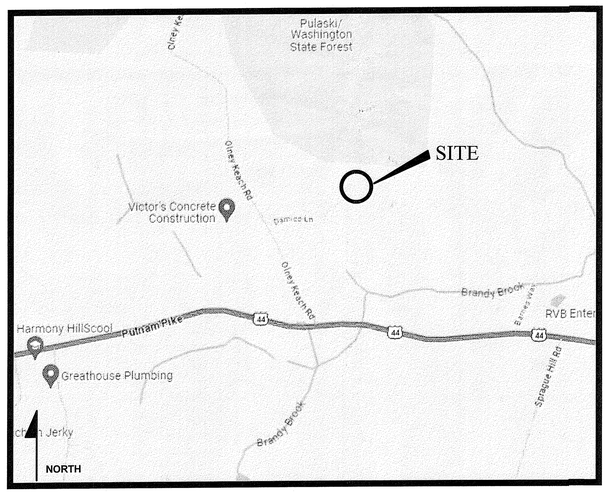
SITE DEVELOPMENT AND OWTS PLANS

FOR

A.P. 7, LOT 155
D'AMICO LANE
GLOCESTER, RHODE ISLAND



LOCUS MAP
SCALE: 1"=1000'

PREPARED FOR:
STEPHEN CUSHMAN
70 IMPERIAL AVENUE
CRANSTON, RI 02920

PREPARED BY:

GAROFALO & ASSOCIATES, INC.
CIVIL & STRUCTURAL ENGINEERS\SURVEYORS
LAND PLANNERS\ENVIRONMENTAL SCIENTISTS
P.O. BOX 6145 PROVIDENCE, R.I. 02940
1-401-273-6000

JOB NO. 6644-01

DATE: APRIL, 2024
REVISED DATE: JULY 02, 2024

SHEET INDEX

SHEET	PLAN TITLE	LATEST REVISION
1	COVER SHEET	
2	EXISTING CONDITIONS SURVEY	07/02/24
3	PLAN OF PROPOSED SITE DEVELOPMENT & ON-SITE WASTEWATER TREATMENT SYSTEM	07/02/24
4	ENLARGED PLAN OF PROPOSED SITE DEVELOPMENT& ON-SITE WASTEWATER TREATMENT SYSTEM	07/02/24
5	OWTS NOTES/ DETAILS	
6	SOIL & EROSION CONTROL NOTES/ DETAILS	05/03/24

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

NOTE PER DEM:

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

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: SEP 16 2024 FILE #: 24-0200
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Vernick

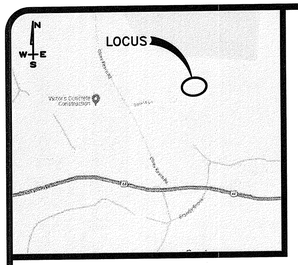
RI Environmental Management
AUG 14 2024
Office of Water Resources

Environmental Management
AUG 14 2024
Office of Water Resources

07-02-2024
D 3064

SAMUEL A. WHITE, JR.
No. 17811
PROFESSIONAL LAND SURVEYOR

07-02-2024
D 2020

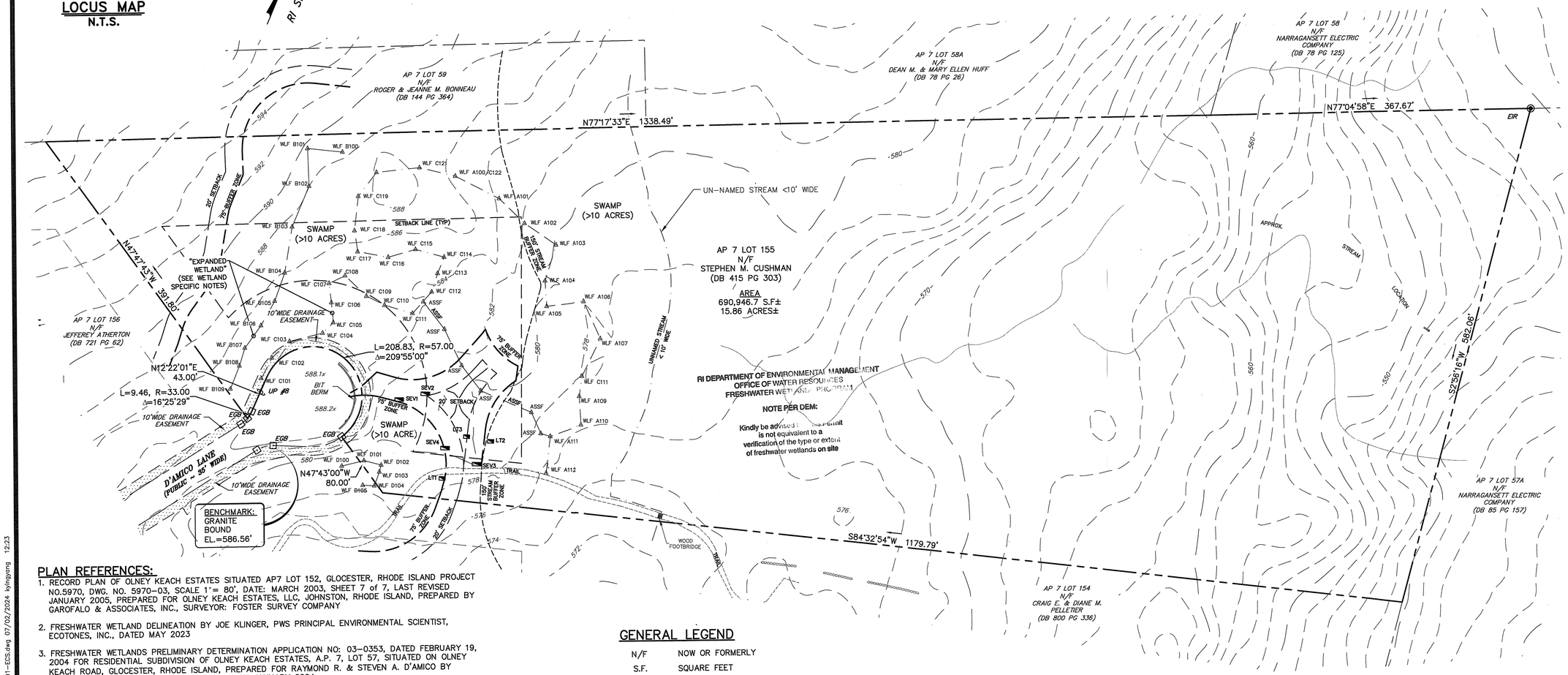


LOCUS MAP
N.T.S.

RI State Plane – NAD 83

ZONING DATA
AGRICULTURAL ZONE A–4 SINGLE FAMILY DWELLING MIN. LOT SIZE: 4 ACRES MAX. LOT COVERAGE: 4% MIN. FRONTAGE: 350' MIN. FRONT YARD: 75' MIN. SIDE YARD: 30' MIN. REAR YARD: 100' MAX. BLDG. HEIGHT: 35' * PLEASE REFER TO ZONING REGS. FOR ADDITIONAL INFORMATION.

PARCEL DATA
AP 7 LOT 155 N/F STEPHEN M. CUSHMAN BK 415 PG 303 #0 D'AMICO LANE LOT AREA: 690,946.7 S.F.± OR 15.86 ACRES±



RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM

NOTE PER DEM:

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PLAN REFERENCES:

1. RECORD PLAN OF OLNEY KEACH ESTATES SITUATED AP7 LOT 152, GLOCESTER, RHODE ISLAND PROJECT NO.5970, DWG. NO. 5970–03, SCALE 1"= 80', DATE: MARCH 2003, SHEET 7 of 7, LAST REVISED JANUARY 2005, PREPARED FOR OLNEY KEACH ESTATES, LLC, JOHNSTON, RHODE ISLAND, PREPARED BY GAROFALO & ASSOCIATES, INC., SURVEYOR: FOSTER SURVEY COMPANY
2. FRESHWATER WETLAND DELINEATION BY JOE KLINGER, PWS PRINCIPAL ENVIRONMENTAL SCIENTIST, ECOTONES, INC., DATED MAY 2023
3. FRESHWATER WETLANDS PRELIMINARY DETERMINATION APPLICATION NO: 03–0353, DATED FEBRUARY 19, 2004 FOR RESIDENTIAL SUBDIVISION OF OLNEY KEACH ESTATES, A.P. 7, LOT 57, SITUATED ON OLNEY KEACH ROAD, GLOCESTER, RHODE ISLAND, PREPARED FOR RAYMOND R. & STEVEN A. D'AMICO BY GAROFALO & ASSOCIATES, INC, LATEST REVISION JANUARY 2004
4. SITE EVALUATION FORM, PART A, SOIL PROFILE DESCRIPTION, APPLICATION NUMBER 2313–1078 PREPARED BY KEVIN FETZER, ECOTONES, INC. DATED OCTOBER 12, 2023
5. WARRANTY DEED, OLNEY KEACH ESTATES, LLC TO STEPHEN M. CUSHMAN DATED DECEMBER 19, 2005 AND IS FILED IN THE GLOCESTER LAND EVIDENCE RECORDS IN DEED BOOK 415, PAGES 303–304
6. CORRECTIVE DECLARATION OF PROTECTIVE COVENANTS AND RESTRICTIONS FOR OLNEY KEACH ESTATES AS FILED IN THE GLOCESTER LAND EVIDENCE RECORDS IN DEED BOOK 418, PAGES 113–120

NOTES:

1. THE PROJECT SITE IS LOCATED WITHIN ZONE "X" (AREA OF MINIMAL FLOODING) AS SHOWN ON F.E.M.A. FLOOD INSURANCE RATE MAP FOR THE TOWN OF GLOCESTER, PROVIDENCE COUNTY, RHODE ISLAND, COMMUNITY MAP NO. 44007C0140G, HAVING AN EFFECTIVE DATE OF MARCH 2, 2009.
2. THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. (PLEASE CONTACT DIGSAFE PRIOR TO CONSTRUCTION @ 1–888–344–7233)
3. HORIZONTAL DATUM: RHODE ISLAND STATE PLANE – NAD 83
   VERTICAL DATUM: NAVD 88*
   *DATUM WAS DERIVED BY OBSERVED GPS VARIATIONS BETWEEN LOCAL BENCHMARKS MAY APPLY.
4. TOPOGRAPHY ON THE DEVELOPABLE PORTION OF THE SITE IS BASED ON THE GROUND SURVEY METHODS. TOPOGRAPHY ON THE REMAINDER OF THE PARCEL WAS TAKEN FROM RHODE ISLAND GEOGRAPHIC INFORMATION SYSTEM, 2011 STATEWIDE LIDAR.

GENERAL LEGEND

N/F	NOW OR FORMERLY
S.F.	SQUARE FEET
AC.	ACRES
DB, PG	DEEDBOOK, PAGE
	UTILITY POLE
CLF	CHAIN LINK FENCE
	LOCUS PROPERTY LINE
	ASSESSORS LINE
	EASEMENT LINE
	EX. MRJ CONT.
	EX. MRN CONT.
	20' SETBACK
	75' BUFFER ZONE
	150' STREAM BUFFER ZONE
EGB	EXISTING GRANITE BOUND
EIR	EXISTING IRON ROD
100.0x	SPOT GRADE
WLF A111	WETLAND FLAG
	WETLAND EDGE

WETLAND SPECIFIC NOTES:

1. THE ASSF DEPICTED ON THIS PLAN APPEARS INCONSISTENT AND POORLY DEFINED IN THE FIELD AND HAS BEEN SHOWN TO BE RE–ROUTED ALONG THE TOE OF THE PROPOSED GRADING TO A POINT WHERE IT REJOINS THE EXISTING ASSF.
2. THE WETLAND ON SITE APPEARS TO HAVE EXPANDED UP STREAM FROM THE CULVERT AS DEPICTED BY WETLAND FLAGS C101 THRU C118 AND B103 THRU B109, WHICH APPEARS CONSISTENT WITH NOTES IN THE FILE FOR THE PREVIOUS WETLANDS APPL. NO. 03–0353, DATED 2/16/2004.
3. REFERENCE DISCUSSION WITHIN THE PERMIT FILE FOR APPL. NO. 03–0353 REGARDING THE EXISTING TRAIL AND FOOTBRIDGE AS SHOWN HEREON.

1" = 60'

0 30 60 120 240 360 feet
0 5 10 20 50 100 meters

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS SPECIFIED IN THE LETTER OF APPROVAL
DATED: SEP 16 2024 FILE #: 24-0300
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE
Martin D. Schnack

CERTIFICATION:

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 435–RICR–00–00–1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY	MEASUREMENT SPECIFICATION
BOUNDARY SURVEY	CLASS I
DATA ACCUMULATION SURVEY	CLASS III
TOPOGRAPHY ACCURACY	CLASS T–2/T–3

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: TO PROVIDE A BOUNDARY SURVEY FOR ASSESSOR'S LOT 2, PLAT 29 IN CRANSTON, RHODE ISLAND.

BY: Samuel A. White, Jr.
SAMUEL A. WHITE — LICENSE NO. 1781 LS A59–COA

EXISTING CONDITIONS SURVEY
FOR
AP 7 LOT 155
SITUATED AT
0 D'AMICO LANE
GLOCESTER, RHODE ISLAND
PREPARED FOR
STEPHEN M. CUSHMAN

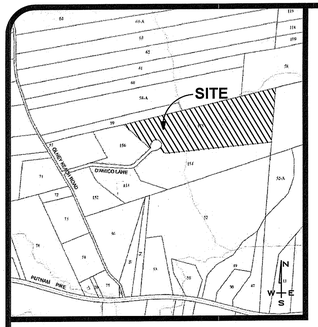
NO.	REVISION	BY	DATE
1.	PER PRE APP. MEETING WITH RIDEM	KYY	05/03/24
2.	PER WETLAND BIOLOGIST	KYY	06/19/24
2.	PER RIDEM COMMENTS	KYY	07/02/24

SAMUEL A. WHITE, JR.
No. 1781
PROFESSIONAL LAND SURVEYOR
07–02–2024

GAROFALO
GAROFALO & ASSOCIATES, INC.
CIVIL & STRUCTURAL ENGINEERS\SURVEYORS
LAND PLANNERS\ENVIRONMENTAL SCIENTISTS
85 CORLISS STREET
P.O. BOX 6145
PROVIDENCE, R.I. 02940
TEL. 401-273-6000

JOB NO. 6644.01	DRAWN BY RSE
DWG. NO. 6644–01–ECS.DWG	CALCS BY RSE
SCALE: 1" = 60'	APPROVED SAW
	DATE: FEBRUARY 2024

SHEET
2
2 OF 6 SHEETS



LOCUS MAP
1"=800'

GENERAL LEGEND

N/F	NOW OR FORMERLY
S.F.	SQUARE FEET
AC.	ACRES
DB, PG	DEEDBOOK, PAGE
FFE	FIRST FLOOR ELEVATION
CSE	CRAWL SPACE ELEVATION
	EX. UTILITY POLE
	LOCUS PROPERTY LINE
	ASSESSORS LINE
	EASEMENT LINE
240	EX. CONTOUR MRJ
242	EX. CONTOUR MRN
	EX. WETLAND EDGE
WLF A107	EX. WETLAND FLAG
	20' SETBACK
	75' BUFFER ZONE
	150' STREAM BUFFER ZONE
EGB	EXISTING GRANITE BOUND
EIR	EXISTING IRON ROD
100.0x	SPOT GRADE
78	PROPOSED CONTOUR MINOR
80	PROPOSED CONTOUR MAJOR
(24x8)	PROPOSED SPOT ELEVATION
S	PROPOSED SEWER LINE
W	PROPOSED WATER LINE
x x x	PROPOSED COMPOST SILT SOCK
LOD	PROPOSED LIMIT/ WORK OF DISTURBANCE
x	GRADE TO DRAIN
CO	CLEAN OUT
O	BUFFER ZONE MARKINGS

CERTIFICATION:

THIS SURVEY HAS BEEN CONDUCTED AND THE PLAN HAS BEEN PREPARED PURSUANT TO SECTION 435-RICR-00-00-1.9 OF THE RULES AND REGULATIONS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS ON NOVEMBER 25, 2015, AS FOLLOWS:

TYPE OF BOUNDARY SURVEY	MEASUREMENT SPECIFICATION
COMPREHENSIVE BOUNDARY SURVEY	CLASS I
DATA ACCUMULATION SURVEY	CLASS III
TOPOGRAPHY	CLASS T-2

THE PURPOSE FOR THE CONDUCT OF THE SURVEY AND FOR THE PREPARATION OF THE PLAN IS AS FOLLOWS: TO PROVIDE AN EXISTING CONDITIONS SURVEY OF LOT 9-1 ON ASSESSOR'S MAP GIN THE TOWN OF NARRAGANSETT, RHODE ISLAND.

