

# MEPNN Supplier Scouting Opportunity Synopsis

## Section 1: General Information

Scouting Number	2025-270
Item to be Scouted	Luminaires- Wildlife Sensitive, LED Conventional Lighting
Days to be scouted	30
Response Due By	09/13/2025
Description	Wildlife Sensitive (or Wildlife Friendly) lighting provides lighting for roadways and pedestrian walkways, while minimizing the effect on wildlife. FDOT Standard Specifications include requirements for LED light source colors and

## Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	<p>Product must meet FDOT Standard Specification requirements. See attached file for additional information.</p> <p>The luminaire housing shall be constructed of precision cast aluminum with a corrosive resistant polyester powder coat finish. The standard color shall be gray. The housing shall have an electrical terminal block to attach the luminaire cable and a hinged door which provides direct access to internal parts. All hardware on the exterior of the housing shall be stainless steel.</p> <p>The refractor and lens shall consist of glass or an optical grade polymer. The manufacturer shall place a permanent tag in the luminaire housing imprinted with: the manufacturer name, luminaire voltage, lamp wattage, and provide a blank area for the Contractor to inscribe the installation date.</p> <p>Luminaires shall meet the following requirements: UL 1598 listed and labeled for installation in wet locations by an OSHA recognized "Nationally Recognized Testing Laboratory" (NRTL), be capable of maintaining 94.1% intensity at 10,000 hours with an ambient temperature of 25°C (IES LM-80) and have IESNA light distribution curves (IES LM-79) by an EPA recognized laboratory. The driver shall be rated for 100,000 hours and have a power factor greater than or equal to 90% at full load with a total harmonic distortion less than or equal to 20% at full load.</p> <p>The fixture shall accommodate a circuit voltage of 480V.</p> <p>Luminaires shall be provided with a minimum 10kV/10kA internal surge suppression module meeting UL 1449/ANSI C62.41.2 Category C.</p>
Provide dimensions / size / tolerances / performance specifications for the item	<p>Product must meet FDOT Standard Specification requirements. See attached file for additional information.</p> <p>The luminaire mounting assembly must be a slip fitter type designed to accommodate a nominal 2 inch pipe size (2-3/8 inch O.D.) arm or a pole top mounting assembly designed to accommodate a 2-3/8 inch pole top tenon.</p>
List required materials needed to make the product, including materials of product components	<p>Product must meet FDOT Standard Specification requirements. See attached file for additional information.</p> <p>The luminaire housing shall be constructed of precision cast aluminum with a corrosive resistant polyester powder coat finish.</p>
Are there applicable certification requirements?	Yes
Certification(s) required	UL

Details	Product must meet FDOT Standard Specification requirements. See attached file for additional information.  UL 1598 listed and labeled for installation in wet locations by an OSHA recognized "Nationally Recognized Testing Laboratory" (NRTL). Illuminating Engineering Society (IES) North America, IESNA light distribution curves (IES LM-79) by an EPA recognized laboratory.
Are there applicable regulations?	Yes
Details	Needs to be compliant with BABA domestic rules.
Are there any other standards, requirements, etc.?	Yes
Details	Must meet FDOT Standard Specification requirements. See attached file for additional information.
Additional Technical Comments	

## Section 4: Business Information

Estimated potential business volume	8500 annually
Estimated target price / unit cost information (if unavailable explain)	Approximate \$500. per each
When is it needed by?	5 months
Describe packaging requirements	No packaging requirements. Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	Florida

## Additional Comments

Is there other information you would like to include?	Florida, State of/ Transportation, Florida Department of /State Materials-Product Evaluation Office  Agency providing funds: Florida Department of Transportation Name/POC for BABA related questions: Melissa Hollis or Karen Byram Email address of contact: Melissa.Hollis@dot.state.fl.us or Karen.Byram@dot.state.fl.us
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## **SECTION 715 HIGHWAY LIGHTING SYSTEM**

### **715-1 Description.**

Install a highway lighting system in accordance with the details shown in the Plans. Use pole assemblies as shown in the Standard Plans when standard aluminum pole assemblies or standard high mast light assemblies are required by the Contract Documents. Include in the system the light poles, bases, luminaires, drivers, cable, conduit, protective devices, and control devices; all as specified or required for the complete facility.

