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

A

Permit Number
HS002213

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 6245 S 114th St (no rural route) City Lincoln, NE Zip 68526

Legal Description: SW (1/4) NW (1/4) 18 (Section) 9N (Township) 8E (Range) Whispering Creek (Subdivison) 4 (Block) 2 (Lot)

PID 22-18-204-002-000

B. Owner

Name Jeremy Roebke Signature Jeremy Roebke

Address 9110 Merryvale Dr City/State/Zip Lincoln, NE 68526

Home Phone 531-333-8823 Work Phone

C. Certified Installer

Name: Lloyd Jakoubek, Raymond Contracting Inc Signature Lloyd J. Jakoubek

Address 13800 NW 70th St City/State/Zip Raymond, NE 68428

Work Phone 402-890-6009 or 402-783-2663

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 3.55

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 Date rec'd Signature

Date frwd

Comments

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

Date

Business Office Use Only
Date Received 5-10-21 Amount Paid $440 cd
Received By JMD Cash/Check No cc 5040

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: 402-441-8022

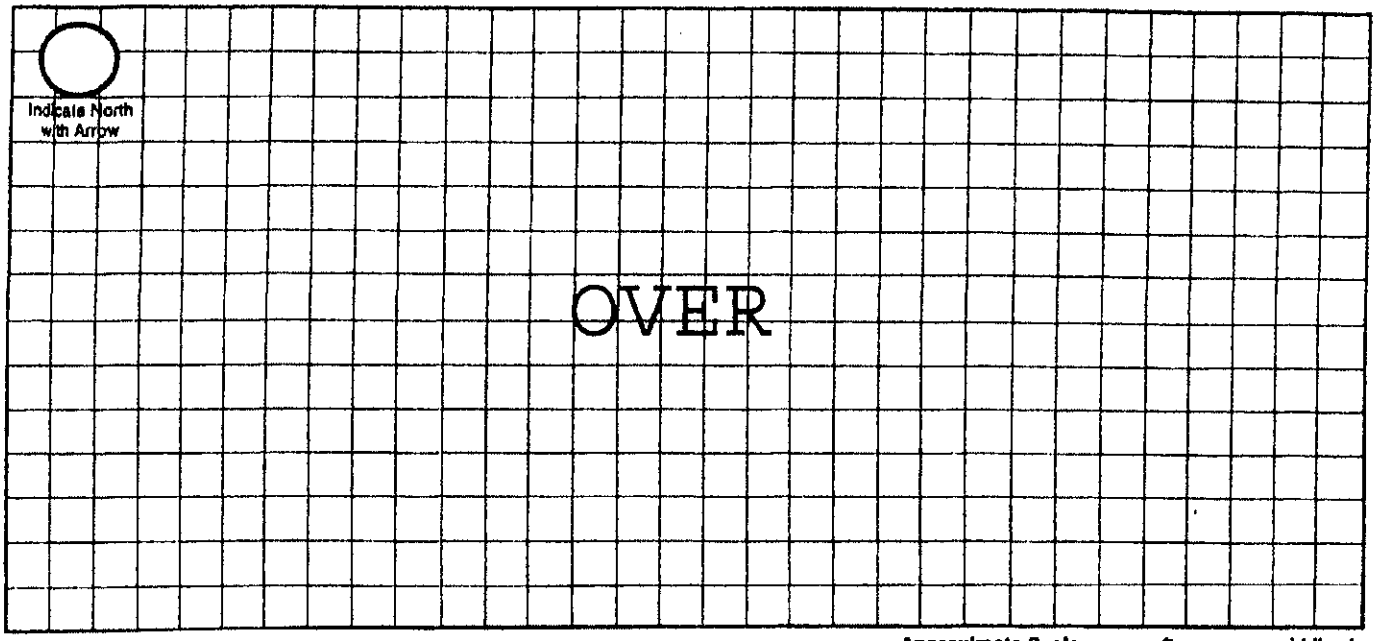
C

Permit Number:

Onsite Wastewater Treatment System

Preliminary Plan Specifications

Draw a plot plan showing onsite system sewer lines, drop of distribution boxes, tank, drainfields, percolation test holes, well, residence, direction of groundwater flow, property lines, and reserve area for replacement onsite system.



Approximate Scale: _____ ft. = _____ grid line/s

A. Onsite System Location

Address (no rural route) 6245 S 114th St City Lincoln NE, Zip 68526

B. Proposed Septic Tank/s

Septic Tank Cap._____ gals Tank Material: ☐ Concrete ☐ Plastic ☐ Other_____ ☒ Lagoon(Max. seepage 1/8" per day)

C. Reserve Area for Replacement Onsite System

☐ Drainfield Absorption Area (percolation test required) ☒ Lagoon

D. Drainfield Absorption System

Percolation Rate_____ (min/inch = mpi) No. of Bedrooms_____ Soil Type_____ Land Slope_____%

☐ Trench ☐ Bed ☐ Non-Standard (engineer designed and NDEQ approved Total Square feet of drainfield_____sq.ft.

Total length of laterals_____ Type of distribution: ☐ Perforated pipe ☐ Half-Round ☐ Chamber ☐ Other

No. of absorption trenches_____ Width_____ No. of drop boxes_____ Distrubtion Box_____

No. of absorption beds_____ Width_____ No of Distribution lines per bed_____

E. Setbacks Check the Boxes Below if the Required Setback has been Satisfied

Distance From	Private Well	Public Well	Surface Water	Gound Water	Pressure Water Lines	Property Lines	Foundations Yours	Foundations Neighbors	All Other Setbacks
Tank (ft)	50 ☐	500 ☐	50 ☐	NA ☐	25 ☐	20 ☐	15 ☐	25 ☐	☐
Field (ft)	100 ☐	500 ☐	50 ☐	4 ☐	30 ☐	20 ☐	30 ☐	40 ☐	☐
Lagoon (ft)	100 ☒	500 ☒	50 ☒	N/A ☒	30 ☒	50 ☒	100 ☒	200 ☒	☒

