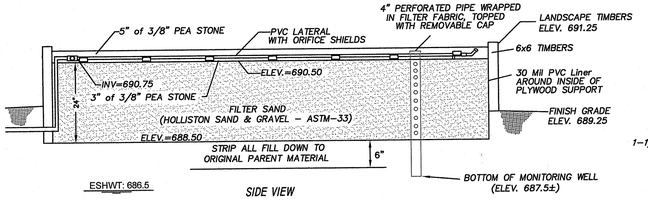
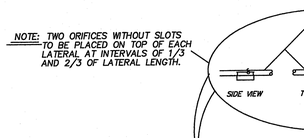
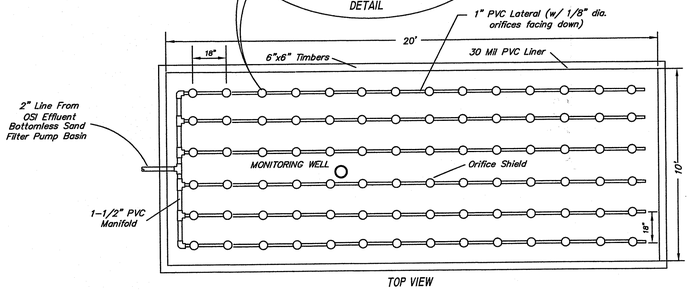
BOTTOMLESS SAND FILTER NOT TO SCALE



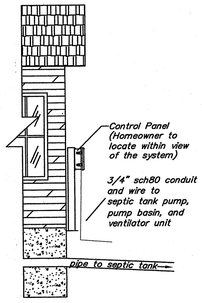


10'x20' BOTTOMLESS SAND FILTER
2.3 GPD/SF LOADING RATE
NUMBER OF ORIFICES PER LATERAL: 14
TOTAL NUMBER OF ORIFICES: 84

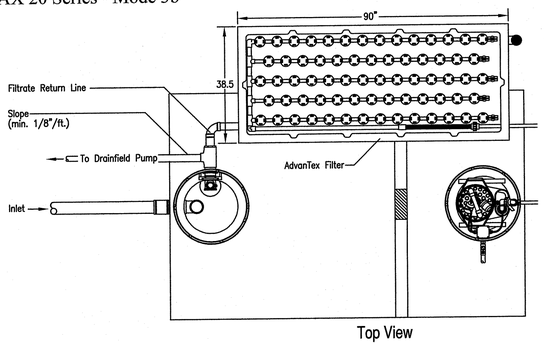


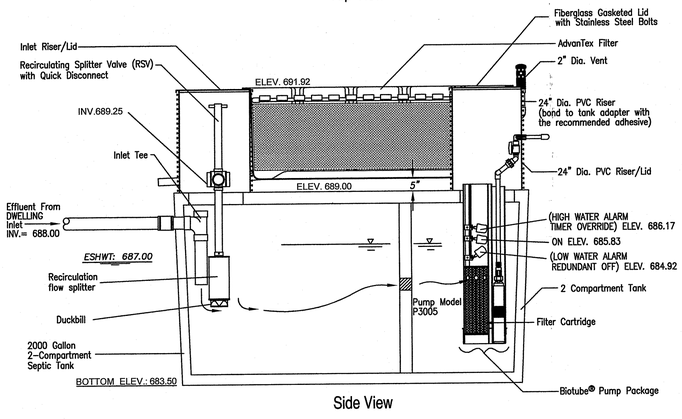
RECIRCULATING EFFLUENT PUMP SYSTEM (REPS)
(2 COMPARTMENT 2,000 GALLON SEPTIC TANK AX 20 ADVANTEX TEXTILE FILTER)

