Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 N Street • Lincoln NE 68510-1514
Phone: 402-441-8643

A

Permit Number HS001678

Onsite Wastewater Treatment System Permit Application

Include Form B and C. Submit correct fee with this Application

☑ Septic System ☐ Lagoon ☐ Other (Refer to Form C)

PLEASE PRINT OR TYPE

A. Onsite System Location

Address* 1331 SW 84th (no rural route) City Lincoln, NE Zip 68532

Legal Description 27 10 5 48

1/4 | 1/4 | Section | Township | Range | Subdivison | Addition | Block | Lot

PID _____ *Approx. Address (If to be determined) _____

B. Owner

Name Aaron Caldwell Signature _____

Address 1331 SW 84th City/State/Zip Lincoln NE 68532

Home Phone 402-570-7523 Work Phone _____

C. Certified Installer

Name: Troy Ross Signature TR

Address 2451 County Rd A City/State/Zip Denton NE 68339

Work Phone 402-610-1809

D. Engineer

☐ **Check and complete if engineer designed system** P.E. License Number: _____

Designer Name _____ Firm _____ Work Phone _____

E. This system will serve a

☐ Residential Dwelling Number of Bedrooms _____ Whirlpool Bathtub? ☐ Yes ☑ No Total Acres 12

Garbage Grinder? ☐ Yes ☑ No

☑ Commercial Establishment/Other Facility Specify Storage/Garage Design flow in gallons per day 100

Type of Wastewater ☑ Domestic ☐ Non-Domestic

DO NOT WRITE BELOW THIS LINE

Approval Process

1. Health Department

Site visits _____ Date rec'd _____ **ACTION** ☐ Approved ☐ Disapproved

Date frwd _____ Signature _____

Comments _____

2. Supt. Bldg. Insp. or Village Clerk

Comments _____ Date rec'd _____ **ACTION** ☐ Approved ☐ Disapproved

Date frwd _____ Signature _____

3. City or County Engineer

Comments _____ Date rec'd _____ **ACTION** ☐ Approved ☐ Disapproved

Date frwd _____ Signature _____

Installation Final Written Approval

By _____

Date _____

Business Office Use Only
Date Received 5-30-18 Amount Paid $405
Received By JAB Cash/Check No. 2588

White - Health Department Yellow - Engineer Pink - Building & Safety

Lincoln-Lancaster County Health Department (LLCHD)
Environmental Public Health Division
3131 "O" Street • Lincoln, NE 68510-1514
Phone: 402-441-8643

B

Permit Number:

Onsite Wastewater Treatment System
Soil Evaluation Report

PLEASE PRINT OR TYPE

Onsite System Location

Address 1331 SW 84th (no rural route) City Lincoln NE, Zip 68532

Owner Aaron Caldwell Address 1331 SW 84th

Date of Tests 5/29 to 5/30 Weather: Precipitation Some Rain Temperature 78°

Percolation Test Data Table

A.	B.	C.	D.	E.	F.	G.	H.	I.	J.	K.	L.	M.	N.
		Saturation/Swelling Time				Water Level Drop: Last 30 mins of 4 hr or last 10 mins of 1 hr					Results		
		Start		End		Start			End				
Hole No.	Hole Depth(in)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Date (Mo/Da)	Time (Hr/Min)	Initial Water Lev (in.)	Date (Mo/Da)	Time (Hr/Min)	Elapsed Time Interval	Water Level Drop(in)	Percolation Rates (Min/in = mpi)
1	30"	5/29	5:30PM	5/30	12:35	5/30	12:40	6	5/30	1:10	30min	3/4"	35
2	30"	5/29	↓	↓	12:35	↓	↓	6	↓	↓	↓	1 1/4	25
3	30"	5/29	↓	↓	12:35	↓	↓	6	↓	↓	↓	1	30
								6					
								6					
								6					
								6					
								6					

Person Conducting Percolation Test

Name: Troy Ross

Phone: 402-610-1809

Address 2451 County Rd A Denton NE 68339

Soil type (NRCS Maps/Other) Silty Loam

Groundwater Depth

Sum of Percolation Rates: 90

Average of Rates: 30

Rate Used for Calculation: 30

DO NOT WRITE BELOW THIS LINE

Reviewing Action

Comments (Soil type, groundwater, floodplain, etc.)

