

**LOT 1 SOIL LOGS: 5 NOVEMBER 2020**  
JEFF KELLEY, DAN ZIMMER (EXCAVATOR)

TP-1:  
0 - 4" V. Friable v. fine sandy loam topsoil, granular, 10YR2/2  
4 - 12" Friable fine sandy loam, granular, 10YR3/3  
12 - 20" Friable v. fine sandy loam, sub-blocky, 10YR5/6  
20 - 40" Somewhat friable silt loam, subangular blocky, 10YR5 mottled at 20"  
SHWT @ 20". NO LEDGE TO DEPTH

TP-2:  
0 - 4" V. Friable v. fine sandy loam topsoil, granular, 10YR2/2  
4 - 12" Friable fine sandy loam, granular, 10YR3/3  
12 - 16" Friable v. fine sandy loam, sub-blocky, 10YR5  
16 - 40" Somewhat friable silt loam, subangular blocky, 10YR5 mottled at 16"  
SHWT @ 16". NO LEDGE TO DEPTH

TP-3:  
0 - 4" V. Friable v. fine sandy loam topsoil, granular, 10YR2/2  
4 - 12" Friable fine sandy loam, granular, 10YR3/3  
12 - 20" Friable v. fine sandy loam, sub-blocky, 10YR5/6  
20 - 40" Somewhat friable silt loam, subangular blocky, 10YR5 mottled at 20"  
SHWT @ 20". NO LEDGE TO DEPTH

TP-4:  
0 - 4" V. Friable fine sandy loam topsoil, granular, 10YR3  
4 - 10" V. Friable fine sandy loam, granular, 10YR5/2  
10 - 20" Friable fine sandy loam, granular, 10YR5  
20 - 30" Somewhat friable silt loam, subangular blocky, 10YR5 mottled at 20"  
SHWT @ 20". NO LEDGE TO DEPTH

**Mound Sand Specifications:**

The fill material from natural soil plowed surface to the top of the trench or bed shall be sand meeting one of the following sieve requirements:

(1)

