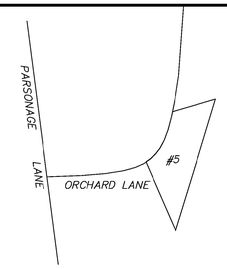


LOCUS MAP

N.T.S.

SCHEDULE OF ELEVATIONS

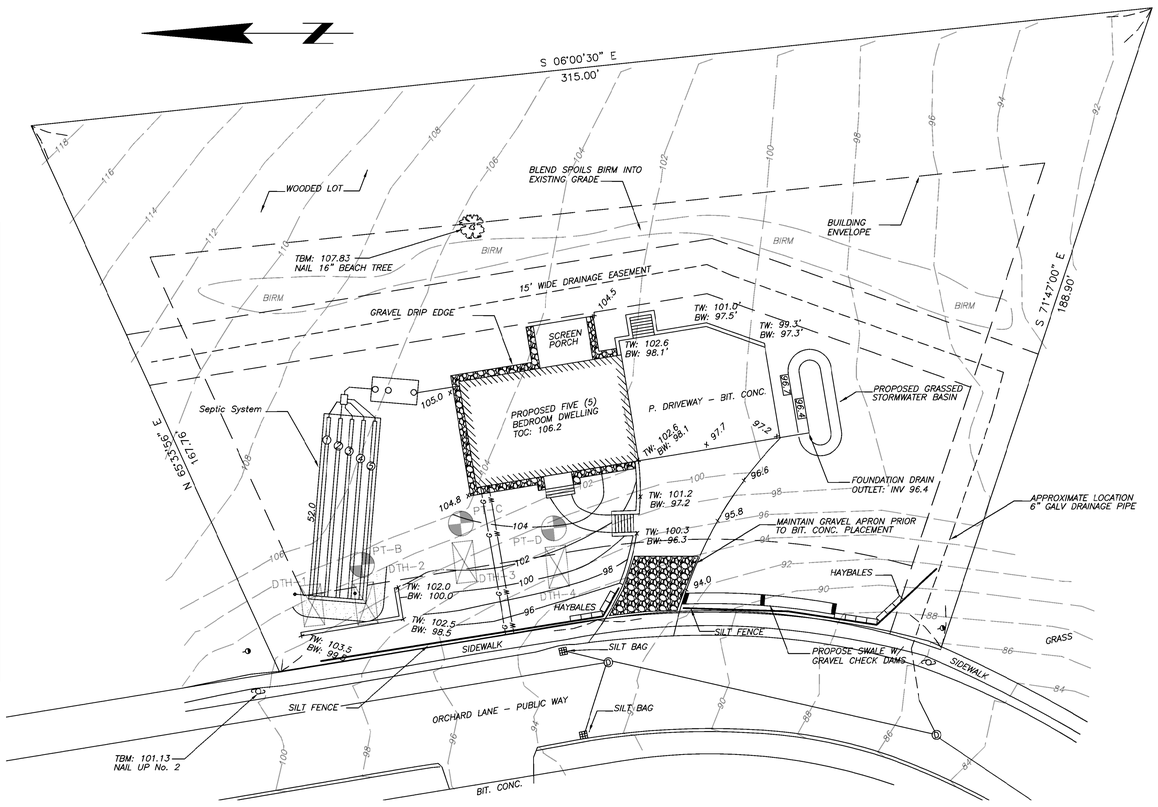
TOP OF FOUNDATION T.C. =	106.2
BOTTOM OF FND WALL & TOP OF FOOTING =	97.2
BOTTOM OF FOOTING =	96.2
GARAGE FINISHED FLOOR =	98.2
UTILITY ROOM FINISHED FLOOR =	98.78
TOP OF 6" CURB @ GARAGE DOORS =	98.7
INVERT OF PIPE AT FOUNDATION =	104.1
INVERT AT SEPTIC TANK INLET =	103.9
INVERT AT SEPTIC TANK OUTLET =	103.65
INVERT AT DISTRIBUTION BOX INLET =	103.5
INVERT AT DISTRIBUTION BOX OUTLET =	103.33

	L-1	L-2	L-3	L-4	L-5
ELEV. TOP OF PRESBY PIPE =	103.19	102.84	102.49	102.14	101.79
ELEV. BOT. OF PRESBY PIPE =	102.19	101.84	101.49	101.14	100.79
ELEV. BOT. OF SAND BED =	101.69	101.34	100.99	100.64	100.29
MIN. FINISH GRADE OVER SAS =	104.1	103.7	103.3	103.0	102.6
ELEV. TOP. OF POLY BARRIER =	103.2	102.9	102.5	102.2	101.8
ELEV. BOT. OF POLY BARRIER =	100.7	100.3	100.0	99.6	99.30

DESIGN CRITERIA

1. ESTIMATED FLOW = 5 BDRMS X 110 GPD/BR=550 GPD
2. DESIGN PERCOLATION RATE = 27 MPI
3. LEACHING AREA CALCULATION =
TITLE 5 REQUIRED LEACH AREA = 1375 S.F.
(550 GAL./ 0.40 GAL/SF) = 1375 S.F.

