

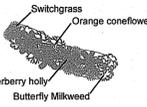
RAIN GARDEN TREATMENT
 Rain garden to be 6" deep with a 2-4 inch amended soil layer (50/50 mixture of the excavated native soils and mature organic compost) and a 2-3 inch layer of non-dyed aged shredded hardwood mulch.

CONSTRUCTION
 1. A crushed stone entrance should be installed at the inflow to prevent channeling.
 2. A berm to detain stormwater should be constructed along the downhill side of the rain garden, perpendicular to the slope of the lawn.
 3. Be sure that the soil within the rain garden area does not become compacted by construction activities (i.e. heavy machinery). If soil becomes severely compacted it may need to be tilled and amended to maintain proper.

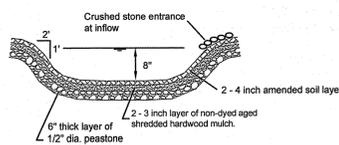
MAINTENANCE
 1. The rain garden shall be inspected following at least the first two precipitation events of at least 1.0 inch to ensure that the system is functioning properly.
 2. Thereafter, the rain garden shall be monitored and maintained to assure proper functioning, plant growth and survival. Plants shall be replaced on an as-needed basis during the growing season.
 3. Silt/sediment shall be removed from the rain garden when the accumulation exceeds one inch, or when water ponds on the surface of the rain garden for more than 48 hours. The top few inches of material shall be removed and shall be replaced with fresh soil mixture and mulch.
 4. Pruning or replacement of woody vegetation shall occur when dead or dying vegetation is observed.
 5. Soil erosion gullies shall be repaired when they occur.
 6. Fertilizer or pesticides shall not be applied to plants within rain gardens.
 7. Perennial plants and ground covers shall be replaced as necessary to maintain an adequate vegetated ground cover. Annual plants may also be used to maintain ground cover.

RAIN GARDEN PLANTING DETAIL
 NOT TO SCALE

AREA: 64 SF
 16 PLANTS

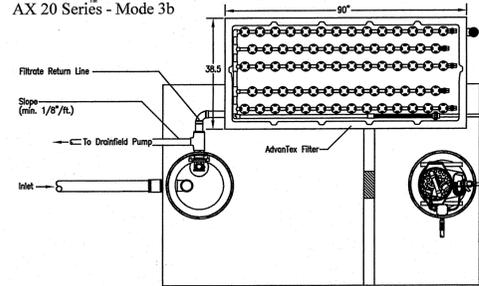


RAIN GARDEN CROSS-SECTION
 NOT TO SCALE

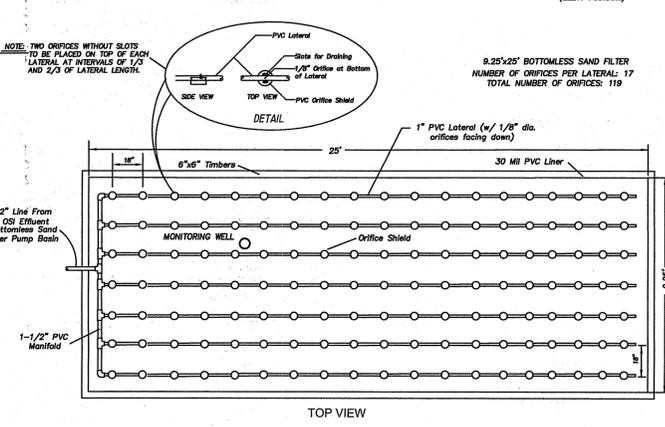
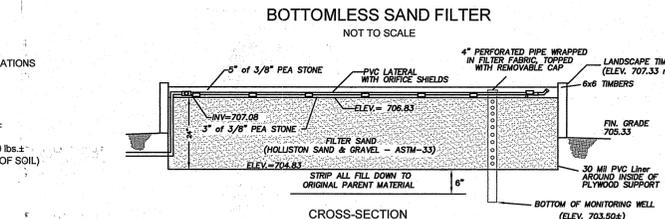
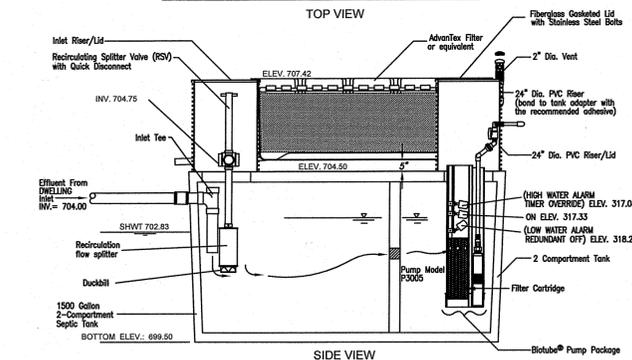


