Above Grade Septic

1429 Avenue D
#433
Snohomish, WA 98290

Invoice

Date	Invoice #
2/6/2023	24350

PAID 02/06/2023

Bill To

Debbie & Ralph Kappelhoff
13327 157th Ave NE
Redmond, WA 98052

Ship To

Debbie & Ralph Kappelhoff
13327 157th Ave NE
Redmond, WA 98052

Rep	Terms	Project
DB	Due on receipt	

Quantity	Description	Rate	Amount
1	King County On Site-Septic System Inspection - Includes Inspection of Up To Two Tanks, Additional Tanks are Charged a Minimum of $95 Per Tank or Basin. - Includes One Drain Field Stress Test - Includes Up to 60 Minutes Onsite - Does Not Include Digging, Pumping of Tank(s), or Repairs if Necessary - Does Not Include Asbuilt Modifications if Necessary - Does Not Include Proprietary Interface Device if Needed	395.00	395.00T
	Price Adjustment for Preferred Contractor A1 Septic	-55.00	-55.00
	Subtotal		340.00
1	King County Property Transfer Inspection Report Filing Fee - Please Allow 7-10 Business Days for Report, After Payment Received	225.00	225.00T
2	Personal Protective Equipment used on Job	16.00	32.00T
1	Field Supplies used on Job	26.00	26.00T
1	Installation of Weight for Alarm Float	45.00	45.00T
1	Fuel Surcharge	12.00	12.00T
	Subtotal		340.00
	Subtotal		680.00

Contact Information
www.abovegradeseptic.com
(425) 954-7233
solutions@abovegradeseptic.com

Subtotal	**$680.00**
Sales Tax (8.7%)	**$59.16**
Invoice Total	**$739.16**
Payments/Credits	**-$739.16**
Balance Due	**$0.00**

Thank you for choosing Above Grade Septic!

Payments made with Credit Card will incur a 3% Convenience Fee.
A Finance Charge of 2% per month or $5.00, whichever is greater, may be applied to invoices over 15 days. Upon default of payment, customer agrees to pay collection costs and reasonable attorney fees that may incur.

10121 Evergreen Way
Suite 25-696
Everett, WA 98204

A1 Septic Service
Everett, WA
(425) 231-3454

INVOICE

Customer Name: Debe Kappelhoff
Address: 13327 157th AVENE
City: Redmond
Baffles, Ok: ok
Drain Field:
Gravity System:
Service by: Sean
Comments:

Date: 2/6/23 **Phone:** 425 372 8083

Septic Tank Size: AP 1000	695
Pump Chamber Size:	379
cleaned filter	27
file fee	39
fuel	18

Subtotal: 1158
Tax: 115.80
TOTAL: 1,273.80

Customer Signature:

Thank you!

Public Health
Seattle & King County

TIME OF SALE OSS INSPECTION REPORT

Application Summary:
Submitted: 2/8/2023 10:32:35 AM
Completed: 2/8/2023 11:34:52 PM

Application No: 123300
Reviewer: Doan, Henry

Addresses

Applicant's Address

Dustan Bunt
Above Grade Septic
1429 Ave D #433
433
Snohomish, WA 98290
OSM #: 095

Contact Methods

Email: dustan@abovegradeseptic.com
Phone: 425-954-7233

Property Owner

Debbie & Ralph Kappelhoff
13327 157th Ave NE
Redmond, WA 98052

Contact Methods

Email: debbiekappelhoff@hotmail.com
Phone: 425-372-8083

Property Being Reported Tax Parcel Number

Assessors Parcel Number: 2944000250

Seller's Agent

Contact Methods

Email:

Buyer's Agent

Contact Methods

Email:

Title or Escrow Company

Contact Methods

Email:

Property Address
13327 157TH AVE NE
KING COUNTY, WA

Questions

Overview

Q: Has the house been occupied over the last 24 hours?

A: Yes

Q: The OSS Site Drawing included is

A: Existing

Q: Water Supply

A: Public

Q: Approved bedrooms according to site design

A: 4

Septic System - General

Q: Date tank last pumped (N/A if unknown)

A: 02.06.2023

Gravity Septic Systems

Q: Is the septic system gravity?

A: No

Pressure Distribution Septic Systems

Q: Does the septic system utilize pressure distribution?

A: Yes

Q: Draw-down test result (gallons per minute)

A: 27

On-site Sewage System Failure

Q: Upon arrival, was the septic system failing per King County Board of Health Title 13 definition?

A: No

Q: Did you answer Yes that the septic system is failing per King County Board of Health Title 13 definition, AND were you unable to correct the failure condition?

A: No

OSM Certification

Q: I certify to the best of my knowledge that this inspection report is true, accurate and complete.

A: Yes

Comments

REVIEWER - 2/8/2023 - Electrical wiring for pumps must conform with state and local electrical codes. To achieve consistent wastewater treatment and protect resident safety,owner should contact an electrician to upgrade to permanent wiring.

Service Summary

Service	Fee
Time of Sale filing fee	$198.00
Processing Fee. NOTE: this charge is from OnlineRME, LLC.	$11.00

Total charges for application: $209.00

Payment Log

Date	Amount	Description	Bank Response
2/8/2023	$11.00	OnlineRME, LLC Processing Fee	This transaction has been approved.
2/8/2023	$198.00	Application Fee	This transaction has been approved.

Total amount Paid: $209.00

13327 157 NE

SEATTLE-KING COUNTY DEPARTMENT OF PUBLIC HEALTH
ENVIRONMENTAL HEALTH SERVICES

ADDRESS OF PROPERTY 13327 - 157th Ave. NE (Street)

Redmond (City) (Zip)

AS-BUILT SEWAGE DISPOSAL PLAN
(Submit in Quadruplicate)

LEGAL DESCRIPTION: Grousemont Estates, lot 25

PERMIT NO. 039113

PARCEL #:

Owner	RKK Construction	Address	4464 E. Mercer Way, Mercer Is.	Phone	236-2920
Designer	Advanced Drainfield Systems	Address	P.O. Box 2614, Lynnwood 98036	Phone	745-2763
Master Installer	Bolles Construction	Address	18844 NE 84th St., Redmond	Phone	868-0866
Associate Installer		Address		Phone	

I hereby certify that the accompanying drawing is an accurate representation of the system installed at the listed address. I further certify all recommendations and restrictions (concerning plumbing stub elevations, maintenance of grades, fills, surface drains, etc.) listed by me on my approved site plan (or latest approved revision thereof) dated 8-31-87 have been compiled with. I further certify that this system meets all requirements of the Rules and Regulations established under King County Board of Health Rules and Regulations 3 or City of Seattle Ordinance No. 90181 (whichever is applicable).

E-175 (CERTIFICATE NO) Dale Esmay (SIGNATURE OF DESIGNER) 4-12-88 (DATE)

TO BE FILLED IN BY HEALTH DEPARTMENT ONLY

Date Accepted 4/26/88

Date Not Accepted

Signature of Sanitarian JBarclay

Remarks:

Actions Subsequent to As-Built Approval

Date	Action	Sanitarian

INSTRUCTIONS TO DESIGNER: YOU MAY USE THE REVERSE SIDE OF THIS FORM FOR THE DRAWING OR ATTACH A SEPARATE SHEET. USE A SCALE OF 1" = 20' OR 1" = 30'. ALSO COMPLETE AND SUBMIT THE AS-BUILT CHECKLIST AND SYSTEM INFORMATION SHEET.

ATTENTION HOME OWNER:

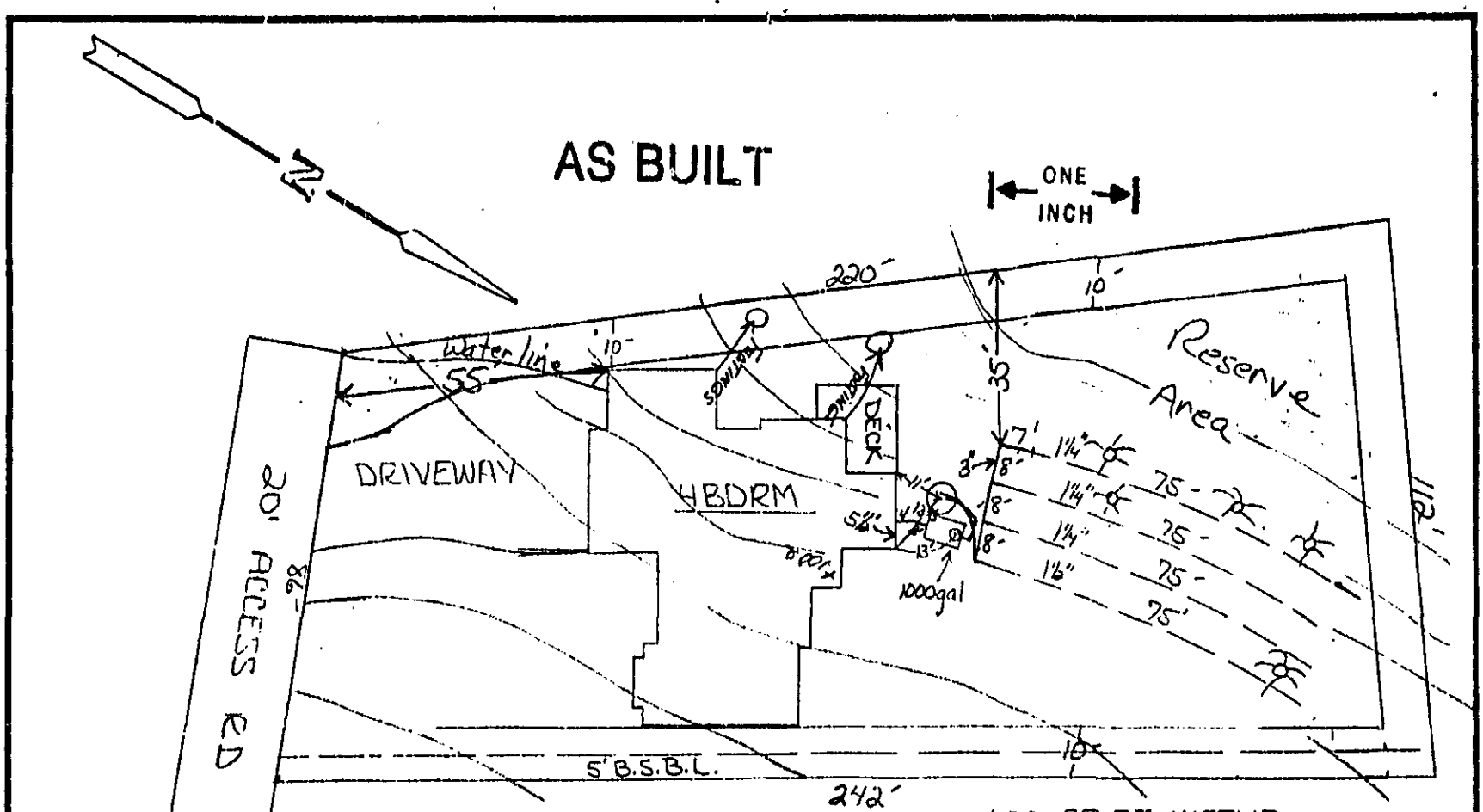
Your septic system has limitations! It was designed and installed to care for an average-sized family. Overloading the septic tank or disturbing the drainfield may cause the system to fail. Points to remember:

