107 High Point D-

No. _____ RECEIVED OCT 1 8 1999 FEE _____

COMMONWEALTH OF MASSACHUSETTS

Board of Health, AMHERST, *MA.*

APPLICATION FOR DISPOSAL SYSTEM CONSTRUCTION PERMIT

Application for a Permit to Construct( ) Repair( ) Upgrade(X) Abandon( ) - ☐ **Complete System** ☒ **Individual Components**

Location 107 HIGH POINT DR.	Owner's Name TOM ZOELLER
Map/Parcel#	Address 107 HIGH POINT DR. AMHERST, MA 01002
Lot#	Telephone#
Installer's Name	Designer's Name DAVID E. KEATES
Address	Address 102 RUSSELL SUNDERLAND, MA 01375
Telephone#	Telephone# 413-665-7670

Type of Building _____ Lot Size _____ sq. ft.

Dwelling - No. of Bedrooms 3 EXST. WITH 1 ADDED Garbage grinder (NO

Other - Type of Building _____ No. of persons _____ Showers ( ), Cafeteria ( )

Other Fixtures _____

Design Flow (min. required) 440 gpd Calculated design flow _____ Design flow provided 440 gpd

Plan: Date 5/3/99 Number of sheets 19 Revision Date _____

Title SEWAGE DISPOSAL SYSTEM FOR TOM ZOELLER

Description of Soil(s) SEE LOGS SHEET 5 & 6 OF 19

Soil Evaluator Form No. _____ Name of Soil Evaluator CHRISTIAN BOYSEN Date of Evaluation 7/24/96

DESCRIPTION OF REPAIRS OR ALTERATIONS ADD 14' TO EXISTING LEACH FIELD
RELOCATE VENT PIPES

The undersigned agrees to install the above described Individual Sewage Disposal System in accordance with the provisions of TITLE 5 and further agrees to not to place the system in operation until a Certificate of Compliance has been issued by the Board of Health.

Signed _____ Date _____

REGISTERED ENGINEER - DAVID E. KEATES - No. 31564 - COMMONWEALTH OF MASSACHUSETTS

David E. Keates 5/3/99

Inspections _____

No. _____ FEE _____

COMMONWEALTH OF MASSACHUSETTS

Board of Health, Amherst, *MA.*

CERTIFICATE OF COMPLIANCE

Description of Work: ☒ **Individual Component(s)** ☐ **Complete System**

The undersigned hereby certify that the Sewage Disposal System; Constructed ( ), Repaired ( ), Upgraded (X), Abandoned ( )

by: Chuck Waelder

at 107 High Point Dr.

has been installed in accordance with the provisions of 310 CMR 15.00 (Title 5) and the approved design plans/as-built plans relating to application No. _____, dated _____. Approved Design Flow 440 (gpd)

Installer Chuck Waelder

Designer: David E. Keates 10/12/99 Inspector: _____ Date: _____

The issuance of this permit shall not be construed as a guarantee that the system will function as designed.

No. _____ FEE _____

COMMONWEALTH OF MASSACHUSETTS

Board of Health, _____, *MA.*

DISPOSAL SYSTEM CONSTRUCTION PERMIT

Permission is hereby granted to; Construct( ) Repair( ) Upgrade( ) Abandon( ) an individual sewage disposal system at _____ as described in the application for Disposal System Construction Permit No. _____, dated _____.

Provided: Construction shall be completed within three years of the date of this permit. All local conditions must be met.

Date _____ Board of Health _____

#107

No. 8

FEE 160.00
PD 7-24-96
CH# 0470

THE COMMONWEALTH OF MASSACHUSETTS

AMHERST, MASSACHUSETTS

Application for Disposal System Construction Permit

Application is hereby made for a Permit to Construct ( ) or Repair (✓) an On-site Sewage Disposal System at:

Location Address or Lot No.	Owner's Name, Address and Tel. No.
107 HIGH POINT DRIVE	TOM ZOELLER
Installer's Name, Address, and Tel.No.	Designer's Name, Address and Tel. No. 413-665-7670 DAVID E. KEATES 102 RUSSELL ST. SUNDERLAND, MA 01375

Type of Building:
Dwelling No. of Bedrooms 3 Garbage Grinder (NO)
Other Type of Building _____ No. per Persons _____ Showers ( ) Cafeteria ( )
Other Fixtures _____

Design Flow 330 gallons per day. **Calculated** daily flow _____ gallons.

Plan Date 7/30/96 Number of sheets 19 Revision Date _____
Title SEWAGE DISPOSAL SYSTEM FOR TOM FOELLER

Description of Soil See logs sheets 5 & 6 of 19

Nature of Repairs or Alterations (Answer when applicable) _____

Date last inspected: _____

David E. Keates

Agreement:
The undersigned agrees to ensure the construction and maintenance of the aforedescribed on-site sewage disposal system in accordance with the provisions of Title 5 of the Environmental Code and not to place the system in operation until a Certificate of Compliance has been issued by this Board of Health.

Signed David E Keates for Tom Zoeller Date 7/30/96

Application Approved by David Zarozinski for Inspection Date 8-5-96

Application Disapproved for the following reasons _____

Permit No. 96-8 Date Issued 8-5-96

R L Mitchell
Aug 27, 1996

THE COMMONWEALTH OF MASSACHUSETTS

Amherst, MASSACHUSETTS

INSPECTED IN SUBSTANTIAL COMPLIANCE FOR DEK — KCD 27 Aug 96

Certificate of Compliance

THIS IS TO CERTIFY, that the On-site Sewage Disposal System installed ( ) or repaired/replaced (✓) on _____ by _____ for Tom Zoeller at 107 High Point Drive has been constructed in accordance with the provisions of Title 5 and the for Disposal System Construction Permit No. 96-8 dated _____. Use of this system is conditioned on compliance with the provisions set forth below:

The issuance of this certificate shall not be construed as a guarantee that the system will function as designed. This Certificate expires on _____

DATE 7/27/96 Inspector David Zarozinski for Inspection

THE COMMONWEALTH OF MASSACHUSETTS

No. 96-8 Amherst, MASSACHUSETTS FEE 160.00
7-24-96
CH# 0470

Disposal System Construction Permit

Permission is hereby granted to Tom Zoeller to construct ( ) or repair (✓) an On-site Sewage System located at 107 High Point Drive

and as described in the above Application for Disposal System Construction Permit. The applicant recognizes his/her duty to comply with Title 5 and the following local provisions or special conditions.

All construction must be completed within three years of the date below.

DATE 8-5-96 Approved by David Zarozinski for Inspection Sewer Dept.

FORM 1255 Rev. 3/95 A.M. SULKIN CO. - BOSTON, MA

TOWN OF AMHERST

INSPECTION SERVICES/HEALTH PERMITS

Received of SANDRA Petersen / Robert Zoeller of 107 High Point Drive
Name Address

For Property Located at 107 High Point Dr. S. Petersen / R. Zoeller
Street Address Owner

____	Bakery	01-0-501-4433-00	✓	Perc Test 100.00	01-0-501-4344-00
____	Bed & Breakfast	01-0-501-4474-01	____	Pool	01-0-501-4471-00
____	Catering	01-0-501-4429-00	____	Rec. Camp	01-0-501-4424-00
____	Food Handler	01-0-501-4474-00	____	Retail Permit	01-0-501-4473-00
____	Frozen Desserts	01-0-501-4421-00	____	Sanitary Code Booklet	01-0-501-4380-00
____	Housing Inspection	01-0-501-4348-00	____	Septic Installers Permit	01-0-501-4470-01
____	Massage	01-0-501-4425-00	✓	Septic Private Applications 60.00	01-0-501-4470-00
____	Milk	01-0-501-4420-00	____	Septic - Reinspection	01-0-501-4345-00
____	Motel License	01-0-501-4428-00	____	Sub-Division Rev.	01-0-501-4460-00
____	Miscellaneous	01-0-501-____	____	Tanning	01-0-501-4434-00
____	Offal/Garbage	01-0-501-4472-00	____	Twenty-one D Tickets	01-0-501-4879-00

PAID
JUL 25 1996
TOWN OF AMHERST
TREASURER

TOTAL FEE: 160.00

Norma J. Lynch 7/24/96
Treasurer/Collector TCB Date

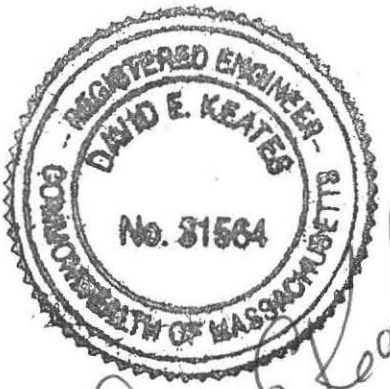
David Zaczynski
Inspection Services

White - Applicant *Yellow - Collector* *Pink - Inspection Services*

Sewage Disposal System

for

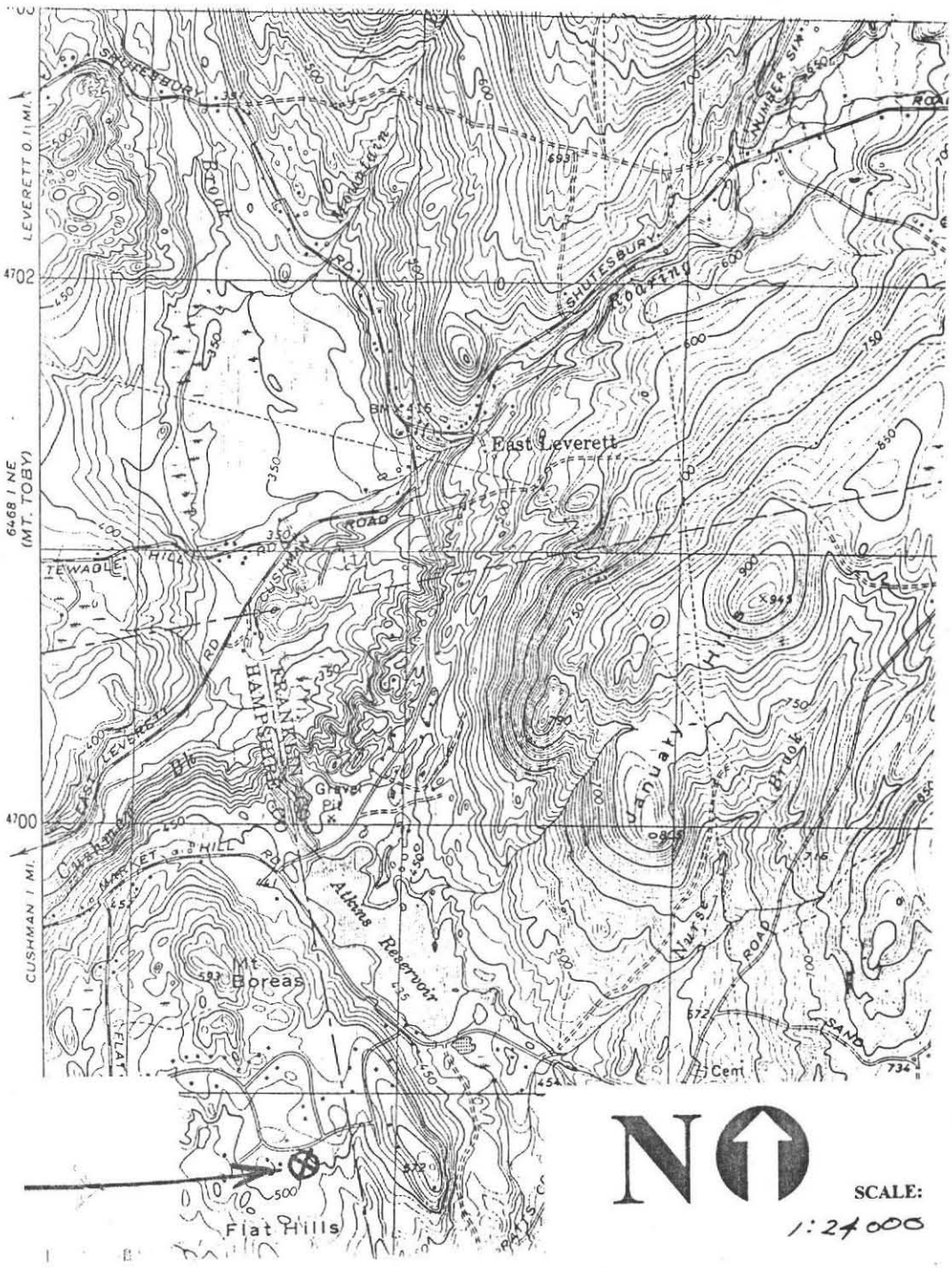
Tom Zoeller
107 High Point Drive
Amherst, MA



David E. Keates 7/30/96

RECEIVED AUG 0 2 1996

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670



LOCATION MAP

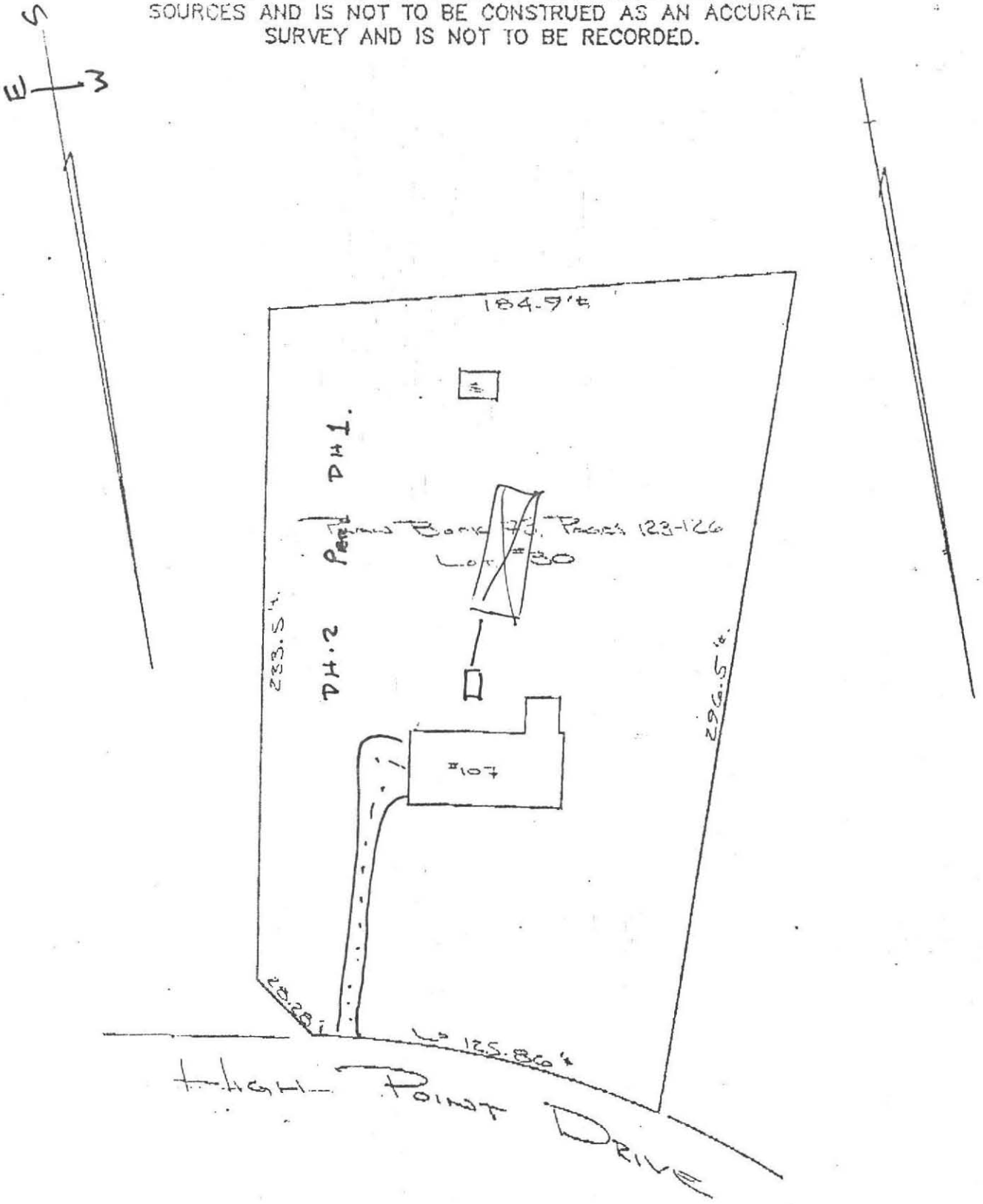
PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA.

Sheet 2 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

—NOTE—

THIS PLAT IS COMPILED FROM DEEDS, PLANS AND OTHER SOURCES AND IS NOT TO BE CONSTRUED AS AN ACCURATE SURVEY AND IS NOT TO BE RECORDED.



TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND, MA 01375

Title 5 : Draft Printed September 20, 1993 *Appendix 4 Page 1*

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

Location Address: **107 High Point Drive, Amherst, MA**
Assures map 60, lot 60

Commonwealth of Massachusetts,
Massachusetts

Site Suitability Assessment for On-Site Sewage Disposal

Performed By : K. Christian Boysen Certification Number : Nov. '94
Witnessed By : David Zarazinski Health Agent & Certified Soils Evaluator

Location Address or Lot No.	Owner's Name, Address and Tel. #
107 High Point Drive, **Amherst, MA 01002**	**Tom Zoeller** **107 High Point Drive,** **Amherst, MA 01002**

New Construction: Repair: ☑ **Straight T-5 repair per Mr. Sarazinski, Estimated property line maybe town road, 3 BR and remove grinder, Replace ex. slide inlet & outlet baffles w/ gas & plastic**

Office Review

Published Soil Survey Available : Yes ☑ No
Year Published **1981** Publication Scale **1:15 840**
Drainage Class Soil Limitations Soil Map Unit:

Surficial Geologic Report Available : Yes ☑ No
Year Published **1967** Publication Scale **1:24 000**
Geological Material (Map Unit) **Glacial Till**
Landform **Drumlin**

Flood Insurance Rate Map : Panel #**250156-0005** Date: **15Dec83**
Above 500 year flood plain ☑No Yes
Within 500 year flood plain ☑No Yes
Within 100 year flood plain ☑No Yes

Wetland Area :
National Wetland Inventory Map (map unit) :
Wetlands Conservancy Program Map (map unit) :
Current Water Resource Conditions (USGS) : Month
Range : Above Normal Normal Below Normal
Other Refererices Reviewed :

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND, MA 01375

Title 5 : Draft Print September 20, 1993 *Appendix 4 Page 2*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

On-site Review

Deep Hole Number : **1** Date : **24July96** Time : **8:22 AM** Weather : **Cloudy 60'**
Location (identify on site plan): **25' W. of E. property line-see site plan**
Land Use : **Cleared woods** Slope : **5%** Surface Stones : **Many small**
Vegetation : **Stripped**
Landform : **Terrace**
Position on landscape (sketch on back) : **On terrace**
Distance From :

Open Water Body : **>150** Drainage way : **>100**
Possible Wet Area : **>150** Property Line : **25' +/-**
Drinking Water Well: Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-2	Ap	•FINE SANDY LOAM •(WAS STRIPPED)	10YR 2/2	NO	•MANY ROOTS •5% GRAVEL TO 3/4" DIA •FRIABLE
2-15	Bw	FINE SANDY LOAM	10YR 4/5	NO	•MANY FINE ROOTS •FRIABLE •10% GRAVEL TO 1 - 1/4" DIA
15-22	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•15% GRAVEL TO 1 - 1/4" DIA •VERY FRIABLE
22-36	C1	FINE SANDY LOAM	2.5Y 5/3	•<47"= •<5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1/2" DIA •VERY FIRM •FRIABLE •STRATIFIED
36-141"	C2	VERY FINE SANDY LOAM	2.5Y 6/2	•47"+= >5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1" DIAMETER •EXTREMELY FIRM

90.8

Parent Material (geologic) : **GLACIAL TILL** Depth to Bedrock : **>141"**
Depth to Ground water: Standing Water in Hole : **141"** Weeping from Pit Face: **69"**
Estimated Seasonal High Ground Water : **47" (MOTTLES)** 86.9
3.9'

LSDR62696

Sheet 5 of 19

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND MA. 01375

Title 5 : Draft Print September 20, 1993 *Appendix 4 Page 2*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

On-site Review

Deep Hole Number : **2** Date : **24July96** Time : **9:09 AM** Weather : **Cloudy 60'**
Location (identify on site plan): **30' N. of DH #1-see site plan**
Land Use : **Cleared woods** Slope : **5%** Surface Stones : **Many small**
Vegetation : **Stripped**
Landform : **Terrace**
Position on landscape (sketch on back) : **On terrace**
Distance From : Open Water Body : **>150'** Drainage way : **>150'**
Possible Wet Area : **>150'** Property Line : **25' +/-**
Drinking Water Well: Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-3	A (STRIPPED)	FINE SANDY LOAM	10YR 2/2	NO	•MANY ROOTS •VERY FRIABLE
3-6	FILL	FINE SANDY			
6-71/2	A (HISTORICALLY STRIPPED)	FINE SANDY LOAM			
71/2-16	Bw	FINE SANDY LOAM	10YR 4/5	NO	•MANY ROOTS •FRIABLE •10% SUB-ANG GRAVEL TO 3/8" DIAMETER
16-22	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•5% SUB-ANG GRAVEL TO 3/4" DIAMETER •FRIABLE
22-40	C1	FINE SANDY LOAM	2.5Y 5/3	•<5% •10YR 5/3	•VERY FIRM •STRATIFIED •FRIABLE •10% SUB-ANG GRAVEL TO 3/4" DIAMETER
40-120	C2	FINE SANDY LOAM	2.5Y 6/2	•>5% •10YR 5/3	•10% GRAVEL TO 2" DIAMETER •OCC. STONE TO 12" DIAMETER •EXTREME. FIRM

92.1

Parent Material (geologic) : **GLACIAL TILL** Depth to Bedrock : **>40"**
Depth to Ground water : Standing Water in Hole : **NONE** Weeping from Pit Face: **64"**
Estimated Seasonal High Ground water : **40" (MOTTLES)**
3.33'

88.8

LSDR62696

Sheet 6 of 19

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND MA 01375

Title 5 : Draft Printed September 20, 1993 *Appendix 4 Page 3*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

Table Determination for Seasonal High Water

Method Used :

Depth observed standing in observation hole inches.
Depth weeping from side of observation hole inches.
☑ Depth to soil mottles **47** inches.
Ground water adjustment feet.