PRESBY REQUIRED LEACH AREA (60% OF 1375) = 826 S.F.
BOTTOM AREA PROVIDED = 16'x52' = 832 SF.

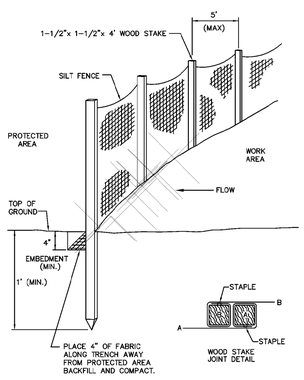


SITE PLAN

SCALE: 1" = 20'

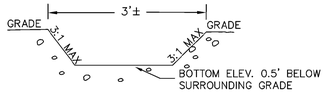
IMPERVIOUS AREAS

1. PROPOSED HOUSE: 1,380 SF.
2. PROPOSED DRIVEWAY: 2,380 SF.
TOTAL: 3,760 SF.



SILT FENCE DETAIL

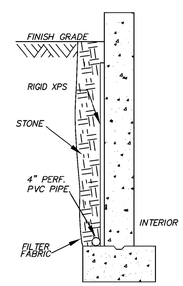
NOT TO SCALE



CROSS SECTION

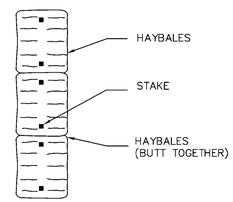
PROPOSED SWALE CROSS SECTION

NOT TO SCALE

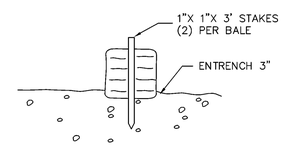


FOUNDATION DRAIN

NOT TO SCALE



PLAN VIEW



CROSS SECTION

STAKED HAYBALES

NOT TO SCALE

GENERAL NOTES:

1. Contractor shall call Digsafe at (888) 344-7233 a minimum of 72 hours prior to commencing any construction activities on site.
2. Inspections by Design Engineer and Board of Health are as required by the Board of Health.
3. This plan was prepared for the design of the subsurface sewage disposal system only and is based on the subsurface explorations and percolation tests listed below.
4. System was designed only to accomodate sanitary sewage associated with normal domestic usage, consisting of water carried putrescible waste, and for flows indicated in the design criteria.
5. The system must be vented through the buildings plumbing in accordance with the state building code.
6. Owner shall verify effective zoning regulations prior to construction.
7. Plans show only features that were visually apparent on the date of the topographic survey, and the absence of subsurface structures, utilities, etc. is not guaranteed.
8. Contractor to determine if site conditions are suitable for construction of proposed system, and must promptly notify the Design Engineer and Owner, in writing, of any plan deficiencies, unforseen subsurface conditions, or required changes.
9. There are no wells located within 200 feet of the proposed leaching area or within 150 feet of the proposed septic tank (except as shown).
10. The subject property is not located within a Zone II of a public drinking water supply well.
11. All construction is to conform to the requirements of the Massachusetts Environmental Code, Title V, and the town of TOPSFIELD Board of Health regulations.
12. There are no bordering vegetated wetlands, inland banks, or surface waters within 100' of the proposed system.
13. There are no surface or subsurface drains which are used to lower the ground water.
14. All elevations refer to TBM TC=106.2
15. For proper performance, septic tank should be pumped annually.
16. System cannot be backfilled or concealed until design firm and board of health have inspected the system and permission to backfill has been given.
17. Design firm must prepare and submit "As-Built" plan to Board of Health. This plan must certify that the system was installed in accordance with state and local regulations and that it complies with the proposed plan.
18. Property lines are approximate and are not to be used for boundary survey purposes. Surface features and topography outside of work area are approximate.
19. System is designed to accommodate a garbage grinder.

