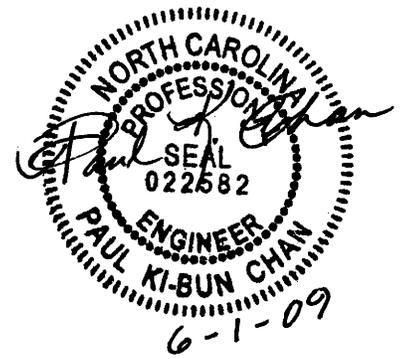


PROJECT SPECIAL PROVISIONS  
POWER SUPPLY TO ROADWAY LIGHTS



R-2824  
June 1, 2009

1.0 DESCRIPTION:

The work covered by this section consists of furnishing and installing a combination lighting controller/service entrance equipment, and all proposed interconnecting circuitry, to provide power to roadway light standards.

Perform all work in accordance with the plans, these provisions, the National Electrical Code (NEC), Division 14 of the North Carolina Department of Transportation "Standard Specifications for Roads and Structures" (Standard Specifications) and "NCDOT Roadway Standard Drawings" except as modified in the plans.

The Contractor actually performing the work described in these special provisions and shown on the plans shall have a license of the proper classification from the North Carolina State Board of Examiners of Electrical Contractors. The Electrical Contractor must be available on the job site when the work is being performed or when requested by the Engineer. The Electrical Contractor must have a set of plans and special provisions in his possession on the job site, and must maintain accurate "as built" plans. Provide one set of As-Built plans and print pocket inside the service entrance equipment.

2.0 MATERIALS:

The Contractor may use any material, equipment or type of construction that has written approval as being an acceptable equal to that named for the particular use intended by the specifications and plans.

Submit five (5) copies of catalog cuts and/or drawings for all proposed materials for the Engineer's review and approval. Include the brand name, stock number, description, size, rating, manufacturing specification, and applicable contract item number(s) on each submittal. The Engineer will advise the Contractor of reasons for rejected submittals and will return approved submittals to the Contractor. Do not deliver material to the project prior to submittal approval.

2.1 Lighting Controller:

Use a 200 Amp meter base. Use a combination lighting controller/service entrance equipment (combination panel) equal to Square D Class 8903 Night-Master. The combination panel must include two main circuit breakers, solid neutral bar, contactor, photocontrol, selector switch, fused control circuitry and a lightning arrester mounted in a NEMA 3R enclosure, labeled as suitable for use as service entrance equipment. Required sizes and ratings are as shown in the plans. Components must be factory installed and not field assembled.

Use a combination panel enclosure with a flange mounted operator handle that is lockable in the OFF position and is interlocked with the door and main circuit breaker, so that the door cannot be opened when the breaker is in the ON position. The enclosure shall have an internal removable back panel for mounting components and shall have external mounting brackets.

The combination panel must be rated 120/240 VAC, single phase, two pole, three-wire, service entrance. The main circuit breaker must have an interrupting capacity rating of not less than 10,000 amperes RMS symmetrical. The contactor must have a coil rating of 120 VAC, 60 Hertz. The selector switch must be a heavy duty HAND-OFF-ON unit including contacts and handle mounted on the back panel of the enclosure.

The lightning arrester must be the thyrite type, designed to contain and snuff out an arc of 10,000 amps, and have conduit threads for mounting in the combination panel enclosure.

The ground rod must be copper clad steel, with a clamp rated for direct burial.

Use a 4" Rigid Galvanized Steel Conduit with cap, embedded in concrete as shown in the plans for mounting the lighting controller. Use galvanized slotted steel framing channel with straps and bolts, for the mounting brackets and hardware for attaching the lighting controller to the pole.

Use mastic that is a permanent, non-hardening, water sealing compound that adheres to metal, plastic, and concrete.

Use zinc rich paint conforming to Section 1080-9 of the Standard Specifications.

### 3.0 CONSTRUCTION METHODS:

Contact the local utility company and obtain the required electrical service, as stated in section 1400-9 of the Standard Specifications.

Locate the combination panel as shown on the plans. Install all non-factory installed components of the combination panel securely, with all conductors properly terminated and identified. Attach all components to the post with galvanized or stainless steel hardware. Provide and install a padlock for the controller, with eight keys all keyed alike.

Operate the lighting system without interruption or failure attributable to poor workmanship or defective material for 2 consecutive weeks, as stated in section 1400-6 of the Standard Specifications. The Engineer will perform insulation resistance tests, as stated in section 1400-6 of the Standard Specifications.

The Engineer must inspect and approve all work before concealment.

4.0 MEASUREMENT AND PAYMENT

No direct measurement will be made for the work covered by this section, since it will be paid for on a lump sum basis.

Payment for this work will be made at the contract lump sum price for "Power Supply to Roadway Lights".

Such price and payment for this work will be considered full compensation for all materials, equipment, and labor necessary to complete the work in accordance with the plans and these special provisions.

Payment will be made under:

Power Supply to Roadway Lights: \_\_\_\_\_ Lump Sum