Obtain conventional light pole and high mast light pole assemblies from a fabrication facility that is approved in one of the following fabrication categories:

1. American Institute of Steel Construction, Highway Component Manufacturer
2. American Welding Society, Certified Welding Fabricator
3. Canadian Welding Bureau, Fusion Welding of Aluminum (W47.2)

Provide metal lighting poles, excluding high mast lighting, with internal vibration damping devices in accordance with Standard Plans, Index 715-002 in all installations on bridges, walls, and median concrete barriers.

### **715-6 Materials and Equipment to be Installed.**

**715-6.1 General:** All welds must be visually inspected for final approval by an actively certified welding inspector, qualified through the American Welding Society. Meet the materials and equipment requirements of Section 992.

**715-6.2 Luminaires:** Use the make and model of the luminaire(s) shown in the Plans. Luminaires other than those shown in the Plans may be substituted if the Contractor proves photometric and electrical equivalence per the approval of the lighting EOR.

Use only luminaires listed on the Department's Approved Product List (APL).

**715-6.3 Criterion Designation of Materials and Equipment:** Where a criterion specification is designated for any material or equipment to be installed, by the name or catalog number of a specific manufacturer, understand that such designation is intended only for the purpose of establishing the style, quality, performance characteristics, etc., and is not intended to limit the acceptability of competitive products. The Engineer will consider products of other manufacturers which are approved as similar and equal as equally acceptable.

### **715-16 Tests of Installation.**

Upon completion of the work, test the installation to ensure that the installation is entirely free of ground faults, short circuits, and open circuits and that it is in satisfactory working condition. Furnish all labor, materials, and apparatus necessary for making the required tests. Remove and replace any defective material or workmanship discovered as a result of these tests at no expense to the Department, and make subsequent re-tests to the satisfaction of the Engineer.

Make all arrangements with the power supplier for power. Pay all costs, excluding energy charges, required for the test period.

Not less than 48 hours prior to the beginning of the test period, give the power supplier the schedule for such test.

Test the installation under normal operating conditions during the seven-day test period specified in 715-14, rather than as a continuous burn test period.

If the work is not open to traffic at the end of the seven-day test period, de-energize the lighting system until the work is opened.

### **715-17 Acceptance of Highway Lighting.**

**715-17.1 Partial Acceptance:** The Engineer may make partial acceptance of the highway lighting based on satisfactory performance of all highway lighting for seven consecutive days. The seven-day evaluation period may commence upon written authorization by the Engineer that highway lighting is considered ready for acceptance evaluation. Contract Time will be charged during the entire highway lighting evaluation period. Correct any defects in materials or workmanship which might appear during the evaluation period at no expense to the Department.

Provide a certification from the welding inspector identifying the project information, date of inspection, welding inspector name, and inspector certification number.

**715-17.2 Final Acceptance:** Upon acceptance of as-built drawings, transfer manufacturers' warranties to the Department upon final acceptance in accordance with 5-11. Submit all warranties and warranty transfers to the Engineer.

### **715-18 Method of Measurement.**

The quantities to be paid for will be as follows, completed and accepted:

1. Conduit: Payment will be made in accordance with Section 630.  
2. Luminaire and Truss Arm: The Contract unit price will include the truss arm, luminaire with lamp, and all necessary mounting hardware as indicated in the Plans and Standard Plans.

3. Service Point: Payment will be made in accordance with Section 639.  
4. Load Center: The Contract unit price will include the enclosure, panel boards, breakers, lightning arrestor, contactors, photo electric switch, grounding, and the concrete pad as shown in the Plans and Standard Plans.