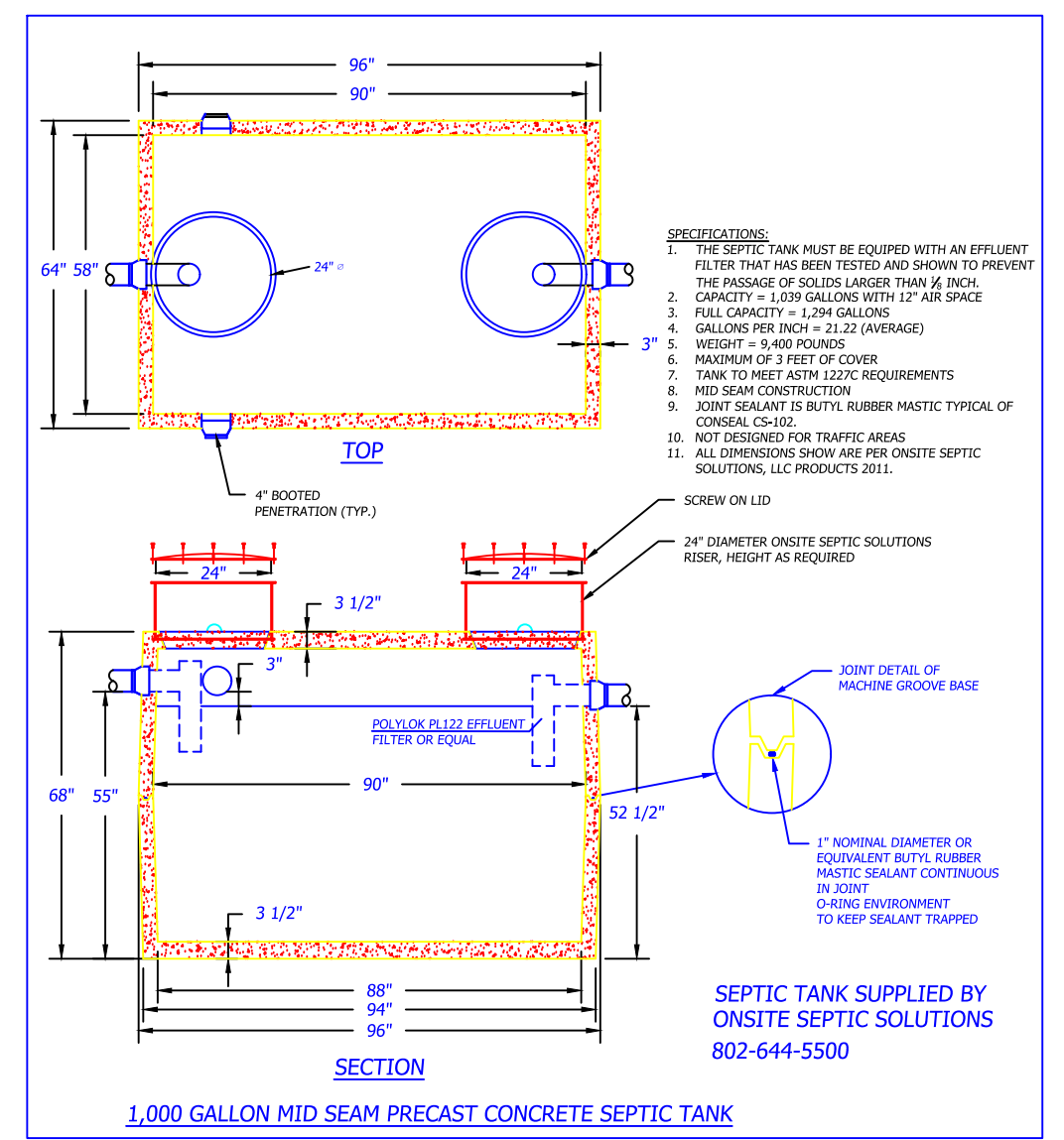
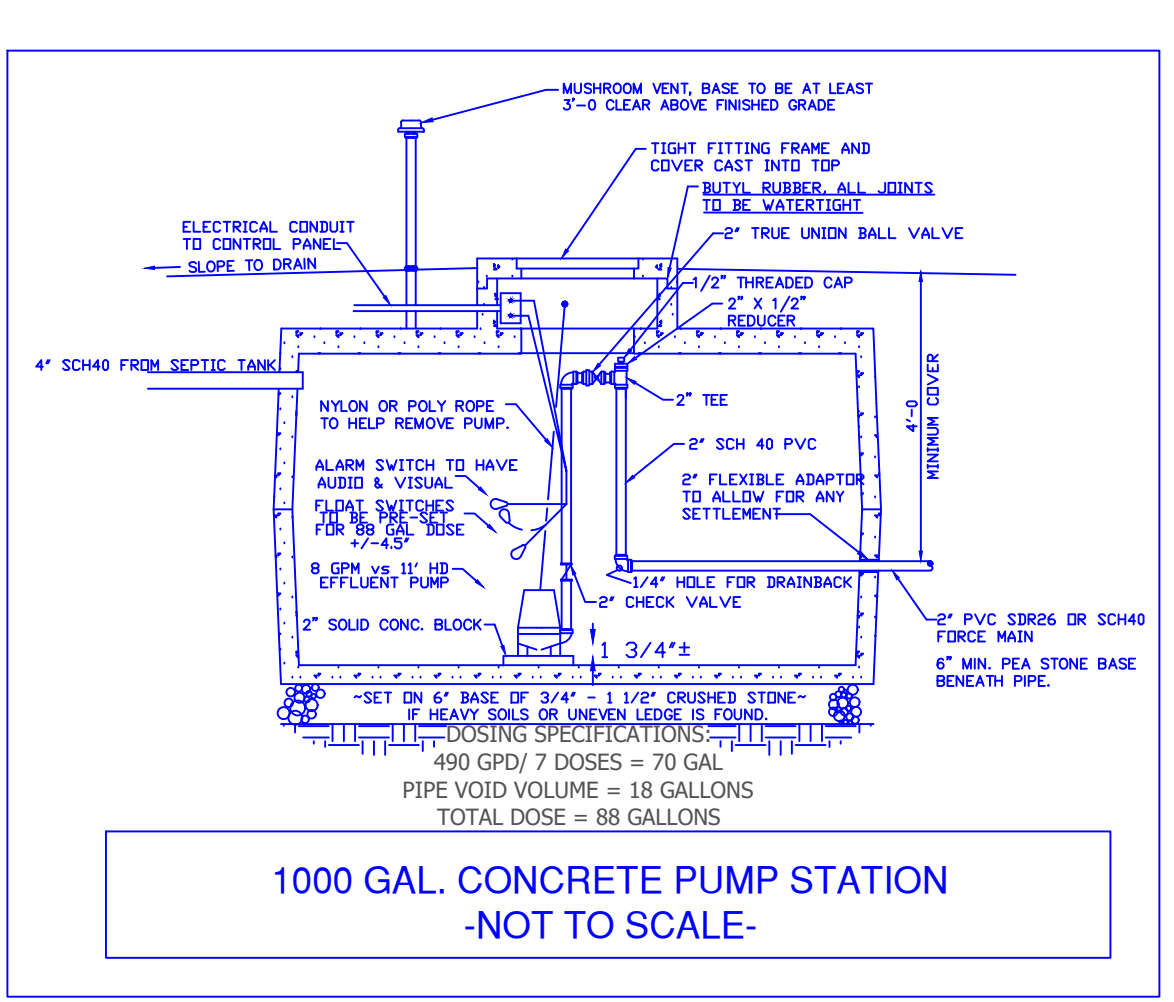
Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	25 - 75
60	0.250	0 - 30
100	0.149	0 - 10
200	0.074	0 - 5

