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Semester

6th

Subject

Geotechnical engineering

Assignment

01

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Q1

Write a geotechnical report of any civil engineering project which close to your home town.

Ans:

geotechnical report of Soil Boring.

The Soil investigation report is an important piece of information it describe The Soil type Soil group depth to bedrock depth to Seasonal wetness as well as the color and texture of the different Soil layers the Soil investigator will perform five or Six Soil boring in the proposed septic drainfield area. The Soil group depth to bedrock and depth to seasonal wetness are the most important factors in determining if a conventional drainfield can be installed modification to the conventional drainfield include a field with shallow trenches or raised trenches where a conventional drainfield cannot be installed a sandfilter is required.

The Soil boring report is valid as long as the land described in the report has not been modified by cutting away the Soil or by adding fill Soil the report only describe the top five feet of Soil.

2

Soil boring number:

The number given to a specific boring soil borings are indicated by number on the soil investigation map.

Soil type:

name of the soil found this tells the soil scientist what group the soil is in.

Soil group: There are eight soil group. Group 1-3 have suitable soil for a conventional drainfield. Group 4-6 are not suitable for a conventional drainfield but alternative drainfield design (see below) are available. Group 7 and 8 are not suitable for septic systems. The type of system installed depends on the soil depth and group identified.

Depth to Bedrock: The thickness of soil until bedrock is encountered.

Depth to Seasonal wetness: The depth of soil above the perched water if seasonal wetness is at a depth of 24 inches or less a curtain drain will be needed.

Landscape position: - The general land description where borings were performed

See second page of soil boring report.

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Boring Description: This area of the report describes the different soil layers in terms of depth color and texture.

Comments: This area of the report is where the Soil Scientist of soil layers in terms of depth color and texture of soil investigator gives recommendation for the type of septic system needed.

Conventional Drainfield:

Trenches can be installed at the 30 inch maximum.

Shallow trenches: trenches installed at 18-24 inches.

Raised trenches: Trenches installed in undisturbed earth with 12 to 18 inches of fill.

Sandfilter: A sandfilter is required when adequate soil depth of 48 inches cannot be met.

A chlorinating chamber is required when the depth to bedrock is 24 inches or less.

Q No 2

Write Note on different Software which is used in geotechnical engineering.

Ans

The high variety of geotechnical Software can be found in this category.

The same Software which will be used in Geotech engineer.

Allpile:-

Allpile is a windows based analysis program that handle ~~via~~ virtually all type of piles.

ADONIS:-

Adonis is the free finite element Software for geotec engineer.

Accecalc:-

The program analysis the behaviour of rock slope under seismic condition.

3Deep:-

This Software is fully integrate with a design Software package for automatic model generation.

ALP.99:-

Axially loaded pile.

APILE:-

APILE is used to compute the axial capacity as a function of depth of driven pile.

ALP:- The easy way to analyse soil structure interaction of a laterally loaded pile when it come to laterally loaded pile design.

Amreitain :-

Amreitain is a software for checking single or double retaining wall made of Arcelor mittal.

matlab

it uses mathematical simulation to analyzing structural and foundation problems using series of arrays.

Qult Bearing capacity analysis for shallow foundation.

Edushake:- it is normally used for earthquake and Geo technical analysis.