Signature of Reviewing Official Date

CONDUCTING A PERCOLATION TEST

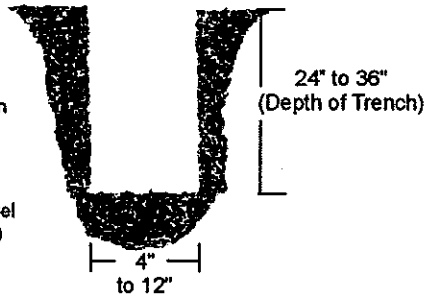
READ THOROUGHLY

DIAGRAM OF PERCOLATION TEST PROCEDURE

Natural Ground Level

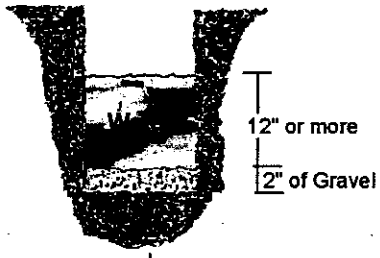
I. Number, Size and Location of Test Holes

- A. Dig six or more holes spaced evenly over proposed drainfield.
- B. Scratch smeared areas on the bottom 12" of hole.
- C. Remove loose material from hole.
- D. Add 2" layer of clean gravel in hole. Gravel (1/4"-3/4") may be placed in a nylon mesh bag so it can be used again.



II. Saturation/Swelling of Soil

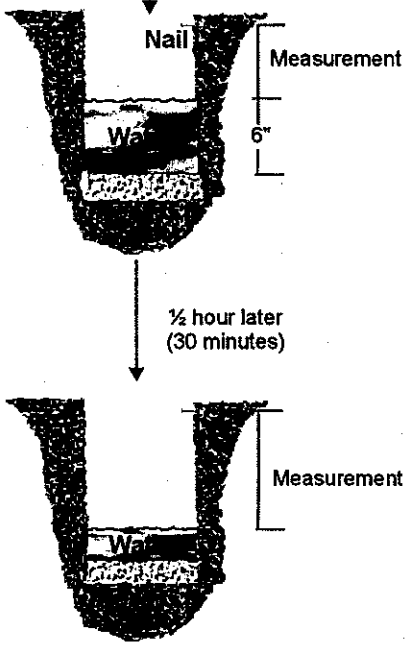
- A. Fill hole with at least 12" of clear water.
- B. **MAINTAIN THIS WATER LEVEL FOR 4 HOURS.**
- C. Record on Form B, Columns A to F
- D. **Must wait 24 hours before beginning Step III.**



24 Hours Later

III. Water Level Drop Measurement (Refer to instructions 4a, b or c)

- A. Adjust water level to 6".
- B. Measure from fixed reference point (nail) to water, or use a percometer.
- C. Record measurement and time on scratch paper.
- D. 30 min. later re-measure and record time.
- E. After each measurement, refill to 6" above gravel.
- F. Continue for 4 hours taking readings evey 30 min. (Refer to 4b for exception)
- G. Last 30 min. reading is used in filing out Form B. Record in Column G through M.



IV. The Department will calculate Percolation Rates.

Instructions

1. Percolation test holes. Percolation tests should be made in 6 or more separate holes spaced uniformly over proposed drainfield. Dig or bore holes 4 to 12" in diameter to the depth of the bottom of drainfield trench. (If sides of hole collapse, a slotted PVC plastic pipe and gravel pack may be needed to support the sides of the hole.) Do not dig holes in soil that is above the plastic limit or where frost is within 12" from the bottom of hole.
2. Preparation of test hole. Scratch any smeared areas on the bottom 12" of hole with nails driven into a 1x2" board to provide a natural soil interface for water to percolate. Remove all loose soil from bottom of hole. Add 2" of clean gravel to protect the bottom from scouring when water is put into hole.
3. Saturation and swelling of the soil. Fill holes with clear water to a depth fo 12" or more above gravel and maintain this water level at least 4 hours (add water as necessary). Do not remove water from holes. Holes should be covered with boards during the 20 hrs. wait before the test begins. Soils with slow permeability or containing greater than 30% clay will require several days saturation for thorough swelling in a dry season. The accuracy of the percolation test depends on thorough saturation and swelling of soil. Sandy soil containing no clay does not swell. The percolation test may proceed immediately if the 12" of water seeps away in 10 min. or less after filling holes twice. Proceed to Step 4c.
4. Measure percolation rate. Measurements must be made 24 hrs after starting saturation/swelling procedure described above. Record results on the front of this form and the Department will complete the calculations.

   a. If water remains in hole after the saturation/ swelling period, adjust depth to 6" above gravel. From a fixed point, measure the drop in water level over a 30 min. period to nearest 1/8". This drop is used to calculate percolation rate.

   b. If no water remains in hole after the saturation/ swelling period, add 6" of clear water above gravel. From a fixed point, measure the drop in water level to nearest 1/8" at 30 min. intervals for 4 hrs. Refill to the 6" level above gravel after each measurement. The drop that occurs during the last 30 min. of the 4 hrs. is used to calculate the percolation rate (when 3 consecutive percolation rates vary by no more than 10%, the test can stop before the end of 4 hr. period).

   c. In sandy soils, or other soils in which t he first 6" of water seeps away in less than 30 min., allow 10 min. between measurements and run the test for 1 hr. The drop that occurs during the last 10 min. of 1 hour is used to calculate the percolation rate. If 6" of water seeps away in less than 10 min., use a stopwatch.
5. Record test results on the front of this form. The average of the percolation rates calculated for all holes in 30 (10) min. will usually be the rate used to size the drainfield. Exceptions are the use of the slowest percolation rate when rates vary more than 20 mpi between holes or when other soil evaluation indicates a problem.

