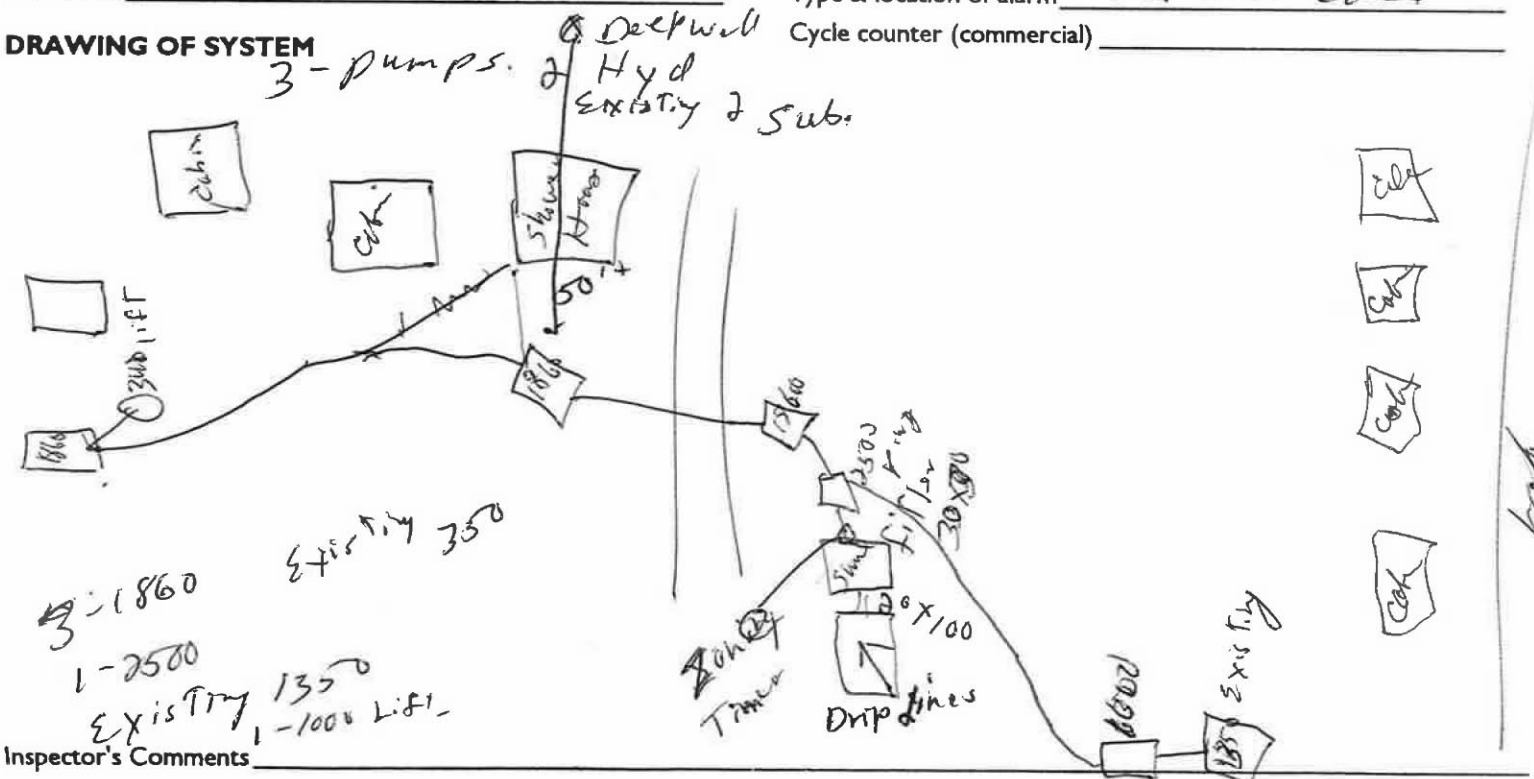
**TRENCHES, BEDS, OR GRAVELLESS LEACHFIELD:**

Trench depth \_\_\_\_\_  
 Trench length \_\_\_\_\_  
 Trench bottom width \_\_\_\_\_  
 Trench bottom level \_\_\_\_\_  
 Trench spacing \_\_\_\_\_  
 Drainfield rock below pipe \_\_\_\_\_  
 Size of gravelless pipe \_\_\_\_\_  
 Depth of backfill \_\_\_\_\_  
 Absorption area: square feet \_\_\_\_\_  
 lineal feet \_\_\_\_\_

**PUMPS:**

Tank capacity Existing 340 - (1) 1800 Joe pre-cast  
 Tank manufacturer & type Joe pre-cast  
 No. & height of risers 2, -24"  
 Pump manufacturer & model # 3 pumps  
 Horsepower & GPM 2 Existing Sub. pumps  
 Feet of head 10'  
 Cycles per day Dime Dosed  
 Gallons per cycle ↓  
 Size of discharge line 1 1/2  
 Type of electrical hookup post  
 Type & location of alarm out door Eber  
 Cycle counter (commercial) \_\_\_\_\_

**DRAWING OF SYSTEM**



Inspector's Comments \_\_\_\_\_

Corrective Action Required \_\_\_\_\_

Inspector's Signature [Signature]  
 White-County Yellow-Applicant Pink-Installer

Installer's Signature \_\_\_\_\_



**AITKIN COUNTY**  
**CERTIFICATE OF COMPLIANCE/NOTICE OF NONCOMPLIANCE**

This certificate of compliance/notice of noncompliance has been issued this \_\_\_\_\_ day of 10/17/03 to certify compliance/noncompliance with Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No.

1. The premises covered by this certificate are legally described as: \_\_\_\_\_  
lot 10 B1A1 less Simmons Double E

Section 20 Township 49 Range 26 Lake Pound

PERMIT NO. 30261 Owner Name Double E Homeowners Assoc.

Address RR #2 B37 409 Magoppa, MN 55956

Installer Name Mark Ritter

Type of System Inspected \_\_\_\_\_ Other system  
water meter is in place

The certificate of compliance/notice of noncompliance was based on, No 1 of the following:

- 1) Inspection of the installation or construction as in accordance with the above referenced permit and application design.
- 2) Review of as-built plans submitted in accordance with Subdivision 4.21 C. Of Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No. 1.

If the above permitted individual sewage treatment system is in noncompliance with Aitkin County's Individual Sewage Treatment System and Wastewater Ordinance No. 1, then the following shall serve as a Notice of Violation:

- 1) Statement of the findings of fact through inspections or investigations: \_\_\_\_\_
- 2) List of specific violations of Ordinance: \_\_\_\_\_
- 3) Requirements for correction or removal of violations: \_\_\_\_\_
- 4) Time schedule for compliance: \_\_\_\_\_

Failure to correct or remove the above violations will result in this matter being turned over to the Aitkin County Attorney's Office for further legal action which may result in revocation of licenses or registrations, fine's and/or imprisonment.

INSPECTOR SIGNATURE 

# INDIVIDUAL SEWAGE TREATMENT SYSTEM INSPECTION FORM AITKIN COUNTY, MINNESOTA

Township Waukenaob Date of Inspection 10/9/03 Permit Number 30261  
 Owner Double E Homeowners Assoc. Parcel Number 35-1-087100  
 Project Address Plot 10 BIK Installer Rotter  
 City \_\_\_\_\_ Zip Code \_\_\_\_\_ New \_\_\_\_\_ Repair

**SETBACKS:**

Buildings to tank(s) 25'  
 Buildings to drainfield 50'  
 Well(s) 50' or 100' 75'  
 Lake/Creek/Wetland 200'

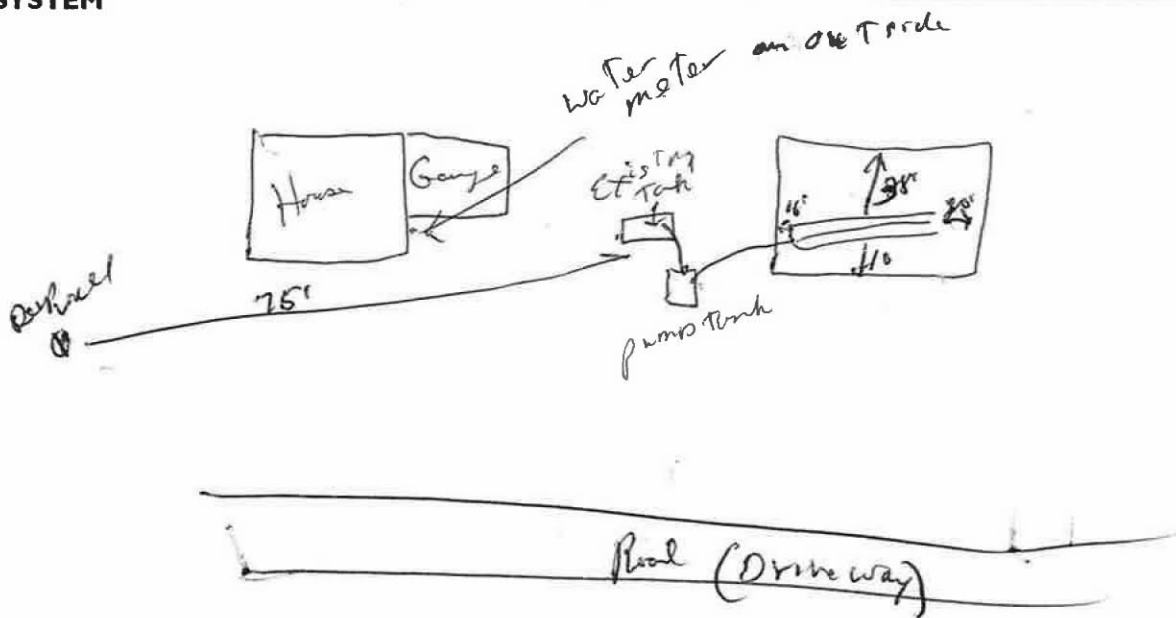
**SEPTIC TANKS:**

Liquid capacity Existing 1360  
 Manufacturer & type pre-cast  
 Type of baffle plastic  
 Inspection pipes 1-4"  
 Manholes access 2  
 No. & height of risers 12"

**MOUNDS:**

Percent slope 0  
 Upslope dike width 80  
 Downslope dike width 38'  
 Sideslope dike width 10  
 Drainfield rock below pipe 9"  
 Depth of sand below rock 3'  
 Perforation size & spacing 1/4" - 3"  
 Pipe size & spacing 1 1/2" - 2" laterals  
 Dimensions of rock bed 7x5'4"  
 Dimensions of sand base 45x90  
 Final cover 16" over Rock 12" on overall

**DRAWING OF SYSTEM**



**DIST. or DROP BOX & TYPE** \_\_\_\_\_

**TRENCHES, BEDS, OR GRAVELLESS LEACHFIELD:**

Trench depth \_\_\_\_\_  
 Trench length \_\_\_\_\_  
 Trench bottom width \_\_\_\_\_  
 Trench bottom level \_\_\_\_\_  
 Trench spacing \_\_\_\_\_  
 Drainfield rock below pipe \_\_\_\_\_  
 Size of gravelless pipe \_\_\_\_\_  
 Depth of backfill \_\_\_\_\_  
 Absorption area: square feet \_\_\_\_\_  
 lineal feet \_\_\_\_\_

**PUMPS:**

Tank capacity 630  
 Tank manufacturer & type For pre-cast  
 No. & height of risers 24"  
 Pump manufacturer & model# \_\_\_\_\_  
 Horsepower & GPM \_\_\_\_\_  
 Feet of head 16  
 Cycles per day 5  
 Gallons per cycle 100  
 Size of discharge line 2"  
 Type of electrical hookup post  
 Type & location of alarm Elec.  
 Cycle counter (commercial) \_\_\_\_\_

Inspector's Comments \_\_\_\_\_

Corrective Action Required \_\_\_\_\_

Inspector's Signature \_\_\_\_\_ Installer's Signature \_\_\_\_\_

**MAINTENANCE, MONITORING AND INSPECTION REPORT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM  
1<sup>st</sup> YEAR SERVICE  
2004**

Property Owner(s): **DoubleE Homeowners Assoc.**  
 Home Address: **c/o Debbie Frank** Site Address: **Round Lake**  
**RR2 Box 409**  
 Phone: **Mazeppa, MN 55956**  
 Parcel Code: **32-0-031500** Township: **Waukenabo**

**DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

**This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;**

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

**Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.**

**Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.**

**Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.**

**Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)**

**The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).**

Installation Date: 2003 Installer: MARK RITTER Phone#: 218-927-4125

**MAINTENANCE & MONITORING RESULTS**

<b>CONTROL/ALARM PANEL</b>	<b>RESULTS</b>
1. Check pump operations in manual mode	<b>Good</b>
2. Check timer settings	<b>Good</b>
3. Record elapsed time meter and counter readings.	<b>SEE ATTACHED</b>
4. Confirm operation of audible and visual alarms	<b>Good</b>
5. Test Pump Amperage	<b>Septic (Pump #1) = 36 amps @ Startup</b> <b>= 11 amps @ Run Time</b> <b>SF (Pump #2) = 23 amps @ Startup</b> <b>= 11 amps @ Run Time</b>

**2004 MAINTENANCE & MONITORING RESULTS**

<b>LIFT PUMPING STATION</b>	<b>RESULTS</b>
1. Verify no leaks in riser(s)	Good
2. Inspect splice box for moisture and secure connections	Drilled hole bottom of boxes for drainage
3. Verify condition of and correct operation of all floats	Good
4. Verify neat wrap of float cords	Good
5. Pull pump and clean intake screen if necessary	Good
6. Check general appearance	Good

<b>EFFLUENT FILTERS/PUMP SCREENS</b>	<b>RESULTS</b>
1. Check effluent filter for buildup of biomat growth.	***SEE COMMENTS
2. Clean (if needed)	CLEANED

<b>SEPTIC TANK</b>	<b>RESULTS</b>
1. Measure sludge and scum level	Sludge Level = 0", Scum Level = 0" (Both Showerhouse & Trailer Tanks)
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	Not necessary at this time.
3. Check general appearance	Good

<b>PRETREATMENT DEVICE</b>	<b>RESULTS</b>
1. Inspect for ponding; assess character and color of biomat	Good
2. Test pressurization of laterals (squirt test)	Squirt Height = 18" - 24" on all
3. Verify proper orifice position, equal spray under orifices no clogged orifices	Good
4. Check for odors; adjust recirculating time (if necessary)	Good
5. Clean and flush manifold (if necessary)	Good
6. Re-check squirt height (if necessary)	Good
7. Inspect the appearance of the wastewater inside the unit for color and turbidity.	CLEAR

<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	No signs of failure.
2. Check for required separation	Not checked at this time.

<b>MISCELLANEOUS</b>	<b>RESULTS</b>
1. Review water usage from water meter records.	SEE ATTACHED

**COMMENTS: ALL COMPONENTS LOOK GOOD.**

**Spin Filter in Sandfilter should be cleaned "MONTHLY" during spring, summer & fall.**

**We were unable to clean the Filter in the Septic Tank for the Trailers. Could not reach due to 5 feet or so of riser depth.**

Date Maintained: 08/15/2004 Performed By: A.M. & Associates, Inc.  
29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

Michael & Annette O'Keeffe

## DOUBLE-E 2004 WATER USAGE

	<u>DATE</u>	<u>NO. OF DAYS</u>	<u>METER READING</u>	<u>GAL USED</u>	<u>AVG GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL AVG GPD / PERSON</u>	<u>TOTAL GALLONS PUMPED</u>	<u>COMMENTS</u>
Sunday	12/28/03		205930						
Tuesday	03/09/04	72	206610	680	9	unknown		833	
Friday	04/23/04	44	206730	120	3	unknown		2487	Union came Apart
Sunday	04/25/04	2	207300	570	285	30	10	1016	
Friday	04/30/04	5	208830	1530	306	unknown		165	
Sunday	05/02/04	2	209590	760	380	13	29	697	
Thursday	05/06/04	4	209760	170	43	unknown		109	
Sunday	05/09/04	3	210580	820	273	12	23	913	
Friday	05/14/04	5	210700	120	24	unknown		186	
Sunday	05/16/04	2	211970	1270	635	26	24	945	
Friday	05/21/04	5	212500	530	106	unknown		231	
Sunday	05/23/04	2	212980	480	240	11	22	1512	
Friday	05/28/04	4	213260	280	70	unknown		616	
Monday	05/31/04	3	216070	2790	930	44	21	2447	
Friday	06/04/04	4	216770	700	175	unknown		914	
Sunday	06/06/04	2	217030	260	130	9	14	893	
Friday	06/11/04	5	217420	390	78	unknown		242	
Sunday	06/13/04	2	217700	280	140	7	20	364	
Friday	06/18/04	5	218090	390	78	unknown		410	
Sunday	06/20/04	2	218980	890	445	25	18	1518	
Friday	06/25/04	5	219790	810	162	unknown		1620	
Sunday	06/27/04	2	222360	2570	1285	32	40	1726	
Friday	07/02/04	5	224170	1810	362	unknown		1925	
Monday	07/05/04	3	227030	2860	953	48	20	2583	
Friday	07/09/04	4	228300	1270	318	unknown		2223	
Sunday	07/11/04	2	229120	820	410	9	46	1225	
Friday	07/16/04	5	229930	810	162	unknown		1267	
Sunday	07/18/04	2	231240	1310	655	24	27	1505	
Friday	07/23/04	5	232930	1690	338	unknown		1351	
Sunday	07/25/04	2	233860	930	465	21	22	1649	
Friday	07/30/04	5	236630	2770	554	unknown		2979	
Sunday	08/01/04	2	238980	2350	1175	40	29	1927	
Friday	08/06/04	5	240030	1050	210	unknown		2048	
Sunday	08/08/04	2	241350	1320	660	32	21	1614	
Thursday	08/12/04	4	242130	780	195	unknown		739	
Sunday	08/15/04	3	243660	1530	510	26	20	1960	
Friday	08/20/04	5	244360	700	140	unknown		655	
Sunday	08/22/04	2	245630	1270	635	unknown		788	
Friday	08/27/04	5	245980	350	70	unknown		504	
Sunday	08/29/04	2	246740	760	380	14	27	798	
Friday	09/03/04	5	247990	1250	250	unknown		1407	
Monday	09/06/04	3	252000	4010	1337	54	25	2751	
Friday	09/10/04	4	252200	200	50	unknown		3280	
Sunday	09/12/04	2	256120	3920	1960	unknown		508	
Friday	09/17/04	5	256690	570	114	unknown		329	
Sunday	09/19/04	2	258280	1590	795	unknown		1260	
Tuesday	09/21/04	2	259340	1060	530	15		504	Busted Water Line
Saturday	09/25/04	4	260290	950	238	unknown		1225	Under Cabin 1
Sunday	09/26/04	1	261500	1210	1210	16		777	"
Friday	10/01/04	5	272160	10660	2132	unknown		2611	"
Sunday	10/03/04	2	274300	2140	1070	18		1565	Busted Water Line
Friday	10/08/04	5	275800	1500	300	unknown		1470	
Saturday	11/13/04	36	279950	4150	115	19	6	5771	
Friday	02/04/05	83	280120	170	2	unknown		4823	Splitter Valve Frozen
Saturday	03/05/05	29	284840	4720	163	unknown		1029	Splitter Valve Frozen

**ONE YEAR  
MAINTENANCE, MONITORING AND INSPECTION SERVICE CONTRACT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM  
FOR YEAR 2005**

It is hereby agreed this 24th day of March, 20 05 by and between A.M. & Associates, Inc. and

Property Owner(s):	<u>DoubleE Homeowner's Assoc</u> <u>c/o Debbie Frank</u>	Parcel Code:	<u>32-0-031500</u>
Home Address:	<u>RR2 Box 409</u> <u>Mazeppa, MN 55956</u>	Site Address:	<u>Round Lake</u>
Phone (home)	<u>(952) 937-3500</u>	Township	<u>Waukenabo</u>
(work)	_____	Phone:	_____
(cell)	_____		
(fax)	_____		

DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003

Installer: Mark Ritter

Phone#: (218) 927-4125

That A.M. & Associates, Inc. will provide the services to perform Preventative Maintenance, Monitoring and Inspection of the parameters and frequency described herein as your Operating Permit requires for your Individual Sewage Treatment System (ISTS).

