264 HARKNESS RD

COLD SPRING ENVIRONMENTAL CONSULTANTS INC.

- 2IE Site Investigations
- Subsurface Investigations
- Pollution Remediation
- LSP on Staff
- Forensic Septic Investigations

- Percolation Tests
- Septic Designs
- Regulatory Compliance
- Recycling and Solid Waste
- Second Opinions

November 12, 2008

Amherst Board of Health

RE: Septic System Installation Inspection
 # (264 Harkness Road (Yoshimoto)

On this date, the writer inspected the installation of a ***Leach Field & Septic Tank.*** The writer found the installation to be complete (except for completion of cover material and final fill) and in compliance with our plans and 310 CMR 15.000. The installer representative **(Karls Excavating)**. Our inspection noted that the system was built properly, in accordance with the state regulations and our plans. The contractor was requested to have sufficient breakout soil on site and properly cover the system according to our plans and may backfill the system after review by local Health Department representatives.

Sincerely,

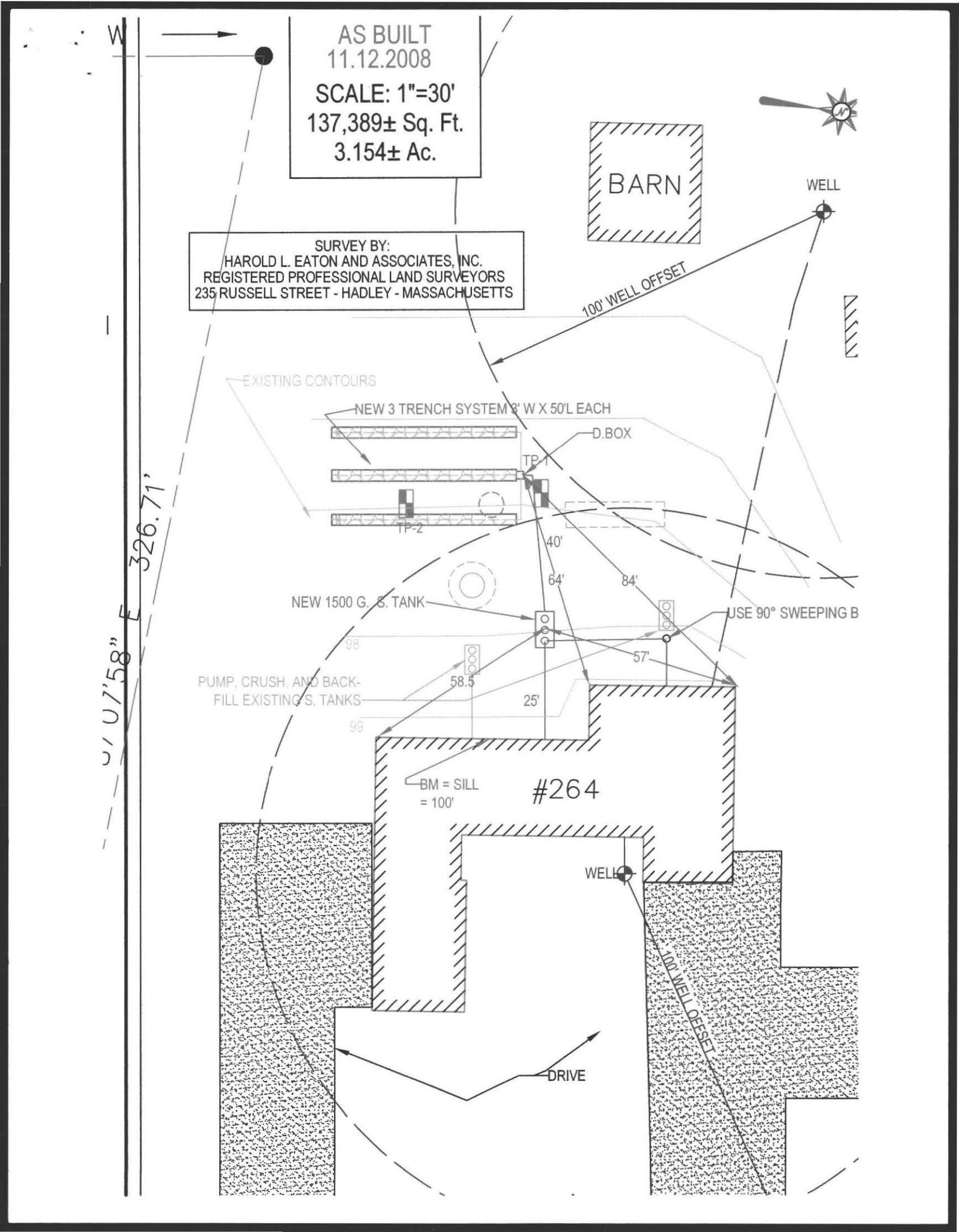
Cold Spring Environmental Consultants, Inc.

Alan E. Weiss, M.S., L.S.P.
President
Principal Hydrogeologist
Licensed Site Professional #6442
Registered Sanitarian #933

Cold Spring Environmental
350 Old Enfield Road
Belchertown, Ma. 01007

413-323-5957, phone
413-323-4916, fax

*As built Attached,


AS BUILT
11.12.2008
SCALE: 1"=30'
137,389± Sq. Ft.
3.154± Ac.
SURVEY BY:
HAROLD L. EATON AND ASSOCIATES, INC.
REGISTERED PROFESSIONAL LAND SURVEYORS
235 RUSSELL STREET - HADLEY - MASSACHUSETTS
BARN
WELL
100' WELL OFFSET
EXISTING CONTOURS
NEW 3 TRENCH SYSTEM 3' W X 50'L EACH
D.BOX
TP-1
TP-2
40'
64'
84'
NEW 1500 G. S. TANK
USE 90° SWEEPING B
98
57'
PUMP, CRUSH, AND BACK-
FILL EXISTING S. TANKS
58.5
25'
99
BM = SILL
= 100'
#264
WELL
100' WELL OFFSET
DRIVE
W
326.71'

SUB-GRADE INSPECTION

Location: 264 Harkness

Property Owner: K. Yoshimoto

I certify that I have inspected the excavation to sub-grade of the proposed septic system leaching area prior placement of any fill or stone, or construction of any portion of the system.

I further certify that

1. All 'A' and 'B' horizon soils (topsoils and subsoils) were removed in the area of the system.
2. There was no evidence of ground water in the excavation.
3. There was no evidence of "mottles" that would be in conflict with the findings of the deep hole soil profile.
4. That the excavation was accomplished to the proper depth and in conformance with the approved plans.

Alan Weiss
Designer's Name

Designers Signature

COMMONWEALTH OF MASSACHUSETTS
ALAN E. WEISS
REG #933
REGISTERED SANITARIAN

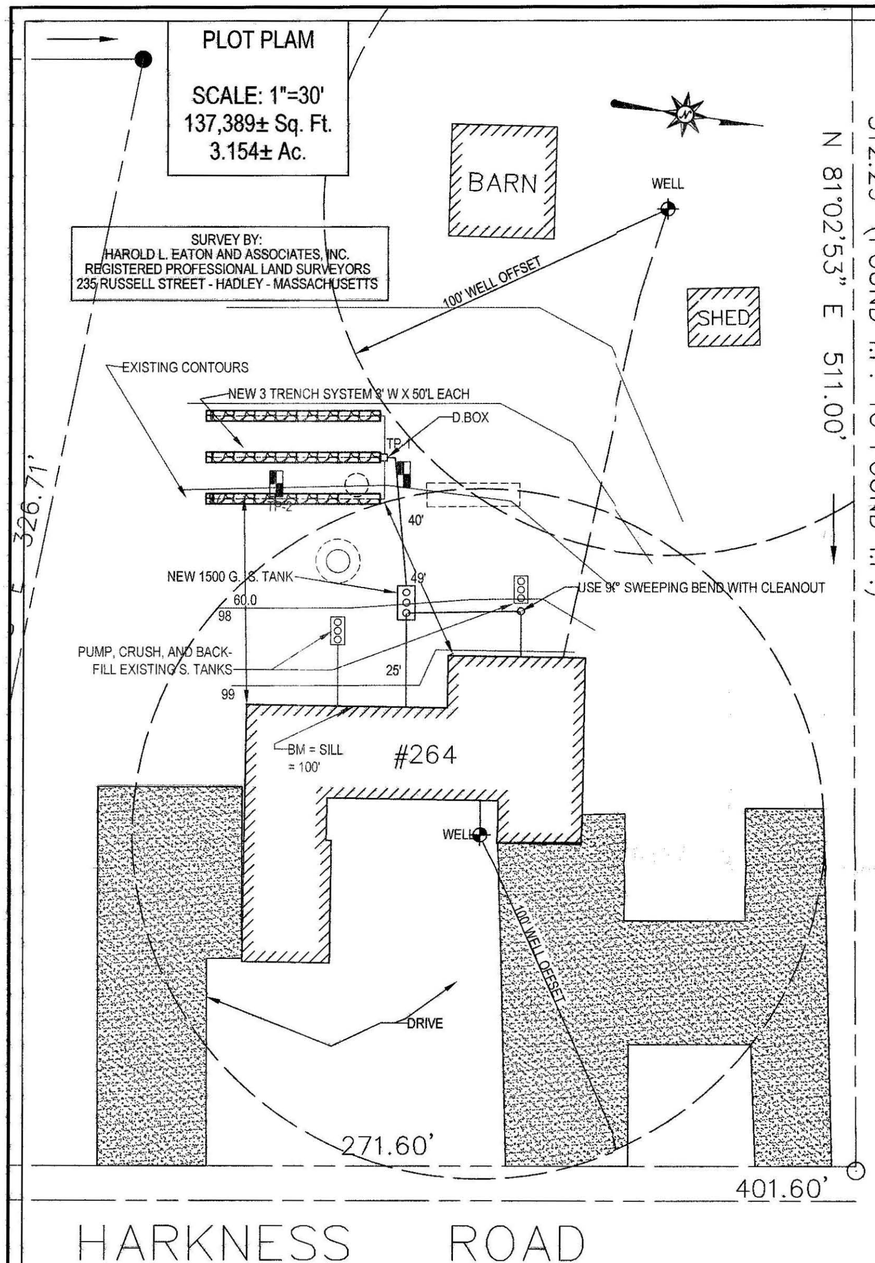
Street Address

Town, State, Zip Code

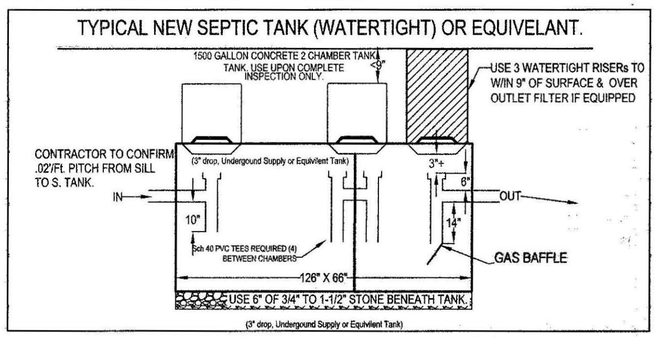
413-323-5957
Telephone Number

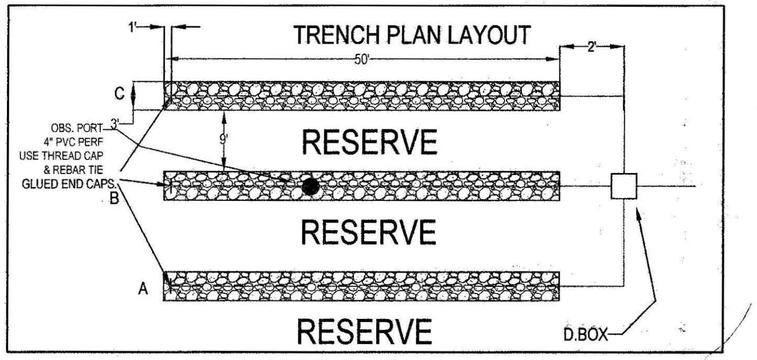
PLOT PLAM

SCALE: 1"=30'
137,389± Sq. Ft.
3.154± Ac.

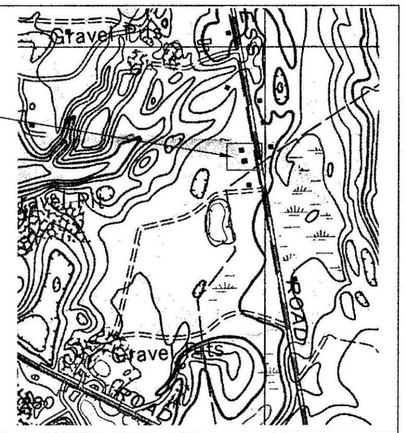


TYPICAL NEW SEPTIC TANK (WATERTIGHT) OR EQUIVELANT.