1. Have your tank checked every 2-3 years to see if pumping is necessary.
2. Do not channel ground water, surface water, footing drains or downspouts into the septic tank or drainfield area.
3. Do not excavate, fill, place a structure, driveway or patio in, on, or over the drainfield or reserve area.
4. Do not use the toilet for disposal of coffee grounds, cigarette butts, feminine hygiene products, etc.
5. Detergents and bleaches used in normal household quantities will not harm the septic system.

EAST DISTRICT SERVICE CENTER RECEIVED APR 14 1988

CS 11-5 16 REV 9/87

AS BUILT



HYDROMATIC SPHON PUMP
SJ ELECTRO LEVEL CONTROL
ALERT I ALARM

PUMP TEST RUN 4-6-88

600 SQ FT INSTL'D

ADVANCED DRAINFIELD SYSTEMS
Dale Esnough
P.O. Box 2614 745-2766
Lynnwood, WA 98036

All work to conform to the rules and regulations of the King Co. Health Dept. No deviation from this design without prior approval of Advanced Drainfield Systems.

SCALE: 1"=30'	APPROVED BY: RKK-Constructio Grousemont Est., lot 25	DRAWN BY DRE
DATE: 8-11-87		REVISED 4-11-88

Installed 1,000 gal. septic tank. Installed 300 lineal ft. of drainfield at a depth of 15" using a 24" wide trench.

No heavy construction or clearing in drainfield area prior to installation.

DRAWING NUMBER AS-BUILT

Environmental

Do Not Alter or Deface This Permit — POST OVER STUBOUT

PERMIT TO INSTALL/REPAIR SEWAGE DISPOSAL SYSTEM

Seattle-King County Department of Public Health—Enviromental Health

No. 039113

Date issued 3-11-88 . Expires one year from date of issue if work not started. Fee 105.00

Permission is Hereby Granted Bolles Const. to Install/Repair Residential ~~Commercial~~ Steve Greso

sewage disposal system at 13327 157th Ave NE lot 25 Grousemont Estates Div 1

for RKK Const. By Director of Public Health per dc

1. This permit authorizes the installer to undertake and perform work only in accordance with current laws, ordinances, and rules and regulations.
2. Issuance of this permit does not constitute an approval of the site or work contemplated, or a representation that the site or work will meet current standards. Any representations to the contrary are void.
3. All work must be inspected by the health department upon completion and before covering. The work will be inspected for compliance with current standards and the capacity of the system to adequately treat sewage.
4. This permit is not transferable to another installer or to another property.

OK to Cover ____ Disapproved ____ Date ____ Corrections Required ____

Designer ____

OK to Cover ____ Disapproved ____ Date ____

Sanitarian ____

Final Cover ____ Disapproved ____ Date ____

Designer ____

RECEIVED MAR 15 1988

Do not cover until BOTH designer and sanitarian have ok'd to cover.

I have complied with all the restrictions and recommendations as listed by the registered engineer or certified sewage disposal system designer on his approved plan (or latest approved revision thereof) and was physically present during the installation.

Signature of Installer ____ Dated ____

CS 1315.4 Rev. Jan 82

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Seattle-King County Department of Public Health
Environmental Health Division

Site Application for On-Site Sewage Disposal System
(Submit 5 copies of application with 3 copies of plans)

Owner RKK Construction — Street Address 4464 E. Mercer Way — City-Zip Code Mercer Is., WA — Phone 236-2220
Builder same — Street Address ____ — City-Zip Code ____ — Phone ____
Designer Advanced Drainfield Sys — Street Address P.O. Box 2614 — City-Zip Code Lynnwood 98036 — Phone 745-2766

APPROVAL OF THIS DESIGN APPLICATION IS BASED SOLELY ON INFORMATION WRITTEN IN THIS APPLICATION AND DOES NOT CONSTITUTE PERMISSION TO BEGIN CONSTRUCTION OF THE SYSTEM OR ANY OTHER IMPROVEMENTS ON THE SITE. THIS APPROVAL SHALL NOT BE CONSIDERED AN ASSURANCE, EITHER EXPRESSED OR IMPLIED, THAT DEVELOPMENT PERMITS FOR THE SITE WILL BE ISSUED.

THIS APPLICATION EXPIRES TWO YEAR FROM DATE OF APPROVAL

Approximate Location of Property—Street Address 13319 - 157th Ave. NE, Redmond
Section: 23 Township: 26 Range: 5 Parcel #: ____
Subdivision Name: Grousemont Est. Lot: 25 Block: ____
Water Supply: P (I/P) I=Individual P=Public (More than One Connection) Public Water Supply Name: #104 ID #: ____
Property Size: 22,500 SQ FT Proposed Number of Bedrooms: 4
Type of Building: SF (SF/MF/COMM/FE/INST) SF=Single Family MF=Multi-Family COMM=Commercial FE=Food Establishment INST=Institutional
Flood Zone: N (Y/N) If yes, attach copy of flood zone permit.
Sensitive Area: N (Y/N) If yes, specify ____ (L,W,O) (L=Landslide W=Wetlands O=Other)
Distance from property line to nearest sewer: mile + Repair (existing) ____ New System Y

Type of System Proposed: PD (G/GP/M/PD/SF/HT/CT/E/O) G=Gravity GP=Gravity with pump M=Mound
PD=Pressure Distribution SF=Sand Filter HT=Holding Tank CT=Composting Toilet E=Experimental O=Other
Site Vicinity Map Attached N (Y/N)
Date Soils Logged: 8/7 Soil Logs Attached: (Minimum 3/lot): Y (Y/N) Detailed Plans Attached: (3 sets): Y (Y/N)
Depth to Watertable or Restrictive Layers: [redacted] + 38"+ Average Slope in Drainfield/Reserve Area: 14 %

CALCULATIONS:

Number of bedrooms: 4 Total Gallons/Day (450 minimum): 480 gal. Soil Texture Type (1-5): 3

Application Rate: .8 gal/sq ft/day Total Absorption Area: 600 sq ft Total Drainfield Length: 300 ft

Septic Tank Size 1000 gal Pump Chamber Size (if needed) 750 gal Trench Depth (min/max): 12 / 15 in

I understand that failure to comply with King County Board of Health Rules and Regulations #3 may result in disapproval of the sewage system being installed under this application. Non-compliance may also lead to revocation of your Designer's Certificate of Competency and appropriate legal action by this department.

Designer's Signature: Dale Esnough Phone: 745-2766 Date: ~~8-31-87~~ 8/31/87

FOR HEALTH DEPARTMENT USE ONLY

Water Supply: ____ approved By: ____ Date: ____

APPROVED 9/11/87 (date) BY: [signature]

DISAPPROVED ____ (date) BY: ____

Comments/Conditions: By footing drain within 30' of property

RECEIVED SEP 11 1987 no fee needed

Any person aggrieved by any decision or final order of the Health Officer may within 60 days make written application for appeal to the King County Board of Sewage Review.

WHITE - OFFICE / YELLOW - DESIGNER / PINK - OWNER / GOLDENROD - FILE / SALLY'S COPY

157th Ave. NE.

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE, IT IS DUE TO THE QUALITY OF THE DOCUMENT.

