

- LEGEND**
- 498 — EXISTING GROUND CONTOUR
 - W — EXISTING WATER LINE
 - S — EXISTING SEWER LINE
 - — EDGE OF PAVEMENT
 - — EDGE OF GRAVEL DRIVE
 - — EXISTING PROPERTY LINE
 - — WELL ISOLATION ZONE
 - — SEPTIC ISOLATION ZONE
 - — EDGE OF WATERLAKE
 - — DECIDUOUS TREE
 - — IRON PIPE FOUND
 - — TEMPORARY BENCHMARK
 - — TEST HYPERCOLLATION TEST
 - — WELL - GRILLED
 - — TP-1/P-1



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

"I, hereby certify that in the exercise of my reasonable professional judgment, the design and construction shown on these plans and specifications are in accordance with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules."

Elias J. Erwin
Licensed Class B Designer #503

Date



Sabin Property
2346 North Greenbush Road
Charlotte, Vermont

Site Plan
with Locations of
Water and Wastewater Disposal Systems

PROJECT #	09088.1
DATE	April 17, 2012
EST./M.	
DRAWN BY	TAM
FIGURE #	1

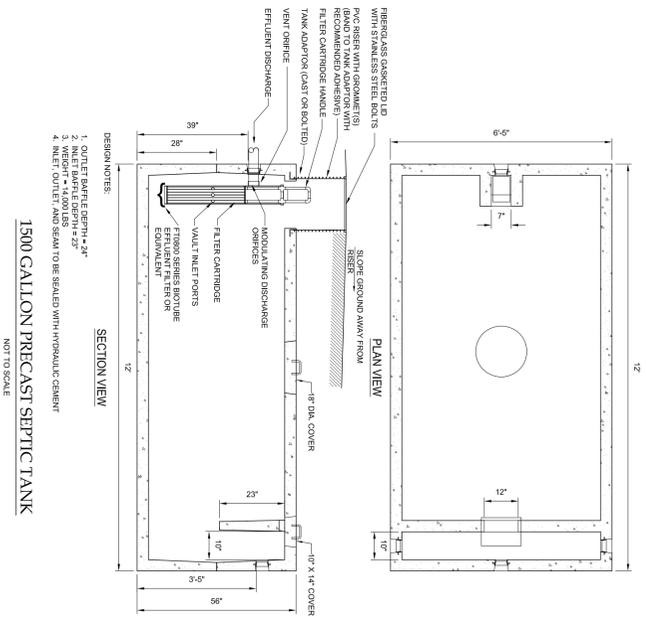
CONSTRUCTION SPECIFICATIONS - TRENCH

NOTE: PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL NOTIFY DISSAFE (1-888-636SAFE) 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 SDR 35 PVC AT A MINIMUM SLOPE OF 1/8 INCH/FT. THE PIPE SHALL BE Laid ON UNDISTURBED GROUND OR PROPERLY BEDED.
2. A DISTRIBUTION BOX SHALL BE INSTALLED BETWEEN THE SEPTIC TANK OR PUMP STATION, IF APPLICABLE AND THE ABSORPTION TRENCHES. THE DISTRIBUTION BOX SHALL BE SET LEVEL ON UNDISTURBED GROUND TO EVENLY DISTRIBUTE THE EFFLUENT TO EACH ABSORPTION TRENCH. THE DISTRIBUTION BOX FOR INSPECTIONS, CLEANING 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 WATER TIGHT AND Laid ON UNDISTURBED GROUND OR PROPERLY BEDED.
4. WHEN THE TRENCHES HAVE BEEN EXCAVATED, THE SIDES AND BOTTOM SHALL BE RAKED TO LOOSELY ANY SMOOSED 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 INSTATED IMMEDIATELY AFTER BACKFILLING AND INSULATION IS COMPLETE. THIS SHALL REQUIRE THAT THE ENGINEER AND AUTHORIZED TOWN REPRESENTATIVE BE PRESENT AT THE TIME OF COMPLETION OF TRENCH EXCAVATION (SEE INSPECTION SPECIFICATIONS).
7. 12 INCHES OF CLEAN CRUSHED STONE (3/4" TO 1-1/2 INCHES) SHALL BE PLACED IN THE BOTTOM OF THE TRENCHES IN ACCORDANCE WITH THE PLANS. THE DISTRIBUTION LINE SHALL BE CAREFULLY PLACED LEVEL ON THE BEDDING AND COVERED WITH AT LEAST 2 INCHES OF STONE. THE ENDS OF THE DISTRIBUTION LINES SHALL BE CARPED.
8. THE GRADING SHALL DIRECT RUN-OFF 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 (LEAKLESS CHECK) AND SEPTIC TANK.
3. LOTS REQUIRING PUMP STATIONS; WITNESSING OF PUMP ON, OFF AND ALARM OPERATION.
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 EXCAVATION OF THIS DESIGN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FROM FAILURE TO HAVE BEEN NOTIFIED BY THE CONTRACTOR FOR INSPECTIONS.



