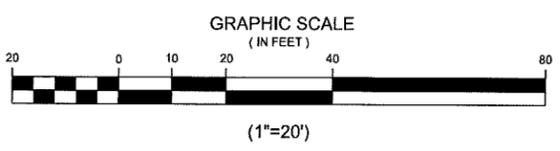


LEGEND

100	EXISTING GROUND CONTOUR
WL	EXISTING WATER LINE
SL	EXISTING SANITARY SEWER
WL	PROPOSED WATER LINE
SL	PROPOSED SANITARY SEWER
---	EDGE OF DIRT ROAD
---	EDGE OF GRAVEL DRIVE
---	WELL ISOLATION ZONE
---	SEPTIC ISOLATION ZONE
---	EXISTING PROPERTY LINE
---	EDGE OF WATER/LAKE
○	TREE
⊕	TEMPORARY BENCHMARK
⊕	UTILITY POLE
⊕	TEST PIT/PERCOLATION TEST
⊕	WELL - DRILLED
⊕	IRON PIPE FOUND



"I hereby certify that the design related information submitted with this application is true and correct, and that, in the exercise of my reasonable professional judgment, the "best-fit" design included in this application for a permit reasonably complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules."

Steve Revell
Steve Revell, CPG
Licensed Class B Designer #178

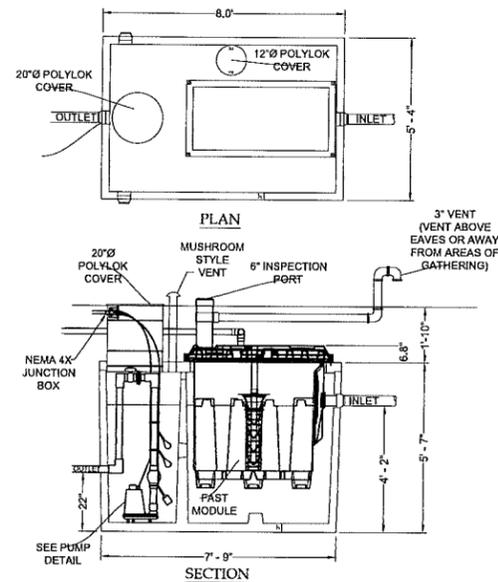
Date: 10/20/2015



Turtle Moon LLC Property
350 Turtle Moon Road
Charlotte, Vermont

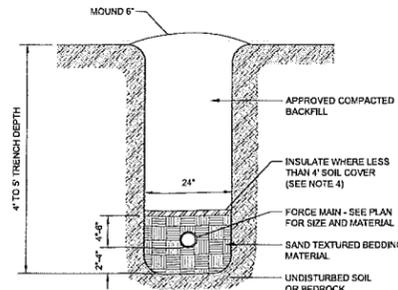
**Site Development Plan
with Replacement
Water & Wastewater Systems**

