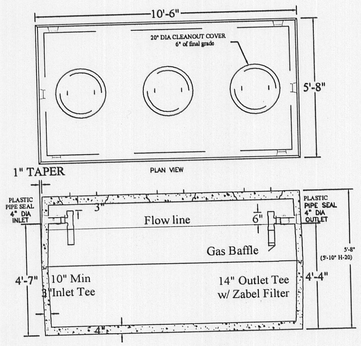
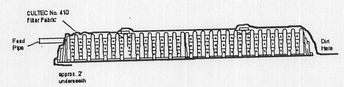
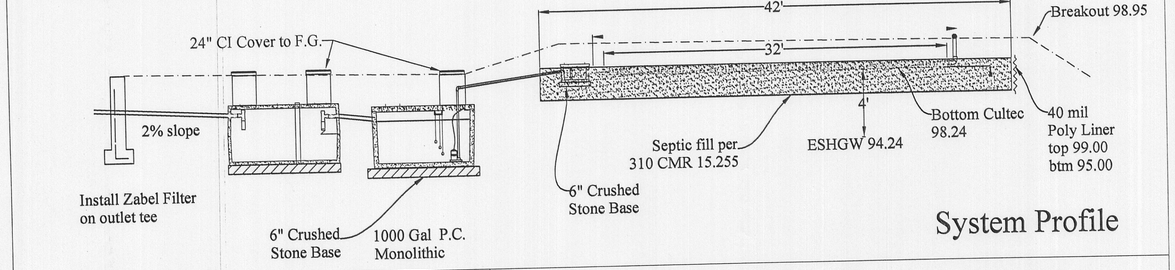


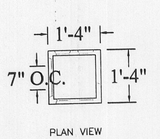
Existing 1000 Gallon Septic Tank

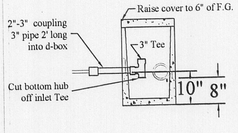
Tank must pass insepction to remain in service



