December 14, 2020

Lindsay Segbers-Hall
Permit Sonoma
Wells & Septic Division
2550 Ventura Avenue
Santa Rosa, CA 95403

RE: WSR19-0650; Pre-Percolation Testing Results for APN 131-190-005
Project Number 2019188

Dear Ms. Segbers-Hall:

Pre-percolation testing was performed on March 4th, 2020 at parcel APN 131-190-005 to identify acceptable soils for a future sanitary sewage (SS) management system. The pre-percolation test was performed to meet the Sonoma County Permit and Resource Management Department (PRMD) standards.

PERCOLATION TEST AREA

The test area was located within the north-western portion of the parcel near Alexander Valley Road. The area was previously a vineyard but has since been ripped and left bare.

TEST RESULTS

Five pits were observed within the area and identified to contain a consistent top horizon of sandy loam with weak structure and a bottom horizon of sandy clay loam soils with moderate structure. Soils in the second horizon of all pits were originally field textured as clay, but hydrometer analysis confirmed that the soil type is sandy clay loam (see attached). Table 1 summarizes the test results. Additional lab results are attached along with detailed pre-percolation results.

All pits are classified as Zone 2 soils. Acceptable soil was identified to depths between 54 and 59 inches.

Table 1. Percolation test holes summary

Pit #	Horizon Depth (in)	Horizon Soil Type	Horizon Structure
1B	0-25	SL	Weak
	25-54	SCL [1]	Moderate
2B	0-21	SL	Weak
	21-57	SCL [1]	Moderate
3B	0-21	SL	Weak
	21-59	SCL [1]	Moderate
4B	0-18	SL	Weak
	18-58	SCL [1]	Moderate
5B	0-16	SL	Weak
	16-57	SCL [1]	Moderate

[1] Horizons were field textured identically, Hydrometer testing results for one assumed to be the same for the other.

RECOMMENDATIONS

A subsurface drip disposal system is recommended for the site. Since Zone 2 soils were identified, wet weather percolation testing is not required to determine the appropriate application rate per Sonoma County requirements for a non-standard subsurface system.

Sincerely,

Gina Giacone, P. E.

PRINCIPAL

cc: Geoff Scott

Attachments: Hydrometer Suitability Chart
Pre-Percolation Soil Log
Pre-Percolation Test Plan

Soil Profile Evaluation Form
(County Declared Disaster)

Site Information:

6625 HWY 128 HEALDSBURG CA — Site Address

Healdsburg, CA — City/Town/Location

131-190-005-000 — Assessor's Parcel Number(s)

03/04/2020 — Date of Evaluation

Qualified Consultant:

Gina Giacone, P.E. — Name

Summit Engineering Inc. — Company (if applicable)

463 Aviation Blvd. Suite 200 — Address

Santa Rosa, CA, 95403 — City/State/Zip Code

gina@summit-sr.com — Email

707-527-0775 — Phone

Qualified Consultant Certification:

"I certify the soil profile evaluations have been performed by me, or under my responsible charge, in compliance with the procedures contained within this document and the County of Sonoma Onsite Wastewater Treatment System Regulations and Technical Standards (OWTS Manual). The information reported on this form represents the true and accurate results of work performed at the site address on the date of evaluation noted above and my interpretation of laboratory test data."

