

BID FORM

**MISSOURI DEPARTMENT OF TRANSPORTATION
GENERAL SERVICES
P.O. BOX 270
JEFFERSON CITY, MO 65102**

REQUEST NO.	2-160726RW
DATE	July 13, 2016

SEALED BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL BE RECEIVED AT THIS OFFICE UNTIL

2:00 p.m., Central Time, July 26, 2016

AND THEN PUBLICLY OPENED AND READ FOR FURNISHING THE FOLLOWING SUPPLIES OR SERVICES.

BIDS TO BE BASED F.O.B. MISSOURI DEPARTMENT OF TRANSPORTATION

Submit net bid as cash discount stipulations will not be considered
Various MoDOT Locations

BUYER: Robin Warren
BUYER EMAIL:
Robin.Warren@modot.mo.gov

BUYER TELEPHONE: 573- 526-7929

SUPPLIES OR SERVICES

Changeable Message Signs (CMS)

To establish a contract to furnish **Changeable Message Signs (CMS)** with an effective date of award and ending October 31, 2017 in accordance with the following pages.

Return sealed bid to the address shown at the top of this page.

(SEE ATTACHED FOR CONDITIONS AND INSTRUCTIONS)

In compliance with the above Request For Bid, and subject to all conditions thereof, the undersigned bidder agrees to furnish and deliver any or all the items on which prices were bid within the timeframe specified herein, after receipt of formal purchase order.

Date: _____
Telephone No.: _____
Fax No.: _____
Email Address: _____

Firm Name: _____
Address: _____
By (Signature): _____
Type/Print Name _____

Is your firm MBE certified? ☐ Yes ☐ No

Title:
Is your firm WBE certified? ☐ Yes ☐ No

1. INTRODUCTION AND GENERAL INFORMATION

1.1 Introduction:

- 1.1.1 This Request for Bid seeks bids from qualified organizations to provide Trailer and Truck Mounted Solar Changeable Message Signs, with an effective contract period of date of award through October 31, 2017, to the Missouri Highways and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT). Each bid must be returned in a sealed envelope to no later than 2:00 p.m., Local Time, July 26, 2016.

RFB Coordinator:

Robin Warren
Sr. General Services Specialist

Phone: 573-526-7929

2. SCOPE OF WORK

2.1 General Requirements:

- 2.1.1 The Bidder shall provide Trailer and Truck Mounted Solar Changeable Message Signs (hereinafter referred to as “CMS”) for the Missouri Highway and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT), hereinafter referred to as the “MoDOT”, in accordance with the provisions and requirements stated herein.
- 2.1.2 The Bidder shall provide all deliverables to the sole satisfaction of MoDOT.
- 2.1.3 No estimated quantities are given as part of this bid. MoDOT does not guarantee any specific quantities that may be required to be provided by the Bidder. Purchases will be made on an as needed basis.
- 2.1.4 MoDOT reserves the right to obtain “like or similar” products as specified herein from other manufacturers, exclusive of the contract, when use of such products is deemed in the best interest of MoDOT.
- 2.1.5 Unless otherwise specified herein, the Bidder shall furnish all material, labor, facilities, equipment, and supplies necessary to provide the CMS required herein.

2.2 Specific Requirements:

- 2.2.1 The Bidder shall provide CMS in accordance with the attached specifications: MGS 06-04H & MGS 06-07B and any other provisions outlined in this document.
- 2.2.2 The Bidder shall provide MoDOT with 2 Operator's Manuals in hard copy, 4 Parts Books (2 hardcover books and 2 CD's), and 2 Technical Service Manuals for each CMS.
- 2.2.3 The Bidder shall provide a contact name, along with the contact name's physical address and an 800 number. The contact person must be accessible for MoDOT representatives to contact twenty-four (24) hours per day, and seven (7) days per week for technical assistance.