Seattle-King County Department of Public Health
Environmental Health Division

File Copy

Site Application for On-Site Sewage Disposal System
(Submit 5 copies of application with 3 copies of plans)

Owner RKK Construction Street Address 4464 E. Mercer Way City-Zip Code Mercer Is., WA Phone 236-2920

Builder same Street Address City-Zip Code Phone

Designer Advanced Drainfield Sys. Street Address P.O. Box 2614 City-Zip Code Lynnwood 98036 Phone 745-2766

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THIS APPLICATION EXPIRES TWO YEAR FROM DATE OF APPROVAL

Approximate Location of Proper Street Address 13319 - 157th Ave. NE, Redmond

Section: 23 Township: 26 Range: 5 Parcel #:

Subdivision Name: Grousemont Est. Lot: 25 Block:

Water Supply: P (I/P) I=Individual P=Public (More than One Connection) Public Water Supply Name: #106 ID #:

Property Size: 22,500 SQ FT Proposed Number of Bedrooms: 4

Type of Building: SF (SF/MF/COMM/FE/INST) SF=Single Family MF=Multi-Family COMM=Commercial FE=Food Establishment INST=Institutional

Flood Zone: N (Y/N) If yes, attach copy of flood zone permit.

Sensitive Area: N (Y/N) If yes, specify ____ (L,W,O) (L=Landslide W=Wetlands O=Other)

Distance from property line to nearest sewer. mile + Repair (existing) ____ New System X

Type of System Proposed: G (G/GP/M/PD/SF/HT/CT/E/O) G=Gravity GP=Gravity with pump M=Mound PD=Pressure Distribution SF=Sand Filter HT=Holding Tank CT=Composting Toilet E=Experimental O=Other

Site Vicinity Map Attached N (Y/N)

Date Soils Logged: 8/7 Soil Logs Attached? (Minimum 3/lot): Y (Y/N) Detailed Plans Attached: (3 sets): Y (Y/N)

Depth to Watertable or Restrictive Layers: 48"+ Average Slope in Drainfield/Reserve Area: 14 %

CALCULATIONS:

Number of bedrooms: 4 Total Gallons/Day (480 minimum): 480 gal. Soil Texture Type (1-5): 3

Application Rate: .8 gal/sq ft/day Total Absorption Area: 600 sq f. Total Drainfield Length: 300 ft

Septic Tank Size 1000 gal Pump Chamber Size (if needed) ____ gal Trench Depth (min/max): 12 / 15 in

I understand that failure to comply with King County Board of Health Rules and Regulations #3 may result in disapproval of the sewage system being installed under this application. Non-compliance may also lead to revocation of your Designer's Certificate of Competency and appropriate legal action by this department.

Designer's Signature: Dale Esnough Phone: 745-2766 Date: 8-11-87

FOR HEALTH DEPARTMENT USE ONLY

Water Supply ____ approved By: ____ Date: ____

APPROVED (date) ____ BY: ____

DISAPPROVED 3/24/87 (date) BY: [signature]

AUG 13 1987

Comments/Conditions:

Any person aggrieved by any decision or final order of the Health Officer may within 60 days make written application for appeal to the King County Board of Sewage Review.

WHITE OFFICE / YELLOW DESIGNER / PINK OWNER / GOLDENROD FILE / [illegible]

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE. IT IS DUE TO THE QUALITY OF THE DOCUMENT.

DESIGN CHECKLIST: The following checklist may be used to insure application is complete. All items listed must be included in the application as well as any additional information requested pursuant to King County Board of Health Rules and Regulation #3.

	GENERAL	Designer	
01	Vicinity location sketch or route map		
02	Dimensioned plot plan to scale 1"=20' or 1"=30'	✓	
03	Property and easement lines	✓	
04	Surface drainage (include lakes, streams, ponds, etc.	✓	
05	Builders name and phone number	✓	
06	Topographical contours at 2' intervals	✓	
07	Cuts or banks	✓	
08	Proposed footing drains	✓	

	WATER		
09	Letter of availability or required covenants recorded		
10	Water lines	✓	
11	Water source (include sources off property within 100ft. for well & 200ft. for spring)	✓	

	SEWAGE SYSTEM	Designer	Sanitarian
12	Soil logs (minimum 3/lot)	✓	
13	Plumbing stub location & elevation	✓	
14	Septic tank location	✓	
15	Detailed drainfield drawing & elevation	✓	
16	Drainfield line spacing - 6' or 8' min.	✓	
17	Min. & Max. drainfield depth	✓	
18	Reserve area identified	✓	
19	Amount and placement of final cover	✓	
20	Construction plans & specifications	✓	
21	Curtain & interceptor drain locations (if any)		

	GRAVITY SYSTEM WITH PUMP (IF PROPOSED)	Designer
22	Pump chamber specifications	
23	Pump specifications	
24	Dosing specifications	
25	Pipe specifications	

	ALTERNATIVE SYSTEM (IF PROPOSED)	Designer
26	Pump chamber specifications	
27	Pump specifications	
28	Design calculations included	
29	Dosing specifications	
30	Pipe specifications	
31	Meets guideline requirements	

DISTRICT USE ONLY

Soil Logs / Field Notes

SL_1 0-19" brn vry grvly lmy snd
19-52"+ snd & grvl

SL_2 0-48" brn vry grvly lmy snd
48"+ mottled

SL_3 0-48" brn vry grvly lmy snd
48"+ mtt

SL_4 0-17" brn vry grvly lmy snd
17-47" snd & grvl
47" gry cmp

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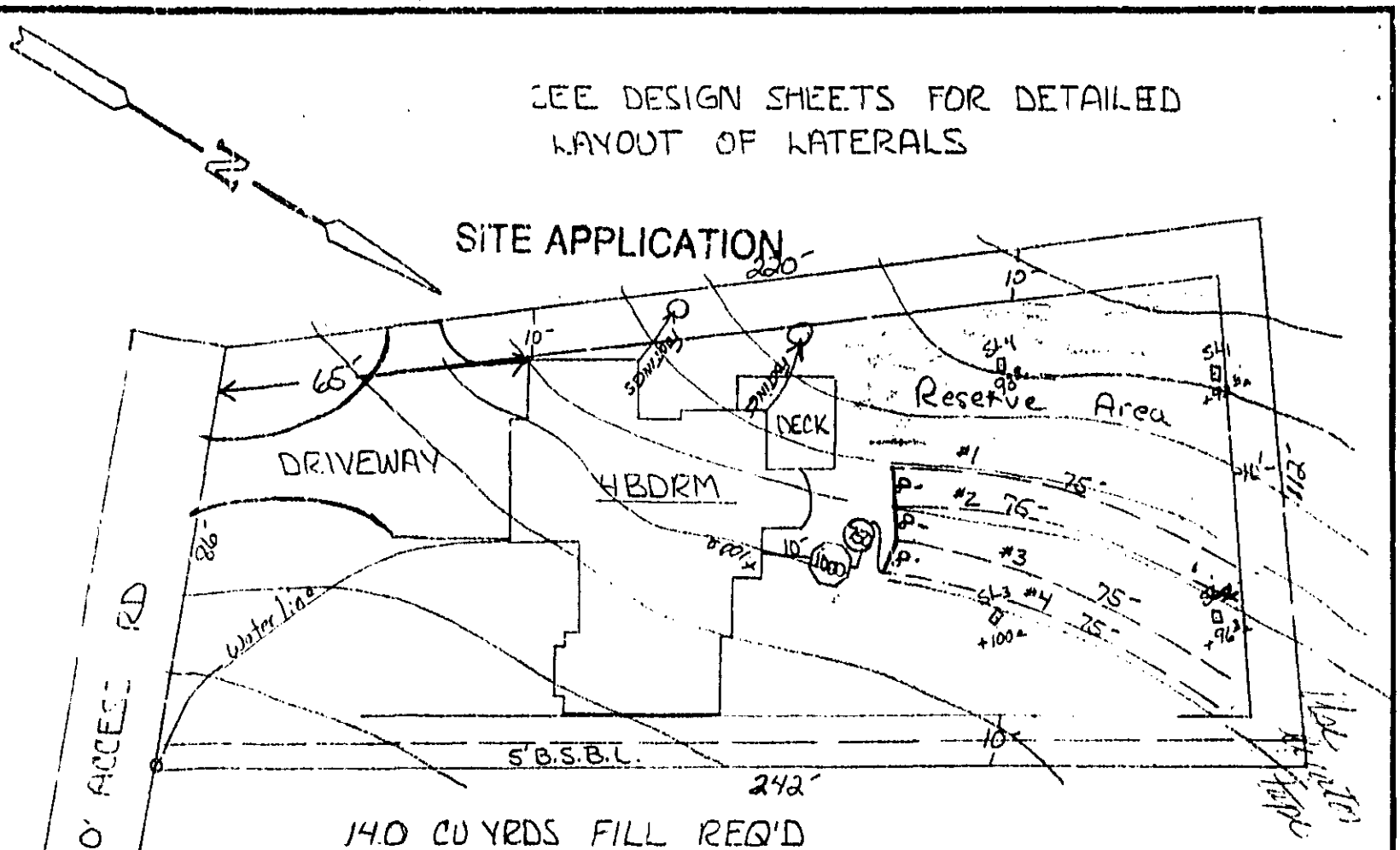
DISTRICT HEALTH CENTERS

CENTRAL	SOUTHWEST	SOUTHEAST	EAST	NORTH
172 - 20th Avenue	10821 - 8th Ave. S.W.	3001 N.E. 4th	2424 - 156th Ave. N.E.	10501 Meridian Ave. N.
SEATTLE 587-4632	SEATTLE 344-6000	RENTON 344-6708	BELLEVUE 344-6891	SEATTLE 363-4765

SEE DESIGN SHEETS FOR DETAILED LAYOUT OF LATERALS



140 CU YRDS FILL REQ'D

ONE INCH

SEP 11 1987

ADVANCED DRAINFIELD SYSTEMS
Dale Esaough
P.O. Box 2614 745-2766
Lynnwood, WA 98036