Signature of Qualified Consultant

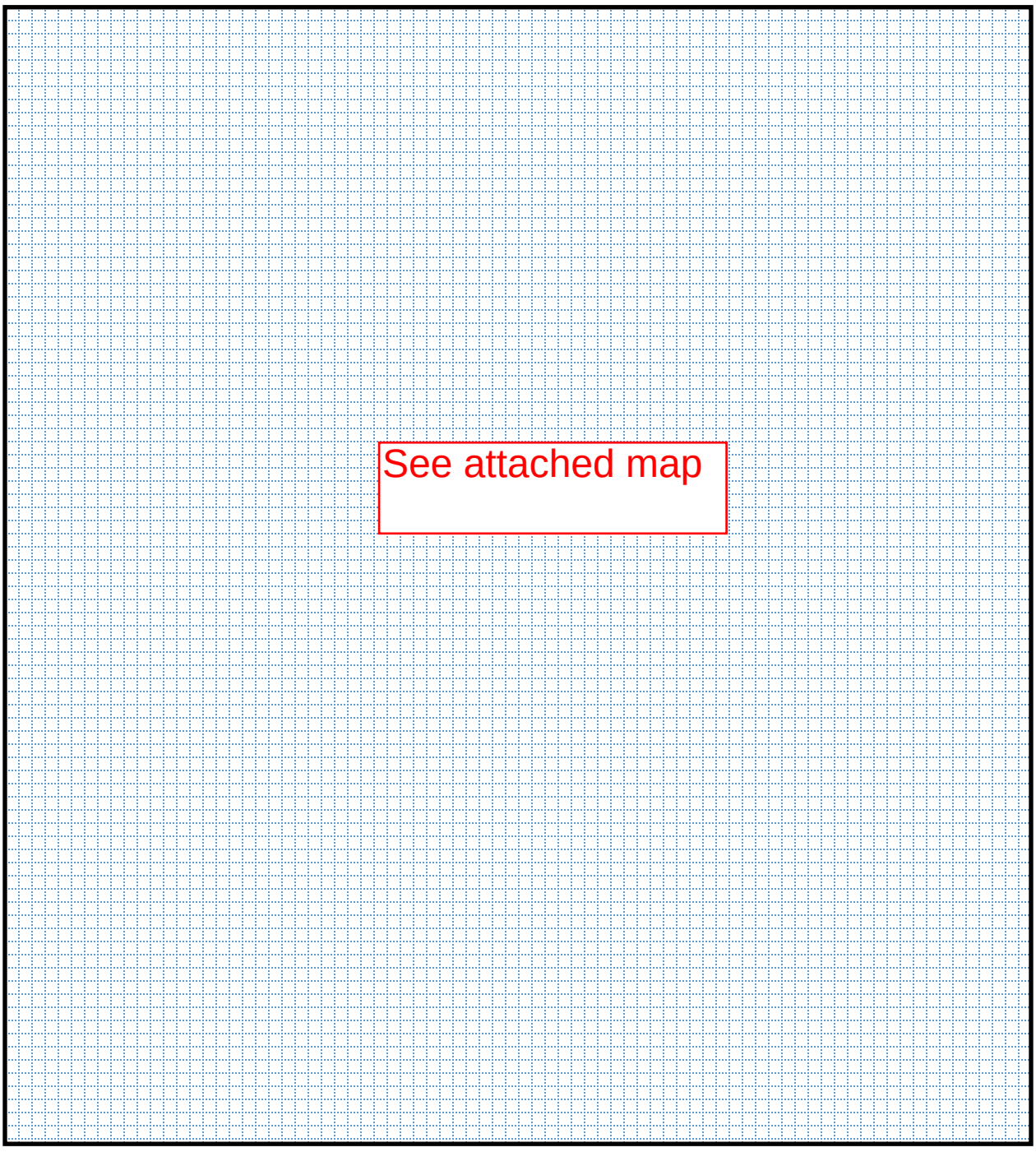
Professional Seal

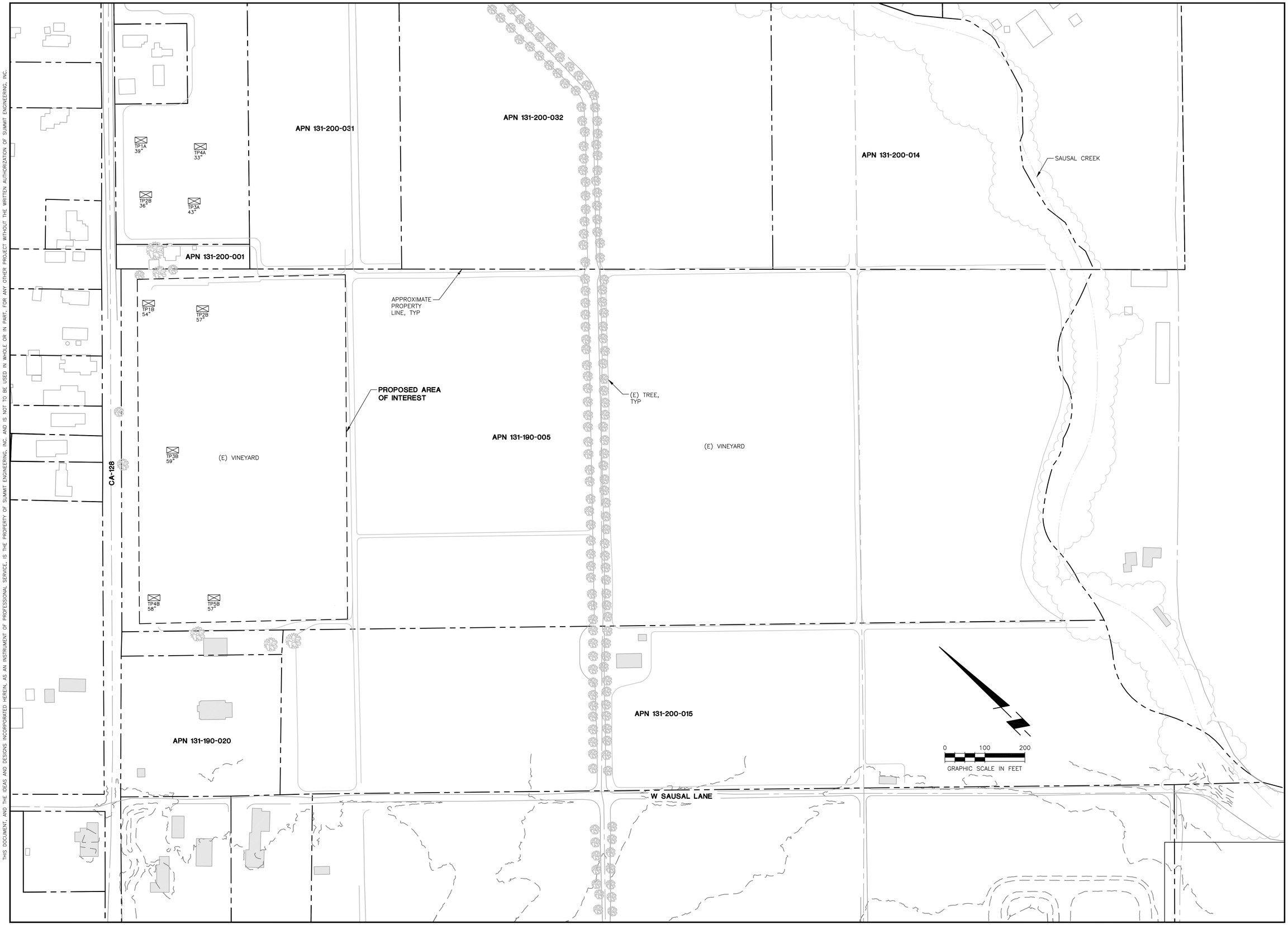
Date

License/Registration Expiration Date

Required Site Plan Information:

A site plan is required to identify the location of soil profile holes and significant features of the property. The site plan must be of sufficient clarity to identify the following minimum requirements: all soil profile holes clearly labeled and identified, north arrow, property lines, water wells, waterways and drainage features, ponds, cut banks, rock outcrops, building locations, roads, existing septic system components (if applicable), and any other significant site features. The site plan shall either be drawn in the space provided below or be created using conventional drafting techniques or software and be submitted as an addendum to this form.





SUMMIT
Summit Engineering, Inc
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707-527-0775 • www.summit-sr.com

JACKSON FAMILY
7111 CA-128
HEALDSBURG, CA 95448
APN 131-190-003, 005 & 131-200-030

WASTEWATER REVIEW

OVERALL SITE PLAN - APN 131-190-005

PRELIMINARY
NOT FOR CONSTRUCTION

DATE:	2020-04-07
JOB NO:	2019188
SCALE:	AS SHOWN
DRAWN:	JA
CHECKED:	SW
SHEET	2 OF 3

See attached soil profile logs

Soil Profile Holes Results:

Use the tables provided below to record soil profile results. Attach additional sheets as needed.

