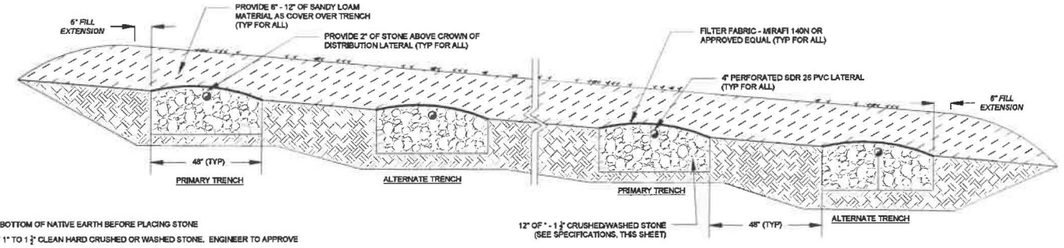
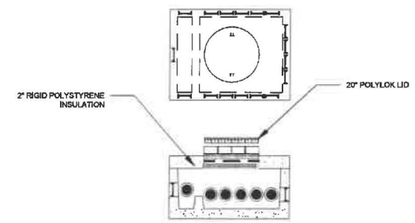


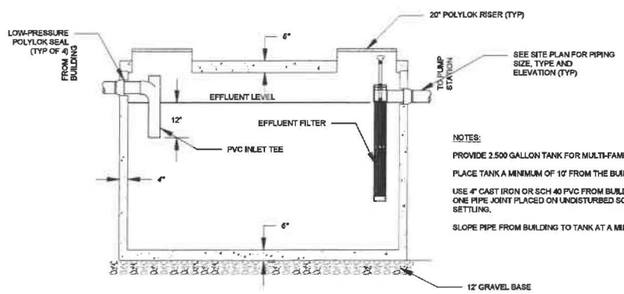
NOTES:

1. SCARIFY SIDES AND BOTTOM OF NATIVE EARTH BEFORE PLACING STONE
2. PLACE 12 INCHES OF 1" TO 1 1/2" CLEAN HARD CRUSHED OR WASHED STONE. ENGINEER TO APPROVE MATERIAL PRIOR TO INSTALLATION.
3. INSTALL 4" PERFORATED SDR 26 PVC DISTRIBUTION LATERALS WITH HOLES POINTED DOWN
4. COVER DISTRIBUTION LATERALS WITH A MINIMUM OF 2" OF STONE
5. PLACE FILTER FABRIC ABOVE STONE
6. PROVIDE SIX TO TWELVE INCHES OF SANDY LOAM MATERIAL OVER STONE TRENCHES
7. PROVIDE 2 TO 4 INCHES MINIMUM OF TOPSOIL OVER FILL MATERIAL, SEED AND MULCH

SHALLOW IN-GROUND TRENCH DETAIL



14-OUTLET DISTRIBUTION BOX



NOTES:

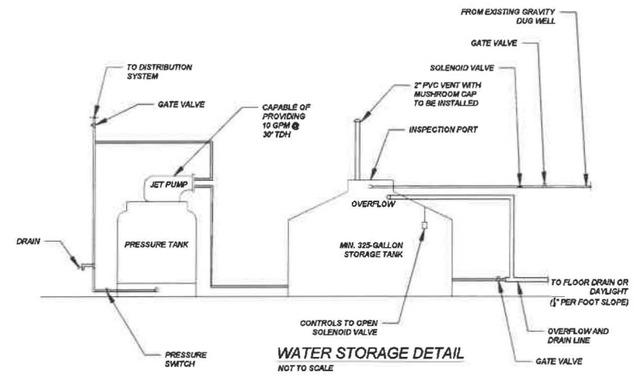
PROVIDE 2,500 GALLON TANK FOR MULTI-FAMILY BUILDING

PLACE TANK A MINIMUM OF 10' FROM THE BUILDING.

USE 4" CAST IRON OR SCH 40 PVC FROM BUILDING TO TANK WITH ONE PIPE JOINT PLACED ON UNDISTURBED SOIL TO ABSORB SETTLING.

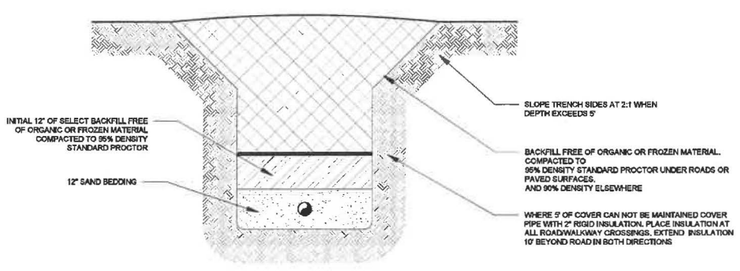
SLOPE PIPE FROM BUILDING TO TANK AT A MINIMUM 1/4" PER FOOT.

