

GAINES SOIL CONSULTING

8611 Wieseman Road
Worden, Illinois 62097
618/459-8619 or 636/947-1221
Email: doug@gainessoil.com

SOIL EVALUATION REPORT

Client: Tony Cyr
Cyrious Construction
1101 William Penn Drive
Wentzville, Missouri 63385
636/262-8188

Report: April 06, 2023

Site: 10678 Churchill Downs Road

County: Warren
Date: April 04, 2023
Job N^o: G231104

Sample Locations: see site sketch

Detailed Soil Description¹ / Interpretations - Pit 1

| Depth (in) | Matrix Color ² | Texture | Mottles ² | Structure | Consistence | Coatings ² | Notes | Permeability & Loading Rate ³ in (G/D/Ft. ²) |
|------------|---------------------------|-----------------------------------|---|--|----------------|----------------------------|-----------|---|
| 0 - 4 | 10YR 3/3 | Silt Loam ~25 - 27% Clay | -- | Weak Very Fine Subangular Blocky | Friable | -- | Fill | 0.5 Group 3 |
| 4 - 9 | 10YR 3/3 | Silt Loam ~25 - 27% Clay | Common Medium Prominent 7.5YR 4/3 mixing | Moderate Medium Platy / Moderate Fine Angular Blocky | Friable | -- | Fill | 0.25 Group 3 |
| 9 - 13 | 7.5YR 4/4 | Silty Clay Loam ~30 - 35% Clay | -- | Strong Fine Prismatic / Strong Fine Subangular Blocky | Firm | -- | Fill | 0.3 Group 3 |
| 13 - 24 | 7.5YR 4/4 | Silty Clay Loam ~30 - 35% Clay | Common Fine Prominent 10YR 5/4 mixing | Moderate Fine Angular Blocky | Extremely Hard | -- | Compacted | 0.1 Group 3 |
| 24 - 33 | 10YR 4/4 | Silt Loam ~25 - 27% Clay | Few Fine Distinct 10YR 5/2 | Weak Coarse Subangular Blocky | Friable | Very Few Faint 10YR 4/3 | -- | 0.45 Group 3 |
| 33 - 47 | 10YR 5/4 | Silt Loam ~25 - 27% Clay | Few Fine Distinct 10YR 5/2 | Weak Coarse Subangular Blocky | Friable | Very Few Faint 10YR 4/3 | -- | |
| 47 - 60 | 10YR 5/4 | Silt Loam ~25 - 27% Clay | -- | Weak Coarse Subangular Blocky | Friable | Few Faint 10YR 4/3 | -- | |

Soil profile was a somewhat poorly drained soil. Low chroma (72 or less) or iron/manganese accumulations signifying seasonal high groundwater level (seasonal saturation) was greater than 60 inches. General landscape was of rolling topography. Soil pit site was a concave slope of 3% with runoff entering from the southeast. Bedrock greater than 72 inches.

Detailed Soil Description¹ / Interpretations - Pit 2

| Depth (in) | Matrix Color ² | Texture | Mottles ² | Structure | Consistence | Coatings ² | Notes | Permeability & Loading Rate ³ in (G/D/Ft. ²) |
|------------|---------------------------|-----------------------------------|--|---------------------------------|----------------|-------------------------------|-----------|---|
| 0 - 7 | 10YR 3/2 | Silt Loam ~15 - 25% Clay | -- | Strong Fine Angular Blocky | Friable | -- | Fill | 0.4 Group 3 |
| 7 - 14 | 10YR 4/4 | Silty Clay Loam ~27 - 30% Clay | Many Medium Distinct 10YR 4/2 Common Very Fine Prominent 7.5YR 4/6 | Strong Fine Angular Blocky | Firm | -- | Fill | 0.3 Group 3 |
| 14 - 23 | 10YR 4/4 | Silty Clay Loam ~30 - 35% Clay | -- | Strong Medium Subangular Blocky | Extremely Hard | Very Few Distinct 10YR 4/2 | Compacted | 0.1 Group 3 |
| 23 - 42 | 10YR 4/4 | Silt Loam ~25 - 27% Clay | -- | Moderate Coarse Prismatic | Friable | Very Few Distinct 10YR 4/2 | -- | 0.45 Group 3 |
| 42 - 60 | 10YR 4/4 | Silt Loam ~25 - 27% Clay | Common Fine Distinct 7.5YR 4/4 | Moderate Very Coarse Prismatic | Friable | Common Distinct 10YR 4/2 | -- | |

