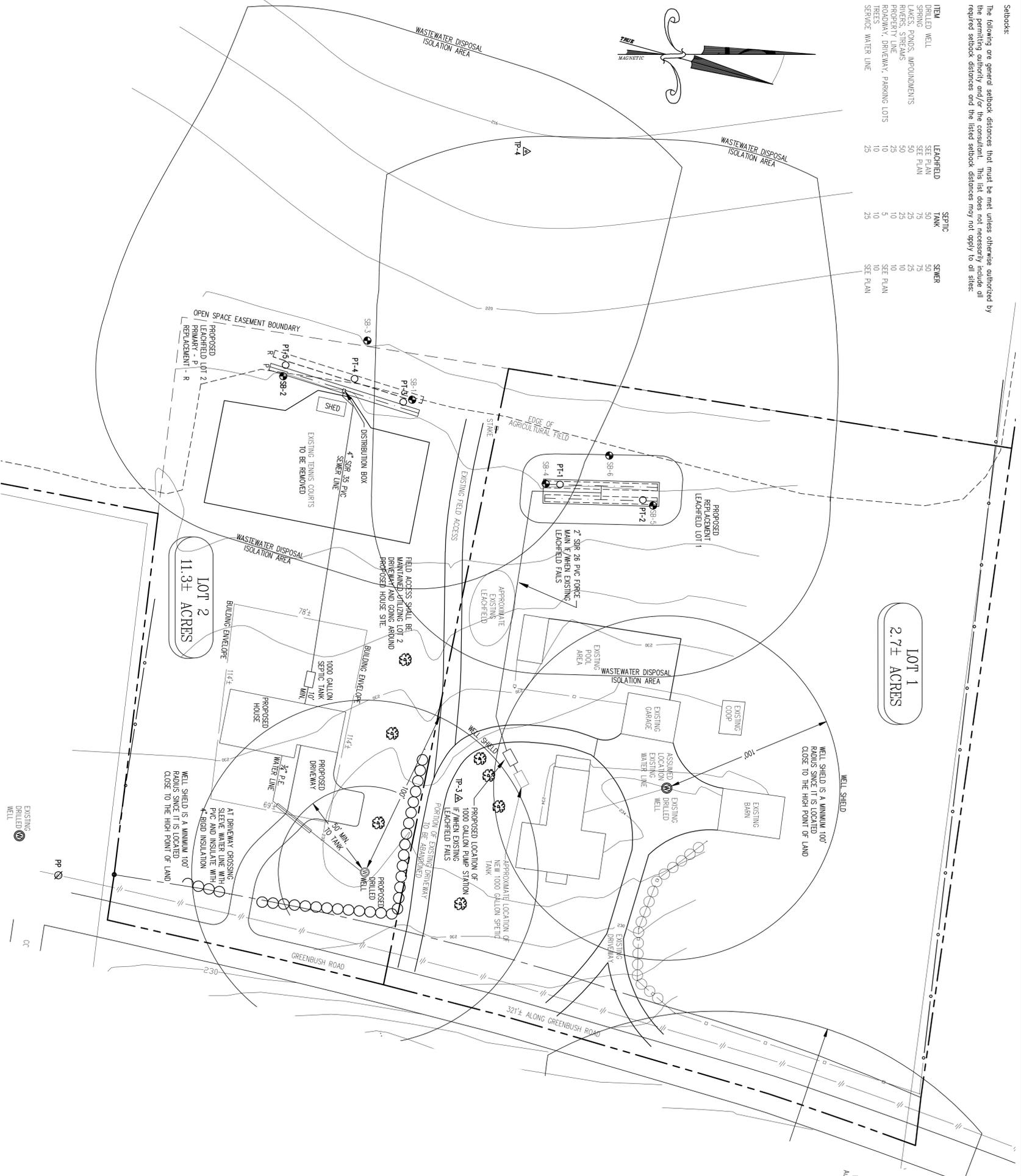
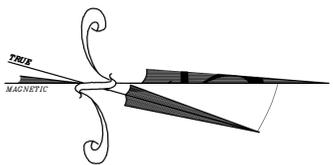