F. Required Signatures

[redacted] TradeMark Builders Date 5/7/2021

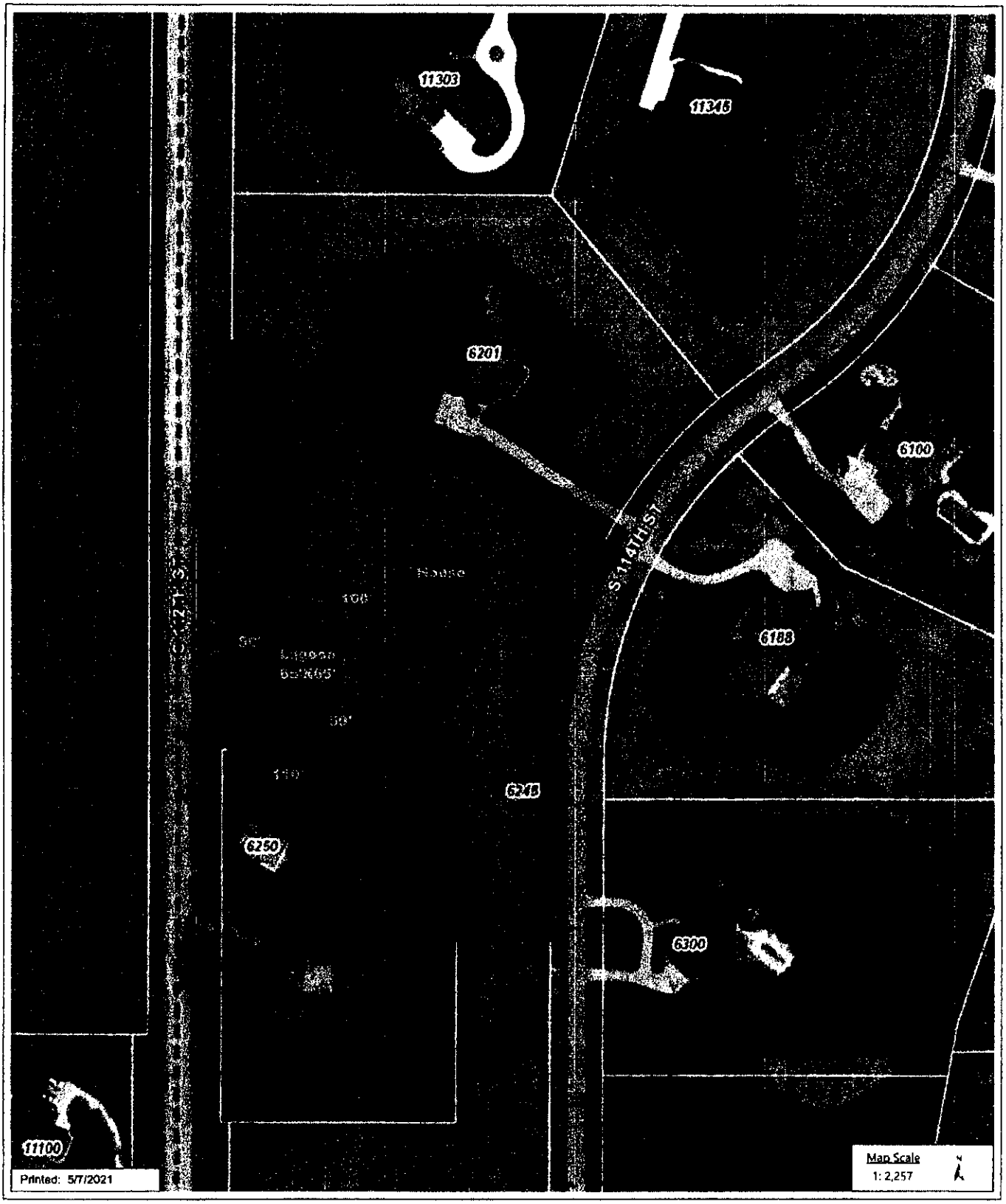
Installer Raymond Conrady Date 5/10/21

Onsite Form C 12-06

6245 S 114th St, Lincoln, NE 68526 **Builder Initials**

GIS Viewer

City of Lincoln\Lancaster County GIS Map



DISCLAIMER: The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments. If you have questions or comments regarding the data displayed on this map, please email assessor@lancaster.ne.gov and you will be directed to the appropriate department.

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. HS002213

System Type: Lagoon

Situs: No Site Address Specified

Issued: 5/11/2021

Expires: 5/11/2022

Description: WHISPERING CREEK ADDITION, BLOCK 4, Lot 2

Owner: ROEBKE, JEREMY
9110 MERRYVALE DR
LINCOLN, NE 68526

Patricia D. Lopez

Patricia D. Lopez, RN, MSN, Interim 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

RAYMOND CONTRACTING INC
13800 NW 70TH ST
RAYMOND, NE 68428

SCANNED

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

A

Permit Number H5002213

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 6245 S 114th St (no rural route) City Lincoln, NE Zip 68526

Legal Description SW 1/4 NW 1/4 18 Section 9N Township 8E Range Whispering Creek Subdivison 4 Addition 2 Block Lot

PID 22-18-204-002-000

B. Owner

Name Jeremy Roebke Signature Jeremy Roebke

Address 9110 Merryvale Dr City/State/Zip Lincoln, NE 68526

Home Phone 531-333-8823 Work Phone

C. Certified Installer

Name: Lloyd Jakoubek, Raymond Contracting Inc Signature Lloyd L. Jakoubek

Address 13800 NW 70th St City/State/Zip Raymond, NE 68428

Work Phone 402-890-6009 or 402-783-2663

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 Garbage Grinder? ☑ Yes ☐ No Total Acres 3.55

☐ 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 5/11/21
Date frwd 5/11/21
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 4/22/22

Business Office Use Only
Date Received 5-10-21 Amount Paid $440
Received By JMD Cash/Check No. cc 5040

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

Form A Updated 1/13

* see Express Specs

HORIZON ENVIROTECH, LLC

1645 County Rd T
Cedar Bluffs, NE 68015
Office: (402) 720-9209
Email: jeffhet@1791.com

November 29th, 2021

Alan Aanerud, Onsite Wastewater Section Supervisor
NE Department of Environment and Energy
P.O. Box 98922
Lincoln, NE 68509-8922

RE: Roebke Residence – 6233 S 114th St, Lincoln, NE
Onsite Wastewater Plan – Permit Packet

Dear Mr. Aanerud:

Enclosed is submittal information for a Construction/Operating permit for an onsite septic system. Due to site soil conditions and topography, I am proposing a Modified Mound/ISF – sand treatment with integrated absorption bed design for this project. The design proposes (2) smaller modified mounds. A 2-zone indexing valve will alternate dosing of the mounds. The owners are hoping to have the construction competed yet this fall/early winter.

Please review and contact me with any questions or comments you may have.

Regards,

Jeffery N Schoeneck

Jeffery N. Schoeneck P.E.

Enclosures: (1) Sets Submittals & Plans, Construction Permit Application w/Fee Payment & Citizen Attestation Form

* 52 Rural water was contacted & verified that Rural water the setback

VDH

Onsite Wastewater Treatment System Application for Construction/Operating Permit

Nebraska DEQ

For NDEQ Use Only	NDEQ ID:	Program ID:

Print or Type

Jeremy & Krista Roebke
Owner/Authorized Representative First Name | Initial | Last Name

Business or Legal Entity Name (if applicable)

9100 Merryvale Dr | Lincoln | NE | 68526
Owner Address | City | State | Zip

* Phone Number 531-333-8823 * Email jroebke@callgreens.com

☐ Check here if authorized representative and include a description of the representative's authority to sign on behalf of the owner. _____

Professional Engineer, Master Installer or Registered Environmental Health Specialist

Print or Type

Jeff | N | Schoeneck | E-8989
First Name | Initial | Last Name | Certification/License Number

Horizon Envirotech, LLC
Company Name

1645 County Rd T | Cedar Bluffs | NE | 68015
Mailing Address | City | State | Zip

Phone Number 402-720-9209 Email jeffhet@1791.com

Location *Legal description* OR *Geographical coordinates to 4 decimal points*

___ ___ ___ ___ ___ ___ | 40.7490 | -96.5677
¼ ¼ Section Township Range County | Latitude | Longitude

6233 S. 114th St, Lincoln, NE
Physical address if different than owner's mailing address

System Information

☒ Dwelling-Peak single day flow 500 gals **OR** ☐ Non-dwelling-Peak single day flow _____ gals

☒ Domestic Wastewater ☐ Non-Domestic Wastewater -Description of non-domestic wastewater sources (i.e. restaurant, laundry, butcher shop, camper dump station or other) _____

☒ New System ☐ Modification, reconstruction or alteration of existing system

☐ Septic System ☐ Mound ☐ Holding tank ☐ Lagoon ☐ Other (if other, describe here) _____

Depth to seasonal high groundwater for planned location of the soil absorption system _____ ft.

Percolation rate 81.2 min/inch Maximum ground slope 5 % (At Lateral Site)

I swear or affirm that the application information and documentation submitted are true, complete and accurate.

Owner/Authorized Representative Signature

11/23/21
Date

NOTICE: Failure to complete the form or include the appropriate fee(s) will delay the application. NDEQ issued construction permit is required prior to any construction.

Version 5-2012

Individual or Sole Proprietor
United States Citizenship Attestation Form

For the purpose of complying with Neb. Rev. Stat. §4-108 through 4-114, I attest as follows:

☒ I am a citizen of the United States.

-OR-

☐ I am a qualified alien under the federal Immigration and Nationality Act. My immigration status and alien number are as follows:

_____

I agree to provide a copy of my USCIS documentation upon request.

I hereby attest that my response and the information provided on this form and any related application for public benefits are true, complete, and accurate, and I understand that this information may be used to verify my lawful presence in the United States.

PRINT NAME Jeremy Jon Babbe
(first, middle, last)

SIGNATURE

DATE 11/23/21

SEPTIC SYSTEM DESIGN – 6233 S 114th St, Lincoln, NE

Prepared by: Jeffery N. Schoeneck, P.E.

Owner: Jeremy Roebke – 9100 Merryvale Dr, Lincoln, NE 68526



HORIZON ENVIROTECH,LLC

1645 COUNTY RD T
CEDAR BLUFFS, NE
68015

(402)-720-9209

E-mail Jeffhet@1791.com

11/29/2021

Residential Septic System Design
6233 S 114th St, Lincoln, NE
11/29/21

Site Conditions -

Soils on lot are Clay Loam and Silty Clay Loam. The best-suited soils are located in the SW corner of the lot. The soil is a silty clay loam soil with a moderate to somewhat weak blocky/granular stucture. The top 14" is firm from compaction. This site is located along a ridge. The soil boring revealed a potential seasonal perched water table at approximately 5ft below the surface, due to presence of a heavily mottled soil layer, with underlying Clay Loam soil. The soil percolation rates for the site ranged from 54.5 to 120 min/in.

