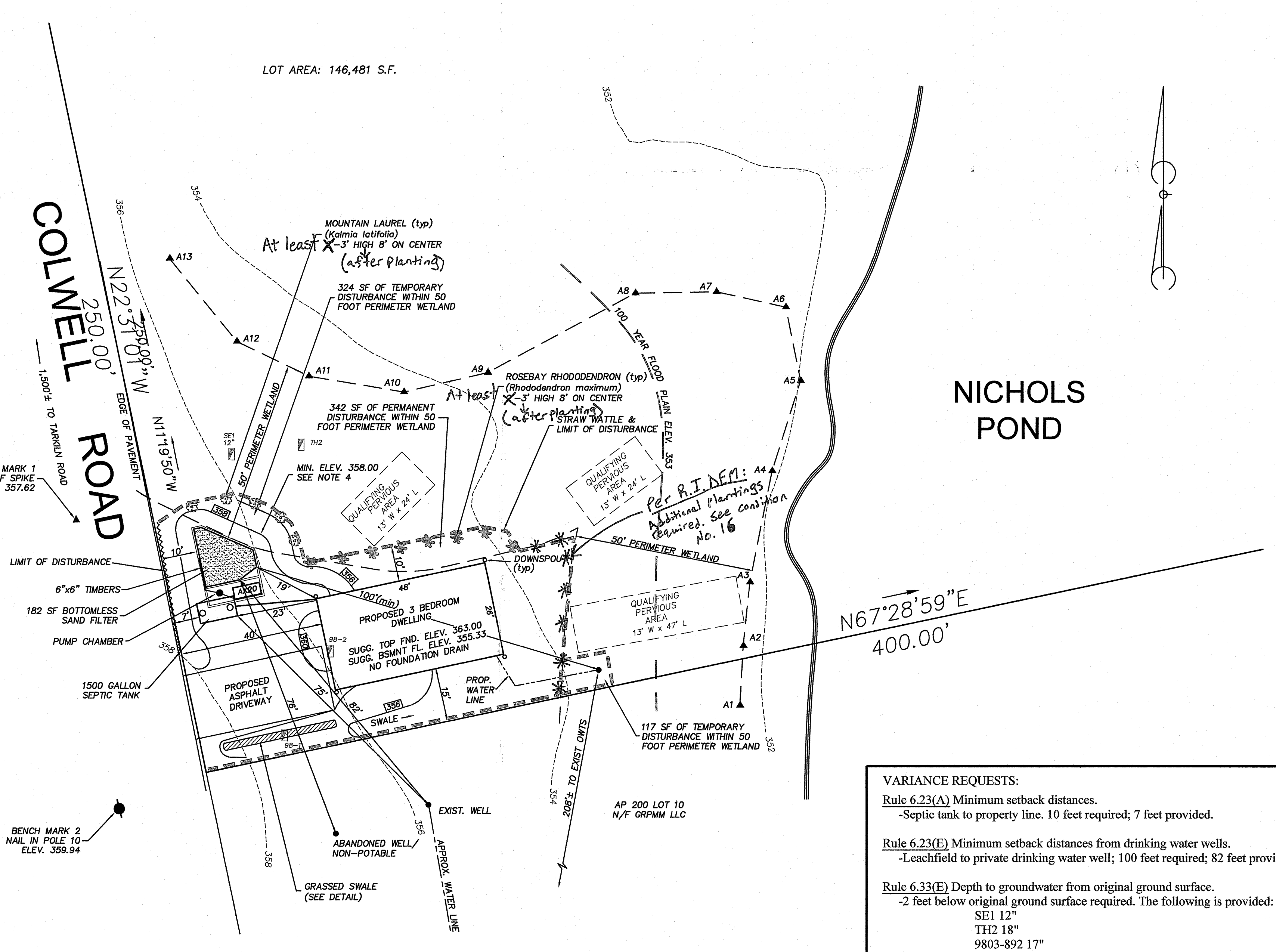
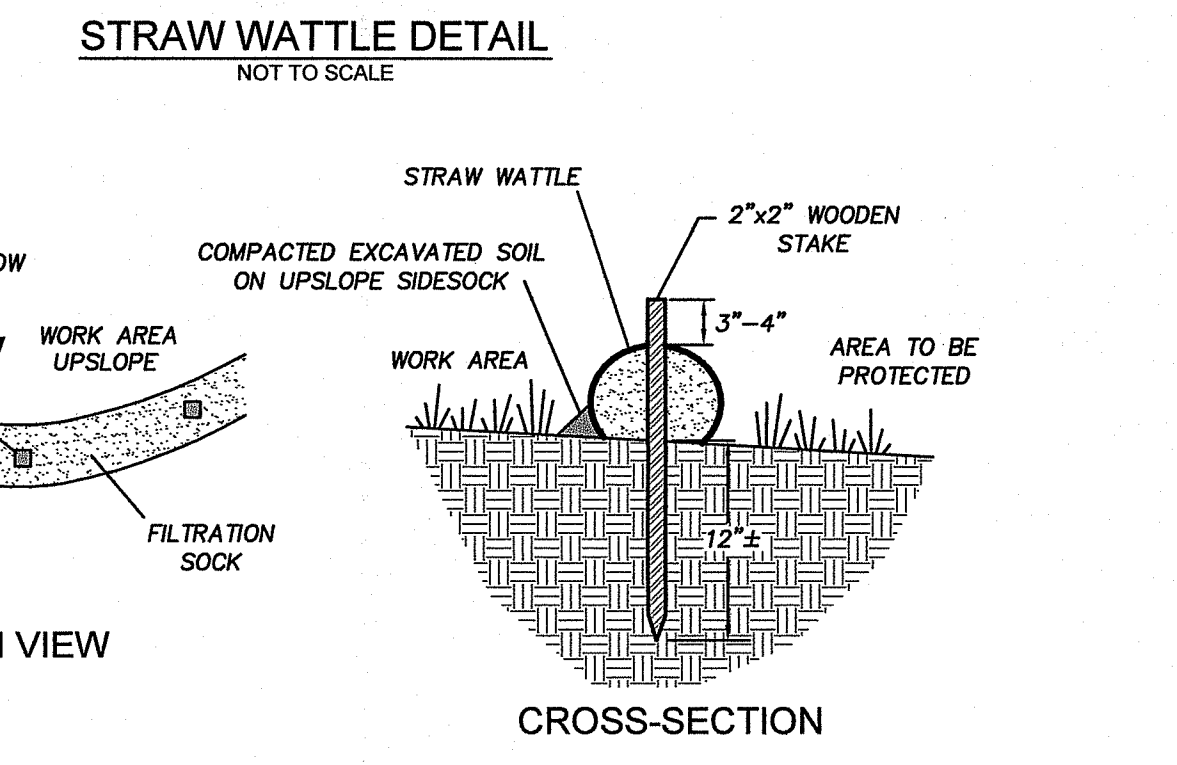