2.3 Training Requirements:

- 2.3.1 The Bidder shall provide training for all specialty equipment and equipment specified herein. At a minimum, training shall consist of the following:
 - a. A qualified service technician shall conduct training at each district where items are delivered, or at an off-site location at the Bidder's expense.
 - 1) The Bidder shall provide training to the MoDOT operators of the equipment. The Bidder's training must cover safe operation, warranty coverage, and routine/preventative maintenance.
 - 2) The Bidder shall provide training within one (1) month after delivery and acceptance.
 - 3) The Bidder shall provide all training materials at no additional cost to MoDOT.
 - 4) The Bidder shall contact each applicable district to schedule the training classes.
 - 5) If requested by MoDOT, the Bidder shall provide repeat training classes at the location the training initially occurred. Such repeat training classes shall be provided by the Bidder at no additional cost to MoDOT.

2.4 Delivery Requirements:

- 2.4.1 The Bidder shall deliver CMS as specified herein to various locations throughout the district. *See attached District Map.*

- 2.4.2 The Bidder shall insure CMS are delivered complete and ready for use.
- 2.4.3 The Bidder shall deliver CMS at the specified location within 45 to 60 calendar days after receipt of order.
- 2.4.4 The Bidder shall deliver CMS during normal working hours (7:30 a.m. - 4:00 p.m. Monday through Friday). The Bidder shall provide MoDOT with at least twenty-four (24) hours advance notice prior to arrival at the delivery point.

2.5 Liquidated Damage Requirements:

- 2.5.1 The Bidder shall agree and understand that providing CMS in accordance with the requirements stated herein is considered critical to the efficient operations of MoDOT. However, since the amount of actual damages would be difficult to establish in the event the Bidder fails to comply with the contractual requirements, the Bidder shall agree and understand that the amount identified below as liquidated damages shall be reasonable and fair under the circumstances.
 - a. In the event the Bidder fails to provide CMS in accordance with the contractual requirements specified herein, the contractor shall be assessed liquidated damages in the amount of \$100.00 per day, per complete order for each such delinquent day, not to exceed 20% of the total purchase order amount.
 - b. The Bidder shall further agree and understand that such liquidated damages shall either be deducted from the total amount due the contractor or paid by the contractor as a direct payment to MoDOT, at the sole discretion of MoDOT.
 - c. The Bidder shall understand that the liquidated damages described herein shall not be construed as a penalty.
 - d. The Bidder shall agree and understand that all assessments of liquidated damages shall be within the discretion of each District as a separate entity, and shall be in addition to, not in lieu of, the rights of the State of Missouri to pursue other appropriate remedies. The Bidder shall understand and agree that each District's decision shall be individual, final, and without recourse.
 - e. The Bidder shall agree and understand that if a product(s) is rejected due to not meeting specifications, all costs associated with returning the product to the contractor shall be paid by the Bidder.

2.6 Invoicing and Payment Requirements:

- 2.6.1 An itemized invoice shall be submitted to the applicable requesting address upon completion of delivery.
- 2.6.2 The Bidder's invoice should be itemized in accordance with items listed on the purchase order and/or contract. The statewide financial management system has been designed to capture certain receipt and payment information. Therefore, each invoice submitted must reference the purchase order number and must be itemized in accordance with items listed on the purchase order. Failure to comply with this requirement may delay processing of invoices for payment.
- 2.6.3 The Bidder shall be paid in accordance with the firm, fixed prices stated on the pricing page(s) of this document after completion of delivery and acceptance by MoDOT.
- 2.6.4 Other than the payment specified above, no other payments or reimbursements shall be made to the Bidder for any reason whatsoever.
- 2.6.5 MoDOT is exempt from paying Missouri Sales Tax, Missouri Use Tax and Federal Excise Tax.
- 2.6.6 Unless otherwise provided for in the solicitation documents, payment for all equipment, supplies, and/or services required herein shall be made in arrears. MoDOT shall not make any advance deposits.