Schedule:

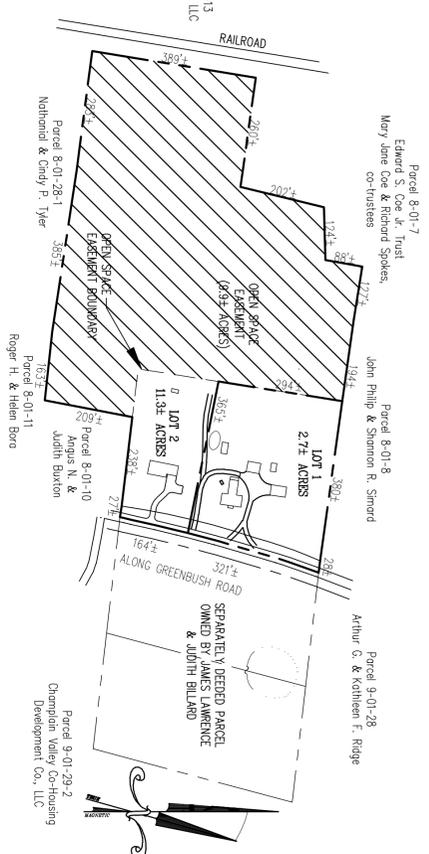
The following are general setback distances that must be met unless otherwise authorized by the permitting authority and/or the consultant. This list does not necessarily include all required setback distances and the listed setback distances may not apply to all sites:

ITEM	SEPTIC	SEWER
DRIED WELL	25	25
LEACHFIELD	25	25
SEE PLAN	25	25
SPRINGS	50	50
LAKES, PONDS, IMPOUNDMENTS	50	25
RIVERS, STREAMS	25	10
PROPERTY LINE	10	10
ROADWAY DRIVEWAY, PARKING LOTS	5	5
TREES	10	10
SERVICE WATER LINE	25	25



Topography by Total Station
Control Interval 2'
Assumed Datum

PROPERTY LINES ARE APPROXIMATE AND ARE BASED ON A TAX MAP



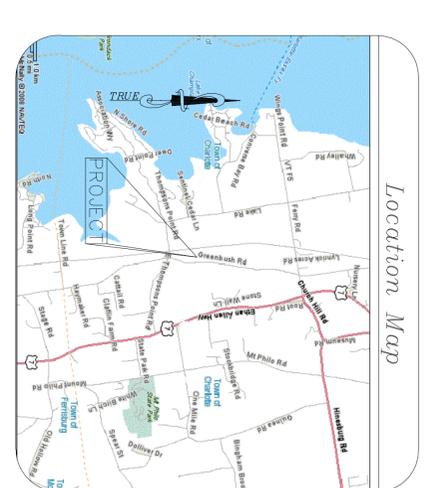
PLOT PLAN
SCALE: 1" = 200'

ZONING INFORMATION

DISTRICT:	RURAL
LOT AREA:	5 ACRES
FRONTAGE:	300
FRONT SETBACK:	50
SIDE SETBACK:	50
REAR SETBACK:	50

LEGEND

△ TP-1	Traverse point
● SB-1	Test pit
○ PT-1	Percolation test
⊙	Proposed well
⊖	Benchmark
⊕	Utility pole
⊗	Tree
—	Overhead power lines
10'	10' contours
2'	2' contours
—	Tree line
—	Property line
—	Right of way line
—	Edge of pond
—	Edge of field
---	Open space easement boundary



REVISIONS

03/03/11	ADDED PERCS
02/28/11	GENERAL PLAN DEVELOPMENT
02/23/11	ADDED OPEN SPACE EASEMENT
01/28/11	REMOVED PROPOSED WELL LOCATION & PROPOSED PROPERTY LINES, ADDED FIELD & RAILROAD