**VEGETATIVE SWALE MAINTENANCE**

- The vegetated swale shall be inspected annually and after large storm events.
- Eroded side slopes and channel bottom shall be stabilized as necessary.
- If the surface of the dry swale becomes clogged to the point that standing water is observed on the surface 48 hours after precipitation events, the bottom shall be rototilled or cultivated to break up any hard-packed sediment, and then reseeded.
- Vegetation in dry swales shall be mowed as required to maintain minimum grass heights in the 4-6 inch range.
- Every five years, the channel bottom of dry swales should be scraped to remove sediment and to restore original cross section and infiltration rate, and should be seeded to restore ground cover, where necessary.



**VARIANCE REQUESTS:**

**Rule 6.23(A) Minimum setback distances.**  
-Septic tank to property line. 10 feet required; 7 feet provided.

**Rule 6.23(E) Minimum setback distances from drinking water wells.**  
-Eachfield to private drinking water well; 100 feet required; 82 feet provided.

**Rule 6.33(E) Depth to groundwater from original ground surface.**  
-2 feet below original ground surface required. The following is provided:  
SE1 12"  
TH2 18"  
9803-892 17"  
9803-892 21"

- SYSTEM COMPONENTS**
- 1,500 GALLON 2-COMPARTMENT CONCRETE SEPTIC TANK WITH PUMP VAULT AND RECIRCULATING SPLITTER VALVE AND P3005 PUMP.
  - 5' DEEP - 24" DIAMETER PUMP BASIN.
  - AX-20 ADVANTEX TEXTILE FILTER.
  - BOTTOMLESS SAND FILTER.
  - ORENCO SYSTEMS, INC. CONTROL PANEL.