RECIRCULATING EFFLUENT PUMP SYSTEM (REPS)
 (2 COMPARTMENT 1,500 GALLON SEPTIC TANK and AX 20 ADVANTEX TEXTILE FILTER)
 NOT TO SCALE

Advantex Treatment System
 AX 20 Series - Mode 3b



SEPTIC TANK BUOYANCY CALCULATIONS
 ESHWT: 192.00
 BOTTOM OF TANK: 189.00
 BUOYANCY FORCE: 9,368 LBS.
 SEPTIC TANK WEIGHT: 12,100 LBS.
 ADVANTEX WEIGHT: 800 LBS.
 TOTAL COMBINED WEIGHT: 18,100 LBS.
 (NEGLECTS ADDITIONAL WEIGHT OF SOIL)
 STABILIZING NOT REQUIRED



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

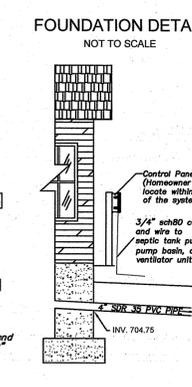


DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED January 13, 2021 FILE # 20-0288
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE
 Amy L. Freeman

LEGEND

100	EXISTING CONTOURS
1000	PROPOSED CONTOURS
11111	TEST HOLE

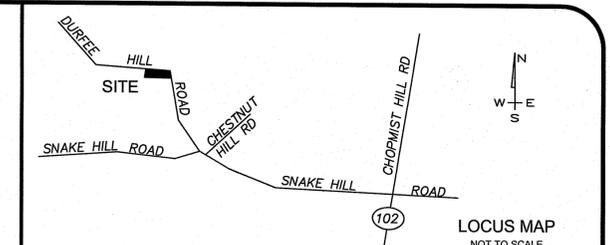
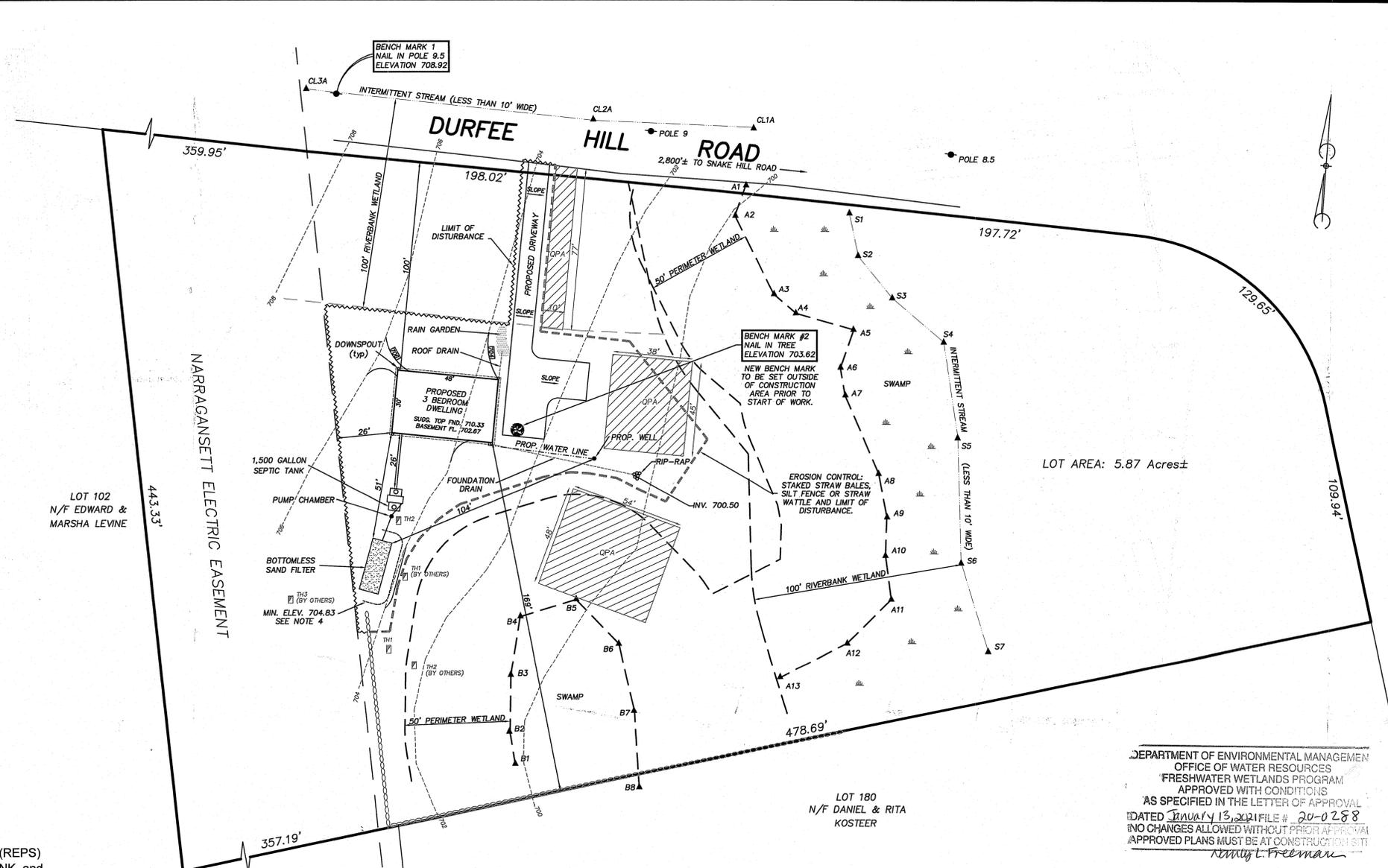
TEST HOLE DATA
 DATE: 8/27/03