SUBJECT SITE LOCATION



DESIGN NOTES AND CALCULATIONS:

1.) 6 BEDROOM design (2 family) = 660 GPD. REQUIRED

-Use Three trenches: 3' WIDE X 45' LONG WITH 24" OF ¾" TO 1½" DBL WASHED STONE BELOW INVIERT

- BOTTOM AREA: :3' W X 50' L x (3 trenches) =450 SF.
- SIDE AREA: 1.5' ' ht. X 50' L X 2 sides X (3 trenches) =450 SF
- END AREA: 1.5' IHT. X 3 ' W X 2 ENDS X (3 TRENCHES)= 27 SF.
- TOTAL AREA: 9227 SF X .74 GAL/SF = 686 GPD

3. GARBAGE DISPOSAL. NOT ALLOWED, TO BE REMOVED****....
4. NO OTHER PRIVATE WELLS WITHIN 150 FEET OF SAS.
5. NO OTHER WETLANDS WITHIN 150 FEET OF SAS
6. USE NEW DOUBLE CHAMBER 1,500 GAL S. TANK AS NOTED & MAINTAIN 0.02 PITCH FROM SILL TO S. TANK
   - INSTALL & INSPECT SCH. 40 TEES / BAFFLES (10" INLET, 14" OUTLET),
   NOTE:
   - ALL COMPONENTS (OF NEW SYSTEM MUST BE MARKED WITH MAGNETIC TAPE. BE SURE TO MAINTAIN 3" CLEARANCE FROM TOP OF TEES TO BOTTOM OF TANK COVERS & BOXES.
7. USE LARGE STYLE (6I+ OUTLET) D.BOX ONLY.

7A ALL D. BOX OUTLET' PIPES LEVEL FOR FIRST 2'. BOXES MUST HAVE 2"+ CONC. WALLS

NOTE:
- D. BOXES WITH MOIRE THAN 9" OF COVER SOIL MUST HAVE RISERS TO 6" OF SERFACE.

8. USE APPROVED (1 1/22") DBL. WASHED STONE UNDER TANK & D. BOX FOR 6".
   -CONFIRM STONE PROPERLY WASHED (WITH BUCKET / H2O TEST) PRIOR TO PLACEMENT.
9. USE PROPER SCH. 40I PVC TEES AS SHOWN.
10. PRE & POST CONTOURS NOTED AS NECESSARY, RESERVE AREA AS NOTED... REQUIRED.
11. SLOPE CALCS (SEE CCONTOURS). SUBGRADE INSP. REQ'D.
13. USE TRENCHES DUE: TO TOPOGRAPHY AND SPACE OF LOT WITH RESPECT TO LOCATION AND ELEVATION OF RESIIDENCE (310 CMR 15.240)
14. USE 2% MIN. SLOPE (OVER SAS
    - CLEAR TOP AND SUB TO 26"+ MIN. AS NEEDED (INSPECTION REQUIRED).
    - CLEAR PAST BASE OF B (MIN. 26"+) & SCARIFY UNDER BED PRIOR TO TITLE V SAND PLACEMENT.
    - EXCAVATE EXISTING LOAM, SUB AND ANY EXISTING DEBRIS, DIRTY FILL OR PRIOR SYSTEM IF PRESENT.
15. SOIL EVALUATION BY A. WEISS, RS. 5/23/08 (E. BOKINA, BOH AGENT).
    - DEPTH OF PERC. 522"
    - PERC RATE = <2 MIIN / IN
    - CLASS 1 SOIL RATING (SAND)
16. NO TREES WITHIN 100 FT. OF NEW LEACH FIELD. USE TITLE V FILL 5' OUT.
17. ENGINEER TO INSPECT SUBGRADE, *Town and Engineeer to inspect FINAL.*
18. BM=100.00 @ (SILL,),, CONFIRM PROPER PIPE SLOPES
    - USE/INSPECT SCH.. 40 PIPE FOR PIPE FROM HOUSE TO NEW OR EXISTING TANK
19. GRADE MULCH AND :SEED OVER LEACHFIELD AS NOTED.
20. INSTALLATION IN LOIW GROUNDWATER SEASON RECOMMENDED.
21. USE OBSERVATION IPORT NEAR CENTER OF STONE BED HAVE 4" PERFORATED, PVC INSPECTION PORTALS TO BOTTOM OF STONE BED, WITH RISER TO 3" OF SURFACE & THREADED CAP & MARK WITH RE-BAR

TEST PIT LOG:

SOIL EVALUATOR: A. WEISS, RS
DATE OF EVALUATION: 05.23.2008

TP-1 EFF. ELEV: 97.0'					TP-2 EFF. ELEV:				
DEPTH:	HORIZ:	TEXTURE:	COLOR (MUNSELL):	MATERIAL:	DEPTH:	HORIZ:	TEXTURE:	COLOR (MUNSELL):	MATERIAL:
0-12	A	FSL	110 YR 3/3	FRIABLE	0-14	A	FSL	10 YR 3/3	FRIABLE
12-26	Bw	LS	10 YR 5/6	FRIABLE LOOSE	14-40	Bw	LS	10 YR 5/6	FRIABLE
26-108	C1	S	10 YR 4/6	C. SAND AND GRAVEL	40-120	C1	S	10 YR 4/6	C SAND AND GRAVEL
108-120	C2	LS	2.5 Y 4/3	F. SAND					
OXIDES:				obs. at 108" = 88'	OXIDES:				120"+
EHWT:			108"+		EHWT:			120"+	
STANDING H2O:			INOT OBSERVED		STANDING H2O:			NOT OBSERVED	
WEEPING:			INOT OBSERVED		WEEPING:			NOT OBSERVED	
BEDROCK:			120"+		BEDROCK:			120"+	

GRAVITY SLOPE SEPTIC SYSTEM OPERATION AND MAINTENANCE NOTES FOR HOMEOWNER.

1.) HAVE TANK PUMPED EVERY 2 YEARS.
2.) MAINTAIN AREA OVER SEPTIC SYSTEM AS GRASSY OR SIMILAR GROUND COVER.
3.) DO NOT PLANT ANY TREES OR DEEP ROOTING SHRUBS WITHIN 10 FEET OF SYSTEM.
4.) USE ONLY LIQUID DETERGENTS & LOW FLOW WASHERS.
5.) CLEAN TANK OUTLET FILTER ANNUALLY IF PRESENT

2006 SEPTIC PLAN ADDENDUM

DUE TO LATE REGULATION CHANGES 4-22-2006

ALL NEW SYSTEMS MUST:

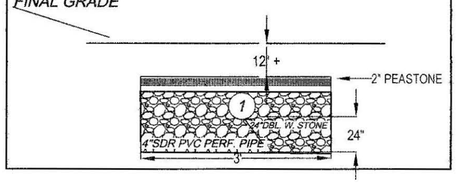
1.) INSTALL PVC RISERS OVER D. BOX'S BURIED DEEPER THAN 9" AND PLACE IRON REBAR ON TOP.
2.) HAVE 4" PERFORATED, PVC INSPECTION PORTALS TO BOTTOM OF STONE BED, WITH SCREW RISER TO 3" OF SURFACE, MARKED WITH REBAR. *All OPENINGS & COMPONENTS marked with magnetic tape*
3.) HAVE PERFORATIONS IN BED AT 4 AND 8 O-CLOCK POSITIONS

NOTE: THESE ARE NEW STATE REGULATION REQUIREMENTS (4-22-06), NOT NECESSARILY THE OPINION OF THE DESIGNER.

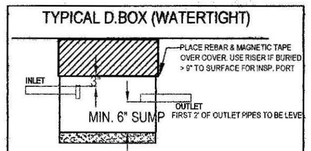
EFFLUENT DISPOSAL AREA

CROSS SECTION - NOT TO SCALE
(LEVEL DISPOSAL AREA)

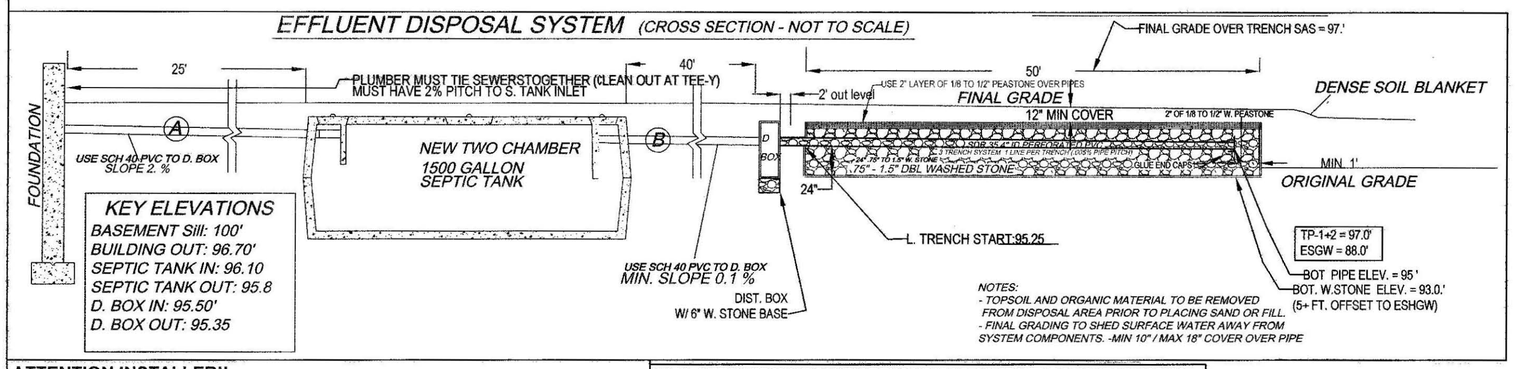
NUMBER OF SEPTIC LINES:1 PER TRENCH
CENTER TO CENTER SPACING: SEE DETAIL



TYPICAL D.BOX (WATERTIGHT)



EFFLUENT DISPOSAL SYSTEM (CROSS SECTION - NOT TO SCALE)



KEY ELEVATIONS

BASEMENT Sill: 100'
BUILDING OUT: 96.70'
SEPTIC TANK IN: 96.10
SEPTIC TANK OUT: 95.8
D. BOX IN: 95.50'
D. BOX OUT: 95.35

NOTES:
- *TOPSOIL AND ORGANIC MATERIAL TO BE REMOVED FROM DISPOSAL AREA PRIOR TO PLACING SAND OR FILL.*
- *FINAL GRADING TO SHED SURFACE WATER AWAY FROM SYSTEM COMPONENTS. -MIN 10" / MAX 18" COVER OVER PIPE*

REVISED

COMMONWEALTH OF MASSACHUSETTS — ALAN E. WEISS 9400 — REGISTERED SANITARIAN

ATTENTION INSTALLER!!

CALL DIG SAFE BEFORE YOU DIG!! MASSACHUSETTS STATE LAW CHAPTER 82 SECTIONS 40 - 40E REQUIRE THAT PREMARKING OF GAS, ELECTRIC, WATER, TELEPHONE AND CABLE T.V. UTILITY LINES BE MADE A ***MINIMUM*** OF 72 HOURS PRIOR TO GROUND BREAK FOR ANY EXCAVATION.

NOTE: *INSTALLER MUST CONTACT ENGINEER/BD OF HEALTH 48 HOURS PRIOR TO SUBGRADE INSPECTION. INSTALLER MUST HAVE ALL BREAK OUT FILL ON SITE AND IN PLACE PRIOR TO SIGN OFF BY ENGINEER AT TIME OF FINAL INSPECTION OR APPROVAL WILL NOT BE GIVEN TO BACKFILL.*

SEPTIC SYSTEM UPGRADE PLAN FOR KAZUAKI YOSHIMOTO
264 HARKNESS ROAD (2 FAMILY UPGRADE, 6 BEDROOMS)
AMHERST, MA.

Cold Spring Environmental Consultants Inc.
350 Old Enfield Road
Belchertown, MA. 01007
PHONE: (413) 323-5957
FAX: (413) 323-4916
e-Mail: AEWEISS@charter.net

DATE:	DRAWN BY:	REVISED:
6/10/08	ALAN WEISS	09.09.2008
SCALE: 1"=30'		DRAWING NUMBER: 108-2977-0522

10-07-08

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

COPY

246 Harkness Road, 3 BR house system (older)
Property Address

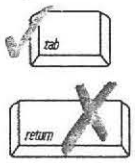
Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

Inspection results must be submitted on this form. Inspection forms may not be altered in any way.

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. General Information

1. Inspector:

Alan E. Weiss
Name of Inspector

Cold Spring Environmental Consultants Inc.
Company Name

350 Old Enfield Road
Company Address

Belchertown	MA	01007
City/Town	State	Zip Code

413.323.5957	
Telephone Number	License Number

B. Certification

I certify that I have personally inspected the sewage disposal system at this address and that the information reported below is true, accurate and complete as of the time of the inspection. The inspection was performed based on my training and experience in the proper function and maintenance of on site sewage disposal systems. **I am a DEP approved system inspector pursuant to Section 15.340 of Title 5 (310 CMR 15.000).** The system:

☐ Passes ☐ Conditionally Passes ☒ Fails

☐ Needs Further Evaluation by the Local Approving Authority

	05.22.2008
Inspector's Signature	Date

The system inspector shall submit a copy of this inspection report to the Approving Authority (Board of Health or DEP) within 30 days of completing this inspection. If the system is a shared system or has a design flow of 10,000 gpd or greater, the inspector and the system owner shall submit the report to the appropriate regional office of the DEP. The original should be sent to the system owner and copies sent to the buyer, if applicable, and the approving authority.