SITE PLAN

JAMES LAWRENCE & JUDITH BILLARD
TWO LOT SUBDIVISION
PLANNED RESIDENTIAL DEVELOPMENT (PRD)
CHARLOTTE, VT

GREENBUSH ROAD

SCALE: 1" = 30'
DESIGNED BY: PCL PROJECT #29042
DRAWN BY: SH/MDR
CHECKED BY: PCL/GNM

McCAIN CONSULTING, INC.
93 SOUTH MAIN STREET
WATERBURY, VERMONT 05676

THE CONTRACTOR SHALL REVIEW ALL CONSTRUCTION ACTIVITIES, COMPONENT LOCATIONS, SPECIFICATIONS, AND DETAILS PRIOR TO COMMENCEMENT OF SITE WORK AND SHALL NOTIFY McCAIN CONSULTING OF ANY ISSUES OR DISCREPANCIES THAT ARISE FROM THAT REVIEW.

THIS IS NOT A SURVEY. THIS PLAN DOES NOT MEET THE REQUIREMENTS OF 27 VSA SEC. 1403 FOR THE PLANS OF SURVEY PLANS.

Y:\Cadd\29000\29042.dwg, 29042_03-03-11.dwg

ENGINEER:
PETER C. LAZORCIK, P.E.
VT P.E. 6930

DATE: NOVEMBER, 11, 2010 SHEET 1 OF 2

NOTES

- Septic Tank and Building Sewer (Lot 2):**
- 1) Use a 1000 gallon concrete septic tank with an access riser to grade, and an effluent filter.
 - 2) Place tank a minimum of 10' from the building.
 - 3) Use 4" cast iron or SCH 40 PVC from building to tank with one pipe joint placed on undisturbed soil to avoid settling.
 - 4) Slope pipe from building to tank at 1/4" per foot.
- Pump Station (Lot 1 - Replacement):**
- 1) Test pump on and off levels to verify flow volumes.
 - 2) Test alarm level.
 - 3) Test pump to verify minimum 28" discharge height at headfield offices.
- Force Main (Lot 1 - Replacement):**
- 1) Perform a hydrostatic leakage test of the force main at 50 psi and hold pressure for two hours.
- Distribution Box (Lot 2):**
- 1) Use concrete distribution box. Installation is to include a riser to grade for access and maintenance.
 - 2) Use 4" solid PVC out of box. Slope solid PVC at 1/4" per foot for 5' minimum.
 - 3) Use groll or rubber seals to make inlet and outlets watertight.
 - 4) All outlets are to be level.
 - a) Use water test to level outlets. All outlets are to be at the same elevation or use a "drip-co" type device.
 - b) Add water to box to verify equal flow out of pipes.
 - c) Adjust and retest as required.

- Leachfield - Performance Based Approach Design Notes (Lot 1 Replacement):**
- 1) Assume a four bedroom house. Daily Flow (DF) @ 140 gpd/hr for the first three.
 - 2) Percolation rate $t = 3$ minute/inch
 - 3) Application rate $(AR) = (3/1) = (3/1) = 1.73$ gal/sf/day
 - 4) Maximum application rate for effluent in a mound trench = 110 gal/sf/day
 - 5) Required trench area: $DF/AR = 490$ gpd / 1.9 gal/sf/day = 258 sf
 - 6) Required minimum effective basal area: 490 gpd / 0.74 gpd/sf = 662 sf
 - 7) Basal area = 1228 sf
 - 8) Maximum Linear Loading Rate (LLR) = $h \times 1$, where $h =$ (depth to limiting layer) - (required unwatered flow depth) and $t =$ LLR factor = 7.5 gpd/ft/h for the sandy loam, with a 4:1-6:3 slope. Therefore maximum LLR = $11 \times 7.5 = 82.5$ gpd/ft.
 - 9) Actual LLR = 490 gpd/ft / 7.5 gpd/ft/h = 65.3 gpd/ft, which is less than the maximum allowed.
 - 10) A Performance Based Design requires 6" naturally occurring unwatered soil. Therefore the calculated base rate of 82.5 gpd/ft will result in 1 1/2" of unwatered soil. The limiting layer is at 21" 1/2" of covering results in an effluent plane 6" below grade which exceeds the 6" requirement.