Proposed Septic System -

Construct (2) alternating-dosed Modified Mound Treatment/Absorption Beds
- Excavate soil to depth of 24" to remove compacted upper horizon
- Install 1.25ft layer of 47-B sand to elevate above seasonal perched water table & provide treatment of effluent to reduce soil-clogging organics

Install 1,500 gallon septic tank and 1,000 gallon dose tank w/pump package w/alarm

Peak Daily Design Load - 4 Bedroom Home - 500 gpd
Soil Percolation Rate - 81.2 min/in
Soil Type - Silt Loam w/weak to moderate blocky/granular structure

Modified Mound Sizing - (Each Bed)

Sizing of Treatment Media Bed (to use (3)-12" Polystyrene Bundles over medium sand)
Area Required - 250gpd/1.2 gpd/sq ft = 208 sq ft
Propose 90 Ln Ft of Bundles @ 3 sq ft/ft = 270 Sq Ft

Basal Loading Requirement (Sizing of Sand to Soil Area)
Soil Loading Rate (Pretreated to < 30 mg/l BOD5 & TSS) - 0.35 gal/sq ft/day
Area Required = 250 gpd / 0.35 = 714 Sq Ft
Proposed Area - 18ft X 40ft = 720 sq ft

* Contractor to Follow (In-general) Mound Construction Practices per NDEQ Title 124

Septic Tank Sizing -
@ 500 GPD minimum size of 1,500 gallons - **Propose 1,500 gallons**
(Garbage grinder and no over-sized tub)

Dose Tank Size - Propose 1,000 gallons
Dose Volume - 500gpd /4 doses per day = 125 gallons each
Pump Sizing - Minimum 16gpm @ 31 Ft TDH
Pump Draw-down - Del Zotto Conc Tank = 5.6"
Set High-water Alarm to Activate @ 3" Above Pump-On Level

Electical Requirements - Requires (1) Dedicated 20 Amp, 120V, 1ph GFI Circuit for Pump and Separate 15 Amp (min),120V, 1ph Circuit for High-water Alarm

Residential Septic System Design

6233 S 114th St, Lincoln, NE

Septic System Critical Elevations			
DESCRIPTION	ELEVATION	BED "A"	BED "B"
Top of Foundation Footing	100.00		
Average Top of Ground @ Absorption Site		108.25	107.05
Sewer Line Outlet @ Foundation	97.75		
Septic Tank - Inlet	97.50		
Septic Tank - Outlet	97.25		
Dose Tank Inlet	97.00		
Pump Inlet	93.00		
Top of 2-Way Zone Valve	110.00		
Mound Bed Bottom Excavation		106.00	104.80
Top of Medium Sand Layer		107.25	106.05
Pressure Lateral Header		108.25	107.05
Avg Finished Ground Elevation Over Mod Mound		109.00	107.80

Notes:

1. Orientation & Location of Septic Tank, Dose Tank & Pressure Line May Vary Slightly From Shown
2. Over-excavate mound site to remove and dispose of compacted soils from old driveway.
   Project Engineer to be present to determine condition of soil at proposed excavated depth.
3. Place 6 to 12" moderately compacted lifts of Medium (47-B) Sand
4. Avoid foot or equipment traffic over excavated soil until min placement of 6'" of sand
5. Contractor Responsible for Contacting 811 for Primary Utilities
6. Septic Permit and Inspections are Required from Lancaster County Health Dept
   In addition, contractor to coordinate inspections with design engineer.
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 2-Years (Equipment Warranties
   Limited To Mfg. Warranty Terms and Coverage)
9. Fine grading & Seeding to be completed soon after completion of construction.
10. Owner To Keep Trees From Growing Within 15 Ft of the Absorption Field Area
11. Absorption Site to be Protected From Any Vehicle Traffic.
12. Effluent Filter is required on septic tank outlet or pressure effluent line.
13. The existing septic tank to be decomissioned, due to condition & close proximity to foundation.
14. Slope 2" pressure pipe to drain back to dose tank between dosings.

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

Residential Septic System Design
6233 S 114th St, Lincoln, NE

LATERAL LINE SCHEDULE (1-1/4" Diameter) - (Each Bed)

LATERAL	BUNDLE LENGTH ft	PIPE LENGTH FT	HOLE SPACING FT	NO OF HOLES	HOLE SIZE	LATERAL FLOW GPM
1	30	31	2.5	12	3/16"	5.04
2	30	31	2.5	12	3/16"	5.04
3	30	31	2.5	12	3/16"	5.04
				TOTAL FLOW		15.12

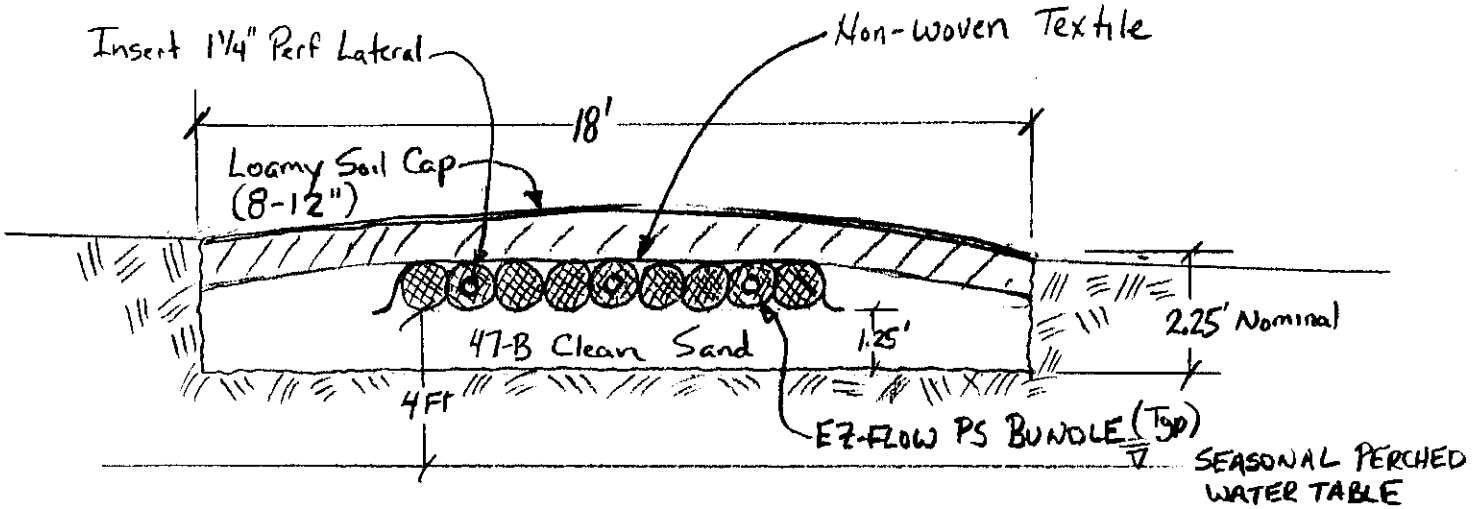
Notes:

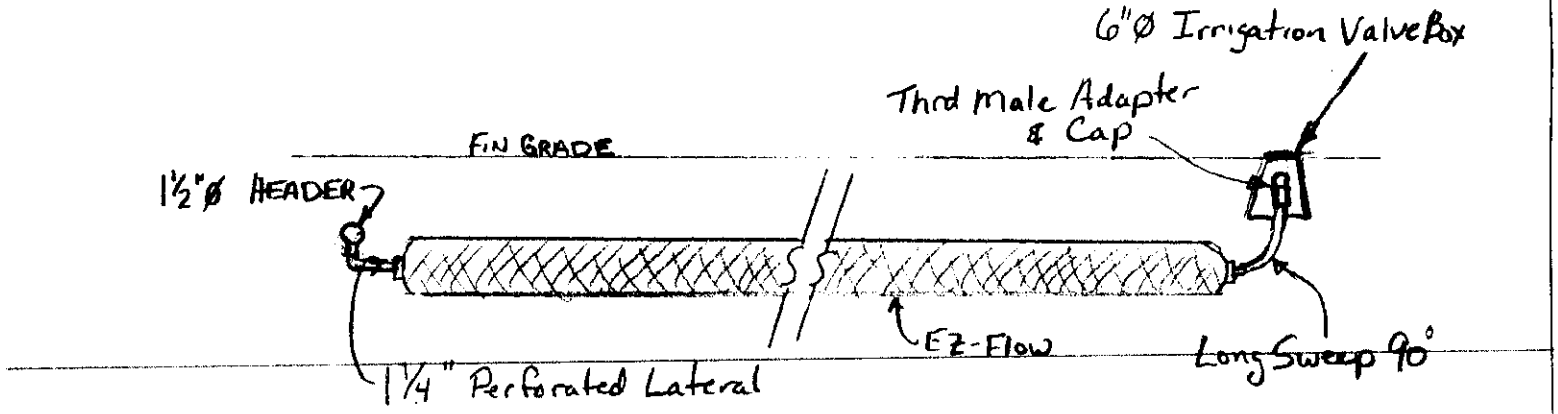
1. Drill first hole 21" from end of pipe.
2. Flow Rate Based on 0.42 gpm @ 1Ft Head per Hole
3. Orient Holes in Corrugated Pipe @ 5 or 7 O'clock to Avoid Blockage
4. Use drilled end-caps or foam ends of corrugated pipe to prevent soil intrusion
5. Position Header Pipe to be at high point to drain pipes between dosings

Mound Annual Maintenance - Flush Laterals till clear w/pump - Open (1) cap at a time @ the end of the lateral. (typically less than (1) minute flushing per lateral)

Effluent Filter Maintenance - Remove & clean w/hose every 6 months. or as required.

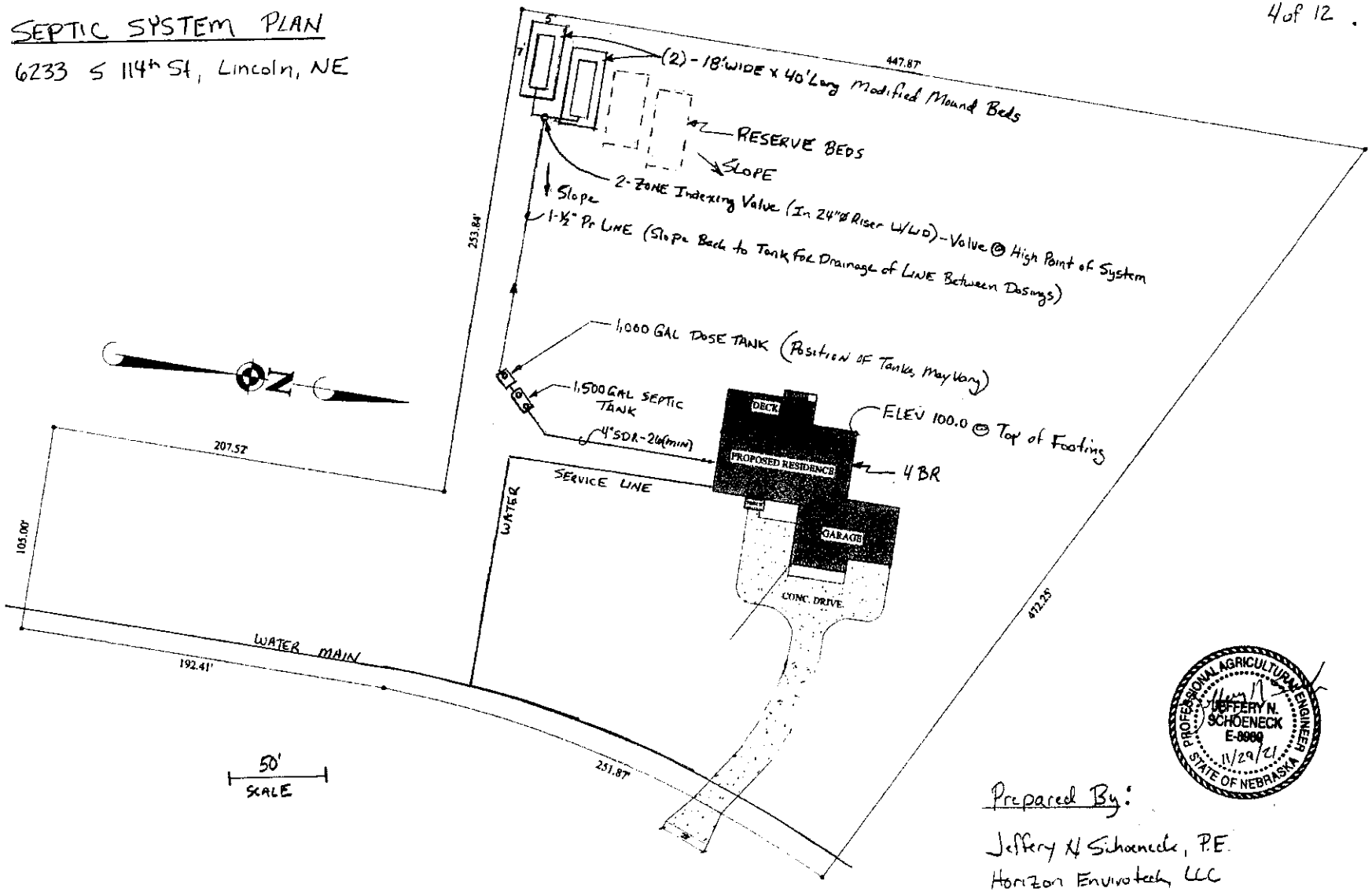
MOUND BED DETAILS





SEPTIC SYSTEM PLAN

6233 S 114th St, Lincoln, NE



PROFESSIONAL AGRICULTURAL ENGINEER
JEFFERY N. SCHOENECK
E-8660
11/29/21
STATE OF NEBRASKA

Prepared By:

Jeffery N Schoeneck, P.E.
Horizon Envirotech, LLC
402-720-9209

Soil Absortion Test Data Sheet

Owner Information:

Owner: Jeremy & Krista Roebke Phone: 402-670-3553 (Builder Jay Hiatt)

Address: 9100 Merryvale Dr, Lincoln, NE 68526

Location: 6233 S 114th St, Lincoln, NE 68526

Latitude 40.7490 Longitude -96.5677

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

County: Lancaster Area: _____ Acres

Soil Boring		
	0 - 8"	VDGB Firm SiCL
	8 - 14"	Br Firm SiCL
	14 - 32"	Br SiCL
	32 - 62"	Br SiCL w/few to mod red/br & gr mottles
	62 - 66"	Heavy Red Mottled SiCL
	66 - 96"	Gr Br sticky CL

Mottling Indicated a Seasonal Perched Water Table @ 62" Below the Surface

Test Dates

Start Date	End Date
4/15/21	4/16/21

Test Day Weather

Weather Cloudy Temp. 42 F

Precipitation Lt Showers @ end of test period

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	24	4/16/21	11:17 AM	7.90	11:37 AM	7.65	30	0.25	120.0
2	24	4/16/21	11:18 AM	7.75	11:38 AM	7.40	30	0.35	85.7
3	24	4/16/21	11:19 AM	7.85	11:39 AM	7.30	30	0.55	54.5
4	24	4/16/21	11:20 AM	7.60	11:40 AM	7.10	30	0.50	60.0
5	24	4/16/21	11:21 AM	8.00	11:41 AM	7.65	30	0.35	85.7

Jeffery N Schoenleck

Jeffery N. Schoenleck, P.E. - E8989
Horizon Envirotech, LLC
1291 Co Rd V
Fremont, NE 68025
(402) 720-9209
Phone

