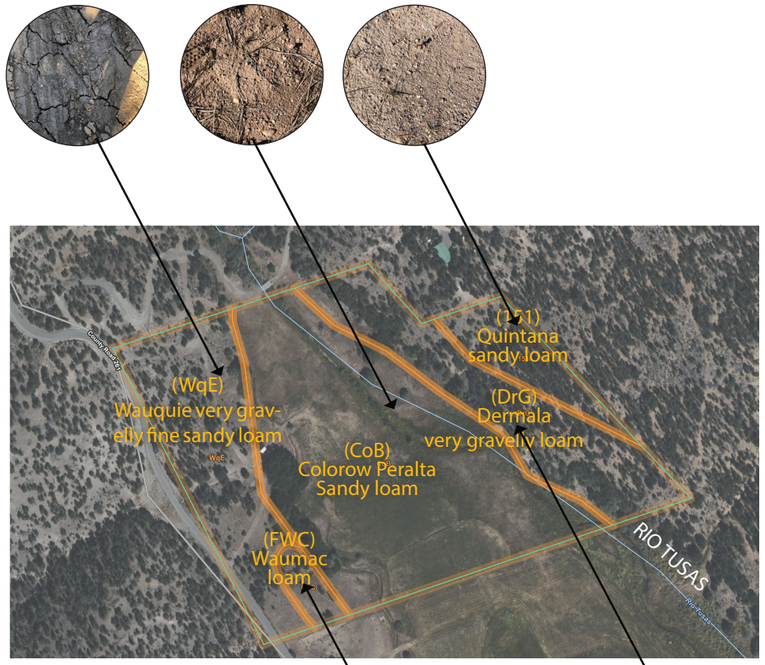
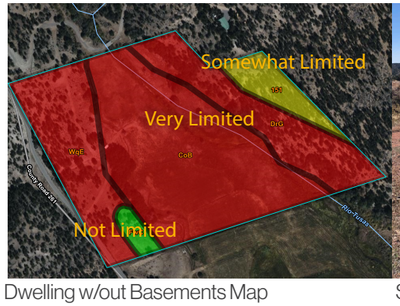
Soils

On the Sandy/Loam/ Gravelly Slopes of La Vega | Servilleta Plaza

This site analysis is composed of soil type, soil rating for building, soil health, and septic tank absorption. The analysis considers how each of these components are factors to take into consideration when designing. The five soil types that were identified were WqE(very gravelly fine sandy loam), FWC(loam), CoB(sandy loam), DrG(very gravelly loam) and 151(sandy loam). These soils each have different compositions that make them unique to the site. Looking at the map constructing dwellings without basements the following soils are very limited: DrG(very gravelly loam), CoB(sandy loam), and WqE(very gravelly fine sandy loam). The reasons were due to flooding and slope conditions in the area. These soils also have shifting characteristics. The drainage through sandy/ gravelly soil further increases its shifting properties. The rating for 151(sandy loam) was somewhat limited due to depth to hard bedrock and shrink swell properties. The rating of soil for FwC(loam) has the most suitable soil type for building because the properties are a mixture of sand, silt, and clay." Loam qualities are the ideal balance for supporting a foundation. Loam generally does not shift, expand, or shrink drastically and handles the presence of water very well."The septic tank absorption map shows that WqE(very gravelly fine sandy loam), DrG(very gravelly loam) and 151(sandy loam) were very limited for septic tank installation due to slow water movement and the depth to bed rock. The somewhat limited area being CoB(sandy loam)showed flooding and the depth to saturated zone was somewhat limited. The only not limited soil type was FwC (loam). One thing that was consistent throughout the site was that FWC(loam) was the most suitable soil for building on and possible septic tank installation.



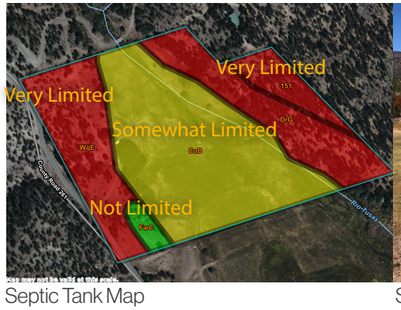
Web Soil Survey Map



Dwelling w/out Basements Map



Site Photo



Septic Tank Map



Site Photo

Web Soil Survey Description



151
Quintana family sandy loam 0 to 15 percent slope

Setting
Landform: Hills, plains
Parent Material: Alluvium derived from sedimentary rock and or residuum weathered sedimentary rock
Typical Profile:
H1 - 0 to 2 inches: sandy loam
H2 - 2 to 29 inches: loam
Drainage Class: Moderately well drained