Soil Profile Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Depth (in)								

Average Ground Slope: _____ % Depth to Groundwater: _____ in Perc Depth: _____ in

Reduction? Yes ☐ No ☐ Oxidation? Yes ☐ No ☐ Mottling? Yes ☐ No ☐

Comments: _____

_____

Soil Profile Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Average Ground Slope: _____ % Depth to Groundwater: _____ in Perc Depth: _____ in

Reduction? Yes ☐ No ☐ Oxidation? Yes ☐ No ☐ Mottling? Yes ☐ No ☐

Comments: _____

_____

Soil Profile Hole #: _____ GPS Coordinates: _____ (Latitude, Longitude)

Average Ground Slope: _____ % Depth to Groundwater: _____ in Perc Depth: _____ in

Reduction? Yes ☐ No ☐ Oxidation? Yes ☐ No ☐ Mottling? Yes ☐ No ☐

Comments: _____

_____

Abbreviations:

USDA Texture:	Gravel=G, Sand=S, Loamy Sand=LS, Sandy Loam=SL, Sandy Clay Loam=SCL, Sandy Clay=SC, Silt Loam=SiL, Loam=L, Clay Loam=CL, Silty Clay Loam=SiCL, Clay=C
Structure:	Granular=G, Platy=P, Blocky=B, Prismatic=Pr, Massive=M, Columnar=C
Consistency:	Loose=L, Very Friable=VFr, Friable=Fr, Firm=F, Very Firm=VF, Extremely Firm=EF, Solid (BH refusal)=S
Moisture:	Dry=Dr, Damp=D, Very Damp=VD, Saturated=S, Seepage=Se

Test Pit # 1B PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				
0-25	G	5-10	SL	W/SB	S	FRB	SS	F/F	C/F	N	7.5 YR 3/3
25-54	C	0	SCL [1]	M/SB	VH	VF	S	0	0	N	7.5 YR 3/3

[1] Soil texture was confirmed as sandy clay loam by hydrometer test for Test Pit 4B, horizon 18-58. The soils in these horizons were field textured the same, so they are assumed to be similar. (see attached Soil Percolation Suitability Chart).

Test Pit # 2B PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				
0-21	G	5-10	SL	W/SB	S	FRB	SS	F/F	C/F	N	7.5 YR 3/3
21-57	C	0	SCL [1]	M/SB	VH	VF	S (Damp)	0	0	N	7.5 YR 3/3

[1] Soil texture was confirmed as sandy clay loam by hydrometer test for Test Pit 4B, horizon 18-58. The soils in these horizons were field textured the same, so they are assumed to be similar. (see attached Soil Percolation Suitability Chart).

Test Pit # 3B PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				
0-21	G	5-10	SL	W/SB	S	FRB	SS	F/F	C/F	N	7.5 YR 3/3
21-59	C	0	SCL [1]	M/SB	VH	VF	S (Damp)	0	F/M	N	7.5 YR 3/3

[1] Soil texture was confirmed as sandy clay loam by hydrometer test for Test Pit 4B, horizon 18-58. The soils in these horizons were field textured the same, so they are assumed to be similar. (see attached Soil Percolation Suitability Chart).

Boundary	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
			Side Wall	Ped	Wet				
A=Abrupt <1" C=Clear 1"-2.5" G=Gradual 2.5"-5" D=Diffuse >5"	S=Sand LS=Loamy Sand SL=Sandy Loam SCL=Sandy Clay Loam SC=Sandy Clay CL=Clay Loam L=Loam C=Clay SiC=Silty Clay SiCL=Silty Clay Loam Sil=Silt Loam Si=Silt	W=Weak M=Moderate S=Strong G=Granular Pl=Platy Pr=Prismatic C=Columnar AB=Angular Blocky SB=Subangular Blocky M=Massive SG=Single Grain C=Cemented	L=Loose S=Soft SH=Slightly Hard H=Hard VH=Very Hard ExH=Extremely Hard	L=Loose VFRB=Very Friable FRB=Friable F=Firm VF=Very Firm ExF=Extremely Firm	NS=NonSticky SS=Slightly Sticky S=Sticky VS=Very Sticky NP=NonPlastic SP=Slightly Plastic P=Plastic VP=Very Plastic	Quanti: F=Few C=Common M=Many Size: VF=Very Fine F=Fine M=Medium C=Coarse VC=Very Coarse	Quanti: F=Few C=Common M=Many Size: F=Fine M=Medium C=Coarse VC=Very Coarse ExC=Extremely Coarse	Quanti: F=Few C=Common M=Many Size: F=Fine M=Medium C=Coarse Contrast: Ft=Faint, D=Distinct P=Prominent	Munsell color chart

