

LOCAL UPGRADE APPROVALS & VARIANCE REQUESTS

IN ACCORDANCE WITH MA 310 15.00 (TITLE 5) AND LOCAL BOURNE BOARD OF HEALTH REGULATIONS, THE FOLLOWING VARIANCES ARE REQUESTED:

- A 76'± VARIANCE IS REQUESTED FROM THE BOURNE BOARD OF HEALTH REGULATIONS FOR A 74'± SETBACK FROM A PROPOSED SOIL ABSORPTIO
- SYSTEM TO THE TOP OF A COASTAL BANK. 15.405(1)(a) - A 5'± DIVERGENCE FROM FULL COMPLIANCE IS
- REQUESTED FOR A 5'± SETBACK FROM A PROPERTY LINE (PEQUOT AVENUE) TO A SOIL ABSORPTION SYSTEM. 15.405(1)(a) - A 2'± DIVERGENCE FROM FULL COMPLIANCE IS
- REQUESTED FOR A 8'± SETBACK FROM A PROPERTY LINE (#425 CIRCUIT AVENUE) TO A SOIL ABSORPTION SYSTEM. 15.405(1)(a) - A 2'± DIVERGENCE FROM FULL COMPLIANCE IS
- REQUESTED FOR A 8'± SETBACK FROM A PROPERTY LINE (#425 CIRCUIT AVENUE) TO SEPTIC TANK. 15.405(1)(b) - A 3'± DIVERGENCE FROM FULL COMPLIANCE IS REQUESTED FOR A 7'± SETBACK FROM A FOUNDATION WALL (#435

CIRCUIT AVENUE) TO A SOIL ABSORPTION SYSTEM.

FND (TYP.)

S 36°10'39" F

75.00°

#441 CIRCUIT AVENUE

MAP 47.1 PARCEL 1

JEANNE CERULLE

REVOCABLE TRUST

L.C. Cert. #176646

N 34°33'21" W

TOP OF COASTAL BANK

N 34°33'21" W

per D.E.P. Policy 92-1 Figure 3

PROPOSED FILTREXX-SOXX EROSION CONTROL

TO BE STAKED ALONG PROPERTY LINE

150' BUFFER

~100' BUFFER FR

-50' BUFFER FROM

COASTAL BANK

COASTAL BANK

MEAN HIGH WATER

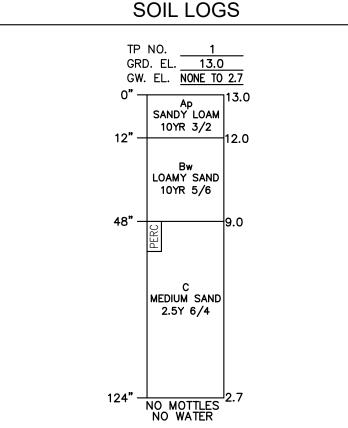
ZONING REQUIREMENTS

ZONE: R-40

PRE-EXISTING NON-CONFORMING SEE TABLE 2456 FOR NON-CONFORMING LOTS IN BOURNE ZONING BY LAWS.

<u>ZONE: R−40</u>	<u>REQUIRED</u>	EXISTING	<u>PROPOSED</u>
LOT AREA:	40,000 s.f.	$9,372 \pm s.f.$ (a)	$9,372 \pm s.f.(a)$
FRONTAGE:	125'	SEE PLAN	SEE PLAN `
FRONT YARD:	20'	SEE PLAN	SEE PLAN
SIDE YARD:	12'	1.7 ' ± (SHED)	13.0'±
REAR YARD:	12'	SEE PLAN	SEE PLAN
LOT COVERAGE:	25%	20.4%	22.9%
	(2,343 s.f.)	(1,913± s.f.)	(2,155± s.f.)
GROSS FLOOR AREA:	23%	30.2%	30.1%
	(2,155 s.f.)	(2,835± s.f.)	(2,828± s.f.)
BUILDING HEIGHT:	29'(b)	25.8'±	<34'±
	(34') ` ´		