5. Luminaire: The Contract unit price will include the luminaire with lamp and necessary mounting hardware as indicated in the Plans and Standard Plans.

6. Pull Box: Payment will be made in accordance with Section 635.

7. High Mast Lighting Pole Complete: The Contract unit price will include the pole, luminaires with lamps, lowering system, breakers and anchor bolts with lock nuts and washers, and foundation as indicated in the Plans and Standard Plans.

When partial foundation removal is called for, remove the pole and foundation to a minimum depth of four feet below existing grade.

When complete foundation removal is called for, completely remove the pole and foundation.

8. Conductor: The quantity to be paid for will be the plan quantity, in feet, completed and accepted. Measurement will be based on the horizontal distance between pull boxes, or between pull boxes and luminaire poles, plus 8 feet for each conductor entering and 8 feet for each conductor leaving the pull box and 8 feet for each conductor entering the luminaire pole.

9. Lighting Pole Complete: The Contract unit price will include the pole, internal vibration damping device, truss arm, luminaire with lamp, anchor bolts with lock nuts and washers, frangible base, and foundation.

10. Pole Cable Distribution System: The Contract unit price will include the surge protector, fuse holders with fuses, waterproof connectors, and the waterproof wiring connection to the luminaires.

**715-19 Basis of Payment.**

Prices and payments will be full compensation for all work specified in this Section, including all materials, equipment, and tests.

## SECTION 992 HIGHWAY LIGHTING MATERIALS

### 992-1 General.

**992-1.1 Pole Design Criteria:** The light poles and bracket arms shall be in accordance with the requirements of the AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, the FDOT Structures Manual and with the specific requirements contained in this Section.

**992-1.2 Luminaires, Driver, etc.:** All luminaires shall be one of the products listed in the Department's Approved Product List (APL). Manufacturers seeking evaluation of their product shall submit an application and sample luminaire in accordance with Section 6.

The light source for luminaires shall be either light emitting diodes (LED), magnetic induction or plasma induction.

The luminaire housing shall be constructed of precision cast aluminum with a corrosive resistant polyester powder coat finish. The standard color shall be gray. The housing shall have an electrical terminal block to attach the luminaire cable and a hinged door which provides direct access to internal parts. Hinged doors are not required for high mast luminaires and underdeck luminaires. All hardware on the exterior of the housing shall be stainless steel. The refractor and lens shall consist of glass or an optical grade polymer. The manufacturer shall place a permanent tag in the luminaire housing imprinted with: the manufacturer name, luminaire voltage, lamp wattage, and provide a blank area for the Contractor to inscribe the installation date.

Luminaires shall meet the following requirements: UL 1598 listed and labeled for installation in wet locations by an OSHA recognized "Nationally Recognized Testing Laboratory" (NRTL), be capable of maintaining 94.1% intensity at 10,000 hours with an ambient temperature of 25°C (IES LM-80) and have IESNA light distribution curves (IES LM-79) by an EPA recognized laboratory.

The driver shall be rated for 100,000 hours and have a power factor greater than or equal to 90% at full load with a total harmonic distortion less than or equal to 20% at full load. The fixture shall accommodate a circuit voltage of 480V.

Luminaires shall be provided with a minimum 10kV/10kA internal surge suppression module meeting UL 1449/ANSI C62.41.2 Category C.

The manufacturer shall submit a ten-year non-prorated full warranty on all components of the luminaire to the Department. The warranty shall begin on the date the luminaire is shipped from the vendor.

**992-1.3 Conductors:** All conductors shall be color-coded stranded copper meeting the requirements of NEMA WC 70. All conductors shall be tested and listed by a NRTL. Where specified in the Plans, aluminum conductors may be substituted for copper conductors.

Service and circuit conductors shall be single-conductor cable Type THWN-2 and shall not be smaller than No. 6 AWG unless specified elsewhere in FDOT publications.

Bonding ground conductor shall have a green jacket and shall not be smaller than No. 6 AWG.

