

40 FLAT HILLS



No. 98-9

#40

THE COMMONWEALTH OF MASSACHUSETTS

FEE 160

BOARD OF HEALTH

Town OF Amherst

APPLICATION FOR DISPOSAL SYSTEM CONSTRUCTION PERMIT

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

<u>40 Flat Hills Rd</u> Location	<u>Nelson C. & Suewilla E. Woodfolk</u> Owner's Name
<u>Map 9A Lot 4</u> Map/Parcel #	<u>40 Flat Hills Rd, Amherst, MA</u> Address
<u>Karl's Site Work, Inc</u> Lot #	<u>(413) 253-5325</u> Telephone #
<u>River Drive, Hadley MA</u> Installer's Name	<u>Richard Costa, P.E. Robt. Stover</u> Designer's Name
<u>(413) 549-5396</u> Address	<u>Amherst Civil Engineering</u> Address
<u>Telephone #</u>	<u>Box 3312, Amherst, MA 01004-3312</u> Address
	<u>(413) 256-3400</u> Telephone #

Type of Building: single family house Lot Size _____ Sq. feet
 Dwelling — No. of Bedrooms 4 Garbage Grinder (no)
 Other — Type of Building _____ No. of persons _____ Showers (), Cafeteria ()
 Other fixtures _____

Design Flow (min. required) 550 gpd Calculated design flow 562 gpd Design flow provided _____ gpd

Plan: Date 5/11/98 Number of sheets 1 Revision Date _____

Title On Site Sewage Disposal System Repair

Description of Soil(s) Attached

Soil Evaluator Form No. _____ Name of Soil Evaluator Robert Stover Date of Evaluation 2/2/98

DESCRIPTION OF REPAIRS OR ALTERATIONS Replace existing 1000 gal septic tank with 1500 gal septic tank; replace existing leach bed with leach bed 38' long by 20' wide.

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

Signed _____ Date _____

Inspections _____

FORM 1 - APPLICATION FOR DSCP DEP APPROVED FORM 5/96

No. 98-9

THE COMMONWEALTH OF MASSACHUSETTS

FEE _____

Amherst

BOARD OF HEALTH

CERTIFICATE OF COMPLIANCE

Description of Work: Individual Component(s) Complete System

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

by: Karl's

at 40 Flat Hills Rd.

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 _____ (gpd)

Installer: Karl's site work

Designer: Robert W. Stover for Inspector Gant Date 6/18/98

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

FORM 3 - CERTIFICATE OF COMPLIANCE DEP APPROVED FORM 5/96

No. 98-9

THE COMMONWEALTH OF MASSACHUSETTS

FEE 160⁰⁰

Amherst

BOARD OF HEALTH

DISPOSAL SYSTEM CONSTRUCTION PERMIT

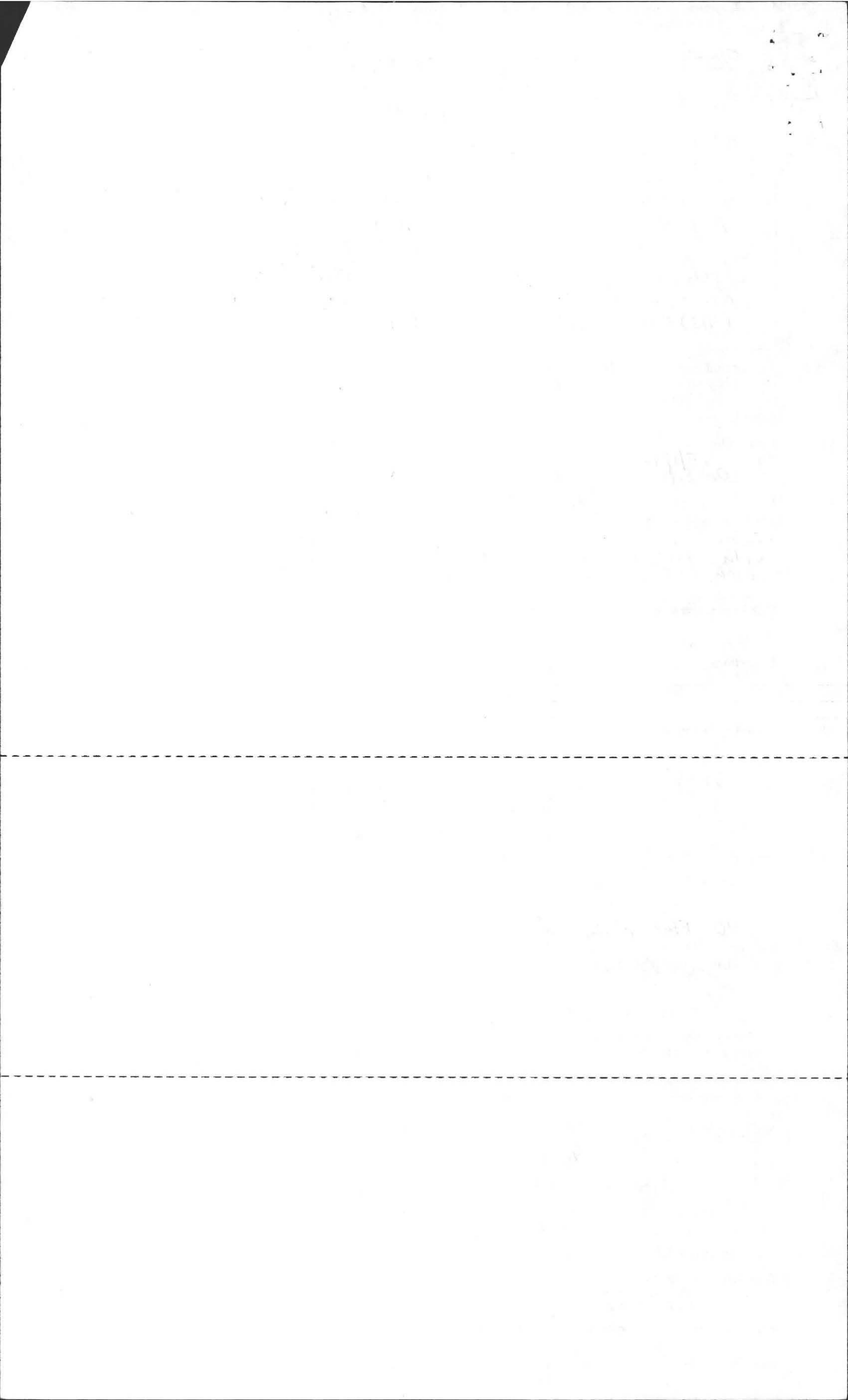
Permission is hereby granted to Construct () Repair (X) Upgrade () Abandon () an individual sewage disposal system at 40 Flat Hills Rd. as described

in the application for Disposal System Construction Permit No. 98-9, dated _____

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

Date 5/17/98 Board of Health [Signature]

FORM 2 - DSCP DEP APPROVED FORM 5/96



Pl 160⁰² c 4# 643
2/2/98

No. _____

Date: 2/2/98

Commonwealth of Massachusetts
, Massachusetts
Soil Suitability Assessment for On-site Sewage Disposal