Sum of Percolation rates = 406.0

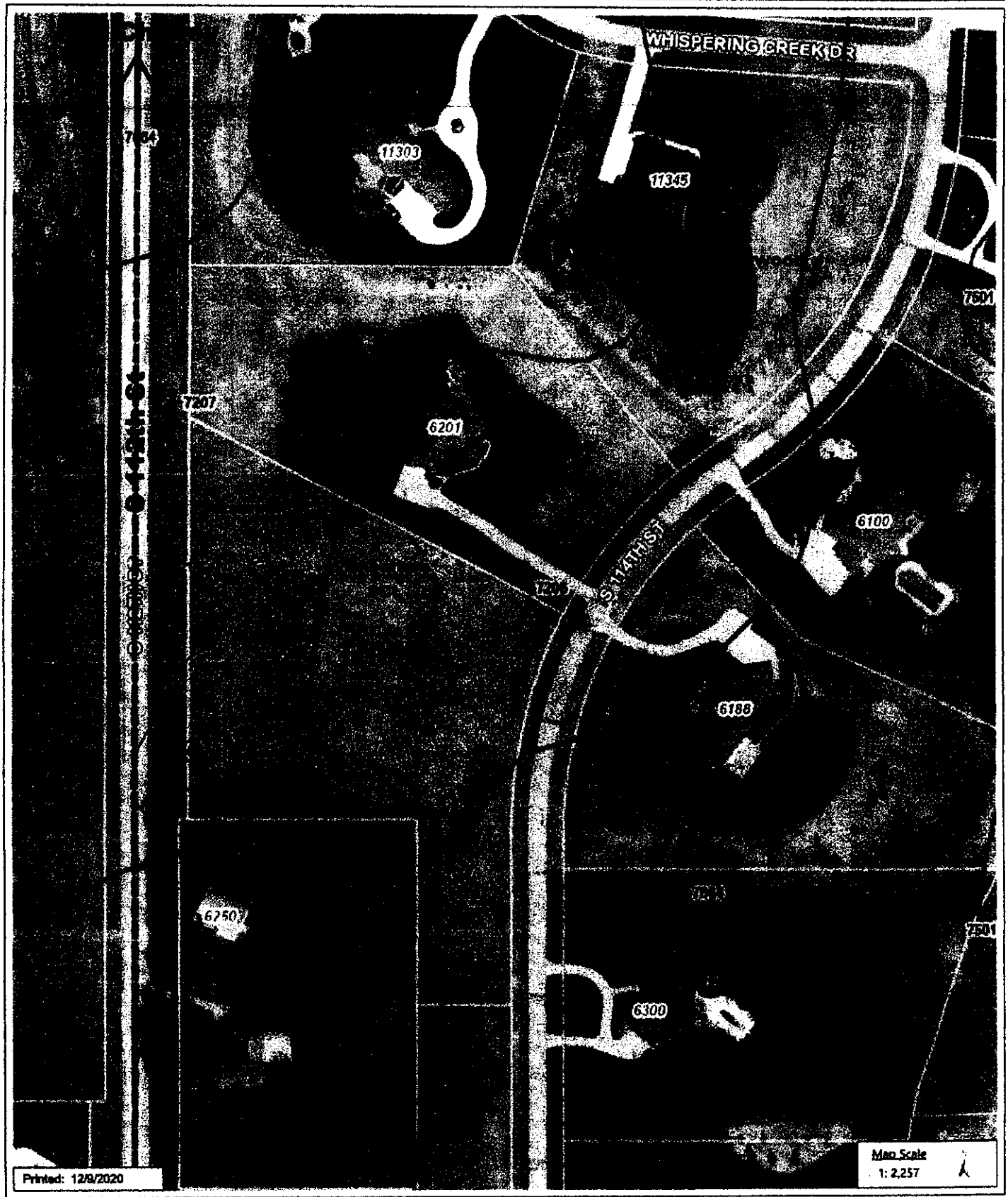
Number of test holes = 5

Average of rates in Minutes/inch = 81.2

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

GIS Viewer
CITY OF LINCOLN - LANCASTER COUNTY NE

City of Lincoln\Lancaster County GIS Map



DISCLAIMER: The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments. If you have questions or comments regarding the data displayed on this map, please email assessor@lancaster.ne.gov and you will be directed to the appropriate department.

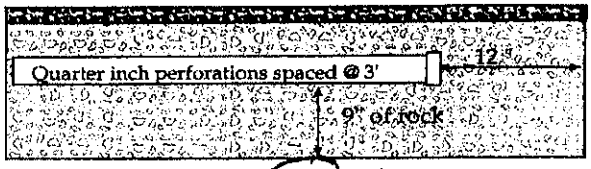
Table 4-3. Suggested hydraulic and organic loading rates for sizing infiltration surfaces

Texture	Structure		Hydraulic loading (gal/ft²-day)		Organic loading (lb BOD/1000ft²-day)	
	Shape	Grade	BOD=150	BOD=30	BOD=150	BOD=30
Coarse sand, sand, loamy coarse sand, loamy sand	Single grain	Structureless	0.8	1.6	1.00	0.40
Fine sand, very fine sand, loamy fine sand, loamy very fine sand	Single grain	Structureless	0.4	1.0	0.50	0.25
Coarse sandy loam, sandy loam	Massive	Structureless	0.2	0.6	0.25	0.15
	Platy	Weak	0.2	0.5	0.25	0.13
		Moderate, strong				
	Prismatic, blocky, granular	Weak	0.4	0.7	0.50	0.18
		Moderate, strong	0.6	1.0	0.75	0.25
Fine sandy loam, very fine sandy loam	Massive	Structureless	0.2	0.5	0.25	0.13
	Platy	Weak, mod., strong				
	Prismatic, blocky, granular	Weak	0.2	0.6	0.25	0.15
		Moderate, strong	0.4	0.8	0.50	0.20
Loam	Massive	Structureless	0.2	0.5	0.25	0.13
	Platy	Weak, mod., strong				
	Prismatic, blocky, granular	Weak	0.4	0.6	0.50	0.15
		Moderate, strong	0.6	0.8	0.75	0.20
Silt loam	Massive	Structureless		0.2	0.00	0.05
	Platy	Weak, mod., strong				
	Prismatic, blocky, granular	Weak	0.4	0.6	0.50	0.15
		Moderate, strong	0.6	0.8	0.75	0.20
Sandy clay loam, clay loam, silty clay loam	Massive	Structureless				
	Platy	Weak, mod., strong				
	Prismatic, blocky, granular	Weak	0.2	0.3	0.25	0.08
		Moderate, strong	0.4	0.6	0.50	0.16
Sandy clay, clay, silty clay	Massive	Structureless				
	Platy	Weak, mod., strong				
	Prismatic, blocky, granular	Weak				
		Moderate, strong	0.2	0.3	0.25	0.08

Source: Adapted from Tyler, 2000.

PRESSURE DISTRIBUTION SYSTEM (Per Bed)

Geotextile fabric



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

1. Select number of perforated laterals 3

2. Select perforation spacing = 2.5 ft

3. Since perforations should not be placed closer than 1 foot to the edge of the rock layer (see diagram), subtract 2 feet from the rock layer length.

   30 (Rock layer length) - 2.5' = 27.5 ft

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

   Perforation spacing = 27.5 ft ÷ 2.5 ft = 11 spaces

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

   11 spaces + 1 = 12 perforations/lateral

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

   12 perfs/lat x 3 lat = 36 perforations

   B. Calculate the square footage per perforation.
   Recommeded value is 6-10 sqft/perf. *Does not apply to at-grades.*
   Rock bed area = rock width (ft) x rock length (ft)
   9 ft x 30 ft = 270 sqft
   Square foot per perforation = Rock bed area ÷ number of perfs (6)
   270 sqft ÷ 36 perfs = 7.5 sqft/perf

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

   36 perfs x 0.42 gpm/perfs = 15.12 gpm

8. If laterals are connected to header pipe as shown on upper example, to select minimum required lateral diameter; enter figure E-4 with perforation spacing (2) and number of perforations per lateral (5) Select minimum diameter for perforated lateral = 1.25 inches.

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

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

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

E-6: Perforation Discharge in gpm

head (feet)	perforation diameter (inches) 3/16	7/32	1/4
1.0[a]	0.42	0.56	0.74
2.0[b]	0.59	0.80	1.04
5.0	0.94	1.26	1.65

[a] Use 1.0 foot for single-family homes.
[b] Use 2.0 feet for anything else.