**992-2.4 Luminaires:** Provide luminaires in accordance with the following requirements.

**992-2.4.1 Luminaires for Conventional Lighting:** Luminaires shall meet the following additional requirements:

1. For APL qualification, the luminaire must have correlated color temperature (CCT) options of 4000°K or less, meeting ANSI C78.377A. For project-specific usage, the light output must have a CCT as specified per the Plans.

2. The optical portion of the housing shall be sealed to provide an IP 66 rating.

The luminaire mounting assembly shall be a slipfitter type designed to accommodate a nominal 2 inch pipe size (2-3/8 inch O.D.) arm or a pole top mounting assembly designed to accommodate a 2-3/8 inch pole top tenon.

For APL qualification, the manufacturer must have a fixture with an IESNA light distribution curve (IES LM-79) by an EPA recognized laboratory, meeting a minimum pole spacing of 240 feet using the AGi32 lighting optimization tool with the following settings:

Table 992-1	
Setting	Requirement
Roadway Standard	IES RP-8-18
R-Table	R3 (Q0=0.07)
Roadway Layout	Two Rows Opposite, With Median, 2R OPP w/M
Roadway Width	40 feet
Median Width	22 feet
Number of Lanes in Direction of Travel	3
Driver's Side of Roadway	Right
Calculation Area	Bottom
Mounting Height	As per manufacturer's recommendation
Setback	12 feet
Tilt	0°
Optimization Criteria	Avg. Illuminance = 1.5 fc Avg./Min. Ratio = 4 Max./Min. Ratio= 10 Lv Max./L Avg. Ratio= 0.3
Arm Length	Pole top fixtures – as provided by the IES file Arm mounted fixtures – 12 feet

#### **992-2.4.2 Luminaires for Wildlife-Sensitive Conventional Lighting:**

Luminaires must meet the following additional requirements:

1. The light source for the luminaires must be true red, orange, or amber light-emitting diodes (LEDs) with no more than 1.75% of the spectral power distribution below 560 nm. Submit testing report.

2. The optics must have an IP 66 rating. Submit testing report.

3. The luminaire mounting assembly must be a slipfitter type designed to accommodate a nominal 2 inch pipe size (2-3/8 inch O.D.) arm or a pole top mounting assembly designed to accommodate a 2-3/8 inch pole top tenon.

4. Luminaires must have a IESNA light distribution curve (IES LM-79) designated by an EPA-recognized laboratory. Submit testing report.

5. Luminaires must meet a minimum pole spacing of 50 feet using the AGi32 lighting optimization tool in accordance with the settings shown in 992-2.4. Submit IES file.

**992-2.5 Luminaire Cable:** Pole and bracket cable shall be multi-conductor Type XHHW-2 XLP TC with three No. 10 AWG wires. The ground wire must have green-colored insulation.

**992-2.6 In Line Fuse Holders:** In line fuse holders shall provide a breakaway connection and be UL recognized per Guide IZLT2 and rated for 600V. The wire connections in the fuse holders shall be a copper or equivalent type setscrew. Fused connections shall utilize an ATQ or FNQ 10 amp time delay fuse rated for 500V. Fuses shall be UL listed to Standard 248-14. The rating for the fuse holders shall be water resistant or submersible rated.

**992-2.7 Surge Protection Devices for Circuit Protection at Poles:** The metal oxide varistor (MOV) based SPD shall be potted in a manner to be waterproof. UL listing is not required. SPD's per mode surge current rating shall be 20kA for 480V to ground and 20kA for neutral to ground. Maximum continuous operation voltage (MCOV) shall be not less than 550Vrms and not greater than 600Vrms. All wires and internal spacings shall be insulated for 600Vrms.

**992-2.8 Pole Cable Distribution System:**

**992-2.8.1 General:** These requirements are applicable for all systems rated up to and including 600V. The installed system shall be in compliance with Standard Plans, Index 715-001.

Systems installed as alternates to the Standard Plans shall be one of the products listed on the APL. Manufacturers seeking evaluation of their product shall submit an application in accordance with Section 6.