- Leachfield - Construction Notes (Lot 1 Replacement):**
- 1) Contact the consultant prior to any work to discuss system layout and inspection requirements.
 - 2) Construction of the mound shall not take place if the soil moisture content is high. If questionable contractor to contact designer prior to construction.
 - 3) Install force main, leaving 4:1 above grade.
 - 4) Flow or scour to limits of fill. Area to be placed to a depth of 8" with plow lines turning parallel with the contours, and throwing the soil uphill. Do not plow if area is wet. Do not run machinery on plowed surface.
 - 5) Mound sand to meet the requirements of § 913(C), see table:
- | Stone Number | Opening (cm) | Percent Passage, by Weight | |
|--------------|--------------|----------------------------|--------|
| 3/8 | 9.510 | 85 - 100 | |
| 40 | 0.420 | 25 - 75 | |
| Option 1 | 60 | 0.240 | 0 - 30 |
| 100 | 0.149 | 0 - 10 | |
| 200 | 0.074 | 0 - 5 | |

- 6) Sand is to be stockpiled on the edge of the plowed area and placed with a small rock machine, keeping a minimum of 6" of sand below the tracks. Do not compact the sand.
- 7) Place 6" of 1-1/2" clean hard crushed stone or washed stone per the detail. Lay pressure piping and connect to force main. 1/2" holes to be pointed up with office shields over all holes and spaced according to the detail. Ream of holes to remove burrs. System must be tested prior to covering.
- 8) Cover pipe with a minimum of 2" of stone and filter fabric. Topsoil, seed, and mulch the entire area. Grade to drain runoff away from system.

- Design Calculations (Lot 2 Primary & Replacement):**
- 1) Assume a three bedroom house. Daily Flow (DF) @ 140 gpd/hr = 420 gpd
 - 2) Percolation rate $t = 6$ minute/inch
 - 3) Application rate $(AR) = (3/1) = (3/6) = 1.22$ gal/sf/day. Minimum application rate for effluent in an absorption trench = 150 gal/sf/day.
 - 4) Required trench area: $DF/AR = 420/1.22 = 344$ sf
 - 5) Actual area: one trench @ 4' x 90' = 360 sf

