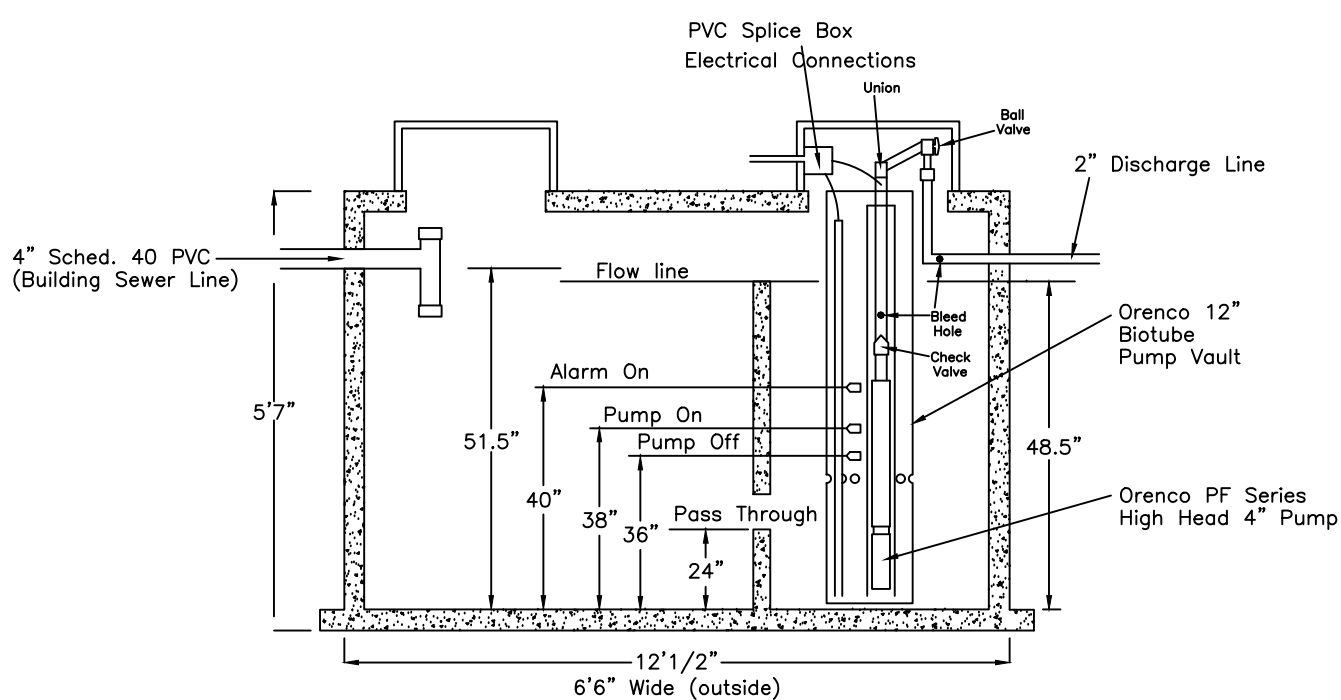


Soil Logs

Elevation (Feet)	Observation Hole #1				
	Depth (inches)	Soil Horizon	Soil Texture	Soil Color	Soil Matting
22.6	0-32	Fill			
19.9	32-42	O/A	Loamy Sand	10 YR 5/8	None
19.6	42-96	C	V. Grav. Sand*	2.5 Y 5/4	36" 7.8YR 5/4

* See attached sieve analysis results

NOTE: A second deep observation hole must be completed at time of system installation.



2,000 Gallon two chamber tank (extended base)

Pembroke Concrete Products, Inc. Pembroke, MA (or approved equal)

Notes:

- On 1/12/2021 soil tests were made, as shown here, by Terence McSweeney, a Massachusetts Department of Environmental Protection (DEP) approved Soils Evaluator, with B. Nee observing for the Board of Health. The logs of this test is as follows, with location as #1 on this plan.
- All stone to be washed free of iron, fines, and dust. All "structures" to be precast concrete. All pipes to be P.V.C. Schedule 40, laid true to line and grade. All "structures" under pavement to be H-20 loading with cast iron covers and frames, set to grade, on all manholes.
- The existing SAS is to be abandoned and disposed of to the satisfaction of the health authority.
- It is the responsibility of the home owner to advise the site engineer of the location of all house plumbing prior to construction of the system.
- No part of the proposed system shall be buried greater than 3' below the surface of the ground.
- All work to conform to these plans, Title 5 of the Environmental Code (310 CMR 15.00 et. seq.) and supplementary regulations of the Hingham Board of Health.
- House plumbing to be set to the grades specified on this plan, as necessary, with a pipe slope minimum of 0.01.
- Geomat Leaching System to be placed on 6" bed of ASTM C-33 sand. These materials must meet the following sieve specifications:
 - 3/8" sieve 100% passing
 - #4 sieve 95 - 100% passing
 - #8 sieve 85 - 100% passing
 - #16 sieve 50 - 85% passing
 - #30 sieve 25 - 60% passing
 - #50 sieve 10 - 30% passing
 - #100 sieve 2 - 10% passing
- Results of sieve analysis submitted to Board of Health for approval prior to installation.
- Property line information as depicted on this plan is to be used for Title V purposes only.

Pump Chamber Calculations:

- 2,000 gallon tank with 48.5 working area = 41.2 G/inch
- Dose volume: Pump-on to pump-off elevation drop = 2" at 41.2 G/inch, 2" = 82 G
- Alarm-on to tank-in invert elevation increase equals 11.5". At 41.2 G/inch 11.5" = 474 G (minimum of 440 G required)

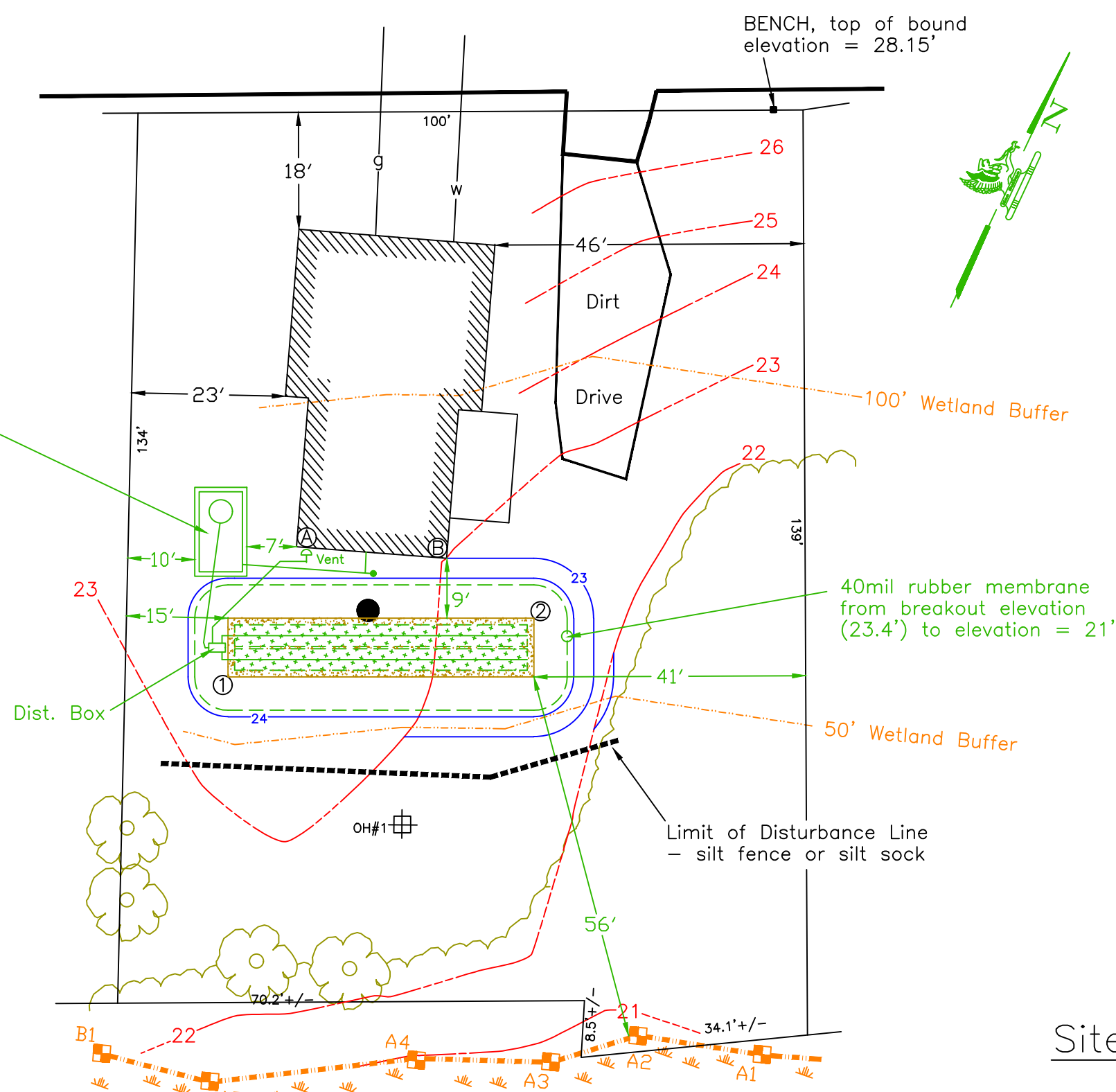
Calculations:

- 4 bedrooms, no disposal
- Est. Day Flow (EDF) = # B.R. x 110 G/Day EDF = 440 Gallons per day
- Perk rate = <2 min/inch, Class I soil (see sieve analysis results) Geomat loading rate with 6" ASTM C33 sand under, Class I soil, <2 m.p.i. perk rate = 1.50 G/D/5F
- Septic Tank = 2 X EDF with 1,500 G minimum 440 X 2 = 880 Gallons = 1,500 Gallon (minimum allowable)
- Soil Absorption System (SAS) Geomat size required = EDF/Loading rate (440 G)/(1.50 G/s.f.) = 293 s.f. Geomat Leaching System 3900 (1" Dx39"W) = 3.42 s.f./l.f 293 s.f./3.42 s.f./l.f = 86 l.f (required) use two (2) rows 44' long = 88' (provided) Minimum sand bed = 440 G/D, with perk rate of <2 m.p.i. Class I soils = 400 s.f. (required) Use sand bed 8'10" W x 46' L = 406 s.f. (provided)

Proposed:

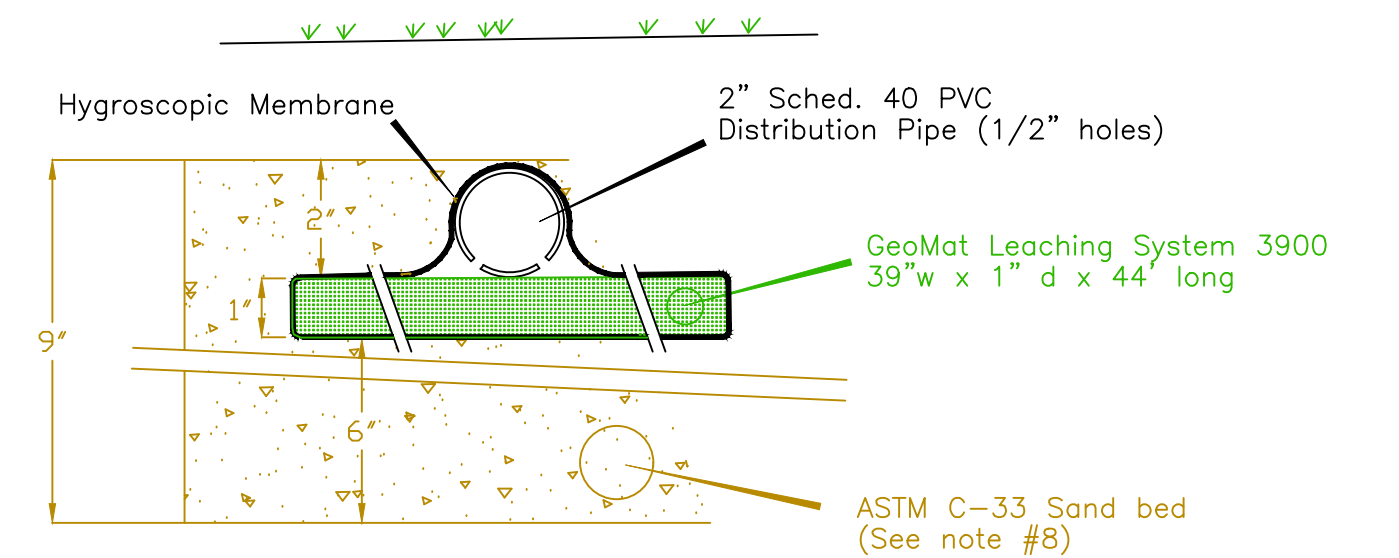
- 2,000 gallon, two compartment tank (waterproofed, extended base)
- Orenco Biotube pump vault system (including Biotube filter) and simplex effluent pump package
- Distribution box
- 406 s.f. sand bed (ASTM C-33 sand) - 8'10"W x 46'L x 9" D Geomat Leaching System 3900, two (2) rows each 39" W x 44' L (88 l.f total)