Performed By: Bob Stovel Date: 2/2/98
Witnessed By: David Zorozinski / M. He Lombard

Location Address or Lot # <u>40 Flat Hills Rd</u>	Owner's Name, Address, and Telephone # <u>Nelson - Sue Woodcock 40 Flat Hills Rd</u>
New Construction <input type="checkbox"/> Repair <input checked="" type="checkbox"/>	

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) _____

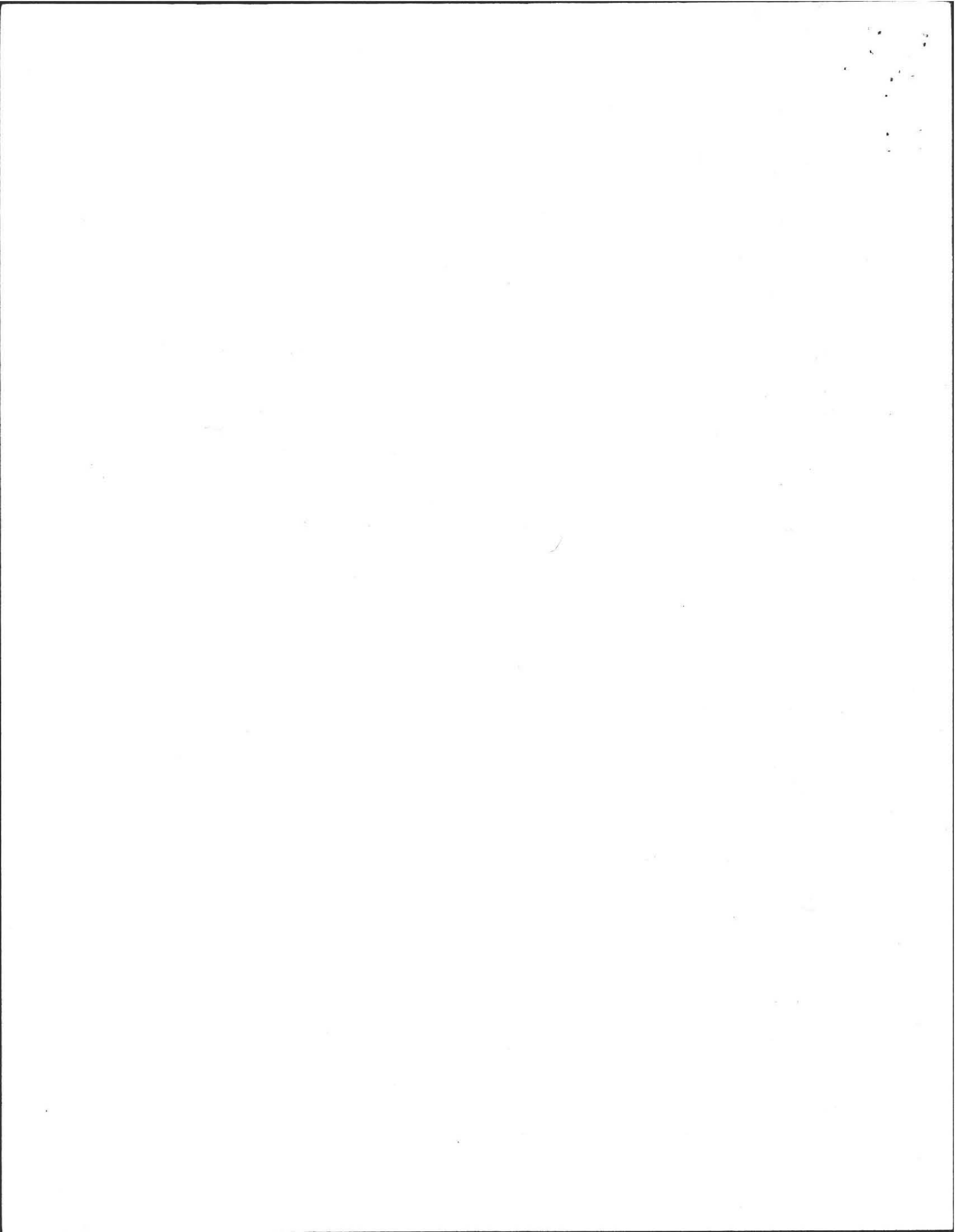
Wetlands Conservancy Program Map (map unit) _____

Current Water Resource Conditions (USGS): Month _____

Range :Above Normal Normal Below Normal

Other References Reviewed: _____





Location Address or Lot No. N45 Wood Fork
40 F1

On-site Review

Deep Hole Number 1 Date: 2/2/98 Time: 10:45 Weather sunny, clear 40°
Location (identify on site plan) See plan
Land Use _____ Slope (%) 5+ Surface Stones Few
Vegetation White Pine, Sugar maple, Forstmann, gum
Landform Kame Terrace
Position on landscape (sketch on the back)

Distances from:

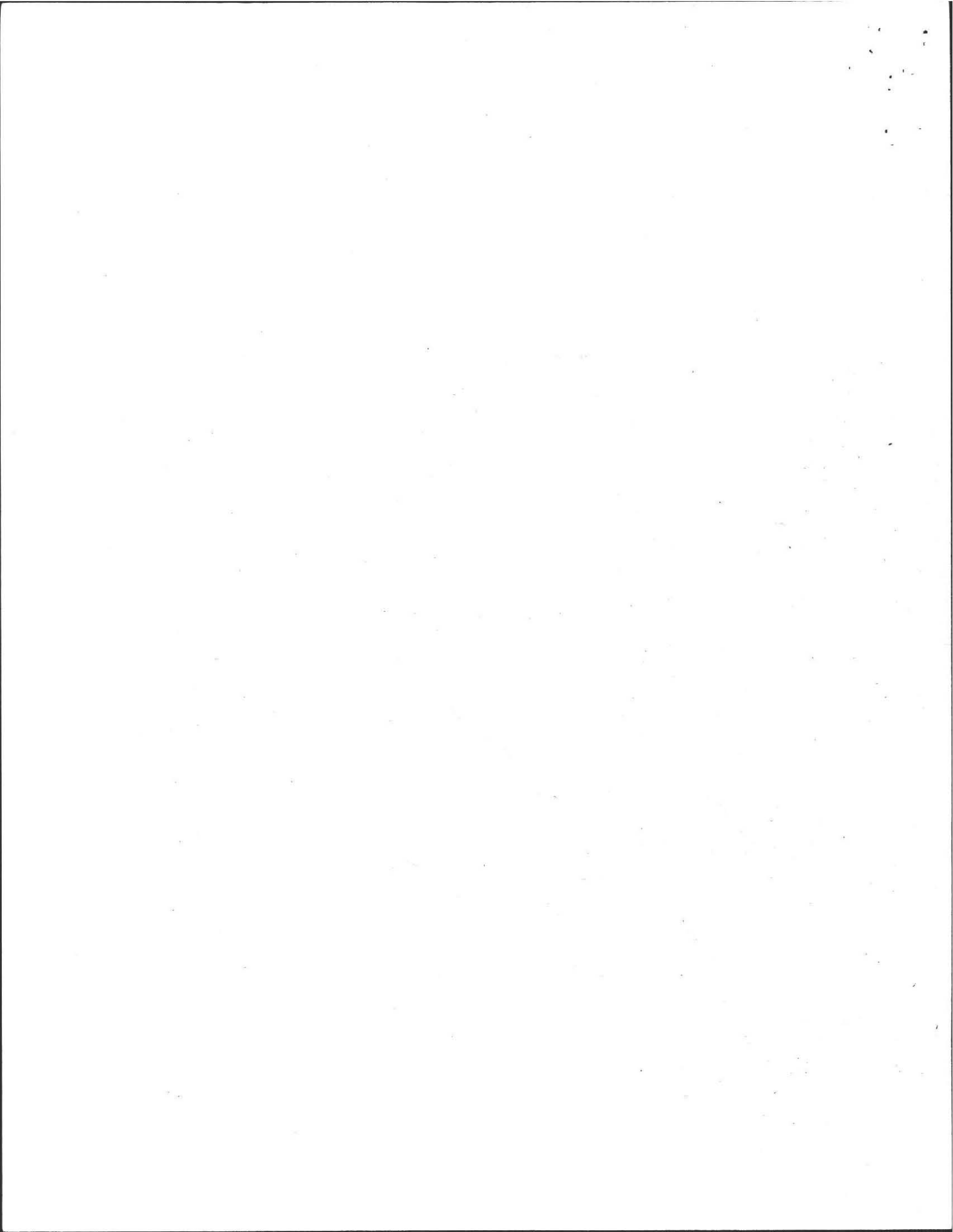
BROOK Open Water Body 100 feet ± Drainage way 100 feet +
Possible Wet Area 100 feet ± Property Line 35 feet
Drinking Water Well _____ feet Other _____
Town water

