

LEGEND

---	EXISTING GROUND CONTOUR
---	EXISTING WATER LINE
---	EXISTING SANITARY SEWER
---	EDGE OF PAVEMENT
---	EDGE OF GRAVEL DRIVE
---	GROUND WATER FLOW DIRECTION
---	LAND SLOPE DIRECTION
---	EXISTING PROPERTY LINE
TP-1	TEST PIT
⊙	WELL - DRILLED
⊙	DECIDUOUS TREE

DISPOSAL AREA DESIGN

1. WASTE FLOW = 280gpd (2 BEDROOM RESIDENCE)
2. TYPICAL SOIL PROFILE:
0-10" BROWN SANDY LOAM, LOOSE, STRONG GRANULAR TO FINE BLOCKY, WELL
10-36" RED-BROWN STONY SANDY LOAM, LOOSE, STRONG GRANULAR, WELL DRAINED
36-72" BROWN GRAVELLY COARSE SAND, LOOSE, STRONG GRANULAR, WELL DRAINED
NO MOTTLING, WATER OR LEDGE TO DEPTH
3. PERCOLATION RATE = 2.05 TO 23.6 $\frac{\text{INCH}}{\text{HOUR}}$ SO USE 23 $\frac{\text{INCH}}{\text{HOUR}}$
4. REQUIRED APPLICATION AREA = 12.0 SQ. FT.
5. REQUIRED APPLICATION RATE = 23.6 $\frac{\text{GALLONS}}{\text{SQ. FT.}}$
6. REQUIRED DISPOSAL AREA = 720 $\text{SQ. FT. OR } 3.4 \times 6.07 \text{ TRENCHES}$
7. PROPOSED DISPOSAL AREA = 487 $\times 1.5 = 730.5 \text{ SQ. FT.}$
8. PROPOSED DESIGN = 4.4 $\times 6.07 \text{ TRENCHES PLACED AT } 24 \times 72 \text{ INCHES ON CENTER WITH A 1000 GALLON PUMP STATION SUPPLIED FROM A 1,000 GALLON PUMP STATION}$

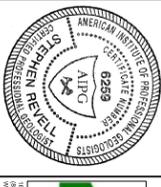


THE CONTRACTOR SHALL NOTIFY DCSAFE AT 1-888-635-5466 PRIOR TO ANY EXCAVATION.

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

Stephen Revall, CPG
Licensed Class B Designer #178

Date



Dykema Property
700 Town Line Road
Charlotte, Vermont

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

LOG PROJECT # 190988
DATE: 09/28
DATE: 13, 2010
DESIGNER: SM
DRAWN: SM/7/10
PLAN SHEET # 1

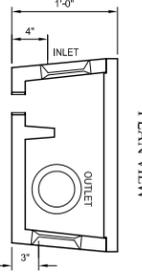
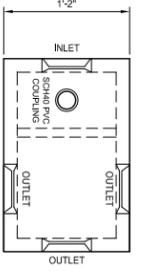
CONSTRUCTION SPECIFICATIONS - TRENCH

NOTE: PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY DSG&F (1-888-DGS&F) AND ALL MATERIALS, INCLUDING STONE SHALL BE APPROVED BY THE ENGINEER.