Soil profile was a somewhat poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater level (seasonal saturation) was perched from 7 to 14 inches. General landscape was of rolling topography. Soil pit site was a concave slope of 1% with runoff entering from the southeast. Bedrock greater than 72 inches.

Detailed Soil Description¹ / Interpretations - Pit 3

| Depth (in) | Matrix Color ² | Texture | Mottles ² | Structure | Consistence | Coatings ² | Notes | Permeability & Loading Rate ³ in (G/D/Ft. ²) |
|------------|---------------------------|-----------------------------------|--|---|----------------|-----------------------|-------------------------------------|---|
| 0 - 9 | 10YR 4/3 | Silt Loam ~15 - 25% Clay | -- | Weak Medium Subangular Blocky | Friable | -- | -- | 0.6 Group 3 |
| 9 - 21 | 10YR 5/2 | Silty Clay Loam ~30 - 35% Clay | Common Fine Distinct 10YR 5/6 | Moderate Medium Angular Blocky | Firm | -- | Many Coarse Fe & Mn Accumulations | 0.4 Group 3 |
| 21 - 32 | 10YR 5/4 | Silty Clay / Clay >40% Clay | Common Medium Distinct 10YR 5/2 Common Fine Distinct 10YR 5/6 | Moderate Medium Angular Blocky | Extremely Firm | Few Faint 10YR 4/2 | Common Coarse Fe & Mn Accumulations | Not Suitable Group 4b |
| 32 - 43 | 10YR 5/3 | Silty Clay / Clay >40% Clay | Common Very Fine Distinct 10YR 5/8 Common Medium Faint 10YR 5/2 | Moderate Coarse Prismatic / Moderate Medium Angular Blocky | Extremely Hard | Few Faint 10YR 4/2 | -- | |
| 43 - 60 | 10YR 4/6 | Silty Clay / Clay >40% Clay | Common Medium Distinct 10YR 6/1 Common Fine Prominent 7.5YR 4/4 | Moderate Coarse Prismatic / Moderate Medium Angular Blocky | Extremely Hard | Few Distinct 10YR 4/2 | -- | |

Soil profile was a somewhat poorly drained soil. Low chroma (2 or less) or iron/manganese accumulations signifying seasonal high groundwater level (seasonal saturation) was 9 inches. General landscape was of rolling topography. Soil pit site was a concave slope of 12% with runoff entering from the northeast. Bedrock greater than 72 inches.


Remarks:

New construction for on-site septic system for a four-to-six-bedroom home.

NOTE: For best results Do Not disturb, pasture, or drive heavy machinery on lateral field area at any time. The suitability of the soils will be affected and the inspector may not approve area if it has been disturbed prior to construction. Proposed drain field area should be fenced off to help prevent any disturbance.

GAINES SOIL CONSULTING does not represent nor warrant the operation or proper functioning of installed system for any period of time.