Index Well Number Reading Date Index Well Level
Adjustment Factor Adjusted Ground Water Level

Percolation Test		
	Date : **24JULY96**	Time : **10:27AM**
Observation Hole #	**2-2**	
Depth of Perc.	**28" + 22"**	
Start Pre-soak	**10:27AM**	
End Pre-soak	**10:42AM**	
Time at 12"	**10:42AM**	
Time at 9"	**10:55AM**	
Time at 6"	**11:08AM**	
Time (9"-6")	**13 MIN**	
Rate Min./Inch	**4.33**	

USE 20MIN/IN FOR DESIGN-REMOVE EXISTING GARBAGE GRINDER

Site Suitability Assessment : ☑Site Passed Site Failed

Additional Testing Needed : **NONE**

Performed By : **K Christian Boysen** Certification # : **Nov. 94**

Witnessed By : **DAVID ZARAZINSKI HEALTH AGENT & CERTIFIED SOILS EVALUATOR**

I certify that on **Nov. 94** (date) I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

LSDR62696

Sheet 7 of 19

LEACHING FIELD DESIGN

Structure SINGLE FAMILY HOUSE

Design flow 110 gal/day/bedroom

Number of bedrooms 3

Design flow 330 gal/day

Garbage grinder to be used _____ yes ✓ no

If yes, increase design flow by 50%

Revised design flow _____ × 1.5 = _____ gal/day

Percolation rate 4.33 min/inch USE 20 FOR DESIGN

Soil mapping unit from _____ County, Massachusetts soil survey,

sheet number _____ is _____

LEACHING FIELD AREA CALCULATION

No sidewall area is allowed for leaching fields.
See typical leaching field section for dimensions.

From TITLE V, bottom leaching area factor, F_B .53 gal/square foot

(length)	(width)	F_B	=	
			330	gal/day
(L)	(15')	(.53)	= 330	gal/day

$7.95L = 330$

$L = 41.5$ SAY 42 FT.

REGISTERED ENGINEER
DAVID E. KEATES
No. 31564
COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96

Sheet 8 of 19

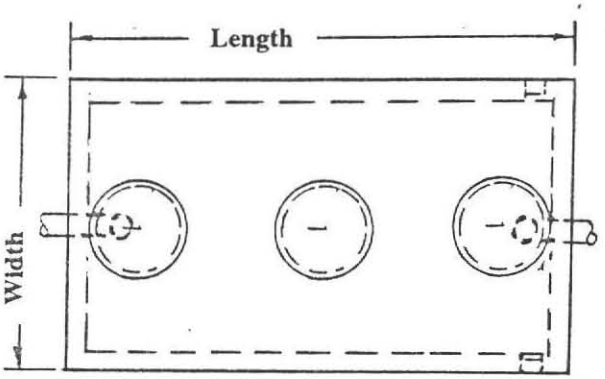
PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

DAVID E. KEATES, P.E.
CONSULTING CIVIL ENGINEER
102 RUSSELL STREET
SUNDERLAND, MASSACHUSETTS 01375
Tel. 413-665-7670

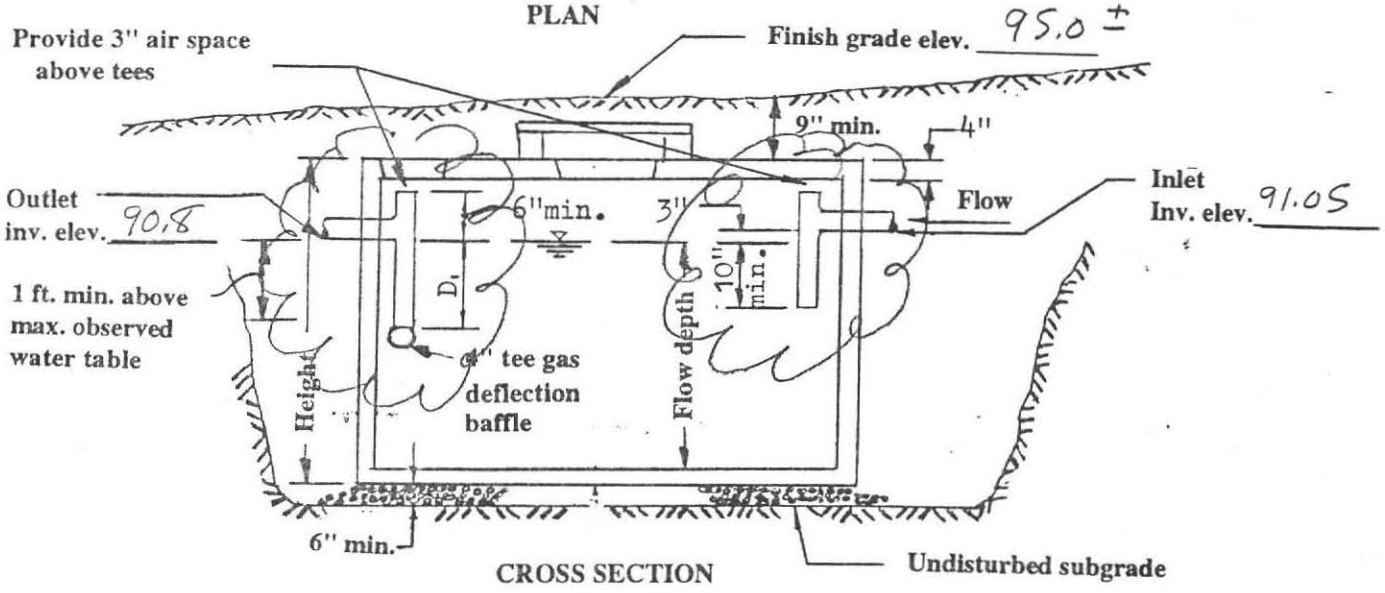
TYPICAL SEPTIC TANK

EXISTING

Liquid depth in septic tank D	Depth of outlet tee below flow line D_1
4'	14"
5'	19"
6'	24"
7'	29"
8'	34"



PLAN



CROSS SECTION

NOTES:

1. Septic tanks should be inspected at least annually and when the total depth of scum and solids exceed 1/3 the depth of the tank, the tank should be pumped.
2. Backfill around the tank shall be placed in even layers on all sides of the tank and in such a manner as to prevent damage to the tank.
3. Tanks shall be installed on a 6 in. min. layer of crushed stone leveled to grade and thoroughly compacted to the satisfaction of the Engineer.
4. Contractor shall provide a written certification that tank conforms to State and Town Board of Health specifications and regulations.
5. Tank and cover shall be capable of withstanding H20 loading. ____ yes ✓ no
   If no, tank shall be capable of withstanding H10 loading.
6. Inlet and outlet tees shall extend to cleanout openings and shall be constructed of cast iron, schedule 40 PVC pipe or cast in place concrete.
7. Rectangular tanks shall have a min. inside length to width ratio of no less than 1.5 to 1.0.
8. At least 3 - 20" dia. manholes with readily removable impermeable covers of durable material shall be provided.
9. Access ports shall be placed at the center and over each inlet and outlet tee.
10. Center access port shall be accessible within 6 in. of final grade.
11. Install new 4"ϕ PVC Sch40 baffles in existing tank. Install gas deflection baffle

COMMONWEALTH OF MASSACHUSETTS - REGISTERED ENGINEER - DAVID E. KEATES No. 31564

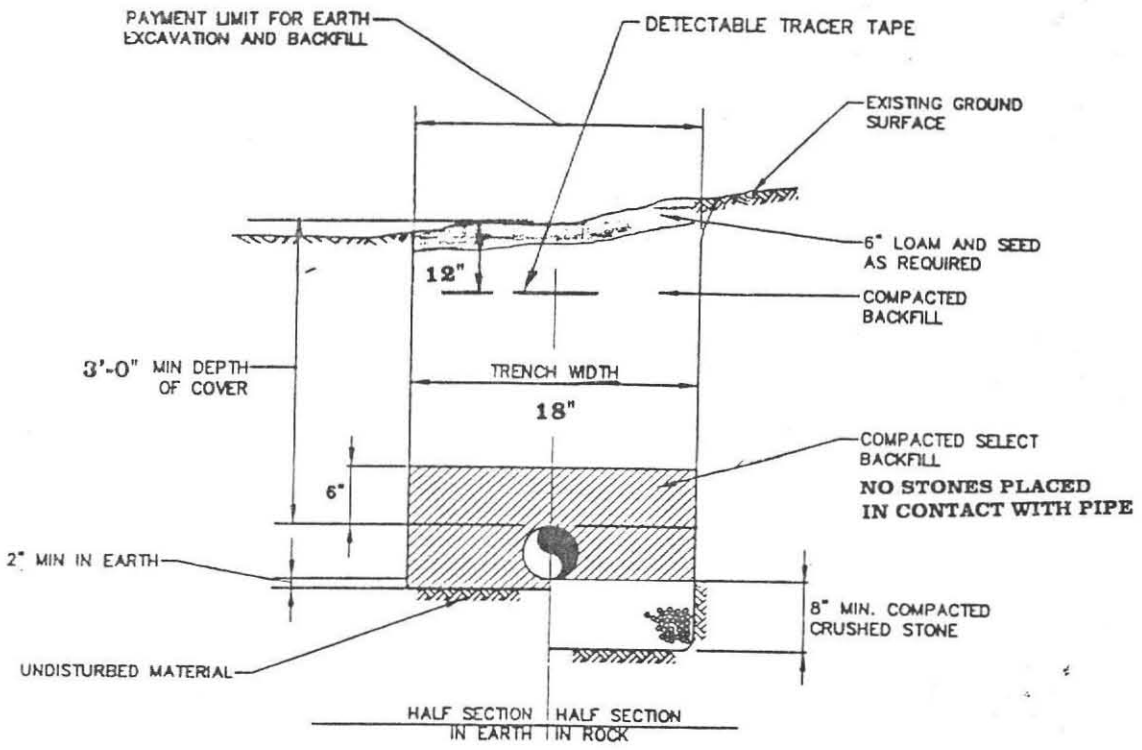
David E. Keates 7/30/96

PROJECT

TOM ZOELLER
107 HIGH POINT DRIVE -
AMHERST, MA

Sheet 9 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670



TYPICAL FORCE MAIN TRENCH DETAIL
N.T.S.

REGISTERED ENGINEER
DAVID E. KEATES
No. 31564
COMMONWEALTH OF MASSACHUSETTS

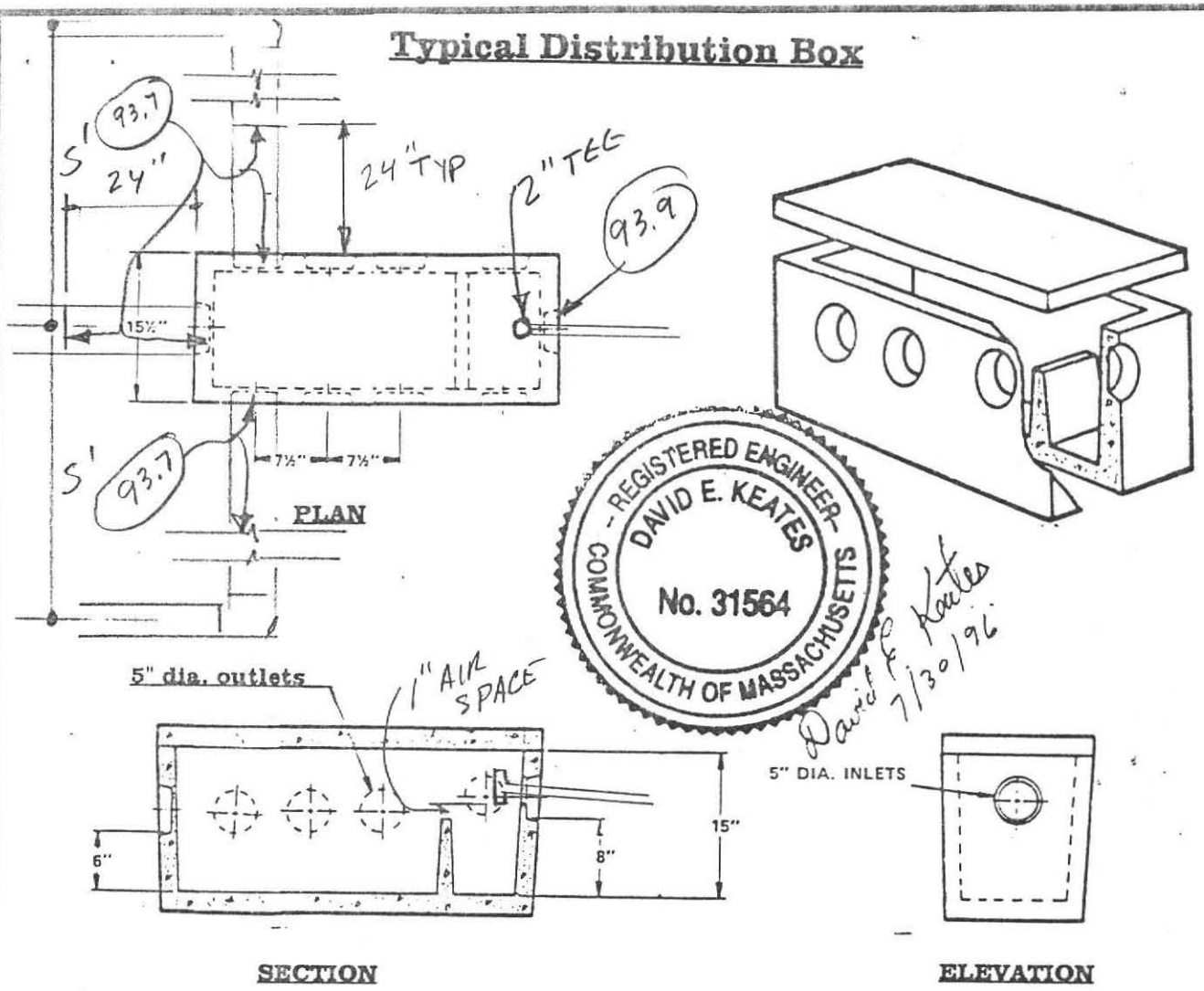
David E. Keates
7/30/96

PROJECT
TOM ZOELLER
107 HIGH POINT ROAD
AMHERST, MA

Sheet 10 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

Typical Distribution Box



REGISTERED ENGINEER
DAVID E. KEATES
No. 31564
COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96

Notes:

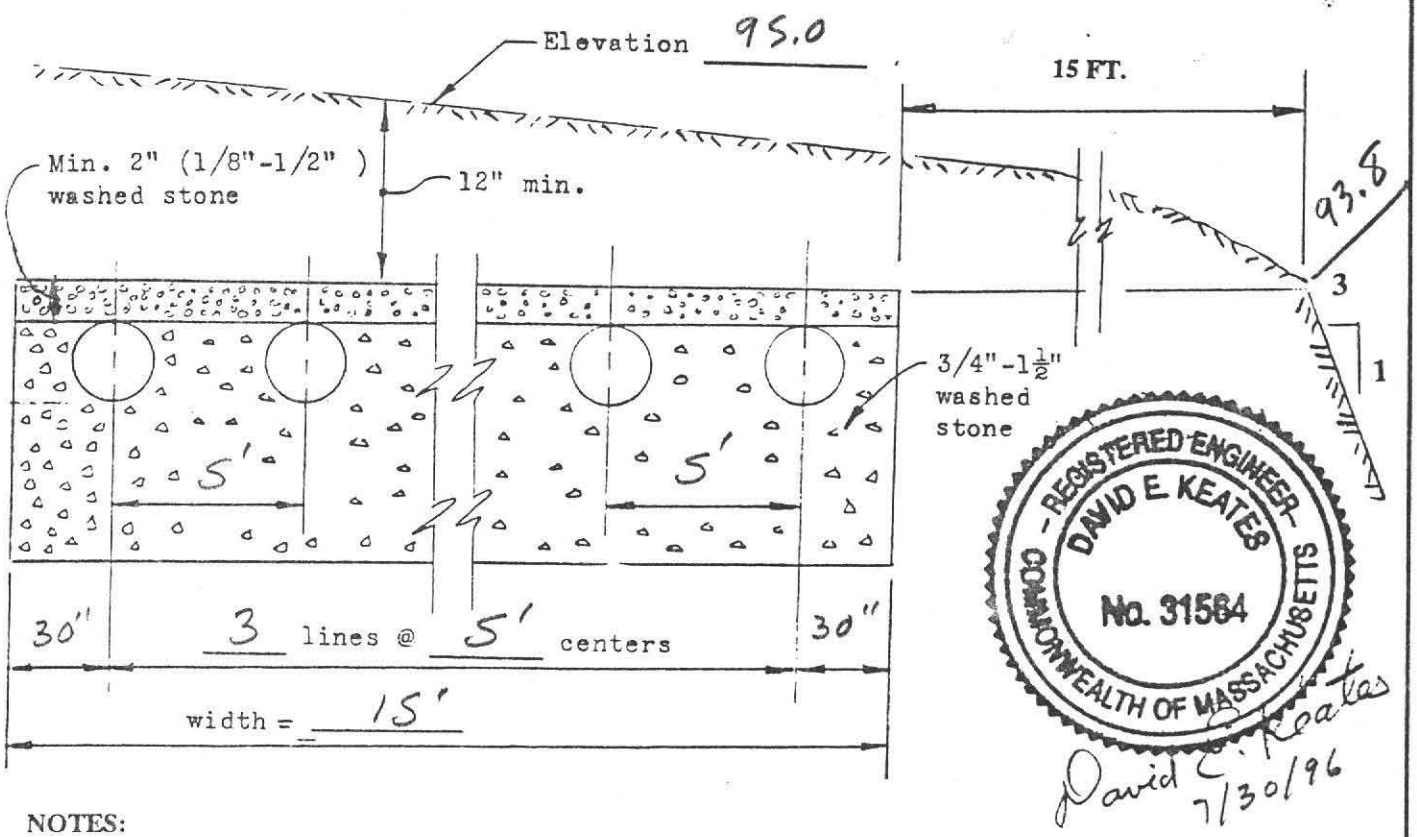
1. The minimum wall thickness for reinforced concrete shall be two inches.
2. The invert elevations of all outlets shall be equal to each other and located at least two inches below the invert elevation of the inlet.
3. Cover of distribution box to be watertight.
4. There shall be a minimum sump of six inches as measured below the outlet invert elevation.
5. The minimum inside dimension of the distribution box, regardless of material, shall be 12 inches.
6. When the soil absorption system is to be dosed or when the slope of the inlet pipe exceeds 0.08 feet per foot, an inlet tee, baffle or splash plate extending to one inch above the outlet invert elevation shall be provided to dissipate the velocity of the influent.
7. Distribution box shall be installed on a level stable base that will not settle.
8. Distribution box to be placed on a 6 inch layer of compacted 3/4"-1 1/2" stone.
9. Distribution box outlets to be laid level for a distance of 2 feet, then sloped to leaching system.
10. Distribution box shall be capable of withstanding H-20 loading. ___yes ✓no

PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

Sheet 11 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

TYPICAL LEACHING FIELD SECTION



NOTES:

1. The grade above and adjacent to leaching field system shall slope at least 2% to prevent accumulation of water.
2. All leach lines must come directly from the distribution box.
3. Each line must be sealed into the distribution box with non-shrink mortar or thick tar.
4. To insure proper distribution, all lines must discharge equally. Testing can be done with water, prior to final inspection.
5. The bottom of the leaching field shall be installed level at elevation 92.8.
6. Slope of distribution lines shall be 0.005 ft./ft.
7. All stone must have less than 0.2% material finer than a number 200 sieve as determined by AASHTO T-11 and T-27 (latest edition).
8. Pipe shall conform to the requirements of ASTM D2729 or ASTM D3350.
9. All system components shall be installed in accordance with TITLE V of the state sanitary code and any applicable local rules and regulations.
10. Any change to this plan must be approved by the Board of Health and the Engineer.
11. The sewage disposal system shall not be backfilled prior to inspection and approval by the Board of Health and/or the Design Engineer.
12. Any conditions encountered during construction differing from those shown on the plans shall be reported to the design engineer before construction continues.
13. No permanent structure shall be constructed over the 100% expansion area.
14. Heavy equipment shall not be permitted to pass over the leaching area.