(2) (This is ASTM Spec. C 33 and is intended for manufactured material)

Sieve Number	Opening (mm)	Percent Passing, by Weight
4	4.750	95 - 100
8	2.380	85 - 100
16	1.190	50 - 85
30	0.590	25 - 60
50	0.297	10 - 30
100	0.149	2 - 10

(3)

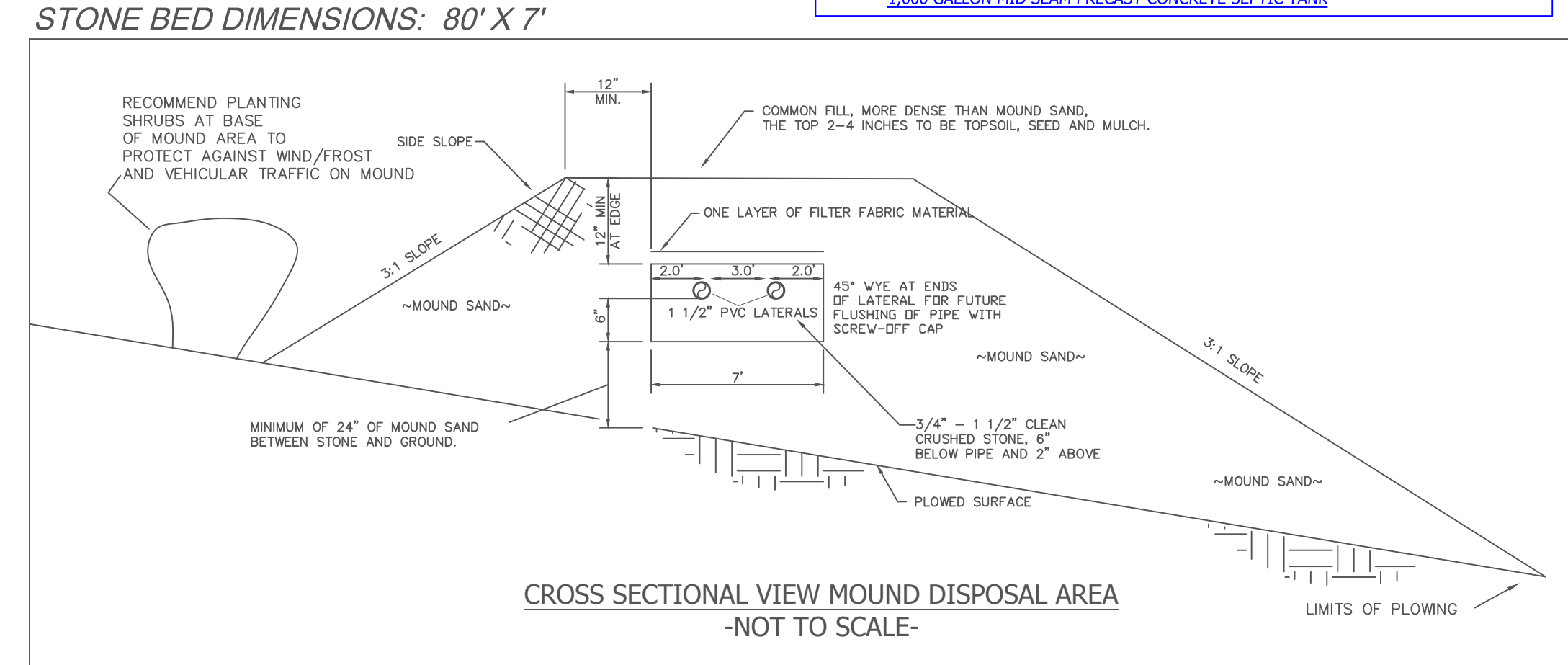
Sieve Number	Opening (mm)	Percent Passing, by Weight
3/8	9.500	85 - 100
40	0.420	30 - 50
200	0.074	0 - 5



**LOT #2 SEPTIC SYSTEM BASIS OF DESIGN:**  
4 BEDROOM HOME FLOW: 490 GPD  
SOILS: VERY FINE SANDY LOAM  
SEASONAL HIGH WATER TABLE (SHWT) = 16" (TP-2)  
AVERAGE EXISTING SLOPE = 13%

**DESKTOP HYDRO REQUIREMENTS:**  
LLR - (h)(f)  
f = 18.7 (FROM TABLE 1)  
h = 16" - 12" = 4" (0.33')  
LLR = 18.7\*0.33 = 6.2  
490 / 6.2 = 79' MIN. SYSTEM LENGTH

**PROPOSED SYSTEM:**  
(1) 80' X 7' STONE BED (560 SQFT)  
OVER 2.0' MOUND SAND



**MOUND DESIGN PROGRAM**

TOWN: CORNWALL  
APPLICANT'S NAME: FRANKLIN  
DATE: 3/1/21 SPECIALIST: Jeff Kelley

SAND HEIGHT AT UPPER END OF LEVEL AREA: 2.8 FEET  
MOUND WIDTH (short dimension of level area): 9 FEET  
MOUND LENGTH (long dimension of level area): 82 FEET  
NATURAL GROUND SLOPE: 13 PERCENT  
MOUND FRONT SLOPE: 33 PERCENT  
MOUND SIDE AND BACK SLOPE (IF DIFFERENT): 33 PERCENT  
DEPTH OF STONE: 6 INCHES  
AREA OF THE DISPOSAL FIELD: 460 SQUARE FT  
SOIL COVER AT END OF LEVEL AREA (IF NOT 12"): 12 INCHES  
3.97 feet sand depth at lower end of level area  
19.9 feet from level area to downhill sand toe  
11 yards of stone (with safety factor)  
435.8 yards of sand (with safety factor)