(a) LOT AREA INCLUDES PARCELS 168 & 168.1 (b) INCREASE ALLOWABLE HEIGHT BY 5' FOR ROOF ELEMENTS HAVING A SLOPE OF 4" OR MORE PER FOOT (SEE SECTION 2500 footnote (q)



DATE PERFORMED: <u>DECEMBER 15, 2022</u> ROBERT E. DEWAR, E.I.T. SE#14230 SOIL EVALUATOR: KAITY SHEA - B.O.H. INSPECTOR WITNESSED BY: PERC. RATE: <2 MINUTES/INCH SOIL CLASS: CLASS I

MAX. GROUND WATER ELEV.: 2.7 METHOD OF DETERMINATION: NO MOTTLES NO WATER

(SEE SOIL REPORT FOR MORE DETAILED DESCRIPTION)

EXCAVATION NOTE

THIS SYSTEM REQUIRES THE EXCAVATION OF ALL UNSUITABLE SOIL WITHIN 5' OF THE SOIL ABSORPTION SYSTEM. SOIL SHALL BE EXCAVATED TO THE EXISTING C MEDIUM SAND LAYER. APRROXIMATELY 48". ENGINEER TO CONFIRM SOIL DEPTH PRIOR TO INSTALLATION. THE EXCAVATION SHALL BE INSPECTED BY THE DESIGN ENGINEER PRIOR TO BACKFILLING. SOIL IS TO BE REPLACED WITH SAND CONFORMING TO 310 CMR SECTION 15.255, CONSTRUCTION IN FILL. CONTRACTOR IS RESPONSIBLE TO PROVIDE ENGINEER

WITH SAND SAMPLE FOR SIEVE ANALYSIS.

DESIGN CALCULATIONS

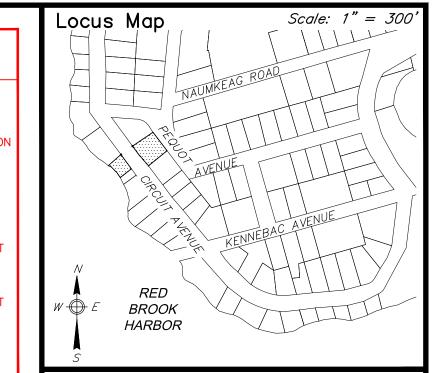
SOIL TEXTURAL CLASS: PERC. RATE: NO. OF BEDROOMS: DESIGN FLOW REQUIRED: SEPTIC TANK REQUIRED: SEPTIC TANK PROVIDED:

CLASS I <2 MINUTES/INCH 440 GPD 1500 GALLONS 1500 GALLON

LEACHING SYSTEM: USE GOODFLOW CTL-18 CHAMBERS *GENERAL USE APPROVAL (8) CTL-18 CONCRETE LEACHING CHAMBERS IN A (13.67') WIDE \times (34) LONG BED

EFFECTIVE LEACHING: (BASED ON GENERAL USE APPROVAL) (8 UNITS)(8 L.F./UNIT) = 64 L.F.

(10.57 S.F./L.F.)(64 L.F.) = 676 S.F. EFFECTIVELOADING RATE = 0.74 GPD/SFFLOW PROVIDED: 500 GPD > 440 GPD REQUIRED



Notes

ELEVATION = 12.09 (NAVD88)BENCHMARK: CONCRETE BOUND

ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO TITLE 5 AND THE TOWN OF BOURNE BOARD OF HEALTH REGULATIONS.

- ALL SYSTEM COMPONENTS SHALL BE MARKED WITH MAGNETIC TAPE OR A COMPARABLE MEANS IN ORDER TO LOCATE THEM ONCE BURIED.
- NO FIELD MODIFICATION TO THE SYSTEM SHALL BE MADE WITHOUT PRIOR WRITTEN APPROVAL OF THE DESIGN ENGINEER AND BOARD OF HEALTH.
- ALL JOINTS AND COVERS TO BE WATERTIGHT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATION OF ANY EXISTING
- A CERTIFICATE OF COMPLIANCE MUST BE OBTAINED PRIOR TO BACKFILLING SYSTEM.