TECHNICAL NOTES:

1. Building sewer shall be in accordance with state plumbing code and have a minimum of 4" of cover in landscaped areas. A minimum of 12" of cover and/or appropriate sleeving shall be used in areas subject to vehicular traffic.
2. All tanks, including septic tanks, distribution boxes, dosing chambers, and grease traps shall be either watertight through manufacturer's specification and warranty, or made watertight by the manufacturer or other individual by means and persons as approved in 310 CMR 15.221. Septic tank shall be constructed and placed in accordance with 310 CMR 15.223 through 310 CMR 15.228.
3. Septic tanks shall have at least three (3) 20" manholes with at least one (1) of these manholes located no more than 6" below finish grade. (Systems over 1,000 gpd shall have access ports at both the inlet and outlet tees.)
4. Distribution box ("d-box") shall be of watertight construction, installed level on a firm base, and installed in accordance with 310 CMR 15.232.
5. Septic tank covers and d-box are to be brought within 6" and 12" of finish grade respectively by the use of riser sections.
6. When the soil absorption system (SAS) is to be dosed or the slope of the inlet pipe exceeds 0.08 feet per foot, an inlet tee, baffle or splash plate extending to one inch above the outlet invert elevation shall be provided to dissipate velocity of the influent.
7. When the SAS is installed within the top and subsoil layers or above natural grade, all topsoil and subsoil shall be removed below and laterally a minimum of 5 feet surrounding the SAS. Removed material shall be replaced with clean granular material in accordance with 310 CMR 15.255(3).
8. All disturbed areas shall be loamed, seeded, and maintained so as to prevent erosion.
9. All native soil interfaces which will contact the SAS shall be scarified prior to placement of stone.

PERCOLATION TESTS

HOLE NO. & DATE	TOP ELEVATION	DEPTH (In.)	SATURATION (Min.)	12"-9" DROP (Min.)	9"-6" DROP (Min.)	PERC. RATE (Min./In.)
PT-A 10-10-14	100.6	42"	15 MIN	73 MIN	ABANDONED	NA
PT-B 10-10-14	99.96	38"	15 MIN	63 MIN	79 MIN	27 MIN/IN
PT-C 10-10-14	99.61	43"	15 MIN	59 MIN	80 MIN	27 MIN/IN
PT-D 10-10-14	99.01	38"	15 MIN	51 MIN	78 MIN	26 MIN/IN

DEEP OBSERVATION HOLE LOG

NO., DATE & ELEV.	DEPTH (In.)	SOIL HORIZON	TEXTURE (USDA)	COLOR (MUNSELL)	SOIL MOTTLING	OTHER
DTH-1	0-6"	Ap	SANDY LOAM	10YR3/2		
10-10-14	6-29"	Bw	SANDY LOAM	10YR5/8		
100.6	29-78"	Cd	SANDY LOAM	2.5Y 6/3	@41" 7.5R5/8 & 10Y7/1	
PARENT MATERIAL: GLACIAL TILL	DEPTH TO BEDROCK: -	STANDING WATER: -	WEEPING FROM PIT FACE: -	ESHWT: 97.18		
DTH-2	0-6"	Ap	SANDY LOAM	10YR3/2		
10-10-14	6-27"	Bw	SANDY LOAM	10YR5/8		
99.96	27-75"	Cd	SANDY LOAM	2.5Y 6/3	@44" 7.5R5/8 & 10Y7/1	
PARENT MATERIAL: GLACIAL TILL	DEPTH TO BEDROCK: -	STANDING WATER: -	WEEPING FROM PIT FACE: -	ESHWT: 96.29		
DTH-3	0-5"	Ap	SANDY LOAM	10YR3/2		
10-10-14	5-26"	Bw	SANDY LOAM	10YR5/8		
99.61	26-82"	Cd	SANDY LOAM	2.5Y 6/3	@39" 7.5R5/8 & 10Y7/1	
PARENT MATERIAL: GLACIAL TILL	DEPTH TO BEDROCK: -	STANDING WATER: -	WEEPING FROM PIT FACE: -	ESHWT: 96.36		
DTH-4	0-4"	Ap	SANDY LOAM	10YR3/2		
10-10-14	4-27"	Bw	SANDY LOAM	10YR5/8		
99.01	27-76"	Cd	SANDY LOAM	2.5Y 6/3	@41" 7.5R5/8 & 10Y7/1	
PARENT MATERIAL: GLACIAL TILL	DEPTH TO BEDROCK: -	STANDING WATER: -	WEEPING FROM PIT FACE: -	ESHWT: 95.59		

TESTS CONDUCTED BY: GERALD J. TOPPING
TESTS OBSERVED BY: JOHN COULON DATE: 10-14-14

I certify that I have passed the examination approved by the department of Environmental Protection and that the above analysis has been performed by me consistent with the required training, expertise, and experience described in 310 CMR 15.018(2).