**LEGEND**

100-----100 EXISTING CONTOURS  
-----100 PROPOSED CONTOURS  
[Symbol] TEST HOLE

**TEST HOLE DATA**

TH2 DATE: 10-21-20  
0'-6" A. SL. 10YR 2/1  
6'-12" Bw1, SL. 10YR 4/4  
12'-18" Bw2, SL. 10YR 4/6  
18'-24" C. C. 2.5YR 5/3  
58'-96" 2Cg, FSL. 2.5YR 5/3  
SOIL CATEGORY B

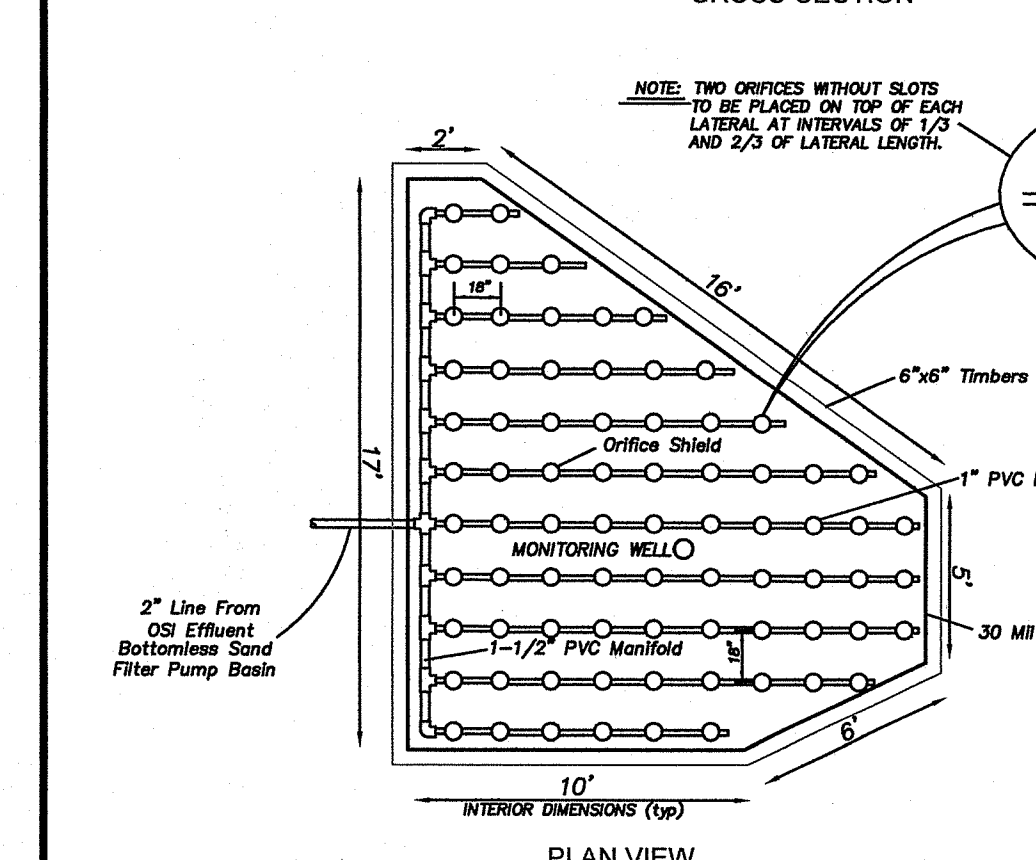
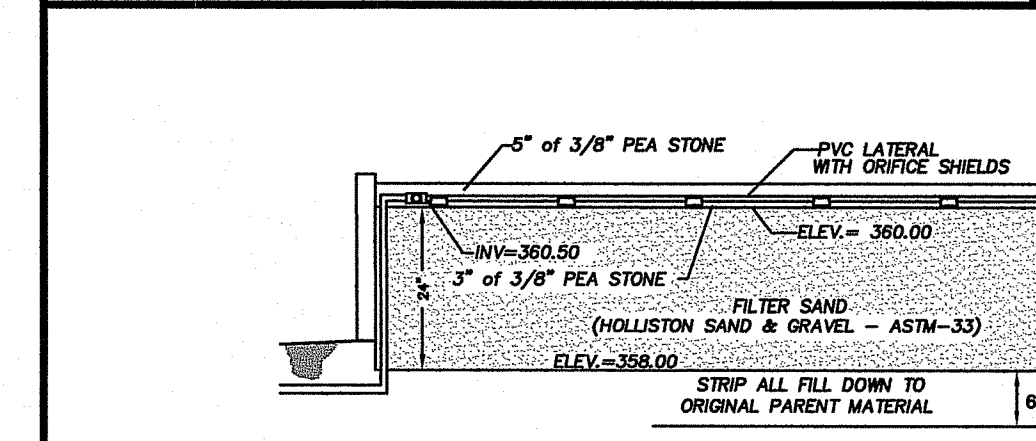
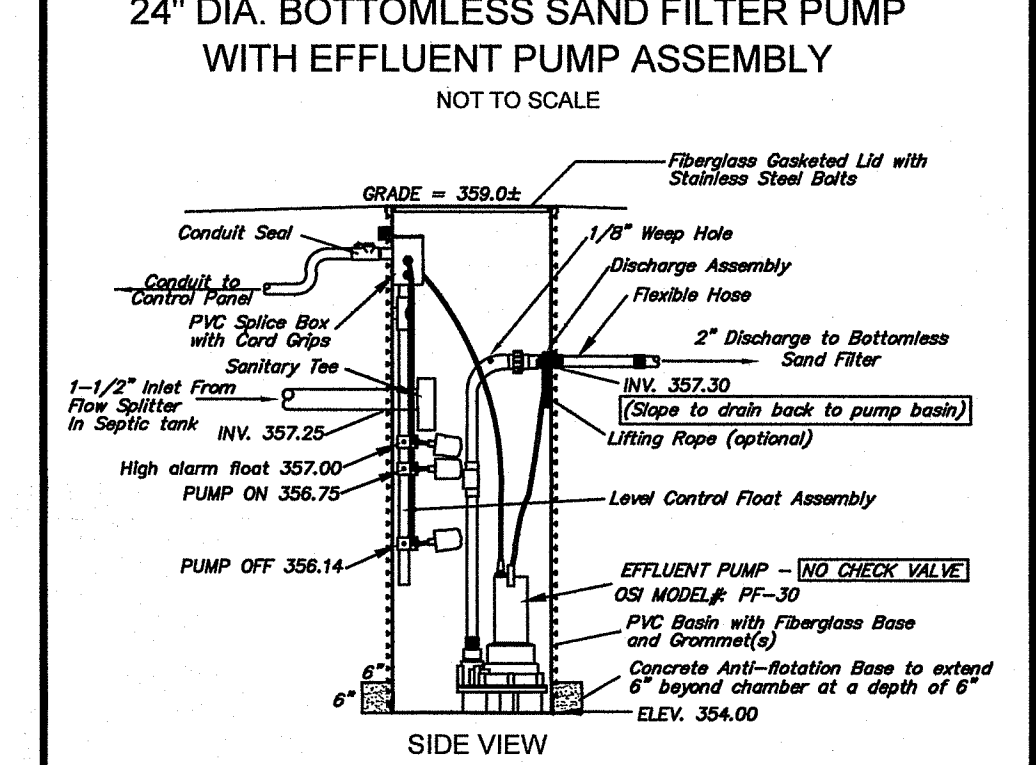
ESHW: 18"  
NO LEDGE: 96"

SET DATE: 5-5-04 (BY OTHERS)  
12" FILL  
0'-8" Ab, LS. 10YR 3/1  
5'-8" Bw1, LS. 10YR 4/4  
8'-38" Bw2, SL. 10YR 4/6  
38'-60" C. C. 2.5YR 5/2  
SOIL CATEGORY B

