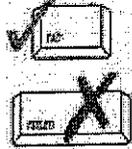




**WPA Form 1- Request for Determination of Applicability**  
Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**A. General Information**

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



1. Applicant:

Andrew Munro  
Name

8 Spencer Road  
Mailing Address

Acton  
City/Town

(978) 844-0637  
Phone Number

andrew.munro@ca.com  
E-Mail Address

MA  
State

01720  
Zip Code

Fax Number (if applicable)

2. Representative (if any):

FORESITE Engineering  
Firm

Scott Hayes  
Contact Name

16 Gleasondale Road, Suite 1-1  
Mailing Address

Stow  
City/Town

(978) 461-2350  
Phone Number

scott@foresite1.com  
E-Mail Address

MA  
State

01775  
Zip Code

(978) 841-4102  
Fax Number (if applicable)

**B. Determinations**

1. I request the Acton Conservation Commission make the following determination(s). Check any that apply:

- a. whether the **area** depicted on plan(s) and/or map(s) referenced below is an area subject to jurisdiction of the Wetlands Protection Act.
- b. whether the **boundaries** of resource area(s) depicted on plan(s) and/or map(s) referenced below are accurately delineated.
- c. whether the **work** depicted on plan(s) referenced below is subject to the Wetlands Protection Act.
- d. whether the area and/or work depicted on plan(s) referenced below is subject to the jurisdiction of any **municipal wetlands ordinance** or **bylaw** of:

Acton  
Town of Acton  
Name of Municipality

- e. whether the following **scope of alternatives** is adequate for work in the Riverfront Area as depicted on referenced plan(s).

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

## C. Project Description

1. a. Project Location (use maps and plans to identify the location of the area subject to this request):

8 Spencer Road	Acton
Street Address	City/Town
Map F-2	Parcel 143
Assessors Map/Plat Number	Parcel/Lot Number

- b. Area Description (use additional paper, if necessary):

~~Proposed work area is an existing single family dwelling at 8 Spencer Road. The existing house, sewage disposal system and yard areas are within 100-ft of a bordering vegetated wetland to the south. The site is currently under residential use.~~

- c. Plan and/or Map Reference(s):

"Sewage Disposal System Design Plan, 8 Spencer Road, Acton, MA" prepared by FORESITE Eng. 1"=20"	August 24, 2011
Title	Date
_____	_____
Title	Date
_____	_____
Title	Date
_____	_____

2. a. Work Description (use additional paper and/or provide plan(s) of work, if necessary):

~~Abandonment of an existing failing sewage disposal system and installation of a new septic tank, pump chamber and building sewer) within 100-ft of a bordering vegetated wetland. All disturbed areas are to be restored to their original grade and re-established with loam and seeded with perennial turf grass.~~



**WPA Form 1- Request for Determination of Applicability**

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**C. Project Description (cont.)**

b. Identify provisions of the Wetlands Protection Act or regulations which may exempt the applicant from having to file a Notice of Intent for all or part of the described work (use additional paper, if necessary).

310 CMR 10.03 (3) - Presumptions regarding sewage disposal systems meeting the minimum 310 CMR 15.00 (Title 5); No adverse impact presumed.

3. a. If this application is a Request for Determination of Scope of Alternatives for work in the Riverfront Area, indicate the one classification below that best describes the project.

- Single family house on a lot recorded on or before 8/1/96
- Single family house on a lot recorded after 8/1/96
- Expansion of an existing structure on a lot recorded after 8/1/96
- Project, other than a single family house or public project, where the applicant owned the lot before 8/7/96
- New agriculture or aquaculture project
- Public project where funds were appropriated prior to 8/7/96
- Project on a lot shown on an approved, definitive subdivision plan where there is a recorded deed restriction limiting total alteration of the Riverfront Area for the entire subdivision
- Residential subdivision; institutional, industrial, or commercial project
- Municipal project
- District, county, state, or federal government project
- Project required to evaluate off-site alternatives in more than one municipality in an Environmental Impact Report under MEPA or in an alternatives analysis pursuant to an application for a 404 permit from the U.S. Army Corps of Engineers or 401 Water Quality Certification from the Department of Environmental Protection.

b. Provide evidence (e.g., record of date subdivision lot was recorded) supporting the classification above (use additional paper and/or attach appropriate documents, if necessary.)