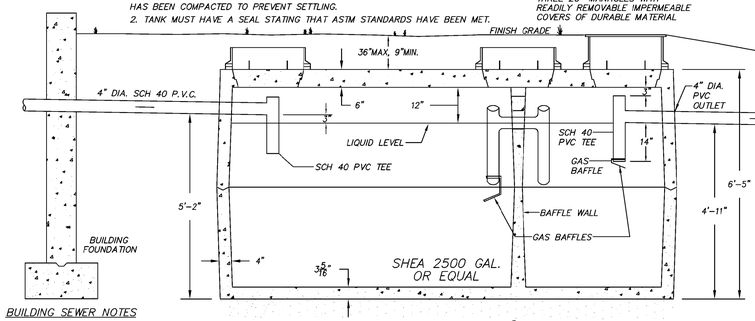
Certified:

SEPTIC TANK NOTES

1. MUST BE WATER TIGHT AND SET ON A LEVEL BASE THAT HAS BEEN COMPACTED TO PREVENT SETTLING.
2. TANK MUST HAVE A SEAL STATING THAT ASTM STANDARDS HAVE BEEN MET.

SYSTEM PROFILE

NOT TO SCALE

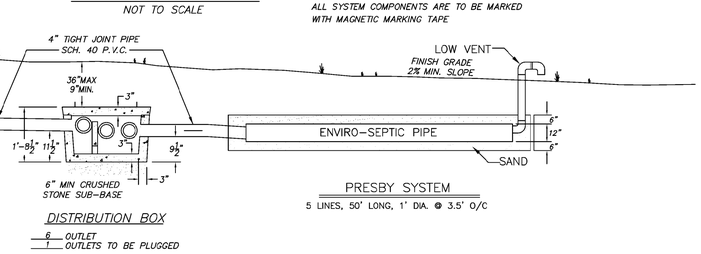


BUILDING SEWER NOTES

1. SEWER LINE MUST BE LAID ON A FIRM COMPACTED BASE.
2. PIPE MUST BE SLOPED AT A MIN. OF 1% (2% PREFERRED)
3. PIPE MUST BE LAID ON A CONTINUOUS UNIFORM GRADIENT.

SEPTIC TANK

PRECAST REINFORCED CONCRETE
CAPACITY OF TANK = 2500 GAL.



DISTRIBUTION BOX

6 OUTLET
1 OUTLETS TO BE PLUGGED

PRESBY SYSTEM

5 LINES, 50' LONG, 1' DIA. @ 3.5' O/C

NOTE:

ALL SYSTEM COMPONENTS ARE TO BE MARKED WITH MAGNETIC MARKING TAPE

DISTRIBUTION BOX NOTES

1. COVER MUST BE WATER TIGHT.
2. ALL OUTLET PIPES SHALL BE LEVEL FOR THE FIRST 2' OUT OF THE D-BOX. ALL OUTLET PIPES TO BE AT THE SAME ELEVATION.
3. SOIL MUST BE COMPACTED UNDER "D" BOX TO PREVENT SETTLING.

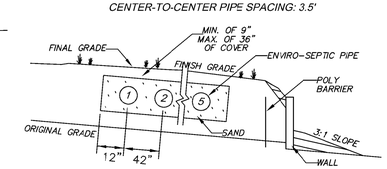
LEACH FIELD NOTES

1. SIDES AND BOTTOM OF LEACHING FACILITY TO BE SCARIFIED.
2. BOTTOM OF LEACHING FACILITY MUST BE LEVEL.
3. PIPING MUST BE SCH 40 P.V.C. WITH TIGHT JOINTS.
4. VENT REQUIRED.

EFFLUENT DISPOSAL AREA

CROSS SECTION - NOT TO SCALE
(SLOPED DISPOSAL AREA)

NUMBER OF ENVIRO-SEPTIC LINES: 5
CENTER-TO-CENTER PIPE SPACING: 3.5'



FINAL GRADING NOTES

1. 2% SLOPE MUST BE PROVIDED OVER AND AROUND SYSTEM.
2. SURFACE DRAINAGE MUST BE AWAY FROM SYSTEM.
3. GRADING MUST BE DONE TO PREVENT PONDING.

APPLICANT	LOCATION
STEPHANIE L. TOPPING & GERALD J. TOPPING	5 ORCHARD LANE TOPSFIELD, MA ASSESSORS MAP 24 & PARCEL 58

DIG SAFE 1-888-344-7233

NO.	DATE:	REVISION:	BY:
1.	9-8-15	ADDED BASIN AND SWALE	GJT
1.	8-17-15	ORIGINAL DESIGN	GJT

STORM WATER MANAGEMENT PLAN

CMC HOME PROJECT

ENGINEERING AND SURVEY DIVISION
14 WOODSIDE ROAD
TOPSFIELD, MASSACHUSETTS 01983
PHONE: 978-561-1962 CELL: 617-646-9906

DATE: 8/17/15 SHEET 1 OF 1