LAG PROJECT #	08054
DATE:	Oct. 20, 2015
SURVEYORS:	CZ/DN
DRAWN BY:	TAM
FIGURE #:	1



SEPTIC TANK OPERATION & MAINTENANCE RECOMMENDATIONS

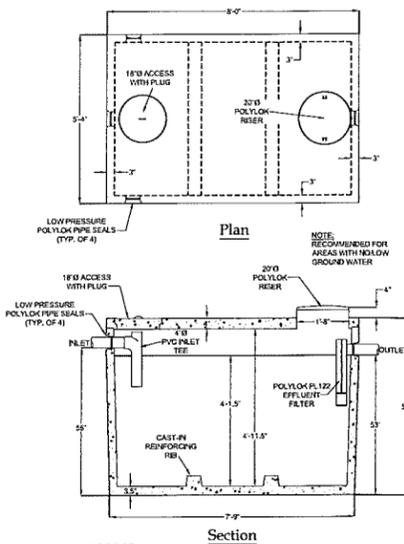
- THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SCUM AND PASS TREATED EFFLUENT. BACTERIA WITHIN THE SEPTIC TANK HELPS DECOMPOSE THE SOLIDS. SHOULD ANY SOLIDS PASS THROUGH THE SEPTIC TANK INTO THE SYSTEM, PREMATURE CLOGGING OF THE PIPING, STONE OR NATIVE SOIL BENEATH THE SYSTEM IS LIKELY TO OCCUR. ONLY HUMAN WASTES SHOULD ENTER THE SEWAGE SYSTEM, WATER USE SHOULD BE CONSERVATIVE AND CLEANING AGENTS CANNOT ENTER THE SYSTEM, AS THEY KILL BACTERIA.
- THE STATE FLOW FIGURES OF 140 GAL/DAY/BEDROOM ARE BASED ON SHORT TERM PEAK USE PERIODS (I.E. DAILY EVENTS). ACTUAL FLOWS SHOULD AVERAGE 75-100 GALLONS PER DAY, PER BEDROOM.
- ONCE PER YEAR, THE DEPTH OF SCUM AND SLUDGE IN THE SEPTIC TANK SHOULD BE MEASURED AND THE TANK SHALL BE PUMPED IF:
 - THE SLUDGE LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE OUTLET.
 - THE SCUM LAYER IS WITHIN 3 INCHES OF THE TOP OF THE OUTLET.
 - IF A OR B IS ANTICIPATED TO OCCUR PRIOR TO THE NEXT INSPECTION.
 - IN ANY CASE, THE TANK SHALL BE PUMPED AT A MAXIMUM 5 YEAR INTERVAL.
- ONCE A YEAR, THE DISTRIBUTION BOX AND/OR PUMP STATION SHOULD BE INSPECTED AND ANY SETTLED SOLIDS REMOVED.
- THE EFFLUENT FILTER SHOULD BE INSPECTED AND CLEANED ANNUALLY.
- ABOVE ITEMS 1-5 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE IT.



FORCE MAIN TRENCH NOTES:

- BACKFILL AND BEDDING SHALL BE PROPERLY COMPACTED.
- BEDDING MATERIAL SHALL NORMALLY CONSIST OF WELL-GRADED SANDS AND GRAVELS WITH A MAXIMUM SIZE OF 3/4".
- BACKFILL SHALL NOT CONTAIN:
 - ANY STONES MORE THAN 1/2" (1 1/2" MAXIMUM DIAMETER WITHIN 2' OF THE OUTSIDE OF THE PIPE) IN THE LARGEST DIMENSION.
 - BE GREATER THAN 90 POUNDS.
 - CONTAIN ANY FROZEN, WET OR ORGANIC MATERIAL.
- USE RIGID INSULATION AT THE RATE OF 1" FOR EVERY FOOT LESS THAN 4".
- FORCE MAIN MUST BE TESTED FOR LEAKAGE.
- AT ANY CROSSING UNDER A ROAD OR DRIVE, FORCE MAIN IS TO BE ENCASED IN A 4" PVC SLEEVE, SAID SLEEVE IS TO EXTEND 8' IN EITHER DIRECTION FROM EDGE OF TRAVELED WAY.
- THE SIDES OF THE TRENCHES 4' OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE SHEETED OR SLOPED TO THE ANGLE OF REPOSE AS DEFINED BY O.S.H.A. STANDARDS.

FORCE MAIN TRENCH DETAIL
NOT TO SCALE



SPECIFICATIONS:

- Concrete Minimum Strength 5000psi @ 28 days
- Steel Reinforcement Grade 60
- Polylok Pipe Seals
- Top Seam Construction
- Water Tight to Outlet Level
- Effluent Filter Is Required
- Effluent Filter Alarm Available
- Weights Subject to Variation