2.6.7 MoDOT assumes no obligation for equipment, supplies, and/or services shipped or provided in excess of the quantity ordered. Any unauthorized quantity is subject to MoDOT's rejection and shall be returned at the Bidder's expense.

2.6.8 MoDOT reserves the right to purchase goods and services using the state-purchasing card.

2.7 Other Contractual Requirements:

2.7.1 Contract Period - The contract shall commence from the Notice of Award until October 31, 2017 with three (3) one-year renewal option periods. If the option for renewal is exercised by MoDOT, the Bidder shall agree to all terms and conditions of the RFB and all subsequent amendments. Renewal options are at the sole discretion of MoDOT.

2.7.2 Renewal Periods - If the option for renewal is exercised by MoDOT, the Bidder shall agree that the prices for the renewal period shall not exceed the maximum percentage for the applicable renewal period stated herein.

- a. If renewal percentages are not provided, the prices during renewal periods shall be the same as during the current contract period.
- b. MoDOT does not automatically exercise its option for renewal based upon the maximum percentage and reserves the right to offer or to request renewal of the contract at a price less than the maximum percentage stated.
- c. In the event MoDOT exercises its option(s) to renew the contract, the requirements for future years shall be basically similar.

2.7.3 Escalation Clause - In the event the Bidder requests a price increase during the contract period (original contract period or contract renewal period), the Bidder must provide a written request and documentation justifying the need for a price increase, and the amount of such price increase. MoDOT will review the Bidder's written request and documentation, and decide if a price increase is to be granted at that particular time. The Bidder shall understand and agree that MoDOT's decision shall be final and without recourse.

- a. No price increase shall be granted during the first six (6) months of the original contract period, or if applicable, first six (6) months of a contract renewal.
- b. In the event a price increase is granted due to an approved escalation, the renewal percentage shall be calculated against the current contract price.

2.7.4 Inspection Specifications - MoDOT reserves the right to inspect the material at the point of manufacture, intermediate storage point, or at a destination which shall be at the discretion of MoDOT.

- a. No equipment, supplies, and/or services received by MoDOT pursuant to a contract shall be deemed accepted until MoDOT has had reasonable opportunity to inspect said equipment, supplies, and/or services.

3. BID SUBMISSION

3.1 Bid Submission Information:

- 3.1.1 All bids must be received in a sealed envelope clearly marked “**CMS Bid 2-160726RW**”.
- 3.1.2 All bids must be received at the following address no later than July 26, 2016 at 2:00 p.m., Central Time.

Missouri Department of Transportation
General Services – Procurement Division
Attn: Robin Warren

PO Box 270
Jefferson City, MO 65102

Mailing Address

830 MoDOT Drive
Jefferson City, MO 65109

Physical Address

- 3.1.3 The Bidder may withdraw, modify or correct his bid after it has been deposited with MoDOT provided such request is submitted in writing and received at the location designated for the bid opening prior to the time specified for opening bids. Such a request received as specified will be attached to the bid and the bid will be considered to have been modified accordingly. No bid may be modified after the time specified for the opening of bids.
- 3.1.4 The Bidder should submit the following with the bid:
 - a. A complete list or catalog describing all available training materials related to the item(s) being bid.
 - b. A complete options list and/or catalog describing parts with detailed pricing information for each make/model being bid.
 - c. Warranty information.
 - d. Descriptive literature and specifications showing the exact equipment being bid.
- 3.1.5 Samples – After review of the submitted bids, the St. Louis District will work with the low Bidder to determine what items need to be submitted for sampling for testing purposes. The second low Bidder may also be requested to submit samples at that time.

Requested samples must be received within 7 to 10 days of notification, unless indicated otherwise by MoDOT's St. Louis District.

Each sample shall be identified by the Bidder to permit easy reference and identification. The Bidder's samples must be submitted to MoDOT – St. Louis District, Attn: Building A or B, 2309 Barrett Station Road, Ballwin, MO 63021.