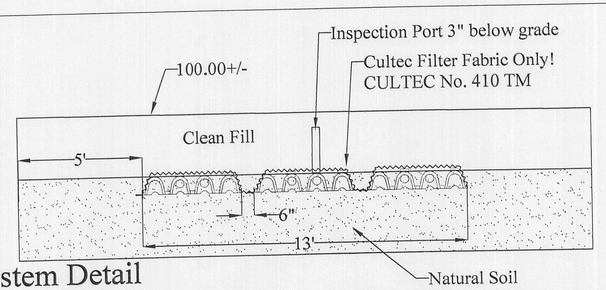


System Profile

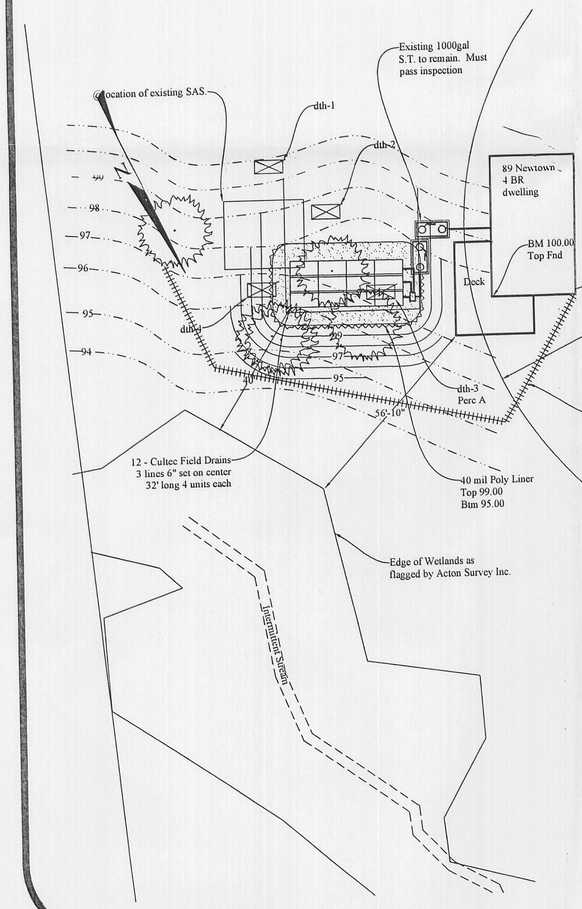


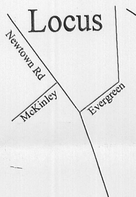


6- Outlet D-Box

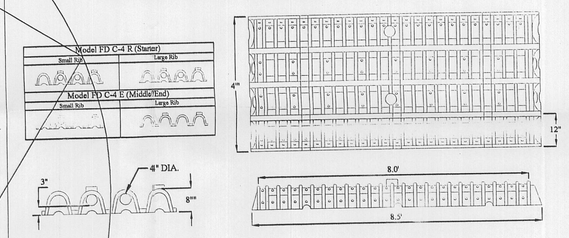


System Detail





CULTEC CONTACTOR FIELD DRAIN C-4 SECTION VIEW



Pump Chamber Specifications

1. Type: Meyers Sewage Series SRM-4; Submersible Sewage Pump or approved equal - >1.5" Solids Handling Capacity Min Capacity - 60 GPM at 7' head.

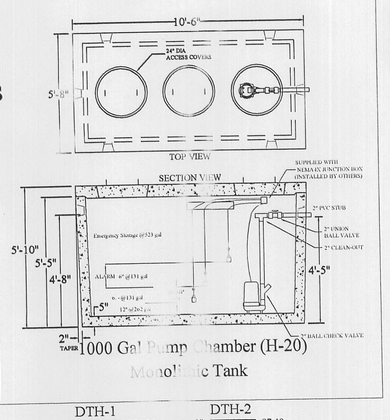
2. The pump chamber shall be a 1000 gallon tank as provided by SHEA Concrete or approved equal.

3. The pump shall be provided with liquid float controls for low and high water alarm control as illustrated in detail.

4. The control panel shall be equipped with an audible alarm placed in the basement in a readily accessible location. Alarm shall be separated from pump circuit.

5. All wiring shall conform to local and state wiring codes and shall be installed by a licensed electrician.

6. Pump must be installed in accordance with manufacturer's recommendations. All joints and fitting to be gas tight. Inlets to be set at levels shown in detail.



1000 Gal Pump Chamber (H-20) Monolithic Tank

Variances Required

1. A local upgrade approval is required to for use of alternative systems under general conditions pursuant to 310 CM R 15.287 is required for this design.

2. A local upgrade approval is required from 310 CMR 15.211 which requires the SAS to be 50' from the BVW. A 40' distance is proposed.

3. A variance from Acton BoH regulations 11-7.2 is required to locate the SAS <75' from the BVW.

4. A variance from Acton BoH regulation 11-8.1.1 is required to allow a capacity of 440 gpd with less than 800 sqft. of area. 643 sqft is proposed.

DTH-1

0"	Ap	100.20
4"	Bw	99.87
17"		98.78
	Lmy Snd C-1	
53"	Refusal	95.78

DTH-2

0"	Ap	97.40
2"	FILL	97.07
36"		95.98
	Lmy Snd C-1	
65"	Refusal	92.98

General Notes

1. The septic tank and pump chamber shall be made of precast concrete. Tank construction materials shall comply with 310 CMR 15.226. Septic tank and pump chamber shall be waterproofed below the pipe inlet.

2. The septic tank and pump chamber shall be placed on six inches of crushed stone that has been mechanically compacted. A minimum of nine inches of cover shall be placed over the tank. A 24 inch cover with an appropriate water tight riser shall be provided over the outlet within six inches of finished grade.

3. Where not otherwise specified, piping shall be 4" schedule 40 PVC pipe with glued joints. Existing supply piping that is not 4" cast iron or schedule 40 PVC shall be replaced.

4. Final grading over the leaching area shall provide that no water will accumulate on the surface. The grade above and next to the leaching facility shall have a minimum 2% slope.

5. Cover material shall be free of large stones, stumps, frozen clumps of earth, masonry or construction waste material. Machinery that may crush or disturb the alignment of pipe in the disposal system area shall not be allowed on any part of the disposal area.

6. All stone shall be free or iron, fines and dust, and must have less thatn 0.2% material finer than a #200 sieve as determined by AASHTO test methods T-11 and T-27.

