MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-267
Item to be Scouted	LED Vehicle Traffic Signals
Days to be scouted	30
Response Due By	09/13/2025
Description	Vehicular Traffic Signal Assemblies must meet the requirements of the MUTCD for 12-inch signal head assemblies, and the Institute of Transportation Engineers (ITE) Standard for Vehicle Traffic Control Signal Heads.

Section 2: Technical Information

Type of supplier being sought	Manufacturer
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Product must meet FDOT Standard Specification requirements; see attached file. Construct the assembly of materials and alloys specified in the ITE Standard for Vehicle Traffic Control Signal Heads.
Provide dimensions / size / tolerances / performance specifications for the item	12" traffic signal heads and assemblies. Signal heads must be furnished with LED modules, backplates, and visors. See attached file for additional information.
List required materials needed to make the product, including materials of product components	Fastening hardware such as bolts, screws, nuts, washers, latches, and studs must be SAE Type 316 or 304 stainless steel. See attached file for additional information.
Are there applicable certification requirements?	Yes
Details	MUTCD (FHWA Manual for Uniform Traffic Control Devices), and the ITE Standard for Vehicle Traffic Control Signal Heads
Are there applicable regulations?	Yes
Details	Product needs to be compliant with Federal BABA rules.
Are there any other stndards, requirements, etc.?	Yes
Details	FDOT (Florida Department of Transportation) Standard Specifications, Section 650 and 995-4. See attached file for additional information.
Additional Technical Comments	None

Section 4: Business Information

Estimated potential business volume	2000 per year
Estimated target price / unit cost information (if unavailable explain)	Approximately $1,000 per each traffic signal head assembly (3-5 section, 1 way)
When is it needed by?	5 months
Describe packaging requirements	No packaging requirements.
Where will this item be shipped?	Florida

Additional Comments

Is there other information you would like to include?	State of Florida/Florida Department of Transportation/State Materials Office-Product Evaluation 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

SECTION 650
VEHICULAR TRAFFIC SIGNAL ASSEMBLIES

650-1 Description.

Furnish and install vehicular traffic signal assemblies as shown in the Plans and Standard Plans. For additional requirements related to mounting and attaching the assemblies, see Section 659.

650-2 Materials.

Meet the following requirements:

Vehicular Traffic Signal Assemblies* 995-4

*Use products on the Department's Approved Product List (APL).

Vehicular traffic signal assemblies must meet the physical and operational requirements of the MUTCD.

Provide vehicular traffic signal assemblies as a complete and functioning unit. Components include, but are not limited to, signal housing, light emitting diode (LED) signal modules, visors, backplates, and assembly hardware.

All sections of multi-section assemblies must be from the same manufacturer.

650-3 Installation.

650-3.1 Preassembly: Pre-assemble the signal heads when more than one signal section is required prior to installation at the site. Furnish signal heads with LED modules, backplates, and visors. Use tunnel visors unless otherwise specified in the Contract Documents. Install the LED circular module in the door so that the UP arrow or the word UP or TOP is in the up orientation of the signal housing. Install the LED arrow modules in the signal housing door in the direction of the intended use.

650-3.2 Positioning of Signals: Consider the locations of the installed signals as shown in the Plans as sufficiently flexible as to allow for unanticipated field conditions at the site. The Engineer will direct any variations from the locations shown. Position adjacent signal faces no closer than 8 feet apart measured horizontally at 90 degrees to the traffic flow between centers of faces.

Regardless of the results of any scaled dimensions, consider the location shown in the Plans to be approximate. Position a signal face mounted on a span wire or mast arm as near as practical to the line of the driver's normal view.

Ensure that all sections are of the same manufacturer and the section assemblies are uniform in appearance and alignment.

650-3.3 Clearances: Unless directed otherwise by the Engineer for unusual circumstances at the site, provide a vertical clearance of not less than 17 feet-6 inches and not more than 19 feet for traffic signals placed over the roadway. Measure such clearance for each span directly under the most critical signal assembly (in regards to clearance) for that span. Place signal assemblies on each span as near as practical to the same elevation as the critical signal assembly.

