

# SATURATED SOIL CONDITION

		STANDARD STRAIN POLES						STANDARD FOUNDATIONS 48" Diameter Drilled Pier Length (L) - Feet							Reinforcement			
		Case No.	Pole Height (Ft.)	Base Plate BC (In.)	Reactions at the Pole Base			Clay				Sand			Longitudinal		Stirrups	
					Axial (kip)	Shear (kip)	Moment (ft-kip)	Medium N-Value 4-8	Stiff N-Value 9-15	Very Stiff N-Value 16-30	Hard N-Value >30	Loose N-Value 4-10	Medium N-Value 11-30	Dense N-Value >30	Bar Size (#)	Quantity	Bar Size (#)	Spacing (in.)
WIND ZONE 1	LIGHT	S26L3	26	25	2	11	270	19	13	9	8	17	14.5	12.5	8	13	4	12
		S30L3	30	25	2	11	300	20	13.5	9	8	17.5	15	13	8	14	4	12
		S35L3	35	25	3	11	320	20	13.5	9.5	8	17.5	15	13	8	15	4	12
	HEAVY	S30H3	30	29	3	16	450	24.5	17	13	11	21	17.5	15	8	18	4	12
		S35H3	35	29	4	16	515	26	17.5	12	8.5	22	18.5	16	8	20	4	12
WIND ZONE 2	LIGHT	S26L2	26	23	2	10	245	18	12.5	8.5	8	16.5	14	12	8	13	4	12
		S30L2	30	23	2	10	270	19	12.5	9	8	16.5	14	12.5	8	13	4	12
		S35L2	35	23	3	10	300	19.5	13	9	8	17	14.5	13	8	14	4	12
	HEAVY	S30H2	30	29	3	15	415	25.5	15.5	11	8	20	17	14.5	8	17	4	12
		S35H2	35	29	4	15	475	25	16.5	11.5	8	21	17.5	15.5	8	19	4	12
WIND ZONE 3	LIGHT	S26L2	26	23	2	10	245	18	12.5	8.5	8	16.5	14	12	8	13	4	12
		S30L2	30	23	2	10	270	19	12.5	9	8	16.5	14	12.5	8	13	4	12
		S35L2	35	23	3	10	300	19.5	13	9	8	17	14.5	13	8	14	4	12
	HEAVY	S30H2	30	29	3	15	415	25.5	15.5	11	8	20	17	14.5	8	17	4	12
		S35H2	35	29	4	15	475	25	16.5	11.5	8	21	17.5	15.5	8	19	4	12
WIND ZONE 4	LIGHT	S26L1	26	22	2	8	190	16	11	8	8	15	12.5	11	8	12	4	12
		S30L1	30	22	2	8	205	16.5	11.5	8	8	15	13	11.5	8	12	4	12
		S35L1	35	22	3	8	230	17	12	8	8	15.5	13.5	11.5	8	12	4	12
	HEAVY	S30H1	30	25	3	12	320	20.5	14	9.5	8	18	15	13.5	8	15	4	12
		S35H1	35	25	4	12	350	21	14.5	10	8	18.5	15.5	13.5	8	16	4	12
WIND ZONE 5	LIGHT	S26L2	26	23	2	10	245	18	12.5	8.5	8	16.5	14	12	8	13	4	12
		S30L2	30	23	2	10	270	19	12.5	9	8	16.5	14	12.5	8	13	4	12
		S35L2	35	23	3	10	300	19.5	13	9	8	17	14.5	13	8	14	4	12
	HEAVY	S30H2	30	29	3	15	415	25.5	15.5	11	8	20	17	14.5	8	17	4	12
		S35H2	35	29	4	15	475	25	16.5	11.5	8	21	17.5	15.5	8	19	4	12

### Fabrication Design Notes:

- Values shown in the "Reactions at the Pole Base" column represent the minimum acceptable capacity allowed for design using a design CSR of 1.00.
- Min. base plate thickness (T) is 2.0 inches.

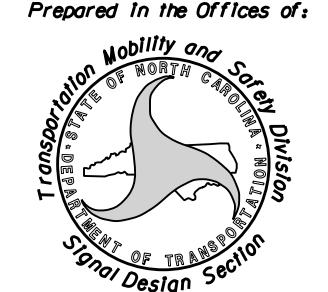
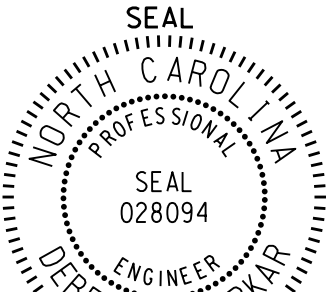
### Foundation Selection:

- Perform a standard penetration test at each proposed foundation site to determine "N" value.
- Select the appropriate wind zone from M 1 drawing.
- Select the soil type (Clay or Sand) that best describes the soil characteristics.
- Get the appropriate standard pole case number from the plans or from the Engineer.
- Select the appropriate column in the chart based on soil type and "N" value. Select the appropriate row based on the pole load case.  
The foundation depth is the value where the column and the row intersect.
- Reference Drilled Shafts: Construction Procedures and Design Methods, FHWA -IF-99-025

- S30H1 - Hard Clay-Stirrup Spacing: 6 in. c/c
- S30H2 - Hard Clay-Stirrup Spacing: 6 in. c/c
- S30H3 - Hard Clay-Stirrup Spacing: 6 in. c/c
- Dense Sand-Stirrup Spacing: 6 in. c/c
- S35H1 - Hard Clay - Stirrup Spacing: 6 in. c/c
- S35H2 - Very Stiff Clay-Stirrup Spacing: 6 in. c/c
- Hard Clay- Stirrup Spacing: 6 in. c/c
- Dense Sand- Stirrup Spacing: 6 in. c/c
- S35H3 - Very Stiff Clay-Stirrup Spacing: 6 in. c/c
- Dense Sand-Stirrup Spacing: 6 in. c/c

48" Dia. Foundations Concrete Volume (cubic yards) = (0.465) x Foundation Depth

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	<b>Standard Strain Pole Foundation for Saturated Soil Condition</b>	
750 N. Greenfield Pkwy, Garner, NC 27529	PLAN DATE: SEPTEMBER 2013    DESIGNED BY: C.B. COGDILL PREPARED BY: N. BITTING    REVIEWED BY: D. SARKAR	REVISIONS:    INIT.    DATE _____ _____
SCALE: 0 NA None		DocuSigned by: Debesh C. Sarkar 2/26/2014 44EBE32E147E4C4...    DATE

Standard Strain Pole Foundation - Saturated Soil Condition