****This report only describes conditions at the time of inspection and under the conditions of use at that time. This inspection does not address how the system will perform in the future under the same or different conditions of use.**

Commonwealth of Massachusetts

Title 5 Official Inspection Form

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Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

B. Certification (cont.)

Inspection Summary: Check A,B,C,D or E / ***always*** complete all of Section D

A) System Passes:

☐ I have not found any information which indicates that any of the failure criteria described in 310 CMR 15.303 or in 310 CMR 15.304 exist. Any failure criteria not evaluated are indicated below.

Comments:

Dry well is falling apart (brittle) 50yrs +/- old, septic covers are sealed-corroded to tank.

B) System Conditionally Passes:

☐ One or more system components as described in the "Conditional Pass" section need to be replaced or repaired. The system, upon completion of the replacement or repair, as approved by the Board of Health, will pass.

Answer yes, no or not determined (Y, N, ND) in the ☐ for the following statements. If "not determined," please explain.

☐ The septic tank is metal and over 20 years old* **or** the septic tank (whether metal or not) is structurally unsound, exhibits substantial infiltration or exfiltration or tank failure is imminent. System will pass inspection if the existing tank is replaced with a complying septic tank as approved by the Board of Health.

* A metal septic tank will pass inspection if it is structurally sound, not leaking and if a Certificate of Compliance indicating that the tank is less than 20 years old is available.

ND Explain:

☐ Observation of sewage backup or break out or high static water level in the distribution box due to broken or obstructed pipe(s) or due to a broken, settled or uneven distribution box. System will pass inspection if (with approval of Board of Health):

☐ broken pipe(s) are replaced

☐ obstruction is removed

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Amherst	MA	01002	05.22.2008
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B. Certification (cont.)

B) System Conditionally Passes (cont.)**:**

☐ distribution box is leveled or replaced

ND Explain:

☐ The system required pumping more than 4 times a year due to broken or obstructed pipe(s). The system will pass inspection if (with approval of the Board of Health):

☐ broken pipe(s) are replaced

☐ obstruction is removed

ND Explain:

C) Further Evaluation is Required by the Board of Health:

☐ Conditions exist which require further evaluation by the Board of Health in order to determine if the system is failing to protect public health, safety or the environment.

1. System will pass unless Board of Health determines in accordance with 310 CMR 15.303(1)(b) that the system is not functioning in a manner which will protect public health, safety and the environment:

☐ Cesspool or privy is within 50 feet of a surface water

☐ Cesspool or privy is within 50 feet of a bordering vegetated wetland or a salt marsh

2. System will fail unless the Board of Health (and Public Water Supplier, if any) determines that the system is functioning in a manner that protects the public health, safety and environment:

☐ The system has a septic tank and soil absorption system (SAS) and the SAS is within 100 feet of a surface water supply or tributary to a surface water supply.

☐ The system has a septic tank and SAS and the SAS is within a Zone 1 of a public water supply.

☐ The system has a septic tank and SAS and the SAS is within 50 feet of a private water supply well.

246 Harkness Road, 3 BR house system (older)
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Amherst	MA	01002	05.22.2008
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B. Certification (cont.)

C) Further Evaluation is Required by the Board of Health (cont.):

☐ The system has a septic tank and SAS and the SAS is less than 100 feet but 50 feet or more from a private water supply well**.

Method used to determine distance: _____

** This system passes if the well water analysis, performed at a DEP certified laboratory, for coliform bacteria indicates absent and the presence of ammonia nitrogen and nitrate nitrogen is equal to or less than 5 ppm, provided that no other failure criteria are triggered. A copy of the analysis must be attached to this form.

3. Other:

_____

_____

_____

D) System Failure Criteria Applicable to All Systems:

You must indicate "Yes" or "No" to each of the following for all inspections:

Yes	No	
☐	☒	Backup of sewage into facility or system component due to overloaded or clogged SAS or cesspool
☐	☐	Discharge or ponding of effluent to the surface of the ground or surface waters due to an overloaded or clogged SAS or cesspool
☒	☐	Static liquid level in the distribution box above outlet invert due to an overloaded or clogged SAS or cesspool
☐	☒	Liquid depth in cesspool is less than 6" below invert or available volume is less than ½ day flow
☐	☒	Required pumping more than 4 times in the last year ***NOT*** due to clogged or obstructed pipe(s). Number of times pumped: _____.
☐	☒	Any portion of the SAS, cesspool or privy is below high ground water elevation.
☐	☒	Any portion of cesspool or privy is within 100 feet of a surface water supply or tributary to a surface water supply.

Commonwealth of Massachusetts

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B. Certification (cont.)

D) System Failure Criteria Applicable to All Systems (cont.):

Yes	No	
☐	☒	Any portion of a cesspool or privy is within a Zone 1 of a public well.
☐	☒	Any portion of a cesspool or privy is within 50 feet of a private water supply well.
☐	☒	Any portion of a cesspool or privy is less than 100 feet but greater than 50 feet from a private water supply well with no acceptable water quality analysis. **[This system passes if the well water analysis, performed at a DEP certified laboratory, for fecal coliform bacteria indicates absent and the presence of ammonia nitrogen and nitrate nitrogen is equal to or less than 5 ppm, provided that no other failure criteria are triggered. A copy of the analysis and chain of custody must be attached to this form.]**
☐	☒	The system is a cesspool serving a facility with a design flow of 2000gpd-10,000gpd.
☐	☒	**The system fails.** I have determined that one or more of the above failure criteria exist as described in 310 CMR 15.303, therefore the system fails. The system owner should contact the Board of Health to determine what will be necessary to correct the failure.

E) Large Systems: To be considered a large system the system must serve a facility with a design flow of 10,000 gpd to 15,000 gpd.

For large systems, you must indicate either "yes" or "no" to each of the following, in addition to the questions in Section D.

Yes	No	
☐	☐	the system is within 400 feet of a surface drinking water supply
☐	☐	the system is within 200 feet of a tributary to a surface drinking water supply
☐	☐	the system is located in a nitrogen sensitive area (Interim Wellhead Protection Area – IWPA) or a mapped Zone II of a public water supply well

If you have answered "yes" to any question in Section E the system is considered a significant threat, or answered "yes" in Section D above the large system has failed. The owner or operator of any large system considered a significant threat under Section E or failed under Section D shall upgrade the system in accordance with 310 CMR 15.304. The system owner should contact the appropriate regional office of the Department.

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C. Checklist

Check if the following have been done. You **must** indicate "yes" or "no" as to each of the following:

Yes	No	
☒	☐	Pumping information was provided by the owner, occupant, or Board of Health
☐	☒	Were any of the system components pumped out in the previous two weeks?
☐	☒	Has the system received normal flows in the previous two week period?
☐	☒	Have large volumes of water been introduced to the system recently or as part of this inspection?
☐	☒	Were as built plans of the system obtained and examined? (If they were not available note as N/A)
☒	☐	Was the facility or dwelling inspected for signs of sewage back up?
☒	☐	Was the site inspected for signs of break out?
☒	☐	Were all system components, excluding the SAS, located on site?
☒	☐	Were the septic tank manholes uncovered, opened, and the interior of the tank inspected for the condition of the baffles or tees, material of construction, dimensions, depth of liquid, depth of sludge and depth of scum?
☒	☐	Was the facility owner (and occupants if different from owner) provided with information on the proper maintenance of subsurface sewage disposal systems?
		The **size and location of the Soil Absorption System (SAS)** on the site has been determined based on:
☒	☐	Existing information. For example, a plan at the Board of Health.
☒	☐	Determined in the field (if any of the failure criteria related to Part C is at issue approximation of distance is unacceptable) [310 CMR 15.302(5)]

Commonwealth of Massachusetts

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D. System Information

Residential Flow Conditions:

Number of bedrooms (design): 3 Number of bedrooms (actual): 3

DESIGN flow based on 310 CMR 15.203 (for example: 110 gpd x # of bedrooms):

Number of current residents: 2

Does residence have a garbage grinder? ☐ Yes ☒ No

Is laundry on a separate sewage system? [if **yes** separate inspection required] ☐ Yes ☒ No

Laundry system inspected? ☐ Yes ☒ No

Seasonal use? ☐ Yes ☒ No

Water meter readings, if available (last 2 years usage (gpd)): N/A

Sump pump? ☒ Yes ☐ No

Last date of occupancy: 1 mos.
Date

Commercial/Industrial Flow Conditions:

Type of Establishment: N/A

Design flow (based on 310 CMR 15.203): N/A
Gallons per day (gpd)

Basis of design flow (seats/persons/sq.ft., etc.): N/A

Grease trap present? ☐ Yes ☒ No

Industrial waste holding tank present? ☐ Yes ☒ No

Non-sanitary waste discharged to the Title 5 system? ☐ Yes ☒ No

Water meter readings, if available: N/A

Last date of occupancy/use: N/A
Date

Other (describe): N/A

Commonwealth of Massachusetts

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246 Harkness Road, 3 BR house system (older)
Property Address

Owner information is required for every page.

Kazuaki Yoshimoto
Owner's Name

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

General Information

Pumping Records:

Source of information: Owner: (4 yrs sinced pumped.)

Was system pumped as part of the inspection? ☐ Yes ☒ No

If yes, volume pumped: 1000 g
gallons

How was quantity pumped determined? pumper

Reason for pumping: T-5

Type of System:

- ☒ Septic tank, distribution box, soil absorption system
- ☐ Single cesspool
- ☐ Overflow cesspool
- ☐ Privy
- ☐ Shared system (yes or no) (if yes, attach previous inspection records, if any)
- ☐ Innovative/Alternative technology. Attach a copy of the current operation and maintenance contract (to be obtained from system owner)
- ☐ Tight tank. Attach a copy of the DEP approval.
- ☐ Other (describe):

Approximate age of all components, date installed (if known) and source of information:

S. tank 50 + years & crumbling, top caved in on excavation. (unsafe, dry well filled) perc scheduled with Health Dept. 05.24.2008

Were sewage odors detected when arriving at the site? ☐ Yes ☒ No

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Building Sewer (locate on site plan):

Depth below grade: 1' feet

Material of construction:

☐ cast iron ☒ 40 PVC ☐ other (explain): _____

Distance from private water supply well or suction line: 10' feet

Comments (on condition of joints, venting, evidence of leakage, etc.):

Septic Tank (locate on site plan):

Depth below grade: 1.2'

Material of construction:

☒ concrete ☐ metal ☐ fiberglass ☐ polyethylene ☐ other (explain)

If tank is metal, list age: _____ years

Is age confirmed by a Certificate of Compliance? (attach a copy of certificate) ☒ Yes ☐ No

Dimensions: 8.5'X4.5'X4.5'

Sludge depth: 2"

Distance from top of sludge to bottom of outlet tee or baffle 46"

Scum thickness 2"

Distance from top of scum to top of outlet tee or baffle 6"

Distance from bottom of scum to bottom of outlet tee or baffle 12"

How were dimensions determined? Measured

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Comments (on pumping recommendations, inlet and outlet tee or baffle condition, structural integrity, liquid levels as related to outlet invert, evidence of leakage, etc.):

Tank levels ok Structural integrity weak (baffles in place),

Grease Trap (locate on site plan):

Depth below grade: N/A feet

Material of construction:

☐ concrete ☐ metal ☐ fiberglass ☐ polyethylene ☐ other (explain):

Dimensions: N/A

Scum thickness N/A

Distance from top of scum to top of outlet tee or baffle N/A

Distance from bottom of scum to bottom of outlet tee or baffle N/A

Date of last pumping: N/A Date

Comments (on pumping recommendations, inlet and outlet tee or baffle condition, structural integrity, liquid levels as related to outlet invert, evidence of leakage, etc.):

N/A

Tight or Holding Tank (tank must be pumped at time of inspection) (locate on site plan):

Depth below grade: N/A

Material of construction:

☐ concrete ☐ metal ☐ fiberglass ☐ polyethylene ☐ other (explain):

N/A

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Tight or Holding Tank (cont.)