DEEP OBSERVATION HOLE LOG*					
Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	A	FSL	7.5YR 2.5/2	None	FR.ABLE, GRANULAR
8-24	BW	FSL	7.5YR 4/6	None	FR.ABLE TO LOOSE MASSIVE
24-126	C	FLS gravelly at 66" FLS	10YR 4/6	@ 66" Common 5YR 4/6 Common 2.5Y 5/1	Loose gravelly Many cobbles + stones

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH Depth to Bedrock: > 126"
Depth to Groundwater: Standing Water in the Hole: 120" Weeping from Pit Face: 66"
Estimated Seasonal High Ground Water: 66"





Location Address or Lot No. _____

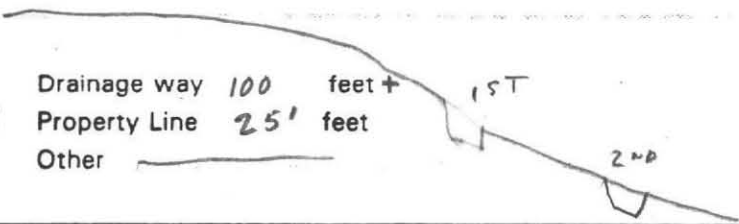
On-site Review

Deep Hole Number 2 Date: 2/2/98 Time: _____ Weather SONNY/clear 40°
 Location (identify on site plan) See PLAN
 Land Use L Slope (%) 2 Surface Stones Few
 Vegetation White Pine, Sugar maple, Forget-me-not GRASS
 Landform Kare Terrace

Position on landscape (sketch on the back)

Distances from:

Open Water Body 80 feet ± Drainage way 100 feet +
 Possible Wet Area 80 feet ± Property Line 25' feet
 Drinking Water Well Town water feet Other _____



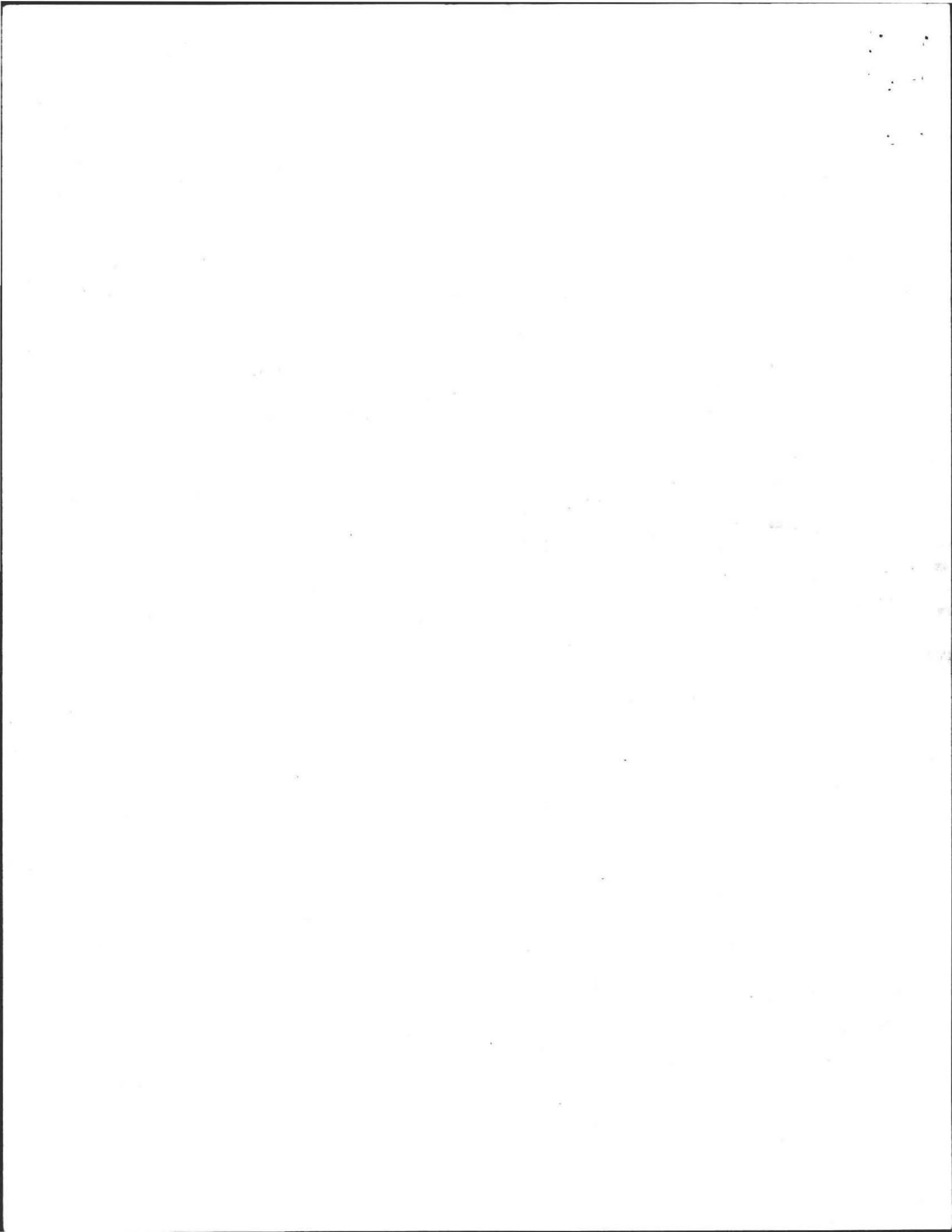
DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-9	A	FSL	7.5 YR 2.5	NONE	Fine, granular
9-24"	BW	FSL	7.5 YR 4/6	NONE	Fine, loose mass
24-9"	C	FLS Gravelly at 64" FIS	10 YR 4/6	D 64" Common 5 YR 4/6 Common 2.5 Y 5/1	Loose, gravelly with + stone