LLCHD reserves the right to witness or perform percolation tests and to required additional soil or groundwater information.

Lincoln-Lancaster County Health Department
Environmental Public Health Division (402) 441-8027
3131 O Street Lincoln, Nebraska 68510-1514

ON-SITE WASTE WATER SYSTEM
CONSTRUCTION - INSTALLATION PERMIT
No. HS001678

System Type: Standard

Situs: 1331 SW 84TH ST, LINCOLN, NE 68532

Issued: 6/5/2018

Expires: 6/5/2019

Description: S27, T10, R5, 6th Principal Meridian, LOT 48 SE

Owner: CALDWELL, MAX A & LORI G
1331 SW 84 ST
LINCOLN, NE 68532

Shavonna M. Lausterer, MPH, CPH, Health Director

Dear Applicant:

The above document is your permit to construct a new On-site Waste Water System at the location listed. Please contact this office once the sytem is complete in order to schedule a final inspection before use.

Shavonna M. Lausterer, MPH, CPH
Health Director

TROY ROSS
2451 COUNTY RD A
DENTON, NE 68339

JUL 16 2018

Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 "N" Street • Lincoln, NE 68510-1514
Phone: 402-441-8022

D

Permit Number: #5001678

Onsite Wastewater Treatment System

As-Built Description and Drawing

Type of Onsite Wastewater System: Lagoon (Skip to Back Page) (Subsurface Septic) Mound

Onsite Wastewater System Location

Address or Legal Description or Parcel Identification Number (PID) 1331 SW 84th

Owner Aaron Caldwell Address Lincoln NE 68532

A. Wastewater Piping

1. Material: Pvc Diameter: 4 in.
2. Distance between dwelling and septic tank: 350' ft.

B. Septic Tank

1. Material: Plastic
2. Capacity: 1500 gal.
3. Depth to top of tank, below unfinished grade: 20 in.
4. Distance to:
   - Well 175 ft.
   - Pressure line _____ ft.
   - Property line 75 ft.
   - Foundation _____ ft

C. Distribution Box or Drop Box

Distance **and** Direction from septic tank: _____ ft. _____

D. Drainfield/Absorption Field (circle one)

Trench Bed

1. Type: Perforated Pipe (Chamberless) Other

Material brand and inside width of Chamberless:
Infiltrator Quick 4 34"

2. Number of Laterals: 2
3. Length of each lateral (linear): ft. 50 ft. 50 ft. _____ ft. _____
4. Drainfield size: 104 sq. ft.
5. Distance to:
   - Well 200' ft.
   - Pressure line _____ ft.
   - Property line 50' ft.
   - Depth of Groundwater _____