Dimensions: N/A

Capacity: N/A gallons

Design Flow: N/A gallons per day

Alarm present: ☐ Yes ☐ No

Alarm level: N/A Alarm in working order: ☐ Yes ☐ No

Date of last pumping: N/A Date

Comments (condition of alarm and float switches, etc.):

N/A

* Attach copy of current pumping contract (required). Is copy attached? ☐ Yes ☐ No

Distribution Box (if present must be opened) (locate on site plan):

Depth of liquid level above outlet invert

Comments (note if box is level and distribution to outlets equal, any evidence of solids carryover, any evidence of leakage into or out of box, etc.):

Pump Chamber (locate on site plan):

Pumps in working order: ☐ Yes ☐ No

Alarms in working order: ☐ Yes ☐ No

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Comments (note condition of pump chamber, condition of pumps and appurtenances, etc.):

Soil Absorption System (SAS) (locate on site plan, excavation not required):

If SAS not located, explain why:

Dry well 5 ' diam caving in , block built dry well from 1962

Type:

☒	leaching pits	number:	1 @ 5'
☐	leaching chambers	number:	
☐	leaching galleries	number:	
☐	leaching trenches	number, length:	
☐	leaching fields	number, dimensions:	
☐	overflow cesspool	number:	
☐	innovative/alternative system		

Type/name of technology:

Comments (note condition of soil, signs of hydraulic failure, level of ponding, damp soil, condition of vegetation, etc.):

Dry well weak and caving, usafe, system backfilled.

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

Kazuaki Yoshimoto
Owner's Name

Owner information is required for every page.

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Cesspools (cesspool must be pumped as part of inspection) (locate on site plan):

Number and configuration

Depth – top of liquid to inlet invert

Depth of solids layer

Depth of scum layer

Dimensions of cesspool

Materials of construction

Indication of groundwater inflow ☐ Yes ☐ No

Comments (note condition of soil, signs of hydraulic failure, level of ponding, condition of vegetation, etc.):

Privy (locate on site plan):

Materials of construction: N/A

Dimensions N/A

Depth of solids N/A

Comments (note condition of soil, signs of hydraulic failure, level of ponding, condition of vegetation, etc.):

N/A

Commonwealth of Massachusetts

Title 5 Official Inspection Form

Subsurface Sewage Disposal System Form - Not for Voluntary Assessments

246 Harkness Road, 3 BR house system (older)
Property Address

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Kazuaki Yoshimoto
Owner's Name

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Sketch Of Sewage Disposal System: Provide a sketch of the sewage disposal system including ties to at least two permanent reference landmarks or benchmarks. Locate all wells within 100 feet. Locate where public water supply enters the building.

246 Harkness Road, 3 BR house system (older)
Property Address

Owner information is required for every page.

Kazuaki Yoshimoto
Owner's Name

Amherst	MA	01002	05.22.2008
City/Town	State	Zip Code	Date of Inspection

D. System Information (cont.)

Site Exam:

☒ Check Slope

☐ Surface water

☒ Check cellar

☐ Shallow wells

Estimated depth to ground water: 10' (records,)
feet

Please indicate all methods used to determine the high ground water elevation:

☐ Obtained from system design plans on record

If checked, date of design plan reviewed: n/A
Date

☐ Observed site (abutting property/observation hole within 150 feet of SAS)

☐ Checked with local Board of Health - explain:

☐ Checked with local excavators, installers - (attach documentation)

☐ Accessed USGS database - explain:

You **must** describe how you established the high ground water elevation:

work nearby and records from1998.

Cold Spring Environmental, Inc

350 Old Enfield Road
Belchertown, MA 01007

Phone #: (413) 323-5957 Fax #: (413) 323-4916
email: Aeweiss@charter.net

Invoice:

Date	Invoice #
5/21/2008	108-2977

Bill To:

Kazuak Yoshimoto
Sunbow 5 Foundation Inc.
264 Harkness Road
Pelham Road

Site Location:

Payment Terms:	Project #:
Due on Recipt	

Quantity	Description	Rate	Amount
2	Inspect Septic System, Measure Levels and Locations & File a Report.	295.00	590.00
	Discount	-100.00	-100.00

Phone #	Fax #
413-323-5957	413-323-4916

Total Due: $490.00

Cold Spring Environmental, Inc

350 Old Enfield Road
Belchertown, MA 01007

Phone #: (413) 323-5957 Fax #: (413) 323-4916
email: Aeweiss@charter.net

Invoice:

Date	Invoice #
5/21/2008	108-2977

Bill To:

Kazuak Yoshimoto
Sunbow 5 Foundation Inc.
264 Harkness Road
Pelham Road

Site Location:

Payment Terms:	Project #:
Due on Recipt	

Quantity	Description	Rate	Amount
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Phone #	Fax #
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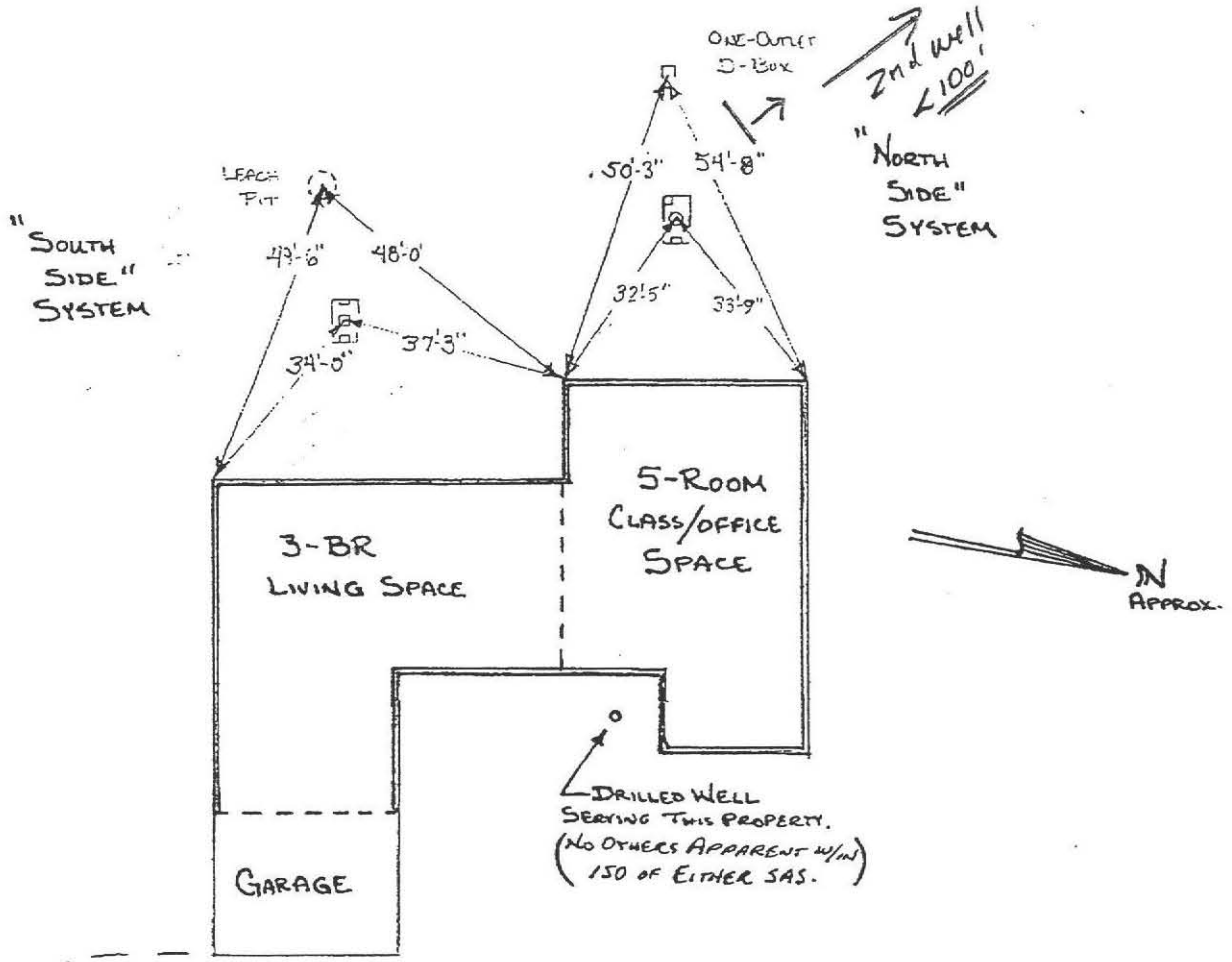
Total Due: $490.00



SEPTIC SYSTEM LOCATION SKETCH
AT 264 HARKNESS RD. AMHERST
FOR WID LYMAN
BY RICHARD SCOTT, P.E.
DATE 9-5-98 SCALE 1" = 30'

HARKNESS ROAD

Fax: 413-323-4916

COLD SPRING
ENVIRONMENTAL, INC.
350 OLD ENFIELD RD.
BELCHERTOWN, MA 01007
ALAN E. WEISS, RS #935
ph: 413-323-5457

aeweiss@charter.net

TOWN OF AMHERST

INSPECTION SERVICES/HEALTH PERMITS

ch E 104

Received of Harkness Road H.S. Vocational Agri. (Name) of 264 Harkness Rd (Address)

For Property Located at Harkness Road (Street Address) SAME - ABOVE (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	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

A D

APR 25 1997

TOWN OF AMHERST TREASURER

TOTAL FEE: 100 00

Norma T. Tyer 5 (Treasurer/Collector) (Date)

Steve Bazyd Jr. (Inspection Services)

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

Location Address or Lot No. WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

On-site Review

Deep Hole Number 1 Date: 4/28/97 Time: 9:00 Weather OVERCAST / RAIN.
Location (identify on site plan)
Land Use YARD Slope (%) 2 Surface Stones NONE
Vegetation GRASS
Landform TERRACE
Position on landscape (sketch on the back)
Distances from:

Open Water Body	N/A feet	Drainage way	N/A feet
Possible Wet Area	N/A feet	Property Line	50 feet
Drinking Water Well	> 150 feet	Other	

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

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-10	Ap	LOAMY SAND	10YR 3/3	NONE	
10-18	Bw	GRAVELLY LOAMY SAND	10YR 5/6	NONE	15% GRAVEL
18-132	C	GRAVELLY SAND	2.5Y 5/4	NONE	50% GRAVEL

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH TERRACE DepthtoBedrock:
Depth to Groundwater: Standing Water in the Hole: Weeping from Pit Face: 10.5'
Estimated Seasonal High Ground Water: 10.5'

WID LYMAN
LOT 31
Location Address or Lot No. HARKNESS ROAD
AMHERST, MA

On-site Review

Deep Hole Number 2 Date: 4/28/97 Time: 9:20 Weather CLOUDY / RAIN
Location (identify on site plan)
Land Use YARD Slope (%) 2 Surface Stones NONE
Vegetation GRASS
Landform TERRACE
Position on landscape (sketch on the back)
Distances from:

Open Water Body	N/A feet	Drainage way	N/A feet
Possible Wet Area	N/A feet	Property Line	30 feet
Drinking Water Well	>150 feet	Other	

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

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	Ap	LOAMY SAND	10YR 3/2	NONE	
9-17	Bw	GRAVELLY LOAMY SAND	10YR 5/6	NONE	20% GRAVEL
17-132	C	GRAVELLY SAND	10YR 5/6	NONE	50% GRAVEL

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH TERRACE Depth to Bedrock:
Depth to Groundwater: Standing Water in the Hole: Weeping from Pit Face: 9'
Estimated Seasonal High Ground Water: 9'

WID LYMAN
LOT 31

Location Address or Lot No. HARKNESS ROAD
AMHERST, MA.

Determination for Seasonal High Water Table

Method Used:

- ☐ Depth observed standing in observation hole ..... inches
- ☒ Depth weeping from side of observation hole 108 inches
- ☐ Depth to soil mottles 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 11/94 (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 David E. Keates Date 4/28/97

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

David E. Keates

FORM 12 - PERCOLATION TEST

WID LYMAN
LOT 31

Location Address or Lot No. HARKNESS ROAD

COMMONWEALTH OF MASSACHUSETTS

AMHERST , Massachusetts

Percolation Test*		
Date: 4/28/97	Time:. 9:10	
Observation Hole #	1	2
Depth of Perc	48"	36"
Start Pre-soak	9:10	9:30
End Pre-soak	9:25	9:45
Time at 12"	24 GALS WATER USED	24 GALS WATER USED
Time at 9"		
Time at 6"		
Time (9"-6")		
Rate Min./Inch	< 2.0	< 2.0

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

Site Passed ☒ Site Failed ☐

Performed By: DAVID E. KEATES, P.E.