- a. For testing purposes, the digital cellular transceivers shall be compatible with any cellular IP provider within the St. Louis District. The current provider is Verizon.
- b. The Bidder must provide 48 hours advance notification of the delivery of the samples.
- c. The Bidder must insure that a manufacturer representative knowledgeable in the operation of the sample accompanies the delivery of the samples.

- d. The Bidder shall understand and agree that no award of contract shall be made until the CMS have been tested for compliance by MoDOT. **NOTE:** Normal-testing time is a minimum of thirty (30) calendar days.
- e. The Bidder shall understand and agree that MoDOT shall not pay any additional charges for the delivery of the Bidder's samples or the return of such samples.

3.1.6 Open Competition / Request For Bid Document:

- a. It shall be the Bidder's responsibility to ask questions, request changes or clarification, or otherwise advise MoDOT if any language, specifications or requirements of an RFB appear to be ambiguous, contradictory, and/or arbitrary, or appear to inadvertently restrict or limit the requirements stated in the RFB to a single source. Any and all communication from Bidder regarding specifications, requirements, competitive bid process, etc., must be directed to the RFB Coordinator, unless the RFB specifically refers the Bidder to another contact. Such communication should be received at least five (5) working days prior to the official bid opening date.

3.1.7 Bids will be reviewed to determine if the bid complies with the mandatory requirements, and to determine the lowest responsive bid meeting specifications.

3.1.8 Cost Determination - The low bid shall be determined by adding together the bidder's firm, fixed price within each group to obtain a grand total per group.

3.1.9 Contract Award – The contract will be awarded to the lowest responsive bidder on an “Group by Group” basis.

- a. Option pricing for Emergency Alert Light System and renewal percentages will not be a factor in bid award.

3.1.10 MoDOT reserves the right to reject any or all bids and no award is final until formally approved by MoDOT.

3.1.11 It is the sole responsibility for all Bidders to check the website for bid results.

4. PRICING

- 4.1 Changeable Message Signs** - The Bidder shall provide firm, fixed prices in the attached table for the original contract period for providing the CMS in accordance with the provisions and requirements of this RFB. All costs (including freight) associated with providing the required CMS shall be included in the prices stated below.
- 4.2** The Bidder must provide pricing for each line item within a group on the pricing pages to be considered responsive.
- 4.3 Renewal Periods:** The bidder shall provide below the maximum percentage of increase or decrease for the renewal periods. The percentage shall be computed against the **current contract period prices** for each renewal period. If a renewal percentage is not provided, the prices for the renewal periods shall be the same as the current contract period.
- 1st Renewal Period** _____% of maximum increase and/or _____% of maximum decrease.
- 2nd Renewal Period** _____% of maximum increase and/or _____% of maximum decrease.
- 3rd Renewal Period** _____% of maximum increase and/or _____% of maximum decrease.

Company Name

Signature

VENDOR INFORMATION & PREFERENCE CERTIFICATION FORM

Vendor Information

All bidders must furnish **ALL** applicable information requested below

Vendor Name/Mailing Address: Email Address:	Vendor Contact Information (including area codes): Phone #: Cellular #: Fax #:									
Printed Name of Responsible Officer or Employee:	Signature:									
For Corporations - State in which incorporated:	For Others - State of domicile:									
If the address listed in the Vendor Name/Mailing Address block above is not located in the State of Missouri, list the address of Missouri offices or places of business: <i>If additional space is required, please attach an additional sheet and identify it as Addresses of Missouri Offices or Places of Business.</i>										
M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (M/WBE) utilized in the fulfillment of this bid. Include <u>percentages</u> for subcontractors and identify the M/WBE certifying agency: <table style="width: 100%; border: none;"> <tr> <td style="text-align: center; width: 33%;"><u>M/WBE Name</u></td> <td style="text-align: center; width: 33%;"><u>Percentage of Contract</u></td> <td style="text-align: center; width: 33%;"><u>M/WBE Certifying Agency</u></td> </tr> <tr> <td style="border-bottom: 1px solid black; height: 20px;"></td> <td style="border-bottom: 1px solid black; height: 20px;"></td> <td style="border-bottom: 1px solid black; height: 20px;"></td> </tr> <tr> <td style="border-bottom: 1px solid black; height: 20px;"></td> <td style="border-bottom: 1px solid black; height: 20px;"></td> <td style="border-bottom: 1px solid black; height: 20px;"></td> </tr> </table> <i>If additional space is required, please attach an additional sheet and identify it as M/WBE Information</i>		<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>						
<u>M/WBE Name</u>	<u>Percentage of Contract</u>	<u>M/WBE Certifying Agency</u>								