# WPA Form 1- Request for Determination of Applicability

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

## D. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Request for Determination of Applicability and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge.

I further certify that the property owner, if different from the applicant, and the appropriate DEP Regional Office were sent a complete copy of this Request (including all appropriate documentation) simultaneously with the submittal of this Request to the Conservation Commission.

Failure by the applicant to send copies in a timely manner may result in dismissal of the Request for Determination of Applicability.

Name and address of the property owner:

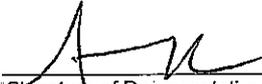
Andrew Munro	_____
Name	_____
8 Spencer Road	_____
Mailing Address	_____
Acton	_____
City/Town	_____
MA	01720
State	Zip Code

Signatures:

I also understand that notification of this Request will be placed in a local newspaper at my expense in accordance with Section 10.05(3)(b)(1) of the Wetlands Protection Act regulations.

Signature of Applicant \_\_\_\_\_

Date \_\_\_\_\_

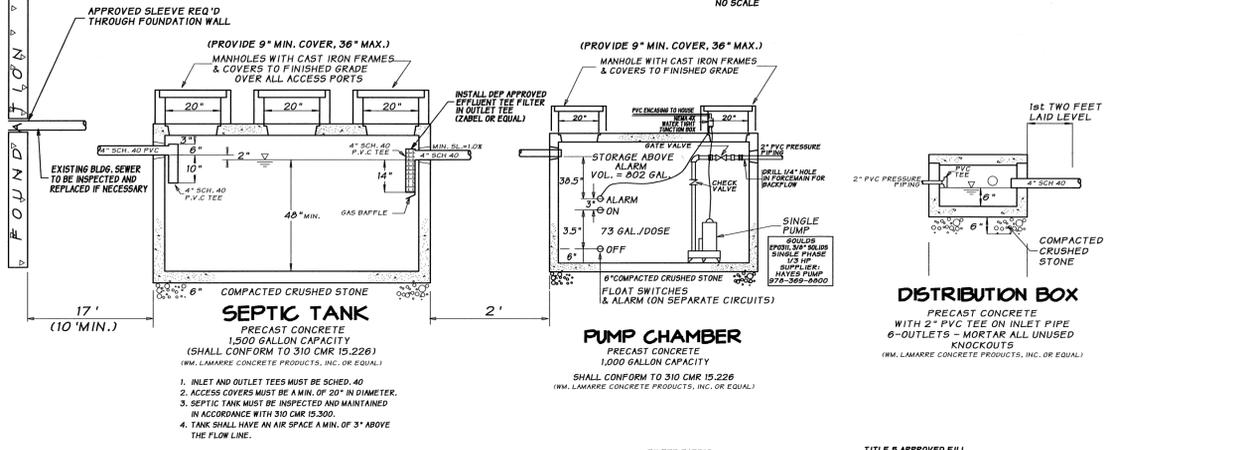
 SCOTT HAYES, AGENT FOR APPLICANT  
Signature of Representative (if any) \_\_\_\_\_

8-24-11  
Date \_\_\_\_\_

LOC-202.71

### SEWAGE DISPOSAL PROFILE

NO SCALE



#### SEPTIC TANK

- PRECAST CONCRETE  
1500 GALLON CAPACITY  
(SMALL CONFORM TO 310 CMR 15.226)  
(M.M. LAMARRE CONCRETE PRODUCTS, INC. OR EQUAL.)
- INLET AND OUTLET TEES MUST BE SCHED. 40
  - ACCESS COVERS MUST BE A MIN. OF 20" IN DIAMETER.
  - SEPTIC TANK MUST BE INSPECTED AND MAINTAINED IN ACCORDANCE WITH 310 CMR 15.300.
  - TANK SHALL HAVE AN AIR SPACE A MIN. OF 3" ABOVE THE FLOW LINE.