Witnessed By: DAVID ZAROZINSKI

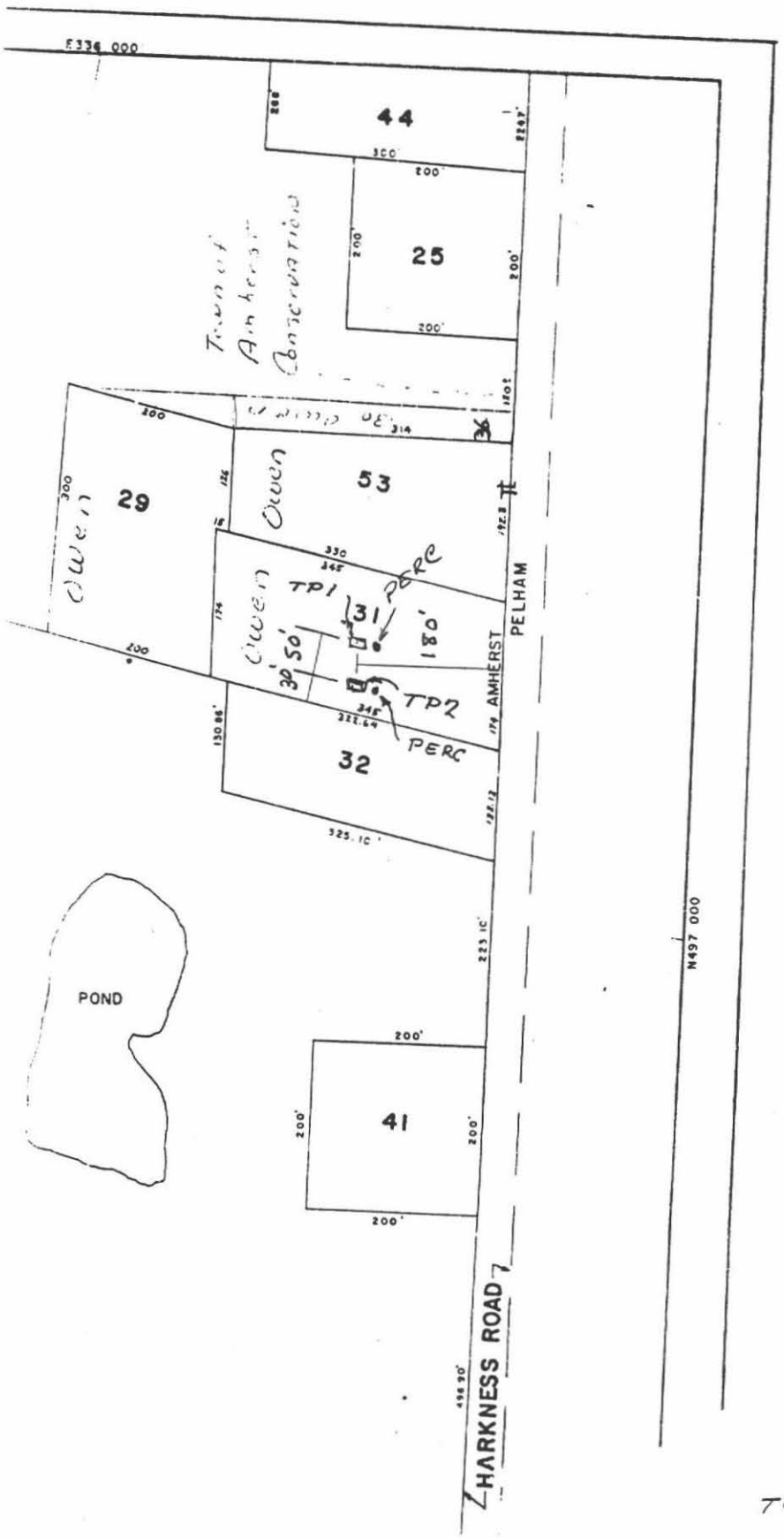
Comments:

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

David E. Keates

DEP

DEP APPROVED FORM - 12/07/95



SCALE
1" = 400'

TOWN OF AMHERST
MAP 18D

PROJECT PERCOLATION TEST
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

Sheet 6 of 9

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

SHEET 12

SHEET 16

HAMPSHIRE COUNTY SOIL SURVEY
SHEETS 12 & 16

SITE ON SHEET 12

PROJECT PERCOLATION TEST 4/28/97 **Sheet** 7 **of** 9
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA.

David E. Keates, P.E.
Consulting Civil Engineer
102 Russell Street
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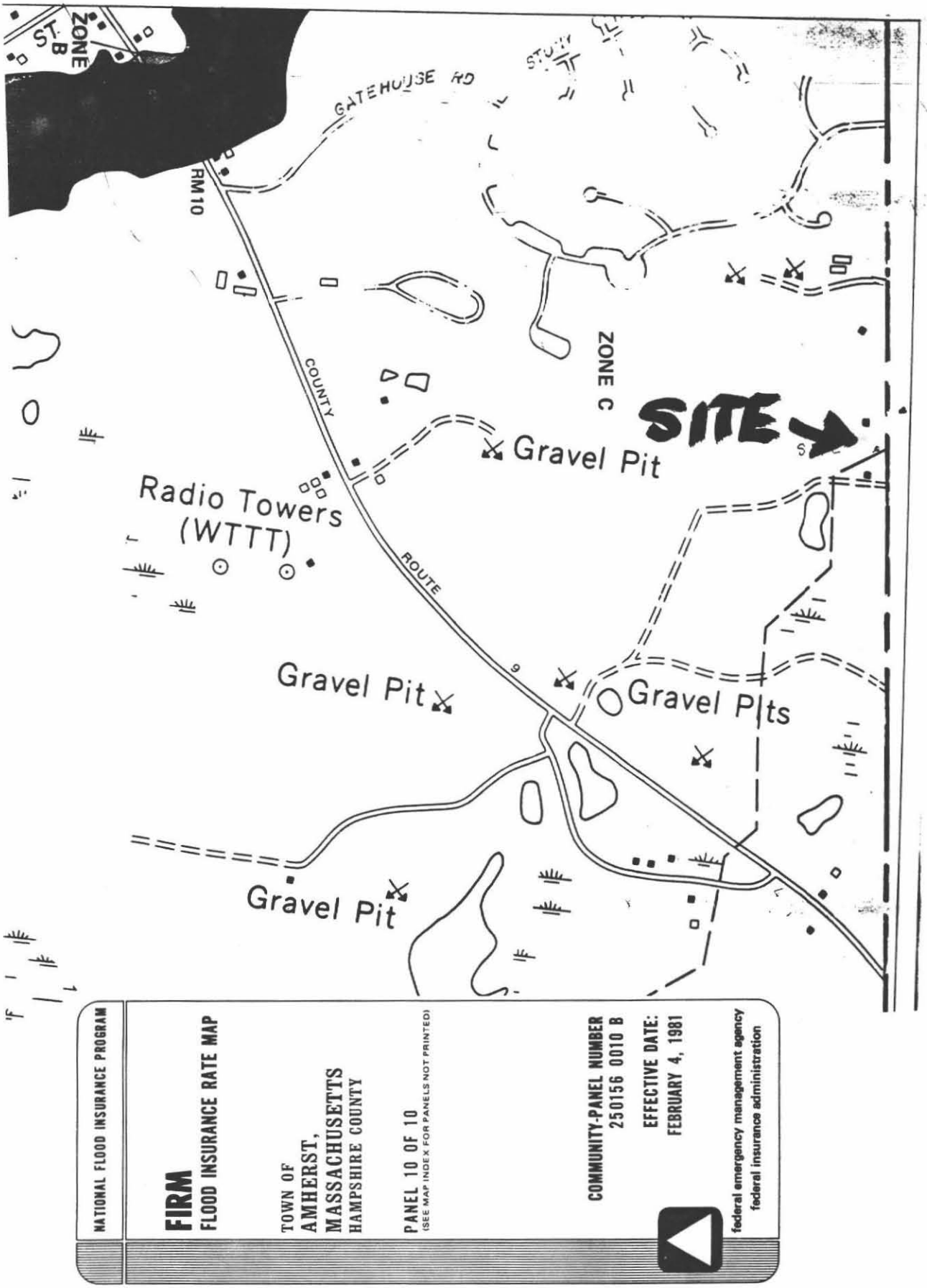
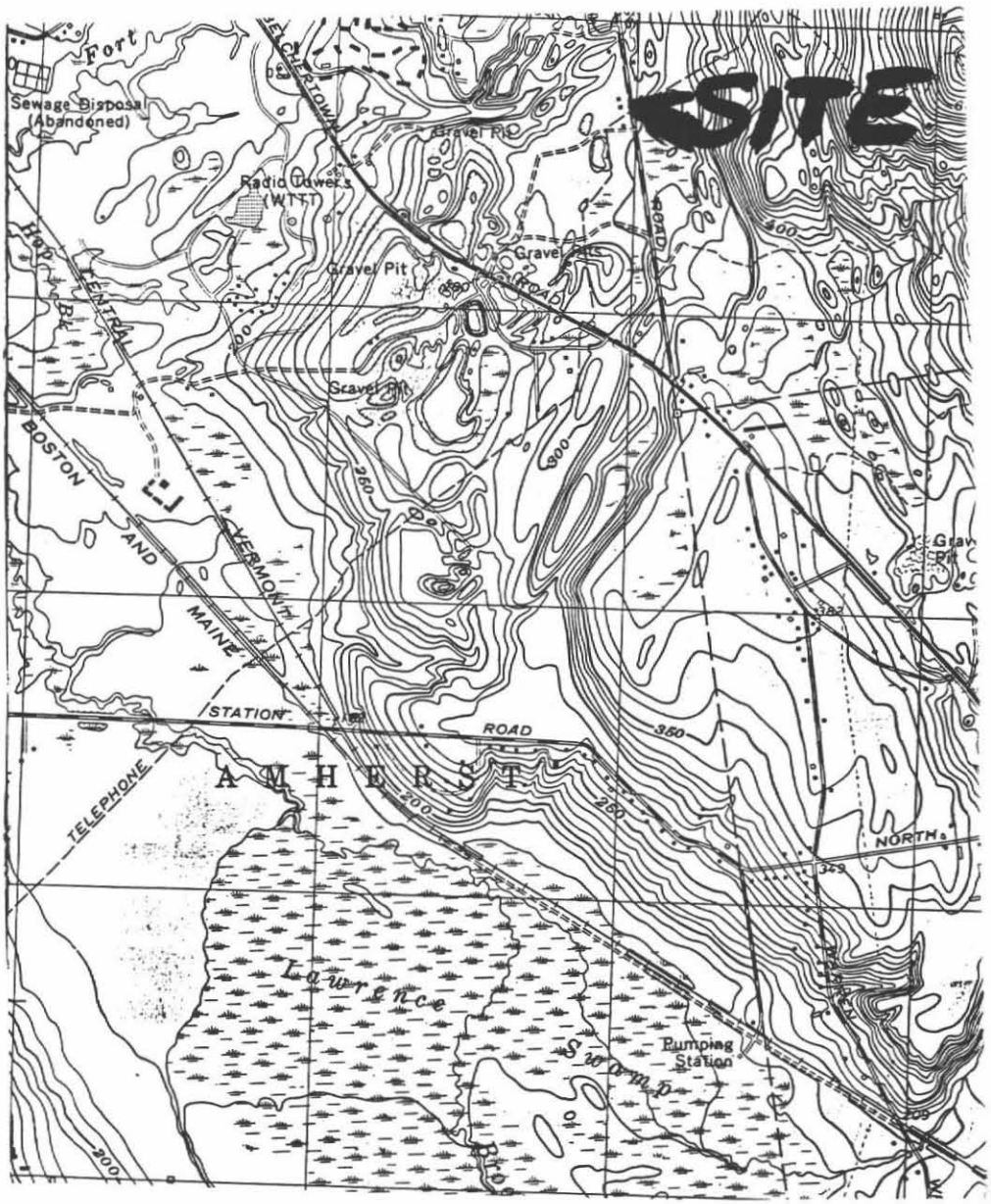


PROJECT PERCOLATION TEST 4/28/97
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

Sheet 8 of 9

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



LOCATION

1" = 2000'

PROJECT PERCOLATION TEST 4/28/91 **Sheet** 9 **of** 9

WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

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

Ck # 103
Pd 100.00 For Perc

FORM 11 - SOIL EVALUATOR FORM

No. _____ **Date:** _____

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

Performed By: ..... **Date:** .....
Witnessed By: .....

Location Address or Lot # Harkness Rd New Construction ☒ Repair ☐	Owner's Name. Harkness Road H.S. Vocational Address. and Telephone # 264 Harkness Road 253-9535

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: _____

Sewage Disposal System

for

Wid Lyman
Lot 31
Harkness Road
Amherst, MA

Note: Board of Health approval of this plan required before a licensed contractor can be retained to install system. Contractor not to start work until approved Disposal Works Permit has been obtained.

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

No. _____ Date: 4/28/97

Commonwealth of Massachusetts
AMHERST , Massachusetts

Soil Suitability Assessment for On-site Sewage Disposal

Performed By: DAVID E. KEATES, P.E. Date: 4/28/97
Witnessed By: DAVID ZAROZINSKI

Location Address or Lot # 31 HARKNESS	Owner's Name, Address, and Telephone # WID LYMAN
New Construction ☒ Repair ☐	

Office Review HAMPSHIRE COUNTY SHEET NO. 12

Published Soil Survey Available: No ☐ Yes ☒ HINCKLEY

Year Published 1981 Publication Scale 1:15840 Soil Map Unit Hg A

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 ☐

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

David E. Keates

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. WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

On-site Review

Deep Hole Number 1 Date: 4/28/97 Time: 9:00 Weather OVERCAST / RAIN.