BY: _____
SAMUEL A. WHITE LICENSE NO. 1781
LSD A59-COA

REFERENCE:

"EXISTING CONDITIONS SURVEY" FOR AP 7 LOT 155 SITUATED AT 0 DAMICO LANE GLOCESTER, RHODE ISLAND. PREPARED FOR STEPHEN M. CUSHMAN. PREPARED BY GAROFALO & ASSOCIATES, INC. JOB#: 6644.01. DWG. NO. 6644-01-ECS. DATED: FEBRUARY 2024.

* SETBACKS A-4

FRONT	75'
SIDE	30'
REAR	100'

* OWNER SHALL VERIFY PRIOR TO CONSTRUCTION AND OBTAIN ALL NECESSARY VARIANCES/EXCEPTIONS PRIOR TO CONSTRUCTION.

BSF SPECIFIC NOTES:

A) RULE 6.36

1. SETBACK TO FOUNDATION AND TANKS: THE MINIMUM SETBACK DISTANCE FROM THE PRESSURIZED DRAINFIELD TO ANY FOUNDATION SHALL BE EIGHT (8') FEET, PROVIDED THAT THE ELEVATION OF THE BASEMENT SLAB IN THE DWELLING IS ABOVE THE DESIGN SEASONAL HIGH GROUNDWATER TABLE (SHWT) DEPTH AND THAT THERE ARE NO DRAINS ASSOCIATED WITH THE FOUNDATION. THE MINIMUM SETBACK DISTANCE FROM THE PRESSURIZED DRAINFIELD TO ANY TANK EQUAL OR LARGER THAN ONE THOUSAND (1000) GALLON CAPACITY SHALL BE FOUR (4') FEET.
2. SETBACK TO STRUCTURES IMPEDING GROUNDWATER FLOW: THE INTERIOR FACE OF ANY STRUCTURAL OR LANDSCAPE RETAINING WALL THAT MAY INTERFERE WITH GROUND WATER FLOW, DOWN-GRADIENT FROM THE PRESSURIZED DRAINFIELD, MUST BE LOCATED AT LEAST TWENTY FIVE (25') FEET FROM THE PRESSURIZED DRAINFIELD.

B) RULE 6.37

1. FINISHED GRADE: FINISHED GRADE AROUND ANY BSF SHALL BE A MINIMUM OF SIX (6") INCHES AND A MAXIMUM OF TWENTY FOUR (24") INCHES BELOW THE TOP OF THE ENCLOSURE TO PREVENT SURFACE WATER FROM FLOWING ONTO THE FILTER. ONE (1) LAYER OF SECURED PRESSURE TREATED TIMBERS WITH MINIMUM NOMINAL DIMENSIONS OF SIX INCHES BY SIX INCHES (6"x6"), (OR OTHER SUITABLE STRUCTURAL SUPPORT) SHALL BE PLACED AROUND THE TOP PERIMETER (SEE §§ 6.76 AND 6.77 OF THIS PART, FIGURES 18 AND 19).
2. FILL PERIMETER: THE LAND SURFACE ELEVATION TWO (2') FEET BELOW THE COVER STONE-SAND MEDIA INTERFACE SHALL BE MAINTAINED FOR A DISTANCE OF AT LEAST FIVE (5') FEET FROM THE EDGE OF THE BSF. LAND SURFACE RE-GRADING ADJOINING THIS FIVE (5') FOOT PERIMETER MUST MAINTAIN A MINIMUM OF 3:1 (RUN:RISE) SLOPE DOWN GRADIENT (SEE § 6.76 OF THIS PART, FIGURE 18).
3. SETBACKS TO TREES AND SHRUBS: A MINIMUM BUFFER OF TEN (10') FEET SHALL BE MAINTAINED BETWEEN BSF'S AND NEIGHBORING TREES AND SHRUBS. WHERE THE 10 (10") FOOT BUFFER CANNOT BE MAINTAINED, A ROOT BARRIER FABRIC SHALL BE PLACED BETWEEN THE TREES AND SHRUBS AND THE FILTER.
4. NO STRUCTURES, PERMANENT FEATURES, OR LARGE, HEAVY OR NUMEROUS DECORATIONS SHALL BE PLACED ON TOP OF THE BSF THAT WOULD OBSTRUCT, PREVENT OR HINDER OPERATION AND MAINTENANCE OR ACCESS TO THE BSF.

O.W.T.S. NOTES: CIRCLE APPLICABLE NUMBERS:

1. All other design, construction and maintenance requirements, or additional terms of approval whether noted hereon, or not, shall be in conformance with, Rules Establishing Minimum Standards Relating To Location, Design, Construction And Maintenance Of Onsite Waste water Treatment Systems, January 4, 2022 by the R.I. Dept. Of Environmental Management, Authority in accordance with Part 6, Sub Chapter 10 pursuant to Chapter 150 Title 250 of the General Laws Of Rhode Island, 1956 as amended.
2. Maintain bottom elevation 581.0 minimum for 5' minimum around BSF, beyond 5' a 3:1 slope or flatter must be maintained to 25' minimum or until the toe of slope returns to the elevation of the original grade. The toe of slope/limits of filling must be 5' minimum from any property line.
3. See O.W.T.S. specifications and details on sheets 5 & 6 attached and comply with any additional terms of approval as may be required by RIDEM.
4. Clear all trees and stumps within 10' of system. System shall be placed in a sunny location of the site to prevent freezing during cold periods.
5. There shall be no foundations w/basements, water supply lines, upgradient subsurface, foundation or storm drains within 25' of the leach field, nor any down gradient or side gradient drains within 50' of the leach field, unless otherwise permitted by the requirements of Rule 6.23 Minimum Setback Distances.
6. There shall be no inground pools within 25' or any above ground pools within 10' of the proposed disposal area.
7. Cast iron pipe, schedule 40 PVC pipe or equal from building to septic tank. Schedule 40 PVC pipe to be used in system unless otherwise noted.
8. All soil containing fines, at least 2.5' below the proposed bottomless sand filter, shall be stripped and back filled with ASTM 33 sand. Strip to elevation 578.5 or as requested by D.E.M. No part of excavation shall be into ground water, the bottom and all sides shall be scarified.
9. Bench mark to be set within 150' of the proposed O.W.T.S. prior to construction, in a location where it will not be disturbed during construction.
10. There are no known drinking wells either existing or proposed within the setback distance from the leaching area specified in Rule 6.23 plus one hundred (100') feet, except as shown.
11. Proposed wells are shown in suggested location. Placement of wells shall conform to applicable R.I.D.E.M., O.W.T.S. and Well Regulations.
12. The well proposed on the subject property requires a variance from the R.I.D.E.M.'s "Rules and Regulations Governing the Enforcement of Chapter 46-13.2 relating to the Drilling of Drinking Water Wells".
13. There are no known existing or proposed public drinking water supply wells within 500' of the proposed disposal system.
14. There are no known existing or proposed public sewers within 200' of the proposed disposal system unless otherwise noted.
15. There are no known water courses, wetlands or drains within two hundred (200') feet of the proposed OWTS unless otherwise noted.
16. All stages of OWTS installation must be supervised by the system Designer.
17. The septic tank and treatment unit (see details) are to have inspection covers as noted to finish grade. These covers are to be installed so as to divert surface water runoff away for the covers. The tank is to be pumped out at least every four years and the pump systems & sand filters shall be inspected at least annually & maintained as per manufacturers recommendations. Tank must meet ASTM 1227-97A Standards & shall be subject to vacuum testing.
18. The contractor shall maintain a copy of the approved plan on-site at all times.
19. Bottomless sand filter media: shall be in conformance with RIDEM OWTS rules. Contractor to supply engineer with samples of all media to be used in the sand filter. Contractor must supply engineer with sieve analysis.
20. It is highly recommended that Effluent Technologies of Tiverton, R.I., Tel. 1-401-293-0176, or another qualified representative of Advantex-OSI Systems, provide construction oversight to insure proper installation of Advantex, sand filter & components.
21. It is recommended that low flow water devices be installed and NO garbage disposals be installed.
22. The minimum cover over the septic tank outlet pipe invert shall be 18" with a maximum cover of 42" unless otherwise documented in accordance with Rule 6.27.
23. There shall be no toxic cleaners, wax removers, degreasing agents, medical wastes, water treatment backwash or similar toxic by-products disposed of into the OWTS.

NOTES:

1.) 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 FACILITY TO BE DETERMINED BY OWNER.

2.) ALL PUMPS SHALL BE EQUIPPED WITH A ELAPSED RUN TIME AND CYCLE COUNT READOUTS. THE SYSTEM SHALL BE CALIBRATED IN THE FIELD TO DETERMINE ACTUAL RATE (GALLONS) PER CYCLE.

3.) ALL TANKS AND APPURTENANCES SHALL BE CONSTRUCTED SUCH THAT ALL ELEMENTS ACT AS A SINGLE WATERTIGHT UNIT, WHICH SHALL DEVELOP A FACTOR OF SAFETY AGAINST BUOYANT UPLIFT. CONTRACTOR SHALL SUITABLY COMPACT COHESIVE OVERBURDEN MATERIAL AND/OR PROVIDE SUITABLE BALAST SURCHARGE AND/OR ANCHORING MEASURES WHEN NEEDED TO MEET THIS REQUIREMENT.

NET REQUIRED (TANK AND ANCHORAGE) = 0 LBS
BUOYANCY ANCHORAGE IS NOT REQUIRED

STORMWATER INFILTRATION SYSTEMS NOTE:

THERE SHALL BE NO STORMWATER INFILTRATION SYSTEMS ON A RESIDENTIAL PROPERTY WITHIN 25' OF ANY OWTS OR OWTS COMPONENTS. DISTANCE MAY BE REDUCED TO 15' WHERE THE INFILTRATION SYSTEM HAS BEEN DESIGNED IN ACCORDANCE WITH THE R.I. STORMWATER DESIGN MANUAL.

CONSTRUCTION NOTES:

1.) THE CONTRACTOR SHALL VERIFY THE PROPOSED LAYOUT WITH ITS RELATIONSHIP TO THE EXISTING SITE SURVEY. THE CONTRACTOR SHALL ALSO VERIFY ALL DIMENSIONS, SITE CONDITIONS, AND MATERIAL SPECIFICATIONS AND SHALL NOTIFY THE OWNER AND DESIGNER OF ANY ERRORS, OMISSIONS OR DISCREPANCIES BEFORE COMMENCING OR PROCEEDING WITH WORK. NOTE; THE PROPERTY LINES SHOWN HEREON ARE BASED SOLELY ON PHYSICAL MONUMENTS/OCCUPATION LIMITS LOCATED IN THE FIELD.

2.) THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE ANY EXISTING UTILITIES SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF NECESSARY. THE EXISTENCE AND/OR LOCATION OF UTILITIES SHOWN ON THESE PLANS MAY BE ONLY APPROXIMATELY CORRECT AND THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN HEREON AND ANY OTHER EXISTING UTILITIES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING, AT HIS EXPENSE, ANY EXISTING UTILITIES DAMAGED DURING CONSTRUCTION.

3.) THIS PLAN DOES NOT GUARANTEE THE EXISTENCE OR NON-EXISTENCE OF UNDERGROUND UTILITIES. PRIOR TO ANY CONSTRUCTION OR EXCAVATION, THE CONTRACTOR SHALL VERIFY THE EXISTENCE AND LOCATION OF, OR THE NON-EXISTENCE OF, ANY UNDERGROUND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING "DIG SAFE" AT 1-800-225-4977 AT LEAST THREE BUSINESS DAYS PRIOR TO COMMENCEMENT OF EXCAVATION.

4.) RELOCATION OF ANY UTILITIES SHALL BE AT THE OWNERS EXPENSE AND COMPLETED WITH THE UTILITY WORK. THE OWNER SHALL DETERMINE ANY RELOCATIONS REQUIRED PRIOR TO THE START OF CONSTRUCTION.

5.) ANY PROPOSED SILT FENCE/ROW OF STAKED HAYBALES/ SOIL & EROSION CONTROLS TO BE INSTALLED PRIOR TO ANY SITE DISTURBANCES ASSOCIATED WITH BUILDING AND/OR OWTS CONSTRUCTION.

6.) THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING, WITH MATCHING MATERIALS, ANY PAVEMENT, DRIVEWAYS, WALKS, WALLS, CURBS, ETC. THAT MUST BE CUT OR THAT ARE DAMAGED DURING CONSTRUCTION.

7.) CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, IDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL AND ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM "THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER."

8.) ALL DISTURBED AREAS NOT COVERED BY BUILDINGS, PAVEMENT OR OTHER GROUND COVER SHALL BE PLANTED WITH GRASS ON FOUR INCH (4") THICKNESS OF TOPSOIL. IF SEEDING CANNOT BE COMPLETED IMMEDIATELY, DISTURBED AREAS SHALL BE STABILIZED WITH A SPREAD HAY MULCH (APPROPRIATELY ANCHORED) OR EXCELSIOR EROSION CONTROL MATTING.

9.) ALL TEMPORARY SOIL STOCKPILE AREAS AND TRENCH EXCAVATION SPOILS SHALL BE PROTECTED WITH A ROW OF STAKED HAYBALES AND/OR SILT FENCE AND WITH A SPREAD HAY MULCH AND WOVEN NETTING (OR EXCELSIOR EROSION CONTROL MATTING) WHEN LEFT EXPOSED FOR LONG PERIODS OF TIME. ANY SUCH STOCKPILE AREAS SHALL BE PLACED IN AN APPROPRIATE UPLAND LOCATION AND COMPLETELY REMOVED PRIOR TO PROJECT CLOSE-OUT.

10.) THE CONTRACTOR SHALL PROPERLY GRADE SITE TO ENSURE PROPER DRAINAGE AWAY FROM OWTS, BUILDINGS AND ADJACENT PROPERTY OWNERS. SHALLOW DIVERSION SWALES OR EQUAL NOT SHOWN ON PLANS, MAY BE REQUIRED. CONTRACTOR SHALL INSTALL LANDSCAPE TIMBERS OR EQUAL AS NECESSARY TO PROTECT BSF.