PAUL H. STENBERG, Jr. Trustee MADELINE K. STENBERG, Trustee THE SEVEN STENS TRUST 435 CIRCUIT AVENUE BOURNE, MA 02559

- DEED REFERENCE: Deed Bk: 35689 Pg: 73 Plan Bk: 40 Pg: 113
- L.C. Plan #42838—A THE DESIGN IS INTENDED TO MEET TITLE 5 AND OTHER APPLICABLE REQUIREMENTS. THIS PLAN DOES NOT GUARANTEE THAT THE SYSTEM WILL BE

INSTALLED AS DESIGNED, NOR DOES THIS PLAN

GUARANTEE THE OPERATION OF THE SYSTEM. THIS SYSTEM IS NOT DESIGNED NOR INTENDED FOR

USE WITH A GARBAGE GRINDER.

- THE SYSTEM OWNER SHALL BE RESPONSIBLE TO PUMP THE SEPTIC TANK AT LEAST ONCE EVERY THREE YEARS.
- LOCUS DOES NOT FALL WITHIN A ZONE II WELLHEAD PROTECTION AREA OR BOURNE WATER RESOURCE
- 5. LOCUS DOES NOT FALL WITHIN AN NHESP ESTIMATED HABITAT OF RARE WILDLIFE AND PRIORITY HABITAT OF RARE SPECIES.
- 6. LOCUS **DOES FALL** WITHIN A SPECIAL FLOOD HAZARD ZONE "AE" (EL. 15) AS SHOWN ON FEMA FLOOD INSURANCE RATE MAP No. 25001C-0492-J, dated 7/16/2014.
- CONTRACTOR TO REFER TO ALL MANUFACTURER'S REQUIREMENTS AND SPECIFICATIONS FOR INSTALLATION OF THE MICROFAST UNIT AND GOOD-FLOW SOIL ABSORPTION SYSTEM.
- RECORD PROPERTY OWNER IS TO FILE A NOTICE OF DEED RESTRICTION AT THE BARNSTABLE COUNTY REGISTRY OF DEEDS PRIOR TO THE INSTALLATION OF THE SYSTEM, INDICATING THE USE OF AN INNOVATIVE/ALTERNATIVE SEPTIC SYSTEM ON THE
- HOMEOWNER IS TO ESTABLISH AN OPERATION & MAINTENANCE PLAN WITH A COMPANY CERTIFIED SYSTEM OPERATOR FOR THE MICROFAST UNIT. ALL SYSTEM TESTING, MONITORING & REPORTING IS TO BE CONDUCTED IN ACCORDANCE TO THE MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) REMEDIAL USE PERMITS.
- 20. CONTRACTOR TO COORDINATE PLACEMENT OF ALL ALARM/CONTROL PANELS WITH THE HOMEOWNER & SYSTEM MANUFACTURERS PRIOR TO INSTALLATION.
- CONTRACTOR TO COORDINATE FINAL LOCATION OF MicroFAST BLOWER UNIT AND VENT WITH OWNER. VENTS SHALL BE ELEVATED ABOVE DESIGN FLOOD
- SOIL CONDITIONS ENCOUNTERED DURING THE INSTALLATION OF THE PROPOSED SEPTIC SYSTEM MAY VARY FROM PREVIOUSLY OBSERVED CONDITIONS AT TEST PIT LOCATION. DESIGN ENGINEER SHALL BE CONTACTED IF DISCREPANCIES ARE FOUND.