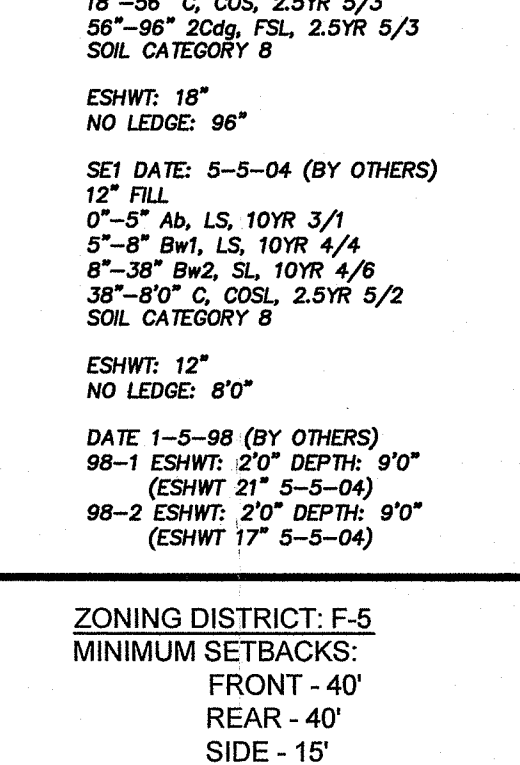
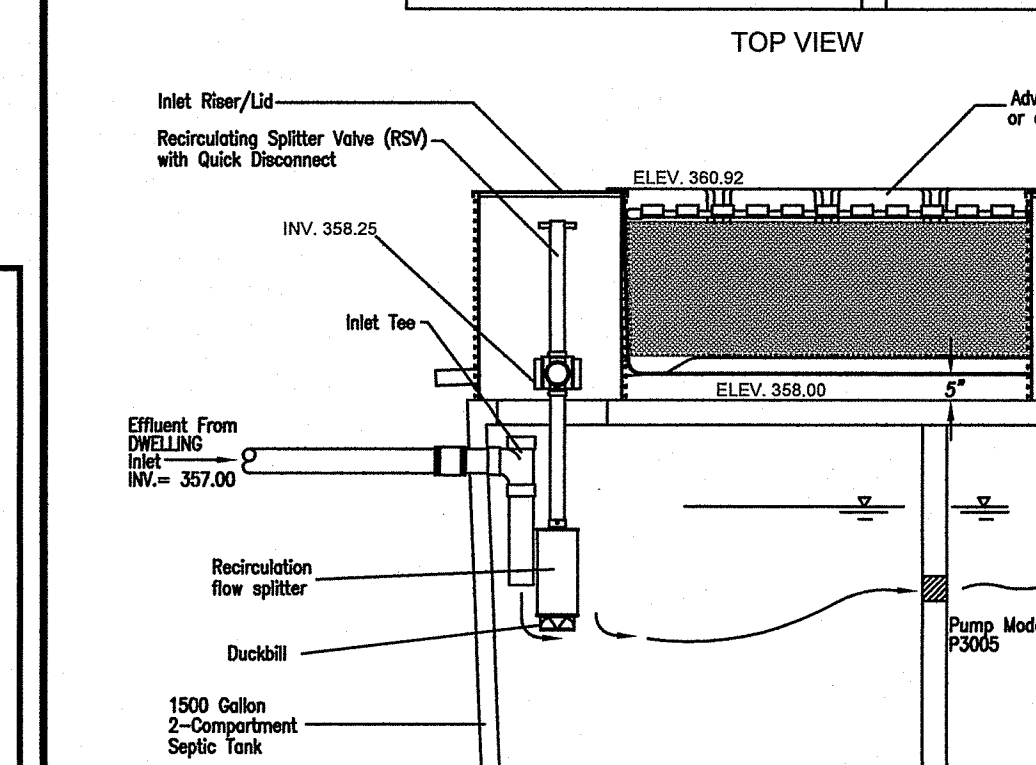
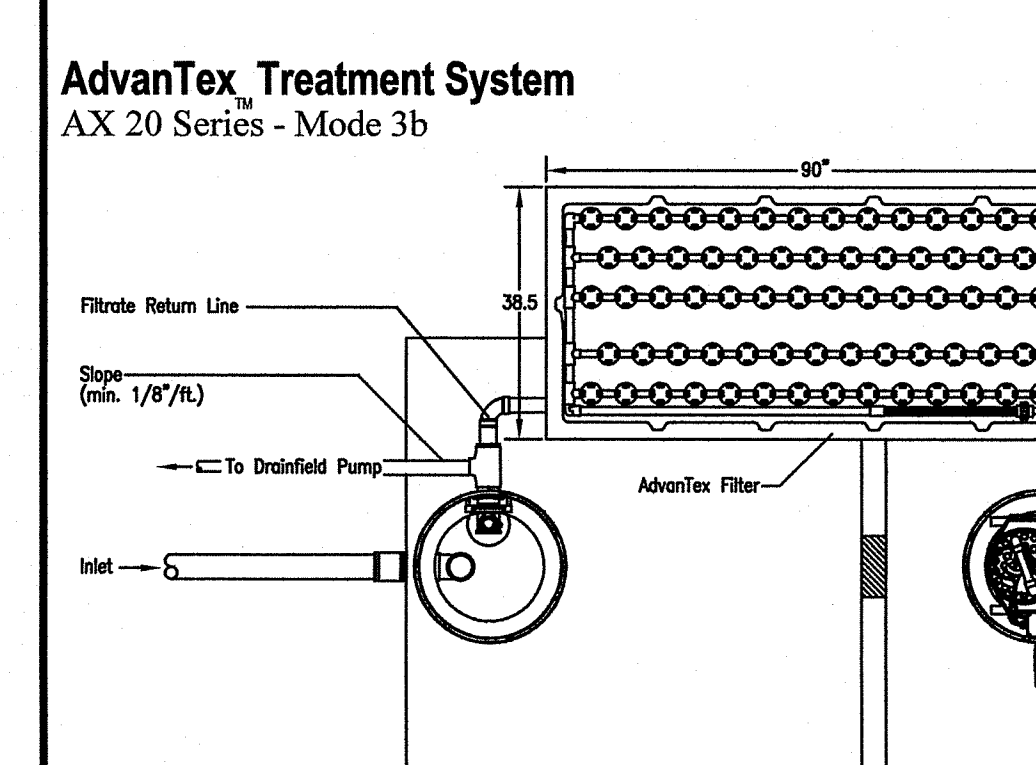
ESHW: 12"  
NO LEDGE: 8'0"