Ensure that the lowest point on pedestal-mounted and side-mounted signal heads is 12 feet above finished grade at the point of their installation.

650-3.4 Aiming of Signal Indication: For proper lateral orientation, aim signals after installing and before locking them in position.

650-3.5 Wiring Connections: Do not splice signal cable. Connect the proper signal cable to the terminals in each signal head in order to provide the proper signal indication display when the cables are connected to the signal controller. Wire a separate neutral circuit and return it to the controller cabinet from each vehicular movement as shown in the Contract Documents.

650-3.6 Special Installation Requirements for Optically Programmed Signals: Install, direct (aim), and conceal optically programmed signals in strict accordance with the instructions of the manufacturer, using the materials furnished by the signal manufacturer, and with the direction of the Engineer.

Position the signals for maximum performance in accordance with the requirements shown in the Plans, and install them with rigid mounting assemblies, using elbows and plumbizers of such type as will provide for stability of the position of the signals. Do not use clevises in the supporting attachments.

Seal the cable routing to the signals to provide permanent water tightness.

650-3.7 Vertically Mounted Plastic Signal Head Assemblies: The top section of all multi-section (5-section, 3-section), vertically mounted, plastic signal assemblies must be constructed of die cast aluminum, unless the entire 3 (or more)-section plastic signal assembly is specifically approved and listed on the APL as a 12 inch plastic 3 (or more)-section vehicle assembly.

Single section signals may be constructed of die cast aluminum or plastic.

650-3.8 Backplates: Install backplates on all signal head assemblies.

650-3.9 Sealing Installed Signal Head Assembly: Ensure that the installed signal head assembly is sealed to exclude dust and moisture. Drill two, 1/4 inch drain holes in the bottom of the installed signal head assembly.

650-3.10 Concealing Signals Not in Use: Where traffic signals are installed and not put into service immediately, or placed out-of-service temporarily, conceal the signal head assembly by securely placing burlap bags or other covering approved by the Engineer over a weather resistant covering of non-transparent material open at the bottom to prevent condensation buildup.

650-3.11 Installation Sequence: Install all traffic signal assemblies at any intersection as a single operation unless a staged operation is approved by the Engineer.

650-3.12 Emergency Signal Heads: For new emergency fire stations signals, install 12 inch signal heads for all three indications. For existing 8 inch emergency fire station signals, retrofit with 8 inch LED modules. The 8 inch LED optical unit must conform to the requirements of the ITE's Performance Specification, Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Circular Signal Supplement, dated June 27, 2005.

650-3.13 Transit Signal Heads: Use two 12 inch signals for transit signal priority at signalized intersections with bus queue jumper lanes.

650-4 Warranty.

Ensure that the signal housings, backplates, and any other signal assembly components have a manufacturer's warranty covering defects for a minimum of 3 years from the date of final acceptance. Ensure the warranty includes providing replacements, within 30 calendar days of notification, for defective parts and equipment during the warranty period at no cost to the Department or the maintaining agency.

Ensure that the LED signal modules have a manufacturer's warranty covering defects for a minimum of 5 years from the date of final acceptance. Ensure that the warranty includes providing replacements, within 30 calendar days of notification, for any defective parts and

equipment (including falling below minimum intensity levels) during the warranty period at no cost to the Department or the maintaining agency.

650-5 Method of Measurement.

The Contract unit price per assembly for vehicular traffic signal, furnished and installed, will consist of the traffic signal and all components necessary to make a complete unit, including mounting assemblies, backplates, visors, LED modules, labor, and materials necessary for a complete and accepted installation.

Separate payment for backplates will only be made for retrofitting existing signal heads, when called for in the Contract Documents.

650-6 Basis of Payment.

Price and payment will be full compensation for all work specified in this Section.

Payment will be made under:

Item No. 650-	1-	Vehicular Traffic Signal - per assembly.
Item No. 650-	2-	Vehicular Signal Auxiliaries - per each.