Each inspection includes an examination of the ISTS followed by a written report to the Property Owner. 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. A.M. & Associates, Inc. is authorized to submit a copy of the report to the pertaining County's Environmental Services Department.

This contract does not assume any responsibilities or obligations, which are normally the responsibilities of the Property Owner, 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.

A.M. & Associates, Inc. can only contract or subcontract for parts or labor after authorization by you. Billings for service calls shall be made on a case by case basis. This contract **only** covers maintenance, monitoring and inspection services per current pertaining County Operating Permit and **does not** cover alarm calls of any kind.

On-site Service Calls cost of a minimum of \$50.00 plus \$50.00 per hour for time and labor required from A.M. & Associates, due to alarms, misuse or abuse of any portion of this System, is the responsibility of the Property Owner(s), payable at time of Service. Minnesota Onsite Specialties fees for Service calls are separate.

All cost for parts time and labor, required to analyze, fix or replace any portion of this system, for damages caused by winter freezing, is the responsibility of the Property Owner(s).

All additional cost, time and labor required from A.M. & Associates, Inc. and/or Minnesota Onsite Specialties due to modifications made by the pertaining County's Environmental Services Department, is the responsibility of the Property Owner(s), and is payable within 20 days of billing.

In no event shall A.M. & Associates, Inc., Minnesota Onsite Specialties, or 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.

A.M. & Associates, Inc. shall be provided access to the site and the system in order to perform the following services that are marked:

**CONTROL/ALARM PANEL (Annually)**

- 1. Check pump operations in manual mode
- 2. Check timer settings
- 3. Record elapsed time meter and counter readings
- 4. Confirm operation of audible and visual alarms

**LIFT PUMPING STATION (Annually)**

- 1. Verify no leaks in riser
- 2. Inspect splice box for moisture and secure connections
- 3. Verify condition of and correct operation of all floats
- 4. Verify neat wrap of float cords
- 5. Pull pump and clean intake screen if necessary
- 6. Visually inspect recirculating splitter valve (if applicable) and liquid level
- 7. Check general appearance

**EFFLUENT FILTERS/PUMP SCREENS (Annually)**

- 1. Check effluent filter for buildup of biomat growth
- 2. Clean (if needed)

**SEPTIC TANK (Annually)**

- 1. Measure sludge and scum level
- 2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel  
\* (If the test results determine a need for solids removal, the Property Owner(s) will bear the cost and responsibility for doing so)
- 3. Check general appearance

**PRETREATMENT DEVICE (Annually)**

- 1. Inspect for ponding; assess character and color of biomat
- 2. Test pressurization of laterals (squirt test)
- 3. Verify proper orifice position, equal spray under orifices, no clogged orifices
- 4. Check for odors: adjust recirculating time (if necessary)
- 5. Clean and flush manifold (if necessary)
- 6. Re-check squirt height (if necessary)
- 7. Inspect the appearance of the wastewater inside the unit for color and turbidity.

**DISPERSAL FIELD (Annually)**

- 1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)
- 2. If liquid level monitors are installed, levels will be observed and recorded.
- 3. Flush filters and clean cartridges, if applicable
- 4. Check field control unit solenoid operations or manual control, if applicable
- 5. Check for required separation

**SAMPLING (As Deemed Necessary)**

- 1. Aquire and deliver samples for analysis of BODs, TSS, Fats Oils and Grease, and Fecal Coliform (cost of sampling analysis plus delivery charges is the responsibility of the Property Owner. If more than one analysis is recommended and required within the duration of this contract, the additional labor costs aquired by A.M. & Associates, Inc. along with sampling analysis fees and delivery charges is the responsibility of the Property Owner).

**MISCELLANEOUS (Annually)**

- 1. Review water usage from water meter records kept by the Property Owner(s).



**\*\*\* PROPERTY OWNER(S)'S RESPONSIBILITIES (Monthly and/or as Required)**

During the term hereof, I/we as the current Property Owner(s) understand that I/we;

1. Will provide A.M. & Associates, Inc. with access to the System. Access includes electrical controls & disconnects, hose hookup water supply and sufficient workspace to perform the necessary maintenance services
2. Will be responsible for recording water meter readings on a monthly basis.
3. Must *notify* A.M. & Associates, Inc. *immediately* when signs of weeping problems, sewage smell or any other indication that the system may not be functioning properly.
4. Will provide A.M. & Associates, Inc. copies of the water meter records, upon request.
5. Must acquire pre-authorization from A.M. & Associates, Inc., *prior* to the Property Owner or any other individual performing or attempts to:
  - a. make alterations or modifications to the System, or
  - b. misuse the System, or
  - c. attach devices to it , or
  - d. execute any type of Maintenance services to the system or any portion thereof
6. Will accept all responsibility and risks involved with the installation and hydraulic performance of this Septic System and hold A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.
7. May be required to perform additional maintenance responsibilities as deemed necessary by A.M. & Associates, Inc.

This contract shall remain in force for a period of one year, beginning January 1<sup>st</sup> 2005 and ending December 31<sup>st</sup> 2005.

### FEES

<b>Maintenance, Monitoring &amp; Inspection Service Contract</b>	<b>\$250.00</b>	<b>Due at time of signing contract</b>
<b>Sample Analysis Fees &amp; Supplies</b>	(approx) <b>N/A</b>	<b>Due at time of sampling</b>
<b>*Time &amp; Mileage to Deliver Samples for Analysis</b>	<b>N/A</b>	<b>Due at time of sampling</b>

NOTE: SAMPLING OF FECAL COLIFORM, BOD, TSS, AND FATS OIL AND GREASE IS *NOT* REQUIRED AT THIS TIME. IF SAMPLING IS FOUND TO BE NECESSARY DURING THE DURATION OF THE USE OF THIS SEPTIC SYSTEM, THE PROPERTY OWNER(S) IS RESPONSIBLE FOR ALL COSTS INVOLVED, AND IS DUE AT TIME THE SAMPLES ARE TO BE TAKEN.

\*If at time of sampling, the Property Owner(s) wishes to transport the samples to Brainerd himself for analysis, within the *required time limit*, A.M. & Associates, Inc. will wave the time, mileage delivery fees of \$100.00.

A.M. & Associates, Inc. agrees to provide inspection, monitoring and routine maintenance service only under this contract.

I hereby certify with my signature as the Property Owner(s) that I understand the provisions, requirements and responsibilities of this Maintenance, Monitoring and Inspection Service Contract. I also understand failure to comply with the requirements outlined in my Operating Permit, this Contract, along with any future requirements that may arise, set forth by Aitkin County Environmental Services, Orenco Systems, Inc. (OSI) or A.M. & Associates, Inc., could result in the condemning of my septic system, removal of the use of the drainfield, and require the use of Holding Tanks with a pumping Contract.

**Property Owner(s):**

Name: <u>Deborah T. Frank</u> (please print)	<u>Deborah T. Frank</u> (signature)	Date: <u>4/13/05</u>
Name: _____ (please print)	_____ (signature)	Date: _____
Name: _____ (please print)	_____ (signature)	Date: _____
Name: _____ (please print)	_____ (signature)	Date: _____

**A.M. & Associates, Inc.:**

Name: <u>MICHAEL D. O'KEEFFE</u> (please print)	<u>Michael D. O'Keefe</u> (signature)	Date: <u>03/24/2005</u>
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**AITKIN COUNTY ENVIRONMENTAL SERVICES**

**OPERATING PERMIT FOR WASTEWATER  
TREATMENT AND DISPERSAL**

**RECEIVED APR 1 8 2005**

**OPERATING PERMIT #:** 106

**FEE:** \$50.00

**PERMITTEE:** Double E Homeowners Association

**PHONE:** (507) 843-4914

**ADDRESS:** RR 2 Box 409  
Mazeppa, MN 55956-

**ZONING PERMIT #** 30261

**PARCEL #:** 35-1-087100

**LEGAL DESCRIPTION:** Lot 10 Blk 1 less Part Ln Doc# 224366 Simmons Double E

**ISSUE DATE** 1/1/05

**EXPIRATION DATE** 12/31/05

Aitkin County Environmental Services authorizes the Permittee to operate a wastewater treatment and dispersal system located on the above described property in accordance with the requirements of this permit.

This permit is effective on the issuance date identified above.

This permit and the authorization to treat and disperse from the above system shall expire on the above expiration date. The Permittee is not authorized to discharge after the date of expiration. The Permittee shall submit such information and forms as required by Aitkin County Environmental Services no later than thirty (30) days prior to the expiration date. When the required information is submitted and approved by Aitkin County Environmental Services, the permit may be renewed. This permit is not transferable from owner to owner.

**I hereby certify with my signature as the permittee that I understand the provisions of this permit including the maintenance and monitoring requirements. I agree to indemnify and hold Aitkin County harmless from all loss, damages, costs and charges that may be incurred by use of this system and if I fail to comply with the provisions of this Operating Permit. If I sell this property during the life of the permit, I will inform the new owner(s) of the permit requirements and the need to renew the permit.**

*Deborah L. Bank* secretary-treasurer  
**Signature of Permittee**

*4/13/05*  
**Date**

*[Signature]*  
**Signature of Permitting Authority**

*6-6-05*  
**Date**

If You have any questions regarding this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact Aitkin County Environmental Services at 218-927-7342.

**A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and not in use during the winter months. Sewage will gravity from the Cabin #'s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon lift tank. Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank. Sewage will gravity from the trailers into a new precast 1860 Combo septic tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank. Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the effective date (issuance date) of this permit and lasting until this permits expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted. The following parameters must be monitored and the results must be found within the compliance limits.

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Flow	1000 gpd	Water Meter	MONTHLY	Record on Log Sheet	ANNUALLY
Separation	1 ft beneath rock layer	Dispersal System	ANNUALLY	Measure in Field	ANNUALLY

**C. MAINTENANCE REQUIREMENTS:**

PARAMETER	LOCATION	FREQUENCY
Flow	Water Meter	MONTHLY
Pressurization of Laterals	Sand Filter	ANNUAL
Pumps, Floats & Alarms	Lift Tanks, pump vault	ANNUAL
Solids Removal & Water Tightness	Septic tank(s)	ANNUAL
Surface Discharge	Dispersal System	ANNUAL
Vegetative Cover	Dispersal System	ANNUAL

**D. MONITORING AND REPORTING REQUIREMENTS:**

Monitoring results obtained during each calendar year shall be submitted no later than December 31st of that year to:

Aitkin County Environmental Services  
209 2nd Street NW  
Aitkin, MN 56431

The monitoring reports shall be signed by the Permittee. Copies are to be retained by the Permittee.

The Permittee shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of this permit.

Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.

Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory. All sampling and testing costs shall be the responsibility of the Permittee.

Monitoring will be done by AM. And Associate

**E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area. 2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer or replace. 3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace. 4. A different or another Performance or Other System may be installed at the owner's expense. 5. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

**F. SPECIAL REQUIREMENTS:**

A.M. and Associates, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of one year (s), only upon signing a contract stating so.

30261 - 35-1-087100

**AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING**

**209 Second Street, NW  
Aitkin, Minnesota 56431**

PH: (218) 927-7342  
FX: (218) 927-4372



June 6, 2005

RE: Renewed Operating Permit

To Whom It May Concern:

This letter is to inform you that your Operating Permit (No. 106) has been renewed until May 31, 2006. You should note that all renewal dates that were formerly on December 31 have been moved forward to allow your Operation and Maintenance provider suitable time to complete the monitoring report.

Please adhere to your monitoring and maintenance contract including monitoring your water use. Failure to do so would violate the agreement to operate your system and could void the operating permit. You should contact your Operation and Maintenance provider directly with questions that you may have during the year.

Thank you for your good stewardship and we hope that your system continues to operate well, protecting groundwater for you and the environment.

Sincerely,

A large, stylized handwritten signature in blue ink, which appears to read "Richard Courtemanche". The signature is written over a horizontal line.

Richard Courtemanche  
Assistant Zoning Administrator  
Aitkin County

30261 35-1-087100

**MAINTENANCE, MONITORING AND INSPECTION REPORT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM  
1<sup>st</sup> YEAR SERVICE  
2004**

Property Owner(s): **DoubleE Homeowners Assoc.**  
Home Address: **c/o Debbie Frank** Site Address: **Round Lake**  
**RR2 Box 409**  
Phone: **Mazeppa, MN 55956**  
Parcel Code: ~~32-0-031500~~ Township: **Waukenabo**  
**35-1-087100** #106

*RPC 8-29-05*

*End O.P.  
for mound  
but not the  
sand filter  
on same #*

**DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**2 1/2 FOOT SAND BASE 3 BEDROOM MOUND**

**This ISTS is to gravity from the dwelling into a new precast concrete 1860 gallon combination tank. The liquids will pump from the lift tank into a 47' x 94' 3 foot sand base Mound with a 7' x 54' Rockbed excavated & shaped to a zero percent (0%) slope.  
(3 Bedroom, 450 gpd, 13,500 gallons per month.)**

Installation Date: 2003 Installer: MARK RITTER Phone#: 218-927-4125

**2004 MAINTENANCE & MONITORING RESULTS**

<b>CONTROL/ALARM PANEL</b>	<b>RESULTS</b>
1. Check pump operations in manual mode	<b>Good</b>
2. Confirm operation of audible and visual alarms	<b>Good</b>

<b>LIFT PUMPING STATION</b>	<b>RESULTS</b>
1. Verify no leaks in riser	<b>No visual signs of leaks.</b>
2. Inspect splice box for moisture and secure connections	<b>N/A (no splice box)</b>
3. Verify condition of and correct operation of all floats	<b>Good</b>
4. Verify neat wrap of float cords	<b>Good</b>
5. Check general appearance	<b>Good</b>

<b>SEPTIC TANK</b>	<b>RESULTS</b>
1. Measure sludge and scum level	<b>Sludge level = 0", No Scum on Top.</b>
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	<b>NO PUMPING REQUIRED AT THIS TIME</b>
3. Check general appearance	<b>Good</b>

<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	<b>Good</b>
2. Check for required separation	<b>37" of Separation below bottom of Rock</b>
3. Check for general appearance	<b>Good</b>

**2004 MAINTENANCE & MONITORING RESULTS**

MISCELLANEOUS	RESULTS	
	Date	Gallons Used
1. Review water usage from water meter records.	January 2004	0
	February	0
	March	0
	April	0
	May	1700
	June	1200
	July	3900
	August	1400
	September	700
	October	0
	November	0
	December	0

**COMMENTS: ALL COMPONENTS LOOK GOOD.**

Drainfield meets the required separation.

Drainfield is sized for 3 Bedrooms, 450 gpd, 13,500 gallons per month.

"SEASONAL" dwelling shows water usage is well within limitations.

IT IS OUR OPINION THAT THIS SEPTIC SYSTEM HAS MET THE REQUIREMENTS AS STATED IN THE OPERATING PERMIT AND THAT FURTHER MAINTENANCE AND MONITORING SHOULD NOT BE REQUIRED.

Date Maintained: 08/15/2004

Performed By: A.M. & Associates, Inc.

29465 442<sup>nd</sup> Lane

Palisade, MN 56469

(218) 768-4430

Michael & Annette O'Keeffe



**AITKIN COUNTY ENVIRONMENTAL SERVICES**

**OPERATING PERMIT FOR WASTEWATER  
TREATMENT AND DISPERSAL**

#1009  
5/16/09  
\$50.00

**OPERATING PERMIT #:** 106

**FEE:** \$50.00

**PERMITTEE:** Double E Homeowners Association

**PHONE:** (507) 843-4914

**ADDRESS:** ~~RR 2 Box 409~~ 374 First Ave South  
Mazeppa, MN 55956-

**ZONING PERMIT #** 30261

**PARCEL #:** 35-1-087100

**LEGALDESCRIPTION:** Lot 10 Blk 1 less Part Ln Doc# 224366 Simmons Double E

**ISSUE DATE** 5/31/2006

**EXPIRATION DATE** 5/31/2007

RECEIVED MAY 19 2006

Aitkin County Environmental Services authorizes the Permittee to operate a wastewater treatment and dispersal system located on the above described property in accordance with the requirements of this permit.

This permit is effective on the issuance date identified above.

This permit and the authorization to treat and disperse from the above system shall expire on the above expiration date. The Permittee is not authorized to discharge after the date of expiration. The Permittee shall submit such information and forms as required by Aitkin County Environmental Services no later than thirty (30) days prior to the expiration date. When the required information is submitted and approved by Aitkin County Environmental Services, the permit may be renewed. This permit is not transferable from owner to owner.

I hereby certify with my signature as the permittee that I understand the provisions of this permit including the maintenance and monitoring requirements. I agree to indemnify and hold Aitkin County harmless from all loss, damages, costs and charges that may be incurred by use of this system and if I fail to comply with the provisions of this Operating Permit. If I sell this property during the life of the permit, I will inform the new owner(s) of the permit requirements and the need to renew the permit.

Donald J. Hank  
Signature of Permittee

5/16/06  
Date

M. Kingsley  
Signature of Permitting Authority

5/18/06  
Date

If You have any questions regarding this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact Aitkin County Environmental Services at 218-927-7342.

## A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM

This ISTS is to serve 3 locations on the property of which is strictly seasonal and not in use during the winter months. Sewage will gravity from the Cabin #'s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon lift tank. Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank. Sewage will gravity from the trailers into a new precast 1860 Combo septic tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank. Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI

## B. PERFORMANCE STANDARD REQUIREMENTS:

During the period beginning on the effective date (issuance date) of this permit and lasting until this permits expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted. The following parameters must be monitored and the results must be found within the compliance limits.