DATE 1-5-98 (BY OTHERS)  
98-1 ESHW: 2'0" DEPTH: 9'0"  
(ESHW 21' 5-3-04)  
98-2 ESHW: 2'0" DEPTH: 9'0"  
(ESHW 17' 5-5-04)

**ZONING DISTRICT: F-5**  
**MINIMUM SETBACKS:**  
FRONT - 40'  
REAR - 40'  
SIDE - 15'



**RECURCULATING EFFLUENT PUMP SYSTEM (REPS)**  
(2 COMPARTMENT 1,500 GALLON SEPTIC TANK and AX 20 ADVANTEX TEXTILE FILTER)  
NOT TO SCALE

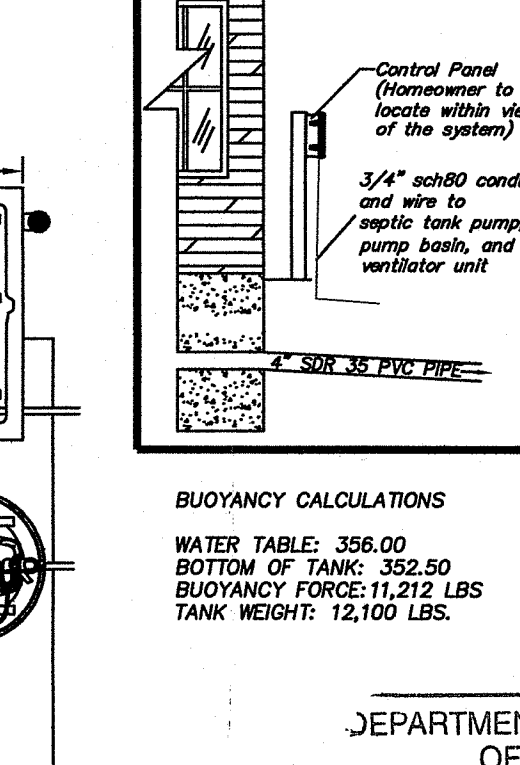


- NOTES**
- 1) SYSTEM INSTALLATION TO BE SUPERVISED BY THE DESIGNER.
  - 2) ALL TREES AND/OR STUMPS WITHIN 10 FEET OF PROPOSED SYSTEM TO BE CLEARED.
  - 3) NO WELL EXISTS WITHIN 100' OF THE PROPOSED LEACHING SYSTEM.
  - 4) 10 FEET FROM SAND FILTER NOT TO BE LOWER THAN ELEVATION 358.00.
  - 5) ANY PRIVATE WELLS, EXISTING & PROPOSED, WITHIN 200' OF ISDS ARE SHOWN.
  - 6) ANY PUBLIC WELLS, EXISTING AND PROPOSED, WITHIN 200' OF ISDS ARE SHOWN.
  - 7) SEPTIC TANK TO BE A MINIMUM OF 2' FROM ALL WELLS.
  - 8) NO DRAINS OF ANY KIND SHALL BE WITHIN 2' UPGRADE OR SIDE GRADIENT OR 50' DOWNGRADE OF THE LEACHING SYSTEM.
  - 9) ALL SOIL AT LEAST 6" BELOW EXISTING GRADE AT BOTTOMLESS SAND FILTER SHALL BE STRIPPED AND BACKFILLED WITH FILTER SAND.
  - 10) THE SEPTIC TANK SHALL BE A WATER-TIGHT, 1,500 GALLON 2-COMPARTMENT TANK WITH 24" DIAMETER INLET AND OUTLET ACCESS RISERS. RISERS SHALL BE PVC WITH SECURE FIBERGLASS LIDS IF CONCRETE TANK IS USED. AIRS TANK ADAPTER SHALL BE CAST IN PLACE. TANK SHALL BE VACUUM TESTED (HYDROTESTED) OR WATER TESTED/VACUUM TESTED ON SITE PRIOR TO ACCEPTANCE FROM THE ENGINEER.
  - 11) THE ADVANTEX-AX TREATMENT SYSTEM CONTAINS A PACKED BED FILTER THAT USES SPECIALLY DESIGNED TEXTILE MATERIALS WITHIN A PRE-ASSEMBLED FILTER UNIT.
  - 12) ALL PUMPS SHALL BE EQUIPPED WITH A HIGH WATER LEVEL, VISIBLE AND AUDIBLE ALARM POWERED BY A CIRCUIT SEPARATE FROM THE PUMP POWER. THE ALARM SHALL BE LOCATED IN A NORMALLY OCCUPIED AREA OF THE DWELLING OR SHALL BE INSTALLED AT A LOCATION TO BE DESIGNATED BY THE HOMEOWNER.
  - 13) THE SEPTIC TANK SHALL BE PROVIDED WITH A PVC INLET TEE AND SCREENING PUMP VAULT IN THE OUTLET END. AN ACCESS RISER SHALL BE INSTALLED DIRECTLY ABOVE THE SCREENED PUMP VAULT AND INLET TEE.