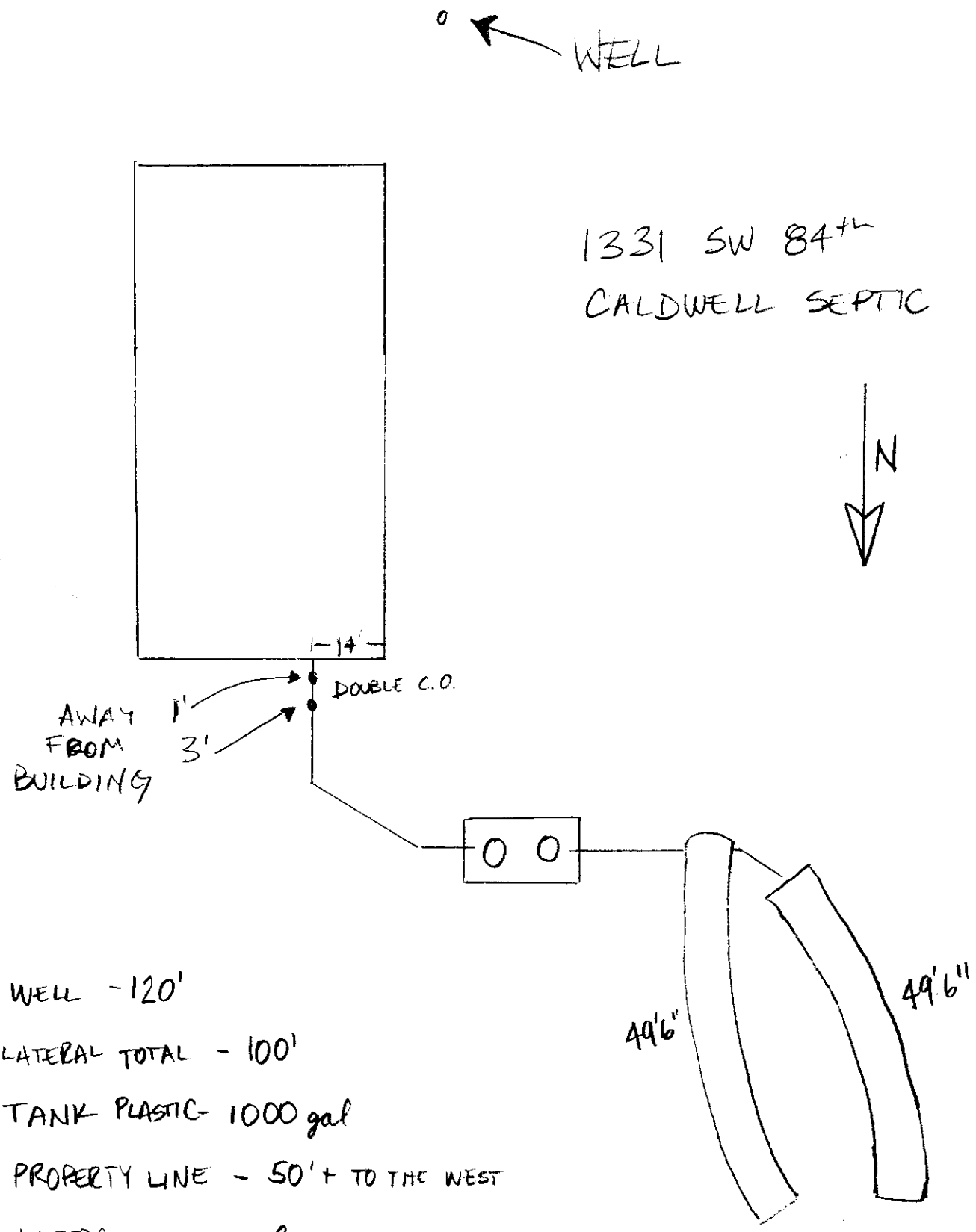
Was the Onsite Waste Water System covered prior to LLCHD inspection? (YES) NO

If Yes, the Certified Professional **must** sign below for final approval:

I swear and affirm that the system complies with Lincoln Municipal Code (LMC) 24.38 and/or County Resolution 02-0030 requirements and that the information and documentation submitted are true and accurate.

Certified Professional Signature _____ Date 5-12-18

Complete As-Built drawing on the back of this form.



WELL - 120'

LATERAL TOTAL - 100'

TANK PLASTIC - 1000 gal

PROPERTY LINE - 50'+ TO THE WEST

LATERAL TOTAL - 2

SEWER PIPE - 4"

BUILDING TO TANK - 34'

C.O. - 12' (E) OF NW CORNER

DEPTH LATERALS - 3'

50' TO PROPERTY LINE

Lincoln-Lancaster County Health Department
Environmental Public Health Division
3140 N Street • Lincoln NE 68510-1514
Phone: 402-441-8643

SCANNED

A

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☑ Septic System ☐ Lagoon ☐ Other (Refer to Form C)

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(no rural route)

Legal Description 27 10 5 48
1/4 1/4 Section Township Range Subdivison Addition Block Lot

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Name Aaron Caldwell Signature _____
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Home Phone 402-570-7523 Work Phone _____

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D. Engineer

☐ **Check and complete if engineer designed system** P.E. License Number: _____
Designer Name _____ Firm _____ Work Phone _____

E. This system will serve a

☐ Residential Dwelling Number of Bedrooms _____ Whirlpool Bathtub? ☐ Yes ☑ No Total Acres 12 4.91
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☑ Commercial Establishment/Other Facility Specify Storage/Garage Design flow in gallons per day 100
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Comments _____
Date rec'd 6/5/18
Date frwd 6/5/18
ACTION ☑ Approved ☐ Disapproved
Signature _____

2. Supt. Bldg. Insp. or Village Clerk
Comments _____
Date rec'd _____
Date frwd _____
ACTION ☐ Approved ☐ Disapproved
Signature _____

3. City or County Engineer
Comments _____
Date rec'd _____
Date frwd _____
ACTION ☐ Approved ☐ Disapproved
Signature _____

Installation Final Written Approval
By _____
Date 6/11/18

Business Office Use Only
Date Received 5-30-18 Amount Paid $405
Received By SAO Cash/Check No. 2980

White - Health Department Yellow - Engineer Pink - Building & Safety