ANNEX F: PRESUMPTIVE SOIL PARAMETERS (Normative)

This Annex provides presumptive soil parameters to be used in the absence of a geotechnical report. Clay soils are assumed to be non-expansive with a plasticity index less than 24. The presumptive soil parameters in this annex assume dry conditions (non-buoyant) with a soil electrical resistivity greater than 50 ohm-m and a soil pH value between 3 and 9 (Refer to 5.6.6). When the site location is unknown, the frost depth shall be equal to 3.5 ft. [1.1 m]. Presumptive soil parameters and assumptions shall be validated for a specific site prior to installation.

Table F-1: Presumptive Soil Parameters:

Soil Type	N (blows/ ft) [blows /m]	ϕ (deg)	γ (lb/ft3) [kN/m^3]	c (psf) [kPa]	Ultimate Bearing (psf) [kPa]		S_f (psf) [kPa]	k (pci) [kN/m^3]	ε_{50}
					Shallow Fnds.	Deep Fnds.			
Clay	8 [26]	0	110 [17]	1000 [48]	5000 [240]	9000 [431]	500 [24]	150 [41,000]	.01
Sand	10 [33]	30	110 [17]	0	3000 [144]	7000 [335]	500 [24]	35 [9,500]	N/A

where:

N = standard penetration value
ϕ = angle of internal friction
γ = effective unit weight of soil
c = cohesion
S_f = ultimate skin friction
k = lateral modulus of soil reaction
ε_{50} = strain at 50% of ultimate compression
Shallow Foundations – isolated foundations such as pier and pads and mats
Deep Foundations – drilled piers, piles, and drill and bell foundations

Note: Actual soil design parameters based on a geotechnical report with similar standard penetration values may vary from the tabulated values.