#### PUMP CHAMBER

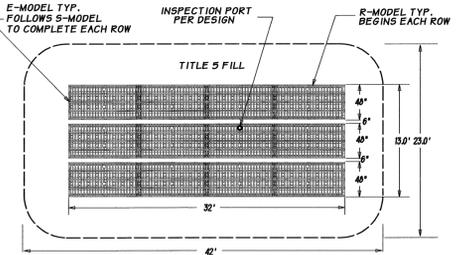
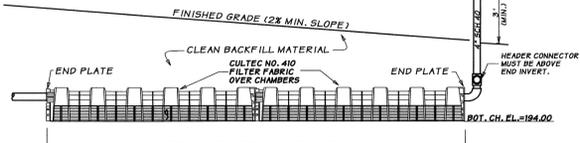
PRECAST CONCRETE  
1000 GALLON CAPACITY  
SHALL CONFORM TO 310 CMR 15.226  
(M.M. LAMARRE CONCRETE PRODUCTS, INC. OR EQUAL.)

#### DISTRIBUTION BOX

PRECAST CONCRETE  
WITH 2" PVC TEE ON INLET PIPE  
6-OUTLETS - MORTAR ALL UNUSED  
KNOCKOUTS  
(M.M. LAMARRE CONCRETE PRODUCTS, INC. OR EQUAL.)

#### CULTEC C-4 FIELD DRAIN BED

PLAN VIEW

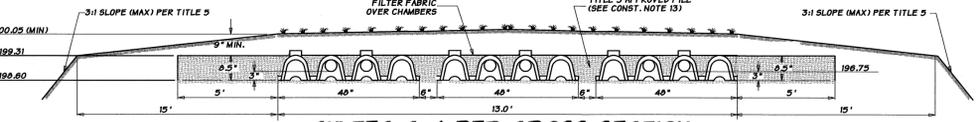


#### CULTEC C-4 FIELD DRAIN BED

NOT TO SCALE

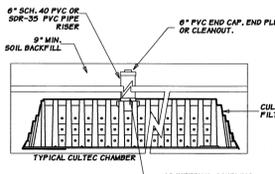
#### CULTEC C-4 BED CROSS SECTION

NOT TO SCALE



#### INSPECTION PORT DETAIL

NOT TO SCALE



#### SOIL EVALUATION LOGS

TEST HOLE: DTH 011-1  
DATE: 8/4/11  
SOIL EVALUATOR: SCOTT HAYES  
B.O.H. AGENT: JUSTIN SNAIR, ACTON HEALTH DEPT.

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	REMARKS
0-10"	A	SL	10YR3/2	-	WEAK, FRIABLE
10-24"	Bw	SL	10YR3/6	-	WEAK, MASSIVE
24-60"	C1	SL	2.5Y5/4	>35 # 60"	WEAK TO MOD. FIRM FEW COBBLES, GRAVEL
60-100"	C2	LS	10YR5/4	10YR5/0; 2.5Y6/1	WEAK TO MOD. FIRM FEW STONES

DEPTH TO:  
BEDROCK: NOT DETERMINED  
STANDING WATER: NONE  
SEEPAGE: 90"  
ESTIMATED SEASONAL HIGH GROUNDWATER: 60" (194.60)

TEST HOLE: DTH 011-2  
DATE: 8/4/11  
SOIL EVALUATOR: SCOTT HAYES  
B.O.H. AGENT: JUSTIN SNAIR, ACTON HEALTH DEPT.

DEPTH	HORIZON	TEXTURE	COLOR	MOTTLING	REMARKS
0-10"	A	SL	10YR3/2	-	WEAK, FRIABLE
10-24"	Bw	SL	10YR3/6	-	WEAK, MASSIVE
24-52"	C1	SL	2.5Y5/4	>35 # 60"	WEAK TO MOD. FIRM FEW COBBLES, GRAVEL
52-102"	C2	LS	10YR5/4	10YR5/0; 2.5Y6/1	WEAK TO MOD. FIRM FEW STONES

DEPTH TO:  
BEDROCK: NOT DETERMINED  
STANDING WATER: NONE  
SEEPAGE: 92"  
ESTIMATED SEASONAL HIGH GROUNDWATER: 60" (194.40)  
NOTE: C1 LAYER WAS DETERMINED TO BE UNSUITABLE; EXCAVATE AND REMOVE C1 LAYER, REPLACE WITH TITLE 5 FILL MEETING THE REQUIREMENTS OF 310 CMR 15.255.