SECTION 995
TRAFFIC CONTROL SIGNAL AND DEVICE MATERIALS

995-1 Description.

995-1.1 General: This Section governs the requirements for all permanent traffic control signals and devices. All equipment shall be permanently marked with manufacturer name or trademark, part number, and date of manufacture or serial number.

995-1.2 Product Acceptance: All specified products shall be items listed on the Department's Approved Product List (APL), unless otherwise noted below. Manufacturers seeking evaluation of products for inclusion on the APL shall submit an application in accordance with Section 6 and include the following documentation. A separate application must be submitted for each product to be evaluated, showing that the product meets the applicable requirements.

Table 995-1

Documentation	Requirements
Assembly and Installation Instructions	Include any surface preparations, assembly/installation instructions, operation manual, troubleshooting guides, and repair procedures.
Independent Laboratory Test Results	Product meets requirements of this Section.
Product Label Photo	Labeling shows the manufacturer's name, trademark, and product model number/name. Label shows the date of manufacture and/or the manufacturer's batch number. Additional label requirements, as listed within this Section.
Product Photo	Displays the significant features of the product as required in this section.
Compliance Matrix	Include completed compliance matrix at https://www.fdot.gov/traffic/traf-sys/product-specifications.shtm
Manufacturer's Product Specifications	Include product specifications showing electrical requirements, voltages, etc.
Product Drawings or Cut Sheet	Show mounting points, mechanical details, block diagrams, schematics, etc.
Parts List	List major parts and field serviceable components.

995-1.3 Abbreviations: The following abbreviations are used in this Section:

Acrylonitrile Butadiene Styrene (ABS)
Alternating Current (AC)
Direct Current (DC)
Global Positioning System (GPS)
Hypertext Transfer Protocol (HTTP)
Institute of Transportation Engineers (ITE)
Internet Protocol (IP)
Local Area Network (LAN)

Network Time Protocol (NTP)
Telecommunications Industry Association (TIA)
Uniform Code Flash (UCF)
Uniform Resource Locator (URL)
Ultraviolet (UV)

995-4 Vehicular Traffic Signal Assemblies.

995-4.1 General: Vehicular traffic signal assemblies must meet the requirements of Section 603, the MUTCD, and the ITE Standard for Vehicle Traffic Control Signal Heads.

Fastening hardware such as bolts, screws, nuts, washers, latches, and studs must be SAE Type 316 or 304 stainless steel.

Horizontal signal assemblies must be constructed so the door hinges, when installed, are located on the bottom of the signal assembly. Vertical mounted five-section cluster assemblies must be constructed so that the door hinges, when installed, are located along the outside edges of the complete assembly and each section opens away from the horizontally adjacent section.

995-4.2 Twelve Inch Signal Head Assemblies: Construct the assembly of materials and alloys specified in the ITE Standard for Vehicle Traffic Control Signal Heads.

Construct signal housings to allow adjustment in multiple directions for proper signal alignment. If a serrated connection is used for positioning and alignment of the signal, the top and bottom opening of each signal head section must include a circular 72-tooth serrated connection (2-inch nominal I.D.) capable of providing positive positioning and alignment in 5-degree increments. When assembled and tightened, these connections must prevent rotation or misalignment of the signal head as well as misalignment between sections. The serrated area must start at the outside of the 2-inch hole and be at least 1/8 inch wide. The teeth must have a minimum depth of 3/64 inch between peaks and valleys, be free from burrs or other imperfections, and provide positive locking with the grooves of mating sections, framework, and brackets. The serration on the top circular connection of a signal section must have a valley at the 0-degree position and the serration on the bottom circular connection must have a peak at the 0-degree position, both aligned perpendicular to the front of the section. Connections must permit the assembly of a multi-section signal with the front of each section aligned within 1 degree.

Provide at least two latching points with latch pads and manual Type 316 or 304 stainless steel latching devices that are tamper resistant.

