

PART 1 – GENERAL**1.01 DESCRIPTION**

- A. This item shall include providing a flagpole where shown on the plans, as specified herein, and as needed for a complete and proper installation.

PART 2 – PRODUCTS**2.01 MATERIALS****A. Submittals**

Prior to installation, the Contractor shall submit the following:

1. Materials list of items proposed to be provided under this section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Shop drawings showing general layout, dimension, base design and its connection to foundation, anchoring, and support system, and grounding system.
4. Any other descriptive data as required by the Engineer.

B. Specifications

1. Provide flagpole, accessories, bases, and anchorage devices as complete units furnished by one manufacturer, and with the following attributes:
 - a. Size:
Overall dimensions: 50-foot exposed height, total height of 50 foot (anchor bolt installation with breakaway couplings), 10-inch butt and 4-inch top diameters, minimum wall thickness of 0.25".
 - b. Design:
Minimum flagpole wind rating of 90 mph with maximum flag size of 10-foot x 15-foot.
 - c. Shaft:
Uniform, conical tapered section above the cylindrical butt section manufactured from seamless aluminum tubing of 6063-T6 alloy.
 - d. Finish:
Exposed aluminum surfaces: Fine, mechanical polish, anodized dark bronze finish.

C. Fittings and Accessories

1. Foundation: Provide a round concrete foundation to minimum frost depth with anchor bolts for attachment to the flagpole. Foundation

design shall be performed by a professional engineer registered in the State of Missouri. Concrete for foundation shall be KCMMB4K. Anchor bolt length and hook length shall be determined by the Engineer.

2. Anchoring system: Cast aluminum base flange of 356-T6 alloy, anchored with four (4) 1-inch NC galv. steel anchor bolts with hook, nuts and flat washers, AASHTO M-314-90 Grade 55, galvanized per ASTM A153.
3. Breakaway System: Provide breakaway couplings meeting the American Association of State and Highway Transportation Officials' (AASHTO) Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, and accepted by the Federal Highway Administration. Provide removable breakaway coupling skirt and nut covers.
4. Provide flash collar of spun aluminum.
5. Provide two (2) stainless steel snap hooks, swivel, with neoprene covers.
6. Provide stainless steel aircraft cable internal halyard.
7. Provide beaded roller sling with plastic covered counterweight.
8. Provide cast aluminum revolving truck assembly with aluminum spindle, stainless steel bearing, brass bushing, and removable hood.
9. Provide final gold anodized ball with flush seam, 6" diameter.
10. Provide flush access door with cylinder lock and continuous piano hinge, a manually operated winch having a removable handle and positive locking at any position.
11. Finish exposed surfaces to match the flagpole.
12. Flag: Provide 10'x 15' Nylon USA flag.

D. Approved Manufacturer(s)

1. American Flagpole Division.
2. Other manufacturers when approved in advance by the Engineer.

PART 3 - EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

A. Grounding

Provide ground set foundation assembly and grounding/lightening protection system as standard with the approved manufacturer and as approved by the Engineer.

B. Concrete Foundation

Provide a concrete foundation as specified.

C. Installation

Install flagpole and accessories in strict accordance with the manufacturers' recommendations as approved by the Engineer, aligning plumb to a vertical tolerance of one in 1000, and adjusting operating components for optimum smoothness of operation.

3.02 MEASUREMENT AND PAYMENT

- A. The Engineer will measure each flagpole of specified size and type.
- B. Payment for "Flagpole" at the contract unit price bid is full compensation for the specified work.

END OF SECTION

PART 1 – GENERAL**1.01 DESCRIPTION**

- A. This item shall include providing LED exterior lighting for flagpole illumination where shown on the plans, as specified herein, and as needed for a complete and proper installation.

PART 2 – PRODUCTS**2.01 MATERIALS****A. Submittals**

Prior to installation, the Contractor shall submit the following:

1. Materials list of items proposed to be provided under this section.
2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements.
3. Shop drawings showing general layout, dimension, lighting base design connection to foundation, anchoring, and support system, and electrical system.
4. Any other descriptive data as required by the Engineer.

B. Specifications

1. Provide flagpole lighting, accessories, bases, and anchorage devices as complete units furnished by one manufacturer, and with the following attributes:
 - a. Light:
LED, 129 Watt, 4000K CCT, 120-volt, narrow distribution, yoke mount. Light shall be Hydrel 8100 LED P3 40K MVOLT NFL YM DDBZ or approved equal.
 - b. Mount:
Yoke mount, 12" Stanchion mount with splice access. Mount shall be Hydrel SMSA12 109C DDBZ or approved equal.
 - c. Finish:
Dark Bronze surface with zinc undercoat.

C. Fittings and Accessories

1. Foundation: Provide a round concrete foundation to minimum frost depth with four (4) galvanized epoxy capsule anchors, washers, and nuts, for attachment to the light. The top of foundation shall be exposed 2" above grade. Foundation design shall be performed by a professional

engineer registered in the State of Missouri. Concrete for foundation shall be KCMMB4K.

2. Shields and Screens: Provide full glare shield and wire rock guard, Hydrel FGS and WRG or approved equal.
 3. Photocell: Provide photocell for dusk to dawn operation of each light individually, Hydrel PE1 or approved equal.
- D. Approved Manufacturer(s)
1. Hydrel, Acuity Brands Lighting, Inc.
 2. Other manufacturers when approved in advance by the Engineer.

PART 3 - EXECUTION

3.01 CONSTRUCTION REQUIREMENTS

A. Wiring

Provide minimum 1" PVC conduit from new meter pedestal to existing Pull Box 1, and from foundation and stanchion mount to existing GFCI outlet as shown on plans and as approved by the Engineer. Provide 3-1c#10 wiring from new meter pedestal to existing Pull Box 1, and from each GFCI outlet to each flagpole light.

B. Concrete Foundation

Provide a concrete foundation as specified.

C. Installation

Install flagpole lighting and accessories in strict accordance with the manufacturers' recommendations as approved by the Engineer. Lights shall be setback 1/5 of the flagpole height. Align for maximum illumination of flag, after completion of flagpole and flag installation.

3.02 MEASUREMENT AND PAYMENT

- A. The Engineer will measure each flagpole light of specified size and type.
- B. Payment for "Flagpole Light" at the contract unit price bid is full compensation for the specified work.

END OF SECTION