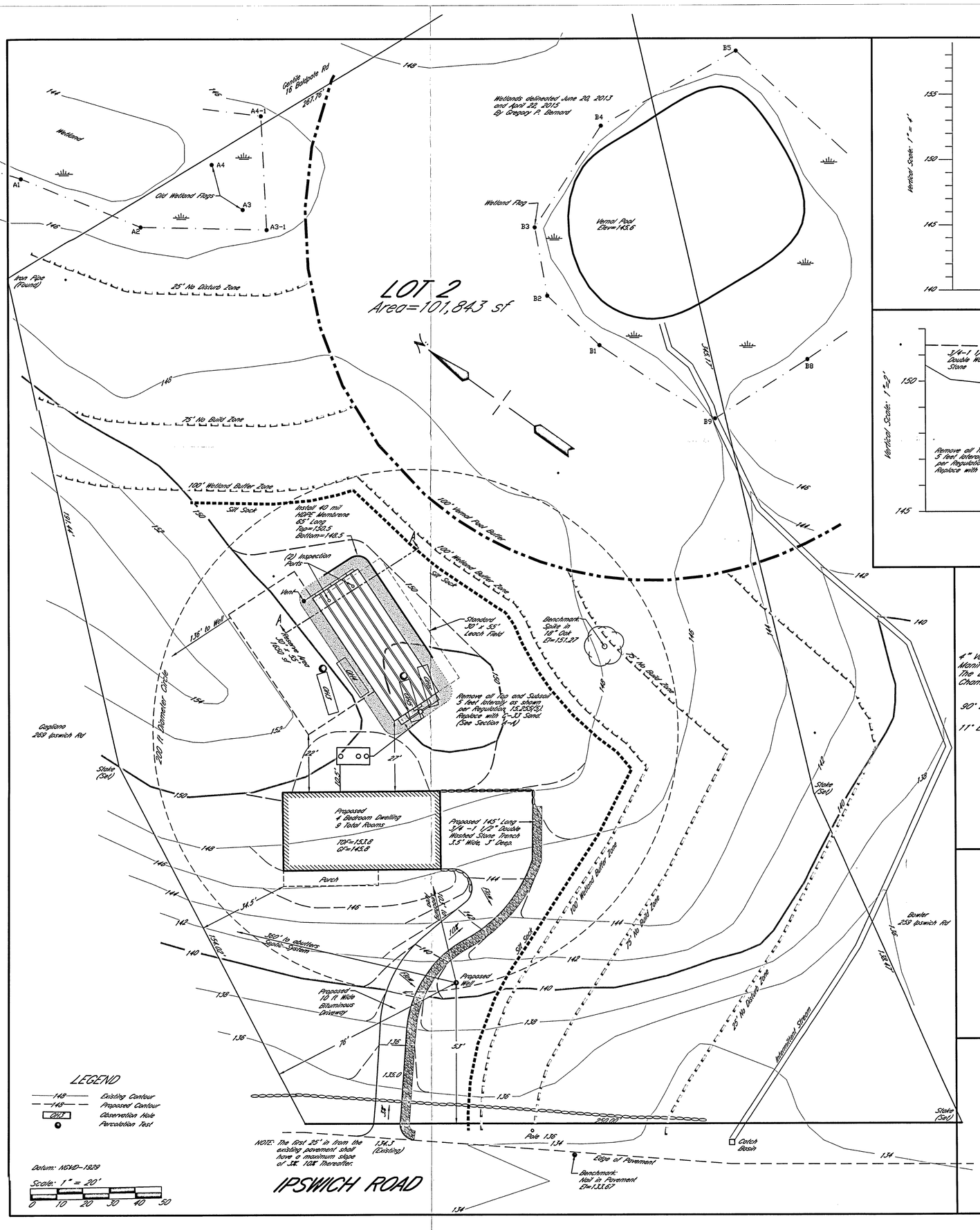
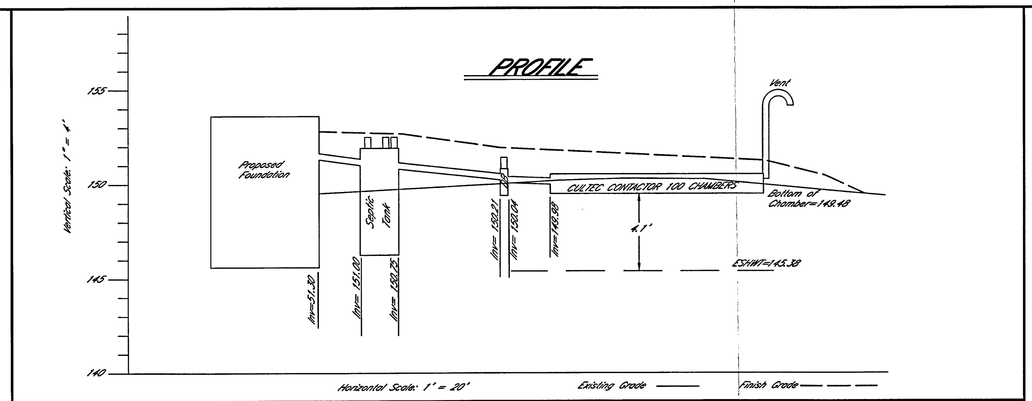
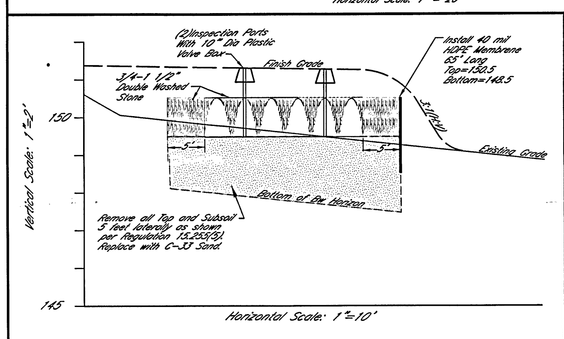
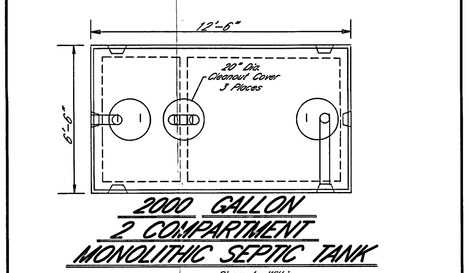




