2017 STATE ENR DATA INTERPRETATION

Instructions:

You are provided a section of land, illustrated in the attached soil map. Characteristics of each of the soil series listed on the map are provided in the attached Table of Soil Characteristics. You are also provided with a list of criteria for installation of various structures and farming practices on this land. Answer the following questions by comparing the information in the Criteria for Installation tables against information in the Table of Soil Characteristics. Feel free to separate pages to examine tables better.

1. One which soil could you install either a septic tank mound or a septic tank leaching chamber to treat waste water?
    a. Moswell loam
    b. Koray silt loam
    c. Lovelady loamy fine sand
    d. Herty loam

2. On which soil could none of the listed septic systems be safely installed?
    a. Kurth fine sandy loam (KuB)
    b. Moswell loam
    c. Penning very fine sandy loam
    d. Lovelady loamy fine sand

3. What is the most limiting factor restricting building construction in this location?
    a. Slope
    b. Depth to groundwater
    c. Depth to restrictive layer
    d. Type of clay

4. On which of the following soils could a slab building safely be built?
    a. Rosewall fine sandy loam
    b. Penning very fine sandy loam
    c. Moten-multey complex
    d. Herty loam

5. On which of the following soils could you install a pond without limitations?
    a. Pophers silty clay loam
    b. Fuller fine sandy loam
    c. Kurth fine sandy loam
    d. Rosenwall fine sandy loam

6. In this area, what is the primary factor that determines the ability to install a pond?
    a. Soil chemistry
    b. Shrink-swell soil
    c. Flooding potential
    d. Depth to restrictive layer

7. On which of the following soils could you apply manure with least restrictions?
    a. KuB
    b. LvC
    c. HeB
    d. PeB

8. Which of the following soils can be used without restriction for grazing but not for tillage?
    a. Fuller fine sandy loam
    b. Kurth fine sandy loam
    c. Moswell loam
    d. Lovelady loamy fine sand

9. In the symbol for the soil, what do the letters B, C, and D represent, as in LvC?
    a. Depth to restrictive layer
    b. Prime farmland
    c. Slope
    d. Runoff potential

10. What is the characteristic that is most common among the soils in this location?
    a. Steep slope
    b. Acid soil chemistry
    c. Shallow depth to restrictive layer
    d. Prime farmland

CRITERIA FOR INSTALLATION TABLES

On-Site Sewage Facility

Septic Treatment System	Water leaching	Depth to saturated layer	Depth to restricted horizon	Maximum slope	Shrink-swell soils acceptable	Soil acidity
Absorptive Drainfield 2^{ndry} Treatment	Moderate-slow infiltration	>36”	2 feet	3%	No	Neutral pH, not acid
2^{ndry} Treatment Pumped Effluent Drainfield	Moderate-slow infiltration	>36”	2 feet	5%	Yes	Neutral pH, not acid
Low Pressure Dosing 2^{ndry} Treatment	Moderate-slow infiltration	>36”	1 foot	3%	Yes	Neutral pH, not acid
Septic Tank Mound	Leaching potential, moderate-slow infiltration	> 24”	1.5 feet	3%	Yes	Acid to neutral
Drip Irrigation 2^{ndry} Treatment	Leaching potential, moderate-slow infiltration	> 24”	0.5 foot	5%	Yes	Neutral pH, not acid
Septic Tank. Leaching Chamber	Moderate-slow infiltration	>30”	1 foot	3%	No	Acid to neutral

Slab Building Construction

	Not limited	Somewhat limited	Very limited
Slope	1-5% slope	5-8% slope	8 – 30% slope
Depth to restricted layer	3 feet	1.5 – 3 feet	< 1.5 feet
Flooding	3 feet to groundwater 20 feet to water body	1.5 -2 feet to groundwater 5 -20 feet to water body	Occasional to regular flooding
Type of clay	Not shrink swell	Shrink swell	Shrink swell

Pond formation

	Not limited	Somewhat limited	Very limited
Slope	< 2%	2-5%	> 5%
Water infiltration	slow infiltration moderate runoff	Slow infiltration High runoff	High leaching potential
Depth to restricted layer	>3 feet	1.5 – 3 feet	< 1.5 feet
Clay content	Moderate to high	Moderate to high	low
Flood potential	High	None	None