Alternate Systems shall meet the following requirements:

A modular color coded cable system consisting of rubber cords with integrally molded watertight submersible connectors, inline fuses, submersible surge arrestor and breakaway connectors shall be installed. The cables shall extend from an underground pull box near the base of the pole to the luminaires at the top of the pole. A cable system shall be required at each pole.

The cable system shall consist of the following described components:

1. Distribution Block: The red molded body shall contain a three wire female outlet integrally molded to a 24 inch length of 10/3 SOOW cable with an end molded to the body and the other end shall be spliced in the field to the distribution cable that feeds through the underground pull box near the base of the pole. The block shall be watertight and submersible when the integrally fused plug on the power cable is engaged and fully seated. Dimensions shall be approximately 2 inches by 3 inches by 3 inches. The size is important because of limited space.

2. Surge Arrestor Cable: Provide a 12 inch length of 10/2 SOOW cable with a red male plug to match the red female connector cable extending from the fused plug on the power cable. The other end of the surge arrestor cable shall be integrally molded to a MOV waterproof surge arrestor. The red male plug shall make a submersible connection when mated to the red female connector on the power cable. A separate 12 inch length of No. 10 THWN green ground wire shall be provided from the surge arrestor to attach to the ground system in the pull box.



3. Power Cable: This cable feeds the luminaire cable and the surge arrester cable from the load side of its integrally fused red male plug end. The red fused plug shall contain 10A 500V fuses (13/32 inch by 1-1/2 inch) or equal. The fuse holder manufacturer's suggested slug (blank or dummy fuse) must be installed on the neutral side for line to neutral service. Both lines shall be fused for line to line service. The section that feeds the luminaire cable shall be a 10 foot section of 10/3 SOOW cable with an orange female connector molded to the end extending up into the base of the pole. This female connector shall pass easily through a standard size 1-1/4 inch PVC elbow and make a submersible connection when mated with the orange male plug on the luminaire cable. The section that feeds the surge arrester cable shall be 12 inches in length of 10/2 SOOW cable with a red female connector on the end. The red female connector shall make a submersible connection when mated to the red male plug on the surge arrester cable.

4. Luminaire Cable: This cable is Type XHHW-2 XLP-TC with three No. 10 AWG an orange male molded plug molded to match the orange female end of the power cable. The connector shall require 25 pounds of force to mate or disengage from the female end. When engaged the connection shall be watertight and submersible. The cable strain relief shall extend approximately 2 inches from the connector.

The distribution block and each connector shall be made of thermosetting synthetic polymer which is non-flame supporting and which remains flexible over a temperature range of minus 40°F to plus 190°F. Hardness of the molded rubber shall be 65 durometer.

**992-2.8.2 Testing and Performance Criteria:** The system shall pass the following performance criteria in accordance with NEC 110.2.

1. Dielectric Test: No breakdown shall occur with a test potential of 1,960V applied between the primary conductors (tied together) and the protective ground for a period of one-minute.

2. Leakage Current Test: Leakage current shall be measured on the mated connectors between the primary conductors and the protective ground conductor. When tested at the rated operating voltage, the leakage current shall not exceed 0.5 mA. The mated connectors shall then be wrapped in aluminum foil and the leakage current measured between the primary conductors and the foil wrap. When tested at the rated operation voltage the leakage current shall not exceed 0.5 mA.

3. Flame Retardant Test: Flammability tests shall be conducted on the cable, the molded body of the connectors, and the molded protective caps. These materials shall be subjected to five flame application, on for 15 seconds and off for 15 seconds. The materials shall self-extinguish within one minute upon removal of the flame and not burn through.

4. Internal Temperature Test: The internal temperature rise of the contact area of the mated connectors shall not exceed a temperature rise of 54°F referenced to 73°F ambient temperature when operated at the maximum current rating.