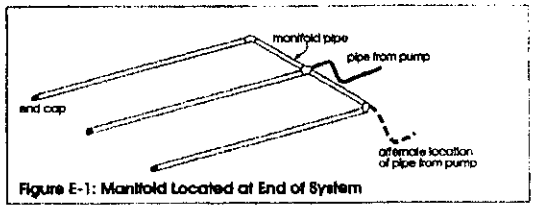


Figure E-1: Manifold Located at End of System

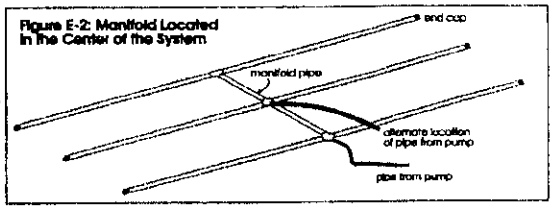


Figure E-2: Manifold Located In the Center of the System

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

Jeffrey N Schmuck (signature) 11/29/21 (date) (license #) E 8989

Figure E-25: Pump Selection Worksheet

PUMP SELECTION PROCEDURE

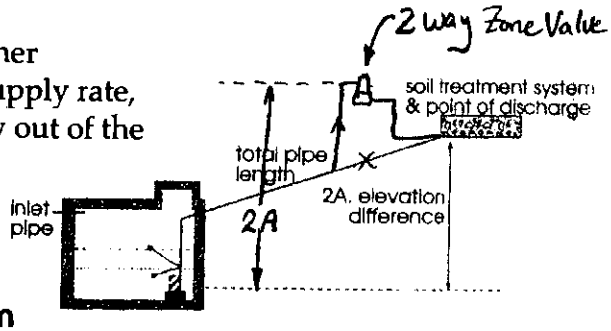
1. Determine pump capacity:

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: 15.1 **gpm**

2. Determine pump head requirements:

A. Elevation difference between pump and point of discharge?

15.25 feet → USE 17 FT (Top of Zone Valve)

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

5 feet

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 = 1.5 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

180 feet x 1.25 = 225 feet

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

= 1.5 ft/100ft x 225 +100 = 3.4 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	0.22
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		5.59	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)

17 ft + 5 ft+ 3.4 ft + 5' Zone Valve =

Total head: 30.4 **feet**

3. Pump selection

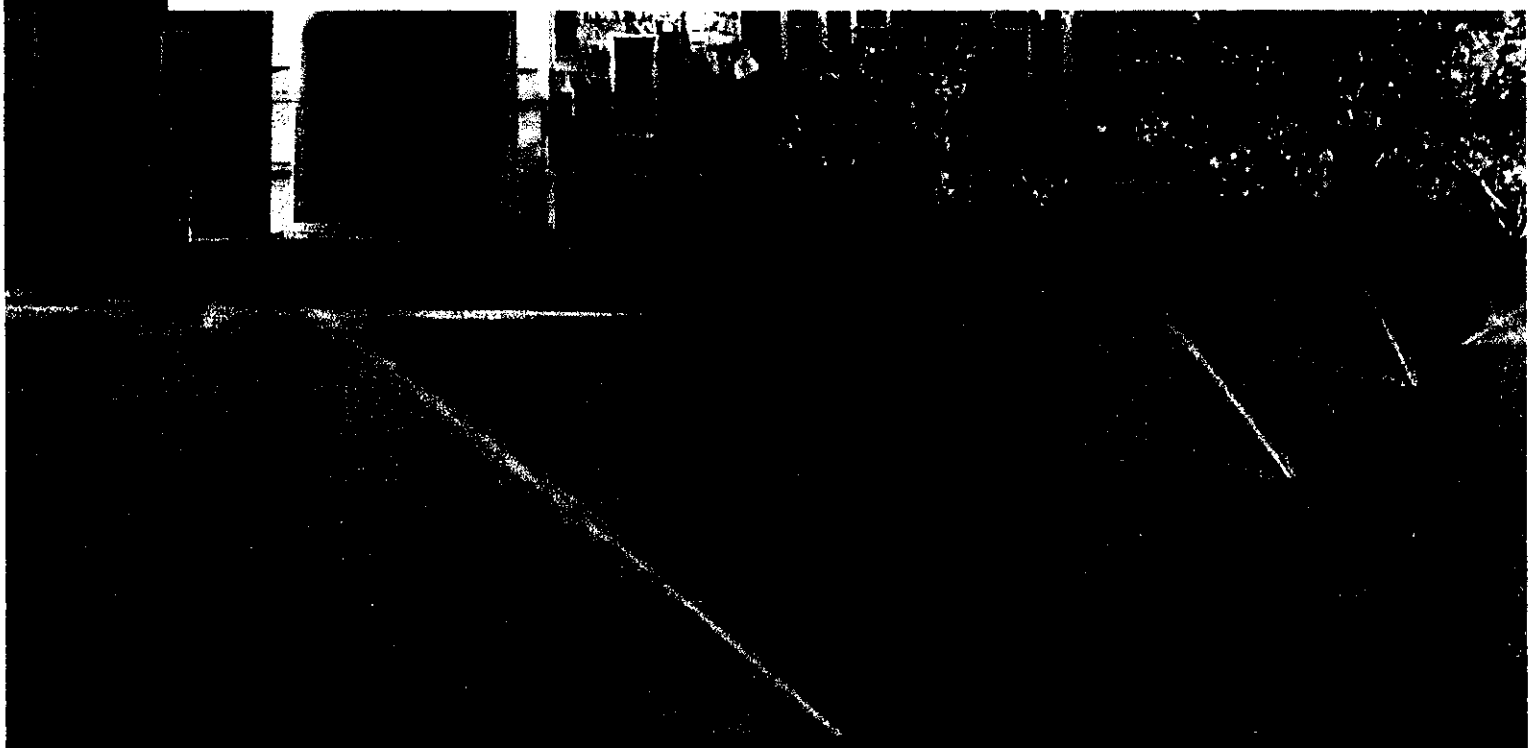
A pump must be selected to deliver at least 16 gpm (1A or B) with at least 31 feet of total head (2D)

END OF SECTION

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

Jeffery N Schmuck (signature) E-8989 (license #) 11/29/21 (date)

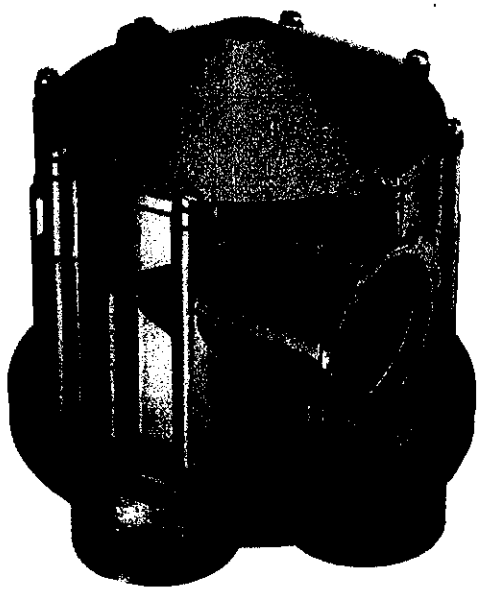
6000 SERIES INDEXING VALVE



The 6000 line of indexing valves offers exceptional reliability and durability even under the dirtiest water conditions.

Features and Benefits

- **Metal Die-Cast Body** – Durable, long lasting and capable of high pressure applications.
- **Available in 4 and 6 Outlet Models** – Can easily change from two to six watering zones.
- **Simplicity of Design** – Valves are easily maintained and serviced for long product life.
- **Wide Pressure and Flow Operating Range** –
  - PSI Range: 25–150 (1,7–10,3 bar)
  - 15 GPM (57 LPM)
  - Ideal for pump-fed systems or high-flow city water systems
- **Built-in Atmospheric Vacuum Breaker** – Releases any vacuum created between the pump and the valve on shut down.



K-Rain Manufacturing Corp.
1640 Australian Avenue
Riviera Beach, FL 33404 USA
561.844.1002
FAX: 561.842.9493
1.800.735.7246 | www.krain.com

6000 Series Indexing Valves

With a metal die-cast body, the 6000 valves are capable of high pressure applications and are recommended to be used on pump fed systems or high-flow city water systems. The 6000 is also ideal for onsite wastewater and effluent water applications.

The 6000 valve is available in 4 or 6 outlet models that are cammed for 2 to 6 zone operation. With only one moving part (the stem and disc assembly), the valve is easily serviced and maintained.

The valve requires 15 GPM (57 LPM) with pre-installed stem and disk assembly to operate and works at pressures from 25 to 150 PSI (1,7 to 10,3 bar).