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENC
Flow	1000 gpd	Water Meter	MONTHLY	Record on Log Sheet	ANNUALLY
Separation	1 ft beneath rock layer	Dispersal System	ANNUALLY	Measure in Field	ANNUALLY

## C. MAINTENANCE REQUIREMENTS:

PARAMETER	LOCATION	FREQUENCY
Flow	Water Meter	MONTHLY
Pressurization of Laterals	Sand Filter	ANNUAL
Pumps, Floats & Alarms	Lift Tanks, pump vault	ANNUAL
Solids Removal & Water Tightness	Septic tank(s)	ANNUAL
Surface Discharge	Dispersal System	ANNUAL
Vegetative Cover	Dispersal System	ANNUAL

**D. MONITORING AND REPORTING REQUIREMENTS:**

Monitoring results obtained during each calendar year shall be submitted no later than December 31st of that year to:

Aitkin County Environmental Services  
209 2nd Street NW  
Aitkin, MN 56431

The monitoring reports shall be signed by the Permittee. Copies are to be retained by the Permittee.

The Permittee shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of this permit.

Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.

Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory. All sampling and testing costs shall be the responsibility of the Permittee.

Monitoring will be done by A.M. & Associates I

**E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area. 2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer or replace. 3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace. 4. A different or another Performance or Other System may be installed at the owner's expense. 5. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

**F. SPECIAL REQUIREMENTS:**

A.M. and Associates, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of one year (s), only upon signing a contract stating so.

**MAINTENANCE, MONITORING AND INSPECTION REPORT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**2<sup>nd</sup> YEAR SERVICE  
June 1, 2005 thru May 31, 2006**

Property Owner(s): **DoubleE Homeowners Assoc.**  
 Home Address: **c/o Debbie Frank** Site Address: **Round Lake**  
**RR2 Box 409 374 First Ave South**  
 Phone: **Mazeppa, MN 55956**  
 Parcel Code: **32-0-031500** Township: **Waukenabo**

**DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003 Installer: MARK RITTER Phone#: 218-927-4125

**JUNE 2005 THRU MAY 2006 MAINTENANCE & MONITORING RESULTS**

Date Maintained: 05/04/2006

<b>CONTROL/ALARM PANEL</b>	<b>RESULTS</b>
1. Check pump operations in manual mode	Good
2. Check timer settings	Good
3. Record elapsed time meter and counter readings.	SEE COMMENTS
4. Confirm operation of audible and visual alarms	Good
5. Test Pump Amperage	Septic (Pump #1) = 36 amps @ Startup = 11 amps @ Run Time SF (Pump #2) = 23 amps @ Startup = 11 amps @ Run Time

**JUNE 2005 THRU MAY 2006 MAINTENANCE & MONITORING RESULTS**

<b>LIFT PUMPING STATION</b>	<b>RESULTS</b>
1. Verify no leaks in riser(s)	Good
2. Inspect splice box for moisture and secure connections	Good
3. Verify condition of and correct operation of all floats	Good
4. Verify neat wrap of float cords	Good
5. Pull pump and clean intake screen if necessary	Good
6. Check general appearance	Good

<b>EFFLUENT FILTERS/PUMP SCREENS</b>	<b>RESULTS</b>
1. Check effluent filter for buildup of biomat growth.	***SEE COMMENTS
2. Clean (if needed)	CLEANED

<b>SEPTIC TANK</b>	<b>RESULTS</b>
1. Measure sludge and scum level	Sludge Level = 0", Scum Level = 0" (Both Showerhouse & Trailer Tanks)
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	Not necessary at this time.
3. Check general appearance	Good

<b>PRETREATMENT DEVICE</b>	<b>RESULTS</b>
1. Inspect for ponding; assess character and color of biomat	Good
2. Test pressurization of laterals (squirt test)	Squirt Height = 18" - 22" on all
3. Verify proper orifice position, equal spray under orifices no clogged orifices	Good
4. Check for odors: adjust recirculating time (if necessary)	Good
5. Clean and flush manifold (if necessary)	Good
6. Re-check squirt height (if necessary)	Good
7. Inspect the appearance of the wastewater inside the unit for color and turbidity.	CLEAR

<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	No signs of failure.
2. Check for required separation	Not checked at this time.

<b>MISCELLANEOUS</b>	<b>RESULTS</b>
1. Review water usage from water meter records.	SEE ATTACHED

**COMMENTS: ALL COMPONENTS LOOK GOOD.**

**Owners should continue to clean Spin Filter in Sandfilter "MONTHLY" during spring, summer & fall.**

**We were unable to clean the Filter in the Septic Tank for the Trailers. Could not reach due to 5 feet or so of riser depth.**

**Because of a weak battery in the Control Panel, we could not download actual counter flows. (All history is lost when the battery is replaced)**

*Melinda D. Bluffe*

5/08/2006

## DOUBLE-E 2005 WATER USAGE

	<u>DATE</u>	<u>NO. OF DAYS</u>	<u>METER READING</u>	<u>GAL USED</u>	<u>AVG GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL AVG GPD / PERSON</u>
Friday	02/04/05	83	280120	170	2	unknown	
Saturday	03/05/05	29	284840	4720	163	unknown	
Saturday	03/12/05	7	284840	0	0	unknown	
Monday	03/14/05	2	284950	110	55	unknown	
Friday	03/18/05	4	284950	0	0	unknown	
Saturday	04/02/05	15	284970	20	1	unknown	
Sunday	04/03/05	1	285030	60	60	unknown	
Friday	04/08/05	5	285040	10	2	8	0
Sunday	04/10/05	2	285040	0	0	unknown	
Tuesday	04/12/05	2	285230	190	95	4	24
Friday	04/22/05	10	285480	250	25	unknown	
Sunday	04/24/05	2	286110	630	315	unknown	
Friday	04/29/05	5	287540	1430	286	unknown	
Sunday	05/01/05	2	289130	1590	795	6	133
Friday	05/06/05	5	290390	1260	252	unknown	
Sunday	05/08/05	2	291200	810	405	2	203
Friday	05/13/05	5	292570	1370	274	unknown	
Sunday	05/15/05	2	294470	1900	950	14	68
Friday	05/20/05	5	297090	2620	524	unknown	
Sunday	05/22/05	2	298250	1160	580	6	97
Tuesday	05/24/05	2	299420	1170	585	unknown	
Saturday	05/28/05	4	305430	6010	1503	14	107
Friday	06/03/05	6	305830	400	67	unknown	
Sunday	06/05/05	2	306880	1050	525	2	263
Friday	06/10/05	5	309700	2820	564	unknown	
Sunday	06/12/05	2	311030	1330	665	3	222
Tuesday	06/14/05	2	312000	970	485	4	121
Thursday	06/16/05	2	312770	770	385	4	96
Friday	06/17/05	1	313430	660	660	unknown	
Sunday	06/19/05	2	315650	2220	1110	9	123
Friday	06/24/05	5	320230	4580	916	unknown	
Sunday	06/26/05	2	322240	2010	1005	9	112
Friday	07/01/05	5	325010	2770	554	unknown	
Monday	07/04/05	3	328010	3000	1000	15	67
Friday	07/08/05	4	330440	2430	608	unknown	
Sunday	07/10/05	2	332330	1890	945	9	105
Friday	07/15/05	5	333890	1560	312	unknown	
Sunday	07/17/05	2	335850	1960	980	2	490
Friday	07/22/05	5	339040	3190	638	unknown	
Sunday	07/24/05	2	340640	1600	800	1	800
Friday	07/29/05	5	343040	2400	480	unknown	
Sunday	07/31/05	2	345380	2340	1170	8	146
Friday	08/05/05	5	349890	4510	902	unknown	
Sunday	08/07/05	2	351550	1660	830	15	55
Friday	08/12/05	5	353220	1670	334	unknown	
Sunday	08/14/05	2	355880	2660	1330	4	333
Friday	08/19/05	5	357880	2000	400	unknown	
Sunday	08/21/05	2	358770	890	445	6	74
Friday	08/26/05	5	359550	780	156	unknown	
Sunday	08/28/05	2	360460	910	455	5	91
Friday	09/02/05	5	361440	980	196	unknown	
Monday	09/05/05	3	364530	3090	1030	15	69
Friday	09/09/05	4	365020	490	123	unknown	
Sunday	09/11/05	2	365490	470	235	2	118

## DOUBLE-E 2005 WATER USAGE

	<u>DATE</u>	<u>NO. OF DAYS</u>	<u>METER READING</u>	<u>GAL USED</u>	<u>AVG GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL AVG GPD / PERSON</u>
Friday	09/16/05	5	366060	570	114	unknown	
Sunday	09/18/05	2	366800	740	370	6	62
Friday	09/23/05	5	366960	160	32	unknown	
Sunday	09/25/05	2	367460	500	250	3	83
Friday	09/30/05	5	367860	400	80	unknown	
Sunday	10/02/05	2	368710	850	425	4	106
Friday	10/07/05	5	369100	390	78	unknown	
Sunday	10/09/05	2	369890	790	395	2	198
Friday	10/14/05	5	370120	230	46	unknown	
Friday	10/21/05	7	372310	2190	313	8	39
Monday	12/19/05	59	372310	0	0	unknown	
Sunday	<b>03/12/06</b>	83	372510	200	2	unknown	
Saturday	<b>04/08/06</b>	27	372510	0	0	unknown	
Sunday	<b>04/09/06</b>	1	372620	110	110	unknown	

**ONE YEAR  
MAINTENANCE, MONITORING AND INSPECTION SERVICE CONTRACT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM  
FOR June 1<sup>st</sup> 2005 thru May 31<sup>st</sup> 2006**

It is hereby agreed this 8th day of May, 20 06 by and between A.M. & Associates, Inc. and

Property Owner(s): DoubleE Homeowner's Assoc Parcel Code: 32-0-031500  
c/o Debbie Frank  
Home Address: RR2 Box 409 374 71st Site Address: Round Lake  
Mazeppa, MN 55956 Ave South  
Phone (home) (952) 937-3500 Township Waukenabo  
(work) \_\_\_\_\_  
(cell) \_\_\_\_\_ Phone: \_\_\_\_\_  
(fax) \_\_\_\_\_

DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003

Installer: Mark Ritter

Phone#: (218) 927-4125



That A.M. & Associates, Inc. will provide the services to perform Preventative Maintenance, Monitoring and Inspection of the parameters and frequency described herein as your Operating Permit requires for your Individual Sewage Treatment System (ISTS).

Each inspection includes an examination of the ISTS followed by a written report to the Property Owner. 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. A.M. & Associates, Inc. is authorized to submit a copy of the report to the pertaining County's Environmental Services Department.

This contract does not assume any responsibilities or obligations, which are normally the responsibilities of the Property Owner, 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.

A.M. & Associates, Inc. can only contract or subcontract for parts or labor after authorization by you. Billings for service calls shall be made on a case by case basis. This contract **only** covers maintenance, monitoring and inspection services per current pertaining County Operating Permit and **does not** cover alarm calls of any kind.

On-site Service Calls cost of a minimum of \$50.00 plus \$50.00 per hour for time and labor required from A.M. & Associates, due to alarms, misuse or abuse of any portion of this System, is the responsibility of the Property Owner(s), payable at time of Service. Minnesota Onsite Specialties fees for Service calls are separate.

All cost for parts time and labor, required to analyze, fix or replace any portion of this system, for damages caused by winter freezing, is the responsibility of the Property Owner(s).

All additional cost, time and labor required from A.M. & Associates, Inc. and/or Minnesota Onsite Specialties due to modifications made by the pertaining County's Environmental Services Department, is the responsibility of the Property Owner(s), and is payable within 20 days of billing.

In no event shall A.M. & Associates, Inc., Minnesota Onsite Specialties, or 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.

A.M. & Associates, Inc. shall be provided access to the site and the system in order to perform the following services that are marked:

**CONTROL/ALARM PANEL (Annually)**

- 1. Check pump operations in manual mode
- 2. Check timer settings
- 3. Record elapsed time meter and counter readings
- 4. Confirm operation of audible and visual alarms

**LIFT PUMPING STATION (Annually)**

- 1. Verify no leaks in riser
- 2. Inspect splice box for moisture and secure connections
- 3. Verify condition of and correct operation of all floats
- 4. Verify neat wrap of float cords
- 5. Pull pump and clean intake screen if necessary
- 6. Visually inspect recirculating splitter valve (if applicable) and liquid level
- 7. Check general appearance

**EFFLUENT FILTERS/PUMP SCREENS (Annually)**

- 1. Check effluent filter for buildup of biomat growth
- 2. Clean (if needed)

**SEPTIC TANK (Annually)**

- 1. Measure sludge and scum level
- 2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel  
\* (If the test results determine a need for solids removal, the Property Owner(s) will bear the cost and responsibility for doing so)
- 3. Check general appearance

**PRETREATMENT DEVICE (Annually)**

- 1. Inspect for ponding; assess character and color of biomat
- 2. Test pressurization of laterals (squirt test)
- 3. Verify proper orifice position, equal spray under orifices, no clogged orifices
- 4. Check for odors: adjust recirculating time (if necessary)
- 5. Clean and flush manifold (if necessary)
- 6. Re-check squirt height (if necessary)
- 7. Inspect the appearance of the wastewater inside the unit for color and turbidity.

**DISPERSAL FIELD (Annually)**

- 1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)
- 2. If liquid level monitors are installed, levels will be observed and recorded.
- 3. Flush filters and clean cartridges, if applicable
- 4. Check field control unit solenoid operations or manual control, if applicable
- 5. Check for required separation

**SAMPLING (As Deemed Necessary)**

- 1. Aquire and deliver samples for analysis of BODs, TSS, Fats Oils and Grease, and Fecal Coliform (cost of sampling analysis plus delivery charges is the responsibility of the Property Owner. If more than one analysis is recommended and required within the duration of this contract, the additional labor costs aquired by A.M. & Associates, Inc. along with sampling analysis fees and delivery charges is the responsibility of the Property Owner).

**MISCELLANEOUS (Annually)**

- 1. Review water usage from water meter records kept by the Property Owner(s).

**\*\*\* PROPERTY OWNER(S)'S RESPONSIBILITIES (Monthly and/or as Required)**

During the term hereof, I/we as the current Property Owner(s) understand that I/we;

1. Will provide A.M. & Associates, Inc. with access to the System. Access includes electrical controls & disconnects, hose hookup water supply and sufficient workspace to perform the necessary maintenance services
2. Will be responsible for recording water meter readings on a *monthly* basis.
3. Must *notify* A.M. & Associates, Inc. *immediately* when signs of weeping problems, sewage smell or any other indication that the system may not be functioning properly.
4. Will provide A.M. & Associates, Inc. copies of the water meter records, upon request.
5. Must acquire pre-authorization from A.M. & Associates, Inc., *prior* to the Property Owner or any other individual performing or attempts to:
  - a. make alterations or modifications to the System, or
  - b. misuse the System, or
  - c. attach devices to it , or
  - d. execute any type of Maintenance services to the system or any portion thereof
6. Will accept all responsibility and risks involved with the installation and hydraulic performance of this Septic System and hold A.M. & Associates, Inc. harmless from all liability for this Sewage Treatment System whatsoever.
7. May be required to perform additional maintenance responsibilities as deemed necessary by A.M. & Associates, Inc.

This contract shall remain in force for a period of one year, beginning June 1<sup>st</sup> 2006 and ending May 31<sup>st</sup> 2007.

**FEES**

<b>Maintenance, Monitoring &amp; Inspection Service Contract</b>	<b>\$250.00</b>	<b>Due at time of signing contract</b>
<b>Sample Analysis Fees &amp; Supplies</b>	(approx) <b>N/A</b>	<b>Due at time of sampling</b>
<b>*Time &amp; Mileage to Deliver Samples for Analysis</b>	<b>N/A</b>	<b>Due at time of sampling</b>

NOTE: SAMPLING OF FECAL COLIFORM, BOD, TSS, AND FATS OIL AND GREASE IS NOT REQUIRED AT THIS TIME. IF SAMPLING IS FOUND TO BE NECESSARY DURING THE DURATION OF THE USE OF THIS SEPTIC SYSTEM, THE PROPERTY OWNER(S) IS RESPONSIBLE FOR ALL COSTS INVOLVED, AND IS DUE AT TIME THE SAMPLES ARE TO BE TAKEN.

\*If at time of sampling, the Property Owner(s) wishes to transport the samples to Brainerd himself for analysis, within the *required time limit*, A.M. & Associates, Inc. will wave the time, mileage delivery fees of \$100.00.

A.M. & Associates, Inc. agrees to provide inspection, monitoring and routine maintenance service only under this contract.

I hereby certify with my signature as the Property Owner(s) that I understand the provisions, requirements and responsibilities of this Maintenance, Monitoring and Inspection Service Contract. I also understand failure to comply with the requirements outlined in my Operating Permit, this Contract, along with any future requirements that may arise, set forth by Aitkin County Environmental Services, Orenco Systems, Inc. (OSI) or A.M. & Associates, Inc., could result in the condemning of my septic system, removal of the use of the drainfield, and require the use of Holding Tanks with a pumping Contract.

**Property Owner(s):**

Name: <u>Deborah I Frank</u> (please print)	<u>Deborah I. Frank</u> (signature)	Date: <u>5/16/06</u>
Name: _____ (please print)	_____ (signature)	Date: _____
Name: _____ (please print)	_____ (signature)	Date: _____
Name: _____ (please print)	_____ (signature)	Date: _____

**A.M. & Associates, Inc.:**

Name: <u>MICHAEL D. O'KEEFFE</u> (please print)	<u>Michael D. O'Keefe</u> (signature)	Date: <u>05/08/2006</u>
--	--	-------------------------

**Tops** FORM 4880G

# RECEIPT

DATE 5/18/06

NO. **9973**

RECEIVED FROM Dave & Homeowners

ADDRESS Clinton

fifty — DOLLARS \$ 50-

FOR RENT  
 FOR OP

ACCOUNT		HOW PAID	
AMT. OF ACCOUNT		CASH	
AMT. PAID		CHECK	<u>10057</u>
BALANCE DUE		MONEY ORDER	

BY MLC

# A. M. & Associates, Inc.

29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
Annette M. O'Keeffe  
SEPTIC SYSTEMS  
DESIGNS \* INSPECTIONS \* MAINTENANCE  
MPCA #1357

June 2, 2007

DoubleE Homeowners Association  
c/o Debbie Frank  
374 First Avenue South  
Mazeppa, MN 55956

Parcel# 32-0-031500

Dear Deb,

It appears that with the extra tankage and the controlled water usage, your Septic System is performing as it should. Therefore we are recommending to Aitkin County that your Operating Permit be renewed every 5 years instead of annually. This means the Operating Permit you are about to renew will be good until May 31<sup>st</sup> 2012. The Operating Permit fee of \$50.00 should cover all 5 years.