2,500 GALLON SEPTIC TANK DETAIL

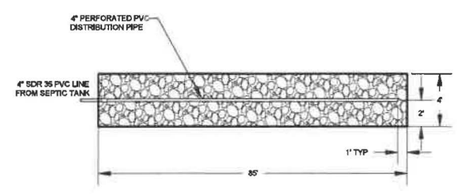


WATER STORAGE DETAIL

NOT TO SCALE



SEWER TRENCH DETAIL



ABSORPTION TRENCH PIPING PLAN

WATER/WASTEWATER NOTES

1. THIS PROJECT INVOLVES THE CONSTRUCTION OF AN IN-GROUND WASTEWATER DISPOSAL SYSTEM TO SERVE A PROPOSED 4 UNIT MULTI-FAMILY BUILDING. IT IS THE OWNER'S RESPONSIBILITY TO BECOME FAMILIAR WITH THESE PLANS.
2. THE OWNER IS RESPONSIBLE FOR ENSURING THAT ALL PERMITS ARE IN PLACE PRIOR TO CONSTRUCTION AND FOR CONSTRUCTING THE PROJECT IN ACCORDANCE WITH THE APPROVED PLAN.

SEPTIC TANK/BUILDING SEWER NOTES:

1. TANK SHALL BE A CAMP PRECAST MODEL LD6-12-2500 OR APPROVED EQUAL
2. INTERIOR TANK DIMENSIONS SHALL BE 12' L X 6' W X 5'-8" H, OR APPROVED EQUAL
3. TANK SHALL BE PLACED A MINIMUM OF 10' FROM THE BUILDING
4. 4" CAST IRON OR SDR 35 PVC FROM BUILDING TO TANK SHALL BE USED WITH ONE PIPE JOINT PLACED ON UNDISTURBED EARTH TO ASSORB SETTLING
5. SLOPE PIPE FROM BUILDING TO TANK AT MINIMUM OF 1/4" PER FOOT
6. CLEANOUTS SHALL BE INSTALLED AT BENDS IN PIPE

WASTEWATER BASIS OF DESIGN - PRIMARY SYSTEM FOR NEW SINGLE FAMILY HOME

DAILY FLOW OF PROPOSED 4-UNIT MULTI-FAMILY:	
3 Bedrooms/unit	1,680 GPD
LOADING RATE CALCULATION:	
LR = 3 / (PERCOLATION RATE * 0.5)	
PERCOLATION RATE	5 MIN/IN
LR = 3 / (5 * 0.5)	1.34 GPD/S.F.
MINIMUM LEACHFIELD AREA CALCULATION:	
DEPTH TO SEASONAL HIGH WATER TABLE (SHWT)	>72 INCHES
MINIMUM TRENCH AREA (1,680 GPD / 1.34 GPD/SF)	1,254 S.F.
PROPOSED LEACHFIELD AREA CALCULATION:	
TRENCH WIDTH (W)	4 FT
TRENCH LENGTH (L)	85 FT
NUMBER OF ROWS (R)	4
LEACHFIELD AREA = R X L X W	
LEACHFIELD AREA = 4 X 85' X 4'	1,360 S.F.

POTABLE WATER BASIS OF DESIGN - see attached spreadsheet for calculations

AVERAGE DAILY FLOW OF EXISTING # BEDROOM HOUSE:	
4 UNITS @ 3 BEDROOMS/UNIT @ 150 GPD * 10% LOW FLOW FIXTURE REDUCTION	1,620 GPD
MAXIMUM DAY DEMAND	2.25 GPM
INSTANTANEOUS PEAK DEMAND	20 GPM
REQUIRED STORAGE	890 gallons

VARIANCES

NO VARIANCES ARE REQUESTED FOR THIS PROJECT

CONSTRUCTION PHASE & INSPECTION REQUIREMENTS

1. CONTRACTOR AND/OR OWNER IS RESPONSIBLE TO CONTACT THE ENGINEER TWO (2) WEEKS PRIOR TO START OF WORK TO CONDUCT A PRE-CONSTRUCTION MEETING. THIS MEETING SHALL, AT A MINIMUM, DISCUSS THE FOLLOWING:

1.1. STAKEOUT OF LEACHFIELD AND OTHER SYSTEM COMPONENTS
1.2. ENGINEER TO WITNESS SCARIFICATION OF SOIL PRIOR TO PLACING STONE
1.3. ENGINEER TO WITNESS FORCE MAIN PRESSURE TEST DESCRIBED BELOW (IF PUMP STATION IS USED)
1.4. ENGINEER TO WITNESS PUMP OPERATION AND VERIFY DISCHARGE TO DISTRIBUTION BOX (IF PUMP STATION IS USED)
1.5. ENGINEER TO WITNESS LEACHFIELD PRIOR TO COVERING WITH TOPSOIL