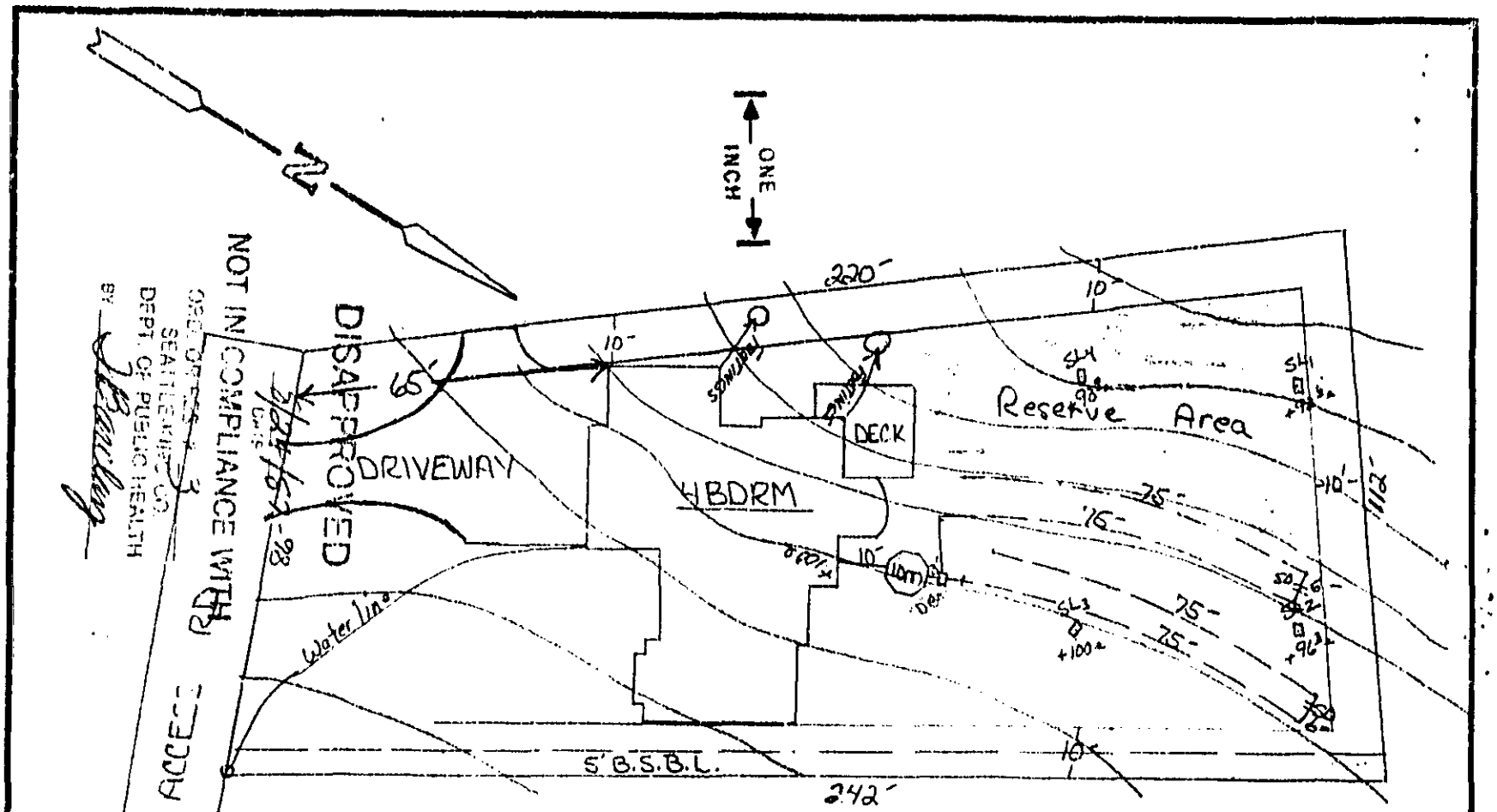
All work to conform to the rules and regulations of the King Co. Health Dept. No deviation from this design without prior approval of Advanced Drainfield Systems.

SCALE: 1"=30'	APPROVED BY: RKK Construction Grousemont Est., lot 25	DRAWN BY DRE
DATE: 8-11-87		REVISED 8-31-87

Install 1,000 gal. septic tank. Install 300 lineal ft. of drainfield at a depth of 15" using a 24" wide trench.

No heavy construction or clearing in drainfield area prior to installation.

DRAWING NUMBER
SHEET 1 of 13



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SCALE: 1"=30'	APPROVED BY: RKK Construction Grousemont Est., lot 25	DRAWN BY DRE
DATE: 8-11-87		REVISED

Install 1,000 gal. septic tank. Install 300 lineal ft. of drainfield at a depth of 15" using a 24" wide trench.

No heavy construction or clearing in drainfield area prior to installation.

DRAWING NUMBER SHEET 1 of 1

ADVANCED DRAINFIELD SYSTEMS
Dale Enough
P.O. Box 2614 745-2766
Lynnwood, WA 98036

PRESSURE DISTRIBUTION DESIGN: Worksheet for Level Sites or Where Laterals Will Be at the Same Elevation

I. Design Distribution Network

STEP 1: Make Preliminary Determination of Trench/Bed Configuration

A. Daily design flow = 480 gal.

For simple household systems:

Daily Flow = (# bedrooms) X (Flow/bedroom)

B. Application rate based on soil type = .8 gpd/f

C. Required absorption area = 600 ft^2

$$\text{Required area } (ft^2) = \frac{\text{Daily design flow (gpd)}_2}{\text{Application rate (gpd/ft}^2)}$$

D. Selected trench or bed width = 2 ft

E. Total trench or bed length = 300 ft

$$\text{Trench or bed length (ft)} = \frac{\text{Required area } (ft^2)}{\text{Selected width (ft)}}$$

F. Below is rough site drawing showing configuration of system in available area:

SEE SHEET 1

SEP 1 1

SHEET 2

STEP 2: Select a Preliminary Network Configuration

A. Lateral Length = all lines = 75 ft.

Lateral length (ft) = $\frac{\text{Total trench length (ft)}}{\text{\# of laterals}}$ - 0.5 ft.

B. Lateral Spacing = 8 ft.

C. Transport pipe length = ~15 ft.

D. Transport line diameter = 2 in.

E. Manifold length = 24 ft.

F. Preliminary drawing of Pressure distribution network

SEE DESIGN SHEET 10

As this procedure continues, place the appropriate value for each lateral in the system in the chart below:

Lateral Number(s)	Pressure (ft)	Orifice Discharge (gpm)	Lateral Discharge (gpm)	# Orifices per Lateral	Orifice Spacing (ft)
#1	7.2	1.11	14.43	13	6'
#2	5.1	.94	15.04	16	4'8"
#3	3.1	.73	14.60	20	3'9"
#4	2	.59	14.75	25	3'

STEP 3: Assume a Minimum Residual Head at the Distal End of the Uppermost Lateral. (Lateral # 4) — 2 ft.

STEP 4: Design the Lateral at the Lowest Elevation. (Lateral # 1)

A. Determine the total pressure head for this lateral — 7.2 ft.

Total pressure head for this lateral = [Selected Residual pressure head at Uppermost lateral] + [Elevation Difference] + [DOWN STREAM Manifold Losses]

2 + 5 + .2

Total manifold loss = (0.1) X [Residual pressure at the distal end of the uppermost lateral]

SEP 1 1 1987

B. Select an appropriate orifice diameter (3/16 to 3/8 in) — 3/16 in.

C. Calculate the orifice discharge rate using Appendix 2. — 1.11 gpm

$(11.79) \times (.1875)^2 \times \sqrt{\text{residual pressure (7.2)}}$ $(.035)$ $(.415) \times \sqrt{7.2}$

D. Select an orifice spacing for this lateral. — 6 ft.

E. Calculate the number of orifices in this lateral. — 13

Number of orifices in this lateral = Length of the lowermost lateral (ft) / Selected orifice spacing (ft)

(Round up to next whole number.)

SHEET 4

F. Calculate the lateral discharge rate for this lateral: 1.43 gpm

13 × 1.11

Lateral discharge rate for lowermost lateral = (# of orifices) X (Orifice discharge rate)

G. Select an appropriate lateral diameter

1. Specify pipe class or schedule. 160

2. From Appendix 1 with lateral length = 75 ft pipe class/schedule = 160; and orifice spacing = 72 in., select acceptable alternatives

Orifice Diameter (in)	Lateral Diameter (in)	Orifice Spacing (ft)	Allowable lateral lengths for pipe class / schedules (ft)

Signify with an arrow (→) which combination will be used in the design.