1,000 GALLON SEPTIC TANK
NOT TO SCALE

ITEM	LEACHFIELD	SEPTIC TANK	SEWER
DRILLED WELL	(8)	50	50
GRAVEL PACK WELL, SHALLOW WELL OR SPRING	(8)	75	75
LAKES, PONDS AND IMPOUNDMENTS	50	25	25
RIVER, STREAM	50	25	10
DRAINAGE SWALES, ROADWAY DITCHES	25	-	-
MAIN OR MUNICIPAL WATER LINES	50	50	(6)
SEWER SERVICE LINES	25	25	(6)
ROADWAYS, DRIVEWAYS, PARKING LOTS	10	5	(6)
TOP OF EMBANKMENT, OR SLOPE > 30%	25	10	-
PROPERTY LINE	25 ¹	10	10
TREES	10	10	10
OTHER DISPOSAL FIELD OR REPLACEMENT AREA	10 ²	-	-
FOUNDATION, FOOTING DRAINS, CURTAIN DRAINS	35 ³	10	-
PUBLIC COMMUNITY WATER SUPPLY (6)	(7)	(7)	(7)
SUCTION WATER LINE	100	50	50

THESE DISTANCES MAY BE REDUCED WHEN EVIDENT THAT THE DISTANCE IS UNNECESSARY TO PROTECT AN ITEM OR INCREASED IF NECESSARY TO PROVIDE ADEQUATE PROTECTION.

- ISOLATION DISTANCES APPLY REGARDLESS OF PROPERTY LINE AND OWNERSHIP.
- SEPARATION BETWEEN POTABLE WATER SUPPLIES AND LEACHFIELD'S SHALL BE DETERMINED BY METHODS IN THE VERMONT WATER AND SUPPLY RULE, APPENDIX 21-A, PART 11, 11.4.
- SEWERS UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDUITS OR SLEEVES.
- SEPARATION OF PRESSURE WATER LINES CONSIDERED AS "SERVICE CONNECTIONS" AND SEWER LINES SHALL ADHERE TO THE VERMONT PLUMBING RULES. SEPARATION OF PRESSURE WATER LINES (CONSIDERED TO BE PART OF A PUBLIC WATER SYSTEM AS DEFINED BY THE VERMONT WATER SUPPLY RULE) AND SEWER LINES SHALL ADHERE TO THE REQUIREMENTS OF THE VERMONT WATER SUPPLY RULE.
- THIS REFERS TO PUBLIC COMMUNITY WATER SYSTEMS, AS DEFINED IN THE VERMONT WATER SUPPLY RULE.
- CONTACT DEPARTMENT OF ENVIRONMENTAL CONSERVATION'S WATER SUPPLY DIVISION, 103 SOUTH MAIN STREET, WATERBURY, VERMONT FOR ISOLATION DISTANCES RELATIVE TO PUBLIC COMMUNITY WATER SUPPLY.

WASTEWATER SYSTEM ISOLATION DISTANCES

STATE OF VERMONT MOUND SAND SPECIFICATIONS

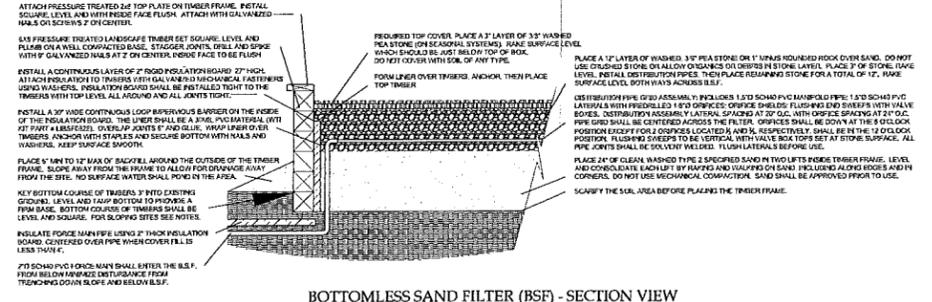
Fill Material: The fill material from the natural soil ground surface to the top of the trench or bed shall be sand texture with one of the following sieve analysis:

Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.240	0 - 30
100	0.149	0 - 10
200	0.074	0 - 5