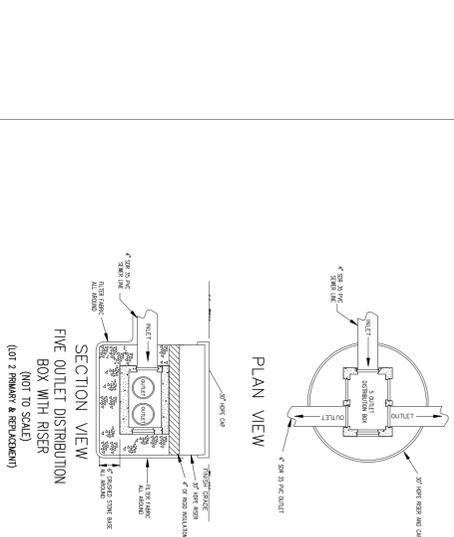
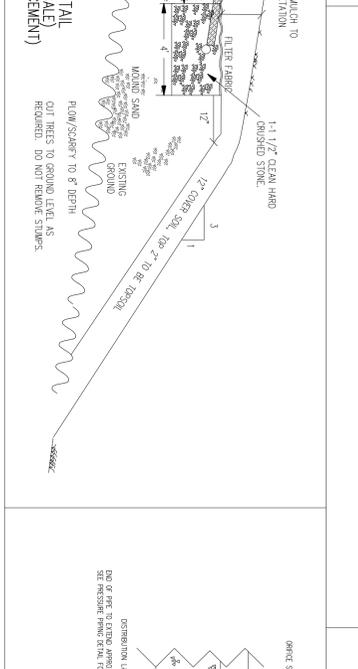
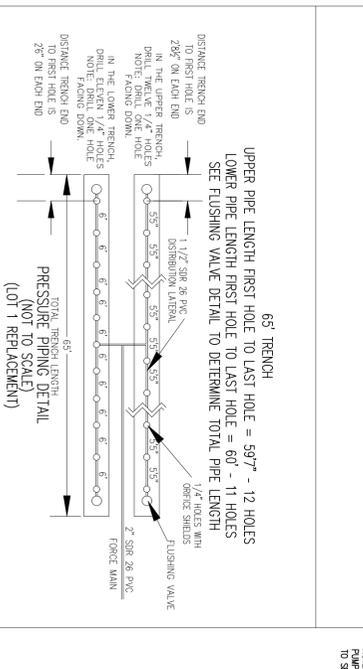
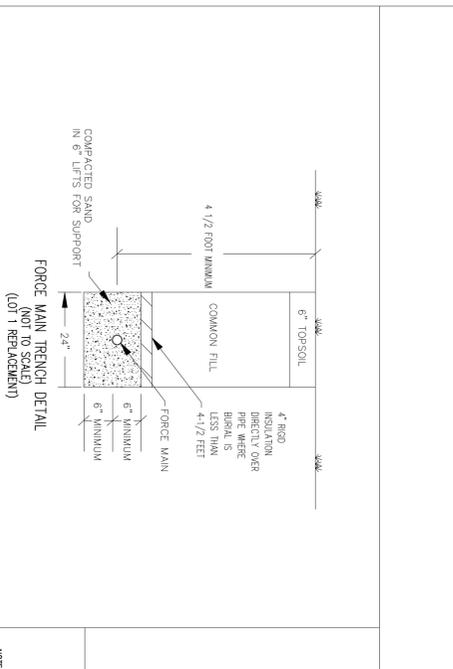
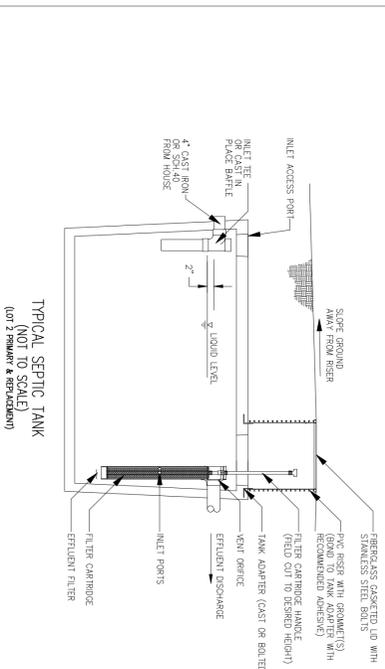
Leachfield - Construction Notes (Lot 2):

- 1) Bottom of trenches to be approximately 12" below grade on downslope side and level.
- 2) Scrupy sides and bottom of trenches prior to placing stone.
- 3) Place 12" of 1-1/2" clean hard crushed stone or washed stone.
- 4) Place 4" perforated PVC pipe in center of trench.
- 5) Cap end of all pipes 2" from trench end.
- 6) Cover distribution laterals with a minimum of 2" of stone.
- 7) Cover stone with filter fabric.
- 8) Grade surface of leachfield to direct surface water away from leachfield.
- 9) Topsoil, seed, and mulch all disturbed areas to establish vegetation.