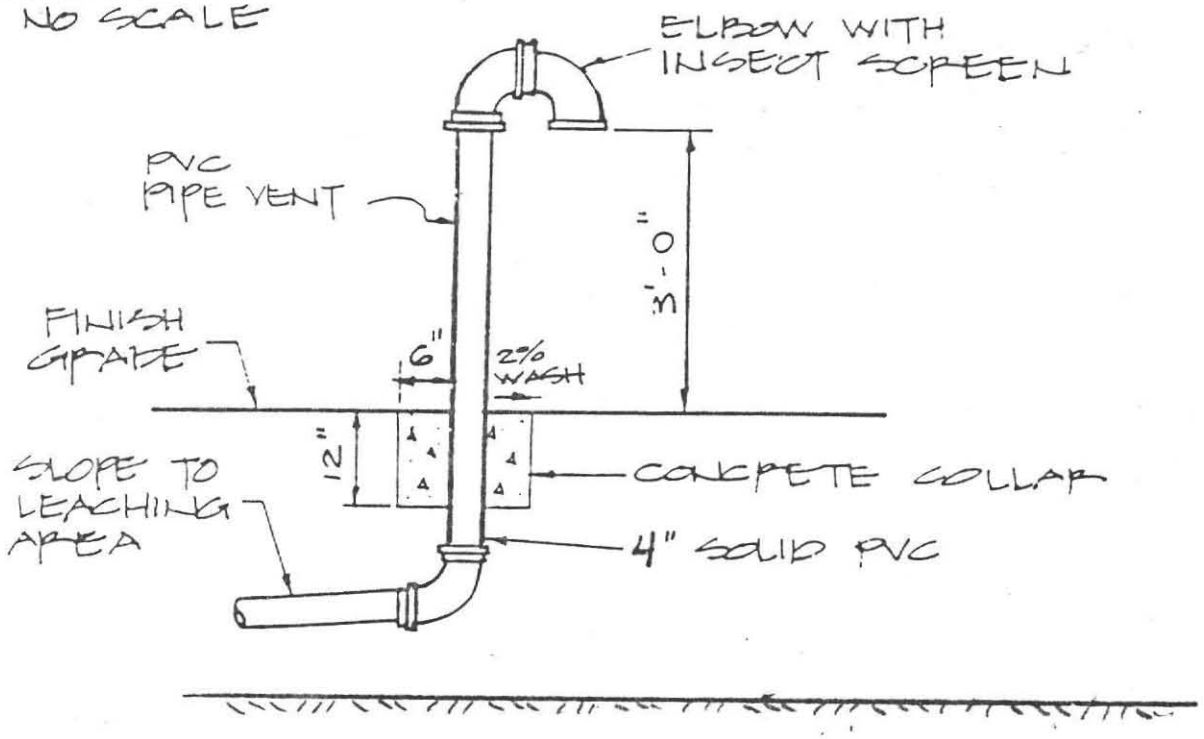
PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

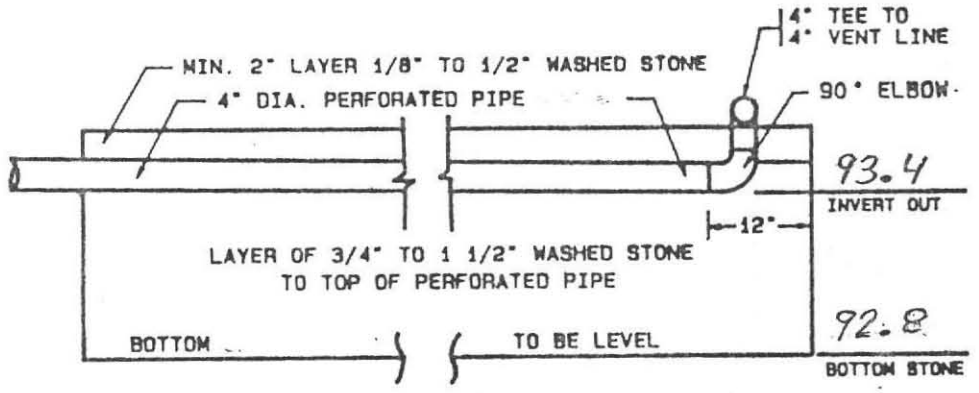
Sheet 12 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

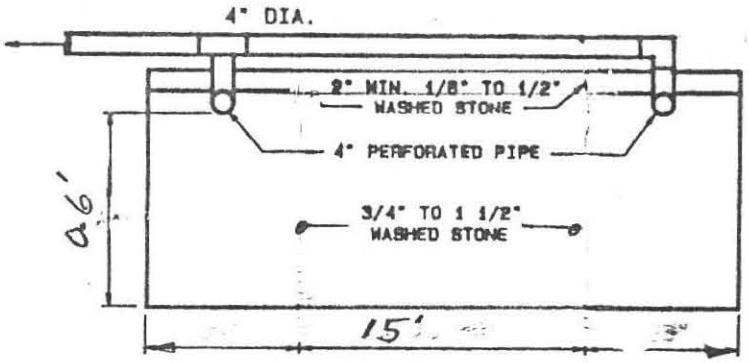
SANITARY VENT

NO SCALE





(LENGTH SECTION)



(CROSS SECTION)

REGISTERED ENGINEER
DAVID E. KEATES
No. 31564
COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96

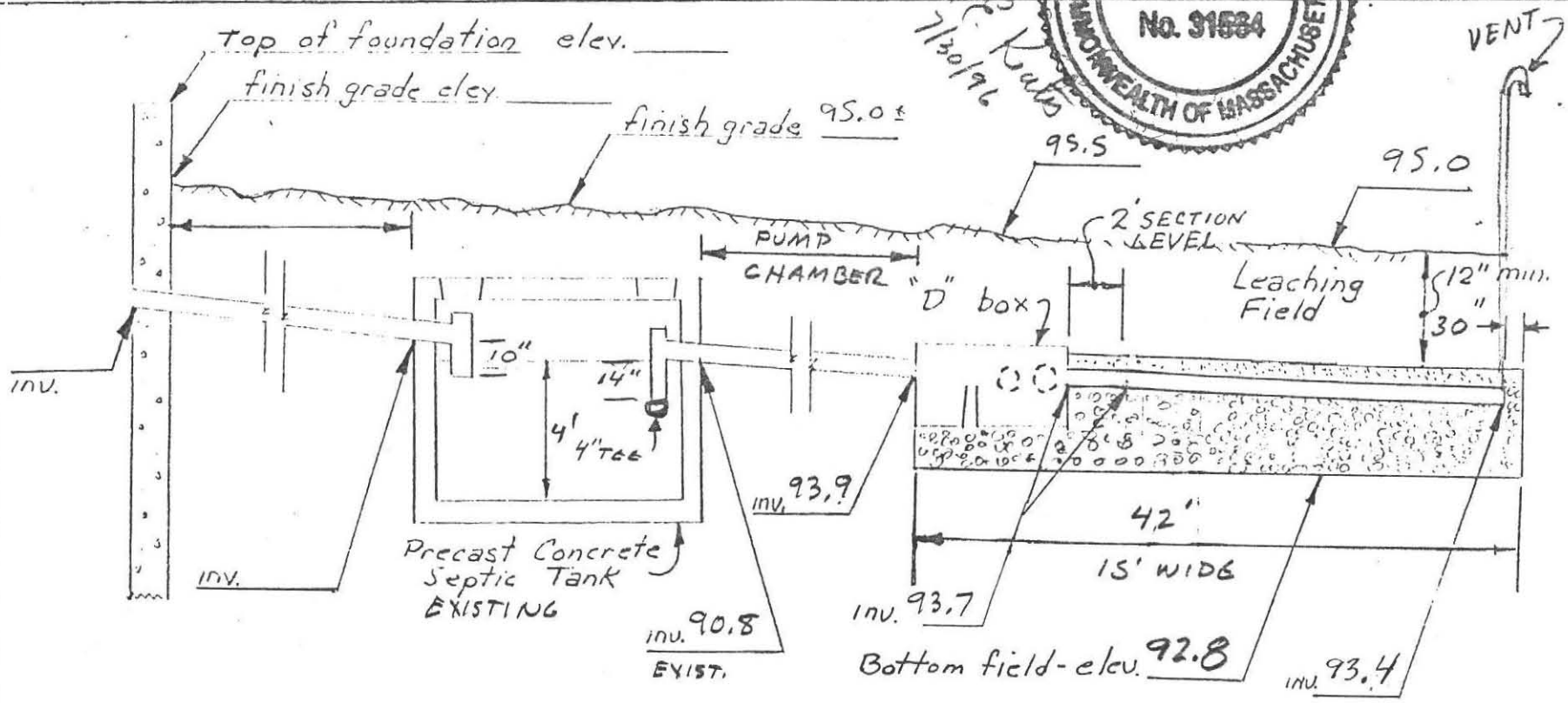
PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

Sheet 13 of 19

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

REGISTERED ENGINEER
DAVID E. KEATES
No. 31584
COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96



NOTES:
1. THE GRADE ABOVE AND ADJACENT TO LEACHING FIELD SHALL SLOPE AT LEAST 2.0 % TO PREVENT ACCUMULATION OF SURFACE WATER.
2. LEACHING FIELD DISTRIBUTION PIPE SHALL HAVE A MIN. SLOPE OF 0.005'/'.
3. THE BOTTOM OF EACH LEACHING FIELD SHALL BE LEVEL.
4. PIPE FROM FOUNDATION WALL TO SEPTIC TANK SHALL BE SCHEDULE 40 PVC OR EQUIVALENT AND HAVE A MIN. GRADE OF 1/4" PER FT.
5. PIPE FROM SEPTIC TANK TO "D" BOX SHALL BE SCHEDULE 40 PVC OR EQUIVALENT AND HAVE A MIN. GRADE OF 1/8" PER FT.
6. ALL PIPING TO BE 4" DIA.
7. INSTALL NEW 4" PVC PIPE BAFFLES AT INLET & OUTLET OF EXISTING SEPTIC TANK. USE 4" TEE AT BOTTOM OF OUTLET BAFFLE AS GAS DEFLECTION BAFFLE.

SEPTIC SYSTEM PROFILE

PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

DAVID E. KEATES, P.E.
CONSULTING CIVIL ENGINEER
102 RUSSELL STREET
SUNDERLAND, MASSACHUSETTS 01375
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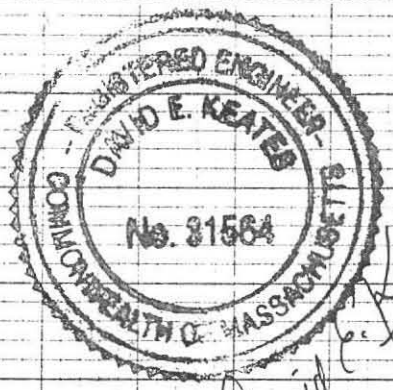
Sheet 14 of 19



David E. Keates 7/30/96

CLEAN SAND FILL LIMIT PER TITLE V

5' 15' 5' 10'

95
94
93
92
91
90
89
88
87
86

APPROX. EXISTING FIELD

2 1

2 1

3 1

SILTY SAND FILL (EXCAVATED MATERIAL PLUS EXTRA)

P.L.

18"

4'

E.H.W.T. D.H. #1

REMOVE 18" OF TOPSOIL & SUBSOIL WITHIN LIMITS SHOWN

SAME SECTION APPLIES LENGTHWISE

E.H.W.T. D.H. #2

SECTION A-A

1" = 20' H
1" = 2' V

Sheet 15 of 19

PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

DAVID E. KEATES, P.E.
CONSULTING CIVIL ENGINEER
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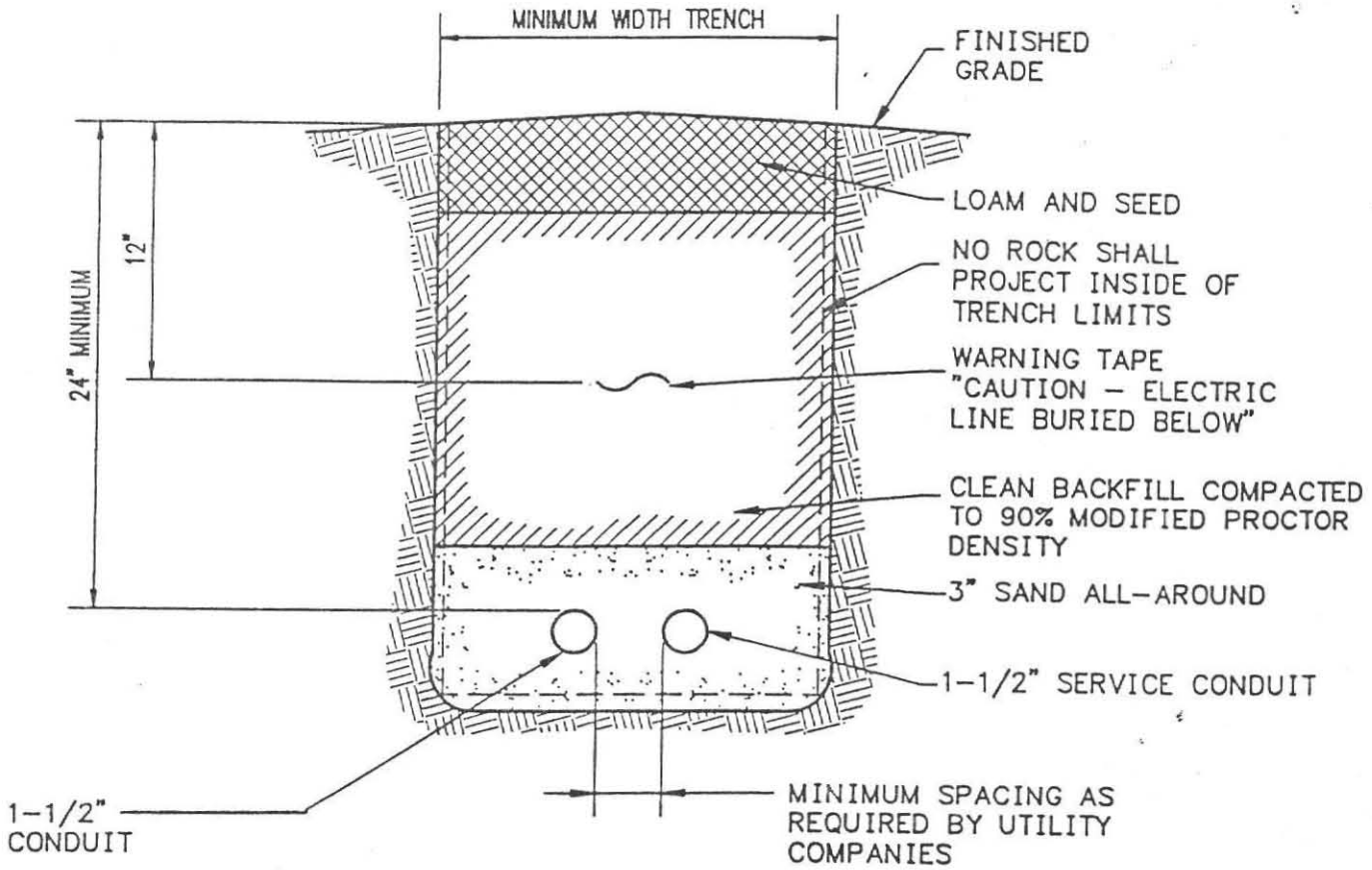
Tel. 413-665-7670

10 Squares to the inch



TYPICAL TRENCH SECTION

NOT TO SCALE

ELECTRICAL

REGISTERED ENGINEER – DAVID E. KEATES – No. 31564 – COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96