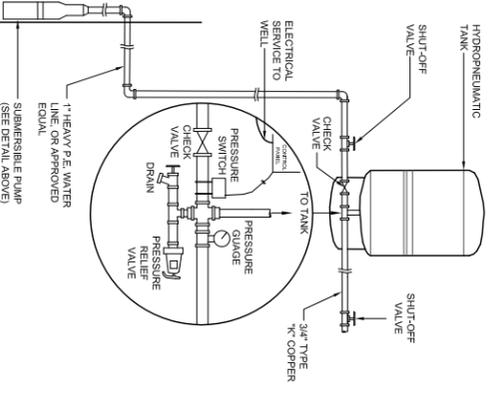
1. THE OUTLET PIPE FROM THE SEPTIC TANK TO THE DISTRIBUTION BOX SHALL BE 4 INCHES 50% PVC, AT A MINIMUM SLOPE OF .18 INCH/FT. THE PIPE SHALL BE LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
2. DISTRIBUTION BOX SHALL BE INSTALLED BETWEEN THE SEPTIC TANK OR PUMP STATION AND THE DISTRIBUTION BOX TO EVENLY DISTRIBUTE THE EFFLUENT TO EACH DISTRIBUTION LINE. ADEQUATE PROVISIONS SHALL BE TAKEN TO ASSURE THE STABILITY AND ACCESSIBILITY OF THE DISTRIBUTION BOX FOR INSPECTIONS. LEVELNESS OF THE DISTRIBUTION BOX SHALL BE WITNESSED BY THE ENGINEER AND AN AUTHORIZED TOWN REPRESENTATIVE.
3. EACH DISTRIBUTION LINE SHALL CONNECT INDIVIDUALLY TO THE DISTRIBUTION BOX AND EXIT AT THE SAME SLOPE FOR THE FIRST 5 FEET TO 10 FEET. THE PIPE CONNECTING THE DISTRIBUTION BOX TO THE DISTRIBUTION LINES SHALL BE WELDRIGHT AND LAID ON UNDISTURBED GROUND OR PROPERLY BEDDED.
4. WHEN THE TRENCHES HAVE BEEN EXCAVATED, THE SIDES AND BOTTOM SHALL BE RAKED TO LOOSEN ANY SWEARED SOIL SURFACES.
5. CONSTRUCTION EQUIPMENT SHALL BE KEPT OFF THE AREA TO BE USED FOR SEWAGE DISPOSAL, AS MUCH AS POSSIBLE TO PREVENT COMPACTION OF THE SOILS.
6. PLACEMENT OF CRUSHED STONE IN THE TRENCHES SHALL BE INSTALLED IMMEDIATELY AFTER THE DISTRIBUTION BOX IS SET. THE TRENCHES SHALL BE INSTALLED IMMEDIATELY AFTER THE DISTRIBUTION BOX IS SET. THE TRENCHES SHALL BE INSTALLED IMMEDIATELY AFTER THE DISTRIBUTION BOX IS SET. THE TRENCHES SHALL BE INSTALLED IMMEDIATELY AFTER THE DISTRIBUTION BOX IS SET.
7. 12 INCHES OF CLEAN CRUSHED STONE (3/4 TO 1-1/2 INCHES) SHALL BE PLACED IN THE TRENCHES ON EITHER SIDE OF THE DISTRIBUTION BOX AND THE DISTRIBUTION LINES SHALL BE COVERED WITH AT LEAST 2 INCHES OF STONE. THE ENDS OF THE DISTRIBUTION LINES SHALL BE CAPED.
8. THE GRADING SHALL DIRECT RAINOFF AWAY FROM THE SEPTIC SYSTEM AREAS AND BE SMOOTH AND FREE OF POCKETS WITH SUFFICIENT SLOPE TO ENSURE DRAINAGE.

INSPECTION REQUIREMENTS

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND AUTHORIZED TOWN REPRESENTATIVE A MINIMUM OF 24 HOURS IN ADVANCE FOR INSPECTION OF THE BOTTOM OF THE TRENCHES PRIOR TO PLACEMENT OF STONE AND PIPING.
2. THE CONTRACTORS SHALL NOTIFY THE ENGINEER AND AUTHORIZED TOWN REPRESENTATIVE A MINIMUM OF 24 HOURS IN ADVANCE FOR INSPECTION OF THE SYSTEM PRIOR TO BACKFILLING, INCLUDING THE DISTRIBUTION BOX LEVELNESS CHECK AND SEPTIC TANK.
3. LOTS REQUIRING PUMP STATIONS: DIMENSIONING OF PUMP ON, OFF AND ALARM OPERATION, CHECK OF PUMPING RATE AND EMERGENCY STORAGE VOLUME.
4. THIS DESIGN MUST BE INSPECTED BY LINCOLN APPLIED GEOLOGY, INC., LINCOLN, VERMONT TO ENSURE COMPLIANCE WITH THESE PLANS. LINCOLN APPLIED GEOLOGY, INC. WAIVES ANY AND ALL RESPONSIBILITY AND LIABILITY FOR PROBLEMS THAT ARISE FROM FAILURE TO FOLLOW SPECIFICATIONS, AND THE DESIGN INTENT THAT THE PLANS CONVEY, AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR INSPECTIONS.



