

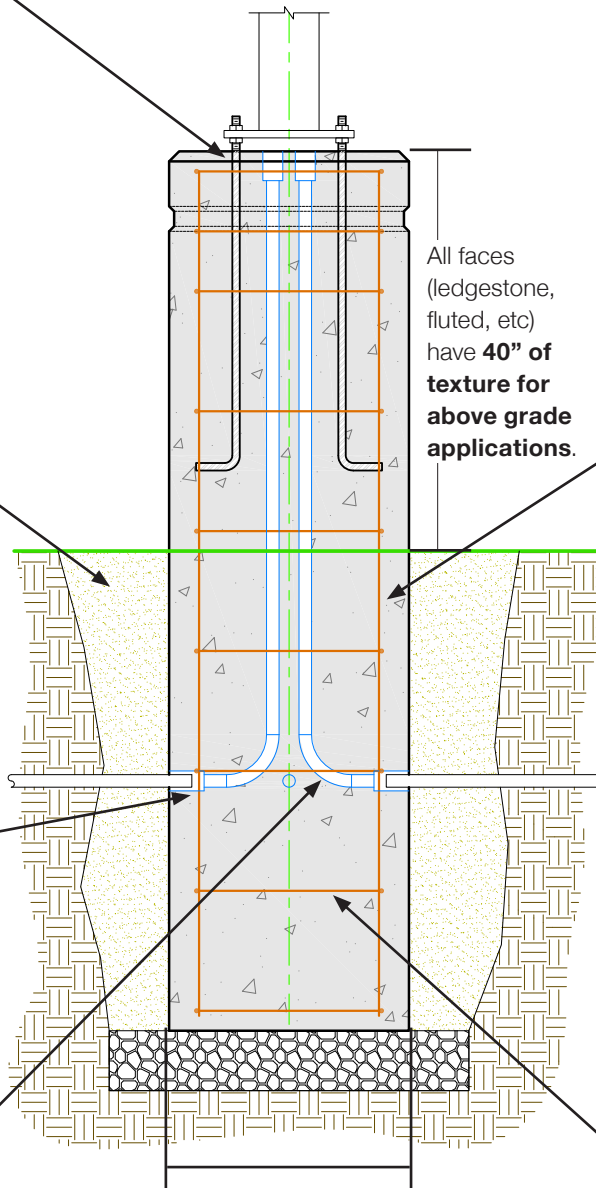
Anchor Bolts are used to mount **Light Poles**, signs, or other applications to the base. Measured by **Diameter x Length x Hook**, the most common size is $\frac{3}{4}$ " x 18" x 3", but all measurements can vary depending on the size of the pole. Bolts typically ship w/ the poles so for our purposes we can have the bolts shipped to our productions facility or use our own bolts out of inventory for production purposes and customer is invoiced accordingly.

Backfill using clear granular sand or **size 57 crushed stone** (stone w/ roughly $\frac{3}{4}$ " diameter). Crushed stone is used in installations that involve augered holes. Stone requires little compaction because it is self leveling and very dense. Sand is used in installations that involve excavated holes. Sand requires compaction w/ a plate compactor, and it is compacted in 6" lifts.

PVC Couplings are used to connect straight pipes and are **flush** with the base below grade and at the top of the unit so contractors can run their wiring and piping directly into the unit with ease. Standard **Conduit Depth is 2 feet below grade**, but in rare circumstances the spec will change at the engineer's discretion.

PVC Piping is used to run wiring through the trenches to the base below grade and up through the top of the base to run wiring to the fixtures at the top of the pole. 3 Pipes are required per base: 1 to get the electricity to the fixtures, 1 to get the wiring out of the base and keep the electrical current flowing to the next set of fixtures, and 1 for a grounding wire in case the pole is struck by lighting.

Vertical Section Through Typical Pole Base



The **most common Diameter** for a light pole base is **24" dia.**, commonly seen in streetscapes and parking lots. **18" diameters** are often used in pedestrian lighting applications and some parking lots and **30" diameter bases** are commonly used in parking lots of big box stores and warehouses where large trucks run the risk of hitting bases or if the poles are exceptionally tall (35+ feet). **We produce all three common diameters, but only produce textured bases w/ 24" diameters OR sides.**

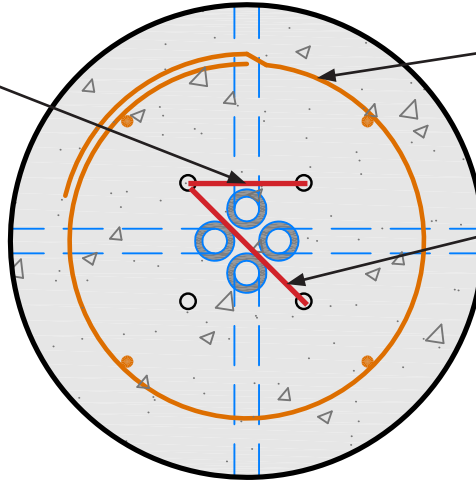
Rebar Reinforcements are **steel rods** (either in straight segments or bent into hoops at various diameters). These **rods are classified by Numbers #**. These **numbers correspond with Eighth Inch Measurements of the diameter of the rod**. A #3 Rebar has a $\frac{3}{8}$ " diameter, while a #5 rebar has a $\frac{5}{8}$ " diameter.