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH Depth to Bedrock: > 108"
 Depth to Groundwater: Standing Water in the Hole: 108" Weeping from Pit Face: 64"
 Estimated Seasonal High Ground Water: 64"





FORM 12 - PERCOLATION TEST

Location Address or Lot No. 40 FLATHILL RD

COMMONWEALTH OF MASSACHUSETTS

, Massachusetts

Percolation Test*		
Date: <u>2/2/98</u>		Time: <u>11:11</u>
Observation Hole #	<u>1</u>	
Depth of Perc	<u>40"</u>	
Start Pre-soak	<u>11:11</u>	
End Pre-soak	<u>11:26</u>	
Time at 12"	<u>11:27</u>	
Time at 9"	<u>11:31</u>	
Time at 6"	<u>11:39</u>	
Time (9"-6")	<u>8 min</u>	
Rate Min./Inch	<u>2.33</u>	

* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

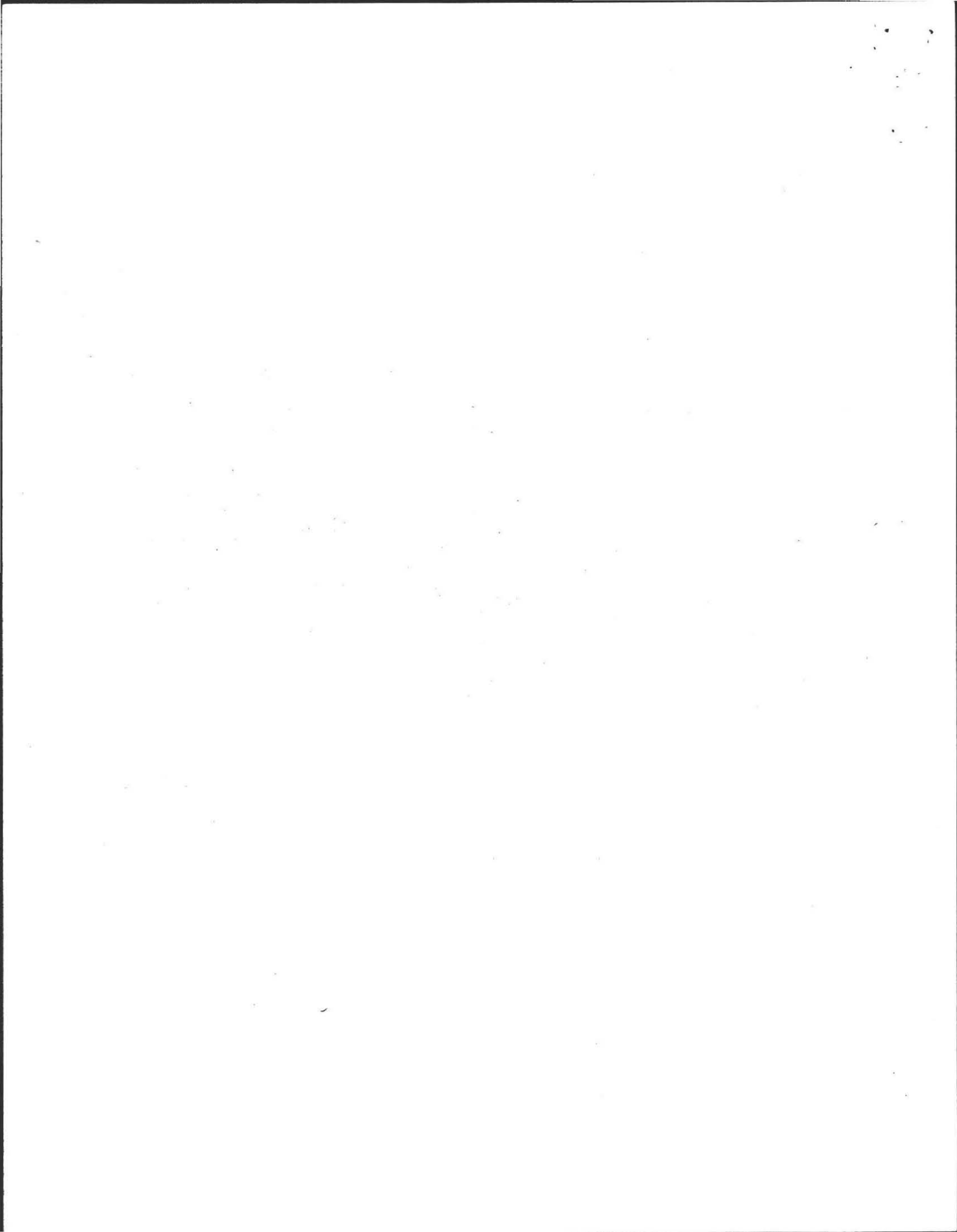
Site Passed Site Failed

Performed By: ROBERT STOVER

Witnessed By: MIKE LOMBARD

Comments: _____





No. _____

Date: _____

Commonwealth of Massachusetts
Amherst, Massachusetts
Soil Suitability Assessment for On-site Sewage Disposal

Performed By: Robert Stover
Witnessed By: David Zarozinski

Date: 2/2/98

Location Address or Lot # <u>40 Flat Hills Rd</u>	Owner's Name, Address, and Telephone # <u>Nelson + Susan Woodfork</u> <u>40 Flat Hills Rd</u> <u>Amherst, MA 01002</u>
New Construction <input type="checkbox"/> Repair <input checked="" type="checkbox"/>	

Office Review

Published Soil Survey Available: No Yes

Year Published 1981 Publication Scale 1:15840 Soil Map Unit McB
Drainage Class _____ Soil Limitations poor filter

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: _____



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Location Address or Lot No. N+S Woodfork
40 Flat Hills Rd

On-site Review

Deep Hole Number 1 Date: 2/2/98 Time: 10:45 Weather Sunny, Clear
 Location (identify on site plan) See plan
 Land Use _____ Slope (%) 5+ Surface Stones Few
 Vegetation White pine, sugar maple, forsythia + grass
 Landform Karrie Terrace
 Position on landscape (sketch on the back)

Distances from:

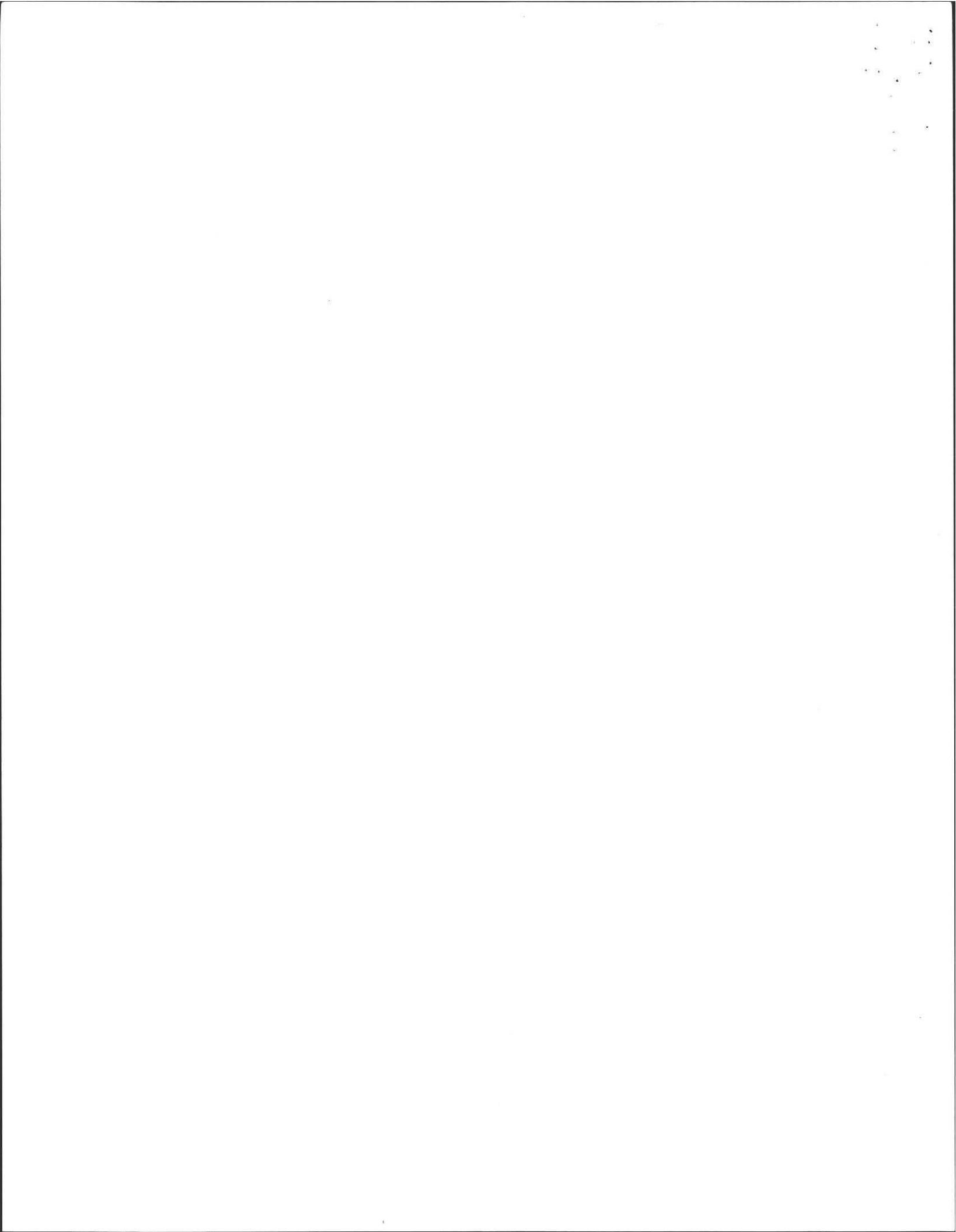
Brook Open Water Body 100 feet± Drainage way 100 feet±
 Possible Wet Area 100 feet± Property Line 35 feet
 Drinking Water Well _____ feet Other _____
 Town Water

DEEP OBSERVATION HOLE LOG*					
Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-8	A	FSL	7.5YR 2.5/5	None	friable, granular
8-24	Bw	FSL	7.5YR 4/6	None	friable to loose massive
24-126	C	FLS gravelly @ 60" FSL	10YR 4/6	@ 60" Common 5YR 4/6 Common 2.5Y 5/1	Loose gravelly many cobbles + stones

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) outwash Depth to Bedrock: > 126"
 Depth to Groundwater: Standing Water in the Hole: 120" Weeping from Pit Face: 60"
 Estimated Seasonal High Ground Water: 60"





Location Address or Lot No. 40 Flat Hills Rd, Amherst

On-site Review

Deep Hole Number 2 Date: 2/2/98 Time: 11:30 AM Weather Sunny, clear 40°
 Location (identify on site plan) see plan
 Land Use Lawn Slope (%) 2 Surface Stones few
 Vegetation grass, sugar maple, wh, pine, fox
 Landform Kame Terrace
 Position on landscape (sketch on the back)

Distances from:

Brook Open Water Body 30 feet Drainage way 100 feet
 Possible Wet Area 30 feet Property Line 25 feet ±
 Drinking Water Well Town Water 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)
0-9	A	FSL	7.5YR 2.5/2	None	Friable - granular
9-24	BW	FSL	7.5YR 4/6	none	Friable to loose Massive
24-108	C	FLS gravelly @ 64" FSL	10YR 4/6	@ 64" Common 5YR 4/6 Common 2.5Y 5/1	Loose - gravelly Cobbles + stones

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) outwash Depth to Bedrock: > 108
 Depth to Groundwater: Standing Water in the Hole: 108" Weeping from Pit Face: 64"
 Estimated Seasonal High Ground Water: 104"



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FORM 12 - PERCOLATION TEST

Location Address or Lot No. 40 Flat Hills Rd.

COMMONWEALTH OF MASSACHUSETTS

Amherst, Massachusetts

Percolation Test*		
Date:	<u>2/2/98</u>	Time: <u>11:11</u>
Observation Hole #	<u>1</u>	
Depth of Perc	<u>40"</u>	
Start Pre-soak	<u>11:11</u>	
End Pre-soak	<u>11:26</u>	
Time at 12"	<u>11:27</u>	
Time at 9"	<u>11:31</u>	
Time at 6"	<u>11:39</u>	
Time (9"-6")	<u>8</u>	
Rate Min./Inch	<u>2.66</u>	

* Minimum of 1 percolation test must be performed in both the primary area AND reserve area.

Site Passed Site Failed

Performed By: Robert Stover

Witnessed By: Mike Lombard + David Zarozinski

Comments: _____



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Location Address or Lot No. 40 Flat Hills Rd.
Amherst, MA

Determination for Seasonal High Water Table

Method Used:

- Depth observed standing in observation hole inches
- Depth weeping from side of observation hole 66+64 inches
- Depth to soil mottles 66+64 inches
- Ground water adjustment feet

Index Well Number Reading Date Index well level

Adjustment factor Adjusted ground water level

Depth of Naturally Occurring Pervious Material

Does at least four feet of naturally occurring pervious material exist in all areas observed throughout the area proposed for the soil absorption system? yes

If not, what is the depth of naturally occurring pervious material?