PRESSURE DISTRIBUTION SYSTEM with symmetrical laterals

NUMBER OF LATERALS: 4  
LENGTH OF EACH LATERAL: 36 FEET  
NUMBER OF ORIFICES PER LATERAL: 6  
NUMBER OF ORIFICES IN MANIFOLD: 2  
DISTANCE BETWEEN ORIFICES (ON CENTER): 6 FEET  
DISTANCE BETWEEN MANIFOLD AND FIRST ORIFICE: 6 FEET

DESIGN PRESSURE HEAD (IF NOT 2.31): 2.5 FEET  
DIAMETER OF ORIFICES (ENTER AS A FRACTION): 0.1250 INCHES

ELEVATION FROM PUMP TO LATERALS (0 IF SIPHON): 8 FEET  
DIAMETER OF DELIVERY PIPE: 2 INCHES  
LENGTH OF DELIVERY PIPE: 110 FEET  
MANIFOLD LENGTH FROM DELIVERY PIPE TO LATERAL: 10 FEET  
DIAMETER OF MANIFOLD PIPE: 2 INCH  
DIAMETER OF LATERAL PIPES: 1.5 INCH

7.5707307317927

FRICTION LOSS THROUGH SEGMENT 1: 0.001575  
FRICTION LOSS ENTIRE LATERAL: 0.00398125  
DISCHARGE RATE FIRST ORIFICE: 0.2918195122  
DISCHARGE RATE LAST ORIFICE: 0.29104178617

PERCENT DIFFERENCE FIRST TO LAST ORIFICE: 0.0481%  
TOTAL HEAD LOSS (EL+DELIV+MANIFOLD+LATERALS): 10.648  
(ADD ELEVATION IF NOT ENTERED ABOVE)  
TOTAL DELIVERY PIPE FLOW: 7.571 GALLONS PER MINUTE  
VOID VOLUME OF DELIVERY PIPE: 17.952 GALLONS