Manure Application

	Not limited	**Somewhat limited**	**Very limited**
Slope	< 3%	3-5%	> 5%
Depth to restricted layer	>3 feet	1.5 – 3 feet	< 1.5 feet
Water infiltration	Moderate to slow	Very slow	high
Runoff potential	Low	Moderate	High

Grazing

	Not limited	**Somewhat limited**	**Very limited**
Slope	< 3%	3-8%	> 8%
Depth to restricted layer	3 feet	1.5 – 3 feet	< 1.5 feet
Water infiltration	slow	Moderate	High
Forage production	>7 AUM	4-7 AUM	<4 AUM

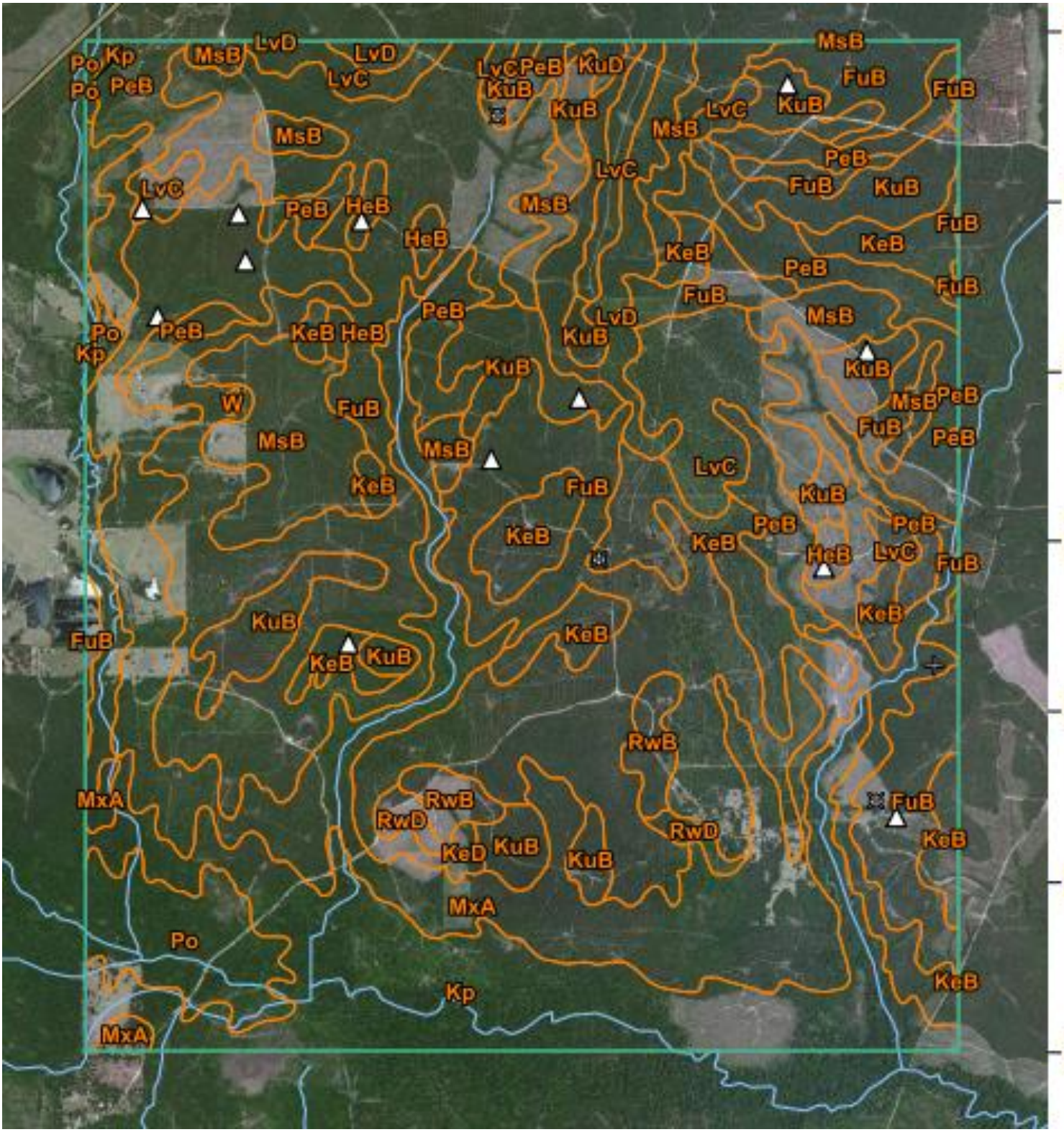
Crop Production

	Not limited	**Somewhat limited**	**Very limited**
Slope	< 3%	3-8%	> 8%
Depth to bedrock	3 feet	1.5 – 3 feet	< 1.5 feet
Leaching potential	Moderate	Moderate	High
Type of clay	Not shrink swell	Shrink swell	Shrink swell
Water infiltration	Moderate to slow	Slow	Very slow
Prime farm land	Yes	No	No

TABLE OF SOIL CHARACTERISTICS

Symbol	Soil Name	Slope	Depth to Restricted Layer	Type of Clay	Soil Chemistry	Water Infiltration	Depth To Water Table	Flooding Potential	Prime Farm-land/ Hay yield (AUM)
FuB	Fuller fine sandy loam	1 to 3%	40-60 inches	High clay shrink swell	Excess sodium Too acid	slow Water Infiltration, High runoff potential	6-18 inches	None	No 8.1
HeB	Herty loam	1 to 3%	24-48 inches	High clay shrink swell	Excess sodium Excess salt	slow water infiltration, high runoff potential	2-5 inches	None	Yes, if drained 4.5
KeB	Keltys fine sandy loam	1 to 3%	>80 inches	Low Clay Not shrink swell	Too acid	slow water infiltration, low runoff potential	30-42 inches	None	Yes 7.65
KeD	Keltys fine sandy loam	5 to 8%	>80 inches	Low Clay Not shrink swell	Too acid	slow water infiltration, high runoff potential	6-8 inches	None	No 5.4
Kp	Koury silt loam	0 to 1%	>80 inches	Moderate Clay Not shrink swell	Too acid Excess sodium	slow water infiltration Moderate runoff potential	30-42 inches	High	No 8.1