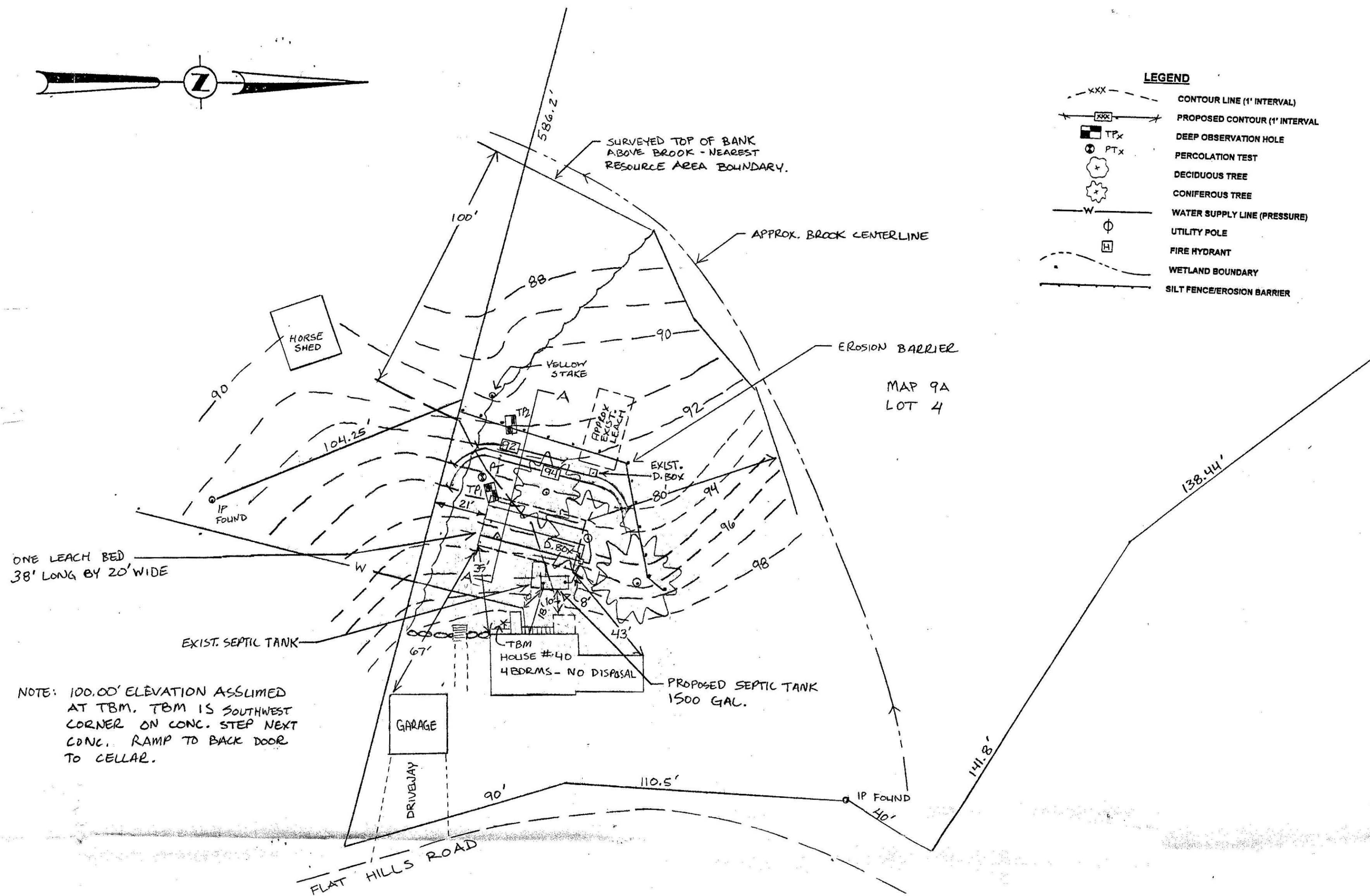
Certification

I certify that on 6/1993 (date) I have passed the soil evaluator examination approved by the Department of Environmental Protection and that the above analysis was performed by me consistent with the required training, expertise and experience described in 310 CMR 15.017.

Signature Robert W. Stover Date 2/2/98

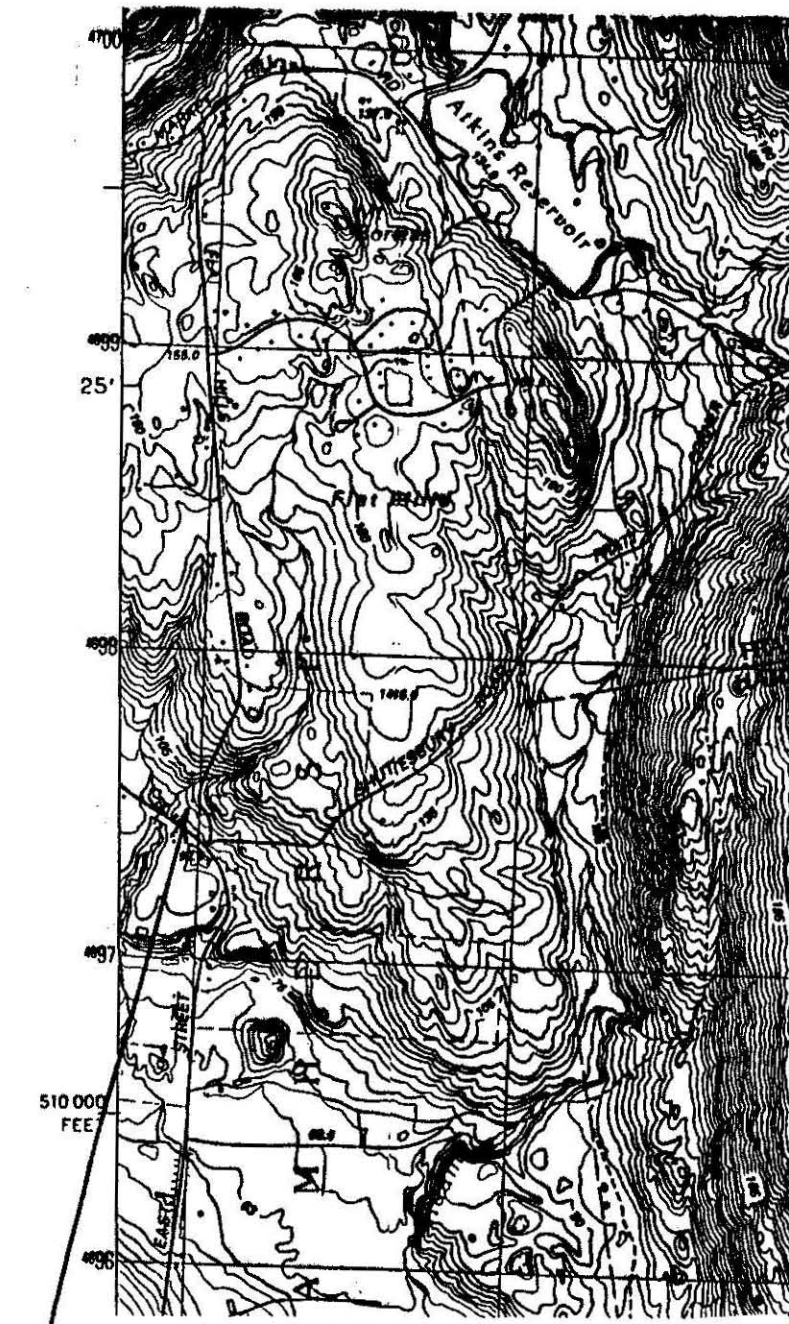
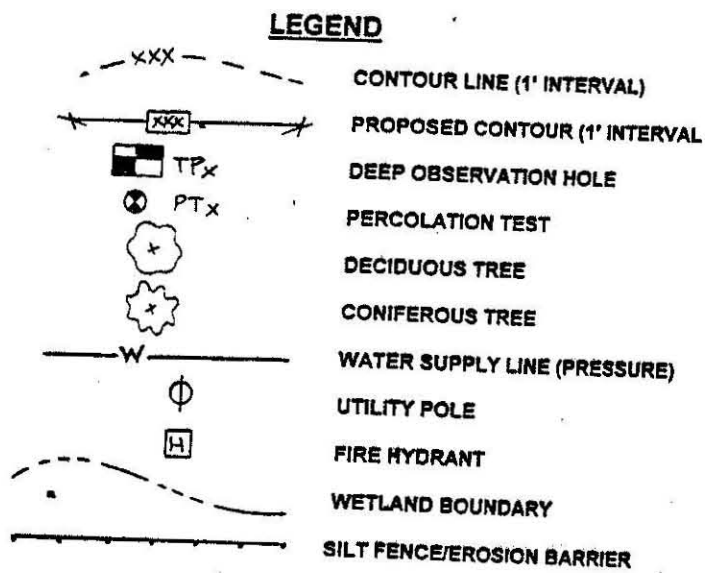