We are also recommending that Maintenance be performed every other year instead of annually. Therefore, we will skip the Maintenance this year and perform it in the fall of 2008. If you prefer that we continue to do the Maintenance annually, let us know.

Sincerely,



Annette O'Keeffe

OK 6-15-07

# MAINTENANCE, MONITORING AND INSPECTION REPORT FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM

**3<sup>rd</sup> YEAR SERVICE  
June 1, 2006 thru May 31, 2007**

Property Owner(s): **DoubleE Homeowners Assoc.**      Site Address: **Round Lake**  
 Home Address: **c/o Debbie Frank**  
**374 First Avenue South**  
 Phone: **Mazeppa, MN 55956**  
 Parcel Code: **32-0-031500**      Township: **Waukenabo**

## DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM

### **30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a **MAXIMUM** dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a **MAXIMUM** dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003      Installer: MARK RITTER      Phone#: 218-927-4125

## **JUNE 2006 THRU MAY 2007 MAINTENANCE & MONITORING RESULTS**

Date Maintained: 09/30/2006

CONTROL/ALARM PANEL	RESULTS
1. Check pump operations in manual mode	Good
2. Check timer settings	Good
3. Record elapsed time meter and counter readings.	Good
4. Confirm operation of audible and visual alarms	Good
5. Test Pump Amperage	Septic (Pump #1) = 36 amps @ Startup = 11 amps @ Run Time SF (Pump #2)       = 23 amps @ Startup = 11 amps @ Run Time

**JUNE 2006 THRU MAY 2007 MAINTENANCE & MONITORING RESULTS**

	<b>RESULTS</b>
<b>LIFT PUMPING STATION</b>	<b>Good</b>
1. Verify no leaks in riser(s)	<b>Good</b>
2. Inspect splice box for moisture and secure connections	<b>Good</b>
3. Verify condition of and correct operation of all floats	<b>Good</b>
4. Verify neat wrap of float cords	<b>Good</b>
5. Pull pump and clean intake screen if necessary	<b>Good</b>
6. Check general appearance	<b>Good</b>
<b>EFFLUENT FILTERS/PUMP SCREENS</b>	<b>RESULTS</b>
1. Check effluent filter for buildup of biomat growth.	<b>***SEE COMMENTS</b>
2. Clean (if needed)	<b>CLEANED</b>
<b>SEPTIC TANK</b>	<b>RESULTS</b>
1. Measure sludge and scum level	<b>Sludge Level = 2", Scum Level = 8" (Both Showerhouse &amp; Trailer Tanks)</b>
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	<b>Not necessary at this time.</b>
3. Check general appearance	<b>Good</b>
<b>PRETREATMENT DEVICE</b>	<b>RESULTS</b>
1. Inspect for ponding; assess character and color of biomat	<b>Good</b>
2. Test pressurization of laterals (squirt test)	<b>Squirt Height = 22" - 24" on all</b>
3. Verify proper orifice position, equal spray under orifices no clogged orifices	<b>Good</b>
4. Check for odors; adjust recirculating time (if necessary)	<b>Good</b>
5. Clean and flush manifold (if necessary)	<b>Good</b>
6. Re-check squirt height (if necessary)	<b>Good</b>
7. Inspect the appearance of the wastewater inside the unit for color and turbidity.	<b>CLEAR</b>
<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	<b>No signs of failure.</b>
2. Check for required separation	<b>Not checked at this time.</b>
<b>MISCELLANEOUS</b>	<b>RESULTS</b>
1. Review water usage from water meter records.	<b>SEE ATTACHED</b>



## JUNE 2006 THRU MAY 2007 MAINTENANCE & MONITORING RESULTS

COMMENTS: ALL COMPONENTS LOOK GOOD.

Owners should continue to clean Spin Filter in Sandfilter "MONTHLY" during spring, summer & fall.

We were unable to clean the Filter in the Septic Tank for the Trailers. Could not reach due to 5 feet or so of riser depth.

Drainfield meets the required separation.

THIS SYSTEM HAS BEEN IN USE 3-4 YEARS AND IS OPERATING AS DESIGNED.

A.M. & ASSOCIATES RECOMMENDS THE OPERATING PERMIT BE CHANGED TO EVERY 5 YEARS.

THEREFORE, THE OPERATING PERMIT RENEWAL DUE MAY 31, 2007 SHOULD BE GOOD FOR JUNE 1, 2007 THRU MAY 31, 2012.

A.M. & ASSOCIATES ALSO RECOMMENDS MAINTENANCE BE PERFORMED EVERY OTHER YEAR. THE NEXT MAINTENANCE WILL BE PERFORMED DURING THE SUMMER OF 2008.



6/02/2007

# DOUBLE-E 2006 - May 2007 WATER USAGE

	<u>DATE</u>	<u>NO. OF DAYS</u>	<u>METER READING</u>	<u>GAL USED</u>	<u>AVG GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL AVG GPD / PERSON</u>	<u>COMMENTS</u>
Sunday	03/12/06	83	372510	200	2	unknown		
Saturday	04/08/06	27	372510	0	0	unknown		
Sunday	04/09/06	1	372620	110	110	unknown		
Friday	04/14/06	5	373570	950	190	unknown		
Friday	04/21/06	29	375420	1850	64	unknown		
Sunday	04/23/06	2	377330	1910	955	unknown		
Friday	04/28/06	5	379050	1720	344	unknown		
Sunday	04/30/06	2	380260	1210	605	unknown		
Friday	05/05/06	5	381370	1110	222	unknown		
Sunday	05/07/06	2	383350	1980	990	unknown		
Friday	05/12/06	5	384970	1620	324	unknown		
Sunday	05/14/06	2	387110	2140	1070	unknown		
Friday	05/19/06	5	388930	1820	364	unknown		
Sunday	05/21/06	2	391160	2230	1115	unknown		
Friday	05/26/06	5	401090	9930	1986	unknown		Leak (Cabin #5)
Sunday	05/28/06	2	403055	1965	983	unknown		
Friday	06/02/06	5	404735	1680	336	unknown		
Sunday	06/04/06	2	406860	2125	1063	unknown		
Friday	06/09/06	5	407960	1100	220	unknown		
Sunday	06/11/06	2	409820	1860	930	unknown		
Friday	06/16/06	5	410280	460	92	unknown		
Sunday	06/18/06	2	411360	1080	540	unknown		
Friday	06/23/06	5	413120	1760	352	unknown		
Sunday	06/25/06	2	415230	2110	1055	unknown		
Friday	06/30/06	5	417150	1920	384	unknown		
Sunday	07/02/06	2	419210	2060	1030	unknown		
Friday	07/07/06	5	421630	2420	484	unknown		
Sunday	07/09/06	2	424199	2569	1285	unknown		
Friday	07/14/06	5	426679	2480	496	unknown		
Sunday	07/16/06	2	428629	1950	975	unknown		
Friday	07/21/06	5	430660	2031	406	unknown		
Sunday	07/23/06	2	433250	2590	1295	unknown		
Friday	07/28/06	5	437870	4620	924	unknown		
Sunday	07/30/06	2	440720	2850	1425	20	71	
Friday	08/04/06	5	443520	2800	560	unknown		
Sunday	08/06/06	2	445480	1960	980	32	31	
Friday	08/11/06	5	448650	3170	634	unknown		
Sunday	08/13/06	2	450080	1430	715	29	25	
Friday	08/18/06	5	451800	1720	344	unknown		
Sunday	08/20/06	2	452830	1030	515	20	26	
Friday	08/25/06	5	453420	590	118	unknown		
Sunday	08/27/06	2	454170	750	375	12	31	
Friday	09/01/06	5	455040	870	174	unknown		
Monday	09/04/06	3	458390	3350	1117	51	22	
Friday	09/08/06	4	458990	600	150	unknown		
Monday	09/11/06	3	460120	1130	377	14	27	
Saturday	09/16/06	5	460340	220	44	unknown		
Monday	09/18/06	2	460855	515	258	10	26	
Friday	09/22/06	4	461880	1025	256	unknown		
Sunday	09/24/06	2	462790	910	455	18	25	
Thursday	09/28/06	4	463510	720	180	unknown		
Saturday	09/30/06	2	464690	1180	590	20	30	
Friday	10/06/06	6	465000	310	52	unknown		
Sunday	10/08/06	2	466540	1540	770	30	26	
Friday	10/13/06	5	466550	10	2	unknown		
Monday	10/16/06	3	467510	960	320	14	23	
Friday	10/20/06	4	467520	10	3	unknown		
Sunday	10/22/06	2	468690	1170	585	unknown		
Saturday	10/28/06	6	468690	0	0	unknown		

# DOUBLE-E 2006 - May 2007 WATER USAGE

	<u>DATE</u>	<u>NO. OF DAYS</u>	<u>METER READING</u>	<u>GAL USED</u>	<u>AVG GPD</u>	<u>TOTAL # OF OCCUPANTS</u>	<u>TOTAL AVG GPD / PERSON</u>	<u>COMMENTS</u>
Wednesday	03/14/07		468690	0	0	unknown		
Wednesday	03/28/07	7	468850	160	23	unknown		
Sunday	04/01/07	4	468930	80	20	unknown		
Friday	04/20/07	5	469210	280	56	unknown		
Sunday	04/22/07	2	470140	930	465	unknown		
Friday	04/27/07	5	470340	200	40	unknown		
Sunday	04/29/07	2	471450	1110	555	unknown		
Friday	05/04/07	5	472110	660	132	unknown		
Sunday	05/06/07	2	473470	1360	680	unknown		

**OPERATING PERMIT FOR WASTEWATER  
TREATMENT AND DISPERSAL**

**OPERATING PERMIT #:** 106

**FEE:** \$50.00

**PERMITTEE:** Double E Homeowners Association

**PHONE:** (507) 843-4914

**ADDRESS:** RR 2 Box 409  
Mazeppa, MN 55956-



**ZONING PERMIT #** 30261

**PARCEL #:** 35-1-087100

**LEGALDESCRIPTION:** Lot 10 Blk 1 less Part Ln Doc# 224366 Simmons Double E

**ISSUE DATE** 5/31/2006

**EXPIRATION DATE** 5/31/2007

Aitkin County Environmental Services authorizes the Permittee to operate a wastewater treatment and dispersal system located on the above described property in accordance with the requirements of this permit.

This permit is effective on the issuance date identified above.

This permit and the authorization to treat and disperse from the above system shall expire on the above expiration date. The Permittee is not authorized to discharge after the date of expiration. The Permittee shall submit such information and forms as required by Aitkin County Environmental Services no later than thirty (30) days prior to the expiration date. When the required information is submitted and approved by Aitkin County Environmental Services, the permit may be renewed. This permit is not transferable from owner to owner.

**I hereby certify with my signature as the permittee that I understand the provisions of this permit including the maintenance and monitoring requirements. I agree to indemnify and hold Aitkin County harmless from all loss, damages, costs and charges that may be incurred by use of this system and if I fail to comply with the provisions of this Operating Permit. If I sell this property during the life of the permit, I will inform the new owner(s) of the permit requirements and the need to renew the permit.**

**Signature of Permittee**

*Cecilia J. Park*  
Secretary-Treasurer

**Date**

*6/14/07*

**Signature of Permitting Authority**

*Al King*

**Date**

*6/14/07*

If You have any questions regarding this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact Aitkin County Environmental Services at 218-927-7342.

This ISTS is to serve 3 locations on the property of which is strictly seasonal and not in use during the winter months. Sewage will gravity from the Cabin #'s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon lift tank. Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank. Sewage will gravity from the trailers into a new precast 1860 Combo septic tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank. Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the effective date (issuance date) of this permit and lasting until this permits expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted. The following parameters must be monitored and the results must be found within the compliance limits.

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENC
Flow	1000 gpd	Water Meter	MONTHLY	Record on Log Sheet	ANNUALLY
Separation	1 ft beneath rock layer	Dispersal System	ANNUALLY	Measure in Field	ANNUALLY

**C. MAINTENANCE REQUIREMENTS:**

PARAMETER	LOCATION	FREQUENCY
Flow	Water Meter	MONTHLY
Pressurization of Laterals	Sand Filter	ANNUAL
Pumps, Floats & Alarms	Lift Tanks, pump vault	ANNUAL
Solids Removal & Water Tightness	Septic tank(s)	ANNUAL
Surface Discharge	Dispersal System	ANNUAL
Vegetative Cover	Dispersal System	ANNUAL

Monitoring results obtained during each calendar year shall be submitted no later than December 31st of that year to:

Aitkin County Environmental Services  
209 2nd Street NW  
Aitkin, MN 56431

The monitoring reports shall be signed by the Permittee. Copies are to be retained by the Permittee.

The Permittee shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of this permit.

Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.

Sampling and laboratory testing procedures shall be performed in accordance with Standard Methods and the testing shall be performed by a Minnesota Department of Health approved laboratory. All sampling and testing costs shall be the responsibility of the Permittee.

Monitoring will be done by A.M. & Associates I

**E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area. 2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer or replace. 3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace. 4. A different or another Performance or Other System may be installed at the owner's expense. 5. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.

**F. SPECIAL REQUIREMENTS:**

A.M. and Associates, a licensed ISTS firm, has agreed to perform all monitoring responsibilities, as outlined within this Operating Permit Application, for a period of one year (s), only upon signing a contract stating so.

# AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING

209 Second Street, NW  
Aitkin, Minnesota 56431

PH: (218) 927-7342  
FX: (218) 927-4372



June 15, 2007

RE: Septic Operating Permit #106; Zoning  
Permit # 30261; Parcel #35-1-087100

DOUBLE E HOMEOWNERS ASSOCIATION  
C/O DEBBIE FRANK  
374 FIRST AVE. SO.  
MAZEPPA, MN 55956

Dear Ms. Frank:

Our office is in receipt of the Monitoring and Maintenance Results of your "Other Septic System," No. 106. The results indicate that your septic system is meeting the objectives of the Operating Permit and is reported to be operating and performing as designed. In addition, we are in receipt of a letter from the monitoring company, A.M. & Associates, Inc., recommending the Operating Permit renewal requirement be removed. Therefore, Aitkin County is no longer requiring the annual renewal of your Operating Permit.

Please be aware that continued good water use management and periodic septic system maintenance is still the responsibility of the landowner and that this system is not classified as a standard Individual Sewage Treatment System. Your continued diligence will help ensure the longevity and function of the septic system. Aitkin County encourages you to establish a monitoring and maintenance schedule with a qualified professional.

Sincerely,

A handwritten signature in blue ink, appearing to read "Terry Neff".

Terry Neff  
Environmental Services Director  
Aitkin County



Minnesota Pollution Control Agency

520 Lafayette Road North
St. Paul, MN 55155-4194

COPY

Compliance Inspection Form

Existing Subsurface Sewage Treatment Systems (SSTS)

Instructions on page 7

Parcel number: 32-0-034500
System status: [X] Compliant [ ] Noncompliant
(based on all compliance requirements)

For Local Tracking Purposes:

Summary Form

Property Information

Property owner name(s): DOUBLE-E HOMEOWNERS ASSOC. c/o DEBBIE FRANK
Property address: ROUND LAKE, WAUKENABO TOWNSHIP
Property owner's address (if different): 374 FIRST AVENUE SOUTH, MAZEPPA, MN 55956
County: AITKIN Property owner phone: (507) 843-4914 Permitting authority: AITKIN COUNTY
Date system constructed: 2003 Reason for inspection: BUILDING PERMIT

System Description

Brief system description: OSI SANDFILTER WITH DRIP IRRIGATION, TIMED DOSING (8 TANKS)
Local permit number: Number of bedrooms: Design flow rate: 1000 GPD

Is the system:

In Shoreland area? [X] Yes [ ] No In Wellhead Protection Area? [ ] Yes [X] No
An U.S. Environmental Protection Agency (EPA) Class V Injection Well? [ ] Yes [X] No
System serving a Minnesota Department of Health (MDH) licensed facility? [ ] Yes [X] No

Compliance Status (Based on state requirements - additional local requirements may also apply.)

Based on the information gathered and reported on attached forms, the compliance status of this system is (check one):

[X] Certificate of Compliance - valid until (3 years from date of report): June 2, 2013

[ ] Notice of Noncompliance - For Noncompliant systems:

The reason for noncompliance is:

This noncompliant system is classified as (check one below):

[ ] Imminent threat to public health & safety [ ] Failing to protect ground water [ ] Not in compliance with operating permit

Certification (Completed form must be submitted to the local unit of government within 15 days.)

I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.

Name: MICHAEL D O'KEEFFE Certification number: 3785

Business license name and number: A.M. & ASSOCIATES, INC. (License # 1357) or

Name of local unit of government:

Signature: [Signature] Date: 6/16/2010

Required Attachments

Inspector Complete: This Inspection Report is 15 pages long.

Check compliance forms attached: [X] Hydraulic Performance [X] Tank Integrity [X] Soil Separation [ ] Operating Permit Form (if applicable) [X] System drawing/AS-built drawing [ ] An assessment of any local requirements that are different from what is required on this form [X] Soil Boring Logs [ ] Abandonment form (if appropriate) [X] Other information (list):

Maintenance & Monitoring Report, Sampling of BOD, TSS & Fecal Count Results.

Upgrade Requirements (derived from Minn. Stat. § 115.55) An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.



Parcel number: 32-0-031500

System status:  Compliant  Noncompliant  
(as determined by this form)

### Hydraulic Performance and Other Compliance Compliance Issue #1 of 4

Date of observation: 6/2/2010 Reason for observation: BUILDING PERMIT

This form expires upon next inspection or in three years, whichever occurs first: June 2, 2013

#### Compliance questions/criteria: (Required) (Check the appropriate box)

Does the system discharge sewage to the ground surface?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the system discharge sewage to drain tile or surface waters?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Does the system cause sewage backup into dwelling or establishment?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Do other situations exist that have the potential to immediately and adversely impact or threaten public health or safety (electrical, unsafe covers, etc.)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Any "yes" answer indicates that the system is an imminent threat to public health and safety.**

Does the system pose a threat to ground water for any conditions deemed non-protective as determined by the inspector?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
--	---

**"Yes" indicates that the system is failing to protect ground water. If "yes", describe the condition noted:**

\_\_\_\_\_  
\_\_\_\_\_

#### Verification Method\*: (Optional) (Check the appropriate box)

- Searched for surface outlet
- Performed hydraulic test
- Searched for seeping in yard
- Checked for backup in home
- Excessive ponding in soil system/D-boxes
- Homeowner testimony
- Examined for surging in tank
- "Black soil" above soil dispersal system
- Performed dye test
- Other: \_\_\_\_\_

\* No standard protocol exists. This list is not exhaustive, in sequential order, nor does it indicate which combinations are necessary to make this determination.