#### PERCOLATION TESTS

SOIL EVALUATOR: SCOTT HAYES, FORESITE ENG.  
B.O.H. AGENT: JUSTIN SNAIR, ACTON HEALTH DEPT.

DATE	PT	A
8/24/11	1	32 GPM @ 10' TDH

\* SAMPLE OF C2 LAYER TAKEN FOR SIEVE ANALYSIS DUE TO UNSUITABILITY OF C1 LAYER AND PRESENCE OF GROUNDWATER IN C2 LAYER.  
RESULTS OF SIEVE ANALYSIS:  
LOAMY SAND (CLASS 1)  
UTILIZE L.T.A.R. OF 0.66 GPD/SF PER TITLE 5 - VARIANCE REQUIRED

#### LEGEND

- S.T. PROPOSED 1,500 GAL. PRECAST CONCRETE SEPTIC TANK
- P.C. PROPOSED 1,000 GAL. PRECAST CONCRETE PUMP CHAMBER
- D-BOX 6-OUTLET PRECAST CONCRETE DISTRIBUTION BOX
- DEEP TEST HOLE
- PERCOLATION TEST
- SPOT ELEVATIONS
- EXISTING CONTOURS
- PROPOSED CONTOURS
- EXISTING EVERGREEN TREE
- EXISTING HARDWOOD TREE

### DESIGN CALCULATIONS

- SEWAGE DISPOSAL SYSTEM IS NOT DESIGNED FOR USE WITH A GARBAGE GRINDER.
- SEPTIC TANK:  
A VOLUME EQUAL TO TWICE THE DESIGN FLOW OR A MINIMUM VOLUME OF 1500 GALLONS IS REQUIRED. A 1500 GALLON 2-COMPARTMENT TANK IS REQUIRED.
- DESIGN CRITERIA:  
NUMBER OF BEDROOMS: 3  
DESIGN FLOW: 330  
SOIL TEXTURAL CLASS: 1 (LOAMY SAND)  
PERCOLATION RATE: NOT DETERMINED  
APPLICATION RATE: 0.66 GPD/SF  
DESIGN GROUNDWATER DEPTH: 60"  
DESIGN GROUNDWATER ELEVATION: 194.60  
GROUNDWATER OFFSET: 4'
- LEACHING FACILITY SIZING:  
AREA REQUIRED IS EQUAL TO THE DESIGN FLOW DIVIDED BY THE APPLICATION RATE:  
 $\frac{330 \text{ GPD}}{0.66 \text{ GPD/S.F.}} = 500 \text{ S.F.}$

\* ACTON BOARD OF HEALTH REG. II-B.1.1 REQUIRES MIN. 600 S.F. OF LEACHING AREA FOR 330 GPD OF DESIGN FLOW.

UTILIZE CUL-TEC FIELD DRAIN CONTACTOR C-4 IN A BED CONFIGURATION.  
LOADING RATE 6.7 SF/LF (TABLE 4)  
MIN. LINEAR FOOTAGE REQ'D = 600 / 6.7 = 90 LF  
PROVIDE 3 ROWS OF 4 C-4 FIELD DRAIN PANELS/ROW IN BED CONFIGURATION:  
LENGTH: 8.0 FT/CHAMBER X 4 CHAMBERS = 32 FT  
WIDTH: 4 FT/CH. X 3 CHAMBERS, SPACE 6" = 13.0 FT

HYDRAULIC LOADING CAPACITY:  
6.7 SF/LF X 32 LF X 3 ROWS X 0.66 GPD/SF = 424 GPD  
EFF. LEACHING AREA = 6.7 SF/LF X 96 L.F. = 643 SQ.FT.