Preference Certification

All bidders must furnish **ALL** applicable information requested below

GOODS/PRODUCTS MANUFACTURED OR PRODUCED IN USA: If any or all of the goods or products offered in the attached bid which the bidder proposes to supply to the MHTC are not manufactured or produced in the "United States", or imported in accordance with a qualifying treaty, law, agreement, or regulation, list below, by item or item number, the country other than the United States where each good or product is manufactured or produced.	
Item (or item number)	Location Where Item is Manufactured or Produced
<i>If additional space is required, please attach an additional sheet and identify it as Location Products are Manufactured or Produced.</i>	
MISSOURI SERVICE-DISABLED VETERAN BUSINESS: Please complete the following if applicable. Additional information may be requested if preference is applicable. See below definitions for qualification criteria: Service-Disabled Veteran is defined as any individual who is disabled as certified by the appropriate federal agency responsible for the administration of veterans' affairs. Service-Disabled Veteran Business is defined as a business concern: <ol style="list-style-type: none"> a. Not less than fifty-one (51) percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than fifty-one (51) percent of the stock of which is owned by one or more service-disabled veterans; and b. The management and daily business operations of which are controlled by one or more service-disabled veterans. 	
<u>Veteran Information</u>	<u>Business Information</u>
<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> Service-Disabled Veteran's Name (Please Print)	<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> Service-Disabled Veteran Business Name
<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> Service-Disabled Veteran's Signature	<div style="border-bottom: 1px solid black; height: 20px; margin-bottom: 5px;"></div> Missouri Address of Service Disabled Veteran Business

COOPERATIVE AGREEMENT NOTICE

The Department is interested in assisting Missouri governmental entities, etc. in purchasing equipment, various materials, and supplies that meet the MoDOT specifications.

Each bidder is asked to indicate below whether they would be willing to offer **Changeable Message Signs (CMS)** listed in the attached "Request for Bid" for sale to these local political entities at the same bid price offered to this Department.

It is understood the Department will not issue purchase orders, accept delivery nor make payment for these items ordered by any of these agencies. It is further understood the price is based on the **Changeable Message Signs (CMS)** meeting the Department specifications. Any added options, deletions, or extra freight costs would be negotiated between the local agency and the successful vendor.

Indicate below whether your company is willing to offer such cooperative purchasing for Missouri counties, cities or other political entities.

YES _____

NO _____

If the price varies throughout the state on Department bids because of different delivery destinations, please indicate the price f.o.b. your location that would be offered as described.

F.O.B. Location _____

Indicate the deadline date that orders will be accepted. _____

COMPANY NAME _____

ADDRESS _____

PHONE NUMBER _____

SIGNATURE _____

TITLE _____

DATE _____

Bidder should complete the appropriate sections of form and submit with bid.