1500 GALLON PRECAST SEPTIC TANK
NOT TO SCALE

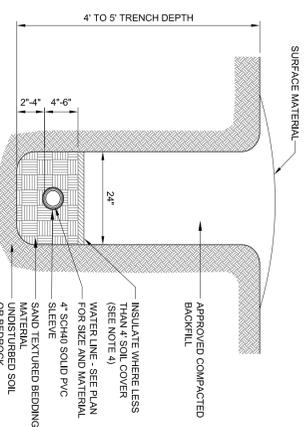
NOT TO SCALE

SEWAGE DESIGN INFORMATION

1. THE SEWAGE DISPOSAL SYSTEM SHALL BE CONSTRUCTED IN ACCORDANCE WITH APPLICABLE TOWN REGULATIONS AND THE VERMONT ENVIRONMENTAL PROTECTION RULES.
2. THE FOLLOWING MINIMUM ISOLATION DISTANCES SHALL BE MAINTAINED FROM THE DISPOSAL AREA TO:
 - PROPERLY LINED BUILDING WITH FOOTING DRAIN, UPSLOPE OR SLOPE: 35 FEET
 - BUILDING WITH FOOTING DRAIN, DOWNSLOPE: 75 FEET
 - DRIVEWAYS & PARKING LOTS: 10 FEET
 - ROADWAYS: 25 FEET

3. BASIS OF DESIGN:
 - NO. OF BEDROOMS: 4
 - PERCOLATION RATE: 12 GALS./SQ. YD. (8" STONE)
 - LOADING RATE: 0.2 TRENCHES/1
4. SEPTIC TANK:
 - 1. A 1500 GALLON PRECAST CONCRETE SEPTIC TANK, CAMP PRECAST OR APPROVED EQUAL SHALL BE USED WITH 4" SDR 35 PVC (SEE DISSAFE 4-0001) 4" COMPACTED WATERPROOF JOINTS AND SET ON THOROUGHLY COMPACTED SUBGRADE. THE OUTLET MANHOLE SHALL HAVE AN EFFLUENT FILTER & TWO (2) FOOT DRAINAGE RISER TO GRADE WITH STEEL COVER.
 - B. THE USE OF GARBAGE DISPOSALS IS NOT RECOMMENDED.
5. MISC.:
 - A. IF A WATER TREATMENT SYSTEM IS GOING TO BE USED, THE BACKWASH WATER MAY NOT BE DISCHARGED INTO THE DISPOSAL SYSTEM.

EXISTING		BASIS OF DESIGN INFORMATION	
6.800 RESERVE	140.00	140.00	140.00
(1) 1.5000 APARTMENT	140.00	140.00	140.00
(1) 1.5000 APARTMENT	140.00	140.00	140.00
(1) 1.5000 APARTMENT	140.00	140.00	140.00
TOTAL =		1160.00	1160.00