#### SCHEDULE OF ELEVATIONS

ITEM	ELEVATION
TOP OF FOUNDATION	202.71
INVERTS	
AT FOUNDATION	197.0
AT SEPTIC TANK INLET	196.50
AT SEPTIC TANK OUTLET	196.25
AT PUMP CHAMBER INLET	196.15
AT PUMP CHAMBER SUMP	191.90
AT D-BOX INLET	199.12
AT D-BOX OUTLET	190.95
AT C-4 CHAMBER INLET	190.85
C-4 CHAMBER BOTTOM	190.60

#### PUMP CALCULATIONS

HEAD LOSS  
ELEVATION HEAD LOSS 199.12 - 191.90 = 7.22'  
FORM & FRICTION LOSS..... 3'  
TOTAL HEAD LOSS (TDH)..... 10' TDH

CHOOSE: GOULDS EP0311, 1/3 HP, 3/8" SOLIDS EFFLUENT PUMP

SUPPLIERS: HAYES PUMP, INC. CONCORD, MA  
PHONE: (978) 369-0900

FLOW RATE: 32 GALLONS PER MINUTE

PUMP CYCLE TIME  
SEWAGE FLOW = 330 GALLON PER DAY  
VOLUME/DOSE = 73 GALLONS  
CYCLE TIME = 5 HOURS ±

NOTE: ALL SURFACES SHALL BE SCARIFIED PRIOR TO THE PLACEMENT OF FILL.

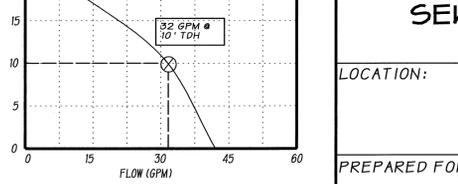
NOTE: ALL CRUSHED STONE USED IN THE CONSTRUCTION OF THE SEWAGE DISPOSAL SYSTEM SHALL BE THE SIZE SPECIFIED, DURABLE AND DOUBLE WASHED.

NOTE: WHEN GRAVEL FILL IS REQUIRED, ALL ORGANIC MATERIAL WITHIN 5 FEET OF THE PROPOSED LEACHING FACILITY SHALL BE REMOVED AND REPLACED WITH WELL COMPACTED GRANULAR FILL MEETING THE REQUIREMENTS OF 310 CMR 15.255.

NOTE: ALL BACKFILL AND BREAKOUT FILL REQUIRED SHALL BE CLEAN EARTHEN MATERIAL FREE OF CONSTRUCTION DEBRIS, STUMPS, BOULDERS AND FOREIGN EARTH. FILL MATERIAL SHALL BE PLACED IN A MANNER THAT WILL ENSURE RUNOFF AND PREVENT EROSION.

NOTE: SEWAGE DISPOSAL SYSTEM CORNERS SHALL BE STAKED AND FLAGGED BY A PROFESSIONAL ENGINEER OR PROFESSIONAL LAND SURVEYOR PRIOR TO THE START OF CONSTRUCTION.

NOTE: ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC MARKING TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.



#### PUMP NOTES

- PUMP USED SHALL BE OF SPECIFIED MANUFACTURER AND MODEL UNLESS AN EQUIVALENT PUMP IS APPROVED IN WRITING BY FORESITE ENGINEERING ASSOC., INC.
- PUMP ON/OFF SWITCHES AND ALARM SHALL BE WIRED TO SEPARATE SWITCHES IN HOUSE WIRING PANEL.
- FORCEMAIN FROM PUMP CHAMBER TO D-BOX SHALL BE LAID AT A CONTINUOUS POSITIVE GRADE TO ENSURE BACKFLOW TO PUMP CHAMBER.
- AT LOCATIONS WHERE FORCEMAIN WILL NOT BACKFLOW DUE TO SAG IN THE FORCEMAIN AND WHERE THE SAG WILL HAVE LESS THAN FOUR FEET OF COVER, 2 INCH RIGID POLYSTYRENE INSULATION SHALL BE PLACED OVER THE LINE PRIOR TO BACKFILL.
- AT LOCATIONS WHERE FORCEMAIN WILL NOT BACKFLOW DUE TO SAG IN THE FORCEMAIN AND WHERE THE SAG WILL HAVE LESS THAN FOUR FEET OF COVER, 2 INCH RIGID POLYSTYRENE INSULATION SHALL BE PLACED OVER THE LINE PRIOR TO BACKFILL.