Prepared By:

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PROPOSED SITE PLAN IN BOURNE, MASSACHUSETTS

Prepared For: THE SEVEN STENS TRUST

#435 CIRCUIT AVENUE MAP 43.3 PARCEL 168

MAY 31, 2023 | JPH/BEI | ZLB/AMG | 1 of

7/11/23 | REVISE PER BOARD OF HEALTH COMMENTS 6/6/23 | REVISE FOR ZBA & BOH SUBMISSIONS Revision Description

(1) ALL SYSTEM COMPONENTS TO BE MARKED WITH MAGNETIC MARKING TAPE.

(2) ALL SYSTEM COMPONENTS TO BE WITHIN 36" OF FINISHED GRADE UNLESS OTHERWISE NOTED.

(3) ANY BENDS INTRODUCED TO THE SEWER FROM HOUSE TO SEPTIC TANK SHALL REQUIRE THE INSTALLATION OF AN EXTERNAL CLEANOUT — CONSULT DESIGN ENGINEER.

INV.= 10.70

S=2.00% MIN.

6" COMPACTED STONE -

SUBGRADE (TYP.)

BASE ON COMPACTED

PROPOSED SOIL ABSORPTION SYSTEM 8 (CTL-18) "GOODFLOW" CHAMBERS (H-20) $(4'W \times 8'L \times 14" INVERT)$ ∇ NO WATER TO EL. **2.7** RECEIVED

VENT WITH

CHARCOAL FILTER

ENGINEER TO INSPECT EXCAVATION AT TIME OF

INSTALLATION TO VERIFY GROUNDWATER SEPARATION. BASINSK

REQUESTS

H-10 LOADING WITH 14" ABS INJECTION MOLDED FINS SURROUND 12" MIN. INSIDE DIM. TOTAL EFFECTIVE LEACHING AREA: 6" MIN. SUMP (SEE DESIGN CALCULATIONS) PROPOSED IMPERVIOUS LINER SYSTEM PROFILE FILL BETWEEN FINS AND 6" SURROUNDING SYSTEM (SEE PLAN FOR LOCATION) WITH WASHED CONCRETE SAND (NOT TO SCALE)

ABS INJECTION MOLDED FINS -

UNDISTURBED NATIVE SOIL

PROPOSED 5-OUTLET DISTRIBUTION BOX

PRE-CAST WATERTIGHT

4" SCH. 40 P.V.C.

S=1.00% MIN.

\INV.= **9.50**

INV.= **9.41**

6" COMPACTED STONE $^{-1}$

BASE ON COMPACTED

<u>4" SCH. 40 P.V.C.</u>

S=1.00% MIN.

\INV.= 10.00

MicroFAST BLOWER UNIT TO BE INSTALLED-

BELOW GRADE IN H-10 VAULT.

(SEE NOTES ABOVE)

LIQUID LEVEL 🔽

MICROFAST 0.5 UNIT

(SEE DETAIL)

PROPOSED 1500 GALLON BIO-MICROBICS

MicroFAST 0.5 DENITRIFICATION UNIT

(H-10 LOADING)