PROJECT
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA

Sheet 16 of 19

David E. Keates, P.E.
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102 Russell Street
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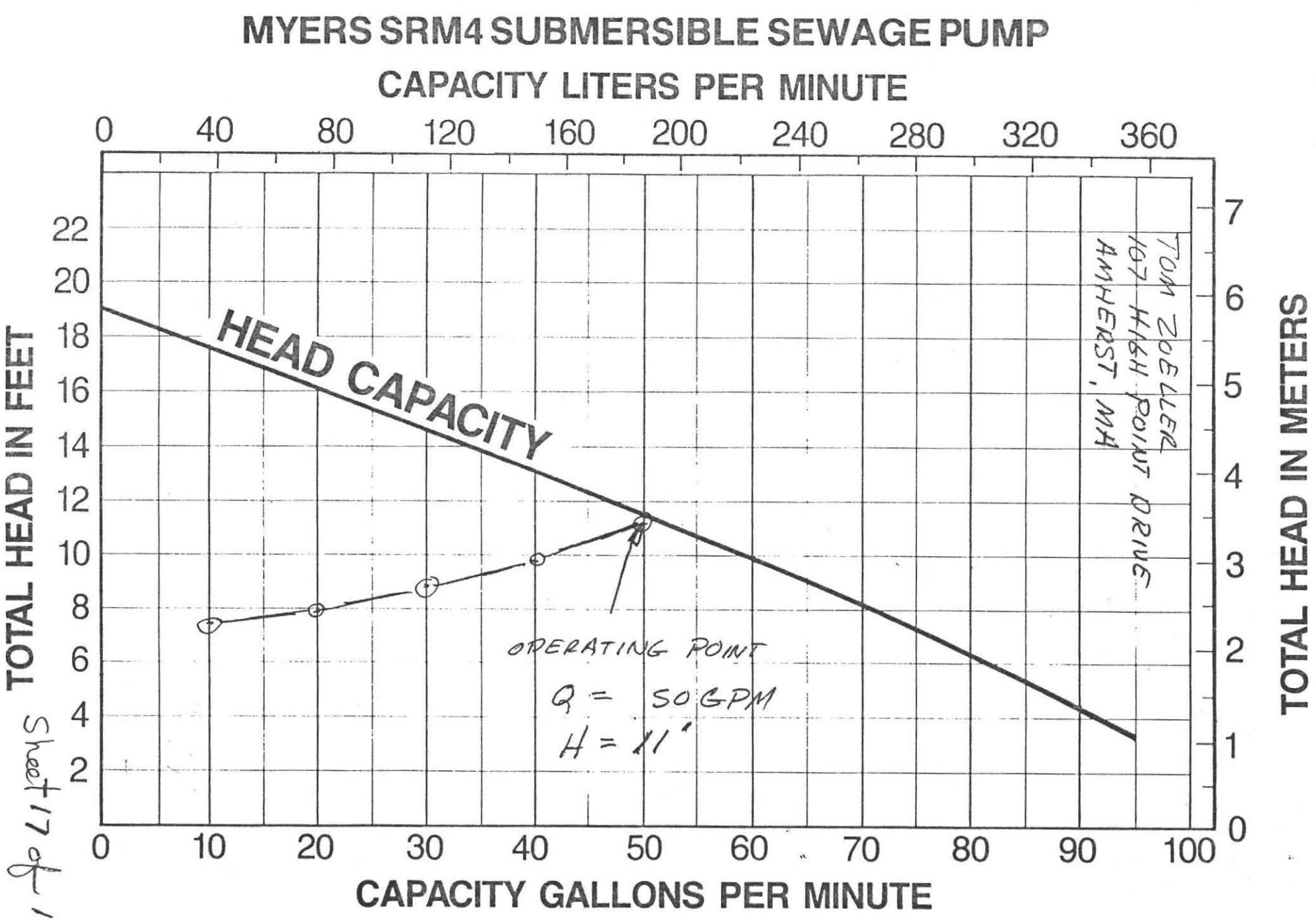
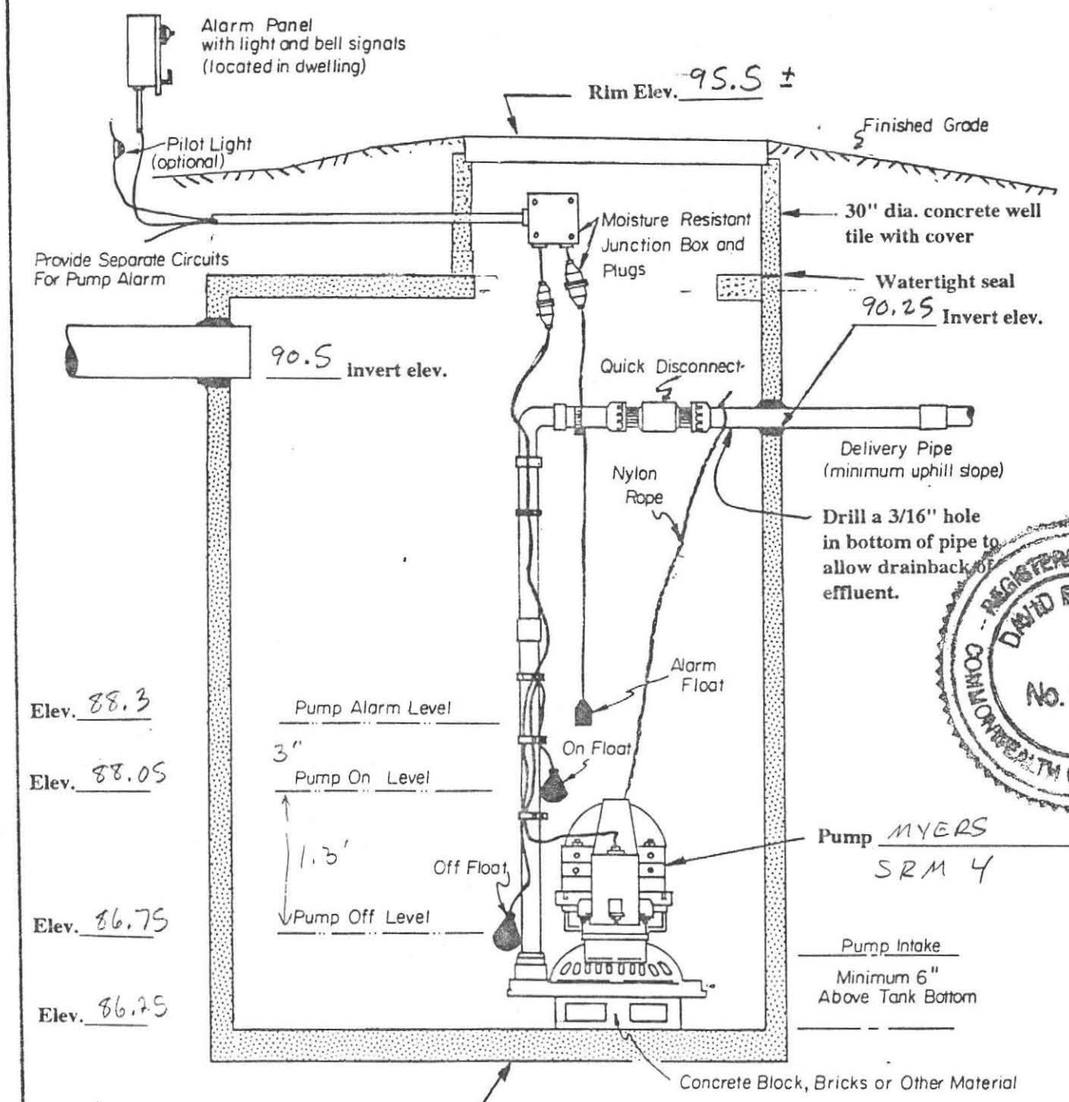

MYERS SRM4 SUBMERSIBLE SEWAGE PUMP
CAPACITY LITERS PER MINUTE
0 40 80 120 160 200 240 280 320 360
HEAD CAPACITY
TOM ZOELLER
107 HIGH POINT DRIVE
AMHERST, MA
OPERATING POINT
Q = 50 GPM
H = 11'
TOTAL HEAD IN FEET
2 4 6 8 10 12 14 16 18 20 22
TOTAL HEAD IN METERS
0 1 2 3 4 5 6 7
0 10 20 30 40 50 60 70 80 90 100
CAPACITY GALLONS PER MINUTE
Sheet 17 of 19
K3067

PUMP CHAMBER NOTES

1. Pump chamber to be wired to main electrical panel.
2. Pump controls shall be mercury type switch only.
3. Force main to be 2 " PVC Pipe Schedule 40.
4. All equipment & fasteners in the pump chamber shall be resistent to hydrogen sulfide corrosion.
5. Inspect and maintain components as recommended by manufacturer and required by 310 CMR 15.254 (1) d.
6. This assumes dimensions of the pump chamber as shown on this sheet. Dimensions other than those shown will require the "pump down" to be recalculated. Contact the design engineer if a tank with different dimensions is used.
7. Pump the sludge from the bottom of the pump chamber whenever the septic tank is pumped.
8. When using manhole extensions, locate the quick disconnect as high as possible in the extension for ease of removal.
9. When possible, locate quick disconnect and electrical connections within arm's reach of the surface.
10. Maintain minimal uphill slope on delivery line to distribution box.
11. Provide a "pump pilot light" to indicate when pump is operating.
12. Provide a 20" rectangular opening with a watertight cover in top of tank.



Pump System Design

Use a 1000 GAL TANK
Length= 8' , Width= 4.3' , Depth= 4.25 (Inside Dimensions)
Use ____ " dia. sch. 40 pvc pipe. Length = 40 feet
Vol. of pipe = 3.14 (1.0) (1.0) (40 ft.) (7.48 gal/cu. ft.) / 144 = 7 gallons
Leaching area to be dosed 1 times per day (310 CMR 15.254(1) d.
Dose required = total design flow divided by 1 , equals 330 gal. per day/ 1 = 330 gal. per dose.
Increase dose by 7 gallons to allow for volume of 2 " diameter pressure line to distribution box.
Pump down = 330 + 7.0 gal. = 1.3 ft. = 15.6 inches
7.48 gal./cu.ft. (8.0) (4.3)
From inv. elev. 90.5 to high water alarm at elev. 88.3 , there will be 2.2 ft. of storage or (8 ft.)(4.3 ft.) (2.2 ft.) 7.48 gal./cu.ft. = 566 gallons. This will provide for 566 gal. / 330 gal./day = 1.7 days of storage should power go out.
Static Head = discharge elev. at D-box (93.9) minus pump off level (86.75) = 7.15 feet.
Friction Head Loss for 2 " pvc piping
Discharge pipe equivalent length

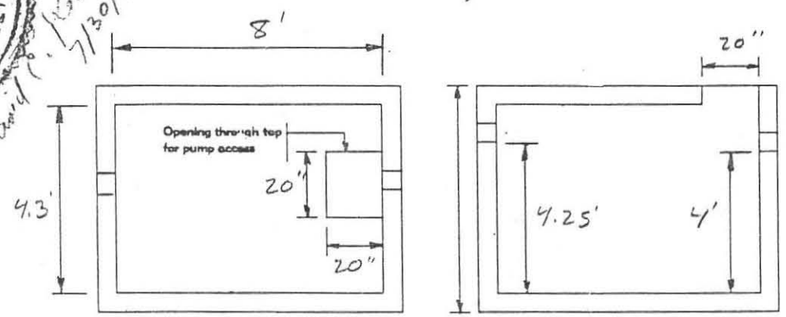
fitting	feet
2 - 90° @ 9'	18
4 - 45° @ 4'	16
1 - Tee	11
1 - DISCONNECT	2

Total = 47 feet

Force main length = 40 feet
Total pipe length = 40 feet + 47 feet = 87 feet

GPM	H /100'	H for 87 ft.	Static Head	Total Head
10	.2	.174	7.15	7.3
20	.9	.783		7.9
30	1.8	1.566		8.7
40	3.1	2.697		9.8
50	4.7	4.089		11.2

REGISTERED ENGINEER - DAVID E. KEATES - No. 31564 - COMMONWEALTH OF MASSACHUSETTS
David E. Keates 7/30/96



PLAN SECTION

PUMP CHAMBER FABRICATION DETAILS

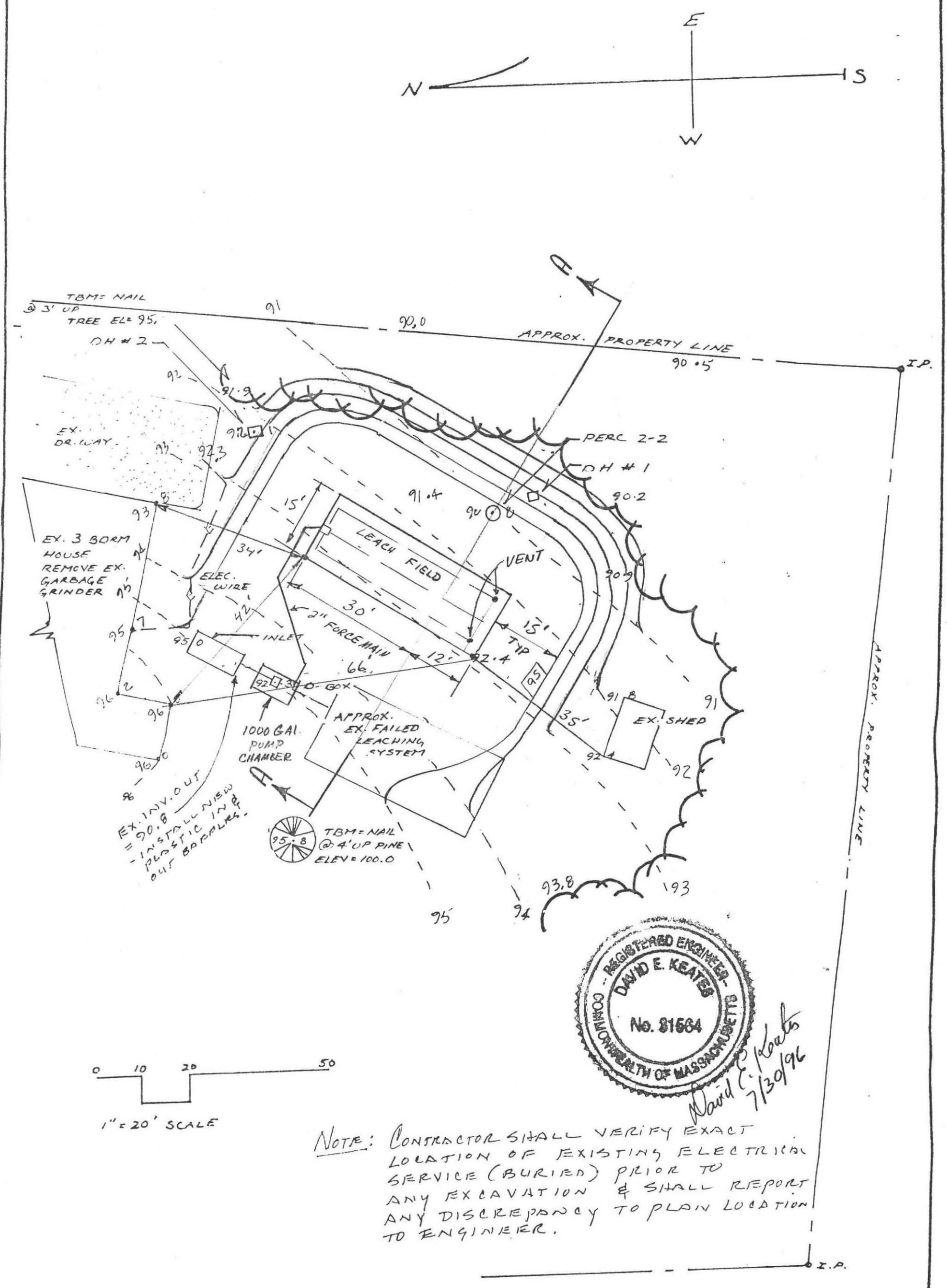
NO SCALE

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
Sunderland, MA 01375
Tel: 413-665-7670

DRIVE

Project
TOM ZOELLER
107 HIGH POINT DR.
AMHERST, MA

Initial Date	Revised	Project No.
7/30/96		
Drawn By: DEK	Scale	Sheet No. 18 of 19



REGISTERED ENGINEER
DAVID E. KEATES
No. 31564
COMMONWEALTH OF MASSACHUSETTS

David E. Keates 7/30/96

NOTE: CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING ELECTRICAL SERVICE (BURIED) PRIOR TO ANY EXCAVATION & SHALL REPORT ANY DISCREPANCY TO PLAN LOCATION TO ENGINEER.

Drawn By: JLR Initial Date: 24JULY96

Scale: 1"=20' Revised: 11 Nov 96

Sheet number: J-1 Project Number: 96-063

Sheet 19 of 19

SEPTIC SYSTEM DESIGN

SITE PLAN

PREPARED FOR:

TOM ZOELLER&SANDY PETERSON
107 HIGH PT. DR.
AMHERST, MA 01002

DAVID E. KEATES
Consulting Civil Engineer
102 Russell Street
Sunderland, MA. 01375
LAND SOLUTIONS
Two Amherst Road
P.O. Box 121
Sunderland, MA. 01375
413/665-4777 voice/fax

CK# 0470

FORM 11 - SOIL EVALUATOR FORM

PD 160.00 7-24 JK

No. _____ **Date:** 7-24-96

Commonwealth of Massachusetts

, Massachusetts

Soil Suitability Assessment for On-site Sewage Disposal

Performed By: Land Solutions 665-4799 **Date:** 7-24-96

Witnessed By: David Zarozinski

Location Address or Lot #	Owner's Name, Address, and Telephone #
107 High Point Drive New Construction ☐ Repair ☑	Tom Zoeller / Sandy Peterson 107 High Point Drive

Office Review

Published Soil Survey Available: No ☐ Yes ☐

Year Published ..... Publication Scale ..... Soil Map Unit .....

Drainage Class ..... Soil Limitations .....

Surficial Geologic Report Available: No ☐ Yes ☐

Year Published ..... Publication Scale .....

Geologic Material (Map Unit) .....

Landform .....

Flood Insurance Rate Map:

Above 500 year flood boundary No ☐ Yes ☐

Within 500 year flood boundary No ☐ Yes ☐

Within 100 year flood boundary No ☐ Yes ☐

Wetland Area:

National Wetland Inventory Map (map unit) .....

Wetlands Conservancy Program Map (map unit) .....

Current Water Resource Conditions (USGS): Month .....

Range :Above Normal ☐ Normal ☐ Below Normal ☐

Other References Reviewed: _____

LAND SOLUTIONS 413-665-4777 P.O. BOX 121
SUNDERLAND, MA 01375

Appendix 4 Page 2

107 High Point Drive, Amherst, MA

Name: **Zoeller**
Date: **24July96**
Job #: **96-063**

On-site Review

Open Hole Number: **1** Date: **24July96** Time: **8:22 AM** Weather: **Cloudy 60'**
Location (identify on site plan): **25' W. of E. property line-see site plan**
Land Use: **Cleared woods** Slope: **5%** Surface Stones: **Many small**
Ground Cover: **Stripped**
Landscape: **Terrace**
Location on landscape (sketch on back): **On terrace**
Distance From:

Open Water Body: **>150** Drainage way: **>100**
Possible Wet Area: **>150** Property Line: **25' +/-**
Drinking Water Well: Other:

DEEP OBSERVATION HOLE LOG

Surface	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
[illegible]	[illegible]	•FINE SANDY LOAM (MASSIVE)	10YR 2/2	NO	•MANY ROOTS •5% GRAVEL TO 3/4" DIA •FRIABLE
[illegible]	[illegible]	FINE SANDY LOAM	[illegible]	[illegible]	•MANY FINE ROOTS •FRIABLE •10% GRAVEL TO 1/4" DIA
15-32	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•15% GRAVEL TO 1 - 1/4" DIA •VERY FRIABLE
32-36	C1	FINE SANDY LOAM	2.5Y 5/3	•<47"+ •<5% •10YR 5/3	•10% SUB-ANG. GRAVEL TO 1/4" DIA •VERY FIRM •FRIABLE •STRATIFIED
36-141"	C2	VERY FINE SANDY LOAM	2.5Y 6/2	•47"+ >5% •10YR 5/3	•10% SUB-ANG. GRAVEL TO 1" DIAMETER •EXTREMELY FIRM

Parent Material (geologic): **GLACIAL TILL** Depth to Bedrock: **>141"**
Depth to Ground water: Standing Water in Hole: **141"** Weeping from Pit Face: **69"**
Estimated Seasonal High Ground Water: **47" (MOTTLES)**

LSDR62896

LAND SOLUTIONS 413-665-4777 P.O. BOX 121
SUNDERLAND MA. 01375

Draft Print September 20, 1993 *Appendix 4 Page 2*

Address: 107 High Point Drive, Amherst, MA

Name: **Zoeller**
Date: **24July96**
Job #: **96-063**

On-site Review

Test Hole Number: **2** Date: **24July96** Time: **9:09 AM** Weather: **Cloudy 60'**
Location (identify on site plan): **30' N. of DH #1-see site plan**
Land Use: **Cleared woods** Slope: **5%** Surface Stones: **Many small**
Vegetation: **Stripped**
Landform: **Terrace**
Position on landscape (sketch on back): **On terrace**
Distance From: Open Water Body: **>150'** Drainage way: **>150'**
Possible Wet Area: **>150'** Property Line: **25' +/-**
Drinking Water Well: Other:

DEEP OBSERVATION HOLE LOG

Depth (Inches)	Sample	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-3		A (STRIPPED)	FINE SANDY LOAM	10YR 2/2	NO	•MANY ROOTS •VERY FRIABLE
3-6		E/E1	FINE SANDY			
		A (DISTURBED & UNSTRIPPED)	FINE SANDY LOAM			
6-12		B1	FINE SANDY LOAM	2.5Y 5/3	NO	•MANY ROOTS •FRIABLE •5% SUB-ANG GRAVEL TO 1/4" DIAMETER
12-40		B2	FINE SANDY LOAM	2.5Y 5/5	NO	•5% SUB-ANG GRAVEL TO 3/4" DIAMETER •FRIABLE
12-40		C1	FINE SANDY LOAM	2.5Y 5/3	•<5% •10YR 5/3	•VERY FIRM •STRATIFIED •FRIABLE •10% SUB-ANG GRAVEL TO 3/4" DIAMETER
40-62		C2	FINE SANDY LOAM	2.5Y 6/2	•>5% •10YR 5/3	•10% GRAVEL TO 2" DIAMETER •OCC. STONE TO 12" DIAMETER •EXTREME FIRM

Parent Material (geologic): **GLACIAL TILL** Depth to Bedrock: **>40"**
Depth to Ground water: Standing Water in Hole: **NONE** Weeping from Pit Face: **64"**
Estimated Seasonal High Ground water: **40" (MOTTLES)**

LSDR62696

LAST ROLL? FAX YOUR NEXT ROLL ORDER TOLL FREE (800)789-8955

Date 24 JUL 9[illegible]

[illegible] Massachusetts

Massachusetts

Site Suitability Assessment for On-site Sewage Disposal

Performed By: [illegible]

Certification Number:

Witnessed by:

[illegible] + FIELD [illegible] + FIELD PLAN & TOPO

Location Address or Lot No.	Owner's Name, [illegible]
[illegible]	[illegible]
[illegible]	[illegible]

New Construction ☐ Repair ☒

[illegible] TRAIGHT [illegible] PER MR

[illegible] MAYBE [illegible]

[illegible] VER[illegible]

Office Review

Publication [illegible] Survey Available: No ☐ Yes ☐

Soil Map Unit [illegible]

[illegible] Published Publication Scale

[illegible]

[illegible] Available

[illegible] Published Publication Scale

Geologic Material (Map Unit)

[illegible]

Flood [illegible]

[illegible] No ☐

[illegible] flood boundary No ☐ Yes ☐

[illegible] flood boundary No ☐ Yes ☐

[illegible]

[illegible] Inventory Map (map unit)

[illegible] Program Map (map unit)

[illegible] Conditions (USGS): Month

[illegible] Above Normal ☐ Normal ☐ Below Normal ☐

Other References Reviewed:

24 JULY 96
ZOELLER

[illegible] Lot No. 2 HIGH PT DR.
[illegible]

On-site Review

[illegible] Date: 24 JULY 96 Time: 822AM Weather CLOUDY
[illegible] site plan) 25' E PROPERTY LINE 60°
[illegible] Slope (%) 5% Surface Stones MANY

Vegetation
Landmarks
Property [illegible] (sketch on the back)
Distance
[illegible] feet Drainage way >100 feet
[illegible] feet Property Line 25' +/- feet (EST.)
[illegible] Water Well feet Other

DEEP OBSERVATION HOLE LOG*

[illegible]	[illegible]	[illegible]	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
[illegible]	[illegible]	[illegible]	NO	MANY ROOTS 5% GRAVEL TO 3/4" Ø
[illegible]	FSL	10YR 4/5	NO	[illegible] ROOTS [illegible] 10% [illegible] TO 1 1/4" Ø
[illegible]	FSL	2.5Y 5/5	NO	15% GRAVEL TO 1 1/4" Ø VERY FRIABLE
[illegible]	FSL	2.5Y 5/3	<48" <5% 10YR 5/3	10% [illegible] GRAVEL TO 1/2" Ø VERY FRIABLE STRATIFIED
[illegible]	VFSL	2.5Y 6/2	48" 75% 10YR 5/3	10% [illegible] GRAVEL TO 1" Ø [illegible]

[illegible] OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geology) GLACIAL TILL Depth to Bedrock >141
Depth to Groundwater Standing Water in the Hole 141" Weeping from Pit Face 65'
Estimated Seasonal High Ground Water 48" (MOTTLES)

24 JULY 96
[illegible]

[illegible] 102 [illegible]
[illegible] 01002

On-site Review

Deep Hole Number: 2   Date: 24 JULY 96   Time: [illegible]   Weather: CLOUDY 60°

Location (identify on site plan)

Land Use   Slope (%)   Surface Stones

Vegetation

Landform

Position on landscape (sketch on the back)

Distances from:

Open Water Body ___ feet   Drainage way ___ feet

Possible Wet Area ___ feet   Property Line ___ feet

Drinking Water Well ___ feet   Other

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
[illegible]	A	FSL		ND	MANY ROOTS STRIPPED [illegible]
3 [illegible]	[illegible]	F[illegible]L			
[illegible]	A / Bw	FSL		ND	[illegible] ROOTS [illegible] 3/8" ϕ [illegible]
[illegible]	BC	FSL		ND	5% SUB [illegible] 3/4" ϕ FRIABLE
[illegible]	[illegible]	FSL			VERY [illegible] STRATIFIED, [illegible] 10% [illegible] 3/4" ϕ
[illegible]	[illegible]	F[illegible]L			10% GRAVEL TO 2" ϕ [illegible] 12" ϕ [illegible]

*MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic): [illegible] TILL   Depth to Bedrock: ___

Depth to Groundwater: Standing Water in the Hole: ___   Weeping from Pit Face: 64"

Estimated Seasonal High Ground Water: 40" (MOTTLES)

24 JULY 96
ZOELLER

Address or Lot No. [illegible]

On-site Review

Date: 24 JULY 96 Time: 1003 Weather: CLOUDY

Slope (%): 5% Surface Stones: FEW

Depth to Number: [illegible]
(Not necessarily on site plan)
Land Use: [illegible]
Vegetation: [illegible]
Soil Type: [illegible]
Location on landscape (sketch on the back)
Distances from:

Water Body	feet	Drainage way	feet
Possible Wet Area	feet	Property Line	feet
Drinking Water Well	feet	Other	

NOT USED

DEEP OBSERVATION HOLE LOG

Depth (feet)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
[illegible]	[illegible]	FSL	10YR 2/2		[illegible]
	[illegible]	FSL	10YR 4/4		
	[illegible]	FSL	2.5Y 4.5/4	<5% -	
		FSL	2.5Y 4/4	10YR 5/4 75% MASSIVE DEFUSE	
		FSL	2.5Y 6/4		EX. [illegible]

[illegible] EXCESS REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Depth to Bedrock: [illegible]

Weeping [illegible] Face: [illegible]

Standing Water in the Hole: [illegible]

Ground Water: [illegible]

CC011496

Land Solutions

Two Amherst Rd. (Rte 116)
P.O. Box 121
Sunderland, MA. 01375

FAX COVER SHEET

TO: DAVID ZARAZINSKI
COMPANY: [illegible]
PHONE: [illegible]
FAX: [illegible]

FROM: [illegible]
PHONE: 413-665-4777
FAX: 413-665-4777

DATE: 31 July
PAGES INCLUDING THIS COVER SHEET: 7 more

RE: [illegible]
JOB #: [illegible]

COMMENTS:

If you are missing any of these pages please call us as soon as possible, thank you.

N
E
S
TBM = NAIL
TREE ELV 95.
DH # 2
PROPERTY LINE
PERC 2-2
DH # 1
EX. DR. GAT
EX 3 BDRM HOUSE REMOVE EX GARBAGE GRINDER
ELEC WIRE
INLET
APPROX EX FAILED LEACHING
EX SHED

Drawn By: JLR Date: 24JULY96

Scale: 1"=20' Revised: 7/29/96

Sheet number: J-1 Project Number: 96-063

SEPTIC SYSTEM DESIGN

SITE PLAN

PREPARED FOR:
TOM ZOELLER&SANDY PETERSON
107 HIGH PT. DR.
AMHERST, MA 01002

DAVID E. KEATES
Consulting Civil Engineer
[illegible]
Sunderland, MA 01375
LAND SOLUTIONS
Two Amherst Road
P.O. Box 121
Sunderland, MA 01375
[illegible]

LAND SOLUTIONS 413-665-4777 P.O. BOX 121
SUNDERLAND MA 01375

Title 5 Guide Printed September 20, 1993 *Appendix 4 Page 3*

Location: Lot 10 High Point Drive, Amherst, MA

Name: Zoeller
Date: 24July96
Job #: 96-063

Table Determination for Seasonal High Water

Method Used:
- Depth observed standing in observation hole inches.
- Depth weeping from side of observation hole inches.

☒ Depth to soil mottles 47 inches
- Ground water adjustment feet

Index Well Number	Reading Date	Index Well Level
Adjustment Factor	Adjusted Ground Water Level	

Percolation Test

	Date : 24JULY96	Time : 10:27AM
Observation Hole #	2-2	
Depth of Perc	28" + 22"	
Start Pre-soak	10:27AM	
Start Pre-soak	10:42AM	
Time at 12	10:42AM	
Time at 9	10:55AM	
Time at 6	11:08AM	
Time (9-6)	13 MIN	
Rate Min/Inch	4.33	

USE 20MIN/IN FOR DESIGN-REMOVE EXISTING GARBAGE GRINDER

Site Suitability Assessment ☒Site Passed Site Failed

Additional Testing Needed : NONE

Performed By: **K Christian Boysen** Certification # : Nov. 94

Witnessed By: **DAVID ZARAZINSKI HEALTH AGENT & CERTIFIED SOILS EVALUATOR**

I certify that on Nov. 94 (date) I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR [illegible]

[illegible]

BOARD OF HEALTH, AMHERST, MASSACHUSETTS

APPLICATION FOR DISPOSAL WORKS CONSTRUCTION PERMIT

No. 71-8 Date MAY 1, 1971 Fee 3.00 Date Rec'd. MAY 6, 1971 By CEO

Application is hereby made for a permit to Construct (X) or Repair ( ) an Individual Sewage Disposal System at:

Location—Address 107 Hickpoint Drive or Lot No. 30

Owner Jay Melrose Address Hickory Lane

Contractor Russell-Roberts Builders, Inc. Address P.O. Box 58, Amherst

Type of Building _____ Dimensions _____ Size Lot _____

Dwelling—No. of Bedrooms 3 Expansion Attic (N) Garbage Grinder (Y)

Other _____ No. of persons 6 Showers ( )

Other fixtures _____

Town Water? No Type of Well DRILLED

Design Flow 50 gallons per person per day. Total daily flow 300 gallons

Septic Tank—Liquid capacity 1000 gallons Dimensions: L 8 W 4 D 4

Disposal Trench—No. _____ Width _____ Total Length _____ Total leaching area _____ sq. ft.

Disposal Bed—No. 1 Diameter _____ Depth below inlet _____ Total leaching area 660 sq. ft.

Dry Well—No. _____ Diameter _____ Depth below inlet _____ Dimensions: _____ x _____ x _____

Other: Distribution box ( ) No. 1 Dosing tank ( )

(Depth of Soil Line Below finished grade at foundation _____)

Percolation Test Results Performed by KENDALL G. LUD Date MARCH 1971

Test Pit No. 1 23 minutes per inch Depth of Test Pit 3.5'

Test Pit No. 2 _____ minutes per inch Depth of Test Pit >10.0'

Description of Soil SM Glacial till, silty sand Depth to Ground Water 2.0'

Will *disposal area* be filled? YES Cut down? _____

(On reverse side or separate sheet, show plot plan with building. Include dimensions, distances from all boundaries. Show location of wells, streams, ledge, large trees, etc.)

AGREEMENT: The undersigned agrees to construct the aforedescribed individual sewage disposal system in accordance with the provisions of Article XI of the Sanitary Code and regulations of the Amherst Board of Health. The undersigned further agrees not to place the system in operation until a Certificate of Compliance has been issued by this board of health.

Russell-Roberts Builders by _____ date

Owner or builder

Application Approved by _____ date

Application Disapproved *for the following reasons:*

BOARD OF HEALTH, AMHERST, MASSACHUSETTS

CERTIFICATE OF COMPLIANCE

THIS IS TO CERTIFY, That the individual Sewage Disposal System installed ( ) or repaired ( ) by _____ at _____ has been constructed in accordance with the provisions of

INSTALLER

Article XI of the State Sanitary Code as described in the application for Disposal Works Construction Permit No. _____ dated _____

The issuance of this certificate shall not be construed as a guarantee that the system will function satisfactorily.

DATE _____ Inspector _____

BOARD OF HEALTH, AMHERST, MASSACHUSETTS

DISPOSAL WORKS CONSTRUCTION PERMIT

No. 71-8

Permission is hereby granted Russell & Roberts to construct (X) or repair ( ) an Individual Sewage Disposal System at Lot 30 107 Hickpoint Dr.

as shown on the application for Disposal Works Construction Permit No. 71-8

This permit is issued with the understanding that future alterations or additions will be made if necessary. This permit shall not be construed as permission to create or maintain any sewage nuisance and in the issuance of this permit the Board of Health assumes no responsibility for the future operation or maintenance of the system.

DATE May 6, 1971

Board of Health

Land Solutions

Two Amherst Rd. (Rte 110)
P.O. Box 121
Sunderland, MA. 01375

FAX COVER SHEET

TO: DAVID ZARAZINSKI
COMPANY: HEALTH AGENT
PHONE: 413/256-2043
FAX: 413/256-2041

FROM: JLR
PHONE: 413-665-4777
FAX: 413-665-4777

DATE: 30 JULY 96
PAGES INCLUDING THIS COVER SHEET: 12

RE: ZOELLER - SEPTIC
JOB #: 96-663

COMMENTS:

If you are missing any of these pages please call us as soon as possible, thank you.

LAST ROLL? FAX YOUR NEXT QUILL ORDER TOLL FREE (800)789-8955

Land Solutions
Two Amherst Rd (Rte 116)
P O Box 121
Sunderland, MA 01375

FAX COVER SHEET

TO: DAVID ZABARINSKI
COMPANY: HEWETT ASSOC
PHONE: 413/256-4043
FAX: 413/256-4041

FROM: JCR
PHONE: 413-665-4777
FAX: 413-665-4777

DATE: 30 Jan 96
PAGES INCLUDING THIS COVER SHEET: 12

RE: ZOELLER - SEPTIC
JOB #: 96-063

COMMENTS:

If you are missing any of these pages please call us as soon as possible, thank you.

Date 24 OCT

~~No.~~ 107 HIGHPT DR. AMHERST, MA

Commonwealth of Massachusetts

______________, Massachusetts

Site Suitability Assessment for On-site Sewage Disposal

Performed By: KCC.

Certification Number:

Witnessed By:

FAX BOTH TYPED + FIELD NOTES + FIELD PLAN & QUESTIONS & TOPO

Location Address or Lot No.	Owner's Name, Address and Tel. #
107 HIGHPT DR. AMHERST, MA	TOM Z... 107 HIGH... AMH, MA 01002

New Construction ☐ Repair ☒

* STRAIGHT ... PER ME
- EP MAYBE ...
- 4ER ...
- EX ...

Office Review

Published Soil Survey Available: No ☐ Yes ☐

Year Published Publication Scale Soil Map Unit

Drainage Class Soil Limitations

Surficial Geologic Report Available: No ☐ Yes ☐

Year Published Publication Scale

Geologic Material (Map Unit)

Landform

Flood Insurance Rate Map:

Above 500 year flood boundary No ☐ Yes ☐

Within 500 year flood boundary No ☐ Yes ☐

Within 100 year flood boundary No ☐ Yes ☐

Wetland Area

National Wetland Inventory Map (map unit)

Wetlands Conservancy Program Map (map unit)

Current Water Resource Conditions (USGS): Month

Range: Above Normal ☐ Normal ☐ Below Normal ☐

Other References Reviewed:

24 JULY 96
ZOELLER

Location Address or Lot No: 7 HIGH PT DR.
AMH, ME 04002

On-site Review

Deep Hole Number: 1 Date: 24 JULY 96 Time: 8:22 AM Weather: SUNNY

Location (identify on site plan): 25'± PROPERTY LINE 60'

Land Use: WOODED Slope (%): 5% Surface Stones: MANY

Vegetation:

Landform:

Position on landscape (sketch on the back):

Distances from:

- Open Water Body: >100 feet
- Possible Wet Area: feet
- Drinking Water Well: feet
- Drainage way: >100 feet
- Property Line: 25'±/feet (EST.)
- Other:

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
		FILL WAS SPREAD			MANY ROOTS
	Ap	FSL	10YR 2/2	NO	5% GRAVEL 3/4" ϕ FRIABLE
	E	FSL	10YR 4/3	NO	MANY FINE ROOTS FRIABLE 20% GRAVEL 1/4" ϕ
	BC	FSL	2.5Y 5/3	NO	15% GRAVEL TO 1/4" ϕ VERY FRIABLE
	C	FSL	2.5Y 5/3	5% 10YR 5/8	10% SUBANG GRAVEL TO 1/2" ϕ VERY FIRM FRIABLE STRATIFIED
	C2	VFSL	2.5Y 6/2	15% 10YR 5/8	10% SUB-ANG GRAVEL TO 1" ϕ VERY FIRM

MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic): GLACIAL TILL

Depth to Bedrock: >141"

Depth to Groundwater: Standing Water in the Hole: 141"

Weeping from Pit Face: 69"

Estimated Seasonal High Ground Water: 48" (MOTTLES)

24 JULY 96
ZOELLER

Location Address or Lot No. 107 HIGHFIELD DR.
AMH, MA 01002

On-site Review

Deep Hole Number Z Date: 24 JULY 96 Time: 9:09 AM Weather CLOUDY 60°

Location (identify on site plan)

Land Use Slope (%) Surface Stones

Vegetation

Landform

Position on landscape (sketch on the back)

Distances from:

Open Water Body feet Drainage way feet

Possible Wet Area feet Property Line feet

Drinking Water Well feet Other

DEEP OBSERVATION HOLE LOG*

Depth from Surface (inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-3	A	FSL		NO	MANY ROOTS STRIPPED
3-6	FILL	FSL	—	—	VERY FRIABLE
6-7½	A				MANY FINE ROOTS
7½-16	Bw	FSL		NO	10% SUB-ANG TO 3/8" ϕ FRIABLE
16-22	BC	FSL		NO	5% SUB-ANG TO 3/4" ϕ FRIABLE
22-40	C1	FSL			VERY FIRM STRATIFIED, FRIABLE 10% SUB-ANG 3/4" ϕ
40-	C2	FSL			10% GRAVEL TO 2" ϕ OCC. STONE TO 12" ϕ EX FIRM

MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) GLACIAL TILL Depth to Bedrock:

Depth to Groundwater: Standing Water in the Hole: Weeping from Pit Face: 64"

Estimated Seasonal High Ground Water: 40" (MOTTLES)

24 JULY 96
ZOELLER

Location Address or Lot No. 7 HIGH PT. DR
AM+ MA 01002

On-site Review

NOT USED

Deep Hole Number 3 Date: 24 JULY 96 Time: 10:03 Weather CLOUDY

Location (identify on site plan)

Land Use [illegible] Slope (%) 5% Surface Stones FEW

Vegetation [illegible]

Landform

Position on landscape (sketch on the back)

Distances from:

Open Water Body	feet	Drainage way	feet
Possible Wet Area	feet	Property Line	feet
Drinking Water Well	feet	Other	

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
5-7	A	FSL	10YR 2/2		
[illegible]	B	FSL	10YR 4/4		FEW STONES TO 3" ø
[illegible]	C	FSL	2.5Y 4.5/4	<5% -	
[illegible]	[illegible]	FSL	2.5Y 4/4	10YR5/4 75% MASSIVE DIFFUSE	
[illegible]		FSL	2.5Y 6/3		EX. FIRM

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) ______ Depth to Bedrock: ______

Depth to Groundwater: Standing Water in the Hole: ______ Weeping from Pit Face: ______

Estimated Seasonal High Ground Water: 69" (MOTTLES)