7. Fill material for systems constructed in fill shall consist of select on-site or imported soil material. The fill shall be comprised of clean granular sand, free from organic matter and deleterious substances. Mixtures and layers of different classes of soil shall not be used. The fill shall not contain any material larger than 2 inches. A sieve analysis report must be obtained by the installer to demonstrate that the fill material complies with 310 CMR 15.255(3). The Board of Health may require a minimum of one representative sample be taken from the in place fill and tested for compliance with the grain size distribution specifications.

8. Should conditions be encounter onsite which require modification to the approved plan, the installer shall contact the Designer for instructions.

9. The installer may make minor changes in orientation to avoid large obstacles that include but are not limited to boulders, trees, walls, fences, sheds, and pavement. It is the intent of this design to locate the leaching facility in the general area of the test holes. Minimum offsets from foundations, property lines, wells, and wetlands shall be maintained at all times.

10. The owner shall be responsible for ascertaining the location of all property lines. The plan was made from survey information provided on a plan of land dated 8/1/07 by Douglas Andrysick, PLS. A professional instrument survey was not performed. If proximity of the system to property lines are critical or if the location of a property line is in question, an instrument survey should be performed by a Professional Land Surveyor. This plan is designed for the purpose of installing a septic system only. The Designer is not responsible for any subsurface structures not accurately depicted on the plan.

11. All existing elevations must be verified prior to installing any system components.

12 The system IS NOT SIZED according to Title 5 to accommodate a GARBAGE DISPOSAL.

13. All construction shall conform to 310 CMR 15.000 and Local Board of Health Regulations.

14. All components shall be marked with magnetic tape prior to backfilling.

DTH-3

0"	Ap	97.16
4"	Bw	96.83
26"		94.99
ESHGW 35"		94.24
	C-1 Lmy Snd	
93"		89.41

Redox features 35" ESHGW = 94.24

DTH-4

0"	Ap	96.36
6"	Bw	95.86
29"		93.94
ESHGW 37"		93.28
	C-1 Lmy Snd	
76"		90.03

Redox features 37" ESHGW =93.28

Date61/23/08 Witnessed by: Heather Hasz., Acton BoH

Percolation Test

Test #	Depth	Elevation	Rate
1	53"	92.74	4 mpi

I certify that I have passed the examination approved by DEP and that the soil analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

Mark Donohoe, P.E.
Soil Evaluator

Design Calculations

Type of Establishment Dwelling

System Required

Number of Bedrooms: 4
Design Flow: 440 GPD
Septic Tank: 1500 Gallons
System Area: 595 sqft

System Provided

Number of Bedrooms: 4
Septic Tank Capacity: 1500 gal
System Area: 643 sqft
System Capacity: 440 GPD
Soil Classification: I
LTAR: 0.74 GPD/sqft

Cultec Area 12 Units x 8' Long x 6.7 sqft/lf = 643.2 sqft

Proposed Elevations

	Proposed
Bench Mark:	100.00 Top fnd
Building Sewer:	97.00+/-
Septic Tank Inlet:	96.60
Outlet:	96.35
Pump Chmb In:	96.25
P.C. Out	96.00
D-Box In:	99.22
D-Box Out:	99.05
Chamber Inlet::	98.49
Bottom Chamber:	98.24
ESHGW:	94.24
F.G. over SAS:	100.00+/-

1. Wetlands within 100' of the proposed leaching facility are shown on the plan

2. Private/public wells within 200' of the proposed leaching facility are shown on the plan

3. The proposed system will be located in Acton's Aquifer Protection Zone 4. A 4' separation to ESHGW has been provided.

4. This site is not in the 100 year flood plain.

COMMONWEALTH OF MASSACHUSETTS
STEVEN CALICHMAN
No. 6412
REGISTERED SANITARIAN
9/23/08

No.	Revision/Issue	Date
2		
1		

ABC CessPool Inc.
292 High Street
Acton, MA 01720

Proposed Septic System
89 Newtown Rd
Acton, MA 01720

Project: 89newtown_act	Sheet: 1
Date: 9/24/08	
Scale: 1" = 20'	

RECEIVED
OCT 2 2008
ACTON CONSERVATION COMMISSION

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OCT 2 2008
CONSERVATION COMMISSION