STEP 5: Design the Lateral Next to the Lowest in Elevation (Lateral # 2)

A. Determine the total pressure head for this lateral.

$$\text{Total Head} = \begin{bmatrix}\text{Selected residual pressure head at uppermost lateral}\\ 2\end{bmatrix} + \begin{bmatrix}\text{Elevation Difference}\\ 3\end{bmatrix} + \begin{bmatrix}\text{Downstream Manifold Loss}\\ .02\end{bmatrix}$$

$$\text{Total manifold loss} = (.01) \times \begin{bmatrix}\text{Residual pressure at the distal end of the uppermost lateral}\\ 2\end{bmatrix}$$

B. Calculate the orifice discharge rate using Appendix 2. .94 gpm

SHEET 5

C. Calculate the number of orifices in this lateral.

1. When lateral length is the same as that of the lowermost orifice. 16

$$\text{\# of orifices} = \frac{\text{Calculated lateral discharge rate in lowermost lateral}}{\text{Calculated orifice discharge rate in this lateral}} \quad \frac{14.43}{.94}$$

2. When lateral length is different than lowermost lateral.

a. Calculate discharge rate for this lateral _____ gpm

$$\text{Discharge rate for this lateral} = \left[\text{Discharge rate of lowermost lateral}\right] \times \left[\frac{\text{Length of THIS lateral}}{\text{Length of LOWERMOST LATERAL}}\right]$$

b. Calculate the number of orifices = _____

$$\text{Number of orifices} = \frac{\text{Discharge rate for this lateral}}{\text{Orifice discharge rate for this lateral}}$$

D. Calculate the spacing of the orificesin this lateral _____ ft.

$$\text{Orifice spacing (ft)} = \frac{\text{Length of this lateral in feet}}{\text{Number of orifices}}$$

E. Select the appropriate lateral diameter. The diameter selected for the lowermost lateral will be sufficient. 1.25 in.
note lateral #4 to be 1.5" in diameter

STEP 6: Design the Remainder of the Laterals - Perform the same calculations as in STEP 5 for all other laterals. Place all the information in the chart that precedes STEP 3.

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STEP 7: Select the Manifold Diameter - Use Appendix 4. 3 in.

SHEET 6

II. Design of the Pressurization System

STEP 1: Determine the Dose Volume

A. Dose volume based on soil type

1. Recommended dosing frequency/day = 2 doses/day

2. Recommended dose volume = 240 gal

$$\text{Dose volume (gal)} = \frac{\text{Design flow (gpd)}}{\text{Recommended dosing frequency/day}}$$

B. Dose volume based on dose volume/pipe void ratio = 207 gal
laterals + manifold

1. If entire network remains full between doses = 0 gal.

2. If just laterals drain between doses = 202 gal

Required dose volume = (7) X (Interior volume of laterals)

laterals $7 \times .096 \times 4 \times 75 = 201.6$
manifold $.196 \times 24 = 5$

3. If entire system drains between doses = ____ gal

$$\text{Required dose volume} = \left[(7) \times \left[\text{Interior volume of laterals}\right]\right] + \left[\text{Interior volume of manifold}\right] + \left[\text{Interior volume of transport line}\right]$$

C. For desired dose volume, select larger of A or B above = 240 gal

STEP 2: Determine Required Pump or Siphon Discharge Capacity = 59 gpm

Required pump discharge capacity = Sum of all discharge rates from all laterals in the system

STEP 3: Calculate the Total Friction Losses in the Network

A. Transport pipe: Use table or equation in Appendix 3 = .82 ft.

Pipe Material	Pipe Diameter	Flow (gpm)	Friction Loss Per 100 feet of Pipe	Pipe Length	Friction Loss in Pipe
160	2"	59	$(59/332.5)^{1.75}$	20	.82

SHEET 7

B. Manifold and lateral friction losses = 1'

STEP 4: Calculate the Total Elevation Lift = 7'

Total elevation lift = (Elevation of uppermost lateral) - (Elevation of low water level in the pump chamber)

STEP 5: Determine the Total Dynamic Head

1. If pump will be used:

Selected residual pressure		2 ft.
Transport pipe friction losses	+	.82 ft.
Manifold and lateral friction losses	+	1 ft.
Total elevation lift	+	7 ft.
Total Dynamic Head	=	9 ft.

2. If siphon will be used:

Selected residual pressure		____ ft.
Transport pipe friction losses	+	____ ft.
Manifold and lateral friction losses	+	____ ft.
**Velocity head loss	+	____ ft.
Total Dynamic Head or Required Elevation Difference Between Outlet and Lateral	=	____ ft.

Cross-sectional area of pipe = $\frac{d^2}{4}$

Velocity (ft/sec) = $\frac{\text{Flow rate } (ft^3/sec)}{\text{Area of pipe } (ft^2)}$

Velocity head = $\frac{(\text{Velocity})^2}{2g}$

where g is the gravitational constant 32.2 ft/sec

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STEP 6: Select a Pump or Siphon