Models

FOUR OUTLET MODELS

6402 Cammed for 2 Zone Operation
6403 Cammed for 3 Zone Operation
6404 Cammed for 4 Zone Operation

SIX OUTLET MODELS

6605 Cammed for 5 Zone Operation
6606 Cammed for 6 Zone Operation

Other options add to part number:

-RCW Reclaimed Water Use

Accessories*

P8003050 Stem/disk Assembly Standard Heavy (.032-Red) 15 GPM** (57 LPM)

P8003051 Stem/disk Assembly Light (.028-White) 10 GPM (38 LPM)

P8003052 Stem/disk Assembly Extra Light (.025-Blue) 6 GPM (23 LPM)

*Color code identified at the bottom of the disk
**Pre-installed

Specifications

- Construction:
  Valve Top/Housing: Die Cast Metal
  Valve Outlets: High Strength ABS Polymer
- Inlet: Threaded 1 1/2" (3,8 cm) NPT Connection
- Outlets: Slip and Glue Connections to 1 1/2" (3,8 cm) PVC Pipe

OPERATING SPECIFICATIONS

- Pressure Rating: 25 - 150 PSI (1,7 to 10,3 bar)
- Flow Range: 15-150 GPM (57-568 LPM)
- Pressure Loss:

4 OUTLET VALVE

Flow Rate - GPM	20	40	60	80	100
PSI Loss	2.5	3.5	5.0	7.5	10.0

6 OUTLET VALVE

Flow Rate - GPM	20	40	60	80	100
PSI Loss	3.0	4.0	6.0	9.0	11.0

≈ 2 PSI @ 15 GPM
x 2.31 = 4.62 Ft

DIMENSIONS

- Height: 7" (17,8)
- Width: 8" (20,3)

Installation Tips

We Recommend the Installation of an Atmospheric Vacuum Breaker Between the Pump and the Valve.

© K-Rain Manufacturing Corporation
AN ISO 9001 CERTIFIED COMPANY

"Quality Pumps Since 1939"

Product information presented here reflects conditions at time of publication. Consult factory regarding discrepancies or inconsistencies.

Zoeller Pump Co.

MAIL TO: P.O. BOX 16347 • Louisville, KY 40256-0347
SHIP TO: 3649 Cane Run Road • Louisville, KY 40211-1961
(502) 778-2731 • 1 (800) 928-PUMP • FAX (502) 774-3624

FM2090
0502
Supersedes
New

visit our web site:
http://www.zoeller.com

ZOELLER ON-SITE WASTEWATER PRODUCTS

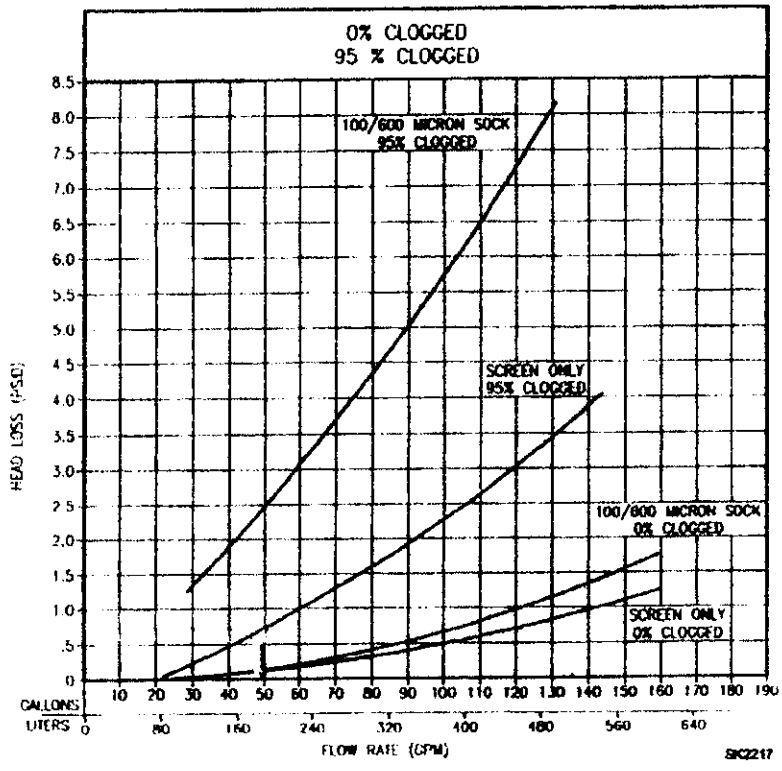
ZOELLER SEPTIC SYSTEM FILTERS

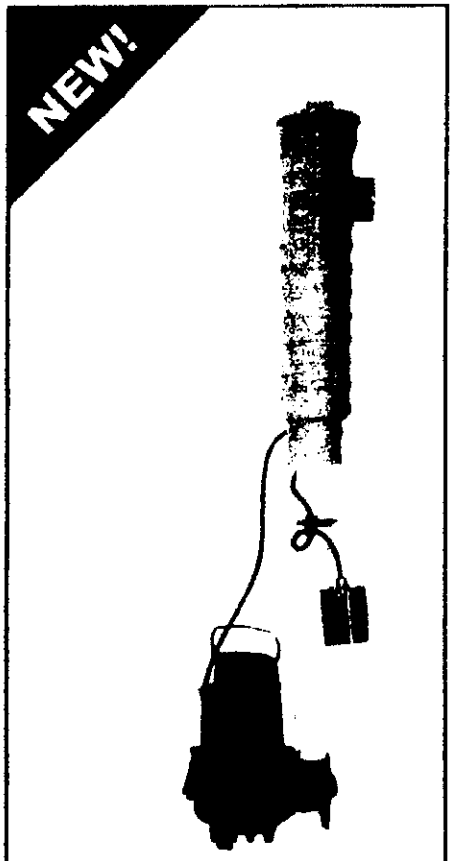
Zoeller Pressure Effluent Filter - P/N 5000-0001

The Zoeller Pressure Filter will help prolong the life of an on-site drainfield by filtering out solids which cause plugging. Used in both residential and commercial applications, this unique design and mounting location allows the filtering screen to be scrubbed while in operation, providing maximum maintenance intervals and unmatched performance.

The filter screen is a type 347 S.S. with .062 diameter holes, which controls the particle sizes leaving the tank. By using sock inserts, filtration to 100 or 600 microns is achieved. The element is 3 inches in diameter and 18 inches long with a 69.5 square inch open area. The large open area results in minimal head loss (see below).

Use in low-pressure pipe, drip, or enhanced flow applications. Use as a prefilter for dosed treatment devices such as recirculating media filters.





NOTE: Pump and switch not included.

© Copyright 2002 Zoeller Co. All rights reserved.

Nate C. Hartman

From: Terri Jakoubek <jakoubek63@windstream.net>
Sent: Monday, May 10, 2021 5:01 PM
To: Nate C. Hartman
Subject: Roebke Lagoon Permit Site Plan
Attachments: Hiatt-Roebke Site Plan.pdf

Hi Nate - I think this will work. I'm over 200' from both neighboring homes and 100' from the Roebke's home. Let me know if this works for your approval purposes.

Thanks,

Terri Jakoubek
Raymond Contracting, Inc.
13800 NW 70th St
Raymond, NE 68428
402-783-2663 (Office)
402-890-3870 (Mobile)
jakoubek63@windstream.net