Land Solutions

Two Amherst Rd. (Rte 116)
P.O. Box 121
Sunderland, MA. 01375

FAX COVER SHEET

TO: DAVID ZARAZINSKI
COMPANY: HEALTH AGENT
PHONE: 413/256-4043
FAX: 413/256-4041

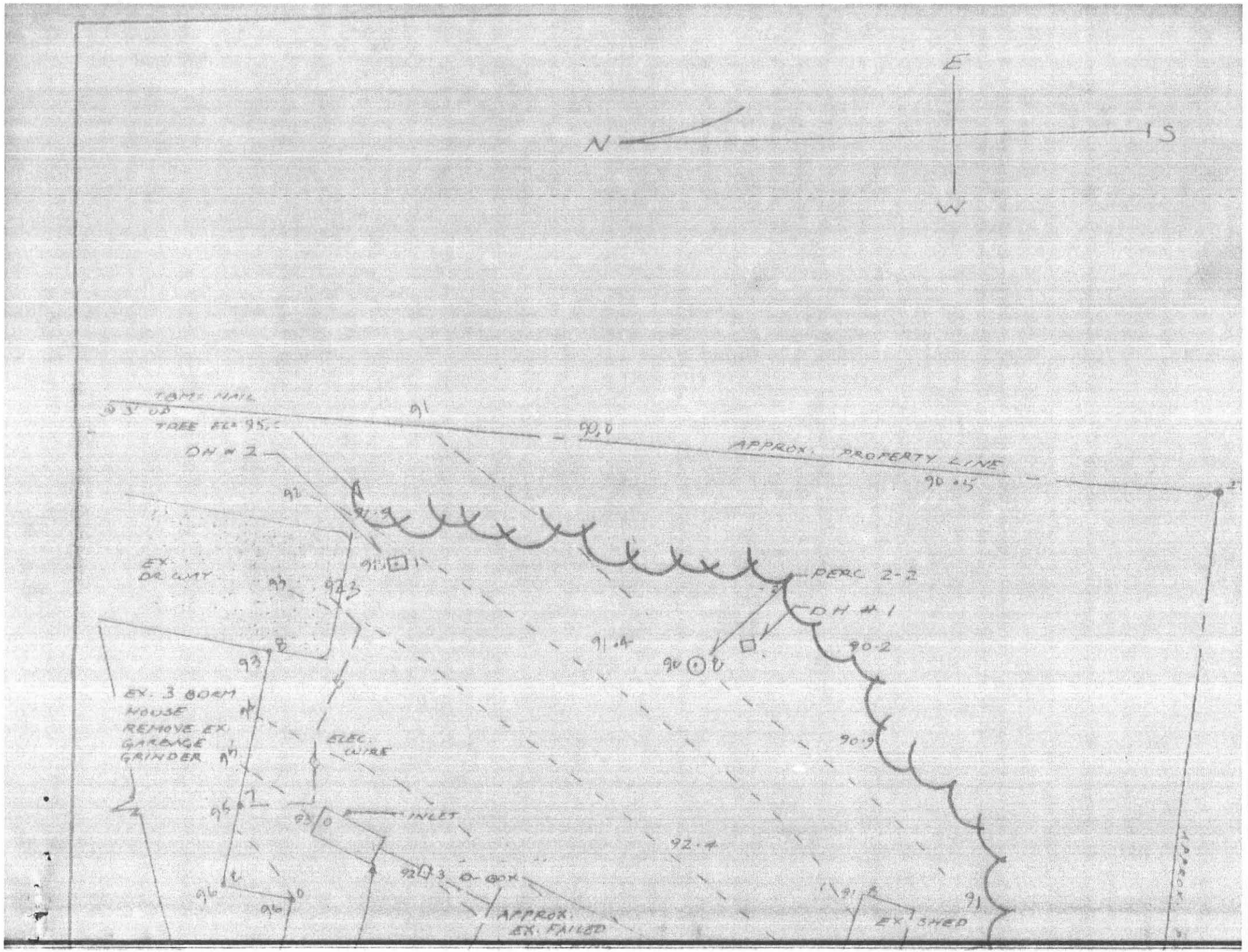
FROM: JLR
PHONE: 413-665-4777
FAX: 413-665-4777

DATE: ~~30 JULY 96~~ 31 JULY 7 more
PAGES INCLUDING THIS COVER SHEET: 12

RE: ZOELLER - SEPTIC
JOB #: 96-663

COMMENTS:

If you are missing any of these pages please call us as soon as possible, thank you.


E
N
S
W
TBM= NAIL
@ 3' OB
TREE EL= 95.5
91
90.0
APPROX. PROPERTY LINE
90.5
DH # 2
92
EX.
DRIVEWAY
93
PERC 2-2
DH # 1
91.4
90.2
90.9
EX. 3 BDRM
HOUSE
REMOVE EX.
GARBAGE
GRINDER
ELEC.
WIRE
INLET
92.4
92.3
D-BOX
APPROX.
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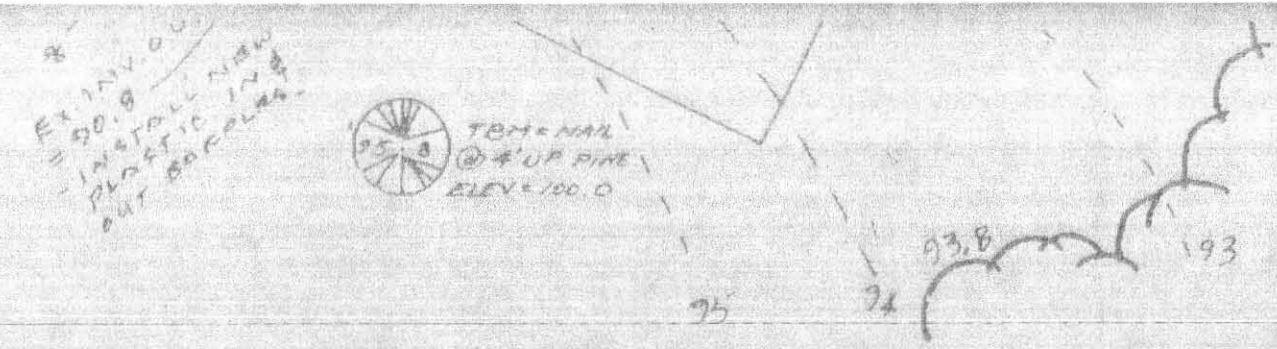
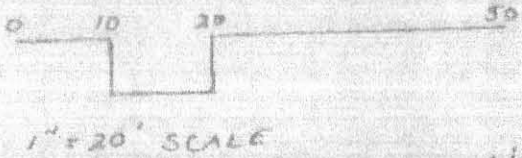
APPROX.





Note: CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING ELECTRICAL SERVICE (BURIED) PRIOR TO ANY EXCAVATION & SHALL REPORT ANY DISCREPANCY TO PLAN LOCATION TO ENGINEER.

Drawn By JLR Initial Date 24JULY96

Scale 1"=20' Revised 7/29/96

Sheet number J-1 Project Number 96-063

SEPTIC SYSTEM DESIGN

SITE PLAN

PREPARED FOR
TOM ZOELLER&SANDY PETERSON
107 HIGH PT. DR.
AMHERST, MA 01002

DAVID E. KEAT
Consulting Civil Engin
102 Russell St
Sunderland, MA 01
LAND SOLUTIO
Two Amherst Roa
P.O. Box
Sunderland, MA 01
413/665-1777

LAND SOLUTIONS 413-665-4777 P.O. BOX 121
SUNDERLAND MA 01375

Title 5 Draft Printed September 20, 1993 *Appendix 4 Page 5*

Location Address: 107 High Point Drive, Amherst, MA

Name: Zoeller
Date: 24July96
Job #: 96-063

Table Determination for Seasonal High Water

Method Used :

Depth observed standing in observation hole inches.
Depth weeping from side of observation hole inches.
☑ Depth to soil mottles 47 inches.
Ground water adjustment feet.

Index Well Number Reading Date Index Well Level
Adjustment Factor Adjusted Ground Water Level

Percolation Test		
	Date : **24JULY96**	Time : **10:27AM**
Observation Hole #	2-2	
Depth of Perc.	28" + 22"	
Start Pre-soak	**10:27AM**	
End Pre-soak	**10:42AM**	
Time at 12"	**10:42AM**	
Time at 9"	**10:55AM**	
Time at 6"	**11:08AM**	
Time (9"-6")	**13 MIN**	
Rate Min./Inch	4.33	

USE 20MIN/IN FOR DESIGN-REMOVE EXISTING GARBAGE GRINDER

Site Suitability Assessment : ☑Site Passed Site Failed

Additional Testing Needed : **NONE**

Performed By : **K Christian Boysen** Certification # : **Nov. 94**

Witnessed By : **DAVID ZARAZINSKI HEALTH AGENT & CERTIFIED SOILS EVALUATOR**

I certify that on **Nov. 94** (date) I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

LSDR82696

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND MA. 01375

Title 5 - Draft Print September 20, 1993 *Appendix 4 Page 2*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

On-site Review

Deep Hole Number : **2** Date : **24July96** Time : **9:09 AM** Weather : **Cloudy 60'**
Location (identify on site plan): **30' N. of DH #1-see site plan**
Land Use : **Cleared woods** Slope : **5%** Surface Stones : **Many small**
Vegetation : **Stripped**
Landform : **Terrace**
Position on landscape (sketch on back) : **On terrace**
Distance From : Open Water Body : **>150'** Drainage way : **>150'**
Possible Wet Area : **>150'** Property Line : **25' +/-**
Drinking Water Well: Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc.)
0-3	A (STRIPPED)	FINE SANDY LOAM	10YR 2/2	NO	•MANY ROOTS •VERY FRIABLE
3-6	FILL	FINE SANDY			
6-7½	A (HISTORICALLY STRIPPED)	FINE SANDY LOAM			
7½-16	Bw	FINE SANDY LOAM	10YR 4/6	NO	•MANY ROOTS •FRIABLE •10% SUB-ANG GRAVEL TO 3/8" DIAMETER
16-42	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•5% SUB-ANG GRAVEL TO 3/4" DIAMETER •FRIABLE
22-40	C1	FINE SANDY LOAM	2.5Y 5/3	•<5% •10YR 5/3	•VERY FIRM •STRATIFIED •FRIABLE •10% SUB-ANG GRAVEL TO 3/4" DIAMETER
40-120	C2	FINE SANDY LOAM	2.5Y 6/2	•<5% •10YR 5/3	•10% GRAVEL TO 2" DIAMETER •OCC. STONE TO 12" DIAMETER •EXTREME. FIRM

Parent Material (geologic) : **GLACIAL TILL** Depth to Bedrock : **>40"**
Depth to Ground water : Standing Water in Hole : **NONE** Weeping from Pit Face: **64"**
Estimated Seasonal High Ground water : **40" (MOTTLES)**

LAND SOLUTIONS 413-665-4777 P.O. BOX 121
SUNDERLAND, MA 01375

Location Address: 107 High Point Drive, Amherst, MA

Name: Zoeller
Date : 24July96
Job #: 96-063

On-site Review

Deep Hole Number : 1 Date : 24July96 Time : 8:22 AM Weather : Cloudy 60'
Location (identify on site plan): 25' W. of E. property line-see site plan
Land Use : Cleared woods Slope : 5% Surface Stones : Many small
Vegetation : Stripped
Landform : Terrace
Position on landscape (sketch on back) : On terrace
Distance From:
Open Water Body : >150 Drainage way : >100
Possible Wet Area : >150 Property Line : 25' +/-
Drinking Water Well Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-2	Ap	•FINE SANDY LOAM •(WAS STRIPPED)	10YR 2/2	NO	•MANY ROOTS •5% GRAVEL TO 3/4" DIA •FRIABLE
2-15	Bw	FINE SANDY LOAM	10YR 4/5	NO	•MANY FINE ROOTS •FRIABLE •10% GRAVEL TO 1 - 1/4" DIA
15-22	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•15% GRAVEL TO 1 - 1/4" DIA •VERY FRIABLE
22-36	C1	FINE SANDY LOAM	2.5Y 5/3	•<47"= •<5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1/2" DIA •VERY FIRM •FRIABLE •STRATIFIED
36-141"	C2	VERY FINE SANDY LOAM	2.5Y 6/2	•47"+=>5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1" DIAMETER •EXTREMELY FIRM

Parent Material (geologic) : GLACIAL TILL Depth to Bedrock : >141"
Depth to Ground water: Standing Water in Hole : 141" Weeping from Pit Face: 69"
Estimated Seasonal High Ground Water : 47" (MOTTLES)

LAND SOLUTIONS

TWO AMHERST ROAD
P.O. BOX 121
SUNDERLAND, MA. 01375
413-665-4777 VOICE/FAX

TO: **DAVID ZARAZINSKI**
INSPECT. SERVICES / TOWN HALL
AMHERST, MA 01002

I AM SENDING YOU:	☒ATTACHED	UNDER SEPARATE COVER
COPIES **1**	DATE **31JULY96**	DESCRIPTION •
• **FULL PERCOLATION PACKAGE FOR TOM ZOELLER @ 107 HIGH POINT DRIVE, AMHERST, MA 01002. PERFORMED ON 24 JULY 1996.**		

THESE ARE TRANSMITTED AS CHECKED BELOW:

ACTION	APPROVAL	FOR COMMENT
FOR INFO	INITIALS	RECOMMENDATION
YOUR SIGNATURE		☒FOR YOUR USE
APPROVED AS SUBMITTED		APPROVED AS NOTICED

REMARKS:

THANK YOU,
RESPECTFULLY,

JOY L. RICHARD

COPY TO: **TOM ZOELLER**

LSDR62696

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND, MA 01375

Title 5 : Draft Printed September 20, 1993

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

Location Address: **107 High Point Drive, Amherst, MA**
Assures map 60, lot 60

Commonwealth of Massachusetts,
Massachusetts

Site Suitability Assessment for On-Site Sewage Disposal

Performed By : K. Christian Boysen Certification Number : Nov. '94
Witnessed By : David Zarazinski Health Agent & Certified Soils Evaluator

Location Address or Lot No.	Owner's Name, Address and Tel. #
107 High Point Drive, **Amherst, MA 01002**	**Tom Zoeller** **107 High Point Drive,** **Amherst, MA 01002**

New Construction: Repair: ☑ **Straight T-5 repair per Mr. Sarazinski, Estimated property line maybe town road, 3 BR and remove grinder, Replace ex. slide inlet & outlet baffles w/ gas & plastic**

Office Review

Published Soil Survey Available : Yes ☑ No
Year Published **1981** Publication Scale **1:15 840**
Drainage Class Soil Limitations Soil Map Unit:

Surficial Geologic Report Available : Yes ☑ No
Year Published **1967** Publication Scale **1:24 000**
Geological Material (Map Unit) **Glacial Till**
Landform **Drumlin**

Flood Insurance Rate Map : Panel #**250156-0005** Date: **15Dec83**
Above 500 year flood plain ☑No Yes
Within 500 year flood plain ☑No Yes
Within 100 year flood plain ☑No Yes

Wetland Area :
National Wetland Inventory Map (map unit) :
Wetlands Conservancy Program Map (map unit) :
Current Water Resource Conditions (USGS) : Month
Range : Above Normal Normal Below Normal
Other References Reviewed :

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND, MA 01375

Title 5 : Draft Print September 20, 1993 *Appendix 4 Page 2*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

On-site Review

Deep Hole Number : **1** Date : **24July96** Time : **8:22 AM** Weather : **Cloudy 60'**
Location (identify on site plan): **25' W. of E. property line-see site plan**
Land Use : **Cleared woods** Slope : **5%** Surface Stones : **Many small**
Vegetation : **Stripped**
Landform : **Terrace**
Position on landscape (sketch on back) : **On terrace**
Distance From :

Open Water Body : **>150** Drainage way : **>100**
Possible Wet Area : **>150** Property Line : **25' +/-**
Drinking Water Well: Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-2	Ap	•FINE SANDY LOAM •(WAS STRIPPED)	10YR 2/2	NO	•MANY ROOTS •5% GRAVEL TO 3/4" DIA •FRIABLE
2-15	Bw	FINE SANDY LOAM	10YR 4/5	NO	•MANY FINE ROOTS •FRIABLE •10% GRAVEL TO 1 - 1/4" DIA
15-22	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•15% GRAVEL TO 1 - 1/4" DIA •VERY FRIABLE
22-36	C1	FINE SANDY LOAM	2.5Y 5/3	•<47"= •<5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1/2" DIA •VERY FIRM •FRIABLE •STRATIFIED
36-141"	C2	VERY FINE SANDY LOAM	2.5Y 6/2	•47"+= >5% •10YR 5/3	•10% SUB-ANG GRAVEL TO 1" DIAMETER •EXTREMELY FIRM

Parent Material (geologic) : **GLACIAL TILL** Depth to Bedrock : **>141"**
Depth to Ground water: Standing Water in Hole : **141"** Weeping from Pit Face: **69"**
Estimated Seasonal High Ground Water : **47" (MOTTLES)**

LSDR62696

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND MA. 01375

Title 5 : Draft Print September 20, 1993 *Appendix 4 Page 2*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

On-site Review

Deep Hole Number : **2** Date : **24July96** Time : **9:09 AM** Weather : **Cloudy 60'**
Location (identify on site plan): **30' N. of DH #1-see site plan**
Land Use : **Cleared woods** Slope : **5%** Surface Stones : **Many small**
Vegetation : **Stripped**
Landform : **Terrace**
Position on landscape (sketch on back) : **On terrace**
Distance From : Open Water Body : **>150'** Drainage way : **>150'**
Possible Wet Area : **>150'** Property Line : **25' +/-**
Drinking Water Well: Other :

DEEP OBSERVATION HOLE LOG

Depth from Surface (inches)	Soil Horizons	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (structure, stones, etc)
0-3	A (STRIPPED)	FINE SANDY LOAM	10YR 2/2	NO	•MANY ROOTS •VERY FRIABLE
3-6	FILL	FINE SANDY			
6-71/2	A (HISTORICALLY STRIPPED)	FINE SANDY LOAM			
71/2-16	Bw	FINE SANDY LOAM	10YR 4/5	NO	•MANY ROOTS •FRIABLE •10% SUB-ANG GRAVEL TO 3/8" DIAMETER
16-22	BC	FINE SANDY LOAM	2.5Y 5/5	NO	•5% SUB-ANG GRAVEL TO 3/4" DIAMETER •FRIABLE
22-40	C1	FINE SANDY LOAM	2.5Y 5/3	•<5% •10YR 5/3	•VERY FIRM •STRATIFIED •FRIABLE •10% SUB-ANG GRAVEL TO 3/4" DIAMETER
40-120	C2	FINE SANDY LOAM	2.5Y 6/2	•>5% •10YR 5/3	•10% GRAVEL TO 2" DIAMETER •OCC. STONE TO 12" DIAMETER •EXTREME. FIRM

Parent Material (geologic) : **GLACIAL TILL** Depth to Bedrock : **>40"**
Depth to Ground water : Standing Water in Hole : **NONE** Weeping from Pit Face: **64"**
Estimated Seasonal High Ground water : **40" (MOTTLES)**
LSDR62696

LAND SOLUTIONS 413-665-4777 P.O. BOX 121 SUNDERLAND MA 01375

Title 5 : Draft Printed September 20, 1993 *Appendix 4 Page 3*

Location Address: **107 High Point Drive, Amherst, MA**

Name: **Zoeller**
Date : **24July96**
Job #: **96-063**

Table Determination for Seasonal High Water

Method Used :

Depth observed standing in observation hole inches.
Depth weeping from side of observation hole inches.
☑ Depth to soil mottles **47** inches.
Ground water adjustment feet.