A. Pump: Required capacity = 59 gpm, Total Dynamic Head = 9 ft.

B. Siphon: Required capacity = ____ gpm
Will have outlet ____ ft. above laterals

SHEET 8

STEP 7: Design the Pump or Siphon Chamber

1. INSTALL 750 GAL PUMP TANK
2. INSTALL HYDROMATIC SP40M PUMP
3. SET PUMP TO DELIVER 240GALS / CYCLE

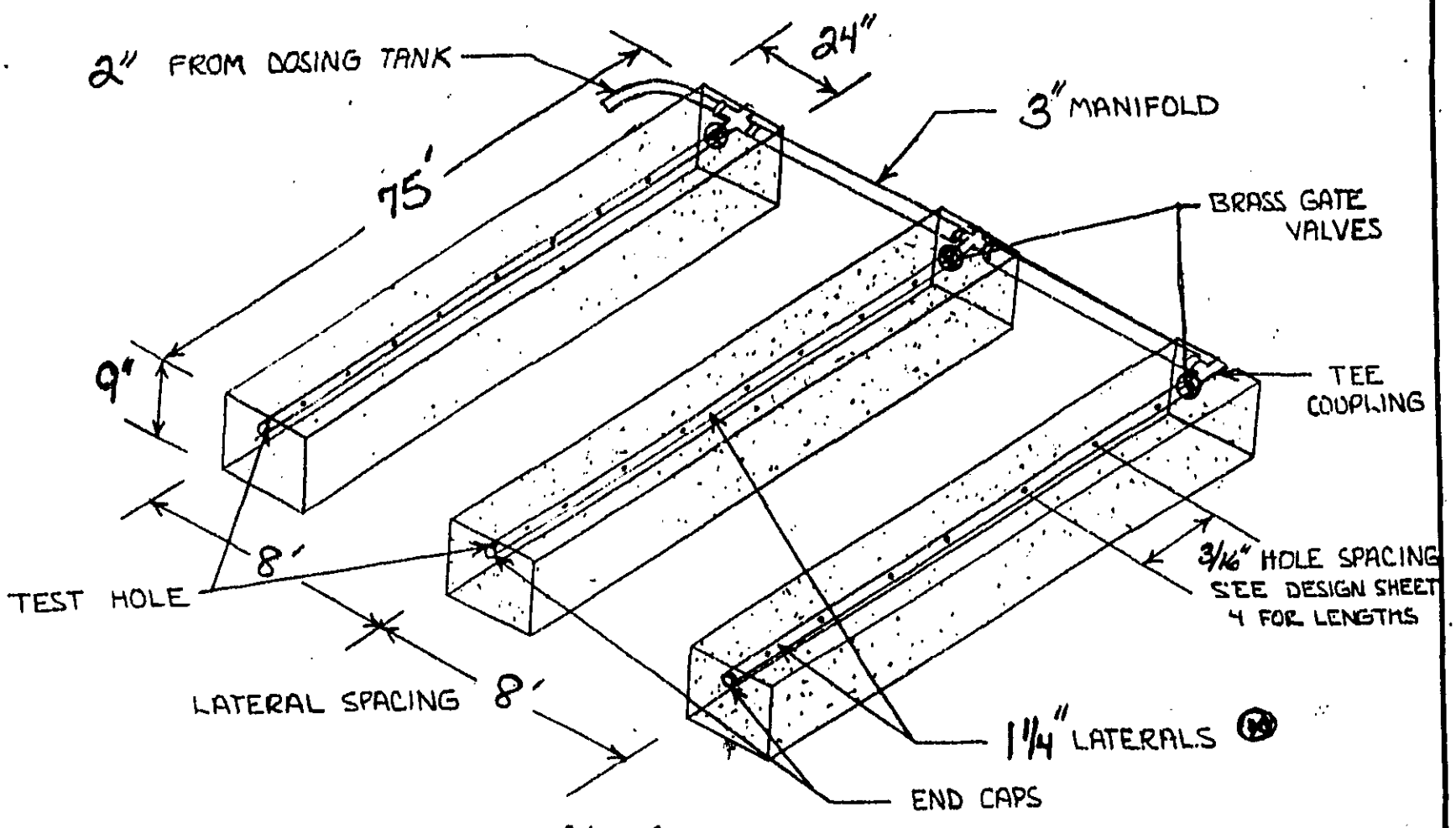
STEP 8: Specify Pump Controls

SJ ELECTRO LEVEL CONTROLS

STEP 9: Specify the Monitoring and Alarm Systems

INSTALL ANCHOR ALARM SYSTEM

SHEET 9

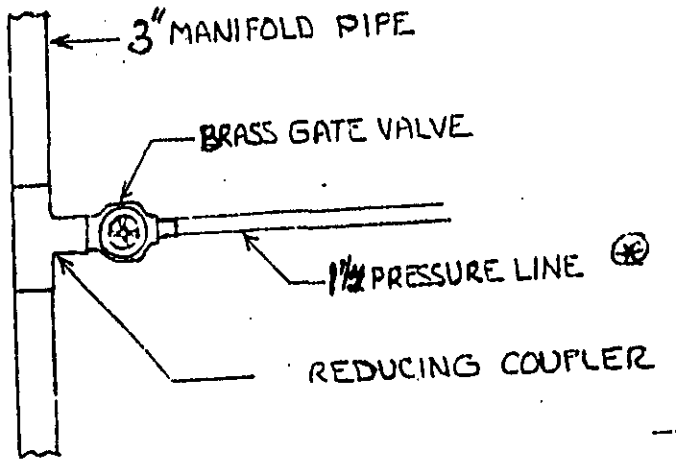


⊛ Note lateral #4 to be 1.5" in diameter

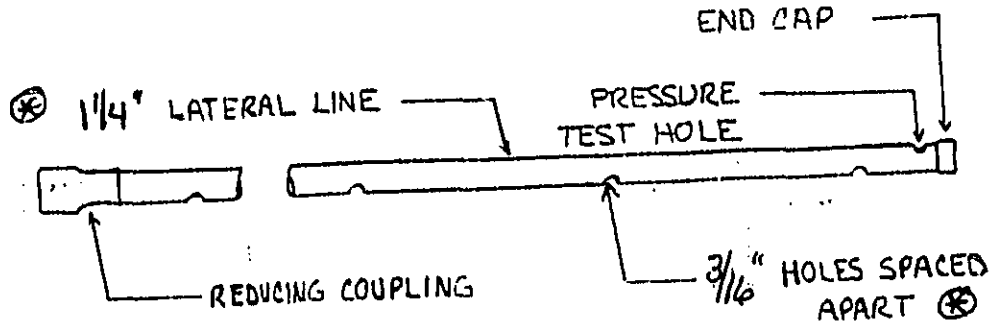
DETAIL DRAWING OF DISTRIBUTION NETWORK LAYOUT - ONLY 4 LINES		
SCALE: None	APPROVED BY: REQUIRED	DRAWN BY
DATE:		REVISED
		DRAWING NUMBER SHEET 10