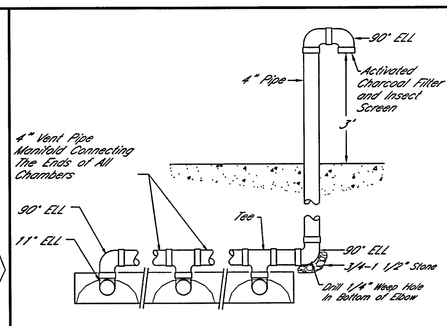


SECTION A-A

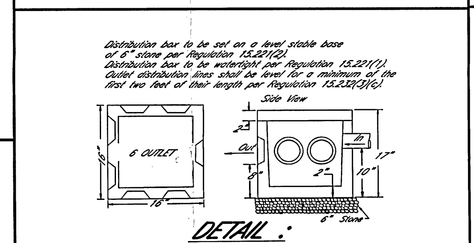


2000 GALLON 2 COMPARTMENT MONOLITHIC SEPTIC TANK

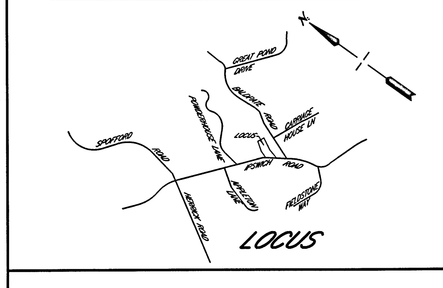
SECTION



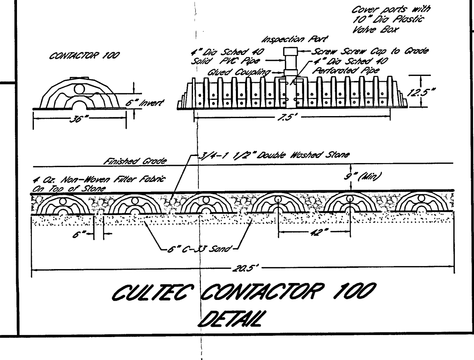
VENT DETAIL



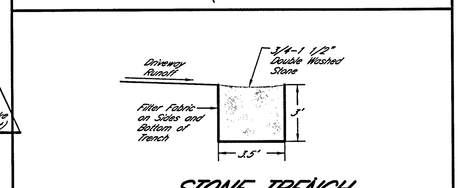
DETAIL : DISTRIBUTION BOX



LOCUS



CULTEC CONTACTOR 100 DETAIL



STONE TRENCH DETAIL

PERCOLATION TEST AND SOIL LOGS

Soil Evaluator: Gregory P. Bernard
Observed By: Kendall Lango
Date of Test: December 20, 2012

#1 Rate=25 minutes/inch at 53" Deep

Qh01
Surface Elevation 150.1
0–2" A SL 10YR2/1 Granular, Friable 148.52
2–24 Bw SL 10YR4/6 Blocky, Friable 148.10
24–84 C1 SL 2.5Y5/6 Blocky, Friable 143.10
84–114 C2 VFS 2.5Y6/8 Massive, Friable 140.60
No Refusal
No Observed Groundwater
Redox Features at 57" 2.5YR4/6 and 2.5Y6/3
ESHWT at 57 ..... 143.35