Vertical Rebar Reinforcement lengths are **4 inches shorter than the overall height** of the base (2" of clearance on the top and bottom of the base) and is suspended in the form by a rebar chair (a plastic device that keeps the rebar from breaking through the surface of the concrete where it can be exposed to the elements, corrode, and deteriorate the structural integrity of the unit). As a standard we use **Four #5 rebar for the reinforcement ($\frac{5}{8}$ " dia. rebar)** for the vertical reinforcement, but some engineers will increase the quantity or # of the rebar which would change standardized cost structures.

Horizontal Rebar Reinforcements (or hoops) are used to connect the vertical reinforcements and are tied together with rebar ties (small wires that connect the pieces). As a standard we use **#3 rebar ($\frac{3}{8}$ " diameter rebar) hoops bent at a diameter that is 6 inches less than the overall diameter of the base** (a 24" base has an 18" diameter #3 rebar hoop) and have a 12" oc (distance between hoops).

Horizontal Section Through Typical Pole Base

Bolt Square is measured from **side to side** of the bolt configuration. This measurement is used to verify that everything is evenly spaced to match up to the pole.

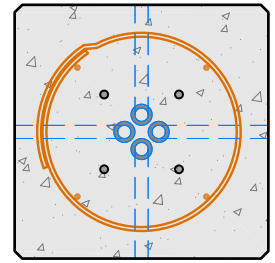
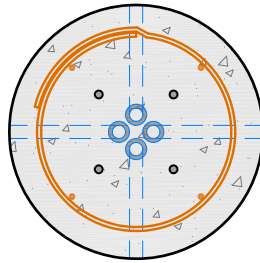


Rebar Hoop w/ a 12" LAP
(overlapping rebar at the ends of the hoop)

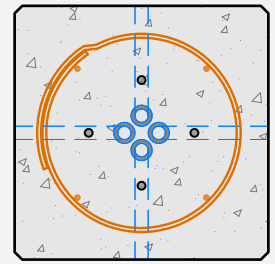
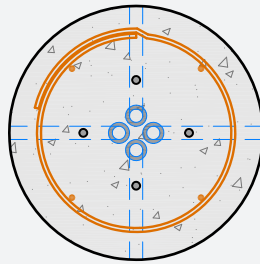
Bolt Circle is measured **diagonally** and exact measurements are necessary in order to mount light pole

Bolt - Conduit Relationship is a critical metric for the installation of wiring and proper installation of the Pole & Collar. For an in-depth description, **see Exhibit A**

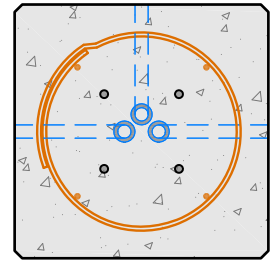
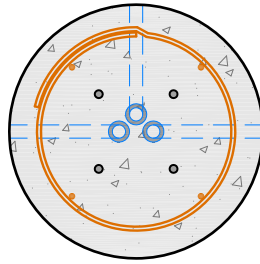
STANDARD



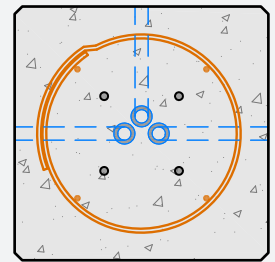
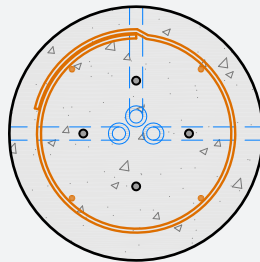
DIAMOND