If backplates are mechanically attached, each signal section must have four backplate mounting attachment points on the back of the signal, on or no more than three inches from each section corner. Attachment points must be capable of accepting No. 10-16x3/8 inch or No. 10-24x3/8 inch Type 316 or 304 stainless steel screws for attaching backplates.

Tri-stud washers, when utilized to secure signal sections, must have a minimum thickness of 0.090 inch. For five-section cluster assemblies, tri-stud washers used to attach the top signal section to the multi-signal bracket and the multi-signal bracket to the bottom four signal sections must have a minimum thickness of 3/8 inch. When fastened together, washer distortion is not allowed.

Design each signal section to prevent the accumulation of standing water within the assembly. All sections comprising a single multi-section assembly must be securely fastened together to form a rigid and weather-proof unit.

995-4.2.1 Doors: Construct each signal section with at least two hinges for mounting a door. Hinge pins must be captive. Doors must remain captive and secure at all times

and be capable of either left or right swing. The door latch must hold the door tightly closed. The door must include slotted pads that allow the door to be opened and closed by engaging or disengaging the latching device. The outside face of the door must include four holes equally spaced around the circumference of the lens opening for the attachment of a visor. The lens opening in the door must have a diameter of 11 to 11-1/2 inches.

995-4.2.2 Visors: The rear of the visor must have four tabs, notches, or holes for securing the visor to the signal housing door. The visor mounting method must permit the visor to be rotated and secured at 90 degrees for horizontal signal head installations. All visors must have a minimum length of 9-1/2 inches, and a minimum downward tilt of 3.5 degrees measured from the center of the lens. Tunnel visors must encircle and shield the lens from 300 degrees, plus or minus 10 degrees. Louvers may only be used in combination with full circle visors. Light must not escape between the visor and the door.

995-4.2.3 Gaskets: Gaskets must be constructed of weather-resistant material and be glued or sealed where they meet to provide one continuous length of gasket capable of providing a weatherproof seal for the signal assembly. Provide seals between the housing and door, between the lens and the door, and between any other mating surfaces where dust and moisture could enter. Gasket material must meet NEMA 250 and be constructed of temperature stabilized material that prevents any residue from collecting on the internal surfaces of the signal head.

995-4.2.4 Terminal Blocks: Provide at least one five-connection terminal block in all three or more section signal head assemblies and at least three five-connection terminal blocks in all five section signal head assemblies. Terminal block connections in the signal assembly must not require any tools other than a screwdriver.

Mount terminal blocks to the signal housing with Type 316 or 304 passivated stainless steel hardware. Use only non-corrosive wire attachment screws approved by the Department.

995-4.2.5 Color and Finish: The housing, doors, visors and backplates must be powder coated dull black (Federal Standard 595-37038) with a reflectance value not exceeding 25 percent as measured by ASTM E1347. For plastic heads, the black color must be incorporated into the plastic material before molding.

The finish on interior and exterior surfaces of aluminum signal head assemblies, visors, doors, and housing, must be painted in accordance with Military Standard MIL-PRF-24712A or American Architectural Manufacturers Association (AAMA) -2603-02 and must meet the requirements of ASTM D3359, ASTM D3363, and ASTM D522. Surface erosion, flaking, or oxidation must not occur within the normal life expectancy under typical installation conditions.

995-4.2.6 Plastic Signal Housings and Visors: Construct signal housing assembly, door, and visors of UV stabilized plastic with a minimum thickness of 0.1 inch, plus or minus, 0.01 inch, with the following physical properties:

Table 995-4 Plastic Signal Housings and Visors		
Test	Minimum Requirement	Method
Specific Gravity	1.17	ASTM D792
Vicat Softening Temp.	305-325°F (152 – 163°C)	ASTM D1525
Brittleness Temp.	Below -200°F (-129°C)	ASTM D746
Flammability	Self-extinguishing	ASTM D635
Tensile Strength	Yield, 8500 psi (58 MPa)	ASTM D638
Elongation at yield	5.5 - 8.5%	ASTM D638
Shear Strength	Yield, 5500 psi (38 MPa)	ASTM D732
Izod impact strength	15ft-lb/in (800 J/m)	ASTM D256
Fatigue strength	950 psi (6.5MPa) at 2.5 mm cycles	ASTM D671
Fatigue strength	950 psi (6.5MPa) at 2.5 mm cycles	ASTM D671