TEST HOLE DATA

TH 1	0'-7" A, SL, 10YR 3/2
	7'-19" Bw, G, SL, 10YR 5/8
	19'-24" Bc, G, SL, 2.5YR 6/6
	24'-44" C, G, SL, 2.5YR 7/2
	44'-96" 2c2g, ST, CG, G, SL, 5YR 5/2
ESHW: 20"	NO LEDGE AT 96"
TH 2	0'-7" A, SL, 10YR 3/2
	7'-14" Bw, G, SL, 10YR 5/8
	14'-20" Bc, G, SL, 2.5YR 6/6
	20'-42" C, G, SL, 2.5YR 7/2
	42'-96" 2c2g, ST, CG, G, SL, 5YR 5/2
ESHW: 20"	NO LEDGE AT 96"
SOIL CATEGORY: 9	

TEST HOLE DATA BY: TIMOTHY TARBOX
 DATE: 10-29-01
 TH1 - ESHWT: 20" NO LEDGE AT 120"
 TH2 - ESHWT: 14" NO LEDGE AT 108"
 TH3 - ESHWT: 20" NO LEDGE AT 96"
 SOIL CATEGORY: 8



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) 6 FEET FROM SAND FILTER NOT TO BE LOWER THAN ELEVATION 704.83.
- 5) ANY PRIVATE WELLS, EXISTING & PROPOSED, WITHIN 200' OF SDS ARE SHOWN.
- 6) ANY PUBLIC WELLS, EXISTING AND PROPOSED, WITHIN 500' OF SDS ARE SHOWN.
- 7) SEPTIC TANK TO BE A MINIMUM OF 75' FROM ALL WELLS.
- 8) NO DRAINS OF ANY KIND SHALL BE WITHIN 25' UPGRADIENT OR 50' DOWNGRADIENT 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, ABS TANK ADAPTER SHALL BE CAST IN PLACE. TANK SHALL BE VACUUM TESTED WHEN CONSTRUCTED (W/CERTIFICATE) 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 (D₅₀) OF 0.33 mm (+/-) AND UNIFORMITY COEFFICIENT (D₉₀/D₅₀) 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 NEGLIGENCE ACT OR OMISSION OF AN OWS USER, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM WHICH CAUSES DAMAGE TO THE SYSTEM.
- 17) LOCAL SUPPLIER OF O/S EQUIPMENT: ATLANTIC SOLUTIONS, 2417 EAST MAIN ROAD, PORTSMOUTH, RI 02871 TEL: (401) 293-0178
- 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 CHAMBERS AND ADJUSTED AS NEEDED.
- 19) ACCESS PORTS OR MANHOLES SHALL BE REQUIRED FOR SEQUENCING VALVES AND SHALL BE SUFFICIENTLY SIZED TO FACILITATE TIMER SETTINGS SHALL BE CHECKED AT EVERY ESTABLISHED MAINTENANCE AND INSPECTION VISIT AND WHEN HOME OCCUPANCY CHANGES AND ADJUSTED AS NEEDED.
- 20) THE PANEL BOX MUST BE WITHIN VIEW OF THE SYSTEM LOCATION TO HELP FACILITATE OPERATION AND MAINTENANCE.