  - 14) ALL MEDIA WITHIN THE ENCLOSURE AND BELOW THE COVER STONE SHALL HAVE AN EFFECTIVE SIZE (D<sub>50</sub>) OF 0.33 mm (+/-) AND UNIFORMITY COEFFICIENT (D<sub>60</sub>/D<sub>10</sub>) OF 3.0 TO 4.0. THE MAXIMUM ALLOWABLE PERCENTAGE OF FINES PASSING THROUGH A NUMBER 200 SIEVE SHALL BE 1% OTHER THAN THE GRADATION AND FINE CONTENT SPECIFIED ABOVE. THE SAND MEDIA SHALL MEET OTHER ASTM C-33 SAND SPECIFICATIONS.
  - 15) IF CONTRACTOR ENCOUNTERS ANY CONDITIONS DURING CONSTRUCTION WHICH INDICATE THE SYSTEM CANNOT BE INSTALLED IN ACCORDANCE WITH THE APPROVED DESIGN, OR FIND CONFLICTING INFORMATION ON THE PLAN, CONSTRUCTION SHALL CEASE AND DESIGNER BE NOTIFIED.
  - 16) THE DESIGNER IS NOT RESPONSIBLE FOR ANY NEGLIGENT ACT OF OMISSION OF AN ISOS USER, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM, WHICH CAUSES DAMAGE TO THE SYSTEM.
  - 17) LOCAL SUPPLIER OF OS EQUIPMENT: ATLANTIC SOLUTIONS, 2417 EAST MAIN ROAD, PORTSMOUTH, RI 02871 TEL: (401) 283-0178
  - 18) NO STRUCTURES, PERMANENT FEATURES, OR LARGE, HEAVY OR NUMEROUS DECORATIONS SHALL BE PLACED ON TOP OF THE BOTTOMLESS SAND FILTER THAT WOULD OBSTRUCT, PREVENT OR HINDER OPERATION AND MAINTENANCE OR ACCESS TO THE ACCESS PORTS OR MANHOLES SHALL BE REQUIRED FOR SEQUENCING VALVES AND SHALL BE SUFFICIENTLY SIZED TO FACILITATE
  - 19) ACCESS PORTS OR MANHOLES SHALL BE REQUIRED FOR SEQUENCING VALVES AND SHALL BE SUFFICIENTLY SIZED TO FACILITATE
  - 20) TIMER SETTINGS SHALL BE CHECKED AT EVERY ESTABLISHED MAINTENANCE AND INSPECTION VISIT AND WHEN HOME OCCUPANCY CHANGES AND ADJUSTED AS NEEDED.
  - 21) THE PANEL BOX MUST BE WITHIN VIEW OF THE SYSTEM LOCATION TO HELP FACILITATE OPERATION AND MAINTENANCE.
  - 22) THE SPACE FROM THE ENDS OF THE LATERALS TO THE LINER SHALL BE CLOSE TO HALF THE GRITCE SPACING AND BE ABLE TO ACCOMMODATE THE FITTINGS AND HAVE SUFFICIENT SPACE FOR MAINTENANCE ACTIVITIES.
  - 23) SWEEP ELBOWS SHALL BE ATTACHED TO THE DISTAL END OF EACH LATERAL TO FACILITATE MAINTENANCE AND INSPECTION.
  - 24) REFER TO OPERATION & MAINTENANCE AGREEMENT FOR PROPER MAINTENANCE OF ALL SYSTEM COMPONENTS.