SEP 14 1987

VIEW TYPICAL GATE VALVE INSTALLATION



LATERAL DETAIL



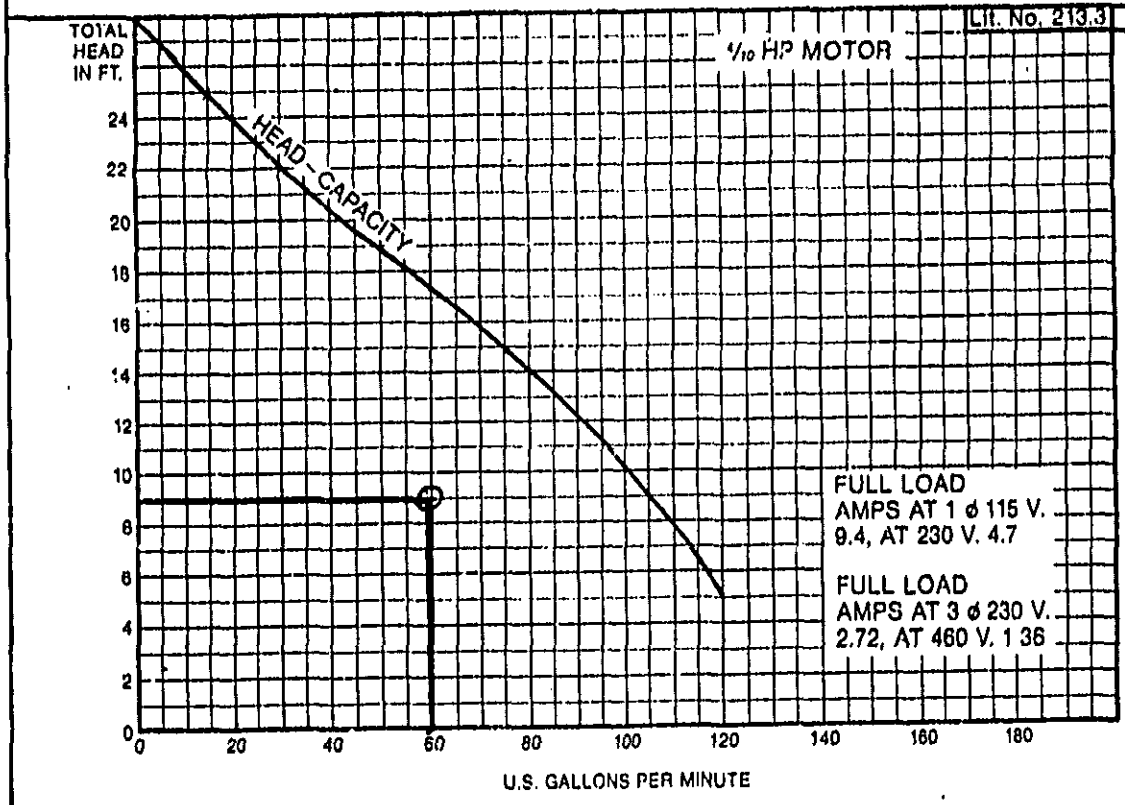
⊛ SEEL DESIGN SHEET 4 FOR HOLE SPACING OF EACH LATERAL

note lateral #4 to be 1.5" in diameter

SCALE:	APPROVED BY:	DRAWN BY
DATE:		REVISED
		DRAWING NUMBER SHEET 11

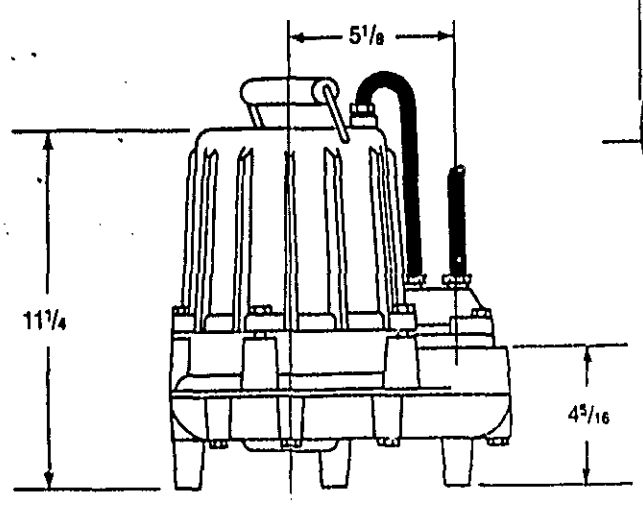
MODEL: SP40A SUBMERSIBLE SEWAGE PUMP — MAX. SOLIDS 1¼" SPHERE — 1750 RPM

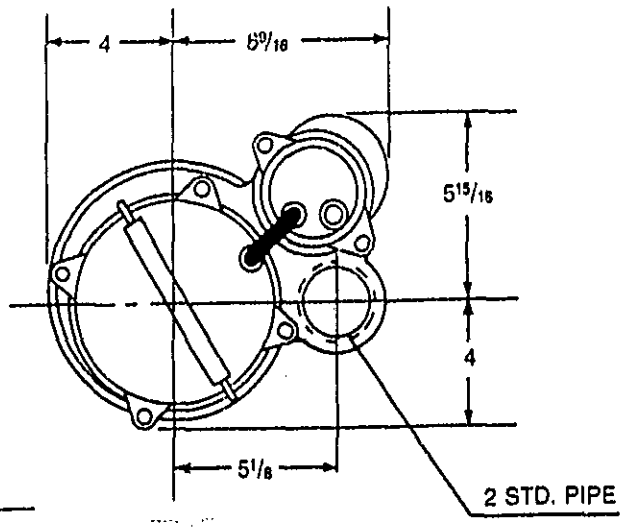
Lit. No. 213.3 703



492

MODEL: SP40A



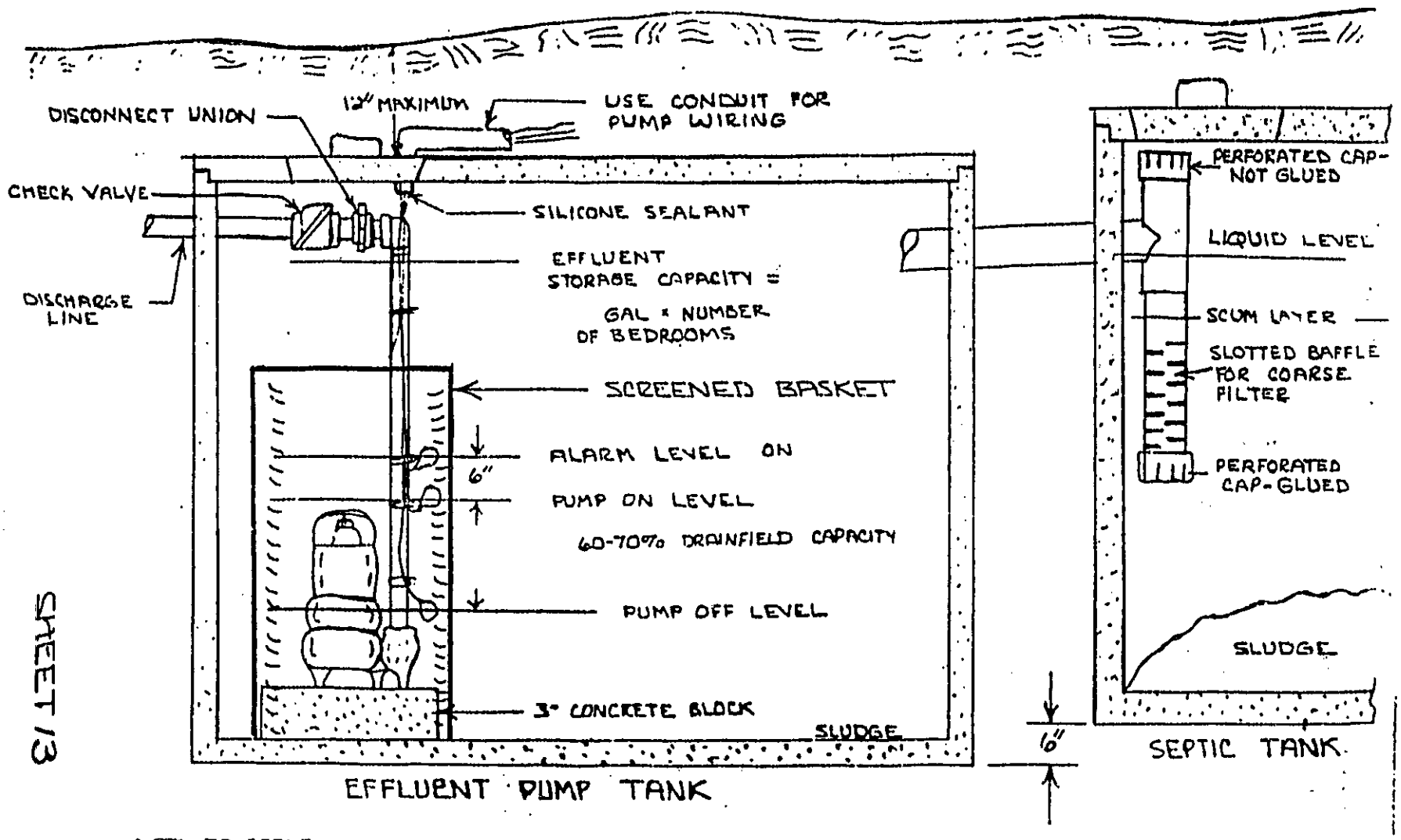


SEP 3 1 1997

SHEET 12

NOTE: CASTING DIM. MAY VARY ± 1/8"

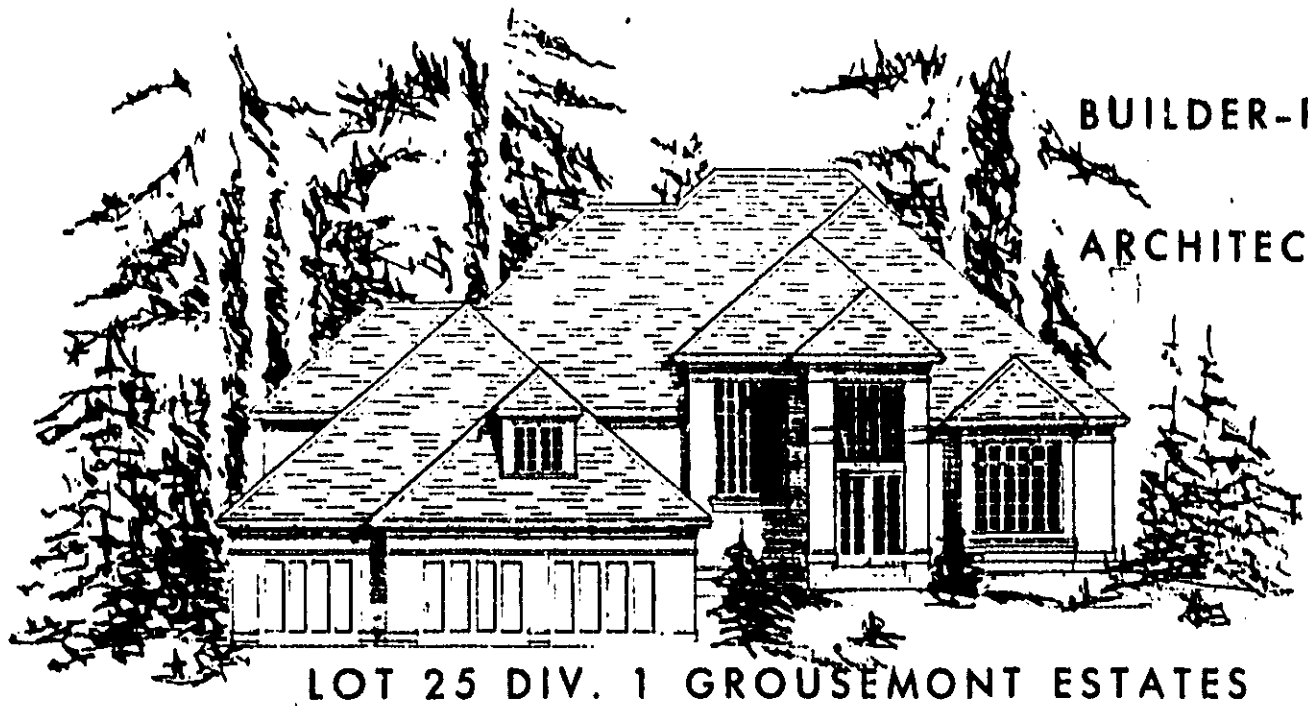
TYPICAL PUMP TANK LAYOUT
WITHOUT RISER
FOR PRESSURE DISTRIBUTION



SHEET 13

NOT TO SCALE

rkk
CONSTRUCTION, INC.



BUILDER-RANDY KOEHLER

ARCHITECT-JEFF LOVELESS

TIM COWIN

THE HELLER CO.,

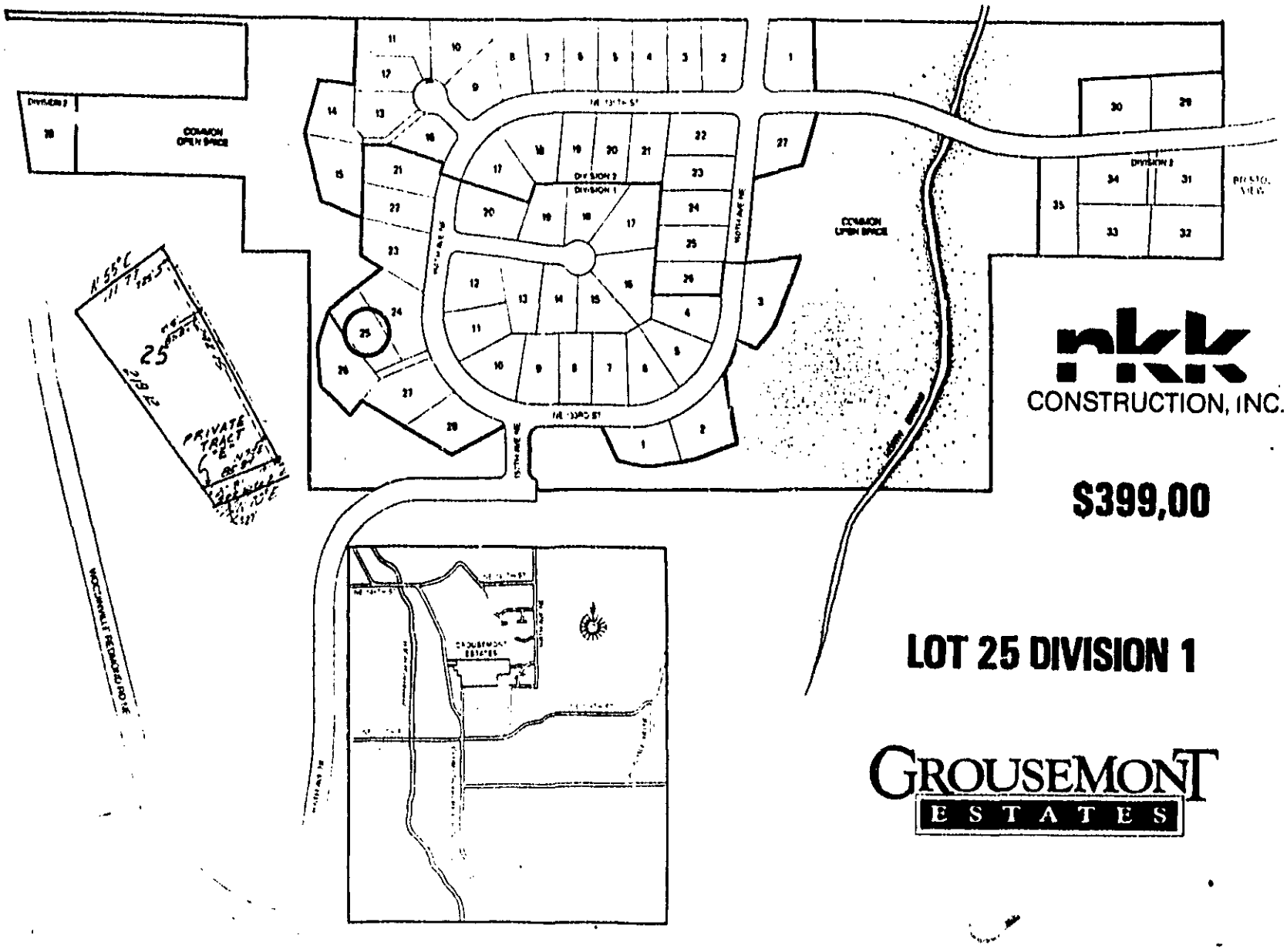
454-7299

LOT 25 DIV. 1 GROUSEMONT ESTATES

$389,000

FEATURES

* 4,100 SQUARE FEET
* CLASSIC TRADITIONAL STYLING
* 4 BEDROOMS EACH WITH SEPARATE BATH
* HUGE MASTER SUITE WITH SITTING AREA
* PANELLED LIBRARY WITH BOOKCASES
* LARGE ENTRY WITH HANDCRAFTED STAIR RAIL
* LARGE LIVING ROOM WITH MARBLE FIREPLACE
* ENORMOUS KITCHEN/FAMILY ROOM WITH RKK QUALITY
* WALK-IN PANTRY
* BACK STAIRS TO SECOND FLOOR
* UTILITY ROOM BETWEEN FIRST & SECOND FLOOR
* SECURITY SYSTEM
* BUILT IN VACUUM & STEREO
* PRIVATE LOT SETTING ADJACENT TO NATURAL PRESERVE
* COMPLETE LANDSCAPING WITH SPRINKLER SYSTEM



nkk
CONSTRUCTION, INC.