3-HOLE PRESSURIZED DISTRIBUTION BOX
NOT TO SCALE



TYPICAL INDIVIDUAL WATER SYSTEM
NOT TO SCALE

NOT TO SCALE

SEPTIC TANK OPERATION & MAINTENANCE RECOMMENDATIONS

1. THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SOLIDS AND PASS TREATED EFFLUENT. BACTERIA WITHIN THE SEPTIC TANK HELPS DECOMPOSE THE SOLIDS. SHOULD ANY SOLIDS PASS THROUGH THE SEPTIC TANK INTO THE SYSTEM PRELATURE CLOGGING OF THE PIPING, STONE OR NATIVE SOIL BENEATH THE SYSTEM IS LIKELY TO BE CONSUMED BY THE SEPTIC TANK'S BACTERIA. SYSTEMS WITH SEPTIC TANKS SHOULD BE CONSERVATIVE AND OWNERS SHOULD NOT OVERUSE THE SYSTEM. (SEE THE ALL BACTERIA.)
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3. ONCE PER YEAR, THE SEPTIC TANK SHOULD BE INSPECTED AND CLEANED ANNUALLY. MEASUREMENTS AND THE TANK SHALL BE WITNESSED BY THE ENGINEER AND AN AUTHORIZED TOWN REPRESENTATIVE.
4. THE SLUDGE LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE TANK.
5. 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, AND ANY SETTLED SOLIDS REMOVED.
6. THE EFFLUENT FILTER SHOULD BE INSPECTED AND CLEANED ANNUALLY.
7. ABOVE ITEMS 1-5 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE THEM.

SEWAGE DESIGN INFORMATION

1. THE SERVICE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL APPLICABLE TOWN REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.
2. THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:
 - 25 FEET PROPERTY LINE
 - 35 FEET BUILDING WITH FOOTING DRAIN, UP-SLOPE OR SIDE-SLOPE
 - 35 FEET DRIVEWAYS & PARKING LOTS
 - 10 FEET TREES
3. BASIS OF DESIGN:
 - DESIGN FLOW: 280 GPD
 - PERCOLATION RATE: 1.0 GAL/SQ/FT (6" STONE)
 - SEPTIC TANK: < 80 MIN/INCH
4. 1,000 GALLON PRECAST CONCRETE SEPTIC TANK, CAMP PRECAST OR APPROVED EQUAL SHALL BE USED, WITH THREE ACCESS COVERS, 4,000 PSI CONCRETE, WATERPROOF JOINTS AND SET ON THOROUGHLY COMPACTED SUBGRADE. THE OUTLET BAFLE SHALL HAVE AN EFFLUENT FILTER & A TWO (2) FOOT DIAMETER RISER TO GRADE WITH STEEL COVER.
5. MISC.:
 - A. IF A WATER TREATMENT SYSTEM IS GOING TO BE USED, THE BACKWASH WATER MAY NOT BE DISCHARGED INTO THE DISPOSAL SYSTEM.
 - B. THE USE OF GARBAGE DISPOSALS IS NOT RECOMMENDED.

STATE OF VERMONT MOUND SAND SPECIFICATIONS

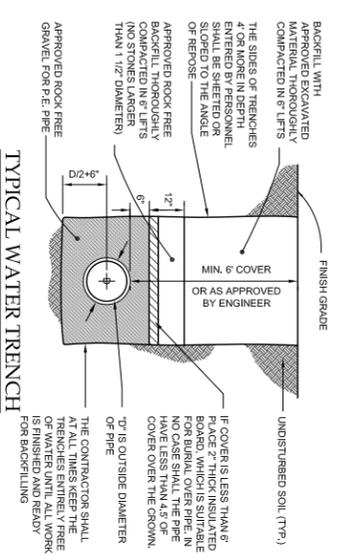
Fill Material: The fill material from the natural soil placed under the top of the trench or bed shall be sand conforming with one of the following sieve analyses:

Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	65 - 100
40	0.420	25 - 75
100	0.150	0 - 30
200	0.075	0 - 5

Sieve Number	Opening (mm)	Percent Passing, by Weight
4	4.750	95 - 100
6	2.500	80 - 90
10	1.650	55 - 65
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10