### GENERAL NOTES

- THIS PLAN IS FOR THE CONSTRUCTION OF THE PROPOSED SEWAGE DISPOSAL SYSTEM ONLY. OTHER LOCAL REGULATIONS MAY BE APPLICABLE TO THE PROJECT (I.E. ZONING, WETLANDS, ETC.).
- CONTRACTOR SHALL REPORT ANY DISCREPANCIES BETWEEN OBSERVED FIELD CONDITIONS AND THIS DESIGN PLAN PRIOR TO INITIATING CONSTRUCTION.
- PROPERTY BOUNDARIES SHOWN ARE THE RESULT OF A SURVEY BY FORESITE ENGINEERING ASSOCIATES, INC. WITH REFERENCE TO MIDDLESEX SOUTH DISTRICT REGISTRY OF DEEDS PLAN NO. 1708 OF 1955.
- THE SYSTEM IS NOT DESIGNED FOR USE WITH A GARBAGE GRINDER.
- THE SEPTIC TANK SHALL BE PUMPED WHEN THE SLUDGE DEPTH EXCEEDS 1/8 OF THE LIQUID CAPACITY OF THE SEPTIC TANK (ABOUT ONCE EVERY 2 YEARS) OR AS REQUIRED BY THE LOCAL BOARD OF HEALTH.
- ANY PROPOSED WORK WITHIN 100 FEET OF A BORDERING VEGETATED WETLAND OR OTHER PROTECTED RESOURCE AREA IS UNDER THE JURISDICTION OF THE WETLANDS PROTECTION ACT AND THE LOCAL CONSERVATION COMMISSION.
- ALL KNOWN DRINKING WATER WELLS WITHIN 200 FEET OF THE PROPOSED SEWAGE DISPOSAL SYSTEM ARE SHOWN OR INDICATED.
- THE SITE IS NOT WITHIN A DEP. APPROVED ZONE 1, ZONE II OR WPA FOR PUBLIC WATER SUPPLIES.
- SITE IS WITHIN TOWN OF ACTON GROUNDWATER PROTECTION DISTRICT ZONE 3.
- THE SITE IS NOT WITHIN THE 100-YR FLOOD PLAIN OR WITHIN THE JURISDICTION OF A SURFACE WATER SUPPLY OR TRIBUTARY TO A SURFACE WATER SUPPLY.