GROUND WATER - SITE APPLICATION NUMBER **2313-1078**

PREVIOUS OWTS APPL. **0413-1016** SUBDIVISION REVIEW NO. **S13-51**

SEE SHEET 5 & 6 FOR ADDITIONAL NOTES AND DETAILS

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
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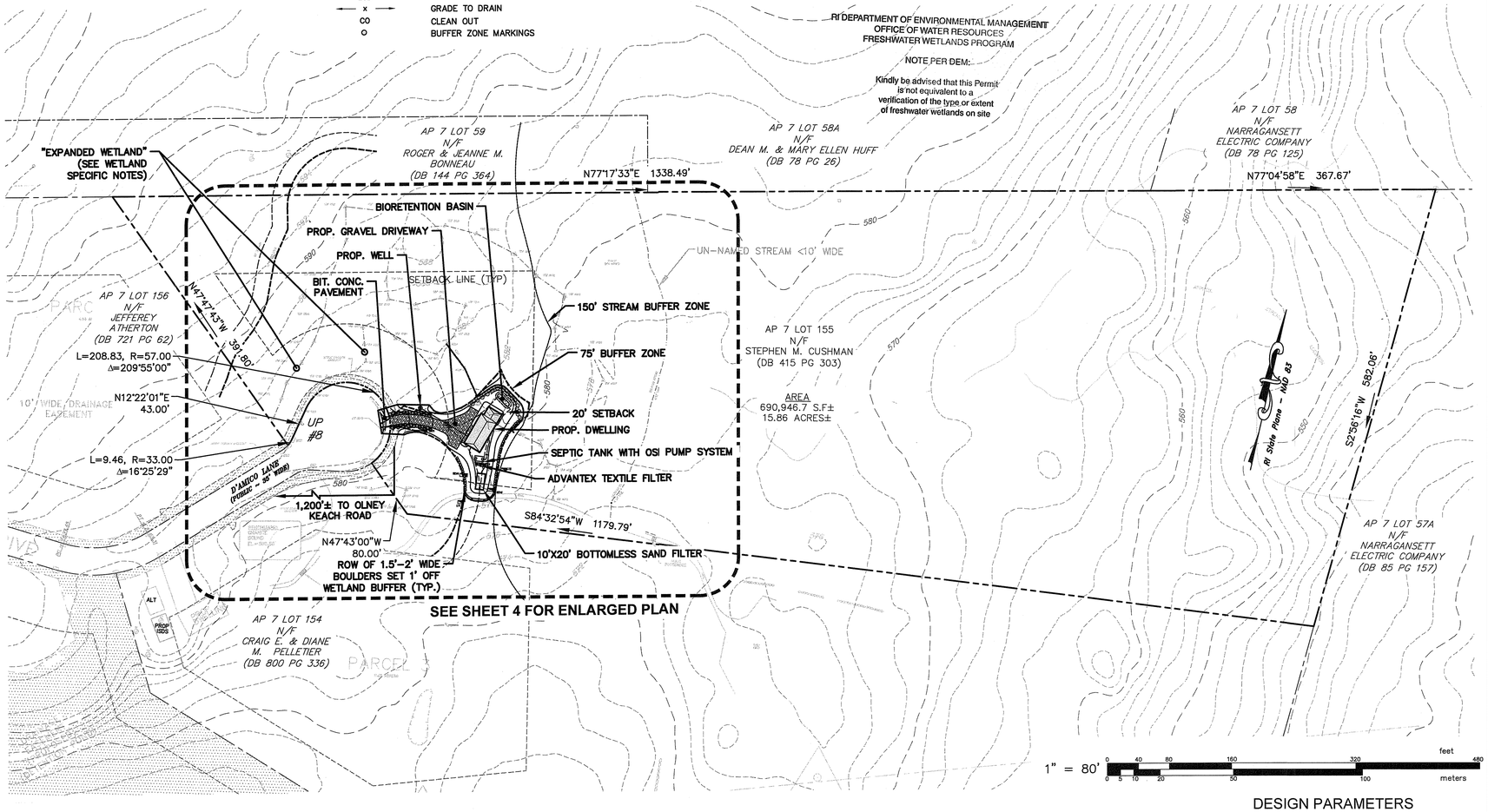
Marie D. Wenck



WETLAND SPECIFIC NOTES:

1. THE ASSF DEPICTED ON THIS PLAN APPEARS INCONSISTENT AND POORLY DEFINED IN THE FIELD AND HAS BEEN SHOWN TO BE RE-ROUTED ALONG THE TOE OF THE PROPOSED GRADING TO A POINT WHERE IT REJOINS THE EXISTING ASSF.
2. THE WETLAND ON SITE APPEARS TO HAVE EXPANDED UP STREAM FROM THE CULVERT AS DEPICTED BY WETLAND FLAGS C101 THRU C118 AND B103 THRU B109, WHICH APPEARS CONSISTENT WITH NOTES IN THE FILE FOR THE PREVIOUS WETLANDS APPL. NO. 03-0353, DATED 2/16/2004.
3. REFERENCE DISCUSSION WITHIN THE PERMIT FILE FOR APPL. NO. 03-0353 REGARDING THE EXISTING TRAIL AND FOOTBRIDGE AS SHOWN HEREON.

UTILITY NOTE:

THE UNDERGROUND UTILITIES SHOWN HAVE BEEN LOCATED FROM FIELD SURVEY INFORMATION AND EXISTING DRAWINGS. THE SURVEYOR MAKES NO GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COMPRISE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR FURTHER DOES NOT WARRANT THAT THE UNDERGROUND UTILITIES SHOWN ARE IN THE EXACT LOCATION INDICATED ALTHOUGH HE DOES CERTIFY THAT THEY ARE LOCATED AS ACCURATELY AS POSSIBLE FROM INFORMATION AVAILABLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES. (PLEASE CONTACT DIGSAFE PRIOR TO CONSTRUCTION @ 1-888-344-7233).

NOTES:

1. THE CONTRACTOR SHALL ASSURE MINIMUM GRADE REQUIREMENTS ARE MAINTAINED OVER ALL COMPONENTS OF O.W.T.S. AND THAT GRADING PROVIDES FOR PROPER DRAINAGE AWAY FROM O.W.T.S., BUILDING AND ADJACENT PROPERTIES.
2. ACCORDING TO THE SOIL SURVEY OF RHODE ISLAND SOILS ON SITE ARE CLASSIFIED AS CANTON AND CHARLTON VERY STONY FINE SANDY LOAM, 3-8 PERCENT SLOPES AND RIDGEBURY, WHITMAN AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS HAVING AN ESTIMATED SEASONAL HIGH WATER TABLE RANGING 0'-6'.

NOTICE: THE ON-SITE WASTEWATER TREATMENT SYSTEM AS SHOWN HEREON REQUIRES MAINTENANCE (AT LEAST TWICE DURING THE FIRST YEAR AND ANNUALLY THEREAFTER.) AN OPERATION AND MAINTENANCE CONTRACT MUST BE OBTAINED BY THE OWNER PRIOR TO START UP OF SYSTEM. IT IS RECOMMENDED THAT A ORENCO REPRESENTATIVE BE CONTRACTED FOR THESE SERVICES.

DESIGN NOTE:

SOILS WITNESSED IN SEV'S 3&4 CONSIST PRIMARILY OF (ABLATION TILL) FINE SANDY LOAM WITH TRACES OF SILT LOAM ABOVE LOAMY SAND.

A SEASONAL HIGH WATER TABLE ESTIMATED AT >18" AND A DESIGN LOADING RATE OF 2.3 gals./day/sf LOADING RATE WERE USED FOR DESIGN PURPOSES.

DESIGN PARAMETERS

SYSTEM LOADING
4 BEDROOMS @ 115 GPD/BEDROOM = 460 GPD
ADVANTEX AX20 TREATMENT
UNIT IS CAPABLE OF TREATING UP TO 4 BEDROOMS PER DAY OF RESIDENTIAL STRENGTH WASTEWATER
BOTTOMLESS SAND FILTER DESIGN
(DESIGN LOADING RATE 2.3 GAL/SF/DAY)
REQUIRED SIZE: 2.3 460 GPD / 2.3 GPD/SF = 200 SF
PROVIDED SIZE: 10'x20' = 200 SF
ACTUAL LOADING RATE = 2.3 GAL./S.F./DAY

SAMUEL A. WHITE, JR. No. 1781 PROFESSIONAL LAND SURVEYOR
07-02-2024
D 2020

1. PER PRE APP. MEETING WITH RIDEM.	05/03/24
2. PER WETLAND BIOLOGIST'S COMMENTS.	06/19/24
3. PER RIDEM COMMENTS.	07/02/24

PLAN OF PROPOSED SITE DEVELOPMENT & ON- SITE WASTEWATER TREATMENT SYSTEM FOR ASSESSORS PLAT 7, LOT 155
D'AMICO LANE
GLOCESTER, RHODE ISLAND
Prepared For: STEPHEN CUSHMAN

RI Department of Environmental Management
AUG 14 2024
Office of Water Resources

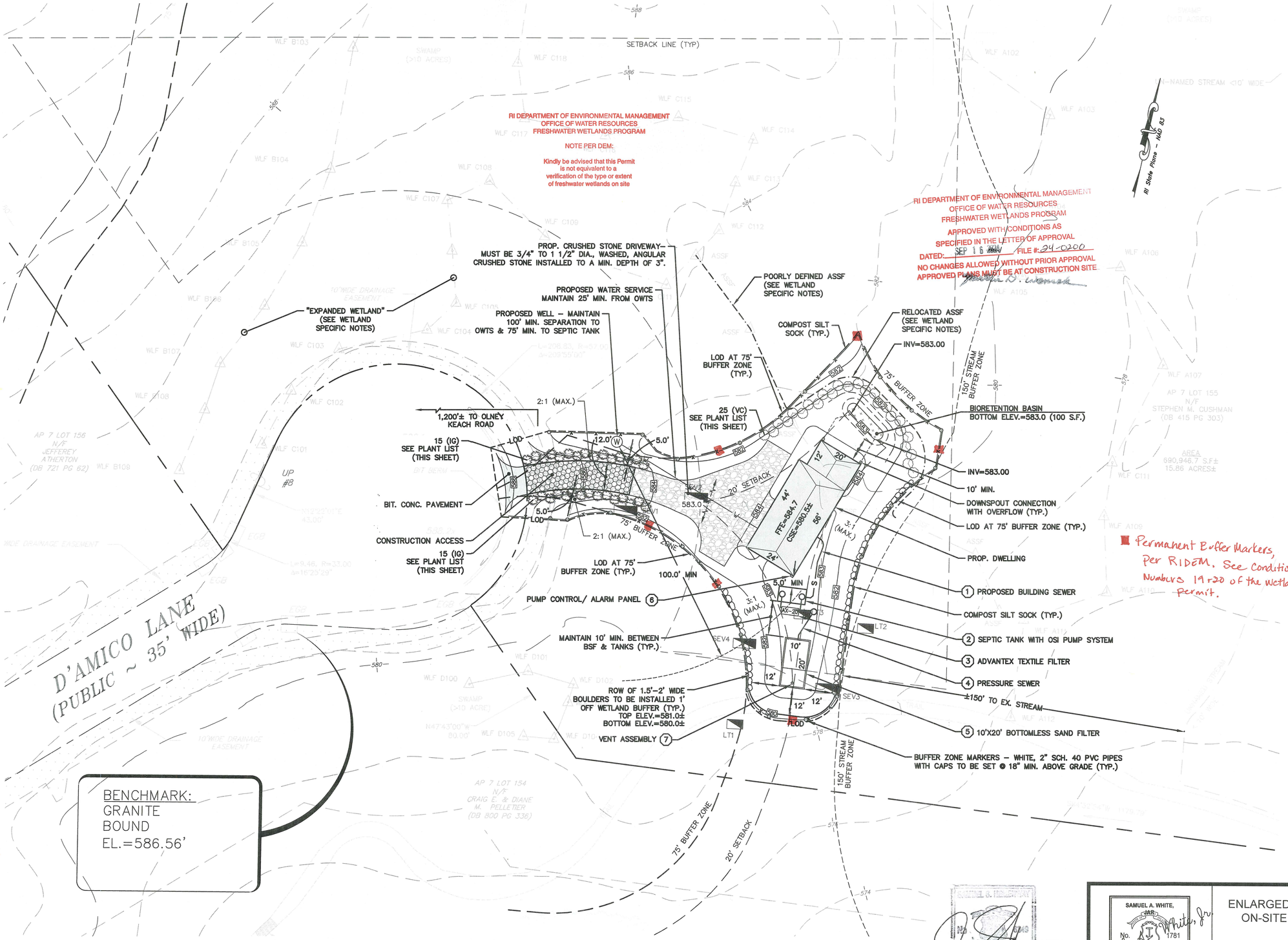
SCALE: 1"=80' DATE: 04-03-2024

GAROFALO
GAROFALO & ASSOCIATES, INC.
CIVIL & STRUCTURAL ENGINEERS/SURVEYORS AND PLANNERS/ENVIRONMENTAL SCIENTISTS
85 CORLISS STREET, P.O. BOX 6145 PROVIDENCE, RI 02940
401-273-0000

SHEET 3 OF 6

JOB NO. 6644-01-OWTS

LV\6644-01 Damico Lane - OWTS (Cushman) - Glocester, RV\dwg\01-Current\OWTS dwgs\6644-01-OWTS_3.dwg 07/02/2024 kylngyong 12:24



ENLARGED PLAN
SCALE: 1"=20'

LIST OF COMPONENTS - SEE DETAILS NEXT SHEET

NOTE: OSI SHALL REFER TO ORENCO SYSTEM INCORPORATED, SUTHERLIN, OR – (541) 459–4449

1. BUILDING SEWER – 30 L.F. – 4" SCH40 PVC SEWER PIPE (S=0.01 FT/FT MIN., 0.05 FT/FT MAX.)
2. 2,000 GAL. TWO–COMPARTMENT SEPTIC TANK (SEE DETAILS) W/ ORENCO BIOTUBE EFFLUENT FILTER & PUMP
3. OSI–AX 20 ADVANTEX TEXTILE FILTER (SEE DETAILS)
4. 1 1/4" CLASS 200 PVC PRESSURE SEWER WITH SOLVENT WELDED JOINTS – LENGTH AS REQUIRED BY FIELD CONDITIONS.
5. 10'x20' BOTTOMLESS SAND FILTER, (ASTM 33, 0 DAMP) MEDIA SAND SHALL BE OBTAINED FROM MATERIAL PROVIDER AS APPROVED BY R.I.D.E.M. OR EQUAL. REFERENCE RIDEM'S GUIDELINES FOR THE DESIGN, USE AND MAINTENANCE OF PRESSURIZED DRAINFIELDS, NOVEMBER, 2013.
6. PUMP CONTROL PANEL (TO BE LOCATED AS SHOWN) OSI MODEL NO. VERICOM TELEMETRY CONTROL, PANEL CONNECTION TO PHONE SERVICE OPTIONAL.
7. OSI–ADVANTEX 2"ø VENT ASSEMBLY.

WETLAND SPECIFIC NOTES:

1. THE ASSF DEPICTED ON THIS PLAN APPEARS INCONSISTENT AND POORLY DEFINED IN THE FIELD AND HAS BEEN SHOWN TO BE RE–ROUTED ALONG THE TOE OF THE PROPOSED GRADING TO A POINT WHERE IT REJOINS THE EXISTING ASSF.
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3. REFERENCE DISCUSSION WITHIN THE PERMIT FILE FOR APPL. NO. 03–0353 REGARDING THE EXISTING TRAIL AND FOOTBRIDGE AS SHOWN HEREON.