KuB	Kurth fine sandy loam	1 to 3%	>80 inches	Moderate Clay Not shrink swell	Too acid	slow water infiltration, low runoff potential	30-38 inches	None	Yes 7.65
KuD	Kurth fine sandy loam	5 to 8%	>80 inches	Moderate Clay Not shrink swell	Too acid	slow water infiltration, moderate runoff potential	30-38 inches	None	No 8.1
LvC	Lovelady loamy fine sand	1 to 5%	>80 inches	Low Clay Not shrink swell	Too acid	fast water infiltration, low runoff potential	24-48 inches	None	No 4.5
LvD	Lovelady loamy fine sand	5 to 8%	>80 inches	Low Clay Not shrink swell	Too acid	fast water infiltration, low runoff potential	24-48 inches	None	No 3.6
MsB	Moswell loam	1 to 5%	52-60 inches	High clay shrink swell	Excess sodium	Very slow water infiltration	>80 inches	None	No

						High runoff potential			
MxA	Moten-multey complex	0 to 2%	>80 inches	Low Clay Not shrink swell	Too acid	slow water infiltration, High runoff potential	12-30 inches	None	Yes 4.65
PeB	Penning very fine sandy loam	0 to 2%	40-60 inches	Low Clay Not shrink swell	Too acid Excess salt	slow water infiltration, High runoff potential	18-48 inches	None	Yes 5.4
Po	Pophers silty clay loam	0 to 1%	>80 inches	High clay shrink swell	Excess salt Too acid	slow water infiltration, High runoff potential	12-24 inches	High	No 3.72
RwB	Rosenwall fine sandy loam	1 to 5%	20-40 inches	High clay shrink swell	Too acid	Very slow water infiltration, High runoff potential	>80 inches	None	No
RwD	Rosenwall fine sandy loam	5 to 15%	20-40 inches	High clay shrink swell	Too acid	Very slow water infiltration, High runoff potential	>80 inches	None	No
W	Water								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