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

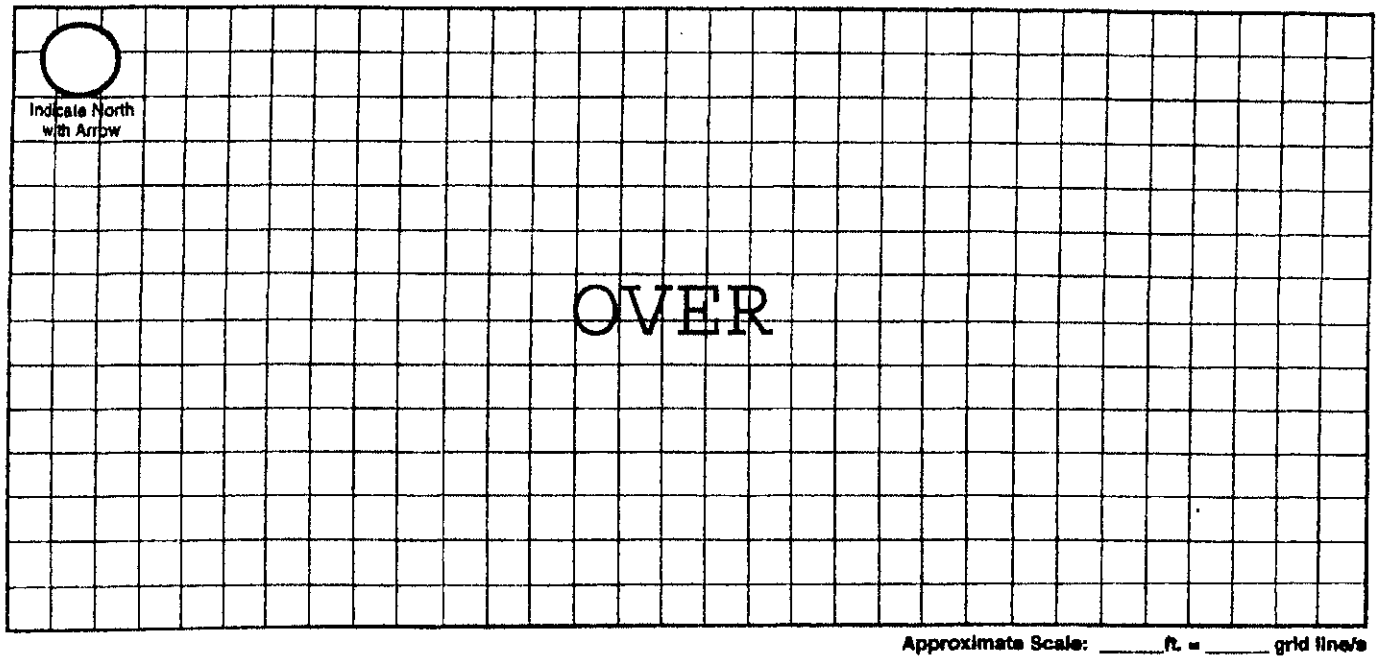
C

Permit Number:

Onsite Wastewater Treatment System

Preliminary Plan Specifications

Draw a plot plan showing onsite system sewer lines, drop of distribution boxes, tank, drainfields, percolation test holes, well, residence, direction of groundwater flow, property lines, and reserve area for replacement onsite system.



Approximate Scale: _____ ft. = _____ grid line/s

A. Onsite System Location

Address (no rural route) 6245 S 114th St City Lincoln NE, Zip 68526

B. Proposed Septic Tank/s

Septic Tank Cap._____ gals Tank Material: ☐ Concrete ☐ Plastic ☐ Other_____ ☒ Lagoon(Max. seepage 1/8" per day)

C. Reserve Area for Replacement Onsite System

☐ Drainfield Absorption Area (percolation test required) ☒ Lagoon

D. Drainfield Absorption System

Percolation Rate_____ (min/inch = mpi) No. of Bedrooms_____ Soil Type_____ Land Slope_____%

☐ Trench ☐ Bed ☐ Non-Standard (engineer designed and NDEQ approved Total Square feet of drainfield_____sq.ft.

Total length of laterals_____ Type of distribution: ☐ Perforated pipe ☐ Half-Round ☐ Chamber ☐ Other

No. of absorption trenches_____ Width_____ No. of drop boxes_____ Distrubtion Box_____

No. of absorption beds_____ Width_____ No of Distribution lines per bed_____

E. Setbacks Check the Boxes Below if the Required Setback has been Satisfied

Distance From	Private Well	Public Well	Surface Water	Gound Water	Pressure Water Lines	Property Lines	Foundations Yours	Foundations Neighbors	All Other Setbacks
Tank (ft)	50 ☐	500 ☐	50 ☐	NA ☐	25 ☐	20 ☐	15 ☐	25 ☐	☐
Field (ft)	100 ☐	500 ☐	50 ☐	4 ☐	30 ☐	20 ☐	30 ☐	40 ☐	☐
Lagoon (ft)	100 ☒	500 ☒	50 ☒	N/A ☒	30 ☒	50 ☒	100 ☒	200 ☒	☒

F. Required Signatures

[redacted] TradeMark Builders Date 5/7/21

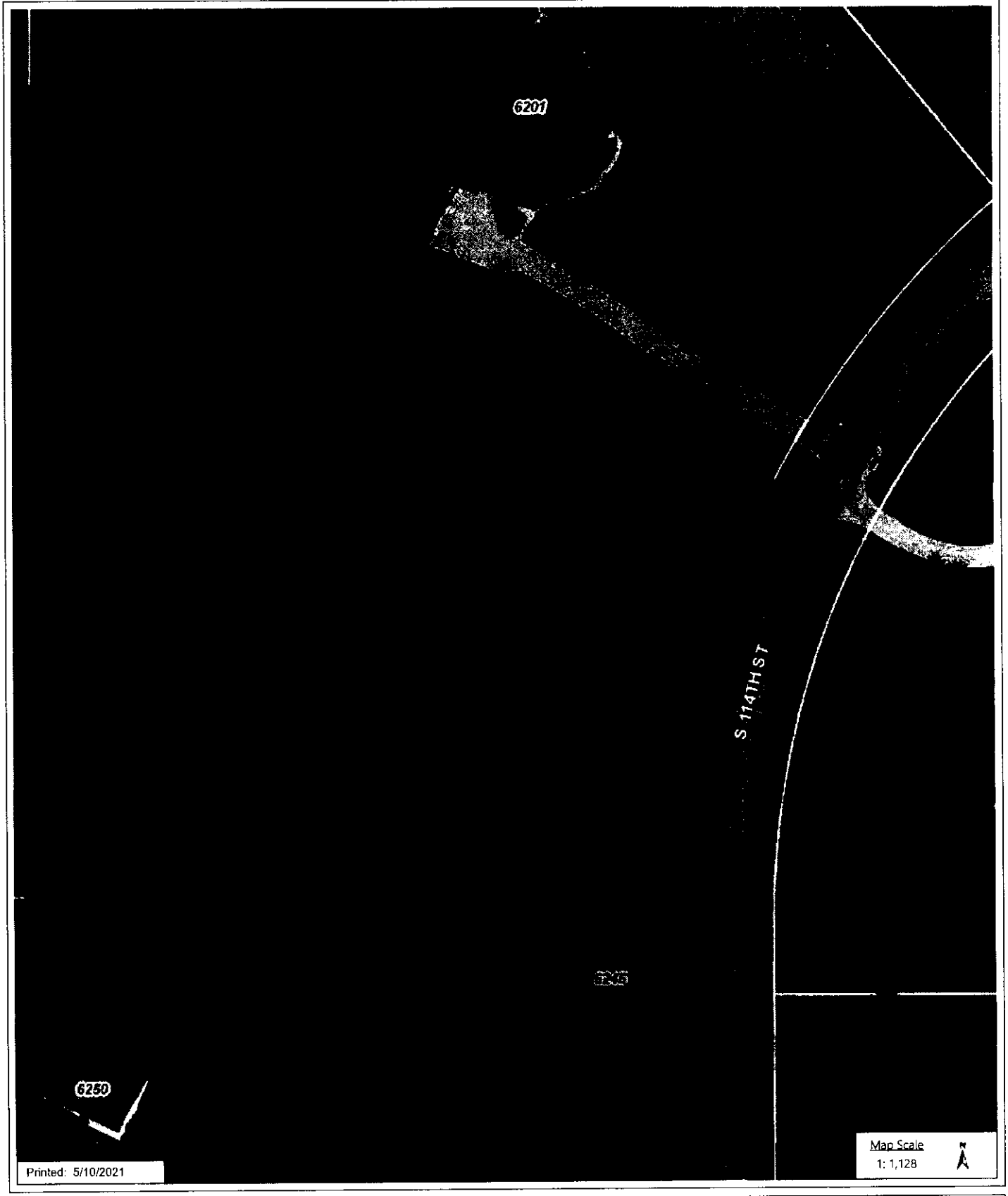
Installer Raymond Contracting Date 5/10/21

Onsite Form C 12-06

6245 S 114th St, Lincoln, NE 68526

GIS Viewer
CITY OF LINCOLN / LANCASTER COUNTY, NE

City of Lincoln\Lancaster County GIS Map



DISCLAIMER: The information is presented on a best-efforts basis, and should not be relied upon for making financial, survey, legal or other commitments. If you have questions or comments regarding the data displayed on this map, please email assessor@lancaster.ne.gov and you will be directed to the appropriate department.