

Comparison of As Built Foundation vs Patent Pending Method (DOME Foundation)

Location: Warm weather locality

Type of Structure = Two Story Residence, Approx: 1,800 sq. ft., One level Slab w/ attached garage.

Soils Data:

8 feet of CH Stiff Soils over 15 feet of CL Soils. P.I. = 40, Liquidity Index = 0.17, Dry Density = 108 pcf
N = 13, $q_u = 2.0$ TSF, Swelling Pressure = 11,000 psf, Allowable bearing pressure = 2,200 psf

As Built Foundation:

17 piers Total, 12" DIA. Straight shaft with a 36" Bell. Embedment = 12 feet, Four #5 vert. bars & #3 stirrup at 12" o.c. Grade Beams: 15" wide by 30" deep with Six #5 rebar (3 t&b) + #4 dowels @ 5ft o.c. (1.5 ft by 5 ft). Grade Beams were spaced 10 ft on center both directions.

Suspended Slab: 4" with #3 rebar at 15" o.c.

Proposed Patent Pending DOME Foundation:

If ext. wall loading $\leq 1,050$ lb/ft & no post or column loads are present;

- A) 10 inch Mat Foundation w/ #4 rebar t & b @ 12" o.c. (3ksi concrete) over
- B) 15 inch Aggregate Base or 1 sack Slurry over
- C) 5" high Patent Pending System + required 8" wide by 60" deep Cutoff wall near Bldng. perimeter.

Total Excavation Depth. = 30 inches

SAVINGS:

- Reduced Labor cost
- Reduced Excavation cost
- Reduced Concrete volume
- Reduced Steel rebar
- Reduced foundation construction time (often 1- 2 days)

ADDITIONAL BENEFITS

Mat Foundation keeps sustained intensity over larger soil depth

Elimination of little downward pressure by the slab system & ok pressure by the ext. footings

Reduction of differential settlement from center to edge of foundation

Increases higher available bearing capacity due to the larger mat footprint

If you would like to try this method, click on:

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