# GENERAL

## Summary

### Provide all services, labor, materials, tools, and equipment required for the complete and proper installation of communication pull boxes, hand-holds, outside plant conduits, and hardware as called for in these specifications and related drawings. The communication pull boxes, hand-holds, outside plant conduits, and hardware will be installed by the electrical contractor.

## System Description

### Hand-holds shall be below grade communications vaults, minimum 24” x 36” x 36” as a general size unless specified differently.

### Hand-holds installed in parking lots or streets must be rated for vehicular traffic. Lids must be concrete rated for traffic.

### Lids must be 20,000-pound rated.

### Types, sizes, and locations of pull boxes and hand-holds are shown on the drawings. All lids and covers shall be marked “Fiber Optic.”

### A minimum of two 4” entrance conduits will be installed into any building.

### Outside plant copper, fiber, and coaxial cable shall be installed together in one of the conduits while the other conduit is for future services and disaster mitigation.

### Type of conduit to be used is high-density polyethylene (HDPE).

### Direct buried or aerial service entrances are not allowed unless pre-determined by the UNL IS Project Manager.

### The conduits will be installed from the building to the nearest UNL Utility tunnel if possible.

### Dual entrances are very desirable if possible, especially for buildings that house emergency services, data core systems, disaster recovery systems, or designated as an essential services building on campus.

### Dual entrances should be separated by at least 30 feet.

### For outside plant fiber optic entrance cable, install soft sided detectable innerduct in one of the conduits.

## Submittals

### Product Data: Submit manufacturers’ product information for conduits, accessories, pull boxes, and hand-holds.

## Quality Assurance

### Comply with section 270000.

### Comply with section 260000 (Electrical).

## Delivery, Storage, and Handling

### Comply with section 270000.

### Comply with section 260000 (Electrical).

# PRODUCTS

## Manufacturers

### Conduits: Comply with Division 26 – Electrical.

### Pull boxes and hand-holds: Comply with drawings for size and specification.

## Materials and Fabrication

### Comply with section 260000 (Electrical).

# EXECUTION

## Examination

### Comply with section 270000.

### Comply with section 260000 (Electrical).

## Installation

### Comply with section 260000 (Electrical).

### Do not include more than two 90-degree bends between pulling points when installing underground conduit. Require that bends be long sweep type, with a radius of not less than six times the internal diameter of the conduit.

### For every 300 feet of outside plant conduit, install an approved hand hole. Design hand holes with the UNL IS Project Manager.

### Securely attach conduit to infrastructure in a manner that will withstand placing and pulling operations.

### Keep area around entrance conduit free of any construction, storage, mechanical apparatus, pipes, or other items that might interfere with installing or maintaining cables.

### Seal the inside-building end of conduit to prevent entrance of water or gases. Reseal conduits after cable is placed.

### Provide mule tape in all entrance conduits.

### Depth of conduit shall be a minimum of 36 inches.

### Warning tape over conduits if installed in trench

### Refer to NEC code, local, and UNL standards for clearance distance from other utilities.

### Terminate entrance conduit with metallic insulated-throat threaded bushing at terminal board or at cable tray. Secure conduit to cable tray with Gedney\* CTC or comparable clamp.

### Ground and bond conduits as they enter the building.

## Adjustments

### Comply with section 260000 (Electrical).

END OF SECTION 270543