TANK TO BE EMBOSSED WITH

ASTM STANDARD C 1227-93 SEAL

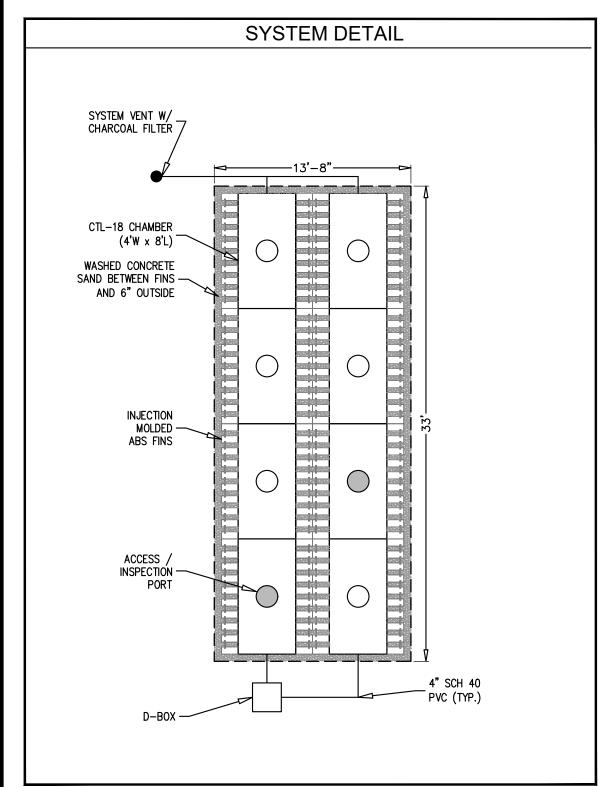
FAST

MODULE

H-10 LOADING

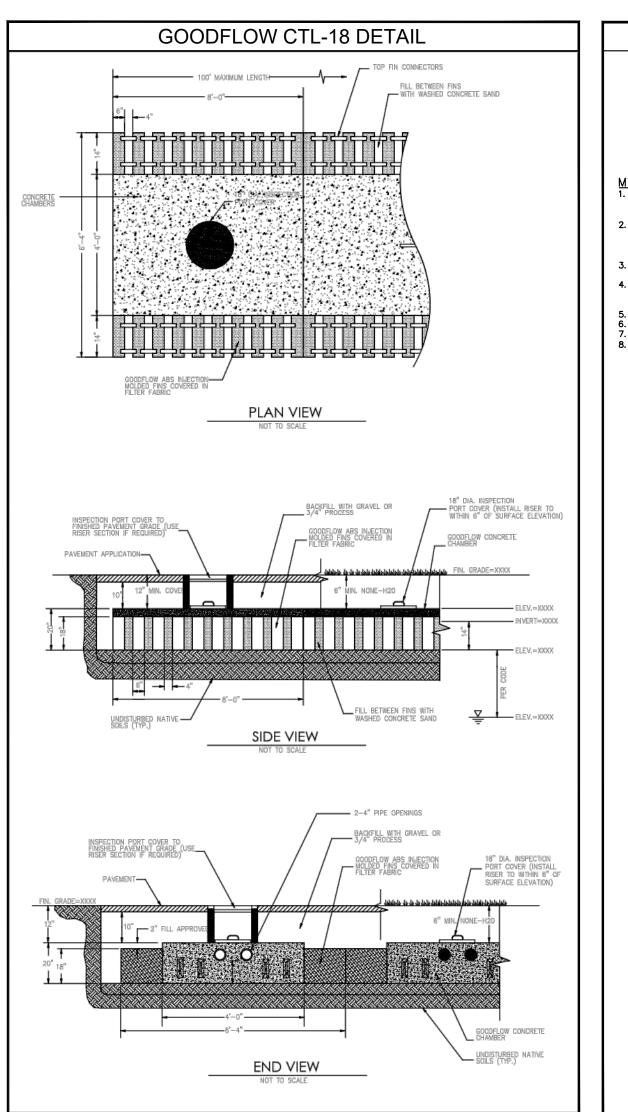
By Bourne Health Department at 1:42 pm, Jul 12, 2023