**SYSTEM SIZING:**  
3 BEDROOMS: 115 GPD x 3 = 345 GPD  
SOIL CATEGORY: B  
LOADING RATE: 1.9 GPD/SF  
AREA REQUIRED: 345/1.9 = 182 SF  
AREA PROVIDED: 10'x18'6" = 185 SF

**TIMER INFO:**  
SET ADVANTEX TIMER TO 24 DOSES/DAY  
345 GPD/24 DOSES/DAY = 14.38 GAL/DOSE  
SOIL CATEGORY: B  
14.38/35.3 GPM = 43 MIN.  
TOTAL PUMP RUN TIME = 10.32 MIN./DAY  
TOTAL PUMP OFF TIME = 1429.68 MIN./DAY  
TIME OFF PER CYCLE = 59.57 MIN.  
TIME ON PER CYCLE = 0.43 MIN.

**DOSE PER ORIFICE:** 345 GPD/(24 DOSES/DAY)/77 ORIFICES = .19 GAL/ORIFICE/DOSE



**ONSITE WASTEWATER TREATMENT SYSTEM and WETLANDS PLAN FOR JONATHAN NORDIN**  
PLAT 200, LOT 9  
COLWELL ROAD, BURRILLVILLE, RI  
DATE: MARCH, 2021

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT  
OFFICE OF WATER RESOURCES  
FRESH WATER WETLANDS PROGRAM  
APPROVED WITH CONDITIONS

APPROVED IN THE LETTER OF APPROVAL  
DATED APR 20 2021 FILE # 21-0075  
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL  
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

*Nancy L. Freeman*

**PAUL D. CARLSON**  
No. 7142  
REGISTERED PROFESSIONAL ENGINEER  
CIVIL

**INSITE** Engineering Services, LLC  
PROFESSIONAL ENGINEERS | LAND SURVEYORS  
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North Smithfield, Rhode Island 02896  
Phone: (401) 762-2870 Fax: (401) 401-762-2871  
Web Address: InsiteEngineers.com

JOB NUMBER  
20-077