### Certification

This form is to be completed and attached to the Summary Form of the Minnesota Pollution Control Agency's (MPCA) **Compliance Inspection Form for Existing Subsurface Sewage Treatment Systems**. Observations, interpretations, and conclusions must be completed by an inspector. Completed form must be submitted to the local unit of government within 15 days.

Property owner name(s): DOUBLE-E HOMEOWNERS ASSOC. c/o DEBBIE FRANK

Property address: ROUND LAKE, WAUKENABO TOWNSHIP

Property owner's address (if different): 374 FIRST AVENUE SOUTH, MAZEPPA, MN 55956

County: AITKIN Phone: (507) 843-4914

I hereby certify that I personally made the observations, interpretations, and conclusions reported on this form and that they are correct.

Name: MICHAEL D O'KEEFFE Certification number: 3785

Business license name and number: A.M. & ASSOCIATES, INC. (License # 1357) or

Name of local unit of government: \_\_\_\_\_

Signature:  Date: 6/16/2010

Parcel number: 32-0-031500

System status:  Compliant  Noncompliant  
(as determined by this form)

### Tank Integrity and Safety Compliance Compliance Issue #2 of 4

Date of observation: 6/2/2010 Reason for observation: BUILDING PERMIT

This form expires on (three years): June 2, 2013

#### Compliance questions/criteria: (Required)

(Check the appropriate box)

Does the system consist of a seepage pit\*, cesspool, drywell, or leaching pit?  Yes  No

Do any sewage tank(s) leak below their designed operating depth?  Yes  No

If yes, identify which sewage tank leaks. \_\_\_\_\_

*Any "yes" answer indicates that the system is failing to protect ground water.*

\* Seepage pits meeting 7080.2550 may be compliant if allowed in ordinance by local permitting authority.

#### Verification Method\*: (Optional)

(Check the appropriate box)

- Probed tank bottom
- Observed low liquid level
- Examined construction records
- Examined empty (pumped) tank
- Probed outside tank for "black soil"
- Pressure/vacuum check
- Other: Viewed Tanks with a Camera.

\*\* No standard protocol exists. This list is not exhaustive, in sequential order, nor does it indicate which are necessary to make this determination.

### Safety Check

1. Are any maintenance hole covers damaged, cracked, or appeared to be structurally unsound?  Yes\*  No
2. Were all maintenance hole covers replaced in a secured manner (e.g., all screws replaced)?  Yes  No\*
3. Was secondary access restraint present (safety pan, second cover, or safety netting) – highly recommended.  Yes  No
4. Was any other safety/health issue present?  Yes\*  No

Explain \_\_\_\_\_

*\*System is an imminent threat to public health and safety.*

### Certification

This form is to be completed and attached to the Summary Form of the Minnesota Pollution Control Agency's (MPCA) Compliance Inspection Form for Existing Subsurface Sewage Treatment Systems. Observations, interpretations, and conclusions must be completed by an inspector, maintainer, or service provider. Completed form must be submitted to the local unit of government within 15 days.

Property owner name(s): DOUBLE-E HOMEOWNERS ASSOC. c/o DEBBIE FRANK

Property address: ROUND LAKE, WAUKENABO TOWNSHIP

Property owner's address (if different): 374 FIRST AVENUE SOUTH, MAZEPPA, MN 55956

County: AITKIN Phone: (507) 843-4914

*I hereby certify that I personally made the observations, interpretations, and conclusions reported on this form and that they are correct.*

Name: MICHAEL D O'KEEFFE Certification number: 3785

Business license name and number: A.M. & ASSOCIATES, INC. (License # 1357) or

Name of local unit of government: \_\_\_\_\_

Signature:  Date: 6/16/2010

# A. M. & Associates, Inc.

29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

Michael D. O'Keeffe  
SEPTIC SYSTEMS  
DESIGNS \* INSPECTIONS \* MAINTENANCE  
MPCA #1357

## TANK INSPECTION REPORT

DoubleE Homeowners Assoc.  
c/o Debbie Frank  
374 First Avenue South  
Mazeppa, MN 55956  
(507) 843-4914

Property Address:  
Round Lake  
Waukenabo Township

PARCEL #: 32-0-031500

### Septic & Lift Tank for Trailers

DATE OF INSPECTION 6/2/2010

METHOD OF INSPECTION Visual & Camera

CONDITION OF BAFFLES Baffles look Good.

DOES TANK APPEAR TO BE WATERTIGHT Yes

SCUM LEVEL 1-2 Inches on Large side of Septic Tank, 0 Inches on small side of Tank

SLUDGE LEVEL 10-12 Inches on Large side of Septic Tank, 6 Inches on small side of Tank

OPERATING LEVEL Good

OTHER Unable to clean filter, could not reach - riser too high.  
Tanks were pumped last fall by Ritter & Ritter.

RECOMENDATIONS NONE



Michael D. O'Keeffe  
Septic Systems Designer/Inspector  
MPCA #1357

**A. M. & Associates, Inc.**

29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

**Michael D. O'Keeffe**

**SEPTIC SYSTEMS  
DESIGNS \* INSPECTIONS \* MAINTENANCE  
MPCA #1357**

**TANK INSPECTION REPORT**

DoubleE Homeowners Assoc.  
c/o Debbie Frank  
374 First Avenue South  
Mazeppa, MN 55956  
(507) 843-4914

Property Address:  
Round Lake  
Waukenabo Township

PARCEL #: 32-0-031500

**Tank for Shower House**

DATE OF INSPECTION 6/2/2010

METHOD OF INSPECTION Visual & Camera

CONDITION OF BAFFLES Baffles look Good.

DOES TANK APPEAR TO BE WATERTIGHT Yes

SCUM LEVEL 1 Inch on Large side of Tank, 0 Inches on small side of Tank

SLUDGE LEVEL 10-12 Inches on Large side of Tank, 4-6 Inches on small side of Tank

OPERATING LEVEL Good

OTHER Cleaned Filter  
Tanks were pumped last fall by Ritter & Ritter.

RECOMENDATIONS NONE



**Michael D. O'Keeffe**  
**Septic Systems Designer/Inspector**  
**MPCA #1357**

**TANK INSPECTION REPORT**

DoubleE Homeowners Assoc.  
c/o Debbie Frank  
374 First Avenue South  
Mazeppa, MN 55956  
(507) 843-4914

Property Address:  
Round Lake  
Waukenabo Township

PARCEL #: 32-0-031500

**Sand Filter Lift Tank & Vault**

DATE OF INSPECTION 6/2/2010

METHOD OF INSPECTION Visual & Camera

CONDITION OF BAFFLES Baffles look Good.

DOES TANK APPEAR TO BE WATERTIGHT Yes

SCUM LEVEL 0 Inches

SLUDGE LEVEL 0 Inches

OPERATING LEVEL Good

OTHER Performed Maintenance  
Tanks were pumped last fall by Ritter & Ritter.

RECOMENDATIONS Risers were added to Septic Tank, unable to reach Pump to Clean.



**Michael D. O'Keeffe**  
**Septic Systems Designer/Inspector**  
**MPCA #1357**

**A. M. & Associates, Inc.**

29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

**Michael D. O'Keeffe**  
**SEPTIC SYSTEMS**  
**DESIGNS \* INSPECTIONS \* MAINTENANCE**  
**MPCA #1357**

**TANK INSPECTION REPORT**

**DoubleE Homeowners Assoc.**  
**c/o Debbie Frank**  
**374 First Avenue South**  
**Mazeppa, MN 55956**  
**(507) 843-4914**

**Property Address:**  
**Round Lake**  
**Waukenabo Township**

**PARCEL #: 32-0-031500**

**Septic Tank & Lift Tank for Cabins**

**DATE OF INSPECTION** 6/2/2010

**METHOD OF INSPECTION** Visual & Camera

**CONDITION OF BAFFLES** Baffles look Good.

**DOES TANK APPEAR TO BE WATERTIGHT** Yes

**SCUM LEVEL** 0 Inches on Large side of Tank, 0-2 Inches on small side of Tank

**SLUDGE LEVEL** 12 Inches on Large side of Tank, 12 Inches on small side of Tank

**OPERATING LEVEL** Good

**OTHER** Cleaned Filter  
Tanks were pumped last fall by Ritter & Ritter.

**RECOMENDATIONS** Small Trickle of water from Sewer Pipe into Tank – Should be fixed.



**Michael D. O'Keeffe**  
**Septic Systems Designer/Inspector**  
**MPCA #1357**

Parcel number: 32-0-031500

System status:  Compliant  Noncompliant  
(as determined by this form)

### Soil Separation Compliance and Other Compliance Compliance Issue #3 of 4

Date of observation: 6/2/2010 Reason for observation: BUILDING PERMIT  
*This information on this form does not expire*

#### Compliance questions/criteria: (Required) (Check the appropriate box)

For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment:  
Does the system have at least a two-foot vertical separation distance from periodically saturated soil or bedrock?  Yes  No

For non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage or lodging establishment:  
Does the system have a three-foot vertical separation distance from periodically saturated soil or bedrock?  Yes  No

For reduced separation distance systems (i.e., "performance" systems under old 7080.0179 or Type IV or V system under new 7080.2350 or 7080.2400):  
Does the system meet the designed vertical separation distance from periodically saturated soil or bedrock?  Yes  No

*Any "no" answer indicates that the system is failing to protect ground water.*

#### Verification Method\*: (Optional) (Check the appropriate box)

- Conducted soil observation(s) (attach boring logs)
- Two previous verifications (attach boring logs)
- Other: Original Soil Borings indicate 14 inches of Good Soil in Drip area. There is an additional 6-12 inches Clean Sand under Drip Irrigation.

Soil observation does not expire. Previous observations by two independent parties are sufficient, unless site conditions have been altered.

\* May be reduced by up to 15percent if allowed in local ordinance.

\*\* No standard protocol exists. This list is not exhaustive, in sequential order, nor does it indicate which combinations are necessary to make this determination.

### Certification

This form is to be completed and attached to the Summary Form of the Minnesota Pollution Control Agency's (MPCA) **Compliance Inspection Form for Existing Subsurface Sewage Treatment Systems**. Observations, interpretations, and conclusions must be completed by an inspector or designer. Completed form must be submitted to the local unit of government within 15 days.

Property owner name(s): DOUBLE-E HOMEOWNERS ASSOC. c/o DEBBIE FRANK

Property address: ROUND LAKE, WAUKENABO TOWNSHIP

Property owner's address (if different): 374 FIRST AVENUE SOUTH, MAZEPPA, MN 55956

County: AITKIN Phone: (507) 843-4914

*I hereby certify that I personally made the observations, interpretations, and conclusions reported on this form and that they are correct.*

Name: MICHAEL D O'KEEFFE Certification number: 3785

Business license name and number: A.M. & ASSOCIATES, INC. (License # 1357) or

Name of local unit of government: \_\_\_\_\_

Signature: 

Date: 6/16/2010

# SOIL BORING LOG

PROPERTY OWNER: **DoubleE**  
**Homeowner's Assoc.**

PARCEL CODE: **35-1-087100**

**10/22/2002**

**DEPTH      COLOR                      TEXTURE**

**Soil Boring 1      For Drip Irrigation Area**

0 - 2		Sod
2 - 16	10YR 5/4	Sandy Loam
16+	10YR 6/2	Mottled Clay Loam

**Soil Boring 2      For Drip Irrigation Area**

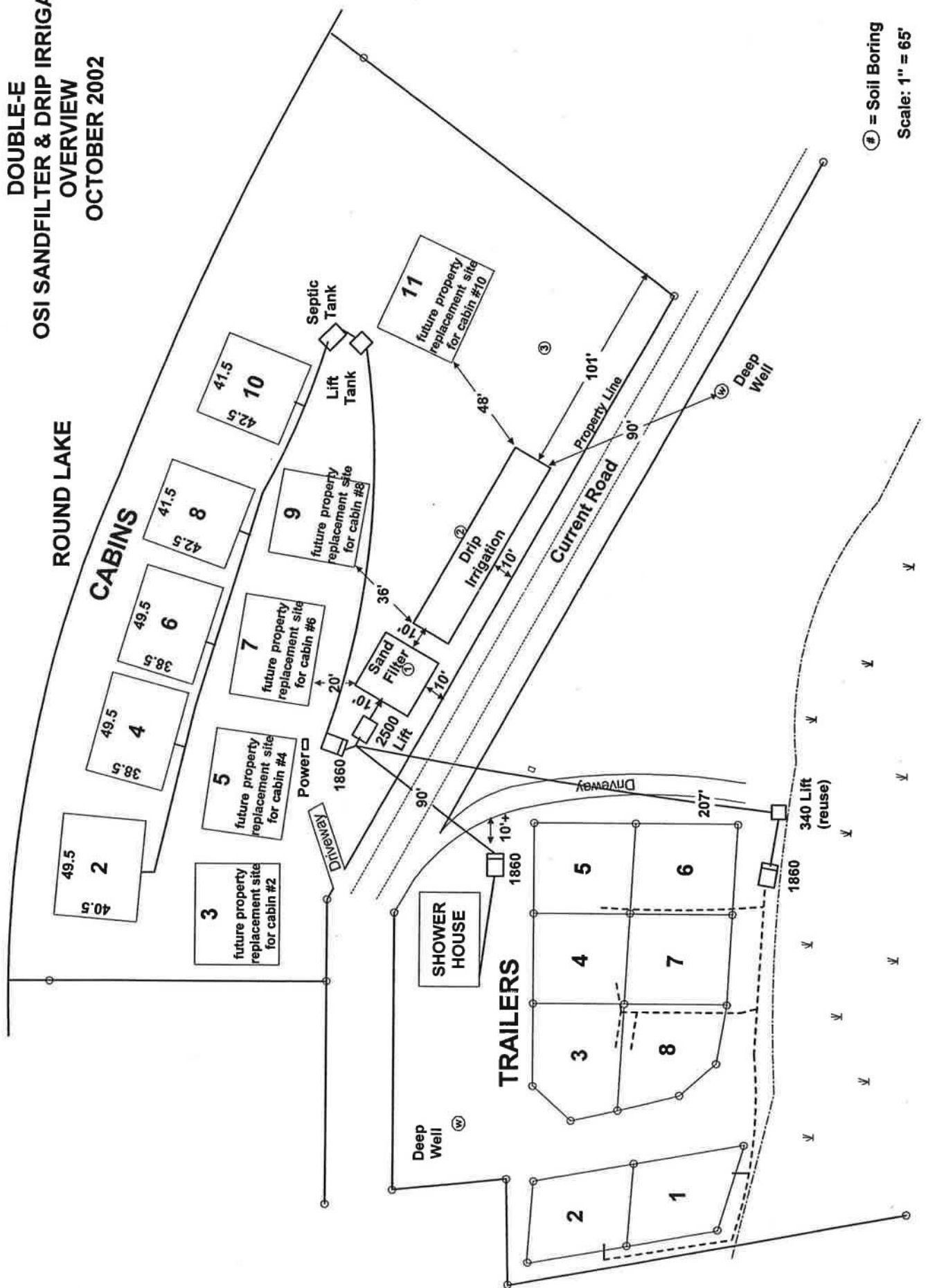
0 - 2		Sod
2 - 7	10YR 3/2	Top Soil Sandy Loam
7 - 14	10YR 6/3	Sandy Loam
14+	10YR 4/4	Clay Loam with 10YR 6/2 & 5/6 Mottles

**Soil Boring 3      Outside Drip Irrigation Area**

0 - 2		Sod
2 - 10	10YR 5/4	Sandy Loam
10+	10YR 6/2	Mottled Clay Loam



DOUBLE-E  
 OSI SANDFILTER & DRIP IRRIGATION  
 OVERVIEW  
 OCTOBER 2002



Ⓝ = Soil Boring  
 Scale: 1" = 65'

**MAINTENANCE, MONITORING AND INSPECTION REPORT**  
**FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM**  
**June 2007 thru May 2010**

Property Owner(s): **DoubleE Homeowners Assoc.**  
 Home Address: **c/o Debbie Frank** Site Address: **Round Lake**  
**374 First Avenue South**  
 Phone: **Mazeppa, MN 55956**  
 Parcel Code: **32-0-031500** Township: **Waukenabo**

**DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003 Installer: MARK RITTER Phone#: 218-927-4125

**JUNE 2007 THRU MAY 2010 MAINTENANCE & MONITORING RESULTS**

Date Maintained: 06/02/2010

<b>CONTROL/ALARM PANEL</b>	<b>RESULTS</b>
1. Check pump operations in manual mode	Good
2. Check timer settings	N/A
3. Record elapsed time meter and counter readings.	N/A
4. Confirm operation of audible and visual alarms	Delayed
5. Test Pump Amperage	Septic (Pump #1) = 35 amps @ Startup = 11.7 amps @ Run Time SF (Pump #2) = 38 amps @ Startup = 11 amps @ Run Time

**JUNE 2006 THRU MAY 2007 MAINTENANCE & MONITORING RESULTS**

<b>LIFT PUMPING STATION</b>	<b>RESULTS</b>
1. Verify no leaks in riser(s)	Good
2. Inspect splice box for moisture and secure connections	Good
3. Verify condition of and correct operation of all floats	Good
4. Verify neat wrap of float cords	Good
5. Pull pump and clean intake screen if necessary	***UNABLE TO DO -SEE COMMENTS
6. Check general appearance	Good

<b>EFFLUENT FILTERS/PUMP SCREENS</b>	<b>RESULTS</b>
1. Check effluent filter for buildup of biomat growth.	Good
2. Clean (if needed)	CLEANED

<b>SEPTIC TANKS</b>	<b>RESULTS</b>
1. Measure sludge and scum level	Good
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	Not necessary at this time.
3. Check general appearance	Good

<b>PRETREATMENT DEVICE</b>	<b>RESULTS</b>
1. Inspect for ponding; assess character and color of biomat	Good
2. Test pressurization of laterals (squirt test)	Zone 1 = 1 ½ - 2 Ft, Zone 2 = 2-2 ½ Ft, Zone 3 - 2 ½-3 Ft.
3. Verify proper orifice position, equal spray under orifices no clogged orifices	Good
4. Check for odors: adjust recirculating time (if necessary)	Good
5. Clean and flush manifold (if necessary)	Good
6. Re-check squirt height (if necessary)	Good
7. Inspect the appearance of the wastewater inside the unit for color and turbidity.	CLEAR

<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	No signs of failure.
2. Check for required separation	Not checked at this time.

<b>MISCELLANEOUS</b>	<b>RESULTS</b>
1. Review water usage from water meter records.	SEE ATTACHED

### JUNE 2007 THRU MAY 2010 MAINTENANCE & MONITORING RESULTS

**COMMENTS:** Risers were added to Septic Tank for Sand Filter. Unable to reach Pump to clean.

Was unable to clean the Filter in the Septic Tank for the Trailers. Could not reach due to 5 feet or so of riser depth.

Small trickle of water from Sewer Pipe leaking into Tank for Cabins. Should be fixed.