NOT TO SCALE



AdvanTex Treatment System
AX 20 Series - Mode 3b

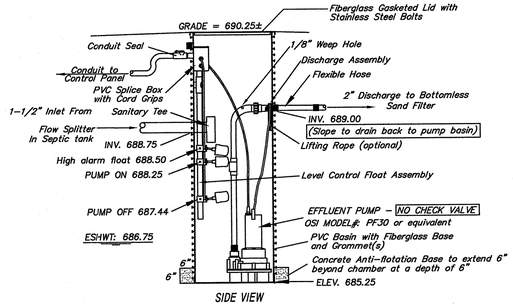




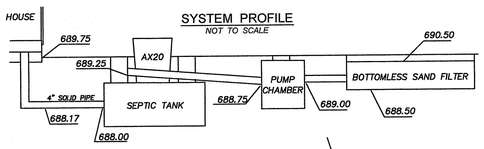
BUOYANCY CALCULATIONS

ESHWT: ELEV. 687.00
BOTTOM OF TANK: ELEV. 683.50
BUOYANCY FORCE: 10,920 lbs±
SEPTIC TANK WEIGHT: 12,100 lbs.±

24" DIA. BOTTOMLESS SAND FILTER PUMP BASIN
WITH EFFLUENT PUMP ASSEMBLY NOT TO SCALE



SYSTEM PROFILE
NOT TO SCALE



SYSTEM COMPONANTS

1. 2,000 GALLON 2-COMPARTMENT CONCRETE SEPTIC TANK WITH PUMP VAULT AND RECIRCULATING SPLITTER VALVE AND W/OSIP3005 PUMP.
2. 5' DEEP - 24" DIAMETER PUMP BASIN.
3. AX-20 ADVANTEX TEXTILE FILTER.
4. 10' LONG x 20' WIDE BOTTOMLESS SANDFILTER
5. ORENCO SYSTEMS, INC. CONTROL PANEL.

OWTS 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) 5 FEET FROM SAND FILTER NOT TO BE LOWER THAN ELEVATION 688.50.
5) ANY PRIVATE WELLS, EXISTING & PROPOSED, WITHIN 200' OF ISDS ARE SHOWN.
6) ANY PUBLIC WELLS, EXISTING AND PROPOSED, WITHIN 500' OF ISDS 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 OR SIDE GRADIENT OF THE PROPOSED 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 WATERTIGHT, 2,000 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 VISABLE AND AUDIBLE ALARM POWERED BY A CIRCUIT SEPERATE 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) BOTTOMLESS SAND FILTER MEDIA: HOLLISTON SAND & GRAVEL ASTM-33 SAND. LESS THAN 1% PASSING THE SIEVE WITH AN EFFECTIVE SIZE OF .25mm-.45mm AND WITH A UNIFORMITY COEFFICIENT OF 2.0±.
15) IF CONTRACTOR ENCOUNTERS ANY CONDITIONS DURING CONSTRUCTION WHICH INDICATE THE SYSTEM CANNOT BE INSTALLED IN ACCORDANCE WITH THE APPROVED DESIGN, OR FIND CONFLICTICTING 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 ISDS USER, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM, WHICH CAUSES DAMAGE TO THE SYSTEM.
17) LOCAL SUPPLIER OF OSI EQUIPMENT: ATLANTIC SOLUTIONS, 2417 EAST MAIN ROAD, PORTSMOUTH, RI 02871 TEL. (401) 293-0176
18) SITE IS LOCATED WITHIN THE PAWTUCKET CUMBERLAND DRINKING WATER SUPPLY WATERSHED AREA.

SYSTEM SIZING:

4 BEDROOMS: 115 GPD x 4 =460 GPD
SOIL CATEGORY: 6
APPLICATION RATE: 2.3 GPD/SF
AREA REQUIRED: 460/2.3 = 200 SF

TIMER INFO:

SET ADVANTEX TIMER TO 24 DOSES/DAY
460 GPD/24 DOSES/DAY = 19.16 GAL/DOSE
19.16/34 GPM = .56 MIN.
TOTAL PUMP RUN TIME = 13.44 MIN./DAY
TOTAL PUMP OFF TIME = 1426.56 MIN./DAY
TIME OFF PER CYCLE = 59.44 MIN.
TIME ON PER CYCLE = 0.56 MIN.

DOSING RATE:

19.16 GAL/DOSE
PUMP CHAMBER CAPACITY = 23.5 GAL./FT OR 1.96 GAL./INCH
PUMP CHAMBER DEPTH @ 19.16 GAL = .81 FEET
DOSE PER ORIFICE = 460 GPD/(24 DOSES/DAY)/84 ORIFICES = .23 GAL/ORIFICE/DOSE

TEST HOLE DATA
DATE: 5-20-21

TH1
0"-4" Ap, SL, 10YR 2/2
4"-24" Bw, G, SL, 10YR 4/6
24"-40" C, VFSL, 5YR 5/3
40"-120" 2C, CB, G, SL, 5YR 5/3

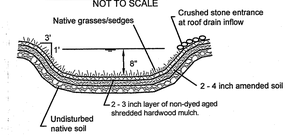
ESHWT: 18"
NO LEDGE AT 120"