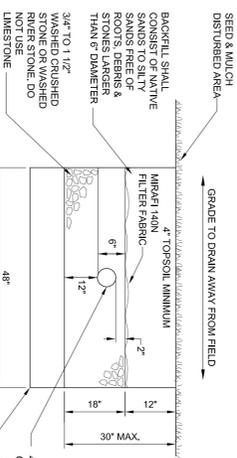
SEWER LINE PROTECTIVE SLEEVE DETAIL
NOT TO SCALE

SEPTIC TANK

OPERATION & MAINTENANCE RECOMMENDATIONS

1. THE SEPTIC TANK'S PURPOSE IS TO SETTLE OUT SOLIDS, CONTAIN THE SOLID AND PASS LIQUID EFFLUENT. PUMP TERA WITHIN THE SEPTIC TANK NEEDS TO BE COMPOSED THE SOLIDS. SHOULD BE MAINTAINED AND CLEANED PERIODICALLY TO PREVENT CLOGGING OF THE PIPING, STONE OR WATER SOIL, BEHIND THE SYSTEM IS LIKELY TO OCCUR. ONLY HUMAN WASTES SHOULD ENTER THE SEWAGE SYSTEM WATER USE SHOULD BE CAREFUL. WASHING AND CLEANING AGENTS CANNOT ENTER THE SYSTEM AS THEY WILL BACKFILL.
2. THE STATE FLOW PIPES OF 1/4 GAL. DAY BEDROOM ARE BASED ON SHORT TERM PEAK FLOW. THE SEPTIC TANK IS NOT DESIGNED TO HANDLE 100% OF THE SOLIDS PER DAY. PER BEDROOMS.
3. ONCE PER YEAR, THE SEPTIC TANK AND SLUDGE IN THE SEPTIC TANK SHOULD BE MEASURED AND THE TANK SHALL BE PUMPED IF:
 - A. THE SLUDGE LEVEL IS WITHIN 12 INCHES OF THE BOTTOM OF THE TANK.
 - B. THE SOLID LAYER IS WITHIN 3 INCHES OF THE TOP OF THE TANK.
 - C. IF A OR B IS ANTICIPATED TO OCCUR PRIOR TO THE NEXT INSPECTION.
 - D. IN ANY CASE, THE TANK SHALL BE PUMPED AT A MAXIMUM 5 YEAR INTERVAL.
4. ONCE A YEAR, THE DISTRIBUTION BOX AND/OR PUMP STATION SHOULD BE INSPECTED AND ANY SETTLED SOLIDS REMOVED.
5. THE EFFLUENT FILTER SHOULD BE INSPECTED AND CLEANED ANNUALLY.
6. ABOVE ITEMS 1-4 ARE INTENDED TO PROLONG THE LIFE OF THE SYSTEM, NOT GUARANTEE IT.

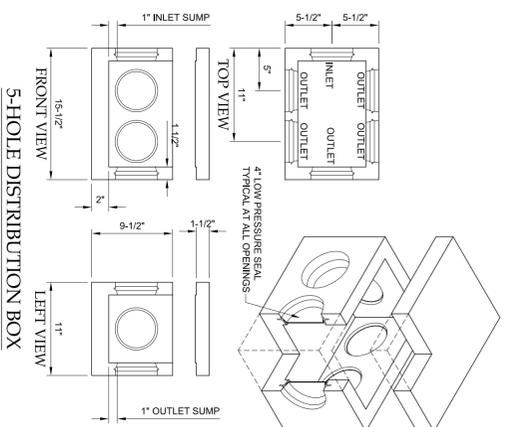
THE CONTRACTOR SHALL NOTIFY "DISSAFE" AT 1-888-DIG-SAFE PRIOR TO ANY EXCAVATION.



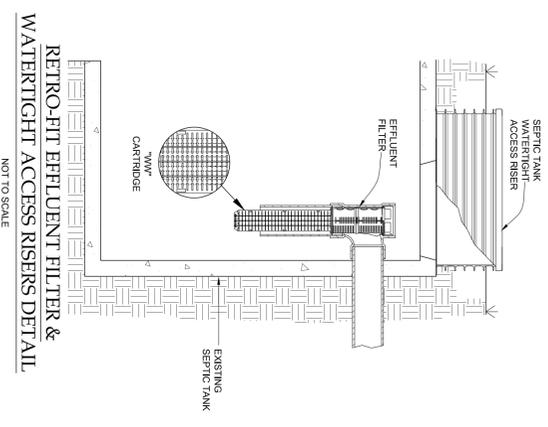
ABSORPTION TRENCH
NOT TO SCALE

ABSORPTION TRENCH NOTES:

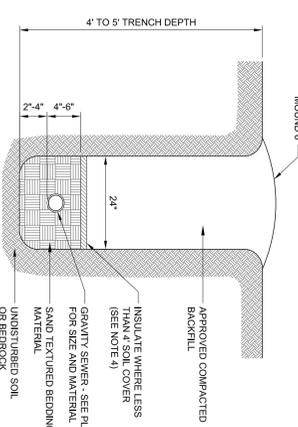
1. DO NOT ALLOW CONSTRUCTION TRAFFIC, DRIVING OR PARKING ON TOP OF THE SYSTEM.
2. THE TRENCH SIDEWALLS AND BOTTOM SHALL BE UNDISTURBED PRIOR TO BACKFILLING CALL FOR INSPECTION TAKE ANY SMOOSED SOILS.