$399,00

LOT 25 DIVISION 1

GROUSEMONT
ESTATES

Ltr

Seattle-King County / DEPARTMENT OF PUBLIC HEALTH

SITE APPLICATION DEFICIENCIES

Address or legal description 13319 - 157th Ave. N.E.
Lot 25 Grousemont Estates

Designer Dale Esnough

Sanitarian Theresa J. Barclay

The attached site application cannot be accepted at this time because of the following:

Cemented soil: SL 1 38"
SL 2 36"
SL 3 38"
SL 4 38"

Lots less than 1 acre require 48" of soil under the current regulations.

May be resubmitted as a pressure distribution without a fee within 30 days.

Date August 25, 1987

Sanitarian Theresa J Barclay

CS 13.15.57

NOTICE: IF THE DOCUMENT IN THIS FRAME IS LESS CLEAR THAN THIS NOTICE. IT IS DUE TO THE QUALITY OF THE DOCUMENT.

13319 157th Ave. NE.

ADDRESS: 13327 157 Ave NE

PARCEL #

ADD-ON

Do Not Alter or Deface This Permit — POST OVER STUBOUT R.D. 4216

Environmental

PERMIT TO INSTALL/REPAIR SEWAGE DISPOSAL SYSTEM

Seattle-King County Department of Public Health—Environmental Health

No. 039113

Date Issued 3-11-83 Expires one year from date of issue if work not started. Fee 165.00

Permission is Hereby Granted Wolles Const. to Install/Repair X Residential/Commercial Steve Prosp

sewage disposal system at [illegible] for BKK Const. By Director of Public Health per de

1. This permit authorizes the installer to undertake and perform work only in accordance with current laws, ordinances, and rules and regulations.
2. Issuance of this permit does not constitute an approval of the site or work contemplated, or a representation that the site or work will meet current standards. Any representations to the contrary are void.
3. All work must be inspected by the health department upon completion and before covering. The work will be inspected for compliance with current standards and the capacity of the system to adequately treat sewage.
4. This permit is not transferable to another installer or to another property.

OK to Cover ✓ Disapproved Date 4/6/83 Corrections Required

Designer Dale Enright

OK to Cover Disapproved Date

Sanitarian

Final Cover Disapproved Date

Designer

RECEIVED
SERVICE CENTER
APR 11 1983

Do not cover until BOTH designer and sanitarian have o'd to cover.

I have complied with all the restrictions and requirements noted on the approved plan (or latest approved revision thereof) and was personally present during the installation.

Signature of Installer [signature] Dated 3-30-83

CS 1315.4 Rev. Jan 82

Public Health
Seattle & King County

OPERATION / PERFORMANCE MONITORING REPORT

Environmental Health Division, 14350 SE Eastgate Way, Bellevue, WA 98007, Tel. (206) 477-8050

Inspection Type: PROPERTY SALE - Correction Status: All corrections made

Tax ID: 2944000250 **Inspection Date: 02/06/2023**

GENERAL SYSTEM TYPE: Pressure Distribution

This is not the complete report necessary for a property transfer in King County. Please see the Time of Sale report, with the cover page and system drawing, located under the menu Site Work History, Application History.

Site Address: 13327 157TH AVE NE **City:** KING COUNTY

Mail Address: **City:** **Zip:**

OSM Company: Above Grade Septic **OSM Name:** Dustan Bunt **OSM Tel#:** 425-954-7233

Submitted 02/08/2023 by:

COMMENTS & GENERAL INSPECTION NOTES

Deficiencies Were Noted: Corrections were made to resolve the deficiencies.

Arrived to perform for sale of home inspection on occupied home just after tanks were pumped out. Inspected septic tank with no visible issues. Tank does have risers to grade and still has concrete lids in place . Baffles are PVC and in place with no visible issues . No signs of cracks or ground water infiltration in the septic tank. Septic tank appears to be in satisfactory condition. Pump tank does have riser to grade and still has concrete lid in place. No signs of cracks or ground water infiltration in the pump tank. Pump tank appears to be in satisfactory condition. Pump and float appear to be original however they performed properly at this time. Pump and float are plugged into an outlet on side of house. There is wiring that does exit the plug and is laying on the ground or just below the surface but not adequately buried per electrical code. The wire appears to extend to additional outlets that are located on the deck. It is recommended that the pump circuit be dedicated and not attached to any additional plugs, the pump and float to be hard wired and any wiring be properly buried to meet state electrical code. This would need to be completed by a state licensed electrician. The alarm box is located in downstairs in a closet or control room. The alarm float was not tied down and a float weight was added at the time of inspection. The alarm float was tested and worked properly at this time. The system was dose tested with 150 gallons with no visible signs of surfacing or issues with the drain field after walking the area before and after the dose test. Overall the system appears to be operating properly at this time.

- Pump and floats appear to be original
- Alarm float was not tied down to allow it to alarm with proper notification. An float weight was added to allow the alarm to trigger properly.
- It appears the pump circuit is also powering other outlets on the deck, the pump should be on a dedicated circuit and direct wired to prevent issues. The wire running to these additional circuits is not buried properly and should be addressed by a state licensed electrician.
- Pump system every 2-4 years, clean effluent filter every 6 months and perform routine drain field cleaning to maximize lifespan of system.
- This inspection does not guarantee or provide any warranty of the septic system.

GENERAL SITE & SYSTEM CONDITIONS

The General Site and System Conditions were:	Fully Inspected
All Components accessible for maintenance, secure and in good condition:	YES
If a dye test was performed, did the dye surface? (N/A if no dye test)	N/A
Effluent leaking onto the surface of the ground from any component? (If yes, explain in comments)	NO
Improper encroachment (roads, buildings, etc.) onto component(s):	NO
Component settling problems observed:	NO
Subsurface components adequately covered	YES
Period average daily flow (gallons per day)	Unknown
Site maintenance required (e.g. Landscape maintenance) If yes, describe in comments:	NO
Occupant compliance problem (occupant not operating the system properly). If YES, describe in notes:	NO
Structures connected to onsite sewage system occupied. If NO explain in comments:	YES
Alterations made to the OSS (valves adjusted, timer settings modified, ports installed, etc.) (If YES, describe in notes):	YES
Risers and lids secured:	YES
OSS Working Properly	YES
Pre-failing Signs	NO
Record Drawing Modified	NO
Record Drawing New	NO
All tanks have risers to grade	YES
At the time of this inspection, were any risers or monitoring ports installed?	NO
Upon evaluation of the system were any repairs made? (If yes, please explain in comments)	YES

ONSITE SEWAGE SYSTEM INSPECTION DETAIL

TANK: Septic Tank - 2 Compartment		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Effluent level within operational limits (if NO explain in comments):	YES	
All required baffles in place (N/A = No baffles required):	YES	
Effluent Filter Cleaned (N/A = Not Present):	NO	
Compartment 1 Scum accumulation (Inches, if other specify):	0	
Compartment 1 Sludge accumulation (Inches, if other specify):	0	
Compartment 2 Scum accumulation (Inches, if other specify):	0	
Compartment 2 Sludge accumulation (Inches, if other specify):	0	
Pumping needed:	NO	
A modification/repair was completed on the component (If yes, provide detail in comments):	NO	
TANK: Pump Tank		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Compartment 1 Scum accumulation (Inches, if other specify):	0	
Compartment 1 Sludge accumulation (Inches, if other specify):	0	
Pumping needed:	NO	
A modification/repair was completed on the component (If yes, provide detail in comments):	NO	
Pump: Effluent Pump SP40M		
Manufacturer: Hydromatic		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Controls functioning:	YES	
Pump Vault Filter cleaned (N/A = not present):	N/A	
Tested gallons per minute flow:	27	
A modification/repair was completed on the component (If yes, provide detail in comments):	YES	
Distribution: Manifold		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Drainfield (disposal): Pressure		
This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Component settling problems observed:	NO	
Surface water, downspouts diverted away from drainfield:	YES	
Evidence of vehicular traffic or livestock over drainfield:	NO	
LPD dose gpm, design rate _____ gpm.	unknown	
Balancing valves functioning properly (NA = Not Present):	YES	
Purge valves functioning properly (NA = Not Present):	N/A	
LPD dose gpm, monitored rate _____ gpm.	27	
Observation ports present and accessible:	N/A	
A method, such as aeration, was used to reduce clogging of the biomat in this component (If yes, provide detail in comments):	NO	
Lateral lines jetted:	NO	
A modification/repair was completed on the component (If yes, provide detail in comments):	NO	

Panel: Alarm - High Water, Manufacturer= SJE Rhombus - Tank Alert 1 (indoor)

Manufacturer: SJE Rhombus Model: Tank Alert 1 (indoor)

This component was:	Fully Inspected	
Component appears to be functioning as intended:	YES	
Alarm mechanism functioning as intended:	NO	Corrected
A modification/repair was completed on the component (If yes, provide detail in comments):	YES	