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

A

Permit Number
H5002361

Onsite Wastewater Treatment System
Request for Site Clearance and Permit

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

3 acres or more required for: ☐ Septic System ☒ Lagoon ☐ Other (Refer to Form C)

The undersigned hereby requests site clearance and permit to construct a Wastewater Treatment System in conformance with appropriate regulations.

PLEASE PRINT OR TYPE

A. Onsite System Location

Address 20377 Brooks Circle (no rural route) City Hickman, NE Zip

Legal Description 32 8 7 Salt creek RESERVE 1

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

PID

B. Owner

Name MK Builders Signature

Address City/State/Zip

Home Phone Work Phone

C. Certified Installer

Name: Scott Meeller Signature

Address 1345 N 26th Rd City/State/Zip Syracuse NE 68446

Work Phone 402-430-2946

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 4 Whirlpool Bathtub? ☐ Yes ☒ No Total Acres

Garbage Grinder? ☒ Yes ☐ No

☐ Commercial Establishment/Other Facility Specify Design flow in gallons per day

Type of Wastewater ☐ Domestic ☐ Non-Domestic

DO NOT WRITE BELOW THIS LINE

Approval Process ☐ Municipal Code 24.38 ☐ County Resolution No. 02-30

1. Health Department
Site visits
Comments
Date rec'd
Date frwd
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

Business Office Use Only
Date Received 2-9-22 Amount Paid 450.00
Received By LC Cash/Check No CC7194

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

Form A Updated 1/13

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. HS002361

System Type: Lagoon

Situs: No Site Address Specified

Issued: 2/22/2022

Expires: 2/22/2023

Description: SALT CREEK RESERVE, Lot 5

Owner: MCATEE, SAMANTHA & SPENCER
744 YUKON CT
LINCOLN, NE 68521

Patricia D. Lopez

Patricia D. Lopez, RN, MSN, 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.

Patricia D. Lopez

Patricia D. Lopez, RN, MSN
Health Director

SCOTT MUELLER
1345 N 26 RD
SYRACUSE, NE 68446

SCANNED

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

A

Permit Number
HS0023361

Onsite Wastewater Treatment System
Request for Site Clearance and Permit

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

3 acres or more required for: ☐ Septic System ☒ Lagoon ☐ Other (Refer to Form C)

The undersigned hereby requests site clearance and permit to construct a Wastewater Treatment System in conformance with appropriate regulations.

PLEASE PRINT OR TYPE

A. Onsite System Location

Address 20377 Brooks Circle (no rural route) City Hickman, NE Zip

Legal Description 32 8 7 Salt creek RESERVE 5

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

PID

B. Owner

Name MK Builders Signature

Address City/State/Zip

Home Phone Work Phone

C. Certified Installer

Name: Scott Mueller Signature

Address 1345 N 26th Rd City/State/Zip Syracuse NE 68446

Work Phone 402-430-2946

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 4 Whirlpool Bathtub? ☐ Yes ☒ No Total Acres 3

Garbage Grinder? ☒ Yes ☐ No

☐ Commercial Establishment/Other Facility Specify Design flow in gallons per day

Type of Wastewater ☒ Domestic ☐ Non-Domestic

DO NOT WRITE BELOW THIS LINE

Approval Process ☒ Municipal Code 24.38 ☒ County Resolution No. 02-30

1. Health Department ACTION ☒ Approved ☐ Disapproved

Site visits 8/31/22 – piping not installed 9/2/22 final by NH Date rec'd 2/22/22

Comments – piping installed Date frwd 2/22/22 Signature

2. Supt. Bldg. Insp. or Village Clerk ACTION ☐ Approved ☐ Disapproved

Comments Date rec'd Signature

Date frwd

3. City or County Engineer ACTION ☐ Approved ☐ Disapproved

Comments Date rec'd Signature

Date frwd

Installation Final Written Approval

By Doug Ahlvers

Date 9/7/22

Business Office Use Only

Date Received 2-9-22 Amount Paid 450.00

Received By LC Cash/Check No. CC7194

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

Form A Updated 1-13

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

Exhibit 5

Permit Number: 4500 2361

Onsite Wastewater Treatment System

Inspection Sheet

Date 9/7/22 Legal Description _____

¼ ¼ Section/Township/Range

Onsite System Location

Address (no rural route) 20377 Brooke Circle City _____

Owner _____ Address _____

Mark One: ☒ Dwelling ☐ Non-dwelling

☒ New System ☐ Alteration [☐ Tank Only ☐ Trench Only] ☐ Lateral Only

☐ Temporary modification (Describe problem causing discharge and reason for temporary modification): _____