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PLANVIEW
SCALE: 1" = 30'

NOTE: 100.00' ELEVATION ASSUMED AT TBM. TBM IS SOUTHWEST CORNER ON CONC. STEP NEXT CONC. RAMP TO BACK DOOR TO CELLAR.



LOCUS PLAN
USGS SHUTESBURY, MA QUAD
SCALE = 1:25,000

SOIL INVESTIGATION

Test Pit 1 EL. 92.00'
Estimated Seasonal High Ground Water EL. 89.50'
Bedrock EL. 74.50'
Class I soils.

Test Pit 2 EL. 91.15'
Estimated Seasonal High Ground Water EL. 86.82'
Bedrock EL. 72.15'
Class I soils.

Water supply wells within 200 feet and wetland resource areas within 100 feet of the proposed soil absorption system are as shown on the planview. Deep observation hole log and percolation test results are in attached Soil Suitability Report. Soil Investigation and percolation testing by Robert Stover, Certified Soil Evaluator, and witnessed for the Board of Health by David Zatzinski, on February 2, 1998.

DESIGN CRITERIA

Design flow is for a 4 bedroom house without a garbage grinder.
Proposed septic tank: 1500 gallons.

DESIGN CALCULATION

Required Flow: 110 gpd per bedroom x 125% Town Safety Factor
Total required flow = 550 gpd.

Effluent Loading Rate: Percolation Rate = 2.66 minutes per inch.
Class I soils.
Effluent Loading Rate = 0.74 gpd/sf.

Proposed soil absorption system: 1 Leach bed 38' Long X 20' wide.

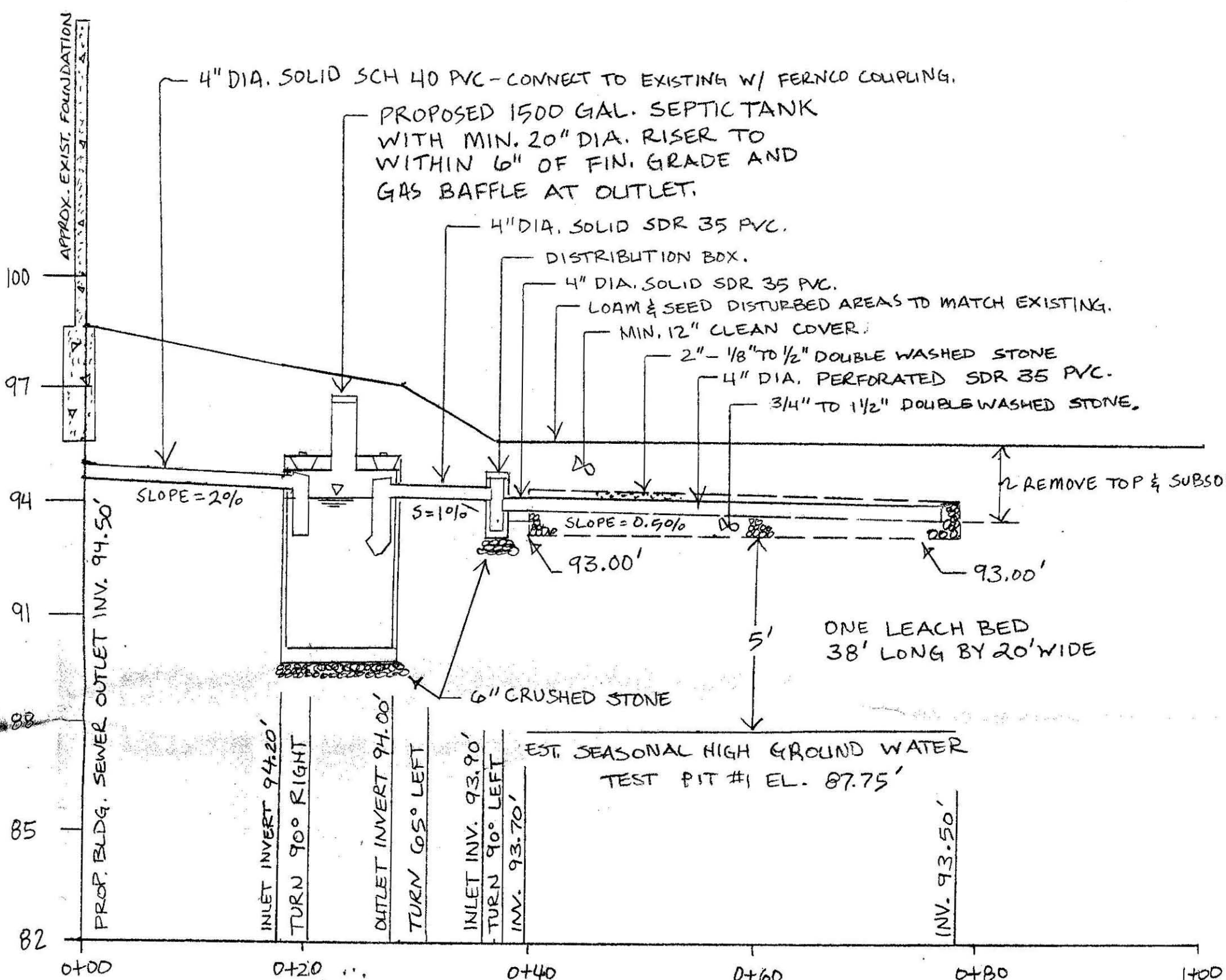
Bottom Area:	38' x 20'	= 760 sf
Sidewall Area:	not allowed	= 0 sf
Total Leaching Area:		= 760 sf
760 sf x 0.74 gpd/sf		= 562 gpd
		= 550 gpd (ok)