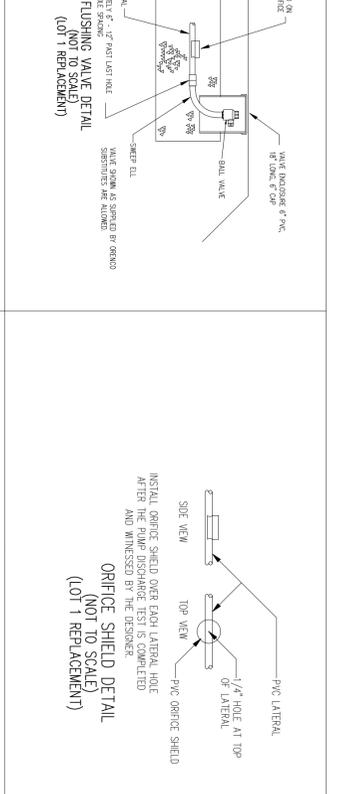
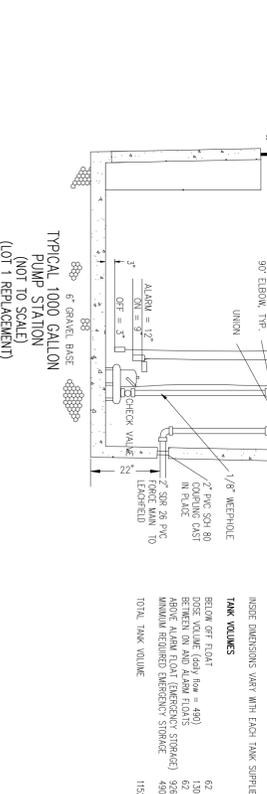
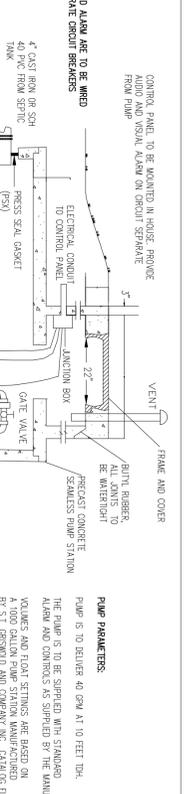
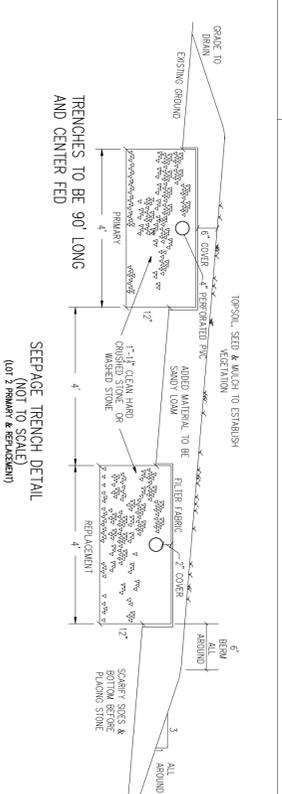
- Inspections and Certifications (Lots 1 & 2):**
- 1) It is the owner's/contractor's responsibility to contact the consultant for the following:
 - a) For abstract of the leachfield locations. (Lots 1 & 2)
 - b) For inspection of the surfification of the soil prior to placing stone. (Lots 1 & 2)
 - c) For inspection of the pressurization of the force main to 50 psi (Lot 2)
 - d) To observe pump operation and to verify discharge height at the leachfield (Lot 2)
 - 2) The septic system installer will provide the consultant with the signed and dated statement, as follows:
 - 1) I hereby certify that the installation-related information submitted is true and correct, and that in the exercise of my reasonable professional judgment, the wastewater system has been installed in accordance with the permitted design and all permit conditions, was inspected, was properly tested, and has successfully met those performance tests.