Dwellings without Basements
Rating: Somewhat limited
Rating Reasons:
Quintana (85%)-Depth to hard bedrock(0.54)
Calendarson(10%)-Shrink swell (0.72)

Septic Tank Absorption field
Rating:Very limited
Rating Reasons:
Quintana (80%)-Depth to bedrock(1.00)
Vibo family: Slow water movement(1.00)
Calendarson(10%): Slow water movement(1.00)
Depth to bedrock (1.00)



CoB
Colorow-Peralta complex 0 to 4 percent slopes

Setting
Landform: Valley floors, streams terraces, flood plains
Parent Material: stream alluvium derived from igneous and sedimentary rock
Typical Profile:
H1 - 0 to 5 inches: sandy loam
H2 - 5 to 60 inches: fine sandy loam
Drainage Class: Moderately well drained

Dwellings without Basements
Rating: Very limited
Rating Reasons:
Flooding(1.00)

Septic Tank Absorption field
Rating: Somewhat limited
Rating Reasons:
Colorow (65%)-Depth to saturated zone (0.50)
Flooding-(0.40)

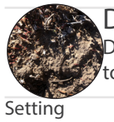


WqE
Wauquie very gravelly fine sandy loam, 8 to 25 percent

Setting
Landform: Fan piedmonts, benches, canyons, mesas, hills
Parent Material: Slope alluvium over colluvium derived from igneous and sedimentary rock
Typical Profile:
H1 - 0 to 3 inches:very gravelly fine sandy loam
H2 - 3 to 30 inches: gravelly sandy clay loam
Drainage Class: Well drained

Dwellings without Basements
Rating: Very limited
Rating Reasons:
Wauquie(80%)-Slope(1.00)
Santa Fe(3%)-Slope(1.00), Depth to hard bedrock (1.00)
Vessilla(3%)-Slope(0.84) ,Depth to hard bedrock (1.00)
Rosced(3%)-Slope(1.00)
Bamac(3%)-Slope(1.00)

Septic Tank Absorption field
Rating: Very limited
Rating Reasons:
Wauquie(85%)-Slope(1.00), **Santa Fe**(3%)-Slope(1.00), Depth to bedrock (1.00), **Vessilla**(3%)-Slope(0.84) ,Depth to bedrock (1.00), **Rosced**(3%)-Slope(1.00) ,**Bamac**(3%)-Filtering capacity (1.00),Slope(1.00)

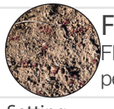


DrG
Dermala-Rosced complex 20 to 50 percent slopes

Setting
Landform: Hills
Parent Material: Slope alluvium over colluvium derived from igneous and sedimentary
Typical Profile:
H1 - 0 to 3 inches: very gravelly loam
H2 - 3 to 60 inches: clay loam
Drainage Class: well drained

Dwellings without Basements Rating
Rating: Very limited
Rating Reasons:
Dermala(50%)-Slope(1.00)
Rosced(35%)-Slope(1.00)
Chimayo(5%)-Slope(1.00)
Depth to bedrock (1.00)

Septic Tank Absorption field
Rating: Very limited
Rating Reasons:
Dermala(50%)-Slope(1.00), Slow water movement(1.00)
Rosced(35%)-Slope(1.00)
Orlie(5%)-Slow water movement (1.00)
Chimayo(5%)-Slope(1.00)
Depth to bedrock (1.00)



FWC
Flugle-Waumac complex 1 to 8 percent slopes

Setting
Landform: Cuestas, hills, ridges, fan remnants, valley sides
Parent Material: Eolian deposits over fan alluvium derived from sandstone and shale
Typical Profile: Note horizons and depth
H1 - 0 to 3 inches: loam
H2 - 3 to 19 inches: sandy clay loam
H3-19 to 60 inches:fine sandy loam
Drainage Class: Well drained

Dwellings without Basements Rating

Rating: Not limited
Rating Reasons:
Flugle(60%)
Waumac(25%)
Vibo(5%)
Royosa(5%)

Septic Absorption field
Rating: Not limited
Rating Reasons:
Flugle(60%)

Legend:
(1.00) Greatest negative impact
(0.00) Not a limitation

Sources

1.)https://websoilsurvey.sc.egov.usda.gov/WssProduct/d3svaza4s420guikwz5xyxma/

2.) https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx

3.) https://www.horstexcavating.com/news-and-blog/how-does-soil-type-affect-construction/#:~:text=Loam%2C%20a%20combination%20of%20clay,is%20exerted%20on%20the%20foundation.

4.) https://lcaenvironmental.com/whats-the-worst-type-of-soil-to-build-on/