

Barkman Pole Base



Superior to Traditional Cast in Place Alternatives

Pole Base is a precast site lighting foundation manufactured according to your exact specifications. Our refined manufacturing process allows us to produce a product that is more visually appealing, higher in quality, and more economical than traditional cast in place alternatives. It is for these reasons that the utility sector has been choosing precast lighting foundation solutions for decades. Pole Base is designed to bring superior precast technology with a modern aesthetic, to the commercial site lighting sector.

ADVANTAGES

Efficient Installation

- No time required for concrete to cure.
- Installation and electrical can be done in one day.
- No need to return to site to strip formwork
- Weather or wet soil will not delay installation.

Superior Quality and Finish

- Modern profile and high-quality finish.
- Our state-of-the-art facility ensures the optimal conditions are met during the manufacturing process.
- Built for your exact light post fixture and soil conditions.
- Manufactured according to ASTM and CSA standards.

Simplified Installation

- Pole Base arrives at your job site ready for install.
- The height, width, diameter, bolt patterns, conduit alignment, and junction box placements (if required) are built to your spec, so there's no messing around with those technical details on the job site.
- On site skilled labor can be reduced. Site labor required for formwork, concrete pour, and rebar and anchor placement are not required.
- Simply auger or excavate the hole, set Pole Base, run electrical, and backfill (according to spec).

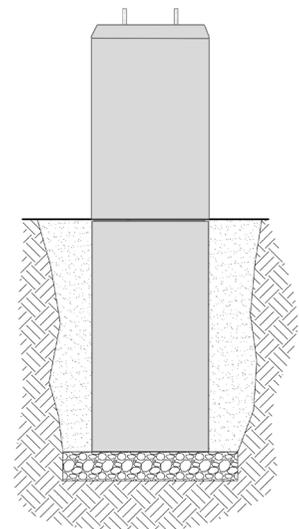
STYLES



Round Rusticated



Round Smooth



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MINIMUM EMBEDMENT GUIDE

24" (610mm) DIAMETER ROUND POLE BASE UNITS (1)

6" (150mm) DIAMETER ROUND LIGHT POLE

MINIMUM EMBEDMENT

POLE HEIGHT	SIGN OR FIXTURE AREA			
	2 ft ² (0.186 m ²)	4 ft ² (0.372 m ²)	6 ft ² (0.557 m ²)	8 ft ² (0.743 m ²)
BASES IN GRAVEL SOILS (GW,GP)⁽²⁾⁽⁷⁾				
15' (4.6m)	3'-0" (0.9 m)	3'-6" (1.1 m)	3'-6" (1.1 m)	4'-0" (1.2 m)
20' (6.1m)	3'-6" (1.1 m)	4'-0" (1.2 m)	4'-0" (1.2 m)	4'-6" (1.4 m)
25' (7.6m)	4'-0" (1.2 m)	4'-6" (1.4 m)	4'-6" (1.4 m)	5'-0" (1.5 m)
30' (9.1 m)	4'-6" (1.4 m)	4'-6" (1.4 m)	5'-0" (1.5 m)	5'-6" (1.7 m)
35' (10.7m)	5'-0" (1.5 m)	5'-6" (1.7 m)	5'-6" (1.7 m)	5'-6" (1.7 m)
BASES IN SANDY SOILS (SW,SP,SM,SC,GM,GC)⁽³⁾⁽⁷⁾				
15' (4.6m)	3'-6" (1.1 m)	4'-0" (1.2 m)	4'-0" (1.2 m)	4'-6" (1.4 m)
20' (6.1m)	4'-0" (1.2 m)	4'-6" (1.4 m)	4'-6" (1.4 m)	5'-0" (1.5 m)
25' (7.6m)	4'-6" (1.4 m)	4'-6" (1.4 m)	5'-0" (1.5 m)	5'-6" (1.7 m)
30' (9.1 m)	5'-0" (1.5 m)	5'-0" (1.5 m)	5'-6" (1.7 m)	5'-6" (1.7 m)
35' (10.7m)	5'-6" (1.7 m)	5'-6" (1.7 m)	6'-0" (1.8 m)	6'-0" (1.8 m)
BASES IN CLAYEY SOILS (CL,ML,CH,MH)⁽⁴⁾⁽⁷⁾				
15' (4.6m)	6'-6" (2.0 m)	7'-0" (2.1 m)	7'-6" (2.3 m)	8'-0" (2.4 m)
20' (6.1m)	7'-6" (2.3 m)	8'-0" (2.4 m)	8'-6" (2.6 m)	9'-0" (2.7 m)
25' (7.6m)	8'-0" (2.4 m)	9'-0" (2.7 m)	9'-6" (2.9 m)	10'-0" (3.0 m)
30' (9.1 m)	9'-0" (2.7 m)	9'-6" (2.9 m)	10'-0" (3.0 m)	10'-6" (3.2 m)
35' (10.7m)	10'-0" (3.0 m)	10'-6" (3.2 m)	11'-0" (3.4 m)	11'-6" (3.5 m)