Owners should continue to clean Spin Filter in Sandfilter "MONTHLY" during spring, summer & fall.

\*\*SAMPLING OF BOD, TSS & FECAL COUNT WAS PERFORMED AT THIS TIME FOR COMPLIANCE INSPECTION PURPOSES ONLY AND IS NOT REQUIRED FOR EACH MAINTENANCE & MONITORING SERVICE.

YOUR OPERATING PERMIT RENEWED IN 2007 SHOULD BE VALID THRU MAY 31, 2012. THE NEXT MAINTENANCE SHOULD BE PERFORMED IN 2012



6/16/2010

# Analysis Report

June 14, 2010

## REPORT TO:

A.M. & ASSOCIATES, INC.  
MIKE O'KEEFFE  
29465 442ND LANE  
PALISADE MN 56469-

## INVOICE TO:

A.M. & ASSOCIATES, INC.  
29465 442ND LANE  
PALISADE MN 56469-

Date Sampled: 6/2/2010  
Time Sampled: 11:10  
Date Rcvd-Brnd: 6/2/2010  
Time Rcvd-Brnd: 12:28

Sampled by: MIKE O'KEEFFE  
Sample Type: WW  
Recv Temp: 5.1 C

LOCATION:  
DOUBLE E RESORT

SITE / ANALYTE	Analyzed Value	MCL	Analytical Method	Analysis Date/Time	Analyst	Code #
SAND FILTER EFFLUENT						
BOD (5 DAY), MG/L-C	2.3		SM 5210 B-01 online	6/2/2010	NT	04010B
FECAL COLIFORM, COLONIES/100 ML-C	44	200 Colonies	SM 9222 D (m-FC)-97 online	6/2/2010 15:20	TZ	04010B
RESIDUE, NONFILTERABLE (TSS), MG/L-C	LESS THAN 4.0		USGS I-3765-85	6/3/2010	TZ	04010B

Approved By:

Date Approved:

Sara Ahlers, Laboratory Director

A.W. Research Laboratories is Certified by the Minnesota Department of Public Health and follows approved methods and procedures. Minnesota Laboratory Certification # 027-035-135. All data generated using certified methods noted as -C, all data generated using non-certified methods noted as -NC, and all analyts for which certification is unavailable -NA. The results above relate only to the samples tested. This report must not be reproduced, except in full, without the written approval of the laboratory. Under the Safe Drinking Water Act (SDWA), EPA sets legal limits on the levels of certain contaminants in drinking water-these limits are indicated as Maximum Contaminant Levels of MCL on the report.

**~End of Analysis**

**AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING**

**209 Second Street, NW  
Aitkin, Minnesota 56431**

PH: (218) 927-7342  
FX: (218) 927-4372



August 9, 2010

RE: Renewed Operating Permit

To Whom It May Concern:

This letter is to inform you that your Operating Permit (No. 106) has been renewed until May 31, 2012. You should note that all renewal dates that were formerly on December 31 have been moved forward to allow your Operation and Maintenance provider suitable time to complete the monitoring report.

Please adhere to your monitoring and maintenance contract including monitoring your water use. Failure to do so would violate the agreement to operate your system and could void the operating permit. You should contact your Operation and Maintenance provider directly with questions that you may have during the year.

Thank you for your good stewardship and we hope that your system continues to operate well, protecting groundwater for you and the environment.

Sincerely,

Pete Gansen  
Aitkin County Planning & Zoning and  
Environmental Services

**AITKIN COUNTY ENVIRONMENTAL SERVICES**

**OPERATING PERMIT FOR WASTEWATER  
TREATMENT AND DISPERSAL**

**OPERATING PERMIT #:** 106

**FEE:** 100

**PERMITTEE:** Double E Homeowners Assoc. Attn: Debbie Frank

**PHONE:** (507) 843-4914

**ADDRESS:** RR#2 Box 409  
Mazeppa, MN 55956-

**ZONING PERMIT #** 30261

**PARCEL #:** 35-1-087100

**ISSUE DATE:** 5/31/2010

**RENEW DATE:** 5/31/2012

**LEGALDESCRIPTION:** Lot 10 Blk 1 less Part Ln Doc# 224366 Simmons Double E

Aitkin County Environmental Services authorizes the Permittee to operate a wastewater treatment and dispersal system located on the above described property in accordance with the requirements of this permit.

This permit is effective on the issuance date identified above.

This permit and the authorization to treat and disperse from the above system shall expire on the above expiration date. The Permittee is not authorized to discharge after the date of expiration. The Permittee shall submit such information and forms as required by Aitkin County Environmental Services no later than thirty (30) days prior to the expiration date. When the required information is submitted and approved by Aitkin County Environmental Services, the permit may be renewed. This permit is not transferable from owner to owner.

I hereby certify with my signature as the permittee that I understand the provisions of this permit including the maintenance and monitoring requirements. I agree to indemnify and hold Aitkin County harmless from all loss, damages, costs and charges that may be incurred by use of this system and if I fail to comply with the provisions of this Operating Permit. If I sell this property during the life of the permit, I will inform the new owner(s) of the permit requirements and the need to renew the permit.

*Debbie Frank (Secretary-Treasurer)*

Signature of Permittee

*6-25-12*

Date

*H. Hunz*

Signature of Permitting Authority

*7-31-12*

Date

If you have any questions regarding this permit, including the specific permit requirements, permit reporting or permit compliance status, please contact Aitkin County Environmental Services at 218-927-7342.

*6/26/12 CK# 1265, Receipt# 374180*

*7.30.12  
OK to move to a 5yr  
All Pete.*

**MONTHLY LOG  
WATER USE READINGS  
2010 – May 2012**

**2010**

Nov 2009 – March 2010	220
April	3830
May	9490
June	10950
July	12830
August	11690
September	9200
October	4190
<hr/> TOTAL	62400

**2011**

Nov 2010 – April 2011	170
May	8120
June	7550
July	16440
August	10490
September	11275
October	4060
<hr/> TOTAL	58105

**2012**

Nov 2011 – Mar 2012	170
April	3600
May	6290
Through June 17	5010



**A. M. & Associates, Inc.**

29465 442<sup>nd</sup> Lane  
Palisade, MN 56469  
(218) 768-4430

**Michael D. O'Keeffe**

**SEPTIC SYSTEMS  
DESIGNS \* INSPECTIONS \* MAINTENANCE  
MPCA #1357**

---

May 31, 2012

DoubleE Homeowners Association  
c/o Debbie Frank  
374 1st Avenue South  
Mazeppa, MN 55956

Parcel# 32-0-031500

Dear Deb,

Your Septic System is performing as it should. Therefore we are recommending to Aitkin County that your Operating Permit continue to be renewed every 5 years. This means the Operating Permit you are about to renew will be good until May 31<sup>st</sup> 2017.

We are also recommending that routine Maintenance be performed on your system every other year.

The ground water infiltration issue into the tanks should be fixed to ensure the long term performance of the Sand Filter and the Drip Irrigation,

You should also continue to clean the Spin Filter in the Sand Filter, monthly, during the spring, summer and fall.

If you have any questions, please feel free to give me a call.

Sincerely,



Michael O'Keeffe  
(218) 768-4430

cc Aitkin County Planning & Zoning

**MAINTENANCE, MONITORING AND INSPECTION REPORT  
FOR INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**June 2010 thru May 2012**

Property Owner(s):	<b>DoubleE Homeowners Assoc.</b>	Site Address:	<b>Round Lake</b>
Home Address:	<b>c/o Debbie Frank 374 1st Avenue South Mazeppa, MN 55956</b>	Township:	<b>Waukenabo</b>
Phone:	<b>(507) 251-6019 (cell)</b>	Parcel Code:	<b>32-0-031500</b>

**DESCRIPTION OF INDIVIDUAL SEWAGE TREATMENT SYSTEM**

**30' x 30' OSI SANDFILTER WITH DRIP IRRIGATION & TIME DOSING**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and are not in use during the winter months;

- a) Cabin #s 2, 4, 6, 8 and 10
- b) Shower House
- c) 8 Trailers

Sewage will gravity from the Cabin #s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon Lift Tank.

Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank.

Sewage will gravity from the Trailers into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank.

Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI Sand Filter at a MAXIMUM dosage of 1000 gpd for Pretreatment. (Sand Filter is sized for 1000 gpd)

The Pretreated Liquids will pump at a MAXIMUM dosage of 1000 gpd, from the Sand Filter into a 2000 sq foot dispersal area containing 1000 feet of Drip Irrigation. (Drip Irrigation field is sized for 1000 gpd).

Installation Date: 2003                      Installer: MARK RITTER                      Phone#: 218-927-4125

**JUNE 2010 THRU MAY 2012 MAINTENANCE & MONITORING RESULTS**

**Date Maintained: 05/30/2012**

<b>CONTROL/ALARM PANEL</b>	<b>RESULTS</b>
1. Check pump operations in manual mode	<b>Good</b>
2. Check timer settings	<b>N/A</b>
3. Record elapsed time meter and counter readings.	<b>N/A</b>
4. Confirm operation of audible and visual alarms	<b>Delayed</b>
5. Test Pump Amperage	<b>Good</b>

**JUNE 2010 THRU MAY 2012 MAINTENANCE & MONITORING RESULTS**

<b>LIFT PUMPING STATION</b>	<b>RESULTS</b>
1. Verify no leaks in riser(s)	<b>Good</b>
2. Inspect splice box for moisture and secure connections	<b>Good</b>
3. Verify condition of and correct operation of all floats	<b>Good</b>
4. Verify neat wrap of float cords	<b>Good</b>
5. Pull pump and clean intake screen if necessary	<b>Good</b>
6. Check general appearance	<b>Good</b>

<b>EFFLUENT FILTERS/PUMP SCREENS</b>	<b>RESULTS</b>
1. Check effluent filter for buildup of biomat growth.	<b>Good</b>
2. Clean (if needed)	<b>CLEANED</b>

<b>SEPTIC TANKS</b>	<b>RESULTS</b>
1. Measure sludge and scum level	<b>Good</b>
2. Tank(s) should be pumped if the sludge layer is closer than 12" to the bottom of the inlet baffel or whenever the scum is closer than 3" to the bottom of the outlet baffel.	<b>Not necessary at this time.</b>
3. Check general appearance	<b>Good</b>

<b>PRETREATMENT DEVICE</b>	<b>RESULTS</b>
1. Inspect for ponding; assess character and color of biomat	<b>Good</b>
2. Test pressurization of laterals (squirt test)	<b>Good</b>
3. Verify proper orifice position, equal spray under orifices no clogged orifices	<b>Good</b>
4. Check for odors: adjust recirculating time (if necessary)	<b>Good</b>
5. Clean and flush manifold (if necessary)	<b>Good</b>
6. Re-check squirt height (if necessary)	<b>Good</b>
7. Inspect the appearance of the wastewater inside the unit for color and turbidity.	<b>CLEAR</b>

<b>DISPERSAL FIELD</b>	<b>RESULTS</b>
1. Inspect for visible signs of failure (surface discharge, soggy ground, wet spots, settling, etc.)	<b>No signs of failure.</b>
2. Check for required separation	<b>Good</b>

<b>MISCELLANEOUS</b>	<b>RESULTS</b>
1. Review water usage from water meter records.	

**JUNE 2010 THRU MAY 2012 MAINTENANCE & MONITORING RESULTS**

COMMENTS: Spring start-up included pumping excess ground water out of some of the tanks due to infiltration due to lots of rain. This year with the huge amount of rain in a short period of Time, additional pumping of the tanks was needed. After the pumping of the tanks, the the system is able to absorb the excess groundwater without damage.

\*\*\* The ground water infiltration issue into the tanks should be fixed to ensure the long term performance of the Sand Filter and Drip Field.

Owners should continue to clean Spin Filter in Sandfilter "MONTHLY" during spring, summer & fall.

The Control Panel was REPLACED on 5/24/2012.

ALL COMPONENTS OF THE SAND FILTER AND DRIP IRRIGATION SYSTEM ARE OPERATING AS DESIGNED.

A.M. & ASSOCIATES RECOMMENDS THE OPERATING PERMIT YOU ARE ABOUT TO RENEW BE VALID FOR 5 YEARS.

THEREFORE, THE OPERATING PERMIT RENEWAL DUE MAY 31, 2012 SHOULD BE GOOD FOR JUNE 1, 2012 THRU MAY 31, 2017.

A.M. & ASSOCIATES ALSO RECOMMENDS THAT ROUTINE MAINTENANCE BE PERFORMED EVERY OTHER YEAR. THE NEXT MAINTENANCE WILL BE PERFORMED DURING THE SUMMER OF 2014.



5/31/2012

# AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING

209 Second Street, NW  
Aitkin, Minnesota 56431

PH: (218) 927-7342  
FX: (218) 927-4372



July 31, 2012

RE: Renewed Operating Permit

To Double E Homeowners Association:

This letter is to inform you that your Operating Permit (No. 106) has been renewed until May 31, 2017 based on the recommendation from Michael O'Keefe.

Please adhere to your monitoring and maintenance contract including monitoring your water use. Failure to do so would violate the agreement to operate your system and could void the operating permit. You should contact your Operation and Maintenance provider directly with questions that you may have during the year.

Thank you for your good stewardship and we hope that your system continues to operate well, protecting groundwater for you and the environment.

Sincerely,

*Kristi K.*

Aitkin County Planning & Zoning and  
Environmental Services



## Septic Check

Septic System Management Services

AUG 24 2016

AUG 25 2016

8/11/2016

Aitkin County Environmental Services  
209 Second Street NW  
Aitkin, MN 56431

Operating Permit #106  
Parcel # 35-1-088301

Double E Homeowners Association  
38203 – 486<sup>th</sup> Lane  
Palisade MN 56469

Aitkin County Environmental Services,

Septic Check has inspected the septic system for the property noted above. We recommend that the operating permit renewal continue to be every 5 years. Standard maintenance will still be completed for the property annually. The owners currently clean and maintain filters in the system several times every summer while the system is operating.

The documents attached include a septic system compliance inspection form, septic tank inspection reports, effluent sampling data, and annual water meter readings from the owners. Based on our site visit and inspection of the system and its testing data, we have concluded the system is in compliance with all state and Aitkin County operating permit and system compliance requirements.

If Aitkin County has any questions regarding the performance or the results of the maintenance activities, please reach us at 888-983-2447.

Thank you,

A handwritten signature in blue ink, appearing to read "Brian Koski".

Brian Koski

CC. Double E HOA

**Protecting Your Investment and Everyone's Environment**

6074 Keystone Rd. • Milaca, MN 56353

(320) 983-2447 • (320) 983-2151 • (888) 983-2447 • [www.SepticCheck.com](http://www.SepticCheck.com) • [Info@SepticCheck.com](mailto:Info@SepticCheck.com)

*A Division of WEX Companies, Inc.*



**Minnesota Pollution Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# Compliance Inspection Form

## Existing Subsurface Sewage Treatment Systems (SSTS)

Doc Type: Compliance and Enforcement

**Inspection results** based on Minnesota Pollution Control Agency (MPCA) requirements and attached forms – additional local requirements may also apply.

Submit completed form to Local Unit of Government (LUG) and system owner within 15 days

For local tracking purposes:

### System Status

System status on date (mm/dd/yyyy): 8/11/2016

**Compliant – Certificate of Compliance**  
*(Valid for 3 years from report date, unless shorter time frame outlined in Local Ordinance.)*

**Noncompliant – Notice of Noncompliance**  
*(See Upgrade Requirements on page 3.)*

**Reason(s) for noncompliance (check all applicable)**

- Impact on Public Health (Compliance Component #1) – Imminent threat to public health and safety
- Other Compliance Conditions (Compliance Component #3) – Imminent threat to public health and safety
- Tank Integrity (Compliance Component #2) – Failing to protect groundwater
- Other Compliance Conditions (Compliance Component #3) – Failing to protect groundwater
- Soil Separation (Compliance Component #4) – Failing to protect groundwater
- Operating permit/monitoring plan requirements (Compliance Component #5) – Noncompliant

### Property Information

Parcel ID# or Sec/Twp/Range: 35-1-088301

Property address: 38203 486<sup>th</sup> Lane Pallisade MN 56469

Reason for inspection: Property Transfer

Property owner: Double E Homeowners Association

Owner's phone: \_\_\_\_\_

or

Owner's representative: Doug Christianson

Representative phone: 507-421-9380

Local regulatory authority: Aitkin County

Regulatory authority phone: 218-927-7342

Brief system description: Multiple septic tanks to Sand Filter and drip irrigation drainfield.

### Comments or recommendations:

The HOA services and maintains the system regularly.

### Certification

I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.

Inspector name: Brian Koski

Certification number: 7989

Business name: Septic Check

License number: 2624

Inspector signature:

Phone number: 320-983-2447

### Necessary or Locally Required Attachments

- Soil boring logs
- System/As-built drawing
- Forms per local ordinance
- Other information (list): \_\_\_\_\_

**1. Impact on Public Health – Compliance component #1 of 5**

**Compliance criteria:**

System discharges sewage to the ground surface.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System discharges sewage to drain tile or surface waters.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System causes sewage backup into dwelling or establishment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Any "yes" answer above indicates the system is an imminent threat to public health and safety.**

Comments/Explanation:

**Verification method(s):**

- Searched for surface outlet
- Searched for seeping in yard/backup in home
- Excessive ponding in soil system/D-boxes
- Homeowner testimony (See Comments/Explanation)
- "Black soil" above soil dispersal system
- System requires "emergency" pumping
- Performed dye test
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

**2. Tank Integrity – Compliance component #2 of 5**

**Compliance criteria:**

System consists of a seepage pit, cesspool, drywell, or leaching pit. <i>Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sewage tank(s) leak below their designed operating depth. If yes, which sewage tank(s) leaks:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Any "yes" answer above indicates the system is failing to protect groundwater.**

Comments/Explanation:

See attached septic tank pumping and inspection reports from Gobels Sewer Service.

**Verification method(s):**

- Probed tank(s) bottom
- Examined construction records
- Examined Tank Integrity Form (Attach)
- Observed liquid level below operating depth
- Examined empty (pumped) tanks(s)
- Probed outside tank(s) for "black soil"
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

**3. Other Compliance Conditions – Compliance component #3 of 5**

- a. Maintenance hole covers are damaged, cracked, unsecured, or appear to be structurally unsound.  Yes\*  No  Unknown
- b. Other issues (electrical hazards, etc.) to immediately and adversely impact public health or safety.  Yes\*  No  Unknown  
**\*System is an imminent threat to public health and safety.**

Explain:

Some of the plastic septic tank lids were cracked and damaged by the sun/UV rays. However they did appear to be structurally sound and could hold the weight of an adult. If the condition of the lids changes, i would recomened replacing them for safey reasons.