5-HOLE DISTRIBUTION BOX
NOT TO SCALE



RETRO-FIT EFFLUENT FILTER & WATERTIGHT ACCESS RISERS DETAIL
NOT TO SCALE

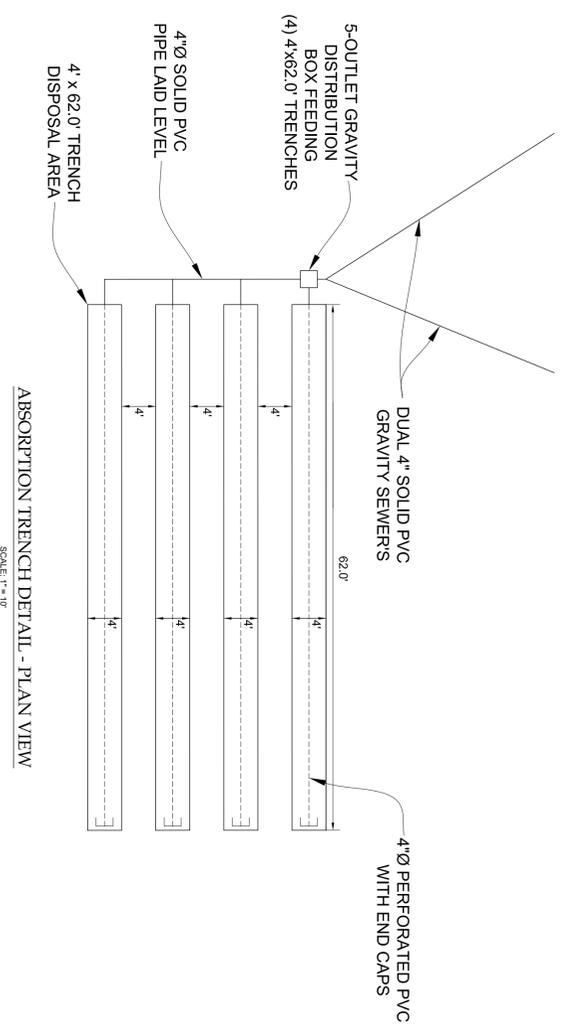


GRAVITY SEWER TRENCH NOTES:

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 FEET OF THE OUTSIDE OF THE PIPE IN THE LARGEST DIMENSION.
 - (2) BE GREATER THAN 80 POUNDS OF ORGANIC MATERIAL.
4. USE RIGID INSULATION AT THE RATE OF 1" FOR EVERY FOOT LESS THAN 4".
5. FORCEMAIN MUST BE TESTED FOR LEAKAGE. GRAVITY SEWERS IS TO BE ENCASED IN A 4" X 4" RIGID CROSSING UNDER A ROAD OR DRIVE. GRAVITY SEWERS SHALL BE SET ON UNDISTURBED GROUND TO EVENLY DISTRIBUTE THE EFFLUENT TO EACH ABSORPTION TRENCH. THE DISTRIBUTION BOX SHALL BE WITNESSED BY THE ENGINEER AND AN AUTHORIZED TOWN REPRESENTATIVE.
6. THE SIDES OF THE TRENCHES 4" OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE GREATER THAN 90 DEGREES TO THE VERTICAL.
7. THE SIDES OF THE TRENCHES 4" OR MORE IN DEPTH ENTERED BY PERSONNEL SHALL BE GREATER THAN 90 DEGREES TO THE VERTICAL.