- 3) The certification of construction as required by section 1306(b) of the Environmental Protection Rules may be provided by the designer if the procedures outlined herein are followed.**
- Maintenance (Lots 1 & 2):**
- 1) At least once a year, the depth of sludge and scum in the septic tank should be measured. The tank should be pumped if:
 - a) The sludge is closer than two inches to the outlet baffle.
 - b) The scum layer is closer than three inches to the septic tank outlet baffle.
 - 2) Following septic tank cleaning in units over 5,000 gallons, all interior surfaces of the tank should be inspected for leaks and cracks.
 - 3) At least once a year, the outlet filter on the septic tank should be removed and cleaned by spraying it with water under normal household pressure.
 - 1) At least once a year, desludging tanks and distribution boxes should be opened and settled solids removed as necessary and the dosing tank or distribution box checked for leachiness. (Lot 2 Primary & Replacement)
 - 2) At least once a year, pump stations should be inspected. (Lot 1 Replacement):
 - a) Remove settled solids as necessary. Solids and scum accumulation in the pump station may be indicative of a septic tank problem. Their production, septic tank overloading, or other cause should be investigated.
 - b) On/off and alarm signals should be tripped to ensure proper operation.
 - c) Inspect delivery of effluent to the leachfield. Slow delivery may indicate impending pump failure.
 - 3) Toxic or hazardous substances should in general not be disposed of in septic systems. These substances may pass through the system in an undetected state and contaminate groundwater or crops at the site of ultimate disposal.

- (e) The leachfield area not designed for the disposal of filter backwash or other byproducts of water treatment, filtration or purification systems.**



- NOTES:**
1. DISTRIBUTION BOX IS TO BE SET ON A 4\"/>



- Sets Information**
- Test Pile executed 2/15/2010 by backhoe Spencer Horis, Town of Charlotte, on site
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 - SB-2 0 - 11\"/>
 - SB-3 0 - 12\"/>
 - SB-4 0 - 8\"/>
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JUDITH BILLARD & JAMES LAWRENCE
TWO LOT SUBDIVISION
PLANNED RESIDENTIAL DEVELOPMENT (PRD)
 GREENBUSH ROAD CHARLOTTE, VT

McCain Consulting, Inc.
 93 SOUTH MAIN STREET
 WATERBURY, VERMONT 05676

SCALE: 1" = 30'
 DESIGNED BY: PCL PROJECT #29042
 DRAWN BY: WDB
 CHECKED BY: PCL/WNM

DATE: MARCH 3, 2011 SHEET 2 OF 2

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ENGINEER:
 PETER C. LAZORCHAK P.E.
 VT P.E. 8930

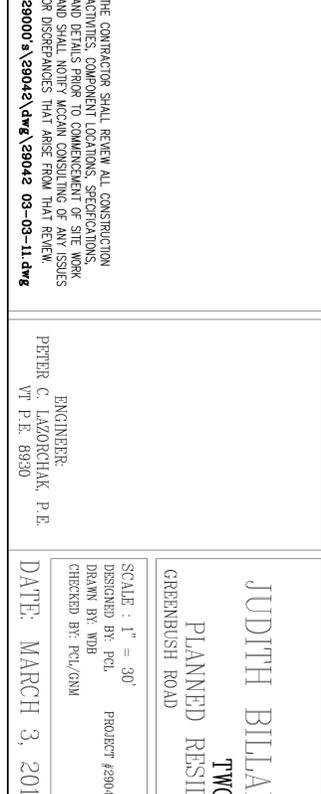
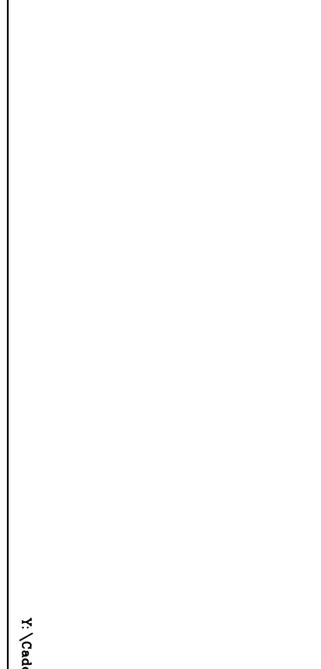
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