PUMP MUST BE CAPABLE OF 7.57 G.P.M. AGAINST 10.6 FEET OF HEAD

**DIMENSIONS OF SAND BED**

TOP BASE= 94.2 ft    BOTTOM BASE= 121.7 ft

6.1 feet from level area to uphill sand toe

9 ft wide level area | upper to side toe

82 ft long level area | 12.0 lower to side toe

19.9 feet from level area to downhill sand toe

**DIMENSIONS OF FINAL GRADED MOUND**

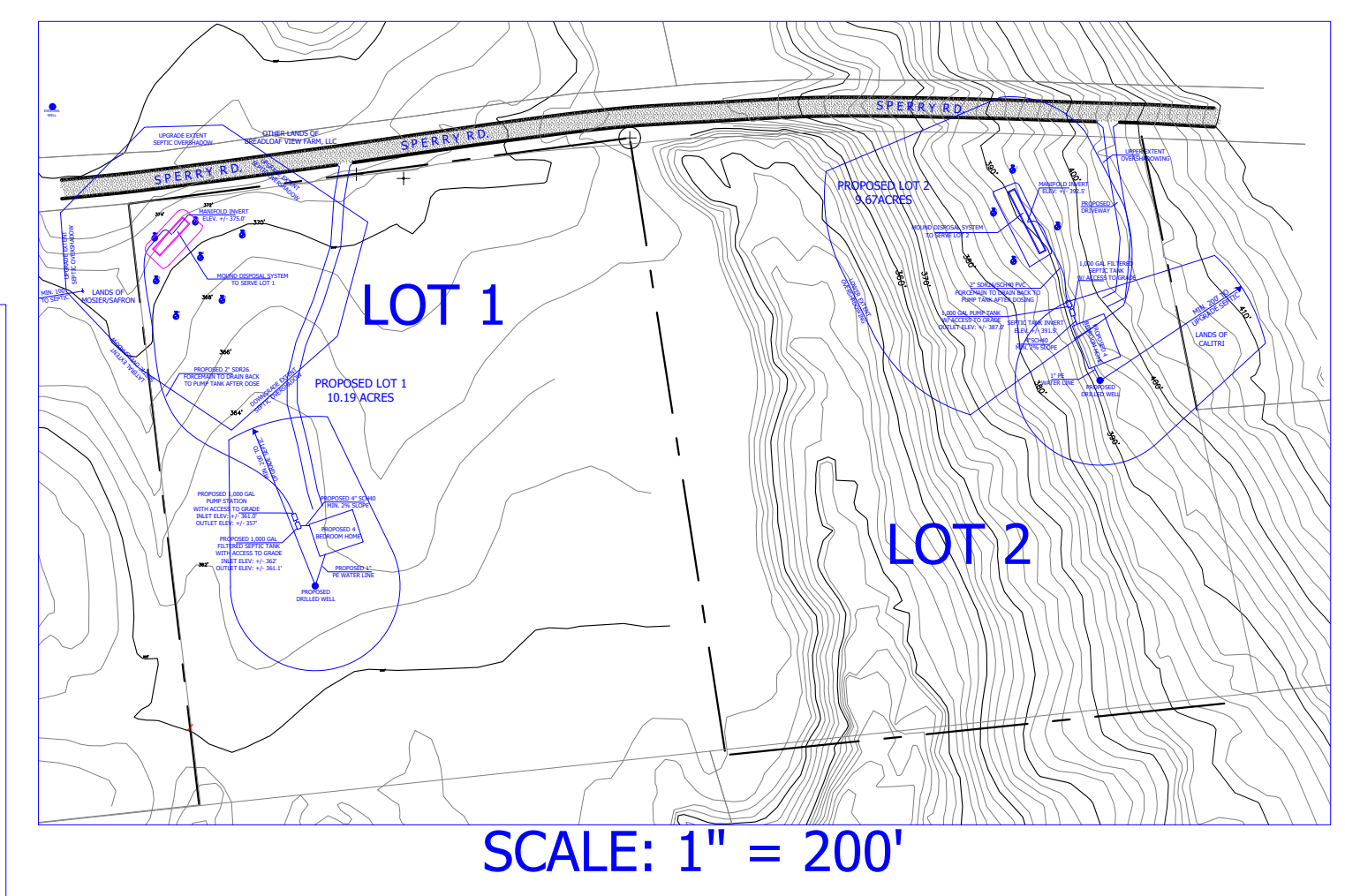
TOP BASE= 98.5 ft    BOTTOM BASE= 131.7 ft

8.3 feet from level area to uphill sand toe

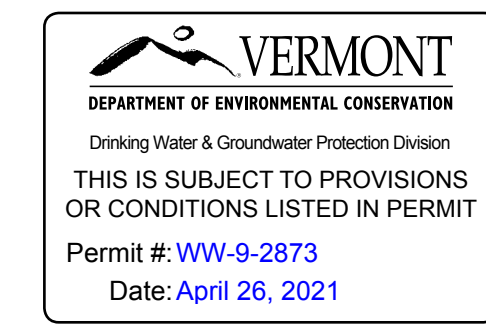
9 ft wide level area | upper to side toe

82 ft long level area | 15.1 lower to side toe

24.9 feet from level area to downhill sand toe



REVISION 1: 22APR2021  
1) Added mound side slopes on cross sectional view  
2) Added invert elevations for all septic tanks and plumbing



**PROPOSED LOT 2 SITE DESIGN**  
**BREADLOAF VIEW FARM REALTY TRUST V PROPERTY**  
**9.67 ACRES, SPERRY ROAD, CORNWALL**

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SCALE: AS NOTED    PAGE 2/2    DATE: 01 MAR 2021