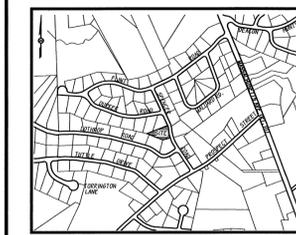
### SEWAGE DISPOSAL SYSTEM DESIGN PLAN

LOCATION:  
**8 SPENCER ROAD**  
ACTON, MASSACHUSETTS 01720  
ASSESSORS MAP F2 PARCEL 143

PREPARED FOR:  
**ANDREW MUNRO**  
8 SPENCER ROAD  
ACTON, MASSACHUSETTS 01720

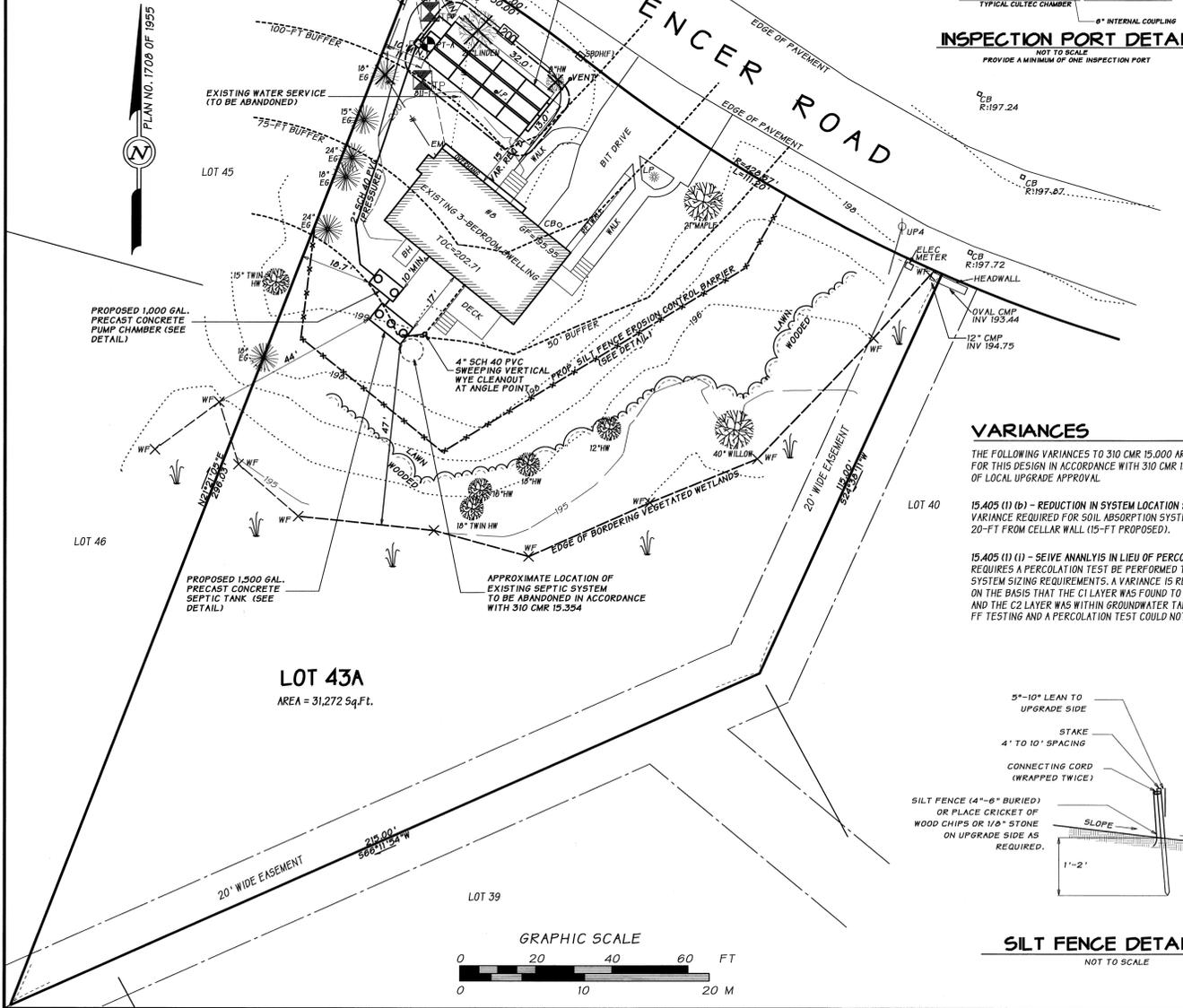
DATE: AUGUST 24, 2011 SCALE: 1 INCH = 20 FEET

**FORESITE ENGINEERING**  
ENGINEERING · SURVEYING · PLANNING  
16 Gleasondale Road Suite 1-1  
Stow, Massachusetts 01775  
Phone: (978) 461-2350



#### LOCUS

NOT TO SCALE

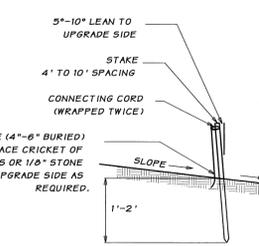


#### VARIANCES

THE FOLLOWING VARIANCES TO 310 CMR 15.000 ARE REQUESTED FOR THIS DESIGN IN ACCORDANCE WITH 310 CMR 15.405 CONTENTS OF LOCAL UPRADE APPROVAL.

15.405 (1) (b) - REDUCTION IN SYSTEM LOCATION SETBACK FROM CELLAR WALL VARIANCE REQUIRED FOR SOIL ABSORPTION SYSTEM LOCATED LESS THAN 20-FT FROM CELLAR WALL (15-FT PROPOSED).

15.405 (1) (i) - SEIVE ANALYSIS IN LIEU OF PERCOLATION TEST REQUIRES A PERCOLATION TEST BE PERFORMED TO DETERMINE SYSTEM SIZING REQUIREMENTS. A VARIANCE IS REQUESTED ON THE BASIS THAT THE C1 LAYER WAS FOUND TO BE UNSUITABLE AND THE C2 LAYER WAS WITHIN GROUNDWATER TABLE ON THE DATE OF TESTING AND A PERCOLATION TEST COULD NOT BE PERFORMED.



#### SILT FENCE DETAIL

NOT TO SCALE

#### GRAPHIC SCALE