Location (identify on site plan)

Land Use YARD Slope (%) 2 Surface Stones NONE

Vegetation GRASS

Landform TERRACE

Position on landscape (sketch on the back)

Distances from:

Open Water Body	N/A feet	Drainage way	N/A feet
Possible Wet Area	N/A feet	Property Line	50 feet
Drinking Water Well	> 150 feet	Other	

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

David E. Keates

DEEP OBSERVATION HOLE LOG*

Depth from Surface (Inches)	Soil Horizon	Soil Texture (USDA)	Soil Color (Munsell)	Soil Mottling	Other (Structure, Stones, Boulders, Consistency, % Gravel)
0-10	Ap	LOAMY SAND	10YR 3/3	NONE	
10-18	Bw	GRAVELLY LOAMY SAND	10YR 5/6	NONE	15% GRAVEL
18-132	C	GRAVELLY SAND	2.5Y 5/4	NONE	50% GRAVEL

96.0

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH TERRACE Depth to Bedrock:

Depth to Groundwater: Standing Water in the Hole: Weeping from Pit Face: 10.5'

Estimated Seasonal High Ground Water: 10.5' ELEV. 85.5

Location Address or Lot No. WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

On-site Review

Deep Hole Number 2 Date: 4/28/97 Time: 9:20 Weather CLOUDY / RAIN
Location (identify on site plan)
Land Use YARD Slope (%) 2 Surface Stones NONE
Vegetation GRASS
Landform TERRACE
Position on landscape (sketch on the back)
Distances from:

Open Water Body	N/A feet	Drainage way	N/A. feet
Possible Wet Area	N/A feet	Property Line	30 feet
Drinking Water Well	>150 feet	Other	

David E. Keates

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

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	Ap	LOAMY SAND	10YR 3/2	NONE	
9-17	Bw	GRAVELLY LOAMY SAND	10YR 5/6	NONE	20% GRAVEL
17-132	C	GRAVELLY SAND	10YR 5/6	NONE	50% GRAVEL

95.5

* MINIMUM OF 2 HOLES REQUIRED AT EVERY PROPOSED DISPOSAL AREA

Parent Material (geologic) OUTWASH TERRACE Depth to Bedrock:
Depth to Groundwater: Standing Water in the Hole: Weeping from Pit Face: 9'
Estimated Seasonal High Ground Water: 9' ELEV. 86.5

WID LYMAN
LOT 31

Location Address or Lot No. HARKNESS ROAD
AMHERST, MA.

Determination for Seasonal High Water Table

Method Used:

- ☐ Depth observed standing in observation hole ..... inches
- ☒ Depth weeping from side of observation hole 108 inches
- ☐ Depth to soil mottles 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 11/94 (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 David E. Keates Date 4/28/97

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

David E. Keates

FORM 12 - PERCOLATION TEST

WID LYMAN
LOT 31

Location Address or Lot No. HARKNESS ROAD

COMMONWEALTH OF MASSACHUSETTS

AMHERST , Massachusetts

Percolation Test*		
Date: 4/28/97	Time: 9:10	
Observation Hole #	1	2
Depth of Perc	48"	36"
Start Pre-soak	9:10	9:30
End Pre-soak	9:25	9:45
Time at 12"	24 GALS WATER USED	24 GALS WATER USED
Time at 9"		
Time at 6"		
Time (9"-6")		
Rate Min./Inch	< 2.0	< 2.0

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

Site Passed ☒ Site Failed ☐

Performed By: DAVID E. KEATES, P.E.

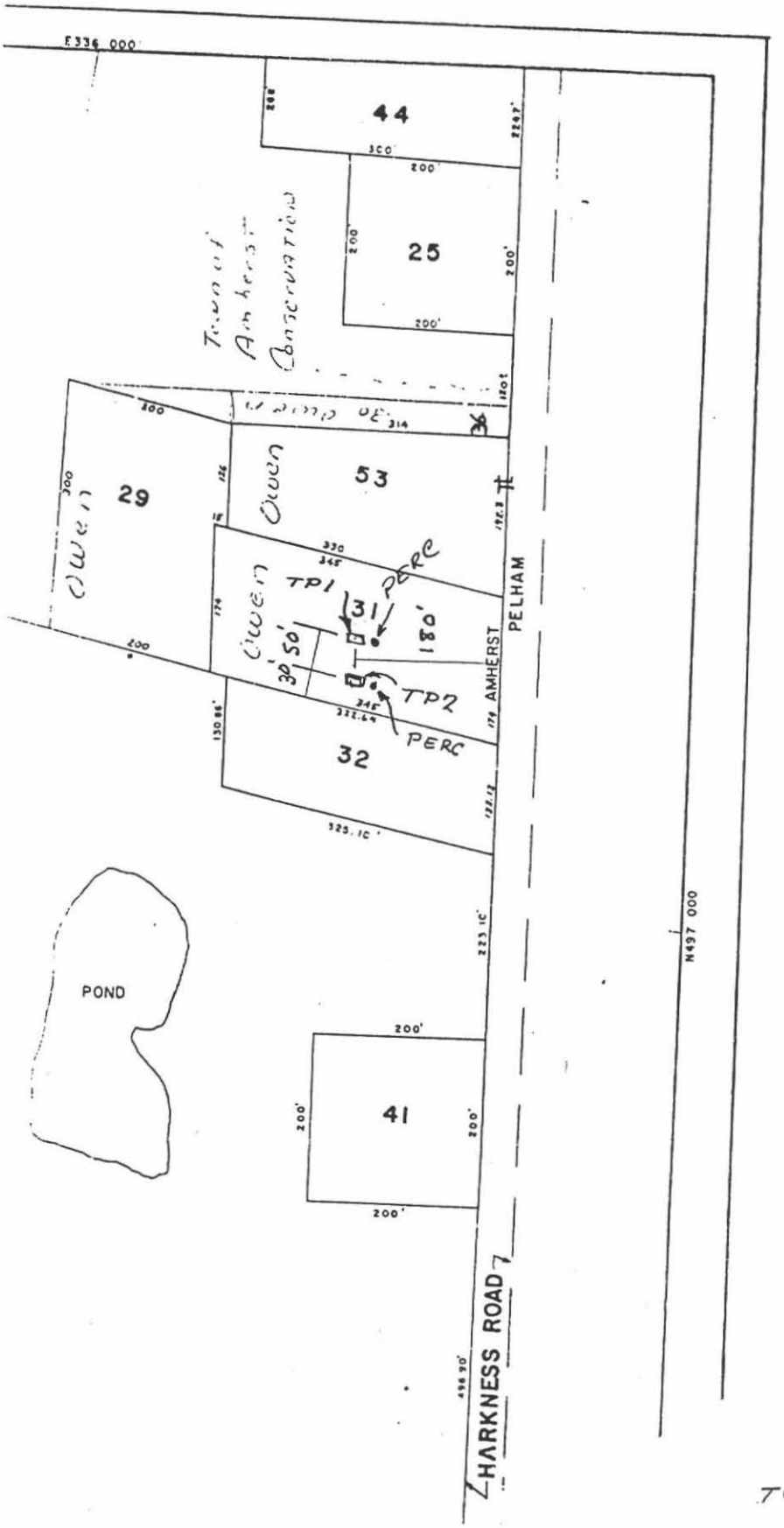
Witnessed By: DAVID ZAROZINSKI

Comments:

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

David E. Keates

DEP APPROVED FORM - 12/07/95



SCALE
1" = 400'

TOWN OF AMHERST
MAP 18D

PROJECT PERCOLATION TEST
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

Sheet 7 of 16

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

SHEET 12

SHEET 16

HAMPSHIRE COUNTY SOIL SURVEY
SHEETS 12 & 16

SITE ON SHEET 12

PROJECT PERCOLATION TEST 4/28/97 **Sheet** 8 **of** 16
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA.

David E. Keates, P.E.
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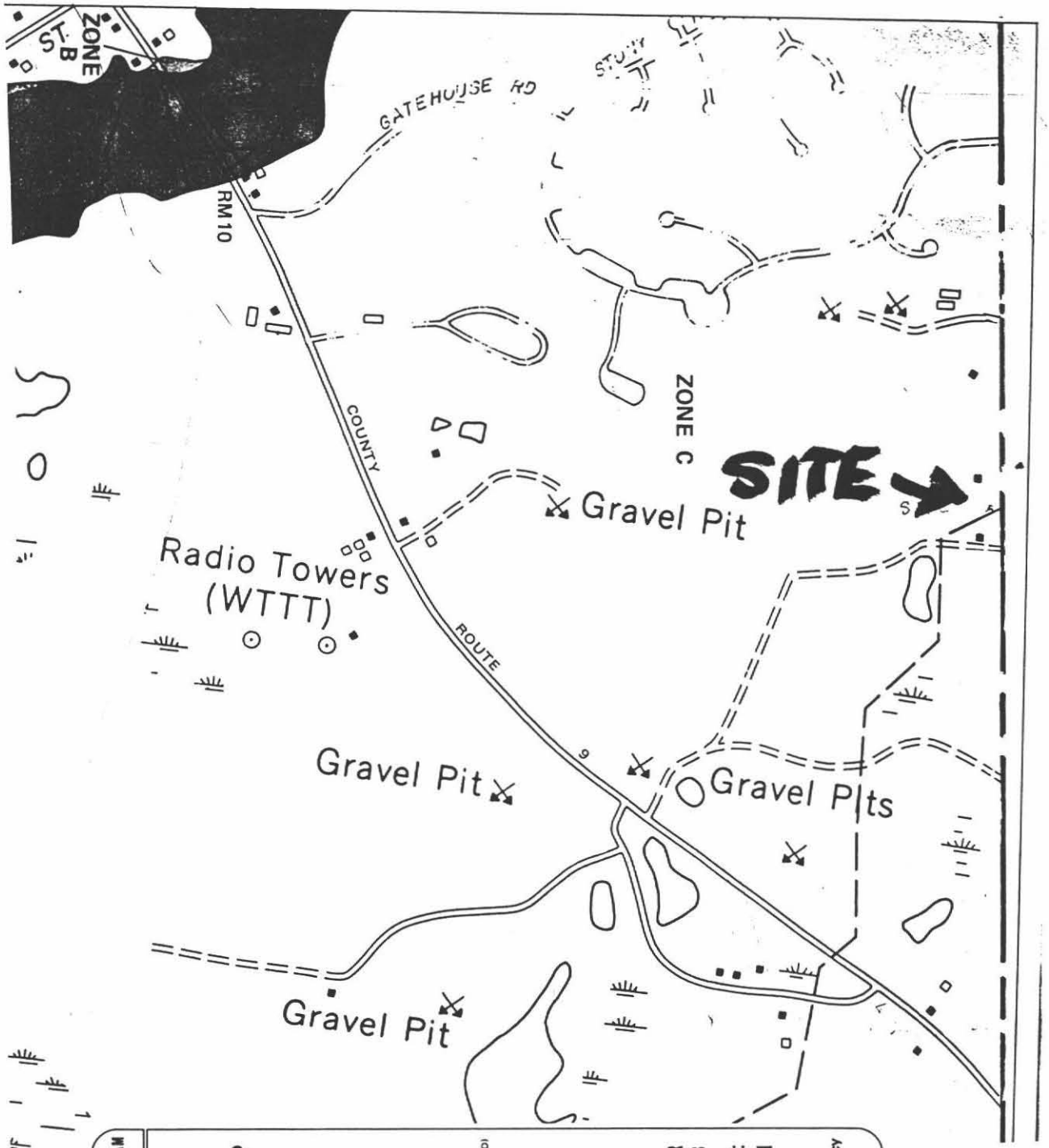

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

TOWN OF
AMHERST,
MASSACHUSETTS
HAMPSHIRE COUNTY

PANEL 10 OF 10
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER
250156 0010 B

EFFECTIVE DATE:
FEBRUARY 4, 1981

federal emergency management agency
federal insurance administration

PROJECT PERCOLATION TEST 4/28/97
WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