_____

Drainfield Absorption System:

☒ Lateral ☐ Bed ☐ Non-standard (engineer-designed and NDEQ approved) ☐ Holding Tank ☐ Trench

Total square feet of drainfield 1,440 Sq. Ft. Tank Size _____ gals

Total length of laterals 240 Type of Distribution: ☐ Chamber ☐ Perforated Pipe ☒ Other (describe) E2 flow

No. of Absorption Laterals 4 Width 4.5 + wide trench, gravel filled No. of Drop Boxes _____ Distribution Box _____

Leveling Method Used Laser

Setbacks (Check the Boxes Below if the Required Setback has been Satisfied):

- See "D" + file aerial

Distance From	Private Well	Public Well	Surface Water	Ground water	Pressure Water Lines	Property Lines
Tank (ft)	50 ☐	500 ☐	50 ☐	NA ☐	10 ☐	5 ☐
Field (ft)	100 ☐	500 ☐	50 ☐	4 ☐	25 ☐	5 ☐

Geographical Coordinates to 6 Decimals:

Tank NA

Lateral #1 _____ Lateral #3 _____

Lateral #2 _____ Lateral #4 _____

Comments:

Inspections prior to Final Approval
Initial DC Date 8/30/22 — No piping

Follow-Up NH Date 9/27/22 — piping installed

Follow-Up _____ Date _____

Installation Final Written Approval
By Doug Mues

Date 9/7/22

Field Note Drawing (See Reverse Side):

Address: 1345 N 26th Rd, Syracuse, NE 68446

Location: 20377 Brooks Cir, Hickman, NE

Latitude 40.6120 Longitude -96.6450

Township _____ Range _____ Sec. _____ 1/4 sec. _____

County: Lancaster Area: 3+ Acres

Soil Boring		
	0 - 14"	VDGB Firm SiCL
	14 - 49"	GBr Firm SiCL w/few to mod Rd/Br Mottles
	49 - 87'	GBr SiCL w/few to mod Rd/Br Mottles
	87 - 96"	GBr SiC w/few to mod Rd/Br Mottles

No Evidence of a Seasonal High Water Table Within 8ft of Surface

Test Dates

Start Date	End Date
8/3/22	8/4/22

Test Day Weather

Weather Sunny Temp. 91F

Precipitation None

Percolation test data:

Hole No.	Hole Depth (in.)	Final Percolation Readings: Start Date Mo./Day	Start Time (Hr./Min.)	Start Water Level (in.)	End (Hr./Min.)	End Water Level (in.)	Final Results: Elapsed Time (Min.)	Water Level Drop (in.)	Percolation Rate (Min./Inch)
1	60	8/4/22	2:22 PM	7.20	2:52 PM	6.50	30	0.70	42.9
2	60	8/4/22	2:23 PM	7.35	2:53 PM	6.70	30	0.65	46.2
3	60	8/4/22	2:24 PM	7.40	2:54 PM	6.90	30	0.50	60.0
4	60	8/4/22	2:25 PM	7.25	2:55 PM	6.70	30	0.55	54.5
5	60	8/4/22	2:26 PM	7.6	2:56 PM	7	30	0.60	50.0

Jeffery N. Schoeneck

Jeffery N. Schoeneck, P.E. - E8989
Horizon Envirotech, LLC
1645 County Rd T
Cedar Bluffs, NE 68015
(402) 720-9209
Phone

Sum of Percolation rates = 253.6

Number of test holes = 5

Average of rates in Minutes/inch = 50.7

*If rates vary more than 20 minutes/inch, do not average but use the slowest rate for design purposes.