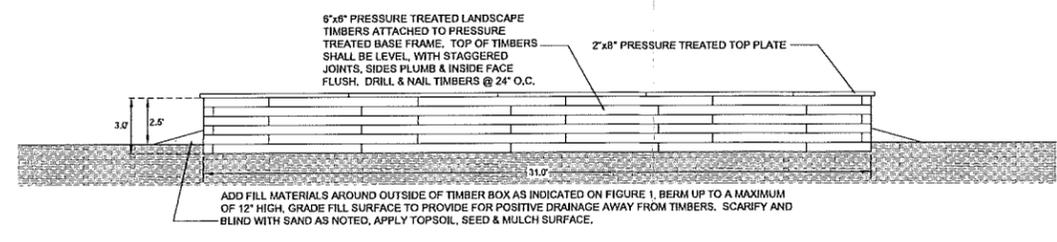
Sieve Number	Opening (mm)	Percent Passing, by Weight
4	4.750	95 - 100
8	2.380	80 - 100
16	1.190	50 - 85
30	0.590	25 - 50
50	0.297	10 - 30
100	0.149	2 - 10

Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.074	0 - 5

The material must meet specifications 1, 2, or 3. Interpretation of analyses is not permitted. Fill material is ASTM Specification C-33 and is intended for manufacturer material which must be used for Bottomless Sand Filters.



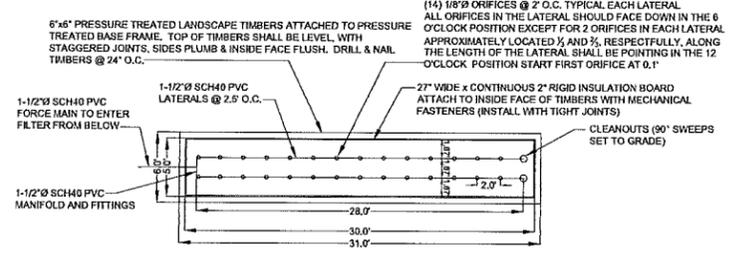
BOTTOMLESS SAND FILTER (BSF) - SECTION VIEW
NOT TO SCALE



BOTTOMLESS SAND FILTER (BSF) - ELEVATION VIEW
NOT TO SCALE

MicroFAST 0.5L SPECIFICATIONS:
MicroFast 0.5L package to be supplied by Camp Precast Concrete Products, Inc. (802-885-2401). Precast Concrete Tank to be "top seam" with integrally cast neoprene footed slip connections (slip seals are not acceptable). Tank shall have an integrally cast 20" diameter tank riser cast on inlet end of tank. Tank to be manufactured in an NFPA Certified Plant using 5000 psi concrete and for reasons of permeability and durability, concrete to have a water/cement ratio no greater than 0.43. Tank and tank lid to have proof of design testing done and on file at the manufacturer plant. Tank to be water tested with no visible leakage allowed.
BIO-MICROBICS MicroFAST 0.5 L

- NOT TO SCALE
- 5000 PSI CONCRETE, 28 DAY STRENGTH.
 - LOW PRESSURE SEALS DESIGNED TO ACCEPT 4" C.I. OR PVC PIPE.
 - REQUIRES EFFLUENT PUMP CAPABLE OF PUMPING A MINIMUM OF 12.44 GPM VERSUS 11.87 TDM.
 - THE PUMP SHALL BE SETUP TO TIME DOSE 2 MINUTES EVERY HOUR WITH A LOW LEVEL FLOAT 6" ABOVE PUMP INLET, A HIGH LEVEL FLOAT SET 18" ABOVE LOW LEVEL FLOAT, AND A HIGH LEVEL ALARM FLOAT 6" ABOVE THE HIGH LEVEL FLOAT.
 - IT SHOULD BE NOTED THAT ANY DEVIATION IN THE LOCATION OR ELEVATION OF THE SEPTIC TANK, PUMP STATION, OR THE DISPOSAL SYSTEM FROM THE DESIGNED LOCATION MAY REQUIRE A DIFFERENT SIZE PUMP.