T-STANDARD



T-DIAMOND



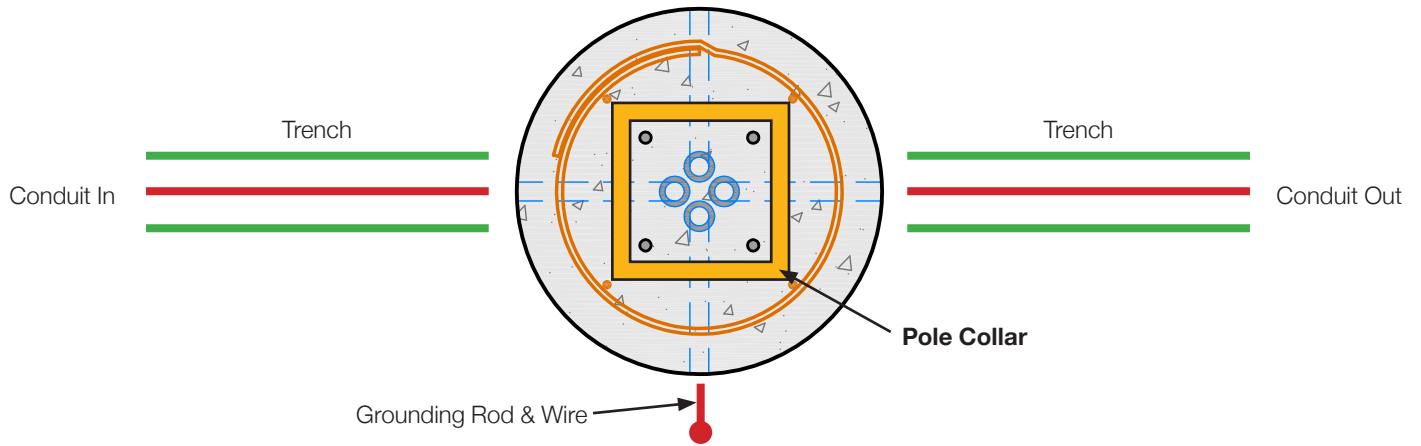
Many poles are square in shape with corresponding square collars to cover the bolts/hardware. The **bolt square** of the **Standard Template** must be **parallel to the Roadway or Parking Lot** so that the collar will be parallel also. Trenches are dug parallel to the street or lot as well, meaning the conduit will be in a fixed position when the precast bases arrive.

The reason why we've set a standard of 4 segments of conduit per unit is that our most common error in production is losing one segment of conduit in the concrete. It's good insurance to have an extra. Additionally it gives the contractor more flexibility on site to run his wires wherever he needs to go if he has more options.

Diamond Templates (used for unique trenching scenarios or w/ unique poles) **can be problematic in situations where the bolt square must be parallel** to a roadway. If a mistake in production is made and the Bolt-Conduit Relationship is compromised, **rejection will occur**.

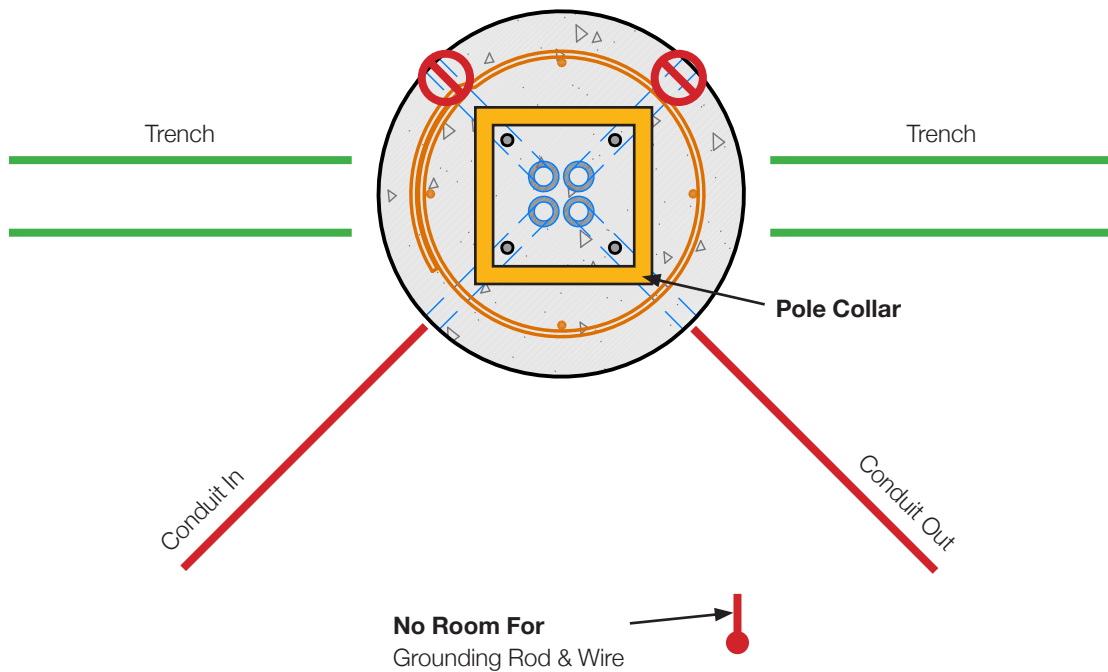
Standard Conduit Example

Roadway OR Edge of Parking Lot



Diamond Conduit Example

Roadway OR Edge of Parking Lot



Bay City River Walk 2014