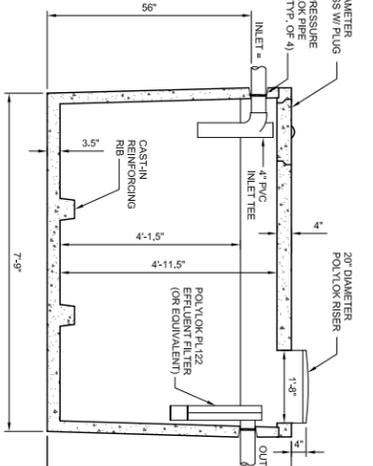
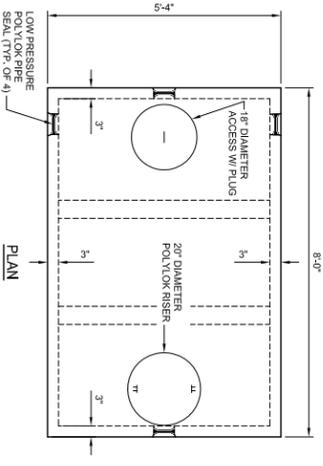
Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.075	0 - 10

The material must meet specifications 1, 2 or 3. Interpretation of analyses is not permitted. Fill material 2 is ASTM Specification C-33 and is intended for manufactured material.



TYPICAL WATER TRENCH
NOT TO SCALE

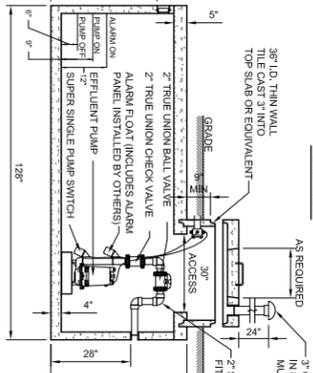
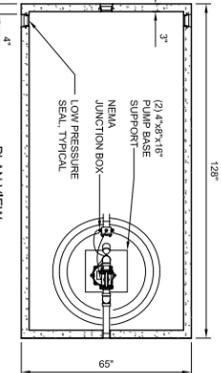
NOT TO SCALE



1,000 GALLON PRECAST CONCRETE SEPTIC TANK
NOT TO SCALE

1,000 GALLON SEPTIC TANK NOTES:

1. INLET, OUTLET, SEAM AND CASTING HOLES TO BE SEALED.
2. TANK TO BE SET LEVEL.
3. DIMENSIONS MAY VARY AMONG DIFFERENT MANUFACTURERS.

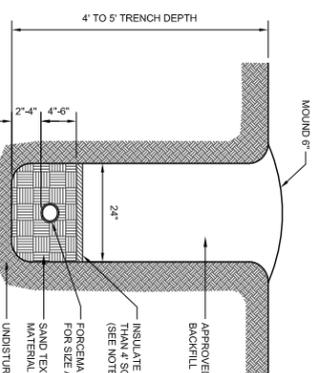


3-HOLE PRESSURIZED DISTRIBUTION BOX
NOT TO SCALE

DESIGN NOTES:

1. 4,000 PSI CONCRETE, 28 DAY STRENGTH.
2. LOW PRESSURE SEALS DESIGNED TO ACCEPT 4" CL OR PVC PIPE.
3. 3" SCH. 80 PVC IN PLACE WITH 24"x3" FITTINGS.
4. IT SHOULD BE NOTED THAT ANY DEVIATION IN THE LOCATION OR ELEVATION OF DESIGNED LOCATION MAY REQUIRE A DIFFERENT SIZE PUMP.