Pricing Page - RFB 2-160726RW

Changeable Message Sign (CMS) - *Trailer Mounted Solar Powered*

	Line Item	Description	Make and Model	Unit Price
Full Matrix CMS	1	Full Matrix - Digital Cellular Tranciever - Installed <i>Rotatable w/15 day battery life</i>		
	2	Full Matrix - Digital Cellular Tranciever - For Future Install <i>Rotatable w/15 day battery life</i>		
	3	Full Matrix - Digital Cellular Tranciever - Installed <i>Rotatable w/30 day battery life</i>		
	4	Full Matrix - Digital Cellular Tranciever - For Future Install <i>Rotatable w/30 day battery life</i>		
	5	Full Matrix - Digital Cellular Tranciever - Installed <i>Fixed w/15 day battery life</i>		
	6	Full Matrix - Digital Cellular Tranciever - For Future Install <i>Fixed w/15 day battery life</i>		
	7	Full Matrix - Digital Cellular Tranciever - Installed <i>Fixed w/30 day battery life</i>		
	8	Full Matrix - Digital Cellular Tranciever - For Future Install <i>Fixed w/30 day battery life</i>		
Character Matrix CMS	9	Character Matrix - Digital Cellular Tranciever - Installed <i>Rotatable w/15 day battery life</i>		
	10	Character Matrix - Digital Cellular Tranciever - For Future Install <i>Rotatable w/15 day battery life</i>		
	11	Character Matrix - Digital Cellular Tranciever - Installed <i>Rotatable w/30 day battery life</i>		
	12	Character Matrix - Digital Cellular Tranciever - For Future Install <i>Rotatable w/30 day battery life</i>		
	13	Character Matrix - Digital Cellular Tranciever - Installed <i>Fixed w/15 day battery life</i>		
	14	Character Matrix - Digital Cellular Tranciever - For Future Install <i>Fixed w/15 day battery life</i>		
	15	Character Matrix - Digital Cellular Tranciever - Installed <i>Fixed w/30 day battery life</i>		
	16	Character Matrix - Digital Cellular Tranciever - For Future Install <i>Fixed w/30 day battery life</i>		
Group 1 - Total for Line Items 1 thru 16 \$				

NOTE: Information below is in reference to line items 1 thru 16 on previous page.

Cellular IP Provider	Brand and Model Number of Digital Cellular Tranciever
AT&T	
Alltel	
Verizon	

Changeable Message Sign (CMS) - *Truck Mounted Solar Powered*

	Line Item	Description	Make and Model	Unit Price
Full Matrix CMS	17	Full Matrix - Wired Controller LED w/15 day battery life		
	18	Full Matrix - Wired Controller LED w/30 day battery life		
	Group 2 - Total for Line Item 17 and 18			\$
	19	Full Matrix - Wireless Controller LED w/15 day battery life		
	20	Full Matrix - Wireless Controller LED w/30 day battery life		
	Group 3 - Total for Line Item 19 and 20			\$
Character Matrix CMS	21	Character Matrix - Wired Controller LED w/15 day battery life		
	22	Character Matrix - Wired Controller LED w/30 day battery life		
	Group 4 - Total for Line Item 21 and 22			\$
	23	Character Matrix - Wireless Controller LED w/15 day battery life		
	24	Character Matrix - Wireless Controller LED w/30 day battery life		
	Group 5 - Total for Line Item 23 and 24			\$

Provide pricing below for an Emergency Alert Light System that may be purchased as an option.

	Description	Make and Model	Unit Price
Option	Emergency Alert Light System		

Indicate percentage (%) discount off Manufactureres Suggested Retail Prices (MSRP) for additional CMS options available in Bidder's data book or pricing guide.

Percent discount off MSRP for all Data Book or Pricing Guide Options: _____ % discount

Company _____

Signature _____



TRAILER MOUNTED SOLAR POWERED CHANGEABLE MESSAGE SIGN MGS 06-04H

1.0 DESCRIPTION. All solar powered changeable message signs, hereinafter referred to as a CMS, shall be designed and manufactured in accordance with this specification.

2.0 MATERIAL. Each CMS shall consist of an all LED (light emitting diode) pixel matrix message board, solar/battery power supply and a user operated interface, as specified, all mounted on a heavy duty, towable trailer.

2.1 Each CMS shall have