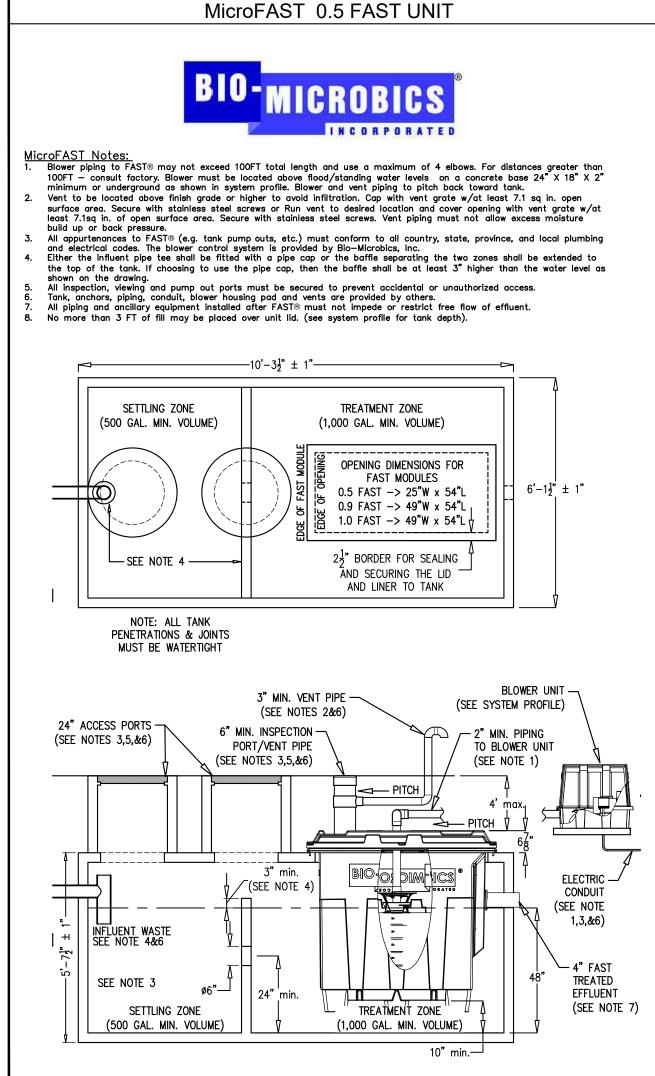


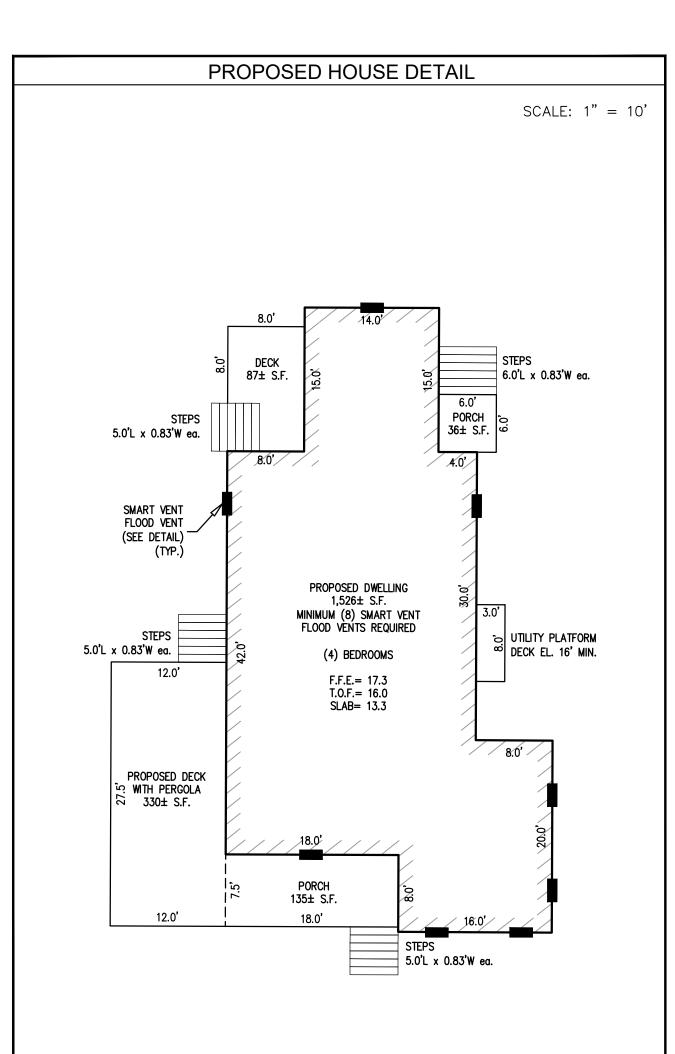


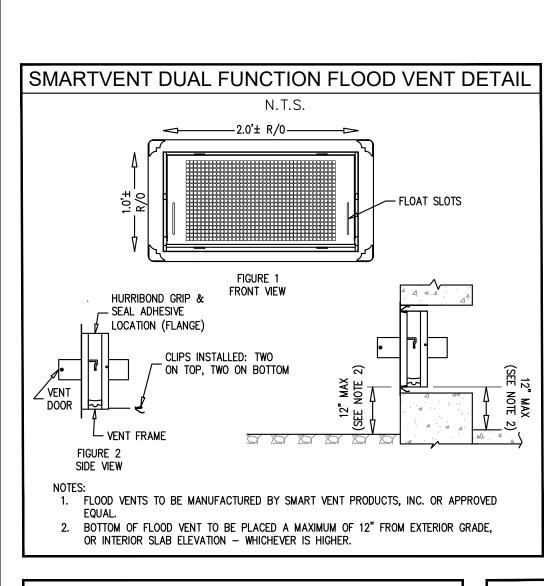
GOODFLOW INSTALLATION NOTES

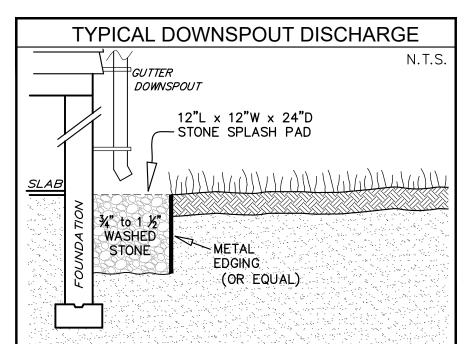
- FINS COME PREPARED WITH FILTER FABRIC ON ALL SIDES EXCEPT BOTTOM — THIS IS SEPARATE FROM THE FILTER FABRIC ON TOP OF THE SYSTEM PROVIDED BY THE INSTALLER.
- 2. MINIMUM OF 2" TITLE 5 SAND FROM THE TOP OF THE FINS TO THE TOP OF THE CHAMBER CREATING A FLUSH SURFACE.
- 3. FILTER FABRIC IS PLACED ACROSS THE CONCRETE CHAMBER AND ON TOP OF THE 2" OF TITLE 5 SAND ATOP THE FINS. THE NON-WOVEN SYNTHETIC FILTER FABRIC SHALL HAVE ADEQUATE