BOTTOMLESS SAND FILTER (BSF) - PLAN VIEW
NOT TO SCALE

SEWAGE DESIGN INFORMATION

- THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE TOWN REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.
- THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:

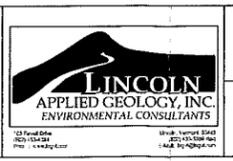
PROPERTY LINE	25 FEET
BUILDING (WITH FOOTING DRAIN) UPSLOPE OR SIDESLOPE	35 FEET
BUILDING (WITH FOOTING DRAIN) DOWNSLOPE	75 FEET
DRIVEWAYS & PARKING LOTS	10 FEET
TREES	10 FEET
- BASIS OF DESIGN:

NO. OF BEDROOMS	2
DESIGN FLOW	280
PERCOLATION RATE	<60 MIN/INCH
LOADING RATE, Q (TRENCHES)	2.0 GAL/SF/DAY - 6" OF STONE

NOT TO SCALE

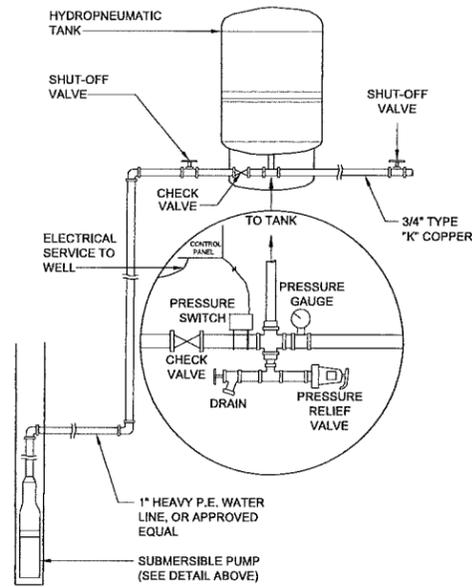
THE CONTRACTOR SHALL NOTIFY "DIGSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.

I hereby certify that the design related information submitted with this application is true and correct, and that, in the exercise of my reasonable professional judgment, the "best-fit" design included in this application for a permit reasonably complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Act.
 Steven Reibel / CPQ
 Licensed Class B Designer #178
 Date: 10/20/2015



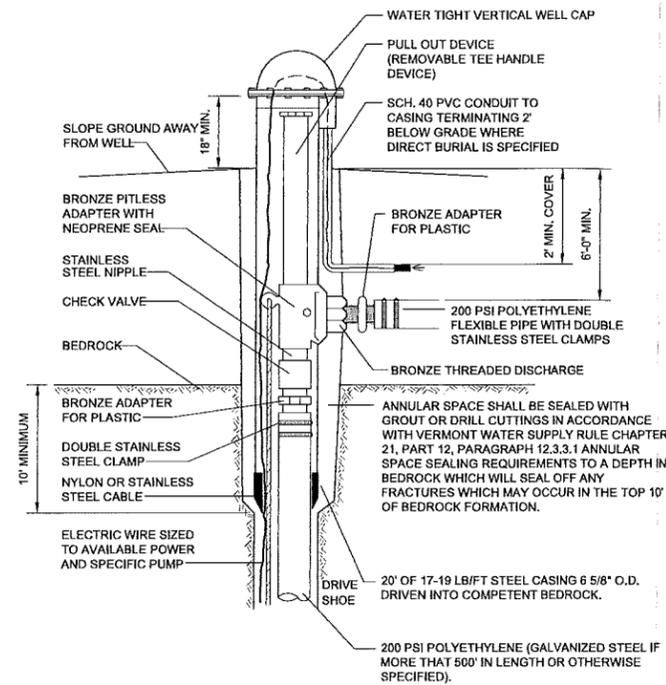
Turtle Moon LLC Property
 350 Turtle Moon Road
 Charlotte, Vermont
Wastewater System Design Details