5. External Temperature Test: The external temperature rise of the mated connectors and the cable shall not be greater than 54°F referenced to 73°F ambient temperature when operated at the maximum current rating.

6. Fault Test: The mated connectors shall be fault tested by applying a test current of 1,000A, 60 Hz for a minimum of 3 cycles (50 ms). The mated connectors shall then satisfactorily pass the dielectric test.

7. Drop Test: The connectors shall not break, crack or suffer other damage when subjected to eight consecutive drop tests from 3 feet above the concrete floor with the connectors having been rotated 45 degrees between each drop.

8. Crushing Test: No breakage or deformation shall result when the mated and unmated connectors are subjected to a crushing force of 500 pounds for one minute. Following the crush test, the dielectric test shall be satisfactorily passed.

9. Impact Test: No breakage or deformation shall result when the connectors are subjected to an impact caused by dropping a cylindrical 10 pound weight having a flat face 2 inches in diameter from a height of 18 inches.

10. Flex Test: No detachment or loosening shall result when each connector is subjected to a 5,000 cycle flex test at the cable/bond area back and forth in a plane through an angle of 180 degrees. Following the flex test the dielectric test shall be satisfactorily passed.

11. No Load Endurance Test: No excessive wear shall result when the male and female connectors and protective cap and female connector were subjected to 2,000 cycles of complete insertion and withdrawal.

12. Rain Test: The mated and capped connectors shall be subjected to a continuous water spray (simulating worst case outdoor rain down pour) for at least one hour at a rate of at least 18 inches per hour at an operating pressure of 5 psi. The dielectric and leakage current tests shall be satisfactorily passed. The connectors shall be unmated and caps removed. Inspection shall indicate that water had been successfully prevented from reaching the contact areas of the connectors.

13. Watertight (Immersion) Test: The mated and capped connectors shall be immersed in water for one hour in which the highest point of the test samples in as least 3 feet below the water level. Immediately following the immersion, a satisfactory dielectric and leakage current tests shall be performed. The connectors shall be unmated and caps removed. Inspection shall indicate that water had been successfully prevented from reaching the contact areas of the connectors.

14. Exposure to Deteriorating Liquids: The cable and connectors shall be dried at 212°F for one hour. The samples shall then be immersed in ASTM Reference Oil No. 1 and ASTM Reference Fuel C liquids for one hour. The samples shall show no evidence of bubbling, cracking or corrosion. Within one hour after being removed from the fluids, the test samples shall satisfactorily pass the flammability test.

#### 992-3 High Mast Lighting.

**992-3.1 Poles:** Poles for high mast lighting shall be galvanized steel unless otherwise shown in the Plans. Steel high mast poles shall be continuous-tapered, round or minimum of 12 sided poles and meet the requirements of the Standard Plans.

Each pole shall include a galvanized steel winch plate of sufficient size to mount the winch, portable drive unit mounting tube, circuit breaker panel and surge arrestor.

**992-3.2 Luminaires:** The luminaires shall meet the following requirements:

1. A correlated color temperature (CCT) of 3000°K meeting ANSI C78.377A (3045°K, plus or minus 175°K).

2. The optical portion of the housing shall be sealed to provide an IP 66 rating.

The luminaire mounting assembly shall be a slip fitter type designed to accommodate a nominal 2 inch pipe size (2-3/8 inch O.D.) connection. For qualification, the manufacturer must have a fixture with a Type V IESNA light distribution curve (IES LM-79) by

an EPA recognized laboratory, capable of providing photometrics similar to a 1000 W HPS fixture when mounted on 80 to 120 foot poles.

**992-3.3 Surge Protective Devices for Surge Protection at Poles:** Surge protective devices (SPD) shall be Type 1 or Type 2. UL or NRTL listed to UL 1449 Third Edition. Surge current rating on a per phase basis shall be equal or exceed 50kA. I-nominal rating shall be 10kA or 20kA. Modes of protection shall include L-G and N-G having UL 1449-3 Voltage Protection Ratings (VPR's) of 2000V or lower.