Sheet 9 of 16

David E. Keates, P.E.
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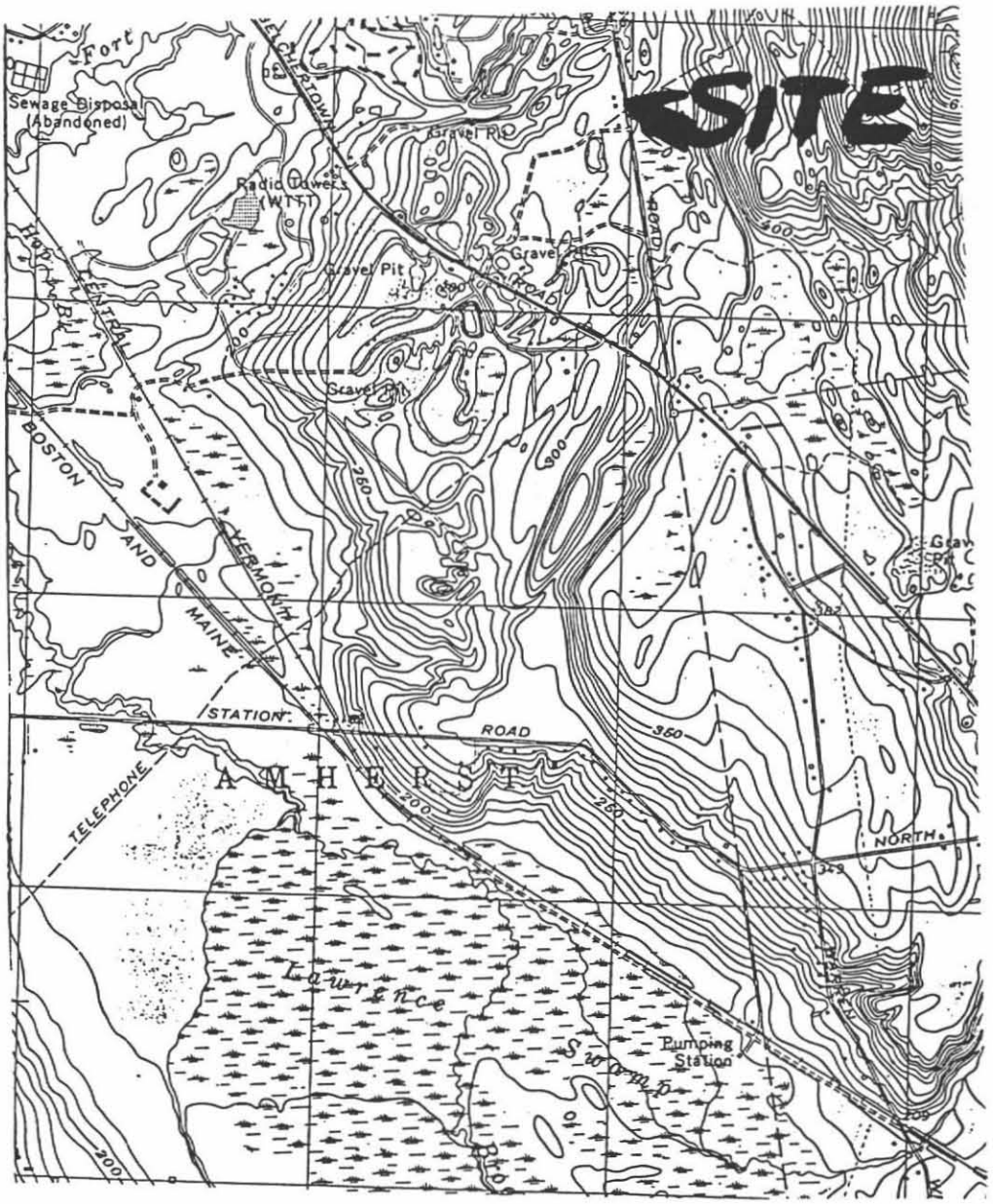


LOCATION

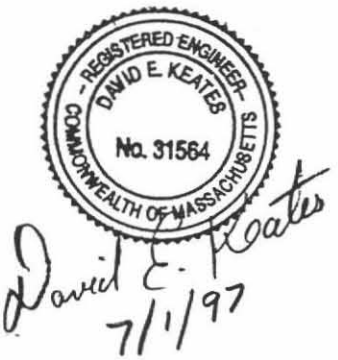
1" = 2000'

PROJECT PERCOLATION TEST 4/28/97 **Sheet** 10 **of** 16

WID LYMAN
LOT 31
HARKNESS ROAD
AMHERST, MA

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

Leaching Trench Design



Structure SINGLE FAMILY HOUSE

Design flow 110 gal/day/bedroom

Number of bedrooms 4

Design flow 440 gal/day

Garbage grinder to be used ____ yes ✓ no

If yes, increase design flow by 50 %

Revised design flow ____ * 1.5 = ____ gal/day

Increase design flow by 25 % per local B.O.H. regulations

Revised design flow 440 * 1.25 = 550 gal/day

Percolation rate from percolation test = <2 min./in.

Design percolation rate = 2-5 min./in.

Design Calculations

From TitleV, bottom leaching area factor, Fb= 0.74 gal/square foot

2 (Fb) (effective depth)L + (effective width)(Fb)L = gal/day

2 .74 2.0 L + 4.0 .74 L = 550 gal/day

2.96 L + 2.96 L = 550 gal/day

5.92 L = 550 gal/day

L = 92.9 linear feet

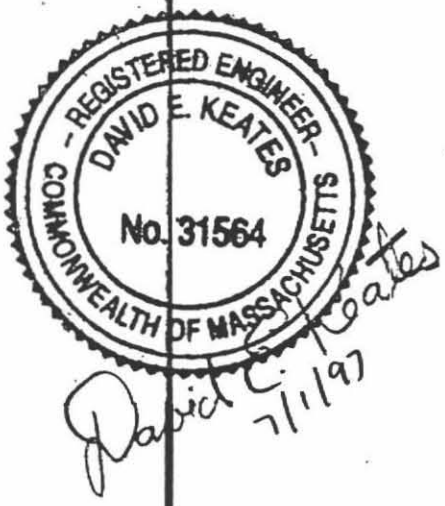
USE 2 TRENCHES 50' LONG = 100' > 92.9'

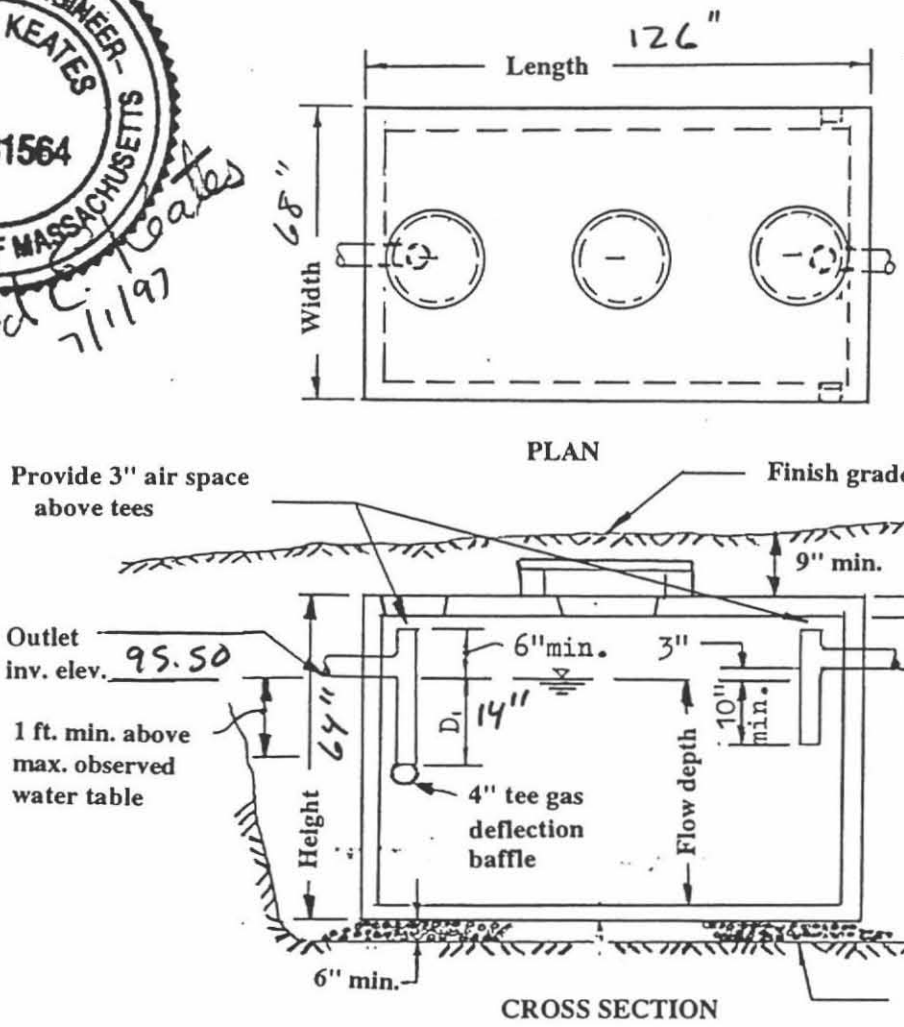
Note: Maximum length of single trench = 100 linear feet.
Trenches over 50 feet long require a vent at end of trench.

PROJECT	Sewage Disposal System Wid Lyman Lot 31 Harkness Road Amherst, MA	Sheet 11 of 16	David E. Keates, P.E. Consulting Civil Engineer 102 Russell Street Sunderland, MA 01375 Tel: 413-665-7670

TYPICAL SEPTIC TANK
1500 GAL

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"





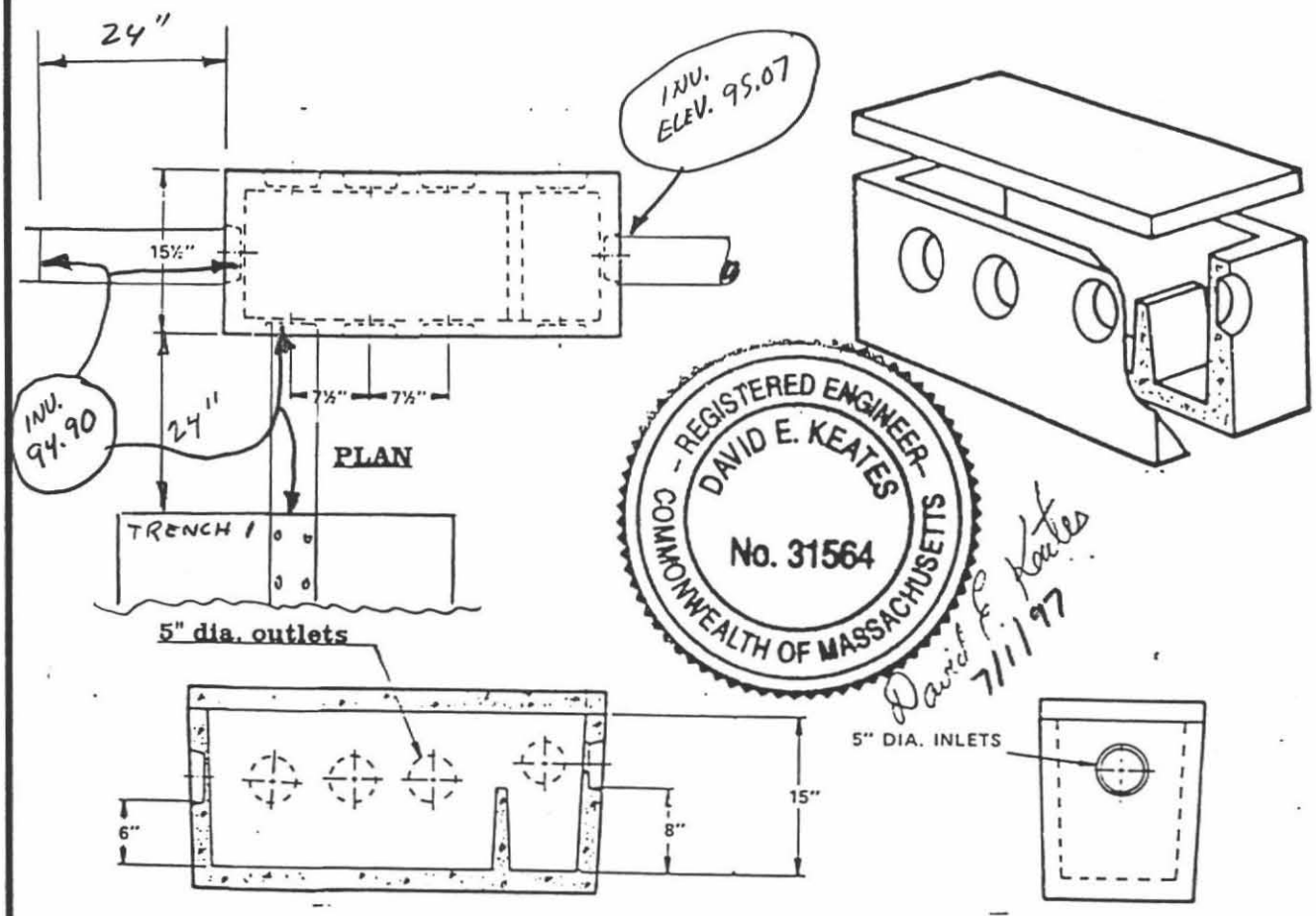
NOTES:

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.