PLANT LIST:

DECIDUOUS SHRUB

KEY	BOTANICAL NAME / COMMON NAME	QTY.	SIZE	NOTE
IG	ILEX GLABRA / INKBERRY	30	# 2 CONTIANER	
VC	VACCINIUM CORYMBOSUM / HIGHBUSH BLUEBERRY	25	# 2 CONTIANER	

Permanent Buffer Markers, Per RIDEM. See Condition Numbers 19 & 20 of the Wetland Permit.

GENERAL LEGEND

N/F	NOW OR FORMERLY
S.F.	SQUARE FEET
AC.	ACRES
DB, PG	DEEDBOOK, PAGE
FFE	FIRST FLOOR ELEVATION
CSE	CRAWL SPACE ELEVATION
	EX. UTILITY POLE
	LOCUS PROPERTY LINE
	ASSESSORS LINE
	EASEMENT LINE
240	EX. CONTOUR MRJ
242	EX. CONTOUR MRN
	EX. WETLAND EDGE
WLF A107	EX. WETLAND FLAG
	20' SETBACK
	75' BUFFER ZONE
	150' STREAM BUFFER ZONE
EGB	EXISTING GRANITE BOUND
EIR	EXISTING IRON ROD
100.0x	SPOT GRADE
78	PROPOSED CONTOUR MINOR
80	PROPOSED CONTOUR MAJOR
(24x8)	PROPOSED SPOT ELEVATION
S	PROPOSED SEWER LINE
W	PROPOSED WATER LINE
	PROPOSED COMPOST SILT SOCK
LOD	PROPOSED LIMIT/ WORK OF DISTURBANCE
	GRADE TO DRAIN
CO	CLEAN OUT
	BUFFER ZONE MARKINGS

SEE SHEET'S 5 & 6 FOR ADDITIONAL NOTES & DETAILS

1" = 20' (0 10 20 40 80 120 feet; 0 5 10 20 30 meters)

07–02–2024
D 3064

SAMUEL A. WHITE, JR.
No. 1781
PROFESSIONAL LAND SURVEYOR
07–02–2024
D 2020

1. PER PRE APP. MEETING WITH RIDEM.	05/03/24
2. PER WETLAND BIOLOGIST'S COMMENTS.	06/19/24
3. PER RIDEM COMMENTS.	07/02/24

ENLARGED PLAN OF PROPOSED SITE DEVELOPMENT & ON-SITE WASTEWATER TREATMENT SYSTEM FOR ASSESSORS PLAT 7, LOT 155

D'AMICO LANE
GLOCESTER, RHODE ISLAND
Prepared For: STEPHEN CUSHMAN

Commercial Management AUG 14 2024 Office of Water Resources

SCALE: 1"=20' DATE: 04–03–2024

GAROFALO & ASSOCIATES, INC.
CIVIL & SITE DEVELOPMENT SURVEYORS
LAND PLANNERS/ENVIRONMENTAL SCIENTISTS
85 CORLISS STREET, P.O. BOX 6145 PROVIDENCE, RI 02940
401–272–6500

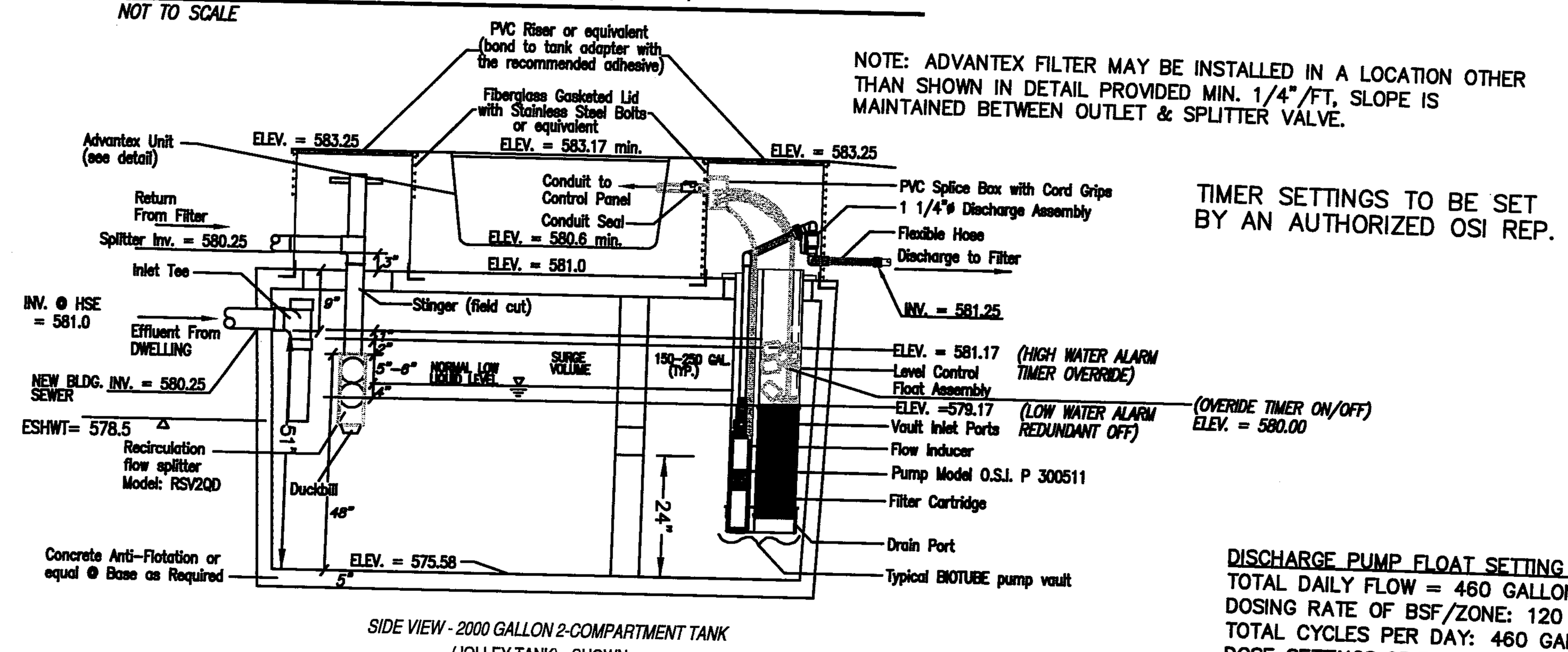
SHEET 4 OF 6

JOB NO. 6644–01–OWTS

L:\6644-01 D'Amico Lane - OWTS (Cushman) - Glocester, RI\dwg\01-Current\OWTS dwgs\6644-01-OWTS_r3.dwg 07/02/2024 kyingpong 12:27

REPS (Recirculating Effluent Pump System) - SIDE VIEW

NOT TO SCALE



SIDE VIEW - 2000 GALLON 2-COMPARTMENT TANK (JOLLEY TANK) - SHOWN

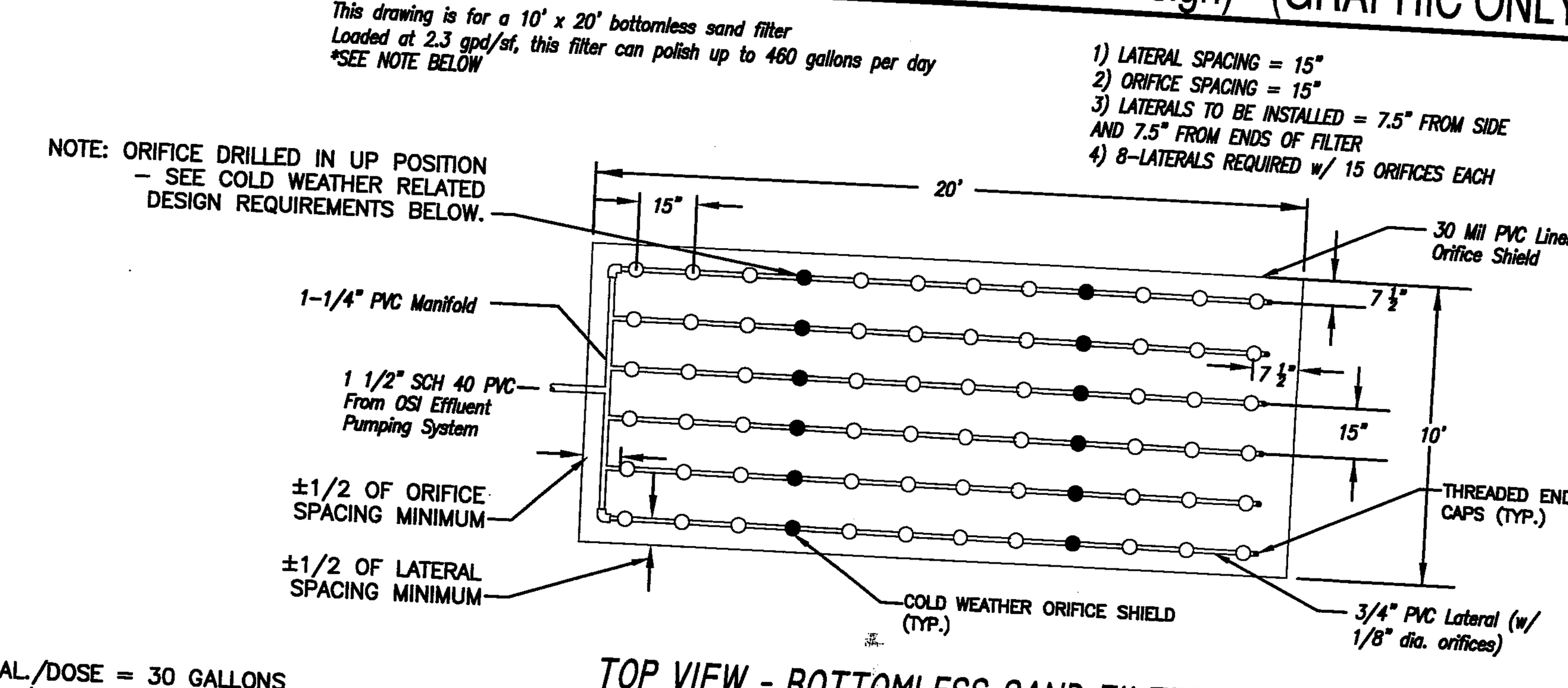
NOTE: ADVANTEX FILTER MAY BE INSTALLED IN A LOCATION OTHER THAN SHOWN IN DETAIL PROVIDED MIN. 1/4"/FT. SLOPE IS MAINTAINED BETWEEN OUTLET & SPLITTER VALVE.

TIMER SETTINGS TO BE SET BY AN AUTHORIZED OSI REP.

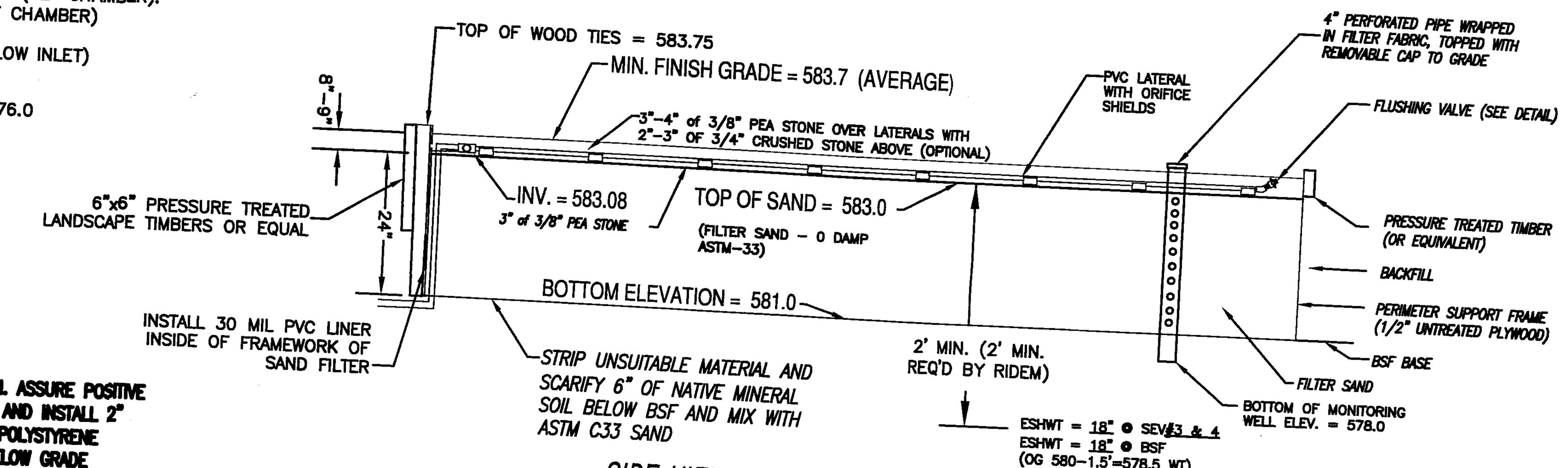
DISCHARGE PUMP FLOAT SETTING CALCULATIONS:

TOTAL DAILY FLOW = 460 GALLONS/DAY
DOSING RATE OF BSF/ZONE: 120 ORIFICES @ .25 GAL./DOSE = 30 GALLONS
TOTAL CYCLES PER DAY: 460 GALLONS/23.5 GALLON/CYCLE = 20 CYCLES
DOSE SETTINGS: 23.5 GALLON DOSE/23.50 GALLON/LIQ. FT. = 1 FT.
PUMP CHAMBER ELEVATIONS (72" CHAMBER):
RIM = 583.0 (TOP OF CHAMBER)
INLET = 579.75
HWA =579.25 (6" BELOW INLET)
PUMP ON =579.0
PUMP OFF =578.0
BOTTOM CHAMBER =576.0

10' x 20' Bottomless Sand Filter (Cold Weather Design) - (GRAPHIC ONLY)



