

SECTION 8 – GLOSSARY OF TERMS

(The following definitions are introductory and not for technical citation)

Active Zone – is that zone of soil that is contributing to heave/settlement due to soil expansion/shrinkage at any particular time. The active zone will normally vary with time.

Bearing Capacity – the maximum foundation load that can be applied to a soil.

Continuous Footing – a footing that supports load continuously throughout its whole length, and can in some instances, support three or more columns provided the footer is connected to all columns. For the purposes of this study, all perimeter foundation footings are continuous footings.

Differential Settlement – (or differential foundation movement) a measure of the distortion in a wall based on the vertical displacement of one point with respect to another.

Expansive Soils – a family of soils found in various parts of the country that contain a large portion of highly plastic or moisture sensitive clays. Because these soils are sensitive to water their volumes increase, or swell, or decrease, or shrink, with changes in their moisture content.

Failure – is the unacceptable difference between expected and observed performance, which includes serviceability problems such as distress, excessive deformations, and collapse.

Footer – slang for footing.

Footing – also known as a spread footing, a structure foundation type designed to distribute or spread building loads over a sufficient area of soil to secure adequate bearing capacity.

Foundation Footing – see continuous footing.

Geotechnical Engineer – a registered professional engineer that specializes in the relationship between structure and the earth.

Groundwater – the water under the surface of the ground.

Hand Auger – a boring tool used to excavate about a 4” diameter hole in the ground.

Illite – one of three common clay minerals.

Infiltration – the penetration of water into the surface of the soil, rock, etc.

Interior Footing – see isolated or independent footing.

Isolated or Independent Footing – also known as a column footing, a footing that supports a single column, pier, post or other single concentrated load. For the purposes of this study, all interior footings are column footings.

Lateral Wall Pressure – horizontal force against a basement wall caused by (1) pressure from soil weight, (2) pressure from soil swell, (3) hydrostatic pressure, and (4) pressure from frost.

Liquid Limit – a measure of the minimum moisture content at which a clay loses its “plastic” properties and begins to flow.

Natural Moisture Content – is moisture content of undisturbed sample of soil, or the water content equaling the ratio of the mass of water to dry mass of solids expressed as a percentage.

Permeability – a measure of the rate at which water will flow through a soil.

Pier – a vertical support that provides bearing in the ground.

Piezometer – a hollow pipe inserted into the overburden to measure the groundwater head at that depth.

Pilaster – a projection from the face of the wall that extends the wall’s full height to provide lateral support.

Plastic Limit – a measure of the minimum moisture content at which a clay retains its “plastic” properties and does not break up when moulded.

Plasticity Index – the difference in moisture content between the plastic limit and the liquid limit for a given sample of clay.

Project Delivery Team - members of the Corps, Town, media, citizens and elected official that regularly participated in the review of this study.

Rebar – a steel reinforcing rod with a raised deformations on the surface that interlock with the surrounding concrete.

Subsidence – is the downward movement of the ground (beneath a building) independent of the building load.

Swelling Clay – a clay whose soil volume increase when ambient humidity or water content is increased.

Team – The Corps field and house inspection team that generally consisted of a geotechnical engineer, structural engineer, and a hydrologist.

Wall footing – a footing, which supports a wall by extending along the entire length of the wall.