- 21) THE SPACE FROM THE ENDS OF THE LATERALS TO THE LINER SHALL BE CLOSE TO HALF THE ORIFICE SPACING AND BE ABLE TO ACCOMMODATE THE FITTINGS AND HAVE SUFFICIENT SPACE FOR MAINTENANCE ACTIVITIES.
- 22) SWEEP ELBOWS SHALL BE ATTACHED TO THE DISTAL END OF EACH LATERAL TO FACILITATE MAINTENANCE AND INSPECTION.
- 23) REFER TO OPERATION & MAINTENANCE AGREEMENT FOR PROPER MAINTENANCE OF ALL SYSTEM COMPONENTS.
- 24) SITE IS LOCATED WITHIN SCOTIAE RESERVOIR DRINKING SUPPLY WATERSHED.
- 25) WETLANDS DELINEATION BY NATURAL RESOURCE SERVICES, INC.

SYSTEM SIZING:
 3 BEDROOMS: 115 GPD x 3 = 345 GPD
 SOIL CATEGORY: 9
 APPLICATION RATES: 1.5 GPD/SF
 AREA REQUIRED: 345/1.5 = 230 SF
 AREA PROVIDED: 9.25x25' = 231.25 SF

TIMER INFO:
 SET ADVANTEX TIMER TO 24 DOSES/DAY
 345 GPD/24 DOSES/DAY = 14.38 GAL/DOSE
 APPLICATION RATES: 1.5 GPD/SF = 44 MIN.
 TOTAL PUMP RUN TIME = 10.56 MIN./DAY
 TOTAL PUMP OFF TIME = 1429.44 MIN./DAY
 TIME OFF PER CYCLE = 59.56 MIN.
 TIME ON PER CYCLE = 0.44 MIN.

DOING RATE:
 14.38 GAL/DOSE
 PUMP CHAMBER CAPACITY = 23.5 GAL./FT OR 1.96 GAL./INCH
 PUMP CHAMBER DEPTH @ 14.38 GAL = .61 FEET
 DOSE PER ORIFICE: 345 GPD/(24 DOSES/DAY)/119 ORIFICES = .12 GAL/ORIFICE/DOSE

PROPOSED ONSITE WASTEWATER TREATMENT SYSTEM & WETLANDS PLAN
 for
GERALDINE FONTAINE
 PLAT 9, LOT 77
 DURFEE HILL ROAD
 GLOCESTER, RHODE ISLAND
 OCTOBER, 2020
 SCALE 1" = 30'
 REVISED: 12-8-20
 Office of Water Resources

CERTIFICATION
 THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND STATE BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:
 LIMITED CONTENT BOUNDARY SURVEY: CLASS IV
 GRAPHIC ACCURACY: 1:4

STATEMENT OF PURPOSE:
 THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND THE PREPARATION OF THE PLAN IS AS FOLLOWS:
 PROPOSED HOUSE

BY: *Marc N. Nyberg*
 MARC N. NYBERG License No. 1797 COA No.: A52

INSITE Engineering Services, LLC
 PROFESSIONAL ENGINEERS | LAND SURVEYORS
 Precision. Clarity. Certainty.

InSite Professional Complex, Suite 1
 1539 Fall River Avenue Seekonk, MA 02771
 Phone: (508) 336-4500 Fax: (508) 336-4558
 Web Address: InSiteEngineers.com

MARC N. NYBERG
 No. 1797
 PROFESSIONAL LAND SURVEYOR

JOB NUMBER
20-087