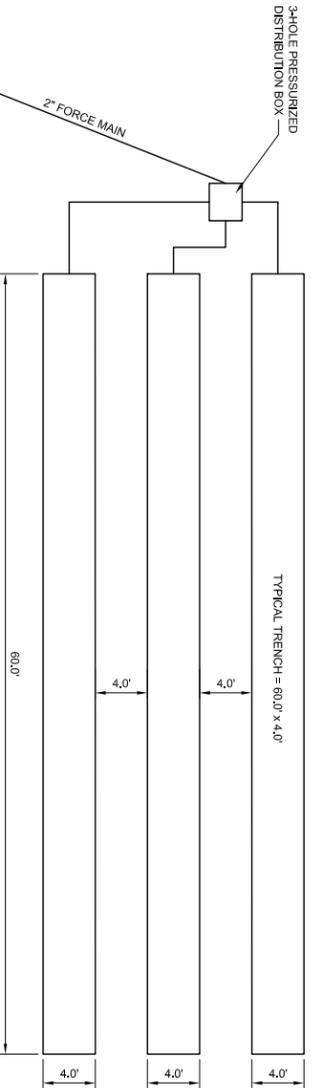
1,000 GALLON PRECAST CONCRETE PUMP STATION
NOT TO SCALE



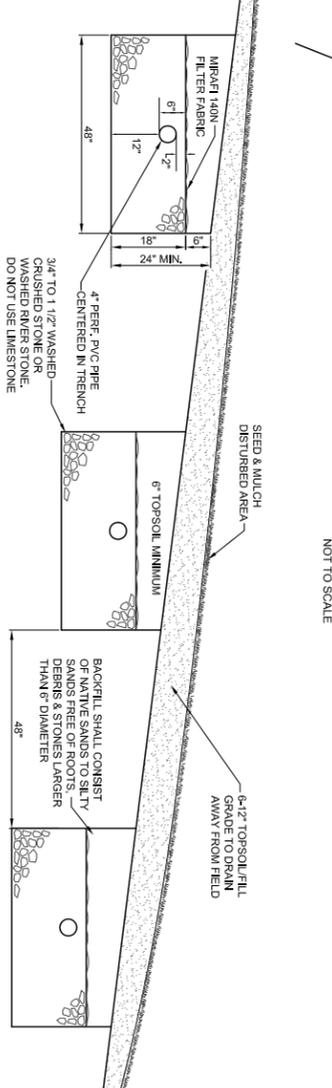
FORCEMAIN TRENCH NOTES:

1. BACKFILL AND BEDDING SHALL BE PROPERLY COMPACTED.
2. BEDDING MATERIAL SHALL NORMALLY CONSIST OF WELL-GRADED SANDS AND GRAVELS WITH A MAXIMUM SIZE OF 3/4".
3. BACKFILL SHALL NOT CONTAIN:
 - (1) 1/2" MAXIMUM DIAMETER WITHIN 2' OF THE OUTSIDE OF THE PIPE IN THE LARGEST DIMENSION.
 - (2) MORE THAN 50 POUNDS.
 - (3) ORGANIC MATERIAL.
 - (4) UNDESIRABLE FROZEN, WET OR ORGANIC MATERIAL.
 - (5) MORE THAN 10% FINE PARTICLES.
 - (6) AT ANY CROSSING UNDER A ROAD OR DRIVE, FORCEMAIN IS TO BE ENCASED IN A 4" PVC SLEEVE, SAID SLEEVE IS TO EXTEND 8' IN EITHER DIRECTION FROM EDGE OF ROAD.
 - (7) THE SIDES OF THE TRENCHES 4' OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE SHERED OR SLOPED TO THE ANGLE OF REPOSE AS DEFINED BY O.S.H.A. STANDARDS.

FORCEMAIN TRENCH DETAIL
NOT TO SCALE



ABSORPTION TRENCH - PLAN VIEW
NOT TO SCALE



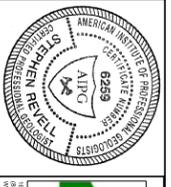
ABSORPTION TRENCH - SECTION VIEW
NOT TO SCALE

- ABSORPTION TRENCH NOTES:**
1. DO NOT ALLOW CONSTRUCTION TRAFFIC, DRIVING OR PARKING ON TOP OF THE SYSTEM.
 2. THE TRENCH SIDEWALLS AND BOTTOM SHALL BE UNDISTURBED. PRIOR TO BACKFILLING CALL FOR INSPECTION. RAKE ANY SWEARED SOILS.
 3. TRENCH EXCAVATIONS SHALL BE LEVEL OVER THE ENTIRE LENGTH & LEVEL ACROSS THE TRENCHES.

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

Stephen Ravel, P.E.
Licensed Class B Designer #178

Date _____



Dykema Property
700 Town Line Road
Charlotte, Vermont

Proposed Water & Wastewater System Details

LOG PROJECT # _____
DATE: 09/28/20
SCALE: 1/8" = 1'-0"
SHEET: 2 OF 2