

SECTION 16610

ROADWAY ILLUMINATION ASSEMBLIES

PART 1 DESCRIPTION

1.01 INSTALLATION

- A. Furnish, fabricate, and erect roadway illumination assemblies.

1.02 RELOCATION

- A. Remove and relocate existing roadway illumination assemblies.

1.03 REMOVAL

- A. Remove existing roadway illumination assemblies.

PART 2 MATERIALS

- A. Provide new materials that comply with the details shown on the plans, the requirements of this Item, and the pertinent requirements of the following Items:
 - 1. Item 16441, "Steel Structures"
 - 2. Item 16442, "Metal for Structures"
 - 3. Item 16445, "Galvanizing"
 - 4. Item 16446, "Cleaning and Painting Steel"
 - 5. Item 16449, "Anchor Bolts"
 - 6. Item 16620, "Electrical Conductors."
- B. Furnish light fixtures from new materials that comply with the following requirements.
- C. Provide light fixtures from manufacturers prequalified in accordance with Item 16000.
- D. Provide shop drawings of the complete assembly in accordance with the plans.
- E. Hot-dip galvanize fabricated pole sections and associated parts in accordance with Item 16445, "Galvanizing." Punch or drill holes in steel parts or members, when allowed, before galvanizing.

- F. Paint poles, when shown on the plans, in accordance with Item 16446, "Cleaning and Painting Steel."

PART 3 CONSTRUCTION

- A. Perform work in accordance with the details shown on the plans and the requirements of this Item. Sample fixtures for testing.
- B. Use established industry and utility safety practices when installing, relocating, or removing poles or luminaires located near overhead or underground utilities. Consult with the appropriate utility company before beginning work.
- C. Prevent scarring or marring of the poles, mast arms, and fixtures. Replace damaged components. Repair damaged galvanizing in accordance with Section 16445, Part 3, 3.04 "Repairs." Repair damaged painted areas of a roadway illumination assembly in accordance with Item 16446, "Cleaning and Painting Steel."
- D. Stake, install, and align each roadway illumination assembly as shown on the plans. The Owner's Representative may shift an assembly's location, if necessary, to secure a more desirable location or to avoid conflict with utilities.

3.01 INSTALLATION

- A. Fabricate and install roadway illumination assembly components in accordance with the details, dimensions, and requirements shown on the plans. Do not use screw-in type foundations. Install anchor bolts and coat anchor bolt threads in accordance with Item 16449, "Anchor Bolts." Erect structures after foundation concrete has attained its design strength as required on the plans and Item 16421, "Hydraulic Cement Concrete." Tighten anchor bolts for poles with shoe bases in accordance with Item 16449, "Anchor Bolts." Do not place grout between base plate and foundation. Test installed roadway illumination assemblies in accordance with Item 16616, "Performance Testing of Lighting Systems."

3.02 RELOCATION

- A. Relocate roadway illumination assembly components in accordance with the details, dimensions, and requirements shown on the plans. Do not use screw-in type foundations. Install existing structures on new foundations in accordance with Section 16610, Part 3, 3.01 "Installation." Do not place grout between base plate and foundation. Test installed roadway illumination assemblies in accordance with Item 16616, "Performance Testing of Lighting Systems."
- B. Disconnect and remove conductors from abandoned circuits. Remove abandoned conduit or ducts to a point 6 in. below final grade. Reconnect conduit, ducts, and conductors to be reused. Replace damaged conduit, ducts, and conductors.

- C. Unless otherwise shown on the plans, remove abandoned concrete foundations and replace surfacing in accordance with Section 16610, Part 3, 3.03 "Removal." Do not remove existing concrete bridge lighting brackets.
- D. Furnish and install new internal conductors, fused and unfused connectors, and lamps. Furnish and install new transformer bases that meet AASHTO and plan requirements when relocating transformer base poles. Destroy existing transformer bases to prevent reuse.
- E. Accept ownership of unsalvageable materials and dispose of in accordance with federal, state, and local regulations.

3.03 REMOVAL

- A. Remove roadway illumination assembly components in accordance with established industry and utility safety practices.
- B. Remove transformer bases from transformer base poles. Remove luminaires and mast arms from the pole shaft. Stockpile pole shafts, mast arms, and assembly hardware at a location designated by the Owner's Representative. Pole shafts, mast arms, and assembly hardware will remain the Owner's Representative property unless otherwise shown on the plans or directed.
- C. Disconnect and remove conductors from abandoned circuits. Remove abandoned conduit and ducts to a point 6 in. below final grade. Destroy existing transformer bases to prevent reuse.
- D. Remove abandoned concrete foundations to a point 2 ft. below final grade. Backfill the hole with material that is equal in composition and density to the surrounding area. Replace surfacing material with similar material to an equivalent condition. Do not remove existing concrete bridge lighting brackets.
- E. Accept ownership of unsalvageable materials and dispose of in accordance with federal, state, and local regulations.

PART 4 MEASUREMENT

- A. This Item will be measured as each roadway illumination assembly installed, relocated, or removed.

PART 5 PAYMENT

- A. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Install Roadway Illumination Assemblies" of the types specified, "Relocate Roadway Illumination Assemblies" of the types specified, or "Remove Roadway

illumination assemblies” of the types specified. The Department will pay for electrical energy consumed by the lighting system.

- B. New drilled shaft foundations will be paid for under Item 16416, “Drilled Shaft Foundations.” New concrete riprap will be placed around foundations. New conduit will be paid for under Item 16618, “Conduit.” New conductors, except the conductors internal to the pole, will be paid for under Item 16620, “Electrical Conductors.” New duct cable will be paid for under Item 16622, “Duct Cable.” New ground boxes will be paid for under Item 16624, “Ground Boxes.” New electrical services will be paid for under Item 16628, “Electrical Services.”

5.01 INSTALLATION

- A. This price is full compensation for furnishing, installing, and testing luminaires; ballasts, poles, lamps, anchor bolts, anchor plates, internal conductors, and connections; system performance testing; and equipment, labor, tools, and incidentals.

5.02 RELOCATION

- A. This price is full compensation for salvaging and relocating the existing conduit, duct cable, and conductors; removing existing foundations, backfilling, and surface placement; removing, erecting, connecting, and testing illumination assemblies; furnishing and installing new anchor bolts, transformer bases, lamps, connections, and conductors; replacement of damaged components; disposal of unsalvageable material; and equipment, labor, tools, and incidentals.

5.03 REMOVAL

- A. This price is full compensation for removing, salvaging, disassembling, and stockpiling lighting assemblies; salvaging and relocating existing conduit and conductors; removing existing foundations; backfilling and surface placement; splicing existing conductors; disposal of unsalvageable material; and equipment, labor, tools, and incidentals.

END OF SECTION