GENERAL CONDITIONS

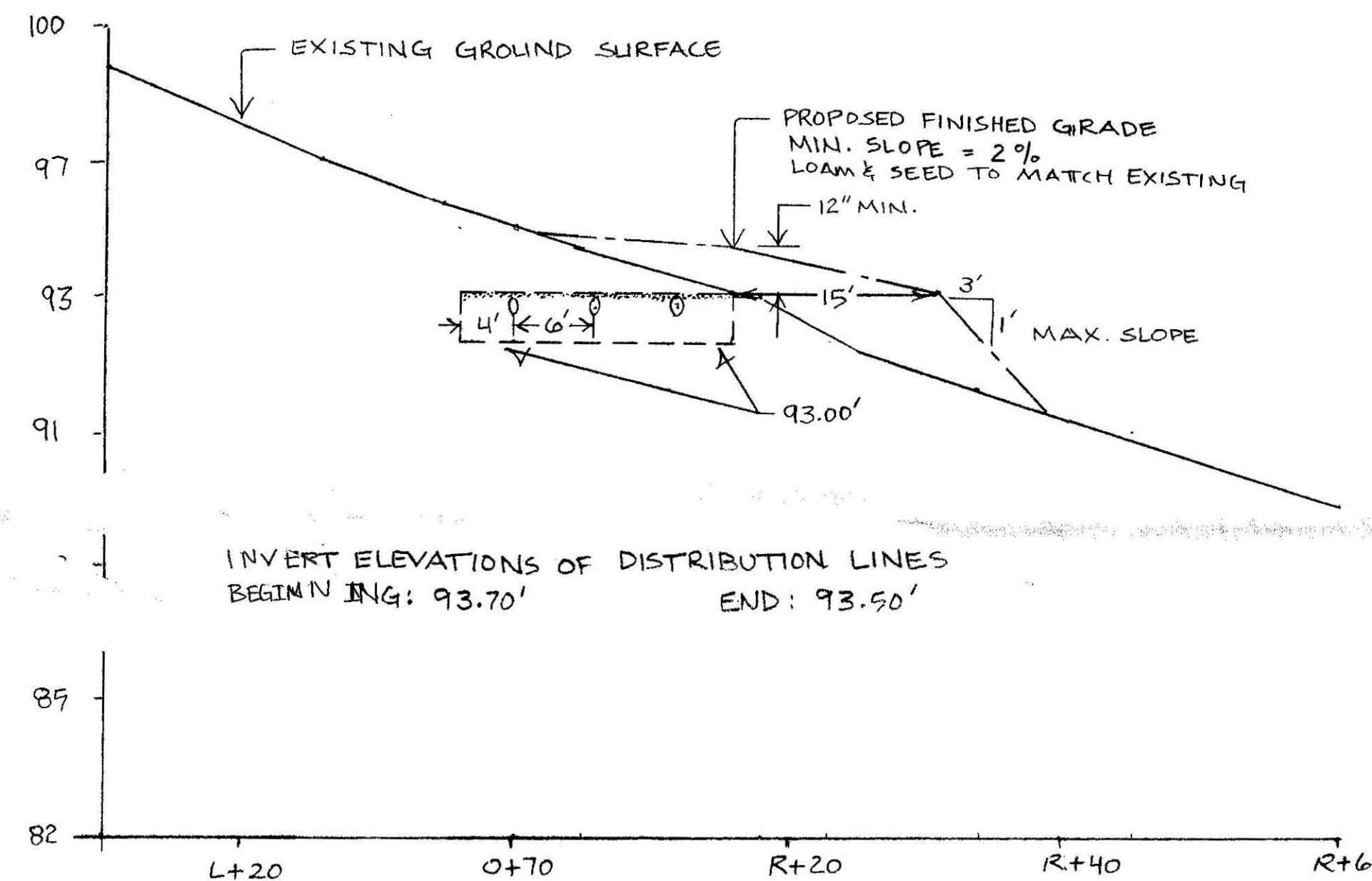
- This system repair plan is prepared in accordance with Title 5, 310 CMR 15.00. Construction shall conform to these regulations.
- The installer shall notify the designer of any unusual conditions and shall not modify the plan without the written consent of the designer.
- All debris in the site area shall be removed and disposed of in accordance with the law.
- There is no guarantee expressed or implied to any user of a system installed pursuant to this plan.
- The installer shall notify the designer when the system excavation is ready for inspection and the designer and the Board of Health when the system installation is complete and prior to placement of the cover material for final inspection. Notification shall be 48 hours prior to the time of inspection.
- The on-site sewage disposal system shall be pumped and inspected as necessary and at least once every 3 years.

CONSTRUCTION NOTES

- Any topsoil, subsoil, stumps, stones, debris or other impervious materials encountered during excavation shall be removed from the area of the leaching trenches, from five feet around the trenches and from wherever fill is to be placed. Any fill placed in or adjacent to the trenches shall be a clean granular sand & conform to the specifications of Title 5, 310 CMR 15.25(3).
- The finished grade above the soil absorption system shall have a minimum two percent slope to shed surface runoff away from the system.
- Disturbed areas shall be loamed, seeded and mulched until stable vegetation is established.
- The pipes exiting the distribution box shall have the same invert elevation and shall be level for a minimum of the first two feet.
- Existing septic tank shall be pumped, crushed, and filled with sand.
- Any part of existing soil absorption system encountered during excavation shall be disposed of in accordance with the requirements of the Board of Health.



PROFILE OF SYSTEM
SCALE: H: 1" = 10' V: 1" = 3'



SECTION AT "A - A": LEACH BED
SCALE: H: 1" = 10' V: 1" = 3'



Richard E. Costa

PLAN OF SEWAGE SYSTEM REPAIR 40 FLAT HILLS RD., AMHERST, MA	
NELSON C. AND SUEWILLA WOODFORK 40 FLAT HILLS RD., AMHERST, MA 01002	
SCALE: AS SHOWN DATE: 5/11/98	APPROVED BY: [Signature] DRAWN BY: RWS
AMHERST CIVIL ENGINEERING RICHARD COSTA, P.E. / ROBERT STOVER P.O. BOX 3312, AMHERST, MA 01004-3312 (413)256-3400	
DRAWING NUMBER	