TH2
0"-4" Ap, SL, 10YR 2/2
4"-24" Bw, G, SL, 10YR 4/6
24"-42" C, VFSL, 5YR 5/3
42"-108" 2C, CB, G, SL, 5YR 5/3

ESHWT: 18"
NO LEDGE AT 108"

SOIL CATEGORY: 6

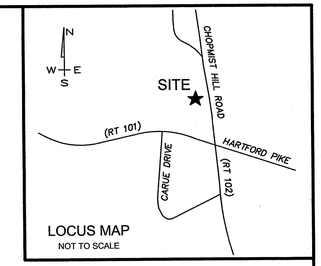
2.5' WIDE VEGETATED SWALE
NOT TO SCALE



NOTE: VEGETATED SWALE SHALL BE INSPECTED ANNUALLY AND SHOULD BE INSPECTED AFTER LARGE STORM EVENTS.

VEGETATIVE SWALE MAINTENANCE

1. The vegetated swale shall be inspected annually and after large storm events.
2. Eroded side slopes and channel bottom shall be stabilized as necessary.
3. 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 roto-tilled or cultivated to break up any hard-packed sediment, and then reseeded.
4. Vegetation in dry swales shall be mowed as required to maintain minimum grass heights in the 4-6 inch range.
5. 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..



LEGEND

- 100 ---------- 100 EXISTING CONTOURS
- 100 PROPOSED CONTOURS
- TH1 TEST HOLE
- A6 ▲ WETLAND FLAG
- STRAW WATTLE OR SILT FENCE AND LIMIT OF DISTURBANCE

DEPARTMENT OF ENVIRONMENTAL MANAGEMEN
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED 12/20/2021 FILE # 21-0310
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Timothy L. Freeman

AP 26, LOT 3
N/F STEVEN M. & JUDITH L. SANTANELLI

N86°20'42"E
500.00'

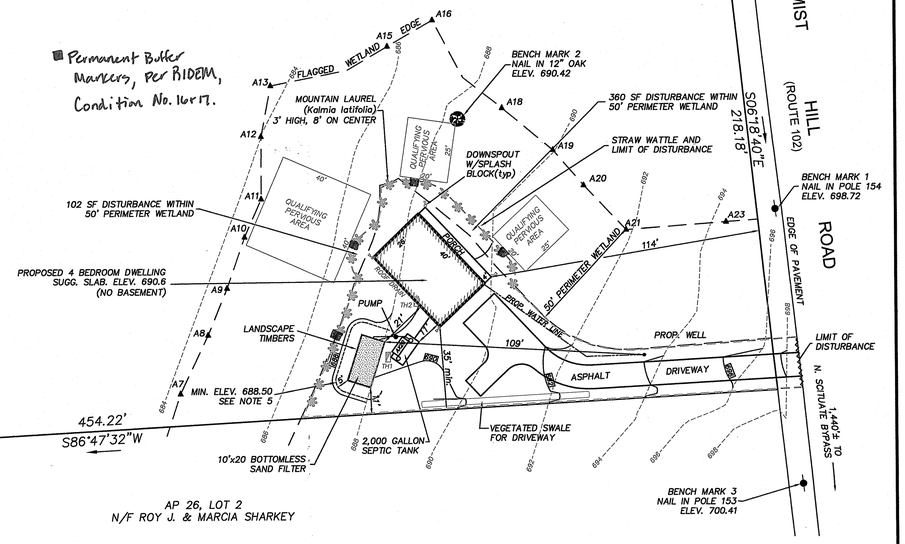
■ Permanent Buffer Markers, per RIDEM, Condition No. 16 of 7.

LOT AREA:
2.37 Acres

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

N18°16'07"W
221.57'
AP 26, LOT 6
N/F BRIAN G. BLAMIRES

S86°47'32"W
454.22'



ONSITE WASTEWATER TREATMENT SYSTEM & WETLANDS PLAN
for
PLAT 26, LOT 57
CHOPMIST HILL ROAD
SCITUATE, RHODE ISLAND
NOVEMBER, 2021

GRAPHIC SCALE
0' 30' 60' 90'

ZONING DISTRICT RR-120
MINIMUM SETBACKS: FRONT: 50'
SIDE: 35'
REAR: 60'

Environmental Management
NOV 29 2021
Office of Water Resources

MARC N. NYBERG No. 1797 PROFESSIONAL LAND SURVEYOR

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
TOPOGRAPHIC ACCURACY T-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.
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Web Address: InsiteEngineers.com

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