Qh04
Surface Elevation 148.5
0–7" A SL 10YR2/1 Granular, Friable 148.92
7–20 Bw SL 10YR4/6 Blocky, Friable 147.83
20–47 C1 SL 2.5Y5/8 Blocky, Friable 143.53
47–70 C2 LS 10YR4/6 Single Grained, Slight Firm 143.67
70–108 C3 Gr.VFS 2.5Y6/8 Single Grained, Loose 140.50
20% Gravel
No Refusal
No Observed Groundwater
Redox Features at 63" 2.5YR4/6 and 2.5Y6/3
ESHWT at 63 ..... 144.25

#5 Rate=6 minutes/inch at 63" Deep

Qh15
Surface Elevation 150.1
0–3" A SL 10YR2/1 Granular, Friable 148.68
3–19 Bw SL 10YR4/6 Blocky, Friable 148.52
19–53 C1 SL 2.5Y5/8 Platy, Friable 143.68
53–110 C2 Gr.VFS 2.5Y6/8 Single Grained, Loose 140.51
No Refusal
No Observed Groundwater
Redox Features at 58" 2.5YR4/6 and 2.5Y6/3
ESHWT at 58 ..... 145.27

Qh18
Surface Elevation 150.3
0–3" A SL 10YR2/1 Granular, Friable 148.88
3–22 Bw SL 10YR4/6 Blocky, Friable 148.47
22–58 C1 SL 2.5Y5/8 Platy, Friable 143.47
58–110 C2 Gr.VFS 2.5Y6/8 Single Grained, Loose 141.13
No Refusal
No Observed Groundwater
Redox Features at 59" 2.5YR4/6 and 2.5Y6/3
ESHWT at 59 ..... 145.38

I certify that I am currently approved by the Department of Environmental Protection pursuant to 310 CMR 15.017 to conduct soil evaluations and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.017. I further certify that the results of my soil evaluation, as indicated on the included soil evaluation form, are accurate and in accordance with 310 CMR 15.100 through 15.107.

Gregory P. Bernard
Approval No. 5C0960
Exam date: November 9, 2004

NOTES

1. All work to comply with the Commonwealth of Massachusetts Department of Environmental Protection Title 5 and Local Board of Health Supplementary Regulations.
2. This plan is to show the design of the Subsurface Sewage Disposal System only, and is not to be used for any other purpose.
3. Excavation must be inspected by the Health Agent prior to installing Leaching System.
4. There are no wells or Bordering Vegetated Wetlands within 100' of the proposed Leaching Area.
5. No part of the proposed septic system lies within an area noted by the DEP as an Estimated Setback Area for Title 5.
6. All system components shall be marked with magnetic marking tape or a comparable means in order to locate them once buried.

SEWAGE FLOW DESIGN

Design Flow (ACTIVE AREA)
165 Gals. per Bedroom per Day x 4 = 660 GPD
.40 Gals per square foot
Required Area = 660/.40 = 1650 sf (Standard Trench)

State Allowance for CULTEC Contactor 100 = 5 sf/ft
Lineal Feet of System Required = 1650/5 = 330 ft.
Number of Chambers Needed: 330/7.5 = 44
Number of Chambers Provided: 45
Provided Flow= 45 x 7.5 x 5 x .40 = 675 GPD
6 Rows, 7.5 Chambers/Row (20.5' W x 36.25' L)
Use 2000 Gallon 2 Compartment Monolithic Septic Tank

Design Flow (RESERVE AREA)
165 Gals. per Bedroom per Day x 4 = 660 GPD
.40 Gals per square foot (25 Minutes/inch)
Required Area = 660/.40 = 1650 sf
Leaching Field 30' x 55' = 1650 sf

SEWAGE DISPOSAL SYSTEM

LOT 2 (Portion of Map 19-3-23 and 19-3-24)
IPSWICH ROAD BOXFORD, MA
For: Estate of Elizabeth C. Bowler
c/o Caryl Munsell
96 High Street
Ipswich, MA 01938
Date: July 17, 2015

By: Gregory P. Bernard
Danvers Industrial Park
3 Electronics Avenue
Danvers, MA 01923
(978)777-6390

7/17/15

JOHN J. DECOLOS JR. NO. 49662 REGISTERED PROFESSIONAL ENGINEER COMMONWEALTH OF MASSACHUSETTS

GREGORY P. BERNARD NO. 1233 REGISTERED SANITARIAN COMMONWEALTH OF MASSACHUSETTS

10099