1. Broadband Radio [617] (added 4-03-25)

Description. This provision describes the requirements for furnishing and installing a broadband radio to provide ethernet communication to the traffic signal controller.

Materials. Furnish a Brand/Model broadband radio that operates in the 4.9GHz/5.8GHz frequency band and meets FCC requirements. Furnish a radio with an integrated flat panel antenna and IP-67 rated enclosure to withstand harsh environments. Radio must be rated to operate between a range of -40°F and 140 °F. Provide a Power-over-Ethernet (PoE) injector with power supply, surge protection, cat5 cable as approved by the manufacturer and all necessary mounting hardware for a complete installation.

Furnish a traffic signal interface switch with a minimum of 8 copper ports and 2 Small Form-factor Pluggable (sfp) ports that is DIN rail mountable. Furnish a hardened managed switch with layer 2 functionality that meets NEMA TS-2 requirements. Include a power supply and cabling to power the switch from a standard 120 VAC outlet.

Construction Requirements. Install the radio on the pole as shown in the plans.

1. Field drill a hole in the pole as appropriate for cable entrance.
2. Smooth sharp edges and treat the hole with cold galvanizing compound.
3. Furnish and install a cable-protecting grommet where the cat5 cable enters the pole.
4. Route the cat5 cable in a continuous run from the radio to traffic signal cabinet and provide a minimum of 6ft coiled in the bottom of the cabinet.
5. Connect the cat5 cable to the radio as directed by manufacturer to create a weatherproof seal.
6. Provide necessary grounding of the radio surge protector inside the traffic signal cabinet as directed by the Traffic Signal Engineer.

The Traffic Signal Engineer will make all final connections inside the traffic signal cabinet and be responsible for programming the radio. During the traffic signal turn-on, aim the radio as directed by the Traffic Signal Engineer to provide optimal signal strength.

Methods of Measurement and Basis of Payment. Broadband radio is measured and paid for by the each.