Test Pit # 4B PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				
0-18	G	5-10	SL	W/SB	S	FRB	SS	F/F	C/F	N	7.5 YR 3/3
18-58	C	0	SCL [1]	M/SB	VH	VF	S (Damp)	0	F/M	N	7.5 YR 3/3

[1] Soil texture was confirmed as sandy clay loam by hydrometer test (see attached Soil Percolation Suitability Chart).

Test Pit # 5B PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				
0-16	G	5-10	SL	W/SB	S	FRB	SS	F/F	C/F	N	7.5 YR 3/3
16-57	C	0	SCL [1]	M/SB	VH	VF	S (Damp)	0	F/M	N	7.5 YR 3/3

[1] Soil texture was confirmed as sandy clay loam by hydrometer test for Test Pit 4B, horizon 18-58. The soils in these horizons were field textured the same, so they are assumed to be similar. (see attached Soil Percolation Suitability Chart).

Test Pit # PLEASE PRINT OR TYPE ALL INFORMATION

Horizon Depth (Inches)	Boundary	%Rock	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
					Side Wall	Ped	Wet				

Boundary	Texture	Structure	Consistence			Pores	Roots	Mottling	Color
			Side Wall	Ped	Wet				
A=Abrupt <1" C=Clear 1"-2.5" G=Gradual 2.5"-5" D=Diffuse >5"	S=Sand LS=Loamy Sand SL=Sandy Loam SCL=Sandy Clay Loam SC=Sandy Clay CL=Clay Loam L=Loam C=Clay SiC=Silty Clay SiCL=Silty Clay Loam Sil=Silt Loam Si=Silt	W=Weak M=Moderate S=Strong G=Granular Pl=Platy Pr=Prismatic C=Columnar AB=Angular Blocky SB=Subangular Blocky M=Massive SG=Single Grain C=Cemented	L=Loose S=Soft SH=Slightly Hard H=Hard VH=Very Hard ExH=Extremely Hard	L=Loose VFRB=Very Friable FRB=Friable F=Firm VF=Very Firm ExF=Extremely Firm	NS=NonSticky SS=Slightly Sticky S=Sticky VS=Very Sticky NP=NonPlastic SP=Slightly Plastic P=Plastic VP=Very Plastic	Quanti : F=Few C=Common M=Many Size: VF=Very Fine F=Fine M=Medium C=Coarse VC=Very Coarse	Quanti : F=Few C=Common M=Many Size: F=Fine M=Medium C=Coarse VC=Very Coarse ExC=Extremely Coarse	Quanti : F=Few C=Common M=Many Size: F=Fine M=Medium C=Coarse Contrast: Ft=Faint, D=Distinct P=Prominent	Munsell color chart