1440 installed (1400 sq ft Req'd) VGH

Nate C. Hartman

From: Scott Mueller <mueller.trenching@gmail.com>
Sent: Tuesday, September 6, 2022 6:50 PM
To: Nate C. Hartman; Doug R. Smith
Subject: drawings and perk test
Attachments: Scan_0179.pdf

Peak Daily Design Load - 4 Bedroom Home - 500 GPD

Lateral Field Sizing

Avg Soil Percolation Rate - 50.7 min/in
Soil Type - Silty Clay Loam (Generally lower clay content 4-7ft below surface)

Proposed Lateral Design
- Over-excavation of lateral to 5ft and install 24" layer of 47-B sand to raise lateral bottom to acceptable depth.
* Due to weak soil structure, recommend dosing laterals sequencially, to provide adequate resting periods between dosing, and prevent premature soil clogging.
(Use 4-zone K-rain Valve)

Lateral Field Sizing
1,400 sq ft minimum
Propose - (4) Laterals of (3) 12" Diam EZ Flow Bundles X 80ft each = 1,440 Sq Ft Equivalent

Septic Tank Sizing - Propose 2,000 gallons

Dose Tank Size - Propose 1,000 gallon
Dose Volume - Propose (4) Doses of 100 gallons each (maximum per day)

Pump Capacity - Minimum 20 GPM @ 20 ft TDH

Electical Requirements - Pump Requires Dedicated 20 Amp, 110V, 1 Ph Circuit
High water alarm to be on separate circuit.

Prepared By:

Jeffery N. Schoeneck, P.E.
Horizon Envirotech, LLC
1645 Couty Rd T
Cedar Bluffs, NE 68015
402-720-9209
jeffhet@1791.com

Septic System Plan - 20377 Brooks Cir, Hickman, NE

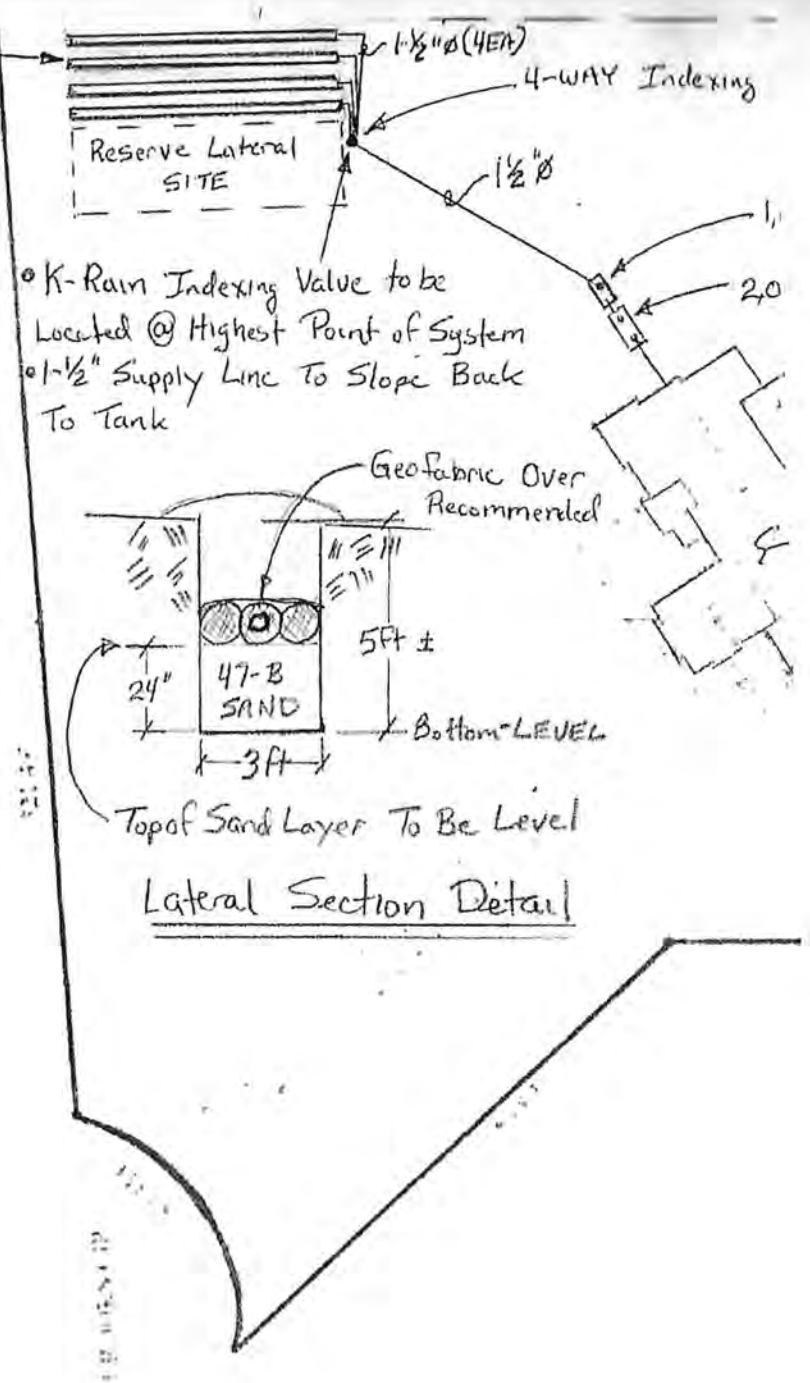
8/8/22

Notes:

1. Orientation & Location of Septic Tank & Pressure Line May Vary Slightly From Shown
2. Do not allow foot traffic on excavated soil trench bottom w/o a min of 6" sand fill in place.
3. Do not work soil when wet to prevent soil smearing
4. Install 24" sand layer in 6 to 8" lifts and lightly compact.
5. Provide a minimum of 2" layer of sand over lateral bundles.
6. Septic Permit and Inspections are Required from Lancaster County Health Department
7. Septic Installation Shall Also Meet Minimum Requirements of NDEQ Title 124 and Shall Be Registered With NDEQ Onsite Department
8. Contractor to Warrant Workmanship Items for a Period of 1-Year (Equipment Warranties Limited To Mfg. Warranty Terms and Coverage)
9. Septic Installation Excavation Back-fill to be Left Slightly Mounded to Allow for Natural Settling (Especially Over Laterals) - Additional Future Grading & Seeding May Be Required
10. Owner To Keep Trees From Growing Within Lateral Field Area.
    ends and manually operating pump until water clears of debris (each lateral).
11. Verify operation of zone valve to each lateral.
12. Verify operation of high water alarm by lifting alarm float.
13. Follow standard pumping schedule for septic tank and dose tank (or as needed).
14. Installation of effluent filter on septic tank outlet or installtion of pressure effluent filter is recommended for longer lateral life - clean as needed.

Prepared By:

Jeffery N. Schoeneck, P.E.
Horizon Envirotech, LLC
1645 Couty Rd T
Cedar Bluffs, NE 68015
402-720-9209



PUMP SELECTION PROCEDURE

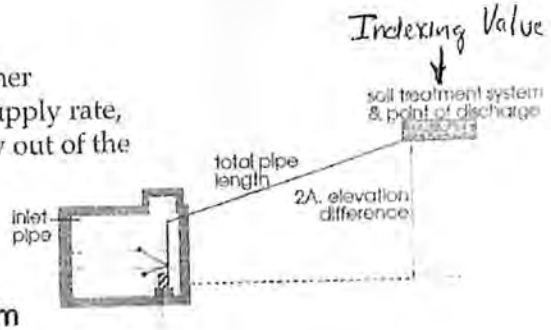
1. Determine pump capacity:

A. Gravity distribution

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

B. Pressure distribution

See pressure distribution work sheet



From A or B Selected pump capacity: 20 **gpm**

2. Determine pump head requirements:

A. Elevation difference between pump and point of discharge?

7 feet

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

0 feet (5.8 ft For K-Rain Valve)

Special Head Requirements	
Gravity Distribution	0 ft
Pressure Distribution	5 ft

C. Calculate Friction loss

1. Select pipe diameter 1.5" in
2. Enter *Figure E-9* with gpm (1A or B) and pipe diameter (C1). Read friction loss in feet per 100 feet from Figure E-9

   Friction Loss = 2.47 ft/100ft of pipe
3. Determine total pipe length from pump discharge to soil treatment discharge point. Estimate by adding 25 percent to pipe length for fitting loss. Total pipe length times 1.25 = equivalent pipe length

   80 feet x 1.25 = 100 feet
4. Calculate total friction loss by multiplying friction loss (C2) in ft/100 ft by the equivalent pipe length (C3) and divide by 100.

   = 2.47 ft/100ft x 100 ÷100 = 2.5 ft

Friction Loss in Plastic Pipe			
	nominal pipe diameter		
flow rate gpm	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

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

7 ft + 5.8 ft+ 2.5 ft =

Total head: 15.3 **feet**

3. Pump selection

A pump must be selected to deliver at least 20 gpm (1A or B) with at least 20 feet of total head (2D)

20377 Brooks C