Index Well Number Reading Date Index Well Level
Adjustment Factor Adjusted Ground Water Level

Percolation Test		
	Date : **24JULY96**	Time : **10:27AM**
Observation Hole #	**2-2**	
Depth of Perc.	**28" + 22"**	
Start Pre-soak	**10:27AM**	
End Pre-soak	**10:42AM**	
Time at 12"	**10:42AM**	
Time at 9"	**10:55AM**	
Time at 6"	**11:08AM**	
Time (9"-6")	**13 MIN**	
Rate Min./Inch	**4.33**	

USE 20MIN/IN FOR DESIGN-REMOVE EXISTING GARBAGE GRINDER

Site Suitability Assessment : ☑Site Passed Site Failed

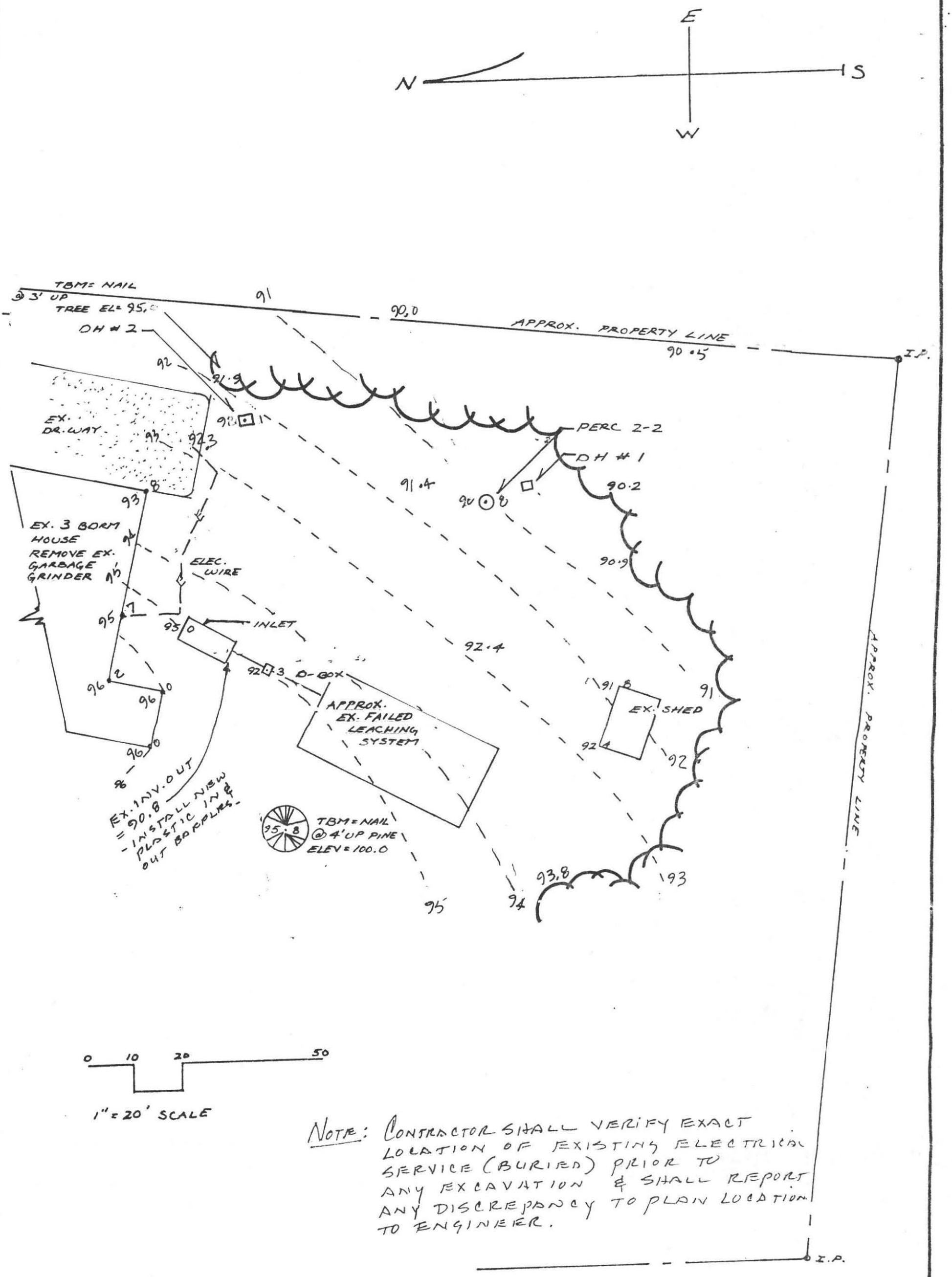
Additional Testing Needed : **NONE**

Performed By : **K Christian Boysen** Certification # : **Nov. 94**

Witnessed By : **DAVID ZARAZINSKI HEALTH AGENT & CERTIFIED SOILS EVALUATOR**

I certify that on **Nov. 94** (date) I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

LSDR62696



NOTE: CONTRACTOR SHALL VERIFY EXACT LOCATION OF EXISTING ELECTRICAL SERVICE (BURIED) PRIOR TO ANY EXCAVATION & SHALL REPORT ANY DISCREPANCY TO PLAN LOCATION TO ENGINEER.

Drawn By: JLR Initial Date: 24JULY96

Scale: 1"=20' Revised: 7/29/96

Sheet number: J-1 Project Number: 96-063

SEPTIC SYSTEM DESIGN

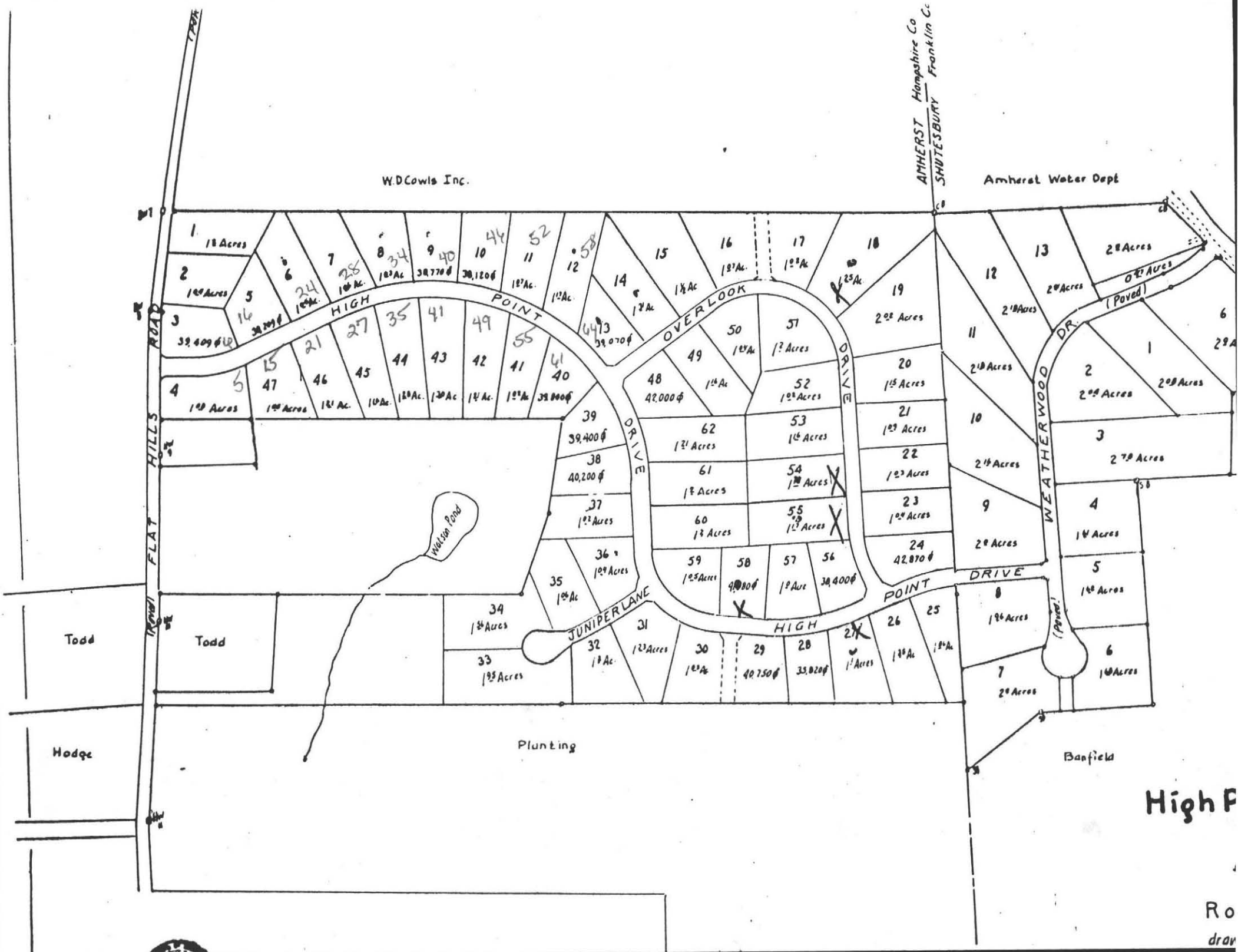
SITE PLAN

PREPARED FOR:
TOM ZOELLER&SANDY PETERSON
107 HIGH PT. DR.
AMHERST, MA 01002

DAVID E. KEATES
Consulting Civil Engineer
102 Russell Street
Sunderland, MA. 01375
LAND SOLUTIONS
Two Amherst Road
P.O. Box 121
Sunderland, MA. 01375
413/665-4777 voice/fax

High Point Dr.

Town Fair May 12-14


W.D Cowls Inc.
Amherst Water Dept
AMHERST Hampshire Co
SHUTESBURY Franklin Co
HILLS ROAD
FLAT
HIGH POINT DRIVE
OVERLOOK DRIVE
WEATHERWOOD DR. (Paved)
JUNIPER LANE
HIGH POINT DRIVE
(Paved)
Walton Pond
Todd
Todd
Hodge
Planting
Banfield

Sample#5165

HOWARD LABORATORIES, INC
750 North Pleasant Street
Amherst, MA 01002
MA Lab Lic# M-00851

WATER ANALYSIS REPORT

Analyzed For: Bercume Builders
Address: 25 Sylvia Heights
Hadley, MA 01035

Telephone:

Sample Location:
High Point Drive, Amherst

Sampled By: HENSHAW WELL DRILLING
Date Sampled: 3/27/98
Date Received: 3/27/98

Parameter	Results	Limits	Comments
Total Coliform Bacteria	0 colonies/100ml	0 colony/100ml	OK
pH	8.16 pH Units	6.5-8.5 pH Units	OK
Manganese	* 0.073 mg/l	0.05 mg/l	*
Hardness	80 mg/l	No Standard	<50 soft, >100 hard
Conductivity	0.18 mS/cm	No Standard	OK
Chloride	12 mg/l	250mg/l	OK
Iron	0.04 mg/l	0.3mg/l	OK
Sodium	8 mg/l	28mg/l	OK
Nitrate	0.4 mg/l	10mg/l	OK
Nitrite	0.007 mg/l	1 mg/l	OK
Color	* 155 PtCo Color Units	15 Pt Co Color Units	*
Turbidity	* 23.4 NTU	5 NTU	*

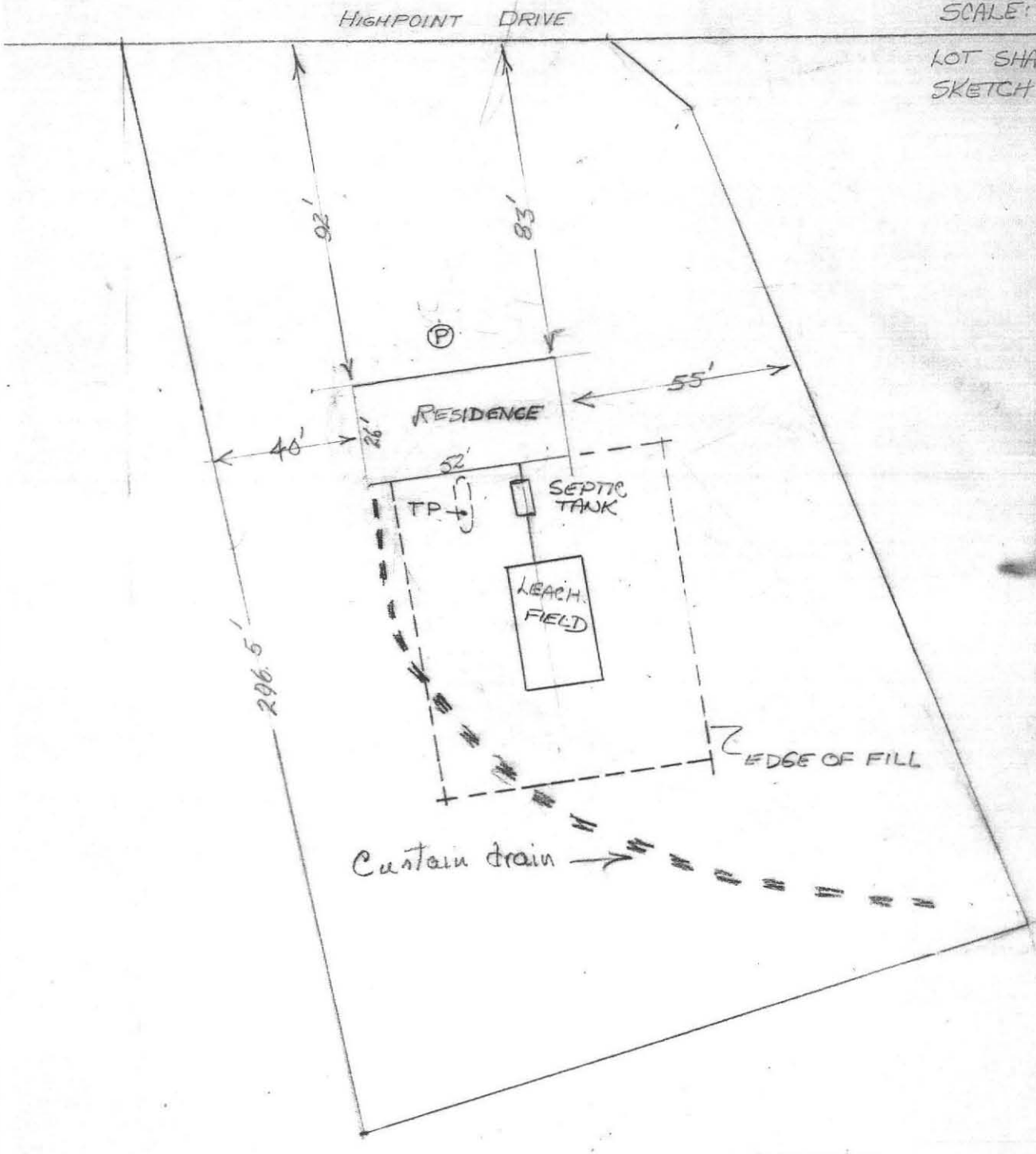
Recommendations: Manganese, color and turbidity are normally elevated in newly drilled wells. Purge well water for 30 days then retest the parameters that have elevated levels.
This sample does meet acceptable standards of potability for public water supplies except for the parameters marked with an asterisk (*).

Analyst: DPK
Checked By: Jonathan S. Begg
Laboratory Supervisor

Date: 3/30/98

RUSSELL & ROBERTS
LOT 30
HIGHPOINT DRIVE
AMHERST, MASS.
SCALE: 1" = 40'

LOT SHAPE INFERRED FRO
SKETCH SUPPLIED BY OWN



1.) REMOVE 6" TOPSOIL FROM FILL AREA, CLEAR & GRUB.
2.) PLACE 24" CLEAN COMPACTED FILL OVER LEACHING AREA. PLACE FILL OVER CLEARED AREA TO AT LEAST 25' FROM LEACHING AREA AND AT SLOPE NO GREATER THAN 1:10.
3.) INSTALL LEACH BED 20' x 33' OR 660 SQ. FT.
4) COVER WITH SUITABLE TOPSOIL MATERIAL.

Charlie

4-27-71

Barry put a level on the backside of this lot yesterday and found that there is a 5.0' drop from the southwest corner of the house to the southeast corner of the lot. This being the case, I reccomend that he instal a curtain drain to at least 4'-0 and then put in a normal leach bed. The curtain drain would be run from the SW corner of the house to the SE corner of the lot.