Hydrometer Test Data Form

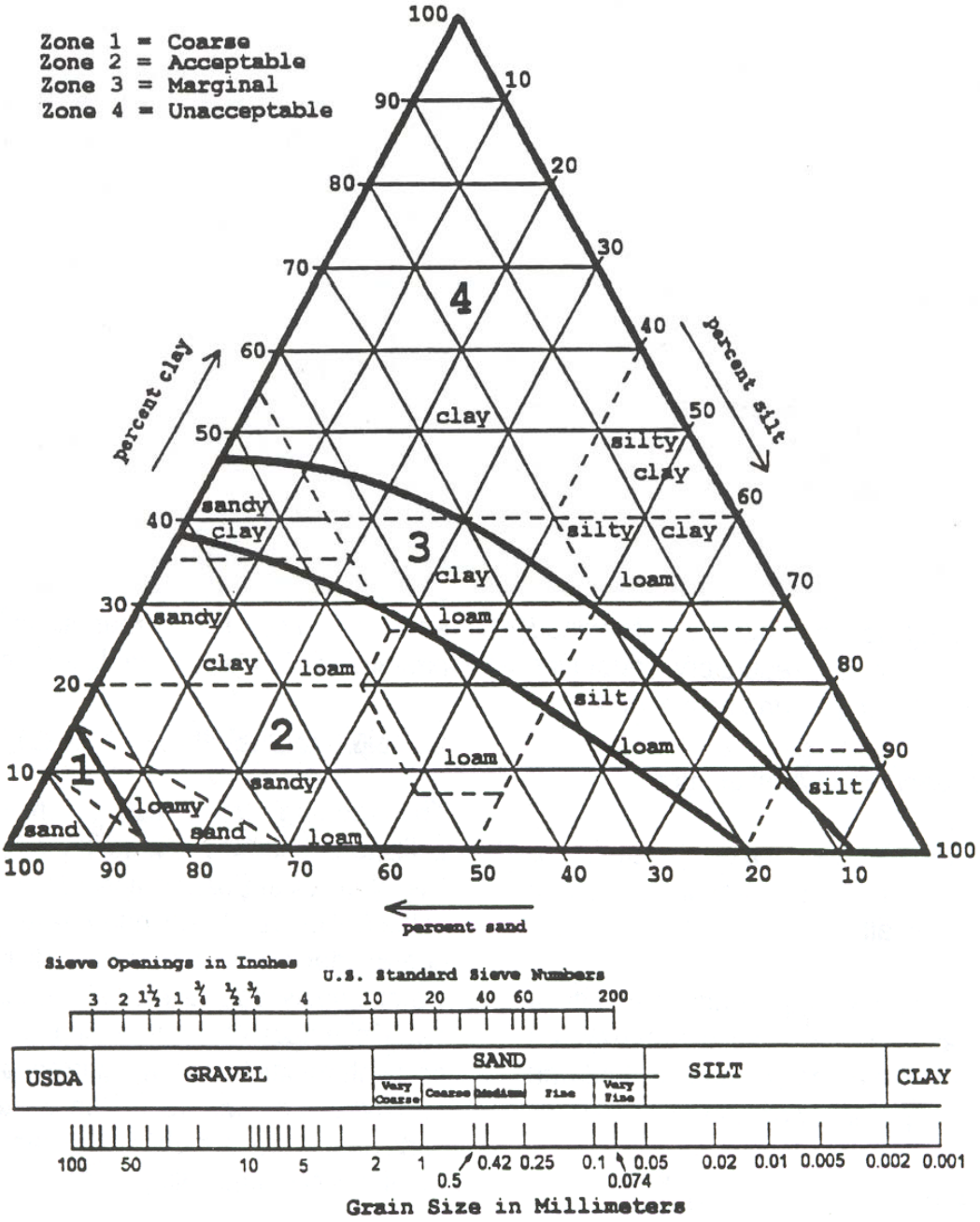
Soil Data Results:

Does the soil have a Plasticity Index greater than or equal to 20? Yes ☐ No ☐

If "Yes" then wet weather percolation testing is required.

Soil Texture Triangle Chart:

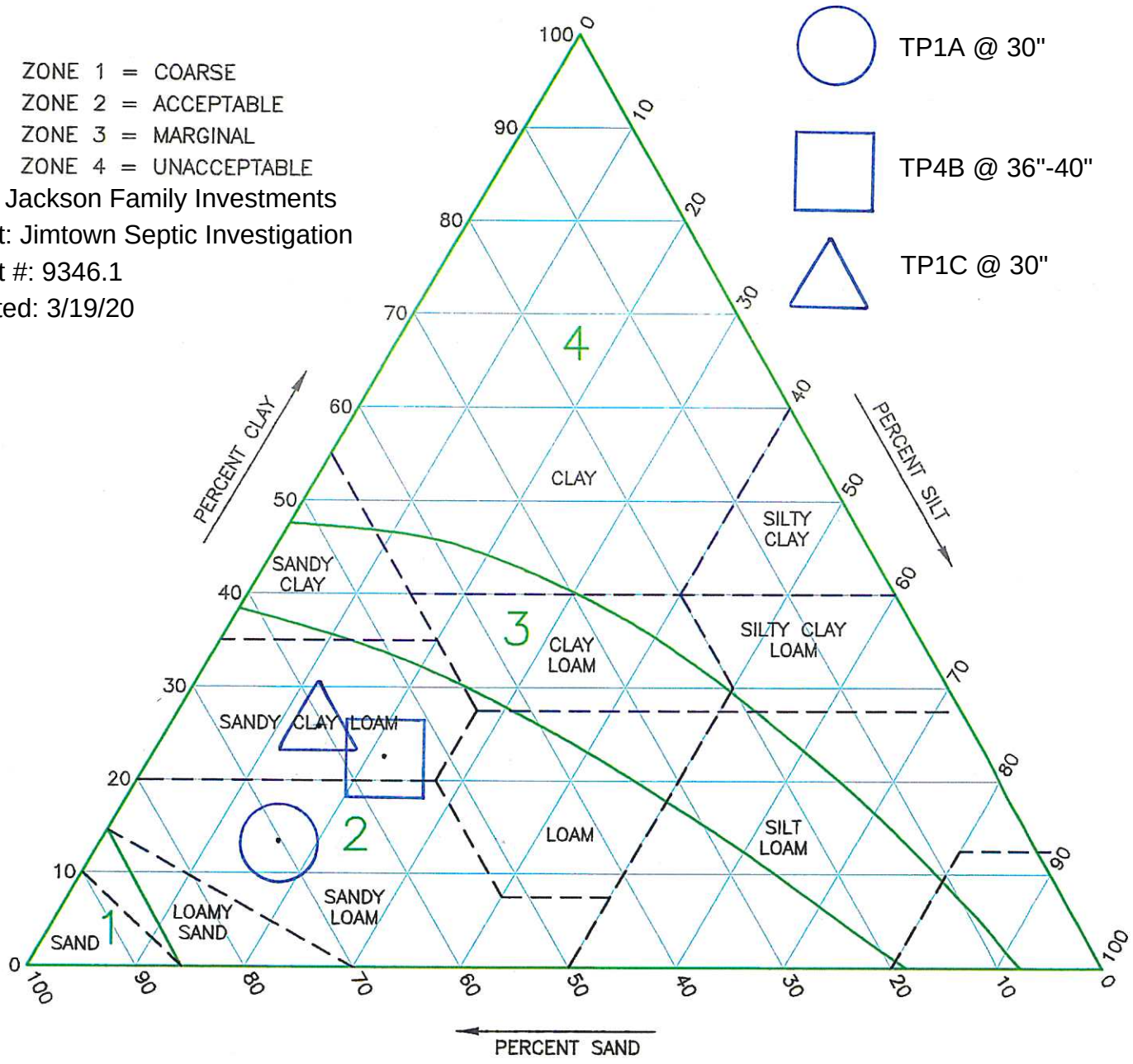
Use the soil texture triangle chart below to determine soil classification.



SOIL PERCOLATION SUITABILITY CHART

ZONE 1 = COARSE
ZONE 2 = ACCEPTABLE
ZONE 3 = MARGINAL
ZONE 4 = UNACCEPTABLE

Client: Jackson Family Investments
Project: Jimtown Septic Investigation
Project #: 9346.1
Reported: 3/19/20



Instructions:

1. Plot texture on triangle based on percent sand, silt, and clay as determined by hydrometer analysis.
2. Adjust for coarse fragments by moving the plotted point in the sand direction an additional 2% for each 10% (by volume) of fragments greater than 2mm in diameter.
3. Adjust for compactness of soil by moving the plotted point in the clay direction an additional 15% for soils having a bulk–density greater than 1.7 gm/cc.

Note:

For soils falling in sand, loamy sand or sandy loam classification bulk density analysis will generally not affect suitability and analysis not neccesary.