



## SECTION 1062

### PULL AND JUNCTION BOXES

**1062.1 Scope.** This specification covers pull and junction boxes intended for use on highway lighting and traffic signal projects.

**1062.2 Pull Boxes.** Pull boxes may be cast-in-place concrete, precast concrete, preformed polymer concrete or preformed fiberglass reinforced polymer concrete. Pull box dimensions shall be as shown on the plans. Each pull box shall be equipped with cable hooks as shown on the plans. Cable hooks shall be galvanized steel or brass with a minimum diameter of 3/8 inch and a minimum length of 5 inches.

**1062.2.1** Cast-in-place concrete pull boxes shall be constructed of Class B or B-1 concrete, or a commercial mixture in accordance with [Sec 501](#). Material, proportioning, mixing, slump and transporting of concrete shall be in accordance with [Sec 501](#). Placing, finishing and curing shall be in accordance with [Sec 703](#). Pull boxes shall be cast in a neat and workmanlike manner. Forms will be required for the inside surfaces of the pull box walls; and if the excavation is irregular, forms will also be required for the outside surfaces of the walls. An outside form shall be installed across all trenches leading into the pull box excavation. The ends of all conduits through the walls shall fit tightly against the form.

**1062.2.2** Precast concrete pull boxes shall be constructed of Class B or B-1 concrete, or a commercial mixture in accordance with [Sec 501](#). Material, proportioning, mixing, slump and transporting of concrete shall be in accordance with [Sec 501](#). Concrete for precast pull boxes shall be placed, finished and cured in accordance with [Sec 703](#).

**1062.2.3** Preformed pull boxes shall withstand a wheel load of 20,000 pounds. Pull box walls may be either flared or vertical. Metal conduit, if used in preformed pull boxes, shall be electrically bonded to one another inside each pull box.

**1062.3 Pull Box Covers.** Each pull box shall be equipped with a bolt down cover. The threaded hole that receives the cover lock-down bolt shall be open at the bottom to allow the cleanout of sand, dirt and other debris. Lock-down bolts shall be stainless steel or brass with a penta-head. Frames and covers for cast-in-place and precast concrete pull boxes shall be cast iron in accordance with AASHTO M 105, Class 30, and shall be of the dimensions and weights shown on the plans. Preformed pull box covers shall be polymer concrete and shall have a minimum wheel load rating of 20,000 pounds. A lift opening shall be provided on all covers. Covers for pull boxes to be used for highway lighting or sign lighting shall be embossed with "STATE LIGHTING". Covers for pull boxes to be used for traffic signals, or a combination of traffic signals and 120 volt intersection lighting, shall be embossed with "STATE SIGNALS". Covers for pull boxes to be used for fiber optics shall be embossed with "STATE FIBER OPTICS".

**1062.4 Junction Boxes.** Junction boxes shall be flanged and designed for flush mounting if encased in concrete, or designed for surface mounting if external mounting is specified. Junction boxes shall be drilled or tapped for all conduit connections. Junction boxes shall be installed such that covers are removable. Junction boxes shall be stainless steel, fiberglass or PVC watertight NEMA 4 enclosures. PVC junction boxes shall have a minimum wall

thickness of 1/4 inch. Junction boxes shall be in accordance with the following minimum sizes unless otherwise specified:

<b>Maximum Entering Conduit Size, Inches</b>	<b>Minimum Box Size, Inches</b>
2	12 x 12 x 4
4	16 x 12 x 6

**1062.4.1** PVC and metal conduit shall be joined to junction boxes to make a rigid and waterproof connection. If metal conduit is used, an insulated bushing shall be provided at the end of the metal conduit on the inside of the junction box to prevent scuffing of the cable insulation.

**1062.4.2** The junction box cover shall be made watertight with a suitable gasket and secured with stainless steel or cadmium plated screws or bolts.