cc: Warren County Office of Environmental Sanitation

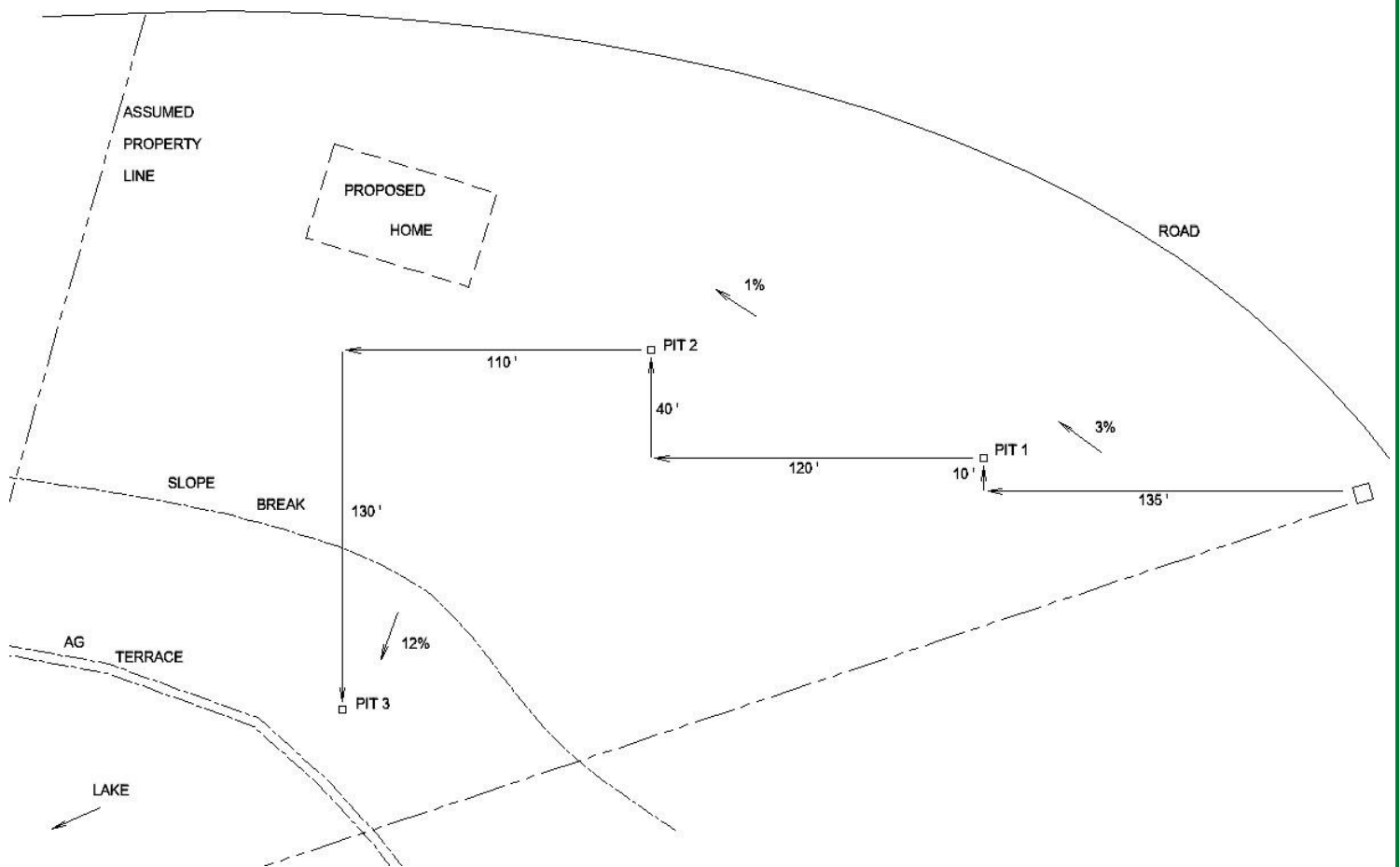
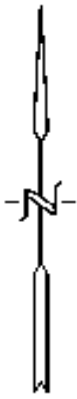

Douglas B. Gaines, CPSS/SC
Principal

¹ USDA Soil Survey Manual, Ag Handbook No. 18, (1993)

² Soil color designations, Munsell Soil Color Charts, (2009).

³ Missouri Laws accompanied by Department of Health Rules Governing On-Site Sewage Systems (October 1995). Table 13 – Conventional; Table 14 – Alternative (use half of above listed loading rate)

* Loading Rate Estimated due to no listing in the Missouri Laws



NO SCALE

DISTANCES APPROXIMATED

10678 CHURCHILL DOWNS ROAD

Warren County, Missouri

G231104

April 2023

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