TENSILE STRENGTH TO PREVENT RIPPING DURING INSTALLATION AND BACKFILLING, ADEQUATE AIR PERMEABILITY TO ALLOW FREE PASSAGE OF GASES, AND ADEQUATE PARTICLE RETENTION TO PREVENT DOWNWARD MIGRATION OF SOIL PARTICLES.
- 4. MINIMUM OF 10" / MAXIMUM 4' BACKFILL WITH COMPACTED GRAVEL OR ₹" PROCESS MATERIAL WITH 2" OF FINISH SURFACE (PAVED) OR 4" OF LOAM & SEED.
- 5. FOR ORDERING, CONTACT GOODFLOW SOLUTIONS AT 203-869-2969.

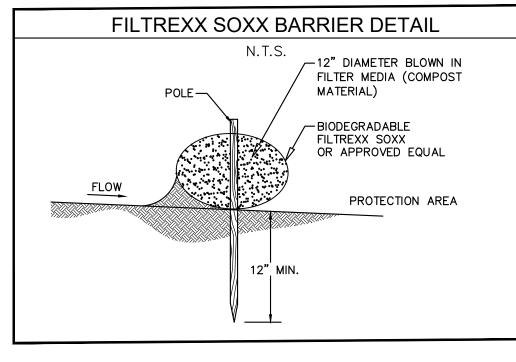












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By Bourne Health Department at 1:42 pm, Jul 12, 2023



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