2. THE CERTIFICATION OF CONSTRUCTION AS REQUIRED BY SECTION 1-308(A) OF THE ENVIRONMENTAL PROTECTION RULES MAY NOT BE PROVIDED BY THE ENGINEER IF THE PROCEDURES OUTLINED HEREIN ARE NOT FOLLOWED.
3. CONTRACTOR SHALL VERIFY ELEVATIONS AND LAYOUT OF HOUSE PRIOR TO START OF CONSTRUCTION AND PROVIDE ENGINEER WITH THIS INFORMATION TO CONFIRM THAT A GRAVITY SYSTEM IS FEASIBLE.
4. CONTRACTOR SHALL ATTEST TO THE FOLLOWING STATEMENT: "I HEREBY CERTIFY THAT INSTALLATION-RELATED INFORMATION PROVIDED TO THE ENGINEER IS TRUE AND CORRECT, AND THAT IN THE EXERCISE OF MY REASONABLE PROFESSIONAL JUDGEMENT, THE WASTEWATER SYSTEM HAS BEEN INSTALLED TO THE PERMITTED DESIGN, WITH ANY CHANGES MADE AS DIRECTED OR AGREED TO BY THE ENGINEER"

MAINTENANCE

1. AT LEAST ONCE A YEAR, THE DEPTH OF SLUDGE AND SCUM IN THE SEPTIC TANK SHALL BE MEASURED. THE TANK SHALL BE PUMPED IF THE SLUDGE IS LESS THAN 12" TO THE OUTLET BAFFLE, OR THE SCUM LAYER IS LESS THAN 3" TO THE SEPTIC TANK OUTLET BAFFLE.
2. AT LEAST TWICE A YEAR, THE OUTLET FILTER ON THE SEPTIC TANK SHALL BE REMOVED AND CLEANED BY SPRAYING IT WITH WATER UNDER NORMAL HOUSEHOLD PRESSURE.
3. CAUTION: GARBAGE DISPOSALS, LAUNDRY BLEACH, ANTIBACTERIAL SOAP, HAZARDOUS MATERIALS, PHARMACEUTICALS AND HOUSEHOLD CLEANERS WILL REDUCE THE LIFE OF THE SEPTIC SYSTEM. THESE AND OTHER TOXIC SUBSTANCES SHALL NOT BE DISPOSED OF IN THIS SEPTIC SYSTEM.

SOIL NOTES

TEST PITS EVALUATED ON 11/21/2018 AND 12/7/18 BY PETER LAZORCHAK. BILL ZABILOWSKI, VT ANR PRESENT ON 11/21/18

TP-1
0 - 8" BROWN TOPSOIL LOAM
8" - 26" BROWN LOAMY FINE SAND
26" - 42" BROWN FINE SAND
42" - 70" GREY BROWN FINE SANDY LOAM LENSES OF FIRM AND SAND
NO SHWT/ LEDGE NOTED TO DEPTH

TP-2
0 - 8" BROWN TOPSOIL LOAM
8" - 27" BROWN FINE SAND
27" - 72" BROWN LOAMY FINE SAND SOME LENSES OF FIRM
NO SHWT/ LEDGE NOTED TO DEPTH

TP-3
0 - 9" BROWN TOPSOIL LOAM
9" - 28" BROWN LOAMY FINE SAND
28" - 72" GREY-BROWN LOAMY FINE SAND LENSES OF SILTY FINE SAND
NO SHWT/ LEDGE NOTED TO DEPTH

TP-4
0 - 4" DARK BROWN TOPSOIL LOAM
4" - 49" ORANGE BROWN FINE SANDY LOAM
24" - 90" GREY-BROWN VERY FINE SAND
NO SHWT/ LEDGE NOTED TO DEPTH

PERCOLATION TESTS 12/9/18

PT-1	4 MIN/IN @ 48 INCHES
PT-2	15 MIN/IN @ 60 INCHES
PT-3	1 MIN/IN @ 34 INCHES
PT-4	2 MIN/IN @ 40 INCHES
PT-5	5 MIN/IN @ 60 INCHES

EXHIBIT JJJ

Wilcox & Barton
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REVISION HISTORY
1.

Issued For

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Owner
Peter & Ellen Duval

Site
25 Pine Ridge Road
Underhill, VT 05489

Drawing Title
Details

Scale	Date		
1" = 30'	1/30/2019		
Drafted By	Checked By	Project Mgr	Project Number
DLF	PCL	PCL	DUVL0001

Sheet Number
C-2

ENGINEER: PETER C. LAZORCHAK, P.E.
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