TERMS

Artesian Well are wells drilled through impermeable rocks into strata where water in under enough pressure to force it to the surface without pumping.

Aquifer The rock layer (stratum) or soil in which groundwater flows easily. (Example: A stratum is a carrier of, or substance travel for, groundwater).

Typically, aquifers consist of coarse-grained soils or fractured, seamy rock.

Aquitard Type of soil or rock layer (stratum) that restricts or prevents the movement of subsurface water. Typically, equitards consist of fine-grained soils such as silts and clays or sound rock (solid, not fractured or seamy).

Coarse-grained soil Those soil types having particles large enough to be seen without visual assistance. The coarse-grained materials include the sand and gravel (or larger) soil particles.

Constant-Head Test This test is used to determine the coefficient of permeability of coarse-grained soils.

Equipotential Line is a line connecting points of equal potential energy.

Falling-Head Test This test is used for fine-grained soils because the flow of water through these soils is too slow to get reasonable measurement from the constant-head test.

Fines or Fine-grained This refers to silt-and clay-sized particles that exist in a soil mixture (particles smaller than 0.074 mm).

Flow line-The path of travel traced by moving H_2O as it flows through a soil mass.

Flow net A graphical method used to study the flow of water through a soil. This is used to indicate the paths of travel followed by moving water and the subsurface pressures resulting from the presence of the water.

Groundwater table The surface of the underground supply of gravitational water (water free to flow due to the effect of gravity); Excludes absorbed or bonded water. It also refers to phreatic surface.

Hydraulic conductivity The other term was coefficient of permeability. A term reflecting the difficulty for liquids and gasses to flow through a soil by travelling in the void spaces; a high hydraulic conductivity indicates flow can occur rapidly, and vice-versa.

Hydraulic gradient in mathematical term indicating the difference in the water or liquid pressure head existing between two locations divided by the distance between these same locations. Given the designation of variable i, (typically used to study the subsurface flow of water).

In situ This refers to soil when it is at its natural location in the earth and in tits natural condition.

In-situ testing This relates to a testing procedure performed on soil at the in-place position in the deposit (typically performed in a bore-hole and a test pit excavation); The tested soil is not removed from the natural location.

Porosity The relative volume of open space (pores or voids) existing within the total volume occupied by a soil or rock mass. Mathematically, porosity n is equal to the volume of void spaces divided by total volume of the soil or rock material (the total volume consists of the volume of void spaces plus the volume of soilds).

Permeability The ability of water (or other fluid or gas) to flow through a soil by traveling through the void spaces. A high value for

the coefficient of permeability indicates that flow occurs rapidly, and vice versa.

Permeability Number A numbered value assigned to molding materials indicating the relative ease of passage of gases through them.

Permeameter A device for measuring the coefficient of permeability by measuring the flow of fluid through a sample across which there is a pressure drop produced by gravity.

Permeate The clear fluid that passes through the membrane in a membrane filtration process.

Porosity The relative volume of open space (voids) existing within the total volume occupied by a soil or rock mass.

Sand The category of coarse-grained soil whose particle sizes range between about 0.07mm and 5mm in diameter.

Seepage Velocity The viscous drag of water which flow through the interconnected pore spaces in rock or soil causing an increase in inter-triangular pressure. This is the cause of reduction in effective stresses.

Seepage Generally refers to the quantity of water flowing through a soil deposit or soil structure such as an earth dam. Also may refer to the quantity of subsurface water leaking into a building's underground (basement) area.

Silt The category of fine-grained soil particles (individual soil grains whose particle size is smaller than 0.074 mm or too small to be seen without visual aid) whose mineralogical composition remains similar to the rock they were derived from.

Test Pit A dug excavation in soil so to expose the soil types and identify conditions, possibly to classify the soils and perform in-place testing or obtain samples for laboratory testing, and to determine the elevation position of the ground water table (if penetrated).

Unit Weight The weight per unit volume of a material such as soil, water, concrete, etc. This was expressed as pound per cubic foot (lb/ft^3) or kilonewtons per cubic meter (Kn/m^3).

Void Ratio The total volume occupied by a soil mass includes the soil particles plus void spaces (which in nature always exist between the particles because of their irregular shape). The void ratio is the ratio of the void space volume to the volume of soil solids.

Water content The ratio of the quantity of water in a soil (by weight) to the weight of the soil solids (dry soil), typically expressed as a percentage.

Well point The perforated end section of a well pipe that permits the groundwater to be drawn into the pipe for pumping.