PROJECT	Sewage Disposal System Wid Lyman Lot 31 Harkness Road Amherst, MA	Sheet 12 of 16

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

Typical Distribution Box



Notes:

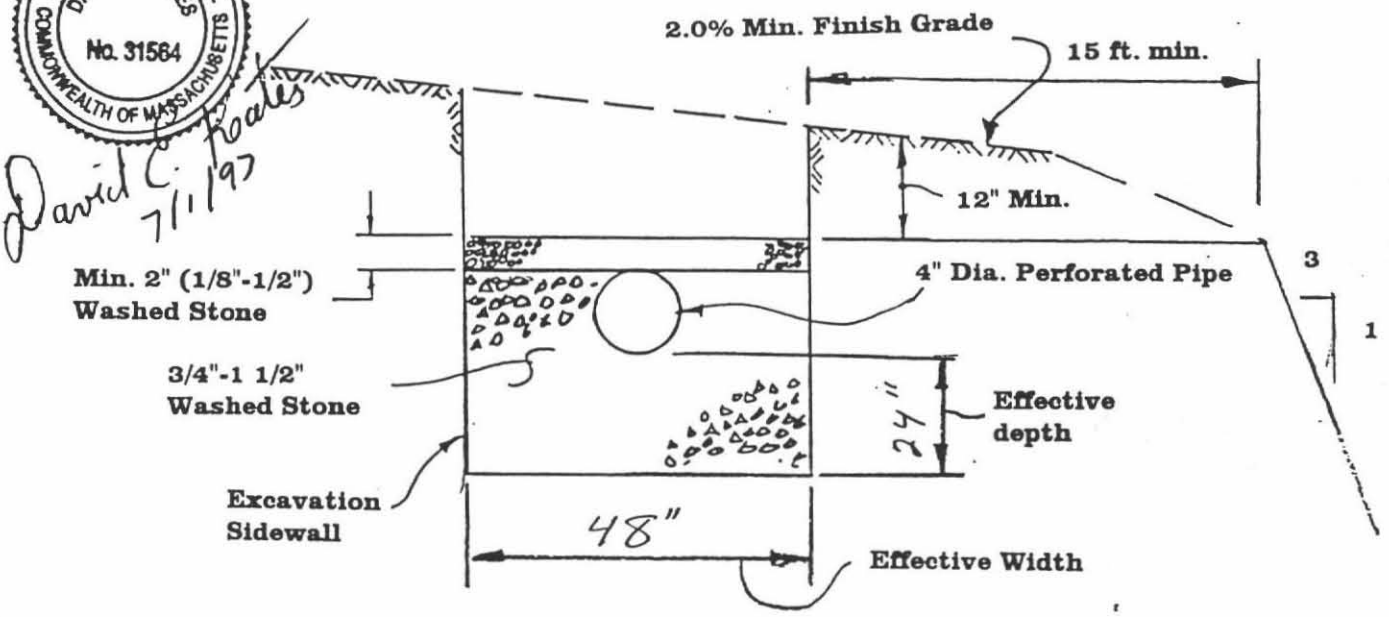
1. The minimum wall thickness for reinforced concrete shall be two inches.
2. The invert elevations of all outlets shall be equal to each other and located at least two inches below the invert elevation of the inlet.
3. Cover of distribution box to be watertight.
4. There shall be a minimum sump of six 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
11. To insure proper distribution, all lines must discharge equally. Testing will be done with water, prior to final inspection and/or at the final inspection in presence of the engineer.

PROJECT Sewage Disposal System Wid Lyman Lot 31 Harkness Road Amherst, MA	Sheet 13 of 16	David E. Keates, P.E. Consulting Civil Engineer 102 Russell Street Sunderland, MA 01375 Tel: 413-665-7670

Typical Leaching Trench Section

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

David C. Keates 7/1/97

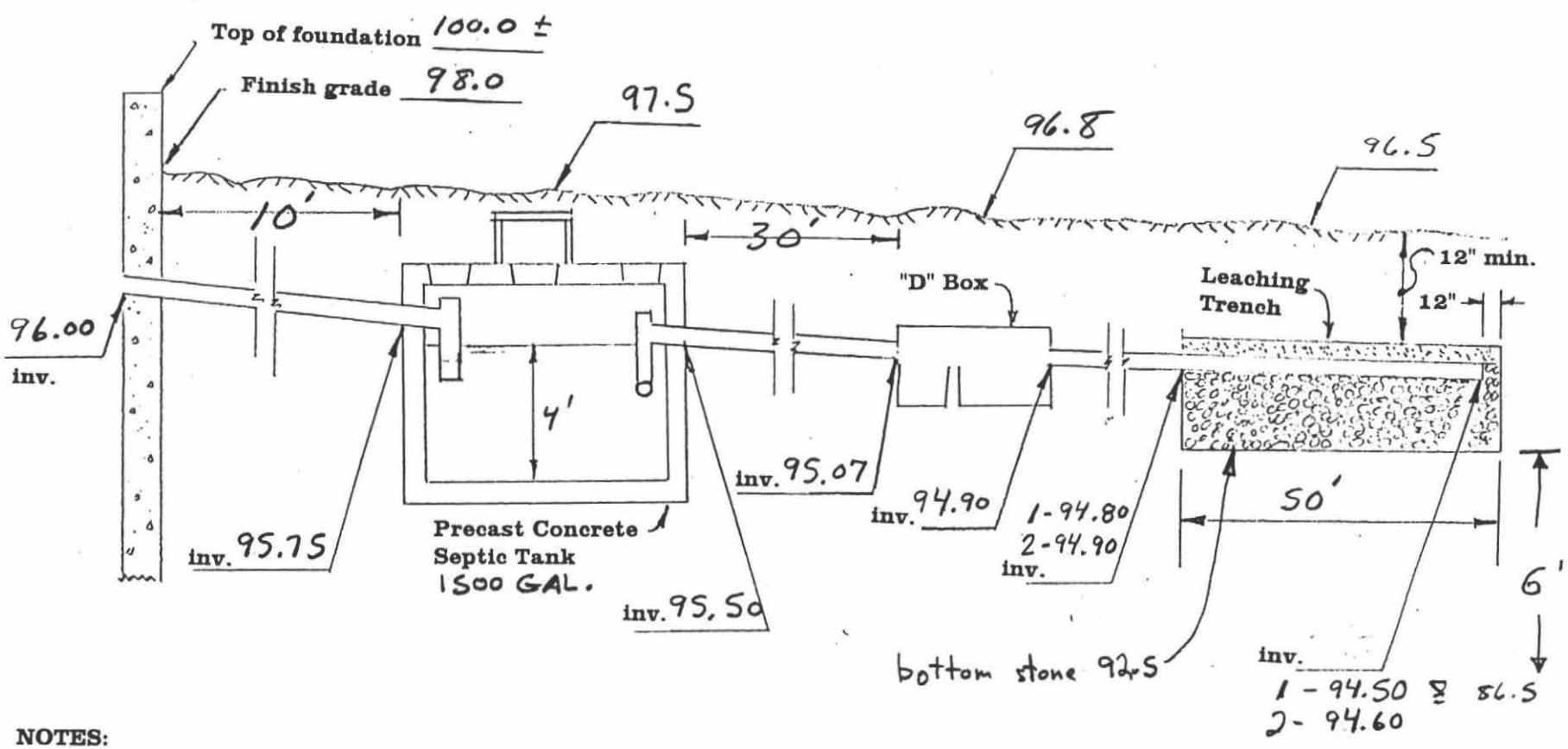


Notes:

1. Distance between excavation sidewalls shall be no less than three times the effective width or depth, whichever is greater. In no case shall the distance between excavation sidewalls be less than 6 ft. if the area between the trenches is to be used for reserve area.
2. All distribution pipe from the D-box to the leaching trench shall be unperforated and shall be laid with tight joints.
3. Trench pipe shall have a minimum slope of 0.005 ft./ft.
4. 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).
5. Pipe shall be capped 12 inches from the end of the trench.
6. Pipe shall be constructed of either polyvinyl chloride (PVC), acrylonitrile-butadiene-styrene (ABS), or high density polyethylene (HDPE). PVC pipe shall be schedule 40 General Purpose Sewer Pipe (ASTM D 1785), schedule 40 Drain, Waste and Vent Pipe (ASTM D 2665) or SDR 35 PVC Gravity Sewer Pipe and Drain Pipe (ASTM D 3034). ABS pipe shall be schedule 40 (ASTM F 628). HDPE pipe shall meet or exceed ASTM F 810 for Smoothwall Polyethylene Pipe for use in Drainage and Waste Disposal Fields.
7. All system components shall be installed in accordance with TITLE V of the state sanitary code and any applicable local rules and regulations.
8. The bottom of all trenches shall be installed level at the design elevation given for each trench.
9. Trench sidewalls shall be scarified to remove any smearing of soil done during excavation.
10. Any change to this plan must be approved by the Board of Health and the design engineer.
11. The system shall not be backfilled prior to inspection and approval by the Board of Health and/or the engineer.
12. No permanent structure shall be constructed over the 100% expansion area.
13. Heavy equipment shall not be permitted to pass over the leaching area.
14. Any conditions encountered during construction differing from those shown on the plans shall be reported to the design engineer before construction continues.
15. Distribution lines exceeding 50 feet in length shall be connected and venting provided in accordance with 310 CMR 15.241
16. Contractor will give engineer and Board of Health representative a minimum of 3 days notice for any inspections.
17. Engineer does not represent nor warrant the operation or proper functioning of this system for any period of time.
18. Elevations refer to ✓ assummed datum ____ USGS

PROJECT	Sewage Disposal System Wid Lyman Lot 31 Harkness Road Amherst, MA	Sheet 14 of 16	David E. Keates, P.E. Consulting Civil Engineer 102 Russell Street Sunderland, MA 01375 Tel: 413-665-7670

Septic System Profile



NOTES:

1. The grade above and adjacent to leaching trench shall slope at least 2.0% to prevent accumulation of surface water.
2. Leaching trench distribution pipe shall have a min. slope of 0.005 ft./ft.
3. The bottom of each leaching trench shall be level at the elevation specified.
4. Pipe from foundation wall to septic tank shall be schedule 40 PVC or equivalent and have a minimum grade of 1/4" per foot.
5. Pipe from septic tank to "D" box shall be schedule 40 PVC or equivalent and have a minimum grade of 1/8" per foot.
6. All piping shall be 4" diameter.

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

David E. Keates
7/1/97

PROJECT Sewage Disposal System
Wid Lyman
Lot 31
Harkness Road
Amherst, MA

Sheet 15 of 16

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

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

David E. Keates 7/1/97

THE INHABITANTS OF THE TOWN OF AMHERST
BOOK 2116, PAGE 270

THE INHABITANTS OF THE TOWN OF AMHERST
BOOK 2290, PAGE 30

N 07°44'14" W 298.52'

N 88°25'33" W 198.29'

TRACT III

REMAINING LAND
137,389+/- SQ. FT.
3.1540+/- ACRES

N 08°35'00" W
130.00'

LOT 1
41,627 ± SQ. FT.

TRACT II

TRACT I

TRACT IV

N 81°02'53" E 511.00'

512.29' (FOUND I.P. TO FOUND I.P.)

TP 2 PERC

TP 1 PERC

50'

25' RESERVE

TRENCH 2 RESERVE

TRENCH 1

12"

54'

1500 GAL S.T.

N 87°07'58" W 326.71'

S 87°07'58" E 326.71'

GARAGE 4 BEDROOM HOUSE

20'

WELL

BENJAMIN C. JR. AND DOROTHY R. CROCKER
BOOK 1037, PAGE 198

BENJAMIN HOUSE

WOODS

18" PINE

PROPOSED WELL

24" PINE

30" PINE

130.00'

S 08°35'00" E

BARN

SHED

SCHOOL #264

WELL

80.3'

66.5'

100'

TBM- ELEV. 100.00
TOP CONCRETE FLOOR AT OUTSIDE EDGE OF GARAGE DOOR ADJACENT TO WOOD

271.60'

401.60'

HARKNESS ROAD

Drawn By: D.E.Keates	Initial Date 7/1/97	**Project** Sewage Disposal System Wid Lyman Lot 31 Harkness Road Amherst, MA	David E. Keates, P.E. Consulting Civil Engineer 102 Russell Street Sunderland, MA 01375 Tel: 413-665-7670
Scale 1" = 50'	Revised		
Sheet No. 16 of 16	Project No.		

FORM 3 - CERTIFICATE OF COMPLIANCE

Commonwealth of Massachusetts

Amherst , Massachusetts

Certificate of Compliance

This is to Certify, that the On-site Sewage Disposal System installed ☒ or repaired/replaced ☐ on 5/13/99 by Chuck Walker. for Steve Prothers at Lot 31 Harkness Road. has been constructed in accordance with the provisions of Title 5 and the for Disposal System Construction Permit No. _____ dated _____ Use of this system is conditioned on compliance with the provisions set forth below:

Contractor to install 2' level section out of D-box to lower trench as called for on plans. Trenches to be covered.

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

_____

Date 5/13/99 Inspector David E. Keates