995-4.2.7 Backplates: Backplates may be constructed of either aluminum or plastic. Minimum thickness for aluminum backplates is 0.060 inch and the minimum thickness for plastic backplates is 0.120 inch. Backplate thickness measurement must not include the retroreflective sheeting thickness. The width of the top, bottom, and sides of backplates must measure between five to six inches. Color of backplates must be black in accordance with 995-4.2.5.

If backplates are mechanically attached, provide a minimum of four corner mounting attachment points per signal section (for example, a three-section signal assembly would have 12 mounting points). Attachment points must not interfere with the operation of traffic signal section doors. Backplate outside corners must be rounded and all edges must be de-burred.

If louvers are provided, louver orientation must be vertical on sides and horizontal on top and bottom of the backplate and must be at least 1/2 inch from the inner and outer edge of the backplate panel. Universal backplates must fit all traffic signals listed on the APL.

Mount the backplate securely to the signal assembly with Type 316 or 304 passivated stainless steel installation hardware. Backplates, if mechanically attached, must be marked in accordance with 995-1, on the long sides of the backplate.

Backplates must include retroreflective borders using Type IV yellow retroreflective sheeting listed on the APL. Place a 2-inch border on the entire outer perimeter of the backplate panel, no closer than 1/2 inch from any louvers.

All materials must be designed for exterior use and be UV stable.

995-4.2.7.1 Flexible Backplates: Flexible backplates must allow the entire length of longer portions of the backplate width to be reduced to 2.5 inches or less, when influenced by high wind conditions, and return to a flat state after the wind conditions subside. Flexible backplates must maintain visibility of the retroreflective border to approaching traffic, with up to 40 mph winds.

995-4.2.8 Light-Emitting Diode Optical Unit: The LED optical unit must conform to the requirements of ITE's Performance Specification, Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Circular Signal Supplement, dated June 27, 2005 or Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement, dated July 1, 2007, with the following exceptions.

1. Retrofit LED signal modules must be compatible with all traffic signal housings listed on the APL. The rear of the LED signal module must be marked in accordance with 995-4.1.

2. The lens must be tinted with an appropriate color (red, amber, or green) to reduce sun phantom affect and enhance on/off contrast. The tinting must be uniform across the face of the lens and be free from streaks, wrinkles, chips, bubbles, or other imperfections. If a polymer lens is used, a surface coating must be incorporated to provide abrasion resistance.

3. Red and green modules must meet the requirements of ITE's Performance Specification, Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Circular Signal Supplement, dated June 27, 2005, with the exception that yellow modules must be 1.7 times brighter than the ITE specification. Arrow modules must meet the requirements of ITE's Performance Specification, Vehicle Traffic Control Signal Heads - Light Emitting Diode (LED) Vehicle Arrow Traffic Signal Supplement, dated July 1, 2007.

4. Light rail transit signals shall conform to the requirements of the ITE's Performance Specification, Vehicle Traffic Control Signal Heads-Light Emitting Diode (LED) Circular Signal Supplement, dated June 27, 2005, regarding environmental requirements, transient protection, operating voltage range, and electronic noise. The indication (bar symbol) must measure 1-1/2 inches wide by 9 inches long. The indication must be capable of being displayed in any angle of orientation from horizontal to vertical.

995-4.2.9 Electrical: Electrical conductors for LED signal modules must be a minimum of 36 inches in length. Each lead from the LED module must be terminated with insulated slide-on terminals. The conductors must be color coded to identify the color of the module as follows:

1. White must identify the neutral lead.

2. Red circular signals must be identified with a red lead, yellow circular signals with a yellow lead, and green circular signals with a green lead.

3. Red arrows must be identified with a red and black tracer lead, yellow arrows with a yellow and black tracer lead, and green arrows with a green and black tracer lead.