TOP VIEW - BOTTOMLESS SAND FILTER



SIDE VIEW - BOTTOMLESS SAND FILTER

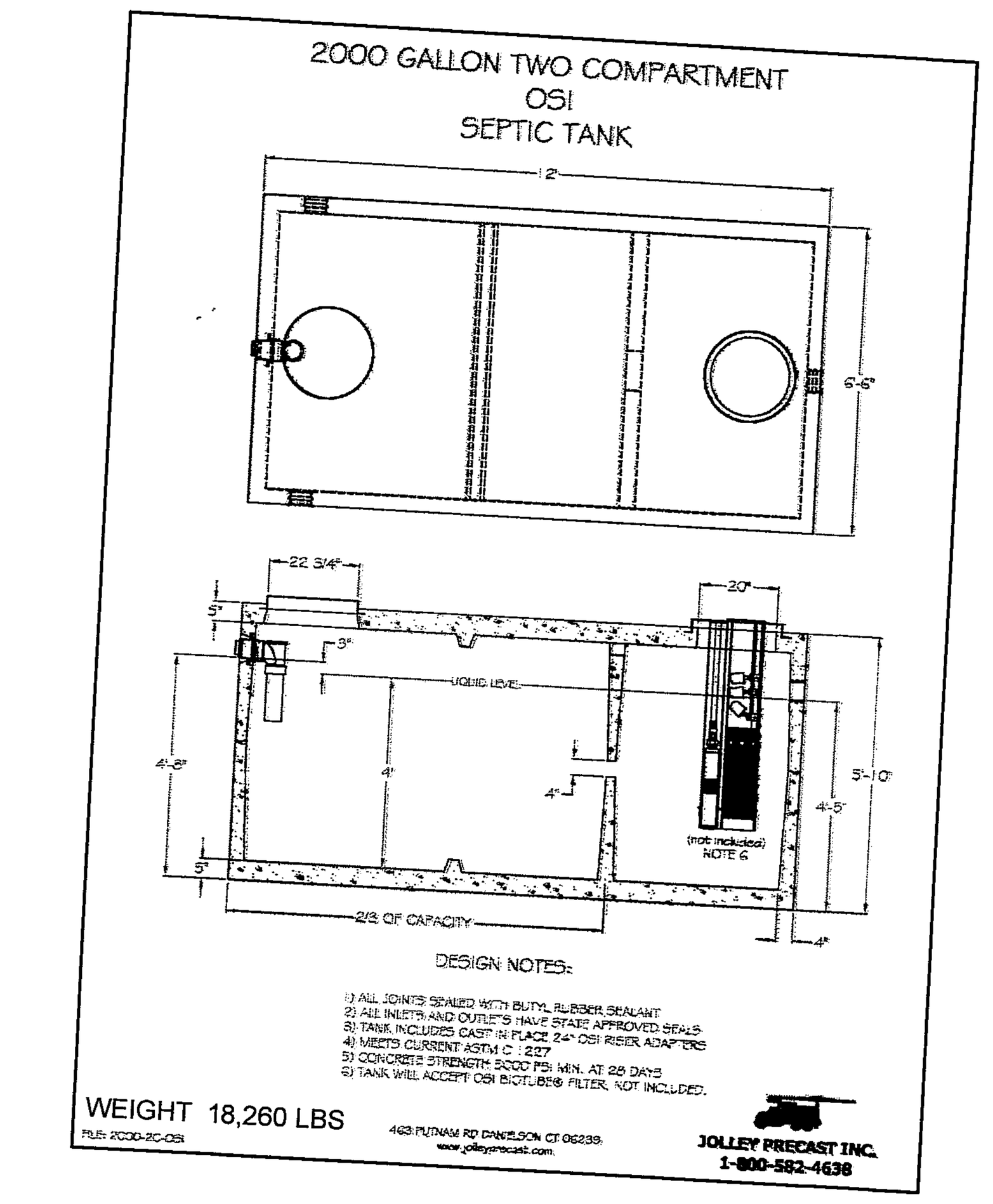
NOT TO SCALE

*NOTE:

LOADING RATE OF 2.3 GALS/FT^2/DAY WAS CHOSEN BASED ON THE PREDOMINANT USDA SOIL TEXTURE OF THE MOST RESTRICTIVE RECEIVING SOIL HORIZON IN ACCORDANCE WITH THE RIDEM SAND FILTER GUIDANCE DOCUMENT.

COLD WEATHER RELATED DESIGN REQUIREMENTS:

1. TWO (2) ORIFICES IN EACH LATERAL SHALL BE DRILLED POINTING UP; ALL OTHER ORIFICES SHALL BE DRILLED POINTING DOWN. THE UP-POINTING ORIFICES SHALL BE LOCATED APPROXIMATELY 1/3 AND 2/3 RESPECTIVELY, ALONG THE LENGTH OF EACH LATERAL. ALL ORIFICES MUST BE COVERED WITH ORIFICE SHIELDS.
2. IN ADDITION TO THE 3" OF 3/8" PEA STONE INSTALLED OVER THE FILTER SAND AN ADDITIONAL 3" SHALL BE PLACED ABOVE THE UP-FACING ORIFICE SHIELDS.
3. NO FILTER FABRIC OF ANY KIND SHALL BE PLACED BETWEEN THE SAND AND OVERLYING PEA STONE.
4. NECESSARY PRECAUTIONS WHERE POSSIBLE, MUST BE TAKEN TO LOCATE BSF WHERE IT WILL RECEIVE THE MAXIMUM DIRECT SUNLIGHT.



SAND FILTER MEDIA NOTE:

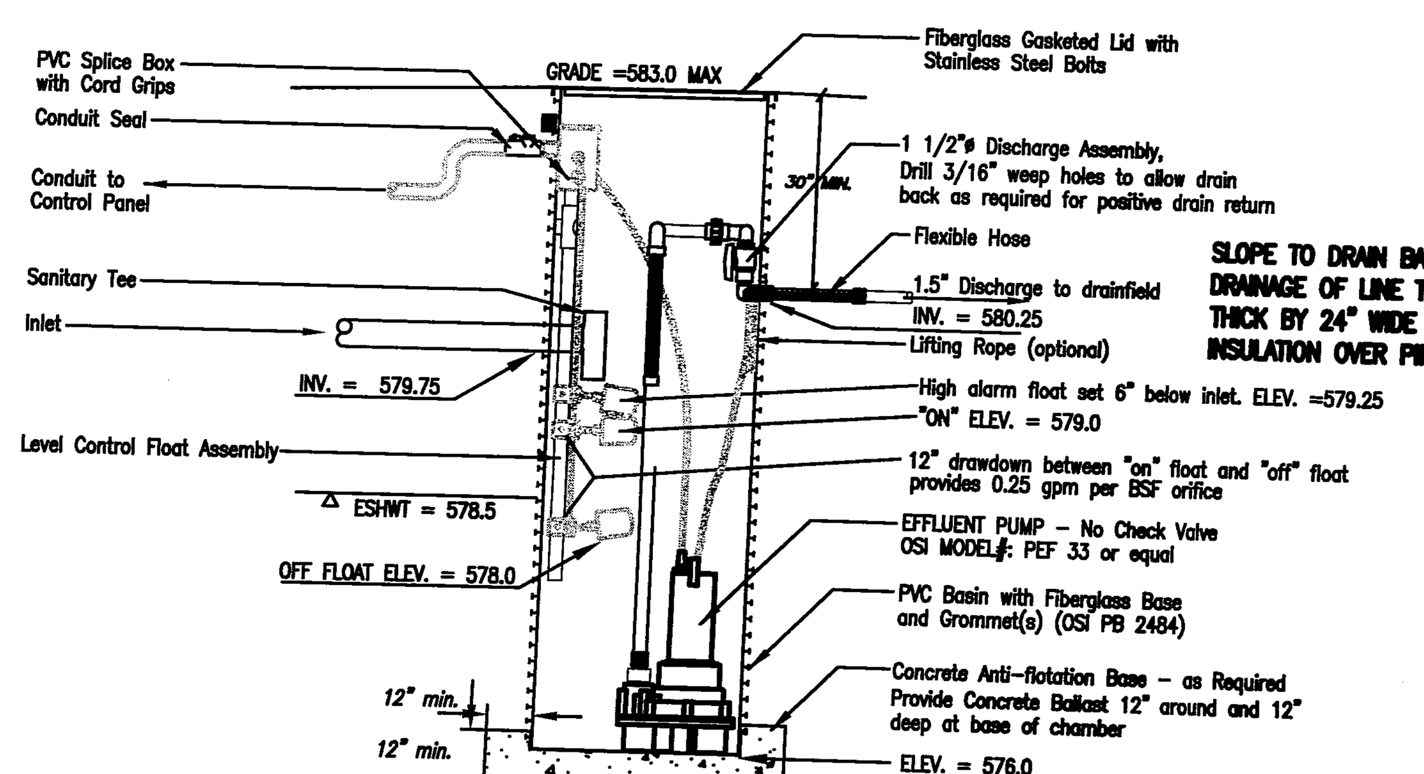
ALL MEDIA WITHIN THE ENCLOSURE AND BELOW THE COVER STONE SHALL HAVE AN EFFECTIVE SIZE (D10) OF 0.33 MM (±) AND UNIFORMITY COEFFICIENT (D60/D10) OF 2.0 TO 4.0. THE MAXIMUM ALLOWABLE PERCENTAGE OF FINES PASSING THROUGH A NUMBER 200 SIEVE SHALL BE ONE PERCENT (1%). OTHER THAN THE GRADATION AND FINE CONTENT SPECIFIED ABOVE, THE SAND MEDIA SHALL MEET THE OTHER ASTM C-33 SAND SPECIFICATIONS.

NOTES:

1. THE SEPTIC TANK SHALL BE A WATERTIGHT, 2000 GAL. 2-COMPARTMENT TANK WITH 24" MIN. DIAMETER INLET AND OUTLET ACCESS RISERS. RISERS SHALL BE PVC WITH SECURED FIBERGLASS LID. IF CONCRETE TANK IS USED, ABS TANK ADAPTER SHALL BE CAST INTO PLACE. TANK SHALL BE VACUUM TESTED WHEN CONSTRUCTED OR WATER TESTED/VACUUM TESTED ON SITE. (CONCRETE TANK MAY BE PURCHASED FROM JOLLY PRE CAST, INC. AT 1-800-582-4638.)
2. THE CONTRACTOR MUST FOLLOW ALL ITEMS CIRCLED IN THE LOWER RIGHT HAND AREA OF THE OWTS APPLICATION LABELED--IMPORTANT AND NOTIFY ENGINEER DURING THE DIFFERENT STAGES OF CONSTRUCTION TO ALLOW THE ENGINEER TO OBSERVE COMPLIANCE WITH THE APPROVED PLANS (AS REQUIRED BY DEM).
3. THE CONTRACTOR MUST NOTIFY LICENSED DESIGNER 48 HOURS PRIOR TO START OF CONSTRUCTION WITH VALID INSTALLERS LICENSE NUMBER. DESIGNER MUST NOTIFY DEM 24 HOURS PRIOR TO START OF CONSTRUCTION IN ACCORDANCE WITH RULE 6.47
4. IF CONTRACTOR ENCOUNTERS UNANTICIPATED CONDITIONS DURING CONSTRUCTION WHICH INDICATE THAT THE SYSTEM CANNOT BE INSTALLED IN ACCORDANCE WITH THE APPROVED DESIGN, INSTALLER SHALL STOP CONSTRUCTION AND NOTIFY THE LICENSED DESIGNER RESPONSIBLE FOR WITNESSING AND INSPECTING THE INSTALLATION IN ACCORDANCE WITH RULE 43.0.
5. THE LICENSED DESIGNER SHALL WITNESS AND INSPECT ALL ASPECTS OF THE INSTALLATION, KEEP RECORDS, PREPARE THE CERTIFICATE OF COMPLETION AND PROVIDE O & M INFORMATION AND RECOMMENDATIONS TO THE OWNER, IN ACCORDANCE WITH RULE 43.0.
6. THE DESIGNER IS NOT RESPONSIBLE FOR ANY NEGLIGENT ACT OF OMISSION OF A USER OF AN OWTS, INCLUDING BUT NOT LIMITED TO, FAILURE TO PROPERLY USE AND MAINTAIN THE SYSTEM, WHICH CAUSES DAMAGE TO THE OWTS.
7. PUMPS SHALL BE AS MANUFACTURED BY ORENCO SYSTEMS, INC. OR APPROVED EQUAL.
   SEPTIC TANK PUMP TO ADVANTEX FILTER- O.S.I. P300511
   PUMP BASIN PUMP TO BOTTOMLESS SAND FILTER - PEF 33
8. CONTRACTOR TO NOTIFY ENGINEER DURING THE DIFFERENT STAGES OF CONSTRUCTION TO ALLOW THE ENGINEER TO OBSERVE COMPLIANCE WITH THE APPROVED PLANS (AS REQUIRED BY DEM).
9. ALL TANKS AND APPURTENANCES SHALL BE CONSTRUCTED SUCH THAT ALL ELEMENTS ACT AS A SINGLE WATERTIGHT UNIT & SHALL BE CONSTRUCTED ACCORDING TO ASTM STANDARD C-1227-97A OR ANY SUPERSEDING UPGRADING OF THIS STANDARD. ALL RISER ADAPTERS SHALL BE CAST IN PLACE DURING TANK MANUFACTURING. ALL INLETS AND OUTLETS SHALL BE CAST IN PLACE WITH CAST-A-SEAL OR EQUIVALENT W/STAINLESS STEEL ADJUSTABLE CLAMP.
10. THE PROPOSED SEPTIC TANK SHALL BE SEALED TO ENSURE WATER TIGHTNESS AND SHALL BE A TWO COMPARTMENT MONOLITHIC TANK WHICH CAN BE PURCHASED FROM JOLLEY PRE CAST, INC. @ 1-800-582-4638 OR EQUAL.
11. THE INSTALLER SHALL PROVIDE DESIGNER WITH MATERIAL RECEIPTS FOR ALL CONSTRUCTION MATERIALS PRIOR TO DESIGNER ISSUING CERTIFICATE OF CONSTRUCTION.

Drainfield Pump Basin with Effluent Pump Assembly

NOT TO SCALE Note: This system can also be fitted with an effluent screen that the pump and floats are installed in.

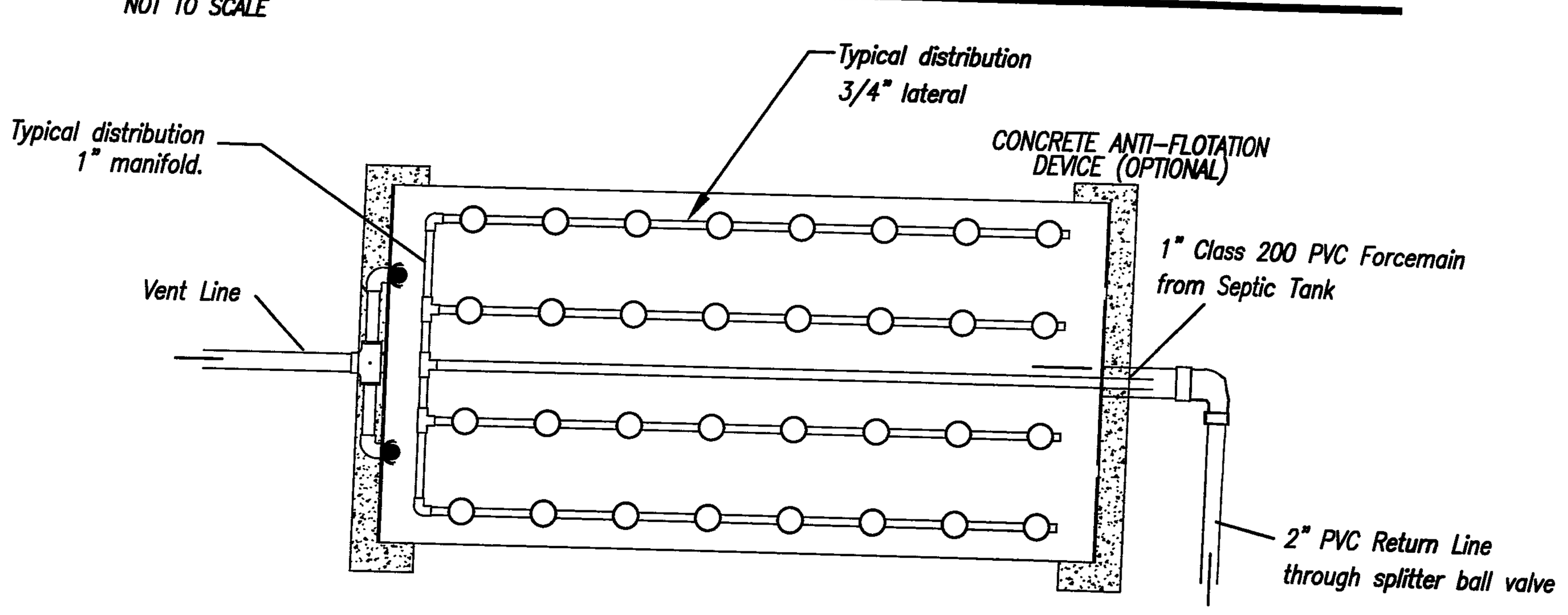


SLOPE TO DRAIN BACK TO PUMP BASIN. ASSURE POSITIVE DRAINAGE OF LINE TO AVOID FREEZING AND INSTALL 2" THICK BY 24" WIDE EXPANDED RIDGID POLYSTYRENE INSULATION OVER PIPE WHERE <30" BELOW GRADE