Fort Hill Street



SAS Tie-in Data		
	1	2
A	22'2"	37'3"
B	37'5"	16'

SAS Detail (not to scale)

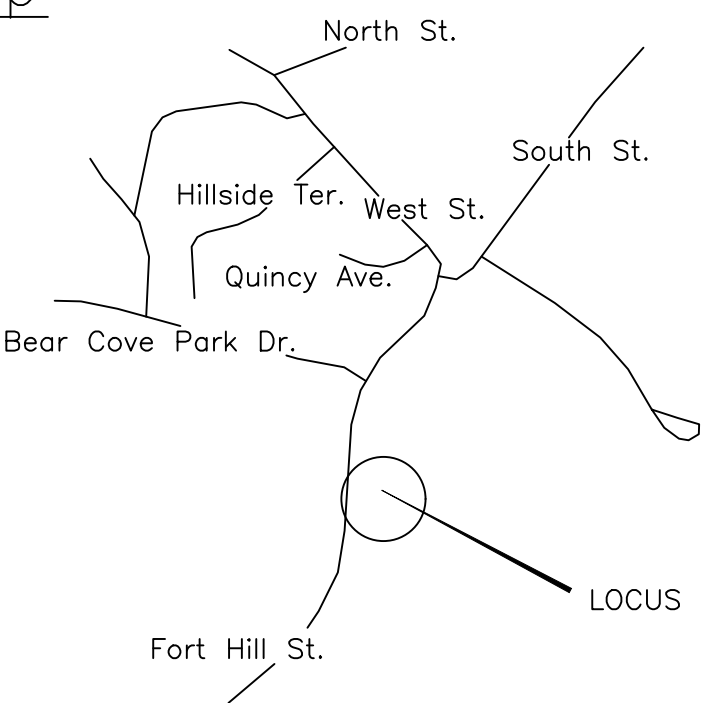


I certify that in the fall of 1997 I was approved by the Mass. Department of Environmental Protection as a Soils Evaluator and that the soils analysis contained herein was performed by me consistent with the training, expertise, and experience described in 310 CMR 15.018(2).

I certify that there are no wells known to me, or reported to be within 500 feet of this proposed SAS, other than those shown on this plan. Public water supply wells in the area, location and distance from locus, are shown herein.

Terence McSweeney Date Terence McSweeney, R.S.

Locus Map



Lot Data: Deed: 40,866/182 - 1/18/2012 Hingham Assessors Map 78/19 - 13,600 s.f. Reference Plan: L.W. Decelle & Sons, Surveyors - 7/22/1950

VARIANCES/DIVERGENCES REQUESTED:

- Town of Hingham, Section VII.E., SDS to wetland setback Proposed: 72' Required: 100'
- Town of Hingham, Section VII.J., Thickness of naturally occurring soils under SAS Proposed: 0' Required: 6.0'
- Town of Hingham, Section VII.M., Construction in fill thickness of naturally occurring, unsaturated, soils under SAS Proposed: 0' Required: 6.0'
- 310 CMR 15.405(1)(b), Septic tank to foundation wall setback Proposed: 7' Required: 10'
- 310 CMR 15.405(1)(i), Allow the use of a sieve analysis in place of percolation testing data

McSweeney Associates, Inc. Environmental Engineering

Proposed Septic System 36-38 Fort Hill Street Hingham, Massachusetts

745 Winter Street, Hanson, MA 02341

Thomas F. McSweeney 1898-1977 1923-8015
 Brian McSweeney 781-826-4571
 Terence K. McSweeney 781-826-4571
 Colin T. McSweeney 781-570-9381

Job Reference: Rosseel

Scale: As Noted

Date: 1/25/2021

Drawn By: T McS

Checked By: C McS