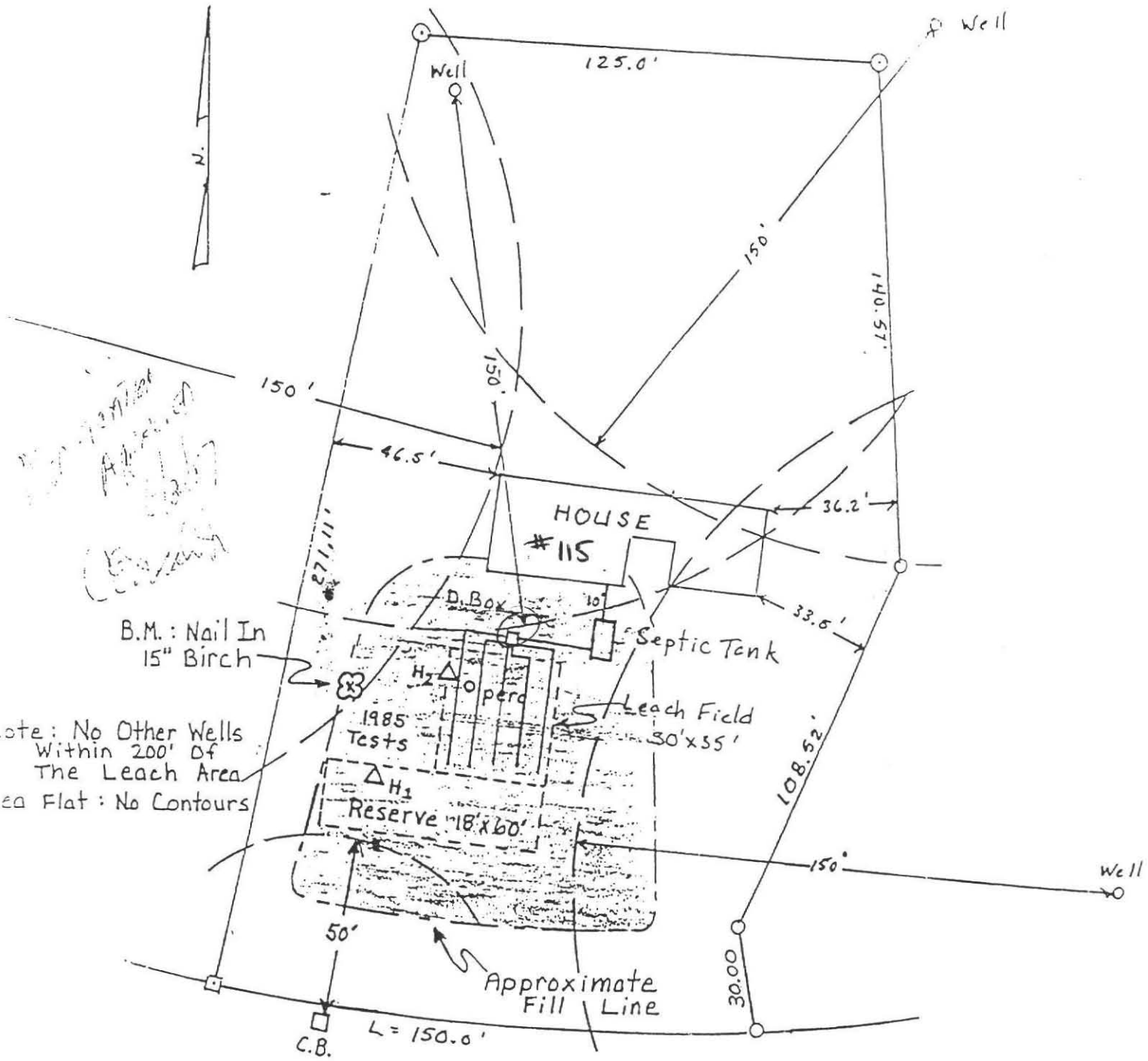
Ken

PLAN SHOWING SEWAGE DISPOSAL

FOR: Ron Bercume
47 Spruce Hill Rd
Hadley, MA

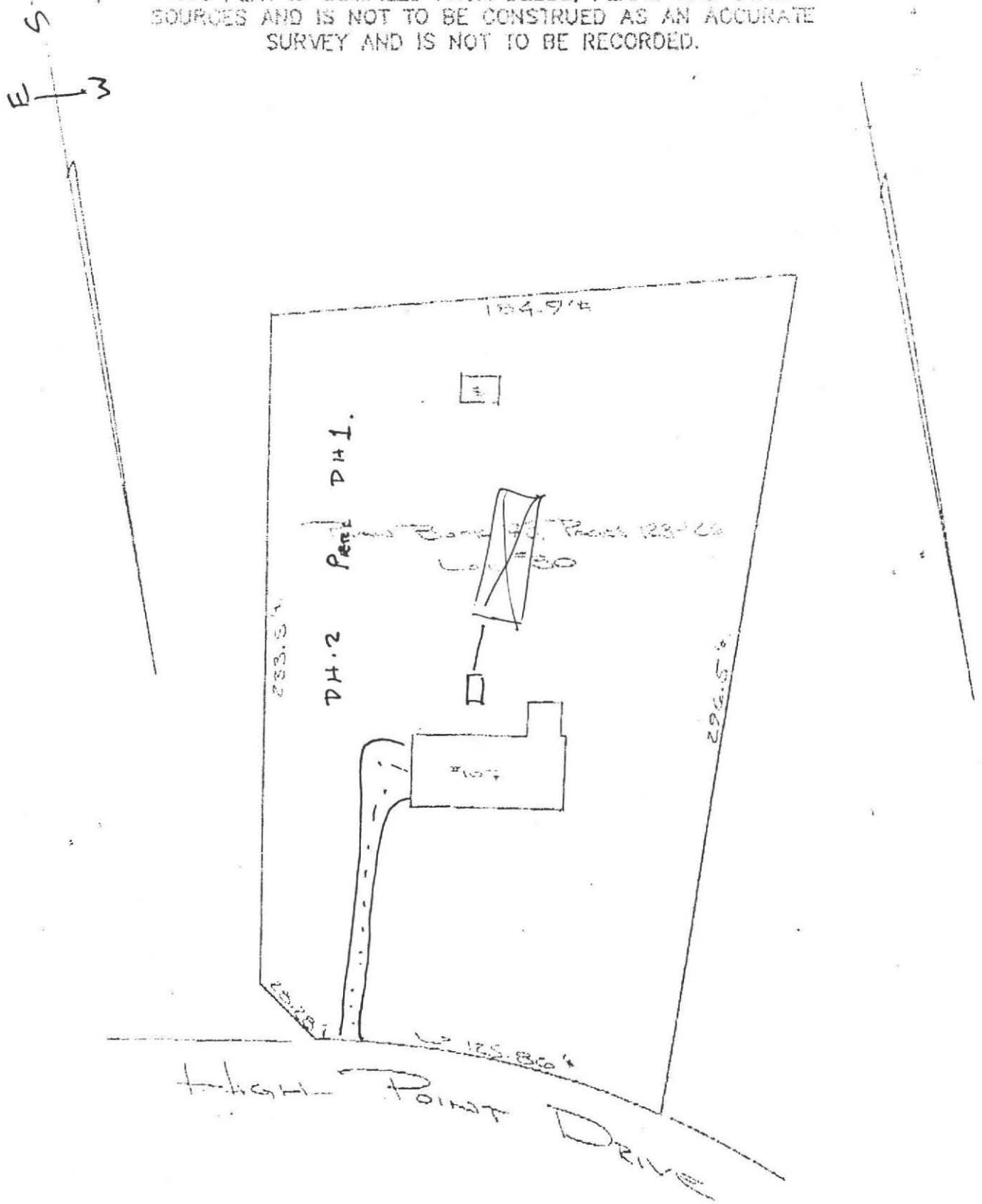
DATE: June 29 1987
SITE: 1" = 40'
By: Fred A. Filios R.N.S

SITE: Lot A
High Point Dr.
Amherst, Ma.



-NOTE-

THIS PLAT IS COMPILED FROM DEEDS, PLANS AND OTHER SOURCES AND IS NOT TO BE CONSTRUED AS AN ACCURATE SURVEY AND IS NOT TO BE RECORDED.



PROFILE OF SEPTIC SYSTEM

For: George Spence
P.O. Box G Amherst Rd.
North Amherst, MA

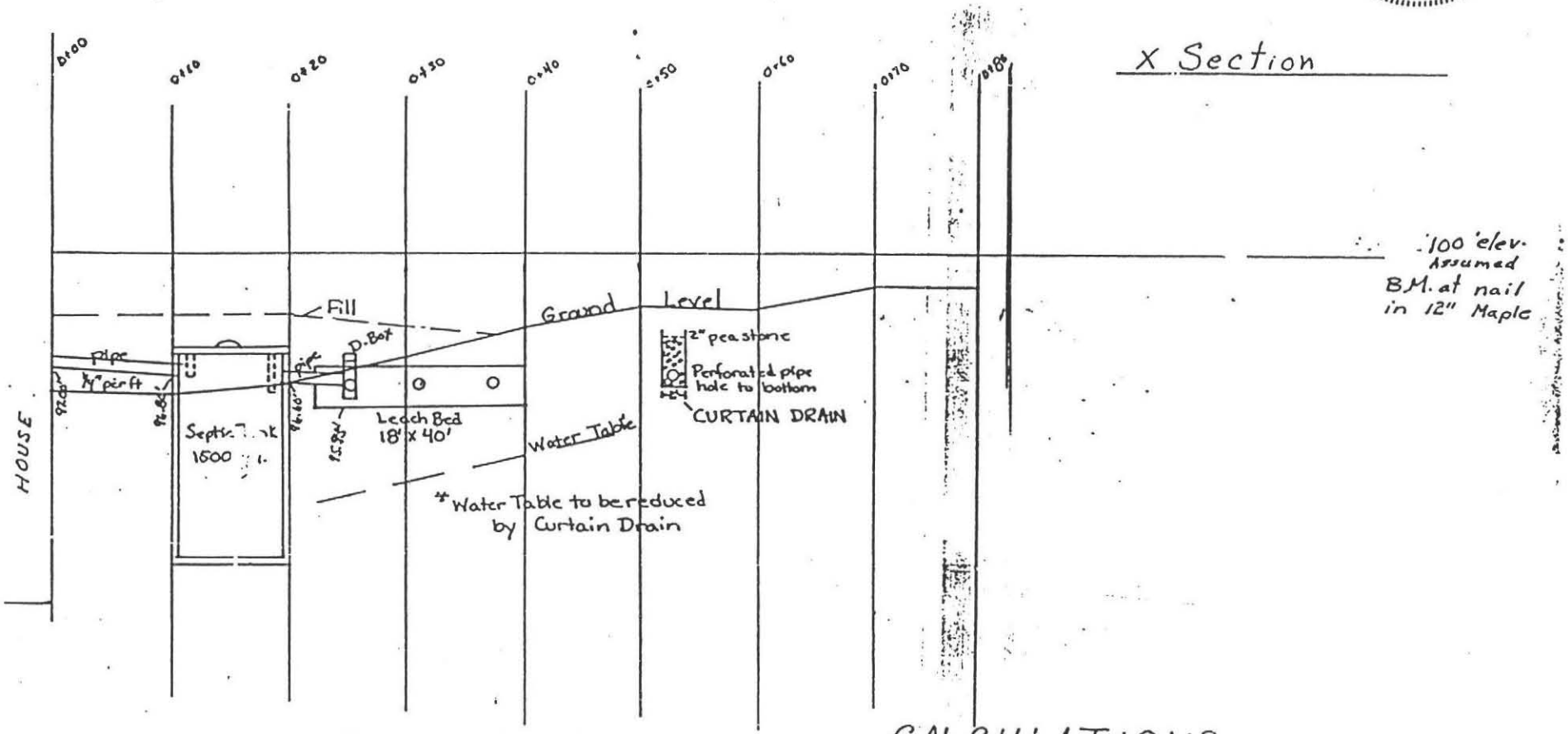
At: High Point Dr.
Amherst, MA

Scale: Horizontal, 1" = 10'
Vertical, 1" = 3'

By: Frederick Filios

May 30, 19..

COMMONWEALTH OF MASSACHUSETTS
FREDERICK A. FILIOS. R.S. 688



SPECIFICATIONS

All materials and construction are to be in accordance with Comm. of Mass D.E.Q.E. State Environmental Code Title 5.

CALCULATIONS

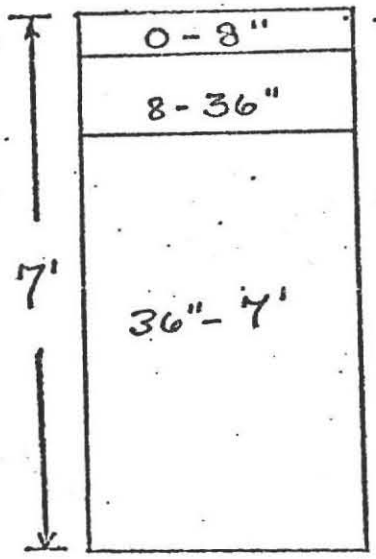
3 bedrooms × 110 gal/bdm = 330 gal + 50% GG = 495 gallons
At 6 min/inch = .71 gal. per sq. ft.
18 ft × 40 ft = 720 sq. ft.
720 sq. ft. × .71 $\frac{gal}{sq.ft}$ = 511.2 gallons proposed.

DEEP SOIL LOGS

OWNER GEORGE SPENCE Date JAN. 25, 1984

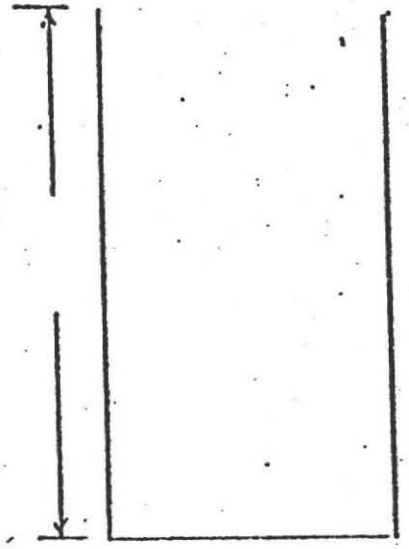
LOCATION HIGH POINT DR., AMHERST OBSERVER F.A. FILIOS

SOIL #1



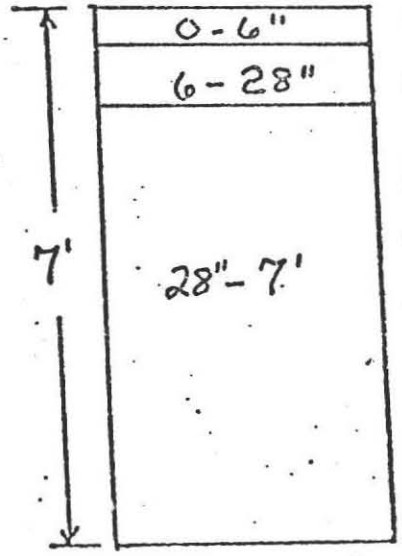
TOPSOIL
SUBSOIL
CLAY
GLACIAL TILL
FEW STONES
OXIDE STAIN ON TOP OF GLACIAL TILL

Ground Water 38"-40"



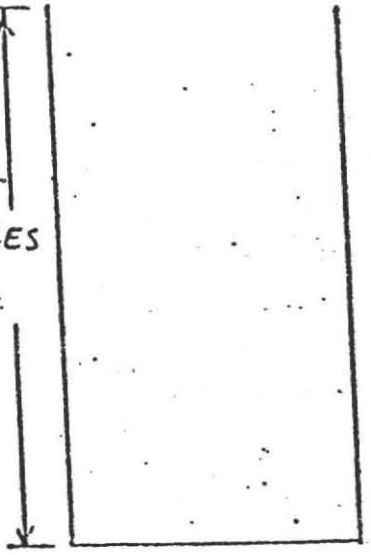
Ground Water ____

SOIL #2



TOPSOIL
SUBSOIL
FIRM GLACIAL TILL
SANDY — FEW STONES
OXIDE STAIN AT 36"

Ground Water 50"



Ground Water ____

PERCOLATION RATE AT 32"

4 1/8 MINUTES / INCH

COMMONWEALTH OF MASSACHUSETTS
FREDERICK A. FILIOS, R.S. 688

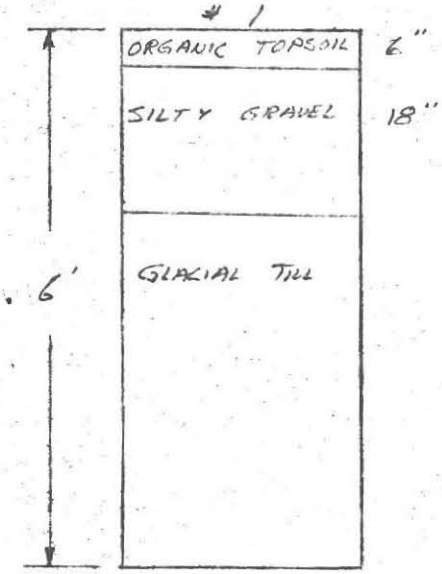
OBSERVATION PIT

REQUESTED BY: GEORGE McELMINERY DATE: 3-29-73.

LOCATION: HIGH POINT DR. AMHERST OBSERVER: DEL

MAIL ADDRESS: 123 [illegible] St So. [illegible]

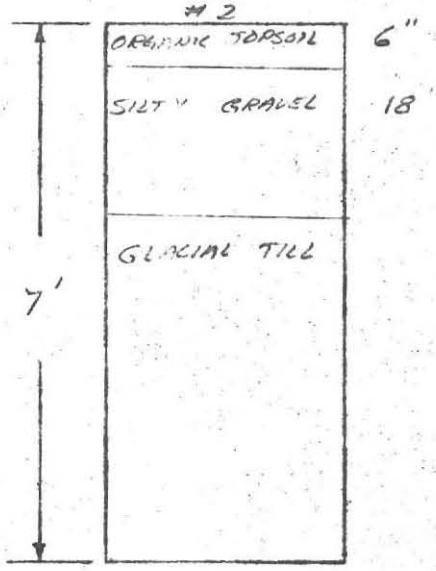
LOT # 26
1



GROUND WATER 6'

11 MIN / IN

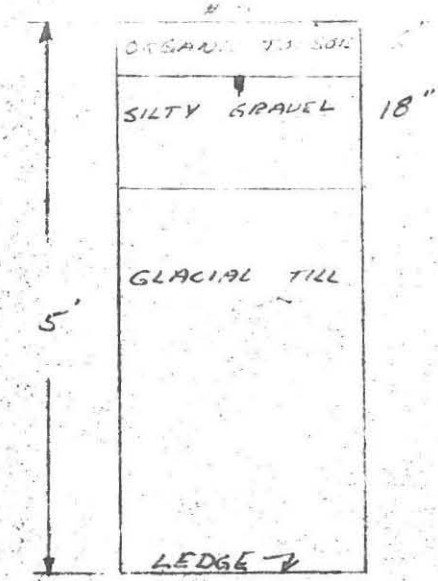
LOT 26
#2



GROUND WATER 7'

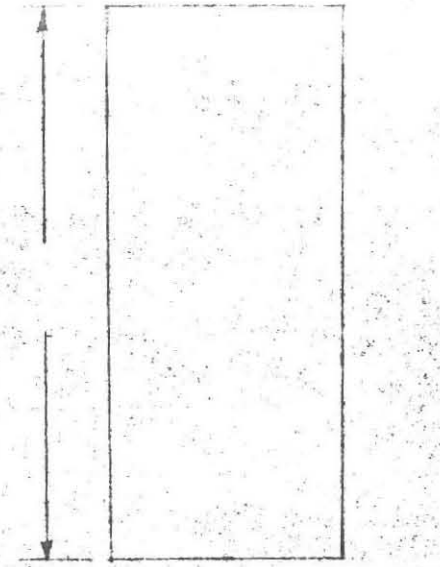
62 MIN / IN

LOT # 25
#



GROUND WATER NONE

8 MIN 20 SEC / IN

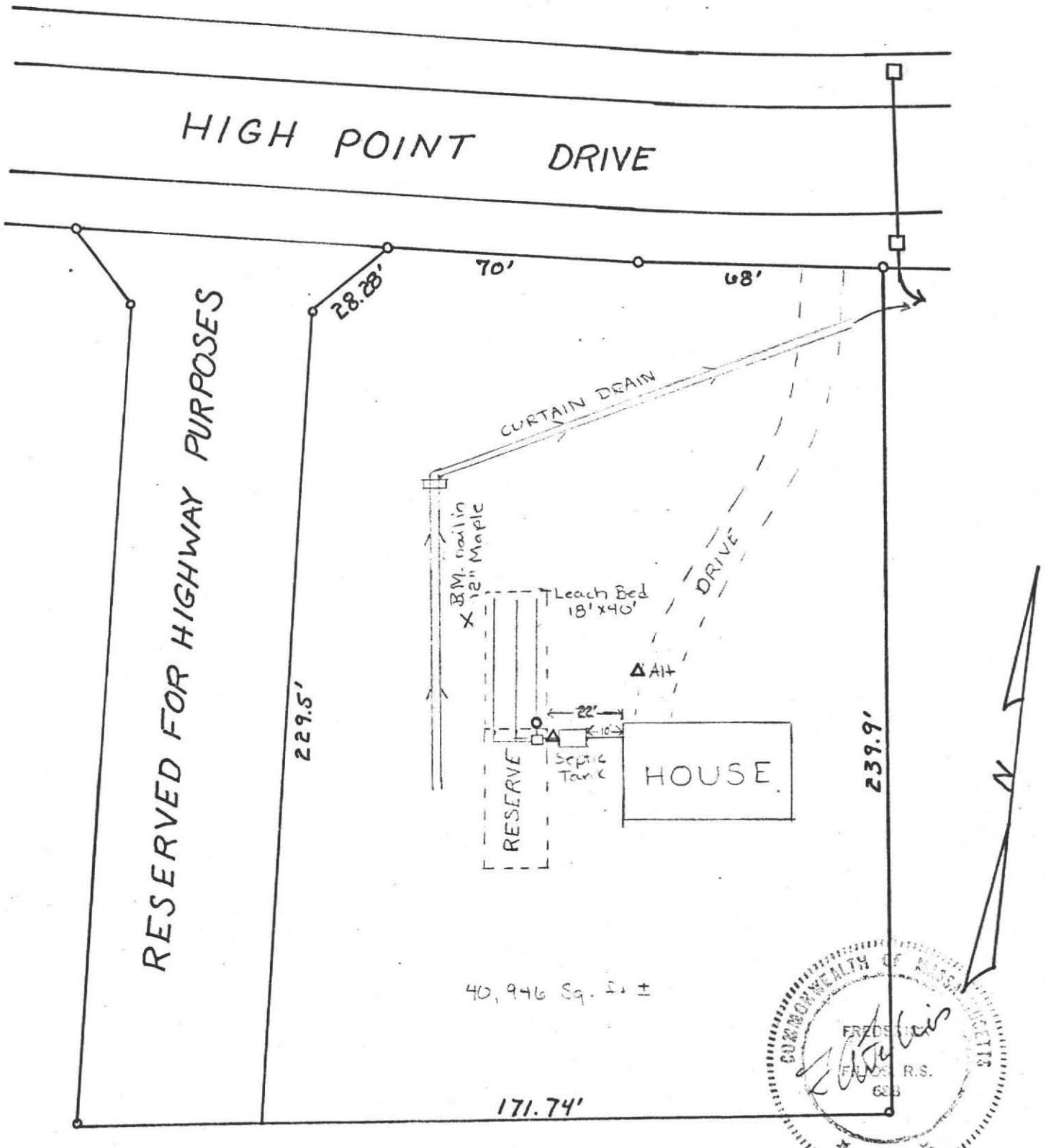


GROUND WATER _____

4

ALMER HUNTLEY, JR. & ASSOCIATES, INC.
REGISTERED LAND SURVEYORS & CIVIL ENGINEERS
238 BRIDGE STREET
NORTHAMPTON, MASS.

PLAN SHOWING SEWAGE DISPOSAL

For: George Spence
P.O. Box G. Amherst Rd.
North Amherst, MA
At: High Point Drive
Amherst, MA

Scale: 1" = 40'
By: F.A. Filios
Date: June 3, 1985