PUMP BASIN VOLUMES
24"ø = 23.5 gals./vertical foot
~~30"ø = 36.7 gals./vertical foot~~

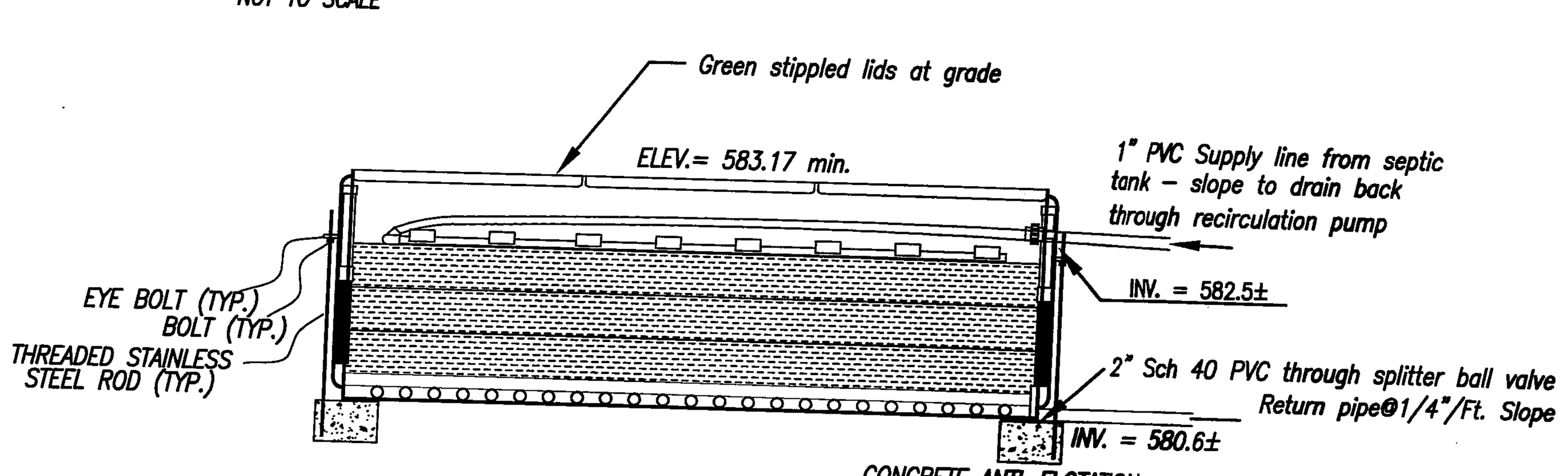
AX20 ADVANTEX Textile Filter (Graphic Only)

NOT TO SCALE



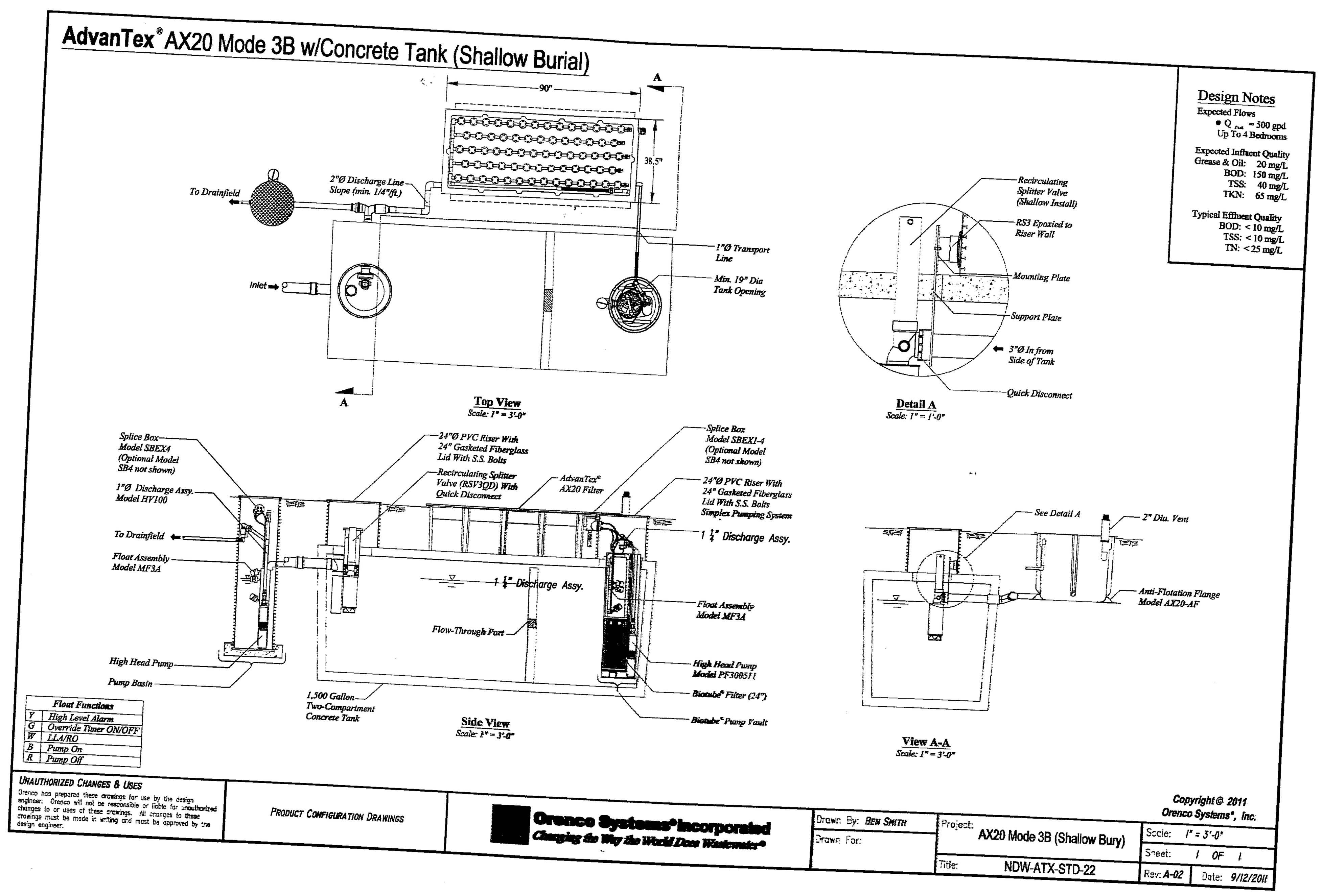
TOP VIEW - AX 20 ADVANTEX TEXTILE FILTER

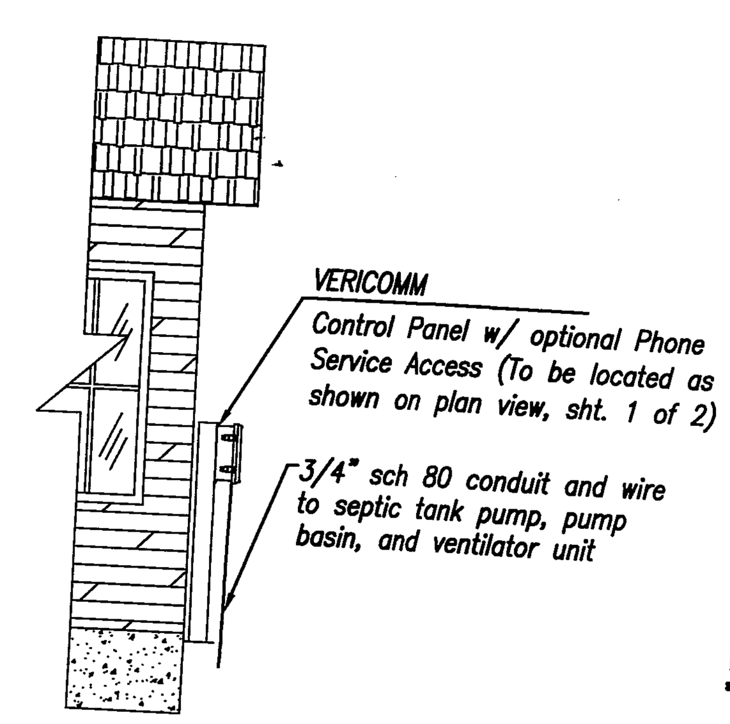
NOT TO SCALE



SIDE VIEW - AX 20 ADVANTEX TEXTILE FILTER

NOT TO SCALE



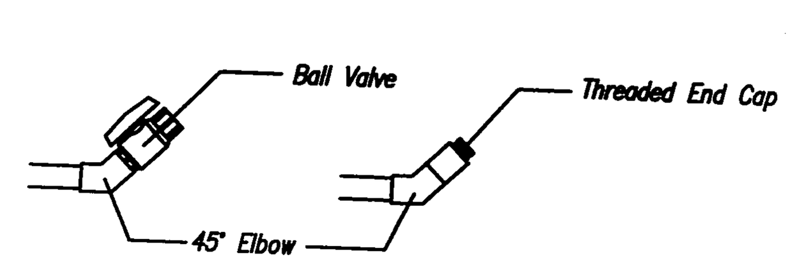


SCHEDULE OF PVC PIPE SIZES	
BUILDING TO SEPTIC TANK	4" SCH 40
ADVANTEX TO SPLITTER	2" SCH 40
SPLITTER TO PUMP BASIN	2" SCH 40
PUMP BASIN TO BSF MANIFOLD	1 1/4" CLASS 200
BSF MANIFOLD	1 1/4" CLASS 200
BSF LATERALS	3/4" CLASS 200

INVERT SCHEDULE

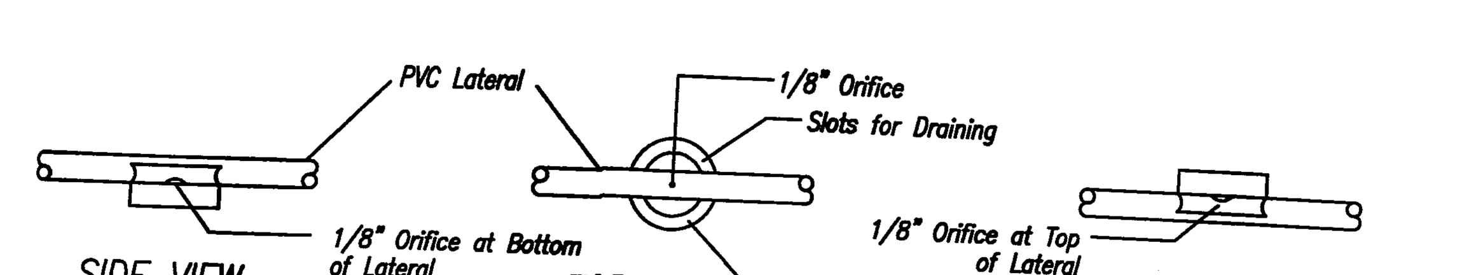
LOCATION	ELEVATION
OUT OF HOUSE	581.00 (GRAVITY)
INTO SEPTIC TANK	580.25 (GRAVITY)
OUT OF SEPTIC TO ADVANTEX	581.25 (PRESSURE)
OUT OF ADVANTEX TO SPLITTER	580.6± (GRAVITY)
SPLITTER AT SEPTIC TANK INTO PUMP BASIN	580.25 (GRAVITY)
SPLITTER INTO PUMP BASIN	579.75 (GRAVITY)
OUT OF PUMP BASIN TO BSF	580.25 (PRESSURE)
INVERT OF BSF MANIFOLD & LATERALS	583.08 (PRESSURE)

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: SEP 16 2024 FILE #: 24-0200
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE



Flushing Valve Detail
NOT TO SCALE

Threaded End Cap Detail
NOT TO SCALE

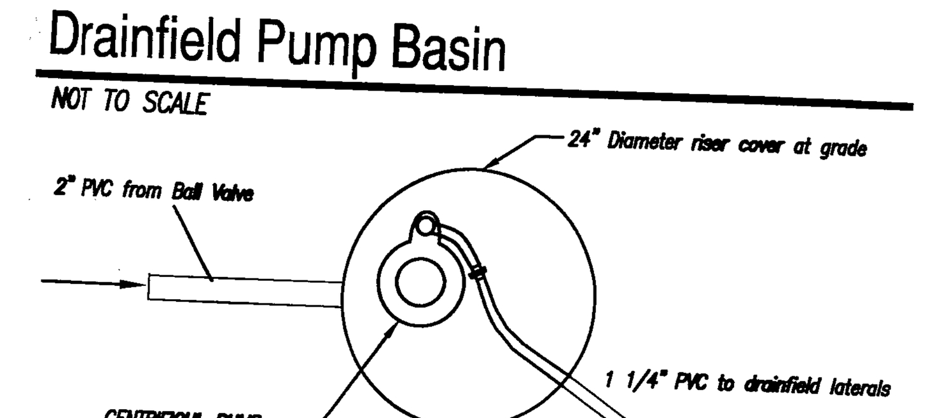


Cold Weather Orifice Shield Detail
NOT TO SCALE

NOTE: Provide Two (2) Upward Facing Orifices with Shields, Located at the one-third (1/3) and the two-thirds (2/3) Points Along Each Lateral.