- c. System is non-protective of ground water for other conditions as determined by inspector .  Yes\*  No  
**\*System is failing to protect groundwater.**

Explain:



**4. Soil Separation – Compliance component #4 of 5**

**Date of installation:** 7/5/2003  Unknown  
(mm/dd/yyyy)

**Shoreland/Wellhead protection/Food beverage lodging?**  Yes  No

**Compliance criteria:**

For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment:  Yes  No

Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock.

Non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment:  Yes  No

Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.\*

"Experimental", "Other", or "Performance" systems built under pre-2008 Rules; Type IV or V systems built under 2008 Rules (7080, 2350 or 7080.2400 (Advanced Inspector License required))  Yes  No

Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock.

**Verification method(s):**

Soil observation does not expire. Previous soil observations by two independent parties are sufficient, unless site conditions have been altered or local requirements differ.

- Conducted soil observation(s) (Attach boring logs)
- Two previous verifications (Attach boring logs)
- Not applicable (Holding tank(s), no drainfield)
- Unable to verify (See Comments/Explanation)
- Other (See Comments/Explanation)

**Comments/Explanation:**

**Indicate depths or elevations**

A. Bottom of distribution media	100.0
B. Periodically saturated soil/bedrock	98.5
C. System separation	1.5
D. Required compliance separation*	12"

\*May be reduced up to 15 percent if allowed by Local Ordinance.

**Any "no" answer above indicates the system is failing to protect groundwater.**

**5. Operating Permit and Nitrogen BMP\* – Compliance component #5 of 5  Not applicable**

Is the system operated under an Operating Permit?  Yes  No **If "yes", A below is required**

Is the system required to employ a Nitrogen BMP?  Yes  No **If "yes", B below is required**

BMP = Best Management Practice(s) specified in the system design

**If the answer to both questions is "no", this section does not need to be completed.**

**Compliance criteria**

- a. Operating Permit number: 106  Yes  No  
Have the Operating Permit requirements been met?
- b. Is the required nitrogen BMP in place and properly functioning?  Yes  No

**Any "no" answer indicates Noncompliance.**

**Upgrade Requirements (Minn. Stat. § 115.55)** An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.

# Goble's Sewer Service Inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association

Septic/Lift serving RV park

Site address: 38192 486th Lane

Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

None

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:

Gaylen Goble

Observation date:

September 25, 2015

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

## **Goble's Sewer Service** inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
Septic/Lift serving the bath house.

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo

Approx. age:

Lift station (how many): Yes(1)

### **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

None

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Gaylen Goble

Observation date:  
September 25, 2015

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

## **Goble's Sewer Service** inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
350 Gallon Lift on SW Corner of Property

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete

Approx. size (gallons): 350 Lift

Approx. age:

Lift station (how many): Yes(1)

### **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

None

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Gaylen Goble

Observation date:  
August 11, 2016

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

## **Goble's Sewer Service** inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or Installer

Current septic tank owner: Double E Homeowners Association  
Tanks on East End of Cabins

Site address: 38192 486th Lane  
Palsade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/350 Combo and 750 Lift

Approx. age:

Lift station (how many): Yes(1)

### **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

Tabs on Tank Lid are broken off - installed safety screws to secure cover.

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Gaylen Goble

Observation date:  
August 11, 2016

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System Inspector or installer

Current septic tank owner: Double E Homeowners Association

Tanks on NW end of Cabins  
Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo and 1000 Lift

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

## **Defects are listed below:**

## **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Gaylen Goble

Observation date:  
August 11, 2016

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

# Additional Soil Observation Logs

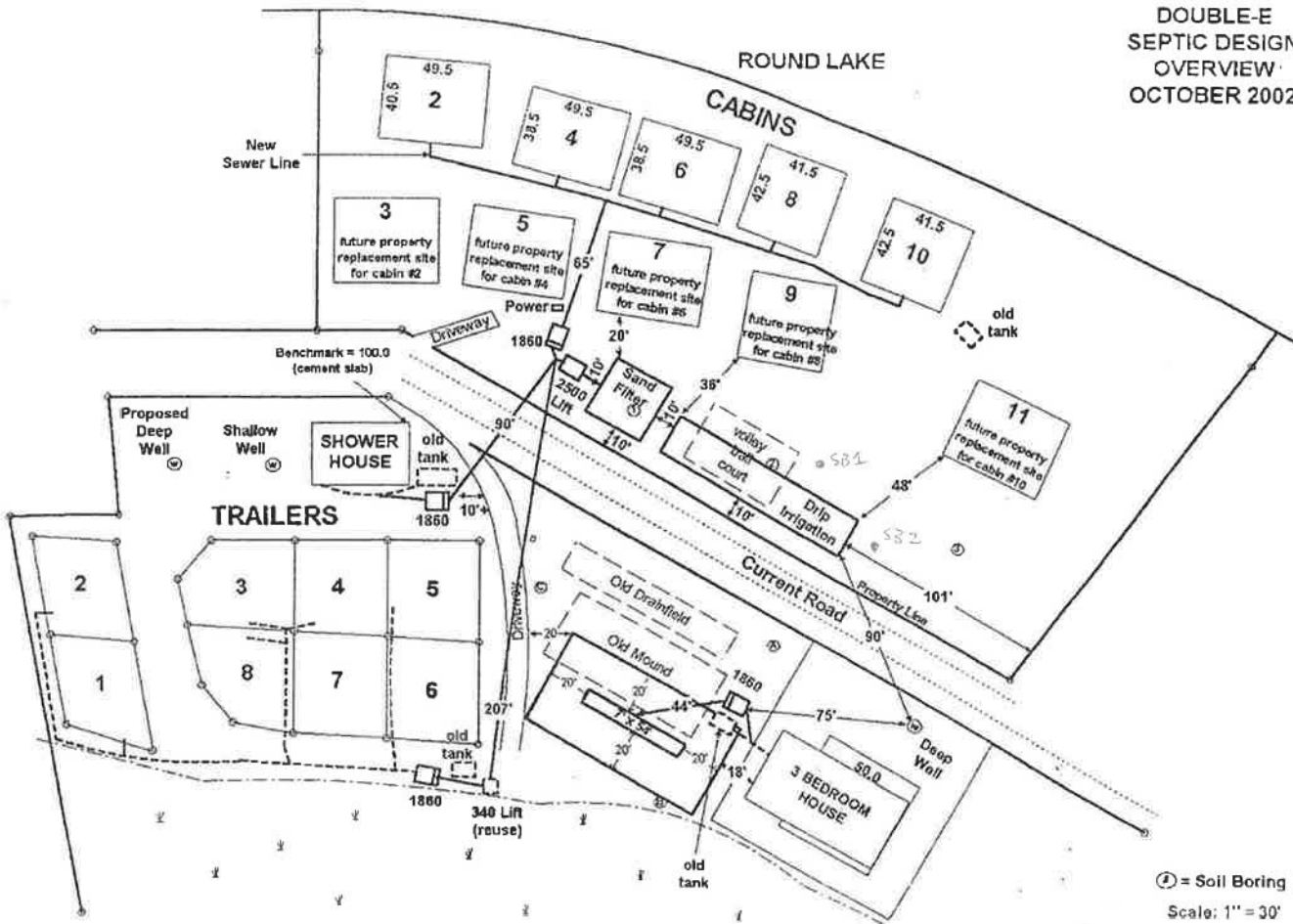
Project ID: #REF!



Client/ Address:		Double E HOA 486th lane Pallisade			Legal Description/ GPS:					
Soil parent material(s): (Check all that apply) <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Loess <input type="checkbox"/> Till <input type="checkbox"/> Alluvium <input type="checkbox"/> Bedrock <input type="checkbox"/> Organic Matter										
Landscape Position: (check one) <input type="checkbox"/> Summit <input type="checkbox"/> Shoulder <input type="checkbox"/> Back/Side Slope <input type="checkbox"/> Foot Slope <input checked="" type="checkbox"/> Toe Slope								Slope shape:		linear
Vegetation:		lawn		Soil survey map units:		Slope%:		1.0	Elevation:	
Weather Conditions/Time of Day:				sunny				Date:		08/11/16
Observation #/Location:		Soil boring 1				Observation Type:		Auger		
Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure			
							Shape	Grade	Consistence	
10	Sandy Loam		10YR 3/2				Granular	Weak	Loose	
16	Sandy Loam		10YR 5/4	7.5YR 4/8	Concentrations, depletions.		Granular	Weak	Friable	
Comments:										

Observation #/Location:		soil boring 2				Observation Type:		Auger		
Depth (in)	Texture	Rock Frag. %	Matrix Color(s)	Mottle Color(s)	Redox Kind(s)	Indicator(s)	Structure			
							Shape	Grade	Consistence	
8	Sandy Loam		10YR 3/2				Granular	Weak	Loose	
14	Sandy Loam		10YR 5/4				Blocky	Weak	Friable	
18	Clay Loam		10YR 5/6	7.5YR 4/6	Concentrations, elevated.		Blocky	Moderate	Firm	
Comments:										

DOUBLE-E  
SEPTIC DESIGN  
OVERVIEW  
OCTOBER 2002





## WATER AT LAKE READINGS

YEAR	GALS USED
2011	58105
2012	31795
2013	54305
2014	48835
2015	53041

8/11/14

Recirc Pump CC: 10421 ETM: 157.21

SAND Filter pump CC: 4929 ETM: 763.9



Pace Analytical Services, Inc.  
 315 Chestnut Street  
 Virginia, MN 55792  
 (218) 742-1042

**ANALYTICAL RESULTS**

Project: Double E Acres  
 Pace Project No.: 1272594

<b>Sample: Double E Acres</b>		<b>Lab ID: 1272594001</b>	<b>Collected: 08/11/16 14:00</b>		<b>Received: 08/11/16 18:04</b>		<b>Matrix: Water</b>	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>SM5210B, cBOD, Low Level</b>		Analytical Method: SM 5210B						
Carbonaceous BOD, 5 day	ND	mg/L	2.4	1.2	08/12/16 14:38	08/17/16 13:30		B2
<b>MBIO 9222D Fecal Coli (Water)</b>		Analytical Method: SM 9222D Preparation Method: SM 9222D						
Fecal Coliforms	96	CFU/100 mL	2.0	2	08/12/16 08:33	08/13/16 10:05		u3
<b>USGS I-3765 TSS</b>		Analytical Method: USGS I-3765						
Total Suspended Solids	2.0	mg/L	1.0	1		08/16/16 11:27		

**REPORT OF LABORATORY ANALYSIS**

This report shall not be reproduced, except in full,  
 without the written consent of Pace Analytical Services, Inc..

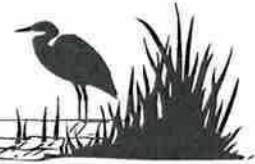
**AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING**

**209 Second Street, NW Room# 100**

**Aitkin, Minnesota 56431**

PH: (218) 927-7342

FX: (218) 927-4372



*4-25-17 Return to  
Sender - UTF  
5-4-17 Resent*

4/18/2017

Double E Homeowners Assoc. Att  
RR#2 Box 409  
Mazeppa, MN 55956-

Re: Operating Permit # 106  
Zoning Permit #30261  
Parcel ID#35-1-087100

Dear Permittee:

This letter is to remind you that the Operating Permit for the septic system at the above mentioned parcel is due for renewal this year by May 31st . The enclosed Operating Permit was issued as part of the permit for your septic system and must be renewed.

The Operating Permit for the current renewal period has been enclosed. If there are no changes to the Operating Permit, please submit the following to the County Office:

- the signed Operating Permit Contract
- \$100 permit renewal fee (\$150 fee after May 31st)
- the results of performance and maintenance activities
- a table of your water usage

We have checked all boxes above for information we have received. Please note, only complete applications will be accepted.

If your designer finds the system is operating in conformance with the Operating Permit, please have him/her submit a letter requesting to have the Operating Permit renewed for a longer period or to request terminating the Operating Permit. Our Office will determine if this is possible.

The performance and life expectancy of this septic system is dependent on regular monitoring and maintenance of all parts of the system. Your compliance with the Operating Permit will ensure continued performance of the system. Failure to perform the monitoring and maintenance of this system could cause costly repairs and/or replacement of this system. In addition, failure to comply with the monitoring, maintenance and reporting of the septic system is a violation of the Aitkin County's Subsurface Sewage Treatment System Ordinance and could be prosecuted by the County Attorney's Office.

All information required must be submitted to this Office by the expiration date referenced on your Operating Permit. We are notifying you to give you sufficient time to contact your designer and make any necessary changes, have samples taken and tested, tanks pumped, and any other activities that were required to meet the requirements of your permit.

Please contact our office with any questions regarding the renewal of this permit.

Sincerely,

Aitkin County Planning & Zoning

# AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING

209 Second Street, NW Room# 100

Aitkin, Minnesota 56431

PH: (218) 927-7342

FX: (218) 927-4372



**Past Due Renewal As Of: 5 /31/2017**

6/5/2017

Double E Homeowners Assoc. Attn: Debbi

RR#2 Box 409

Mazeppa, MN 55956-

Re: Operating Permit # 106

Zoning Permit # 30261

Parcel ID# 35-1-087100

This letter is to remind you that the Operating Permit for the septic system at the above mentioned parcel of land has expired. The enclosed Operating Permit was issued as part of the permit for your septic system and must be renewed.

The Operating Permit for the current renewal period has been enclosed. If there are no changes to the Operating Permit, please submit the following to the County Office:

- the signed Operating Permit Contract
- the \$100 permit renewal fee
- the results of performance and maintenance activities
- a table of your water usage

We have checked all boxes above for information we have received. Please note, only complete applications will be accepted.

If your designer finds the system is operating in conformance with the Operating Permit, please have him/her submit a letter requesting to have the Operating Permit renewed for a longer period or to request terminating the Operating Permit. Our Office will determine if this is possible.

The performance and life expectancy of this septic system is dependent on regular monitoring and maintenance of all parts of the system. Your compliance with the Operating Permit will ensure continued performance of the system. Failure to perform the monitoring and maintenance of this system could cause costly repairs and/or replacement of this system. In addition, failure to comply with the monitoring, maintenance and reporting of the septic system is a violation of the Aitkin County Subsurface Sewage Treatment System Ordinance and could be prosecuted by the County Attorney's Office.

All information required must be submitted to this Office ASAP. We are notifying you to give you sufficient time to contact your designer and make any necessary changes, have samples taken and tested, tanks pumped, and any other activities that were required to meet the requirements of your permit.

Please contact our office with any questions regarding the renewal of this permit.

Sincerely,

Aitkin County Planning & Zoning

**AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING**  
209 Second Street, NW Room# 100  
Aitkin, Minnesota 56431

PH: (218) 927-7342  
FX: (218) 927-4372



**Past Due Renewal As Of: 5 /31/2017**

6/5/2017

Double E Homeowners Assoc. Attn: Debbi  
RR#2 Box 409  
Mazeppa, MN 55956-

Re: Operating Permit # 106  
Zoning Permit # 30261  
Parcel ID# 35-1-087100

This letter is to remind you that the Operating Permit for the septic system at the above mentioned parcel of land has expired. The enclosed Operating Permit was issued as part of the permit for your septic system and must be renewed.

**Aitkin County  
Environmental Services**

209 2nd Street N.W. • Room 100  
Aitkin, Minnesota 56431

NEOPOST  
06/06/2017  
US POSTAGE \$0



04

DOUBLE E Homeowners ASSH  
RR#2 Box 409  
Mazeppa MN 55956

NEXIE 000 DE 1 0000/00

RETURN TO SENDER  
NO SUCH NUMBER  
UNABLE TO FORWARD

559560000  
56431-1257

RC 56431125775 \*007R-0107R-A



# SEPTIC CHECK

EXPERT SERVICE. LASTING VALUE. CLEAN WATER

5/15/2020

Aitkin County Environmental Services  
209 Second Street NW  
Aitkin, MN 56431

Operating Permit #106  
Parcel # 35-1-088301

Double E Homeowners Association  
38203 – 486<sup>th</sup> Lane  
Palisade MN 56469

Aitkin County Environmental Services,

Septic Check has inspected the septic system for the property noted above. We recommend that the operating permit renewal continue to be every 5 years. Standard maintenance will still be completed for the property annually. The owners currently clean and maintain filters in the system several times every summer while the system is operating.

The documents attached include a septic system compliance inspection form, septic tank inspection reports, effluent sampling data, and annual water meter readings from the owners. Based on our site visit and inspection of the system and its testing data, we have concluded the system is in compliance with all state and Aitkin County operating permit and system compliance requirements.

If Aitkin County has any questions regarding the performance or the results of the maintenance activities, please reach us at 888-983-2447.

Thank you,



Brian Koski  
CC. Double E HOA



**Minnesota Pollution Control Agency**

520 Lafayette Road North  
St. Paul, MN 55155-4194

# Compliance Inspection Form

## Existing Subsurface Sewage Treatment Systems (SSTS)

Doc Type: Compliance and Enforcement

**Inspection results** based on Minnesota Pollution Control Agency (MPCA) requirements and attached forms – additional local requirements may also apply.

Submit completed form to Local Unit of Government (LUG) and system owner within 15 days

For local tracking purposes:

### System Status

System status on date (mm/dd/yyyy): 5/15/2020

**Compliant – Certificate of Compliance**  
*(Valid for 3 years from report date, unless shorter time frame outlined in Local Ordinance.)*

**Noncompliant – Notice of Noncompliance**  
*(See Upgrade Requirements on page 3.)*

**Reason(s) for noncompliance (check all applicable)**

- Impact on Public Health (Compliance Component #1) – Imminent threat to public health and safety
- Other Compliance Conditions (Compliance Component #3) – Imminent threat to public health and safety
- Tank Integrity (Compliance Component #2) – Failing to protect groundwater
- Other Compliance Conditions (Compliance Component #3) – Failing to protect groundwater
- Soil Separation (Compliance Component #4) – Failing to protect groundwater
- Operating permit/monitoring plan requirements (Compliance Component #5) – Noncompliant

### Property Information

Parcel ID# or Sec/Twp/Range: 35-1-088301

Property address: 38203 486<sup>th</sup> Lane Pallisade MN 56469 Reason for inspection: Property Transfer

Property owner: Double E Homeowners Association Owner's phone: \_\_\_\_\_  
or

Owner's representative: Doug Christianson Representative phone: 507-421-9380

Local regulatory authority: Aitkin County Regulatory authority phone: 218-927-7342

Brief system description: Multiple septic tanks to Sand Filter and drip irrigation drainfield.

**Comments or recommendations:**

The HOA services and maintains the system regularly.