DESIGN FORCES

UNFACTORED SHEAR FORCE / OVERTURNING MOMENT ⁽⁵⁾⁽⁶⁾				
15' (4.6m)	255 lb (1.14 kN) 2,579 lb *ft (3.50 kN *m)	305 lb (1.37 kN) 3,500 lb *ft (4.75 kN *m)	355 lb (1.59 kN) 4,421 lb *ft (5.99 kN *m)	406 lb (1.82 kN) 5,342 lb *ft (7.24 kN *m)
20' (6.1m)	315 lb (1.41 kN) 4,022 lb *ft (5.45 kN *m)	368 lb (1.65 kN) 5,255 lb *ft (7.12 kN *m)	421 lb (1.89 kN) 6,488 lb *ft (8.80 kN *m)	474 lb (2.12 kN) 7,722 lb *ft (10.47 kN *m)
25' (7.6m)	379 lb (1.70 kN) 5,816 lb *ft (7.89 kN *m)	434 lb (1.94 kN) 7,376 lb *ft (10.00 kN *m)	489 lb (2.19 kN) 8,936 lb *ft (12.12 kN *m)	544 lb (2.44 kN) 10,497 lb *ft (14.23 kN *m)
30' (9.1 m)	444 lb (1.99 kN) 7,975 lb *ft (10.81 kN *m)	501 lb (2.24 kN) 9,874 lb *ft (13.39 kN *m)	558 lb (2.50 kN) 11,773 lb *ft (15.96 kN *m)	615 lb (2.76 kN) 13,672 lb *ft (18.54 kN *m)
35' (10.7m)	511 lb (2.29 kN) 10,507 lb *ft (14.25 kN *m)	570 lb (2.55 kN) 12,757 lb *ft (17.30 kN *m)	629 lb (2.82 kN) 15,006 lb *ft (20.34 kN *m)	687 lb (3.08 kN) 17,255 lb *ft (23.40 kN *m)

Design Reference: AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, 6th Edition, 2013 (LTS-6).

⁽¹⁾ Calculations have been run for a 24" (610 mm) diameter round base 3'-4" (1016 mm) above grade with a 24" (610 mm) diameter bury portion in the soil.

⁽²⁾ Assumed $\Phi = 34^\circ$, $\gamma = 130 \text{ lb/ft}^3$ (2080 kg/m³), $c = 0 \text{ lb/ft}^2$ (0 kPa).

⁽³⁾ Assumed $\Phi = 30^\circ$, $\gamma = 120 \text{ lb/ft}^3$ (1920 kg/m³), $c = 0 \text{ lb/ft}^2$ (0 kPa).

⁽⁴⁾ Assumed $\Phi = 10^\circ$, $\gamma = 130 \text{ lb/ft}^3$ (2080 kg/m³), $c = 250 \text{ lb/ft}^2$ (12.0 kPa).

⁽⁵⁾ Calculations run with the following factors and assumptions:

Exposure Condition C

Basic Wind Speed, $V = 90 \text{ mph}$ (40m/s)

Importance Factor, $I_r = 1.0$

Velocity Conversion Factor, $C_v = 1.00$

Gust Factor, $G = 1.14$

Overload Factor = 2.5

Drag Coefficient (Fixture), $C_{d \text{ fixture}} = 1.2$

Drag Coefficient (Pole), $C_{d \text{ pole}} = 0.915$

Drag Coefficient (Base), $C_{d \text{ base}} = 0.45$

Height and Exposure Factor (Pole and Fixture) $K_{z \text{ pole}} = 1.00$

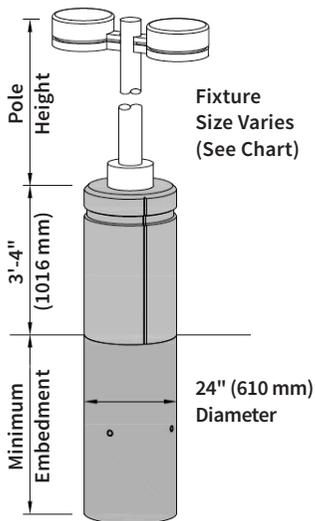
Height and Exposure Factor (Base), $K_{z \text{ base}} = 0.86$

Undercapacity Factor = 0.7

⁽⁶⁾ Calculations assume a double light fixture with the total surface area of both fixtures equal to the value shown in the chart.

Unbalanced loading from a single offset fixture is not included in this preliminary guide, and must be addressed in final design calculations if planned for use.

⁽⁷⁾ Minimum recommended embedment shall be the calculated value, depth of local frost penetration, or 3'-0" (0.9 m), whichever is greater.



This preliminary guide was prepared by Pole Base™ for estimating and conceptual purposes only. All information is believed to be true and accurate; however, Pole Base™ assumes no responsibility for the use of these preliminary guides for actual construction. Determination of the suitability of each recommendation is the sole responsibility of the User. Final designs for construction must be performed by a licensed Professional Engineer using the actual conditions of the site.