Drainfield Pump Basin

NOT TO SCALE



TOP VIEW - 24" DIAMETER PUMP BASIN FOR DOSING TO DRAINFIELD

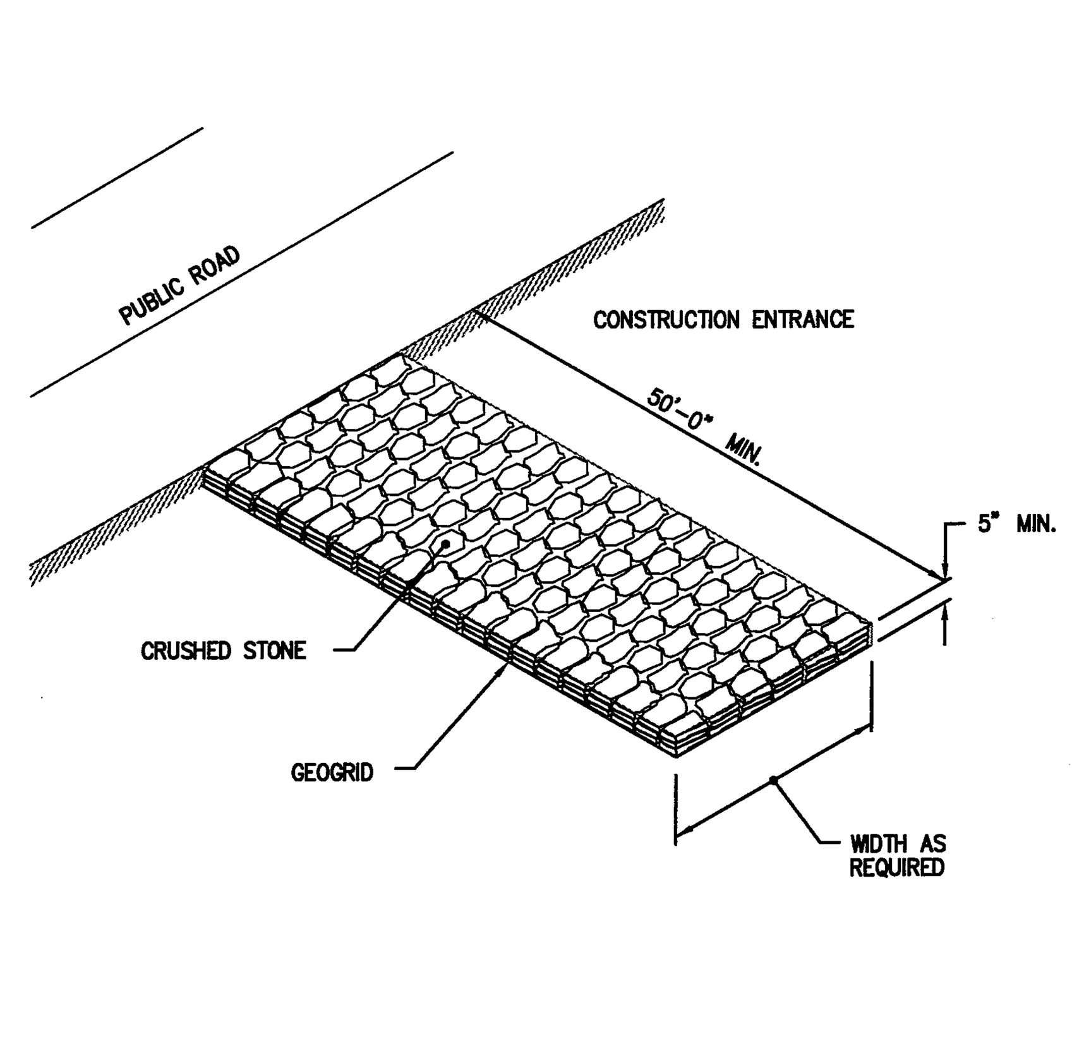
PARTS AVAILABLE FROM:
Orenco Systems® Incorporated
814 AIRWAY AVENUE
SUTHERLIN, OREGON
97479-9012
TELEPHONE:
(541) 459-4449
FACSIMILE:
(541) 459-2884

SAMUEL A. WHITE, JR.
No. 1781
PROFESSIONAL LAND SURVEYOR
04-03-2024
D 2020

OWTS NOTES & DETAILS
PLAN OF PROPOSED ON-SITE
WASTEWATER TREATMENT SYSTEM
FOR ASSESSORS PLAT 7, LOT 155
D'AMICO LANE
GLOCESTER, RHODE ISLAND
Prepared For: STEPHEN CUSHMAN

SCALE: AS SHOWN
DATE: 04-03-2024

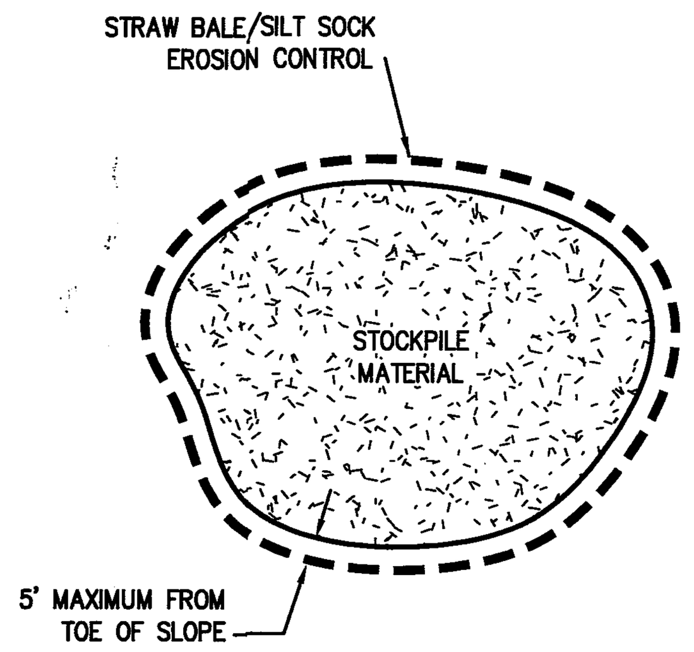
GAROFALO
GAROFALO & ASSOCIATES, INC.
CIVIL & STRUCTURAL ENGINEERS\SURVEYORS
LAND PLANNERS\ENVIRONMENTAL SCIENTISTS
85 CORLISS STREET, P.O. BOX 6145 PROVIDENCE, RI 02940
401-273-6000



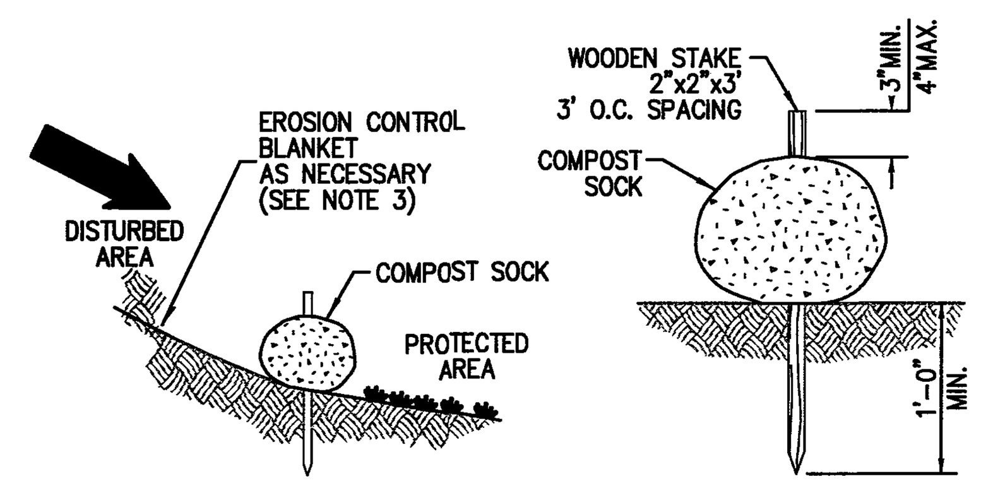
NOTE:
SHALL BE IN ACCORDANCE WITH SECTION 211 OF THE R.I. STANDARD SPECIFICATIONS.

RHODE ISLAND DEPARTMENT OF TRANSPORTATION

REVISIONS			CONSTRUCTION ACCESS	R.I. STANDARD 9.9.0
NO.	BY	DATE	JUNE 15, 1998 ISSUE DATE	
			CHIEF ENGINEER TRANSPORTATION / CHIEF DESIGN ENGINEER TRANSPORTATION	



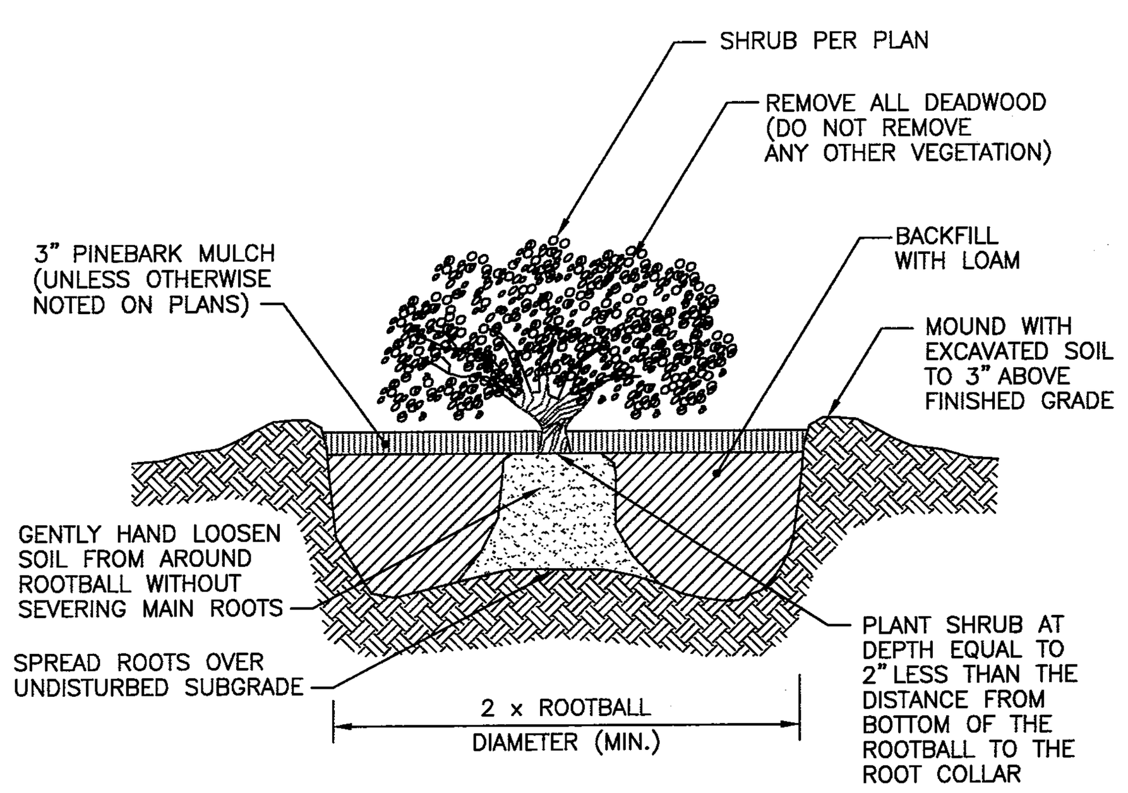
STOCKPILE DETAIL
NOT TO SCALE



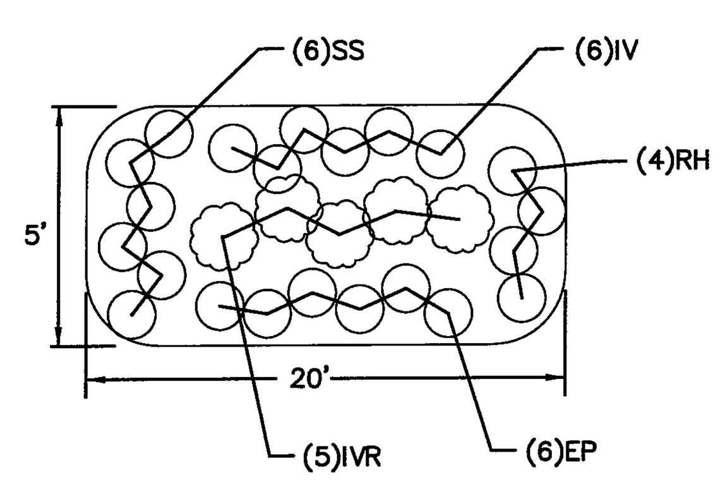
NOTES:

1. COMPOST SOCK SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS. COMPOST SOCK SHALL BE A MINIMUM OF 8" IN DIAMETER.
2. COMPOST MATERIAL TO BE DISPERSED ON SITE, AS DETERMINED BY THE ENGINEER.
3. WHEN PLACING COMPOST SOCK ON SLOPES, USE EROSION CONTROL BLANKET IF SPECIFIED ON PLANS.
4. ALWAYS INSTALL COMPOST SOCK PERPENDICULAR TO SLOPE AND ALONG CONTOUR LINES.
5. REMOVE SEDIMENT FROM THE UP SLOPE SIDE OF THE COMPOST SOCK WHEN ACCUMULATION HAS REACHED 1/2 OF THE EFFECTIVE HEIGHT OF THE COMPOST SOCK.
6. WHERE COMPOST SOCK IS INSTALLED ON PAVEMENT SHALL BE ADEQUATELY HIGH AT 8'-0" O.C. MIN.

COMPOST SILT SOCK DETAIL
NOT TO SCALE



CONTAINER GROWN SHRUB
NOT TO SCALE



RECOMMENDED BIORETENTION PLANT LIST BASED ON A TYPICAL 100 S.F. BOTTOM AREA, OR AS PROVIDED BY LANDSCAPE SPECIALIST.

TYPICAL PLANTING

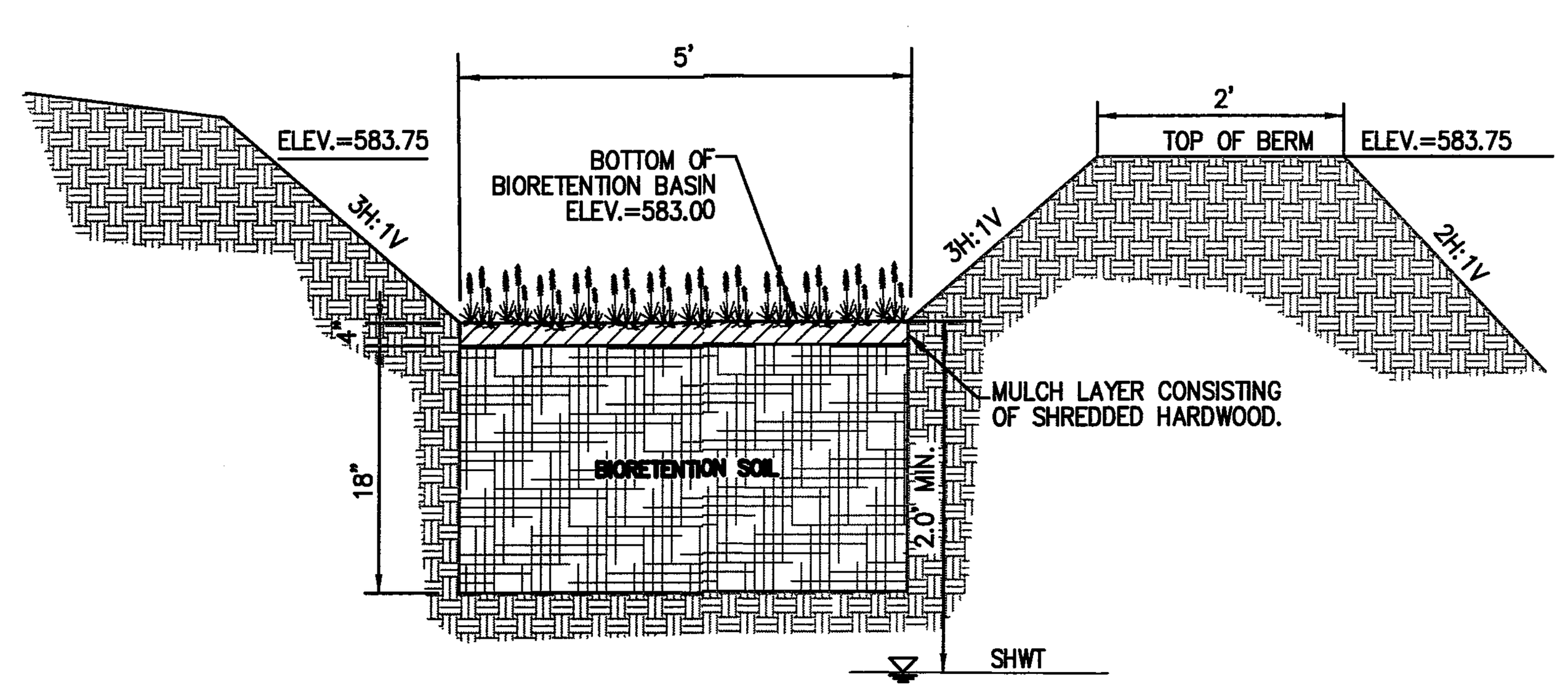
BIORETENTION BASIN PLANT LIST:

SHRUB				
KEY	BOTANICAL NAME *COMMON NAME*	QTY.	SIZE	NOTE
IVR	ILEX VERTICILLATA 'RED SPRITE' *RED SPRITE WINTER BERRY*	5	#2 CONTAINER	

GROUNDCOVERS, PERENNIALS, AND VINES				
KEY	BOTANICAL NAME *COMMON NAME*	QTY.	SIZE	NOTE
SS	SCHIZACHYRIUM SCOPARIUM *LITTLE BLUESTEM*	6	#1 CONTAINER	
EP	ECHINACEA PURPUREA *PURPLE CONEFLOWER*	6	#1 CONTAINER	
IV	IRIS VERSICOLOR *BLUE FLAG*	6	#1 CONTAINER	
RH	RUDBECKIA HIRTA *BLACK EYED SUSAN*	4	#1 CONTAINER	

SOIL MEDIA COMPOSITION:

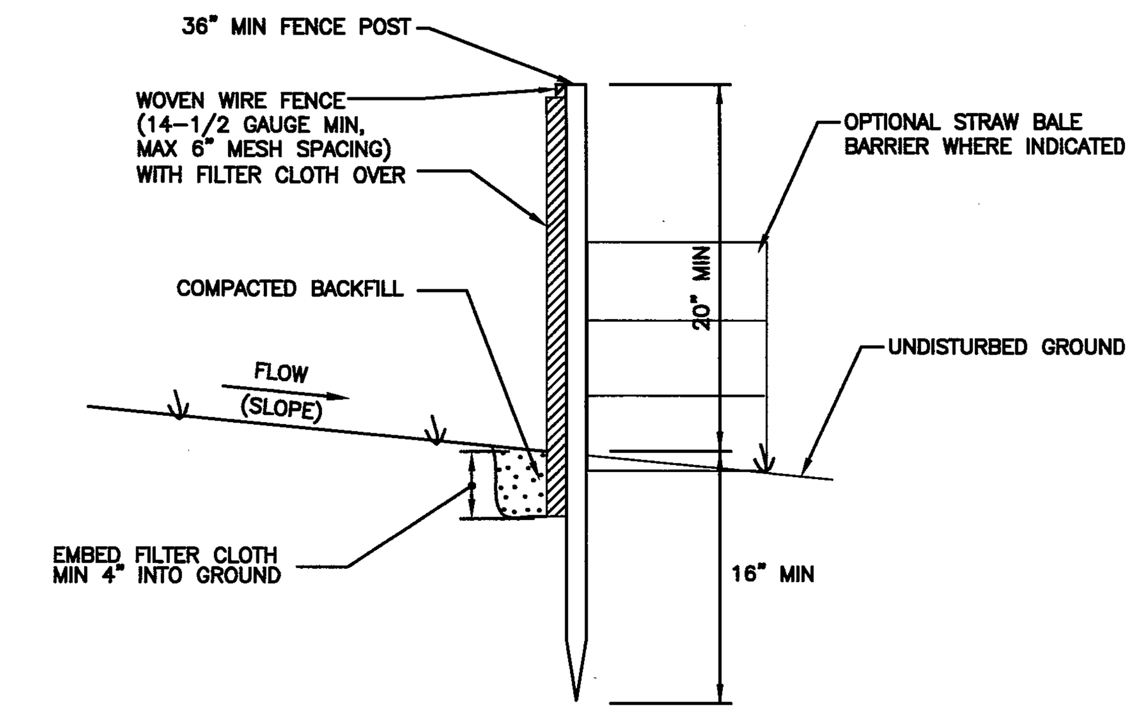
THE BIORETENTION MEDIA SHALL BE COMPRISED OF 85-88% SAND, 8-12% SILT, 0-2% CLAY, AND 3-5% WELL-AGED LEAF COMPOST.



NOTES:

1. THE BIORETENTION BASINS IS PRIVATELY OWNED AND SHALL BE MAINTED BY THE HOMEOWNER.
2. BIORETENTION BASINS MUST NOT BE CONSTRUCTED UNTIL ALL CONTRIBUTING DRAINAGE AREAS HAVE BEEN STABILIZED.
3. BOTTOM OF BIORETENTION BASINS SHALL BE PLANTED AS SHOWN BUT MAY BE SUBSTITUTED WITH PLANTS NATIVE TO RHODE ISLAND & IN ACCORDANCE WITH APPENDIX "B" SECTION B.9.3 OF THE RI STORMWATER DESIGN & INSTALLATION MANUAL. SEE TYPICAL PLANTING.

BIORETENTION BASIN
NOT TO SCALE



SECTION

CONSTRUCTION NOTES FOR FABRICATED SILT FENCE

1. WOVEN WIRE FENCE TO BE FASTENED SECURELY TO FENCE POSTS WITH WIRE TIES OR STAPLES.
2. FILTER CLOTH TO BE FASTENED SECURELY TO WOVEN WIRE FENCE WITH TIES SPACED EVERY 24" AT TOP AND MID SECTION.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY SIX INCHES AND FOLDED.
4. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SILT FENCE OR DEPTH OF ACCUMULATED SEDIMENT REACHES 6".

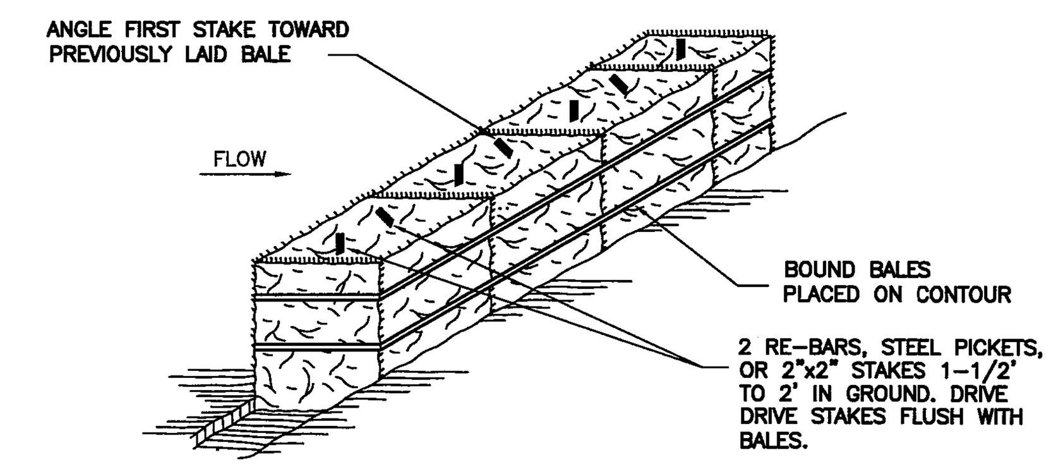
POSTS: STEEL, EITHER "T" OR "U" TYPE OR 2" HARDWOOD

FENCE: WOVEN WIRE, 14 GAUGE 6" MAX. MESH OPENING

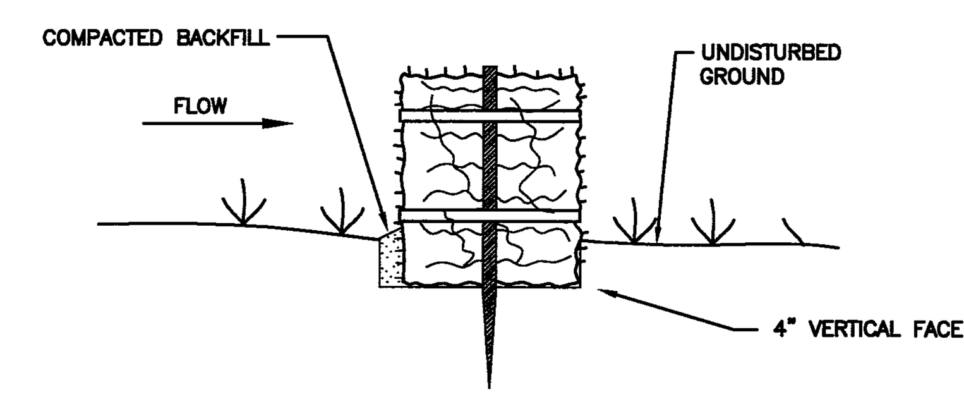
FILTER CLOTH: FILTER X, MIRAFI 100X, STABILINKA T140N OR APPROVED EQUAL

PREFABRICATED UNIT: GEOFAB, ENVIROFENCE, OR APPROVED EQUAL

SILT FENCE DETAIL
NOT TO SCALE



ANCHORING DETAIL

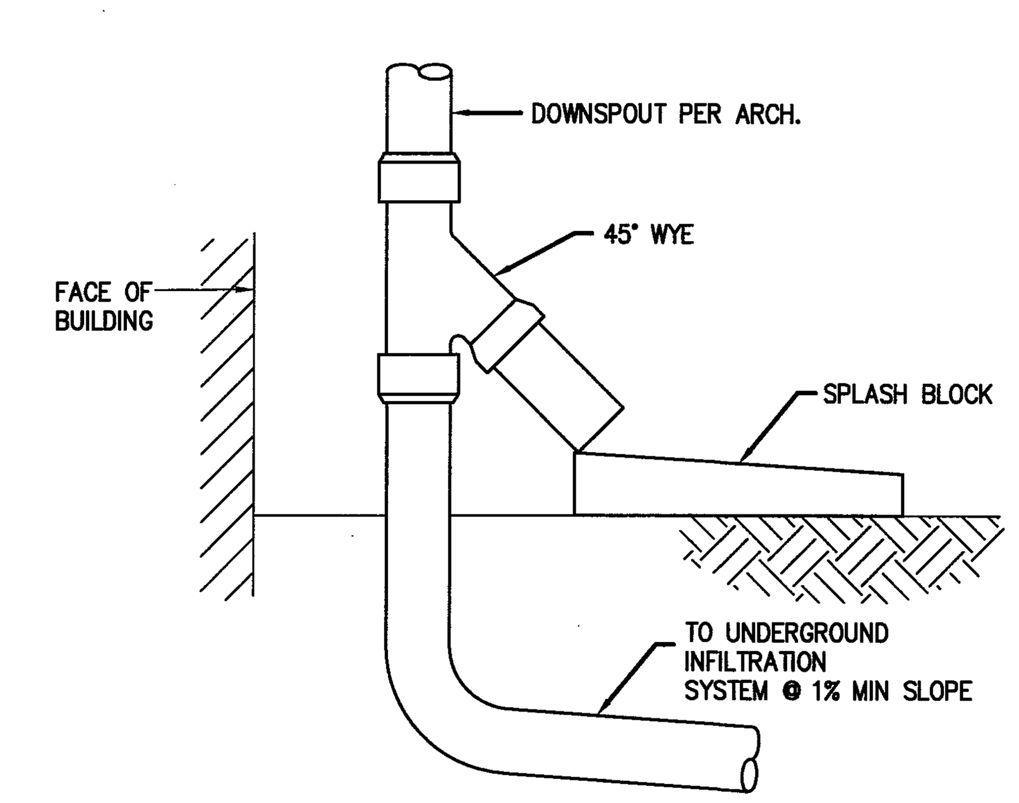


BEDDING DETAIL

CONSTRUCTION SPECIFICATIONS

1. BALES SHALL BE PLACED AT THE TOE OF A SLOPE OR ON THE CONTOUR, AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL, A MINIMUM OF (4) INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
3. BALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR RE-BARS DRIVEN THROUGH THE BALE. THE FIRST STAKE IN EACH BALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID BALE, AT AN ANGLE, TO FORCE THE BALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE BALE.
4. INSPECTION SHALL BE FREQUENT AND REPAIR/REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. REMOVE ACCUMULATED SEDIMENT PROMPTLY.
5. BALES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE BARRIER DETAIL
NOT TO SCALE



DOWNSPOUT CONNECTION WITH OVERFLOW
NOT TO SCALE

SOIL EROSION AND SEDIMENT CONTROL NOTES:

1. ALL BARE OR EXPOSED SOILS EXISTING FOR EXTENDED PERIODS OF TIME WITHIN THE PROJECT LIMITS SHALL BE PROTECTED WITH A SPREAD HAY MULCH AND OR EXCELSIOR MATTING, OR AN APPROVED EQUAL. AN APPLICATION OF CELLULOSE FIBER MULCH MAY BE USED AT THE RATE OF 1,000 LBS./ACRE AS AN EROSION CONTROL AGENT.
2. UPON PROJECT COMPLETION ALL DISTURBED AREAS, UNLESS OTHERWISE SPECIFIED ON SITE PLANS, SHALL BE TREATED WITH PLANTABLE SOIL, THEN SEEDED WITH AN APPROPRIATE SEED MIX TO ENSURE PERMANENT SOIL STABILIZATION. DISTURBED AREAS SHALL BE SEEDED WITH A CONSERVATION TYPE SEED MIX. ALL TEMPORARY SOIL EROSION/SEDIMENT CONTROLS EROSION/SEDIMENT CONTROLS (HAYBALES, SILT FENCE, ETC.) SHALL BE MAINTAINED UNTIL EXPOSED SOILS ARE SATISFACTORILY STABILIZED WITH VEGETATION.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSPECT AND MAINTAIN ALL SOIL EROSION AND SEDIMENT CONTROLS ON THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION PERIOD.
4. ALL SILT FENCING SHALL BE PROPERLY SUPPORTED BY STURDY STAKES AND WIRE FENCING AND TOED INTO EXISTING SUBSTRATE SOILS. ALL HAYBALES SHALL BE TOED INTO EXISTING SUBSTRATE SOILS AND STABILIZED WITH STURDY STAKES (TWO PER HAYBALE). SEE SOIL EROSION AND SEDIMENT CONTROL DETAILS.
5. ALL TEMPORARY SOIL STOCKPILE AREAS SHALL BE PROTECTED WITH A ROW OF STAKED HAYBALES AND/OR SILT FENCE AND MUST BE COVERED WITH A SPREAD HAY MULCH AND WOVEN NETTING (OR EXCELSIOR EROSION CONTROL MATTING) WHEN LEFT EXPOSED FOR LONG PERIODS OF TIME. ANY SUCH STOCKPILE AREAS SHALL BE PLACED IN AN APPROPRIATE UPLAND LOCATION, OUTSIDE OF ANY REGULATED WETLAND AREAS.
6. ALL REFERENCED SOIL EROSION AND SEDIMENT CONTROLS INCLUDING MATERIAL USED, APPLICATION RATES, AND INSTALLATION PROCEDURES SHALL BE PERFORMED PER THE "RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK", DATED 1989, WITH ALL CORRECTIONS AND ADDENDA, PUBLISHED BY THE R.I.D.E.M. AND THE U.S. SOIL CONSERVATION SERVICE.

RI DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS AS
SPECIFIED IN THE LETTER OF APPROVAL
DATED: SEP 16 2024 FILE #: 24-0200
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Environmental Management
AUG 14 2024
Office of Water Resources

REGISTERED PROFESSIONAL ENGINEER
05-03-2024
D 3064

1. PER PRE APP. MEETING WITH RIDEM. 05/03/24

SOIL & EROSION CONTROL NOTES & DETAILS
PLAN OF PROPOSED ON-SITE
WASTEWATER TREATMENT SYSTEM
FOR ASSESSORS PLAT 7, LOT 155
D'AMICO LANE
GLOCESTER, RHODE ISLAND
Prepared For: STEPHEN CUSHMAN

SCALE: AS SHOWN DATE: 04-03-2024

GAROFALO
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