LOG PROJECT #	DATE
09054	Oct. 20, 2015
DATE	
DESIGNER	TAM
PROJECT #	



TYPICAL INDIVIDUAL WATER SYSTEM

NOT TO SCALE

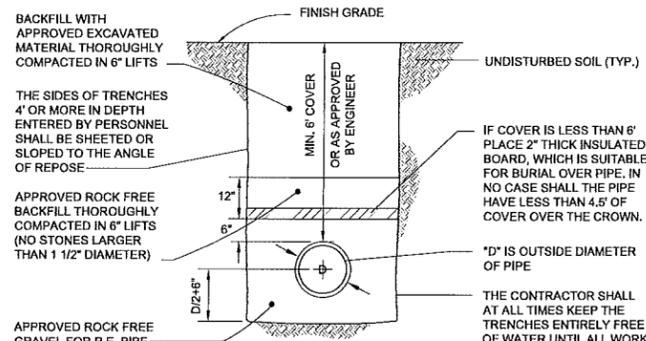


TYPICAL RESIDENTIAL DRILLED WELL

NOT TO SCALE

INDIVIDUAL DRILLED WELL NOTE:

1. THE SUBMERSIBLE PUMP MODEL AND DEPTH OF SETTING TO BE SPECIFIED BY THE ENGINEER AFTER THE WELL IS DRILLED AND YIELD TESTED (PIPE AND ADAPTOR SIZE TO SUIT ALSO).



TYPICAL WATER TRENCH

NOT TO SCALE

INDIVIDUAL DRILLED WELL DESIGN DATA

- THE DRILLED WELL(S) CONSTRUCTION, LOCATION, DISINFECTION, AND TESTING SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT - WATER SUPPLY RULES.
- THE BASIS OF DESIGN FOR EACH DRILLED WELL IS:
 - AVERAGE DAY DEMAND: 140 GPD X 2 BEDROOMS
 - MAXIMUM DAILY DEMAND: (140 GPD X 2 BEDROOMS)/720 MIN/DAY = 0.38 GPM (2 BEDROOM)
 - OPERATING PRESSURE RANGE: 40-50 PSI AT PRESSURE SWITCH
 - INSTANTANEOUS PEAK DEMAND = 5 GPM.

POTENTIAL SOURCE OF CONTAMINATION AND OTHER SITING LIMITATIONS	SEPARATION DISTANCE
Roadway, Parking Lot (outer edge of shoulder)	25 Feet
Driveway (Fewer than 3 residences)	15 Feet
Sewage System Disposal Fields	(See a.)
Subsurface Wastewater Piping and Related Tanks	50 Feet
Property Line	10 Feet (See b.)
Limit of Herbicide Application on utility R.O.W.	100 Feet (See c.)
Surface Water	10 Feet (See d.)
Buildings	10 Feet
Concentrated Livestock Holding Areas and Manure Storage Systems	200 Feet
Hazardous or Solid Waste Disposal Site	(See f.)
Non-sewage Wastewater Disposal Fields	(See f.)

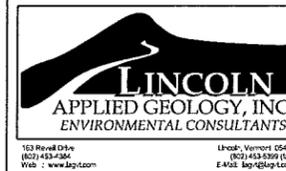
DRILLED WELL ISOLATION DISTANCES

- See Table a11-2.
- Increased to 50' when adjacent to agricultural cropland.
- Applies to rights-of-way (ROW) where herbicides have been applied in the past 12 months or may be applied in the future. This distance may be increased to 200' depending on the active ingredient in the herbicide according to Vermont Regulations for Control of Pesticides.
- For Public water sources, see appendix A, Part 3, Subpart 3.4.
- Water sources shall not be located in a flood way.
- If a water source is potentially downgradient of a source of contamination, then the Secretary shall apply criteria in Appendix A Subpart 11.4.2.2.

NOT TO SCALE

"I hereby certify that the design related information submitted with this application is true and correct, and that in the exercise of my reasonable professional judgment, the "best-fit" design included in this application for a permit reasonably complies with the Vermont Wastewater System and Public Water Supply Rules and the Vermont Water Supply Rules."

Steve Revell 10/20/2015
 Steve Revell, CPG Date
 Licensed Class B Designer #178



Turtle Moon LLC Property

350 Turtle Moon Road
 Charlotte, Vermont

Water System Design Details

LAG PROJECT #	08054
DATE:	Oct. 20, 2015
SURVEYORS:	CZ/DN
DRAWN BY:	TAM
FIGURE #:	3