### Certification

*I hereby certify that all the necessary information has been gathered to determine the compliance status of this system. No determination of future system performance has been nor can be made due to unknown conditions during system construction, possible abuse of the system, inadequate maintenance, or future water usage.*

Inspector name: Brian Koski Certification number: 7989

Business name: Septic Check License number: 2624

Inspector signature: \_\_\_\_\_ Phone number: 320-983-2447

### Necessary or Locally Required Attachments

- Soil boring logs
- System/As-built drawing
- Forms per local ordinance
- Other information (list): \_\_\_\_\_

**1. Impact on Public Health – Compliance component #1 of 5**

**Compliance criteria:**

System discharges sewage to the ground surface.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System discharges sewage to drain tile or surface waters.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
System causes sewage backup into dwelling or establishment.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Any “yes” answer above indicates the system is an imminent threat to public health and safety.**

Comments/Explanation:

**Verification method(s):**

- Searched for surface outlet
- Searched for seeping in yard/backup in home
- Excessive ponding in soil system/D-boxes
- Homeowner testimony (See Comments/Explanation)
- “Black soil” above soil dispersal system
- System requires “emergency” pumping
- Performed dye test
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

**2. Tank Integrity – Compliance component #2 of 5**

**Compliance criteria:**

System consists of a seepage pit, cesspool, drywell, or leaching pit. <i>Seepage pits meeting 7080.2550 may be compliant if allowed in local ordinance.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Sewage tank(s) leak below their designed operating depth. If yes, which sewage tank(s) leaks:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

**Any “yes” answer above indicates the system is failing to protect groundwater.**

Comments/Explanation:  
See attached septic tank pumping and inspection reports from Gobels Sewer Service.

**Verification method(s):**

- Probed tank(s) bottom
- Examined construction records
- Examined Tank Integrity Form (Attach)
- Observed liquid level below operating depth
- Examined empty (pumped) tanks(s)
- Probed outside tank(s) for “black soil”
- Unable to verify (See Comments/Explanation)
- Other methods not listed (See Comments/Explanation)

**3. Other Compliance Conditions – Compliance component #3 of 5**

- a. Maintenance hole covers are damaged, cracked, unsecured, or appear to be structurally unsound.  Yes\*  No  Unknown
- b. Other issues (electrical hazards, etc.) to immediately and adversely impact public health or safety.  Yes\*  No  Unknown  
**\*System is an imminent threat to public health and safety.**

**Explain:**

Some of the plastic septic tank lids were cracked and damaged by the sun/UV rays. However they did appear to be structurally sound and could hold the weight of an adult. If the condition of the lids changes, i would recomened replacing them for saftey reasons.

- c. System is non-protective of ground water for other conditions as determined by inspector .  Yes\*  No  
**\*System is failing to protect groundwater.**

**Explain:**



**4. Soil Separation – Compliance component #4 of 5**

Date of installation: 7/5/2003  Unknown  
(mm/dd/yyyy)

Shoreland/Wellhead protection/Food beverage lodging?  Yes  No

**Compliance criteria:**

For systems built prior to April 1, 1996, and not located in Shoreland or Wellhead Protection Area or not serving a food, beverage or lodging establishment:  Yes  No

Drainfield has at least a two-foot vertical separation distance from periodically saturated soil or bedrock.

Non-performance systems built April 1, 1996, or later or for non-performance systems located in Shoreland or Wellhead Protection Areas or serving a food, beverage, or lodging establishment:  Yes  No

Drainfield has a three-foot vertical separation distance from periodically saturated soil or bedrock.\*

"Experimental", "Other", or "Performance" systems built under pre-2008 Rules; Type IV or V systems built under 2008 Rules (7080.2350 or 7080.2400 (Advanced Inspector License required))  Yes  No

Drainfield meets the designed vertical separation distance from periodically saturated soil or bedrock.

**Verification method(s):**

Soil observation does not expire. Previous soil observations by two independent parties are sufficient, unless site conditions have been altered or local requirements differ.

- Conducted soil observation(s) (Attach boring logs)
- Two previous verifications (Attach boring logs)
- Not applicable (Holding tank(s), no drainfield)
- Unable to verify (See Comments/Explanation)
- Other (See Comments/Explanation)

**Comments/Explanation:**

**Indicate depths or elevations**

A. Bottom of distribution media	
B. Periodically saturated soil/bedrock	
C. System separation	
D. Required compliance separation*	

\*May be reduced up to 15 percent if allowed by Local Ordinance.

**Any "no" answer above indicates the system is failing to protect groundwater.**

**5. Operating Permit and Nitrogen BMP\* – Compliance component #5 of 5  Not applicable**

Is the system operated under an Operating Permit?  Yes  No If "yes", A below is required

Is the system required to employ a Nitrogen BMP?  Yes  No If "yes", B below is required

BMP = Best Management Practice(s) specified in the system design

**If the answer to both questions is "no", this section does not need to be completed.**

**Compliance criteria**

a. Operating Permit number: <u>106</u> Have the Operating Permit requirements been met?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
b. Is the required nitrogen BMP in place and properly functioning?	<input type="checkbox"/> Yes <input type="checkbox"/> No

**Any "no" answer indicates Noncompliance.**

**Upgrade Requirements** (Minn. Stat. § 115.55) An imminent threat to public health and safety (ITPHS) must be upgraded, replaced, or its use discontinued within ten months of receipt of this notice or within a shorter period if required by local ordinance. If the system is failing to protect ground water, the system must be upgraded, replaced, or its use discontinued within the time required by local ordinance. If an existing system is not failing as defined in law, and has at least two feet of design soil separation, then the system need not be upgraded, repaired, replaced, or its use discontinued, notwithstanding any local ordinance that is more strict. This provision does not apply to systems in shoreland areas, Wellhead Protection Areas, or those used in connection with food, beverage, and lodging establishments as defined in law.

# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
350 Gallon Lift on SW Corner of Property

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete

Approx. size (gallons): 350 Lift

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

None

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Jeremy Goble

Observation date:  
May 12, 2020

Note: This tank appears water tight within the normal operating range of the tank, there are no guarantees that it will keep ground water out.

Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
Septic/Lift serving the bath house.

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

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# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
Tanks on NW end of Cabins

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo and 1000 Lift

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

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None

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Jeremy Goble

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# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
Tanks on East End of Cabins

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/350 Combo and 750 Lift

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

Check to see if the baffles are still functional.

Replace the access cover.

### **Defects are listed below:**

None

### **Recommendations or comments:**

Tank is ok and does not appear to leak.

Observed by:  
Jeremy Goble

Observation date:  
May 12, 2020

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# Goble's Sewer Service inc.

1037 1st Street NW  
Aitkin, MN 56431 License # 455  
927-6175 800-713-5234  
MPCA registered company

**Septic tank fact sheet:** Septic Check  
System inspector or installer

Current septic tank owner: Double E Homeowners Association  
Septic/Lift serving RV park

Site address: 38192 486th Lane  
Palisade MN 56469

Phone number: 2188514998

Tank type: Precast Concrete Combo

Approx. size (gallons): 1000/500 Combo

Approx. age:

Lift station (how many): Yes(1)

## **Our procedure for inspecting a septic tank is as follows.**

Open the access cover.

Clean the septic and lift tanks removing all of the solid and liquid waste.

Do a fresh water rinse (not available during cold winter months).

Look at the septic & or lift tank from the access opening looking for cracks, breaks or other signs of deterioration.

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Tank is ok and does not appear to leak.

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Jeremy Goble

Observation date:  
May 12, 2020

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Note: This is a septic tank fact sheet, not a complete sewer system inspection form and does not replace a complete sewer inspection for transfer of property. In some instances, this form may be used in conjunction with a sewer inspection.

## Analysis Report

May 20, 2020

**REPORT TO:**

Septic Check, Inc.  
 6074 Keystone Road  
 Milaca MN 56353

**INVOICE TO:**

Septic Check, Inc.  
 Brian  
 6074 Keystone Road  
 Milaca MN 56353-

Date Rcvd-Brnd: 5/13/2020  
 Time Rcvd-Brnd: 16:32

Sampled By: Eric Otte  
 Sample Type: WW  
 Recv Temp°C: 2.7 on ice

**LOCATION:**  
 Double E Assoc.

SITE / ANALYTE	Sample Date/Time	Analyzed Value	Units	Reporting Limit	Analytical Method	Analysis Date/Time	Analyst	Code #
Dose Tank	5/12/2020 @ 10:30							
Carbonaceous BOD, 5 Day		< 2.00	mg/L	2	HACH 10360 REV. 1.2	5/14/20 15:10	SZ	032022
Fecal Coliform		< 100	MPN/100mL	1	COLILERT-18 (FECAL COLI.)	5/13/20 16:58	MH	032022
Residue-Nonfilterable (TSS)		< 1.00	mg/L	1	USGS I-3765-85	5/19/20 10:44	CJS	032022

Samples received past holding time, analyzed at clients request.

Approved By:



Date Approved: 5/20/2020

Sara Ahlers, Laboratory Director

A.W. Research Laboratories, Inc. is Certified by the Minnesota Department of Public Health and follows approved methods and procedures. Minnesota Laboratory Certification # 027-035-135. All data generated using certified methods noted as -C, all data generated using non-certified methods noted as -NC, and all analytes for which certification is unavailable - NA. The results above relate only to the samples tested. This report must not be reproduced, except in full, without the written approval of the laboratory. We appreciate your feedback, please email us at awlab@awlab.com with questions or comments. Thank you!

~End of Analysis Report~

# Additional Soil Observation Logs



Project ID: #REF!

Client/ Address: Double E HOA 486th Lane Fallsaside		Legal Description/ GPS:				
Soil parent material(s): (Check all that apply) <input checked="" type="checkbox"/> Outwash <input type="checkbox"/> Lacustrine <input type="checkbox"/> Loess <input type="checkbox"/> Till <input type="checkbox"/> Alluvium <input type="checkbox"/> Bedrock <input type="checkbox"/> Organic Matter						
Landscape Position: (check one) <input type="checkbox"/> Summit <input type="checkbox"/> Shoulder <input type="checkbox"/> Back/Side Slope <input type="checkbox"/> Foot Slope <input checked="" type="checkbox"/> Toe Slope/Slope shape						
Vegetation	lawn	Soil survey map units	Elevation:			
Weather Conditions/Time of Day: sunny		Slope%	1.0			
Observation #/Location: Soil boring 1		Date: 08/11/16				
Observation Type: Auger						
Depth (in)	Texture	Rock Frag. %	Indicator(s)	Shape	Grade	Consistence
10	Sandy Loam			Granular	Weak	Loose
16	Sandy Loam		Concentrations, depletions.	Granular	Weak	Friable
Comments						

Observation #/Location: soil boring 2		Observation Type: Auger				
Depth (in)	Texture	Rock Frag. %	Indicator(s)	Shape	Grade	Consistence
8	Sandy Loam			Granular	Weak	Loose
14	Sandy Loam			Blocky	Weak	Friable
18	Clay Loam		Concentrations, elevated	Blocky	Moderate	Firm
Comments						





## Aitkin County, Minnesota

### 625—Sandwich loamy sand

#### Map Unit Setting

*National map unit symbol:* gjj4  
*Elevation:* 980 to 1,310 feet  
*Mean annual precipitation:* 20 to 27 inches  
*Mean annual air temperature:* 37 to 41 degrees F  
*Frost-free period:* 95 to 105 days  
*Farmland classification:* Not prime farmland

#### Map Unit Composition

*Sandwich and similar soils:* 85 percent  
*Minor components:* 15 percent  
*Estimates are based on observations, descriptions, and transects of the mapunit.*

#### Description of Sandwich

##### Setting

*Landform:* Swales on moraines  
*Down-slope shape:* Linear  
*Across-slope shape:* Concave  
*Parent material:* Sandy outwash over loamy till

##### Typical profile

*E - 0 to 6 inches:* loamy sand  
*Bw,E' - 6 to 34 inches:* sand  
*2E/B,2Btg - 34 to 55 inches:* loam  
*2Cg - 55 to 60 inches:* loam

##### Properties and qualities

*Slope:* 0 to 2 percent  
*Depth to restrictive feature:* More than 80 inches  
*Natural drainage class:* Poorly drained  
*Capacity of the most limiting layer to transmit water (Ksat):*  
Moderately high (0.20 to 0.60 in/hr)  
*Depth to water table:* About 6 inches  
*Frequency of flooding:* None  
*Frequency of ponding:* None  
*Calcium carbonate, maximum in profile:* 20 percent  
*Available water storage in profile:* Low (about 5.8 inches)

##### Interpretive groups

*Land capability classification (irrigated):* None specified  
*Land capability classification (nonirrigated):* 3w  
*Hydrologic Soil Group:* C/D  
*Forage suitability group:* Level Swale, Low AWC, Acid  
(G088XN007MN)  
*Hydric soil rating:* Yes

### Minor Components

#### **Alstad and similar soils**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### **Dusler and similar soils**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### **Northwood and similar soils**

*Percent of map unit:* 3 percent

*Landform:* Depressions

*Hydric soil rating:* Yes

#### **Cutaway and similar soils**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

#### **Stuntz and similar soils**

*Percent of map unit:* 3 percent

*Hydric soil rating:* No

### Data Source Information

Soil Survey Area: Aitkin County, Minnesota

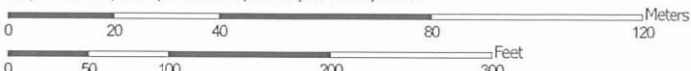
Survey Area Data: Version 20, Sep 16, 2019

Soil Map—Aitkin County, Minnesota



Soil Map may not be valid at this scale.

Map Scale: 1:1,360 if printed on A portrait (8.5" x 11") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84



Natural Resources  
Conservation Service

Web Soil Survey  
National Cooperative Soil Survey

5/15/2020  
Page 1 of 3

## MAP LEGEND

-  Area of Interest (AOI)
-  Area of Interest (AOI)
- Soils**
-  Soil Map Unit Polygons
-  Soil Map Unit Lines
-  Soil Map Unit Points
- Special Point Features**
-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot
-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features
- Water Features**
-  Streams and Canals
- Transportation**
-  Rails
-  Interstate Highways
-  US Routes
-  Major Roads
-  Local Roads
- Background**
-  Aerial Photography

## MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service  
 Web Soil Survey URL:  
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Aitkin County, Minnesota  
 Survey Area Data: Version 20, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 12, 2014—Aug 23, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

## Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
458B	Menahga loamy sand, 1 to 6 percent slopes	0.4	3.7%
546	Lupton muck	3.3	33.6%
625	Sandwick loamy sand	5.2	52.6%
W	Water	1.0	10.0%
<b>Totals for Area of Interest</b>		<b>9.9</b>	<b>100.0%</b>

**AITKIN COUNTY ENVIRONMENTAL SERVICES-PLANNING & ZONING**

**307 Second Street NW, Room 219**

**Aitkin, Minnesota 56431**

PH: (218) 927-7342

FX: (218) 927-4372



5/11/2022

Re: Operating Permit #106  
Zoning Permit # 30261  
Parcel #35-1-088301

Double E Homeowners c/o Nicole Droher  
N4929 1168th St  
Prescott, WI 54021

Dear Permittee:

This letter is to inform you that your Operating Permit has been renewed until 9/30/2025 and the Operating Permit renewal period has been moved to a 5 YEAR based on the recommendation from your Operating and Maintenance provider.

Please adhere to your monitoring and maintenance contract including monitoring your water use. Failure to do so would violate the agreement to operate your system and could void the operating permit. You should contact your Operation and Maintenance provider directly with questions that you may have during the year.

Thank you for your good stewardship and we hope that your system continues to operate well, protecting groundwater for you and the environment.

Sincerely,

*Shannon Wiebusch*

Aitkin County Planning & Zoning

**A. DESCRIPTION OF WASTEWATER TREATMENT AND DISPERSAL SYSTEM**

This ISTS is to serve 3 locations on the property of which is strictly seasonal and not in use during the winter months. Sewage will gravity from the Cabin #'s into a new precast 1860 Combination Septic Tank. The liquids will gravity from this tank into a new precast 2500 gallon lift tank. Sewage will gravity from the Shower House into a new precast 1860 Combination Tank. The liquids will gravity from this tank into the main 2500 gallon Lift Tank. Sewage will gravity from the trailers into a new precast 1860 Combo septic tank. The liquids will gravity from this tank into the existing 340 Lift Tank. From there the liquids will be pumped to the main 2500 gallon Lift Tank. Liquids in the main 2500 gallon Lift Tank will be Time Dosed into the 30' x 30' OSI

**B. PERFORMANCE STANDARD REQUIREMENTS:**

During the period beginning on the effective date (issuance date) of this permit and lasting until this permit's expiration date, the Permittee is authorized to discharge from the wastewater treatment unit to subsurface dispersal. No surface discharge is permitted. The following parameters must be monitored and the results must be found within the compliance limits.

PARAMETER	COMPLIANCE LIMIT	SAMPLE LOCATION	SAMPLE FREQUENCY	SAMPLE TYPE	REPORTING FREQUENCY
Separation	1 ft beneath rock layer	Dispersal System	ANNUALLY	Measure in Field	Every 5 Years
Flow	1000 gpd	Water Meter	MONTHLY	Record on Log Sheet	Every 5 Years

**C. MAINTENANCE REQUIREMENTS:**

PARAMETER	LOCATION	FREQUENCY
Flow	Water Meter	MONTHLY
Pressurization of Laterals	Sand Filter	EVERY 5 YEARS
Pumps, Floats & Alarms	Lift Tanks, pump vault	EVERY 5 YEARS
Solids Removal & Water Tightness	Septic tank(s)	EVERY 5 YEARS
Surface Discharge	Dispersal System	EVERY 5 YEARS
Vegetative Cover	Dispersal System	EVERY 5 YEARS

**D. MONITORING AND REPORTING REQUIREMENTS:**



Monitoring results obtained during each calendar year shall be submitted no later than May 31st of that year to:

Aitkin County Environmental Services  
307 2nd Street NW, Room 219  
Aitkin, MN 56431

The monitoring reports shall be signed by the Permittee. Copies are to be retained by the Permittee. Any sampling and laboratory testing procedures shall be performed in accordance with Standard Methods at a Minnesota Department of Health approved laboratory. All sampling and testing costs shall be the responsibility of the Permittee. Monitoring plans may be modified as necessary and reapproved by Aitkin County Environmental Services.

The Permittee shall notify Aitkin County Environmental Services within thirty (30) days when monitoring results do not meet the monitoring plan requirements of this permit.

The owner has secured the services of **Septic Check** as the Service Provider or qualified individual for this system. The Service Provider or qualified individual is hereby authorized to report the required monitoring data and routine maintenance service records to Aitkin County Environmental Services.

#### **E. MITIGATION PLAN:**

1. If weeping problems should occur; lower dosing rate, lower water usage, increase distribution and absorption area. 2. If OSI Sand Filter experiences problems, fix or repair at recommendations of Manufacturer or replace. 3. If Drip Irrigation experiences problems, fix or repair at recommendations of Manufacturer, or replace. 4. A different or another Performance or Other System may be installed at the owner's expense. 5. If in the event that this system should fail and if there is no other ISTS option available, then Holding Tanks must be installed, to be pumped by Licensed Pumper. A contract must be entered into with a Licensed Pumper.