GRAVITY SEWER TRENCH DETAIL

NOT TO SCALE



ABSORPTION TRENCH DETAIL - PLAN VIEW
SCALE: 1" = 10'

ITEM	LEACHFIELD	SEPTIC TANK	SEWER
DRIILLED WELL	(0)	50	50
GRAVEL PACK WELL, SMALL ON WELL OR SPRINGS	(0)	75	75
LAKES, PONDS AND IMPOUNDMENTS	50	25	25
RIVER, STREAM	50	25	25
DRAINAGE SWALES, ROADWAY DITCHES	25	--	--
MAN OR MUNICIPAL WATER LINES	50	50	(4)
SEWER SERVICE LINES	25	25	(6)
ROADWAYS, DRIVEWAYS, PARKING LOTS	10	5	(6)
TOP OF EMBANKMENT, OR SLOPE > 30%	25	10	--
PROPERTY LINE	25	10	10
TREES	10	10	10
OTHER DISPOSAL FIELD OR REPLACEMENT AREA	10	--	--
FOUNDATION, FOOTING DRAINS, CURTAIN DRAINS	35	10	--
PUBLIC COMMUNITY WATER SUPPLY (6)	(0)	(0)	(0)
SUPPLY WATER LINE	100	50	50

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

(a) ISOLATION DISTANCES APPLY REGARDLESS OF PROPERTY LINE AND OWNERSHIP.

(b) SEPARATION BETWEEN POTABLE WATER SUPPLIES AND EACH-FIELD'S SHALL BE DETERMINED BY METHODS IN THE VERMONT WATER AND SUPPLY RULE, APPENDIX 21-A. PART (g) SEWERS UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDITIONS OR SERVICES.

(c) SEWERS UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDITIONS OR SERVICES.

(d) SEWERS UNDER ROADS, DRIVEWAYS OR PARKING LOTS MAY REQUIRE PROTECTIVE CONDITIONS OR SERVICES.

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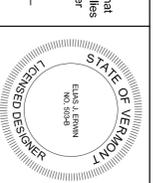
(f) THIS REFERS TO PUBLIC COMMUNITY WATER SYSTEMS AS DEFINED IN THE VERMONT WATER SUPPLY RULE.

(g) FROM MAIN SEWER WATERBURY, VERMONT. FROM SEWER MAINS IN THE VERMONT WATER SUPPLY RULE.

WASTEWATER SYSTEM ISOLATION DISTANCES

I hereby certify that in the exercise of my reasonable professional judgment and to the best of my knowledge and belief, the design included in this application is true and correct and that it complies with the Vermont Wastewater System and Potable Water Supply Rules and the Vermont Water Supply Rules.

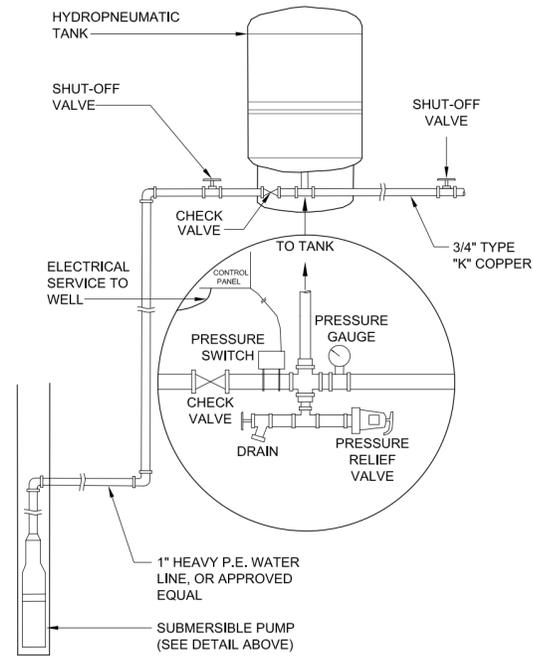
Elias J. Ewin
Licensed Class B Designer #303



Sabin Property
2346 North Greenbush Road
Charlotte, Vermont

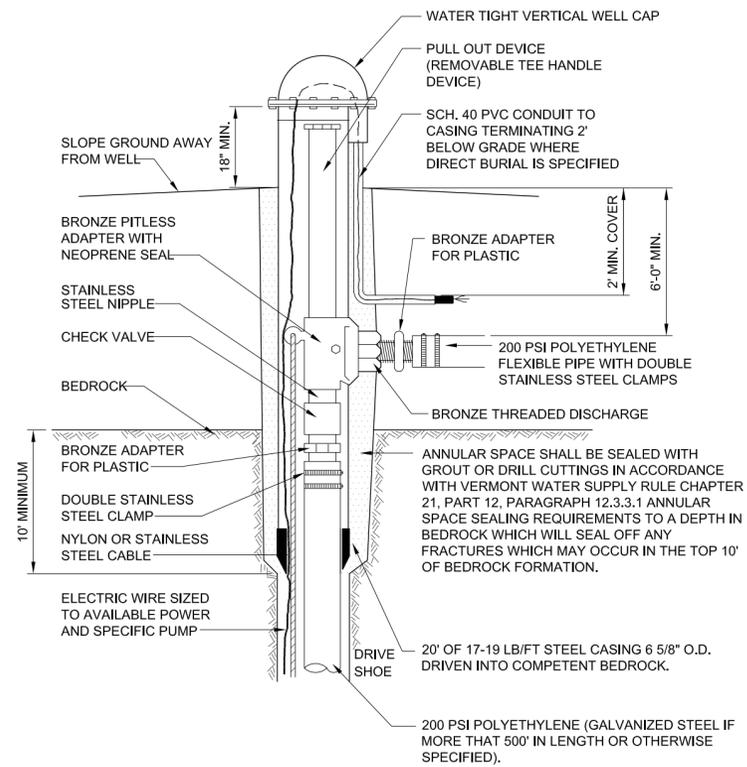
Proposed Wastewater System Design Details

DATE: April 17, 2012
DRAWN BY: EJM/ML
SCALE: TBM
FRIDGE #:
2



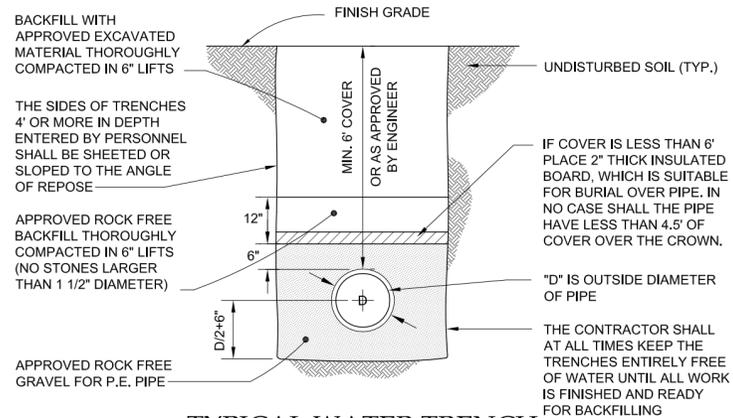
TYPICAL INDIVIDUAL WATER SYSTEM

NOT TO SCALE



TYPICAL RESIDENTIAL DRILLED WELL

NOT TO SCALE



TYPICAL WATER TRENCH

NOT TO SCALE

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.

INDIVIDUAL DRILLED WELL DESIGN DATA

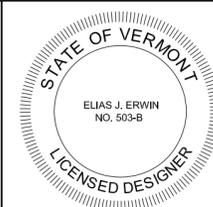
- THE DRILLED WELL(S) CONSTRUCTION, LOCATION, DISINFECTION, AND TESTING SHALL BE IN ACCORDANCE WITH THE STATE OF VERMONT - WATER SUPPLY RULES.
- THE BASIS OF DESIGN FOR EACH DRILLED WELL IS:
 - AVERAGE DAY DEMAND: 140 GPD X 3 BEDROOMS = 420 GPD.
 - MAXIMUM DAILY DEMAND: (42 GPD)/720 MIN/DAY = 0.58 GPM (3 BEDROOM)
 - OPERATING PRESSURE RANGE: 40-60 PSI AT PRESSURE SWITCH
 - INSTANTANEOUS PEAK DEMAND = 10 GPM.

NOT TO SCALE

"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."

Elias J. Erwin
Licensed Class B Designer #503

Date



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2346 North Greenbush Road
Charlotte, Vermont

Proposed Water System Design Details

LAG PROJECT #
08086.1
DATE:
April 17, 2012
SURVEYORS:
EE/TAM
DRAWN BY:
TAM
FIGURE #:

3