

General Concrete Pole

Installation Guidelines

1. Contractor must always obtain a copy of the project contract drawings, pole fabrication drawings and the project soils report, when one is available. He should read and be familiar with all these documents before beginning construction.
2. Delivery of poles to the jobsite should be arranged a minimum of one (1) week before the desired delivery date.
3. Before scheduling delivery, the contractor should be familiar with the trailers that the supplier will use to transport poles to the jobsite. It is also the general contractor's responsibility to provide adequate access into the jobsite. If there is any question about the accessibility of the site, a site survey should be arranged through the supplier with the transportation company to visit the site and make the final determination as to how the trucks can access the site. Generally, delivery will be to the closest paved area adjacent to the site and so the storage area should be within the crane's reach of the delivery area.
4. The pole fabrication drawings will detail any special requirements for storing and handling poles. On smaller poles this information may not be supplied. In this case, the storage point should be at 10% to 12% of the pole length from the butt and at 15% to 18% of the pole length from the tip. Adequately sized dunnage should be arranged in the storage area prior to pole delivery.
5. After delivery, the poles should be moved to a point within the crane's reach of their installation site. The dunnage should be arranged so that the fixtures (or other equipment to be supported by the pole) can be mounted onto the pole before installation without interference from the ground. The pole fabrication drawings should be reviewed to determine the appropriate point to position the choker for installation. If this point is not shown on the drawings (as will be the case with smaller poles), then the erection strap should be placed at 25% to 30% of the pole length from the tip. If any unusually heavy equipment is to be mounted, the supplier should be notified so that the "pick up point" can be calculated by the engineering department.
6. Consult the appropriate drawings to determine the correct diameter and depth of the excavation. This should be shown on the contract drawings. If it is not, the pole fabrication drawings may contain this information. If this information is not available or if there is a conflict between the two, then the supplier should be contacted.
7. The soils report should be read thoroughly and any instructions contained in the report pertinent to the installation should be followed. This is particularly important with regard to high water tables. If no information is available, the geotechnical

engineer should be consulted for recommendations. If there is no soils report and therefore no geotechnical engineer to consult, then accepted industry practices with regard to installations should be followed. This may be well pointing, use of “driller’s mud” or other procedures, as appropriate. If the contractor is not familiar with these procedures, then a geotechnical engineer familiar with local soils and site conditions should be consulted.

Concrete Pole Section



8. The appropriate size hole should be drilled on the same day as the pole is to be erected. Excavations should not be left open overnight for reasons of safety and also to prevent damage to the excavation such as caving walls, etc. The bottom of the excavation should be relatively free of loose soil to prevent excessive settlement. If a stone pad is required under the pole, it should be leveled and compacted before setting the pole. The sides of the excavation should be plumb within 1 inch per each 10 foot of depth.

9. Once the excavation is complete and prepared, the pole should be lifted at the appropriate point. At this time all of the equipment (cross arms, light fixtures, cameras, etc.) should be in place and all wiring should be complete from the

equipment down to the hand hole. The pole should be set so that the center of the pole butt is centered on the bottom of the excavation within 1 inch. Once the weight of the pole is resting on the bottom of the hole, the pole should be plumbed to within 1/8 inch per 10 foot of pole length and adequately supported, either by the crane or by wedges at the pole base, or by adequately sized bracing as appropriate to the pole size and weight.

10. Next, the required backfill can be added. It is generally recommended that the annulus of the hole be backfilled with #57 crushed stone. If the pole is backfilled with stone, the stone should be adequately compacted during the backfill process. This can be done with long handled tamps or by using an internal concrete vibrator. If concrete backfill is required, the pole must be supported until the concrete has reached sufficient strength to support the poles. This strength should be specified by the foundation design engineer.

11. The backfill should be placed from the bottom of the pole to the bottom of the cable exit. At this point, the underground wiring can be completed from the cable exit to the hand hole. The wiring or conduit (if required) should be placed at the bottom of the cable exit to prevent damage to the wiring due to settlement of the pole after construction.

12. After wiring is complete, the cable exit should be covered with a small piece of wood or heavy cardboard to prevent the backfill material from filling the center of the pole. At this point the excavation can be backfilled to within 4 to 6 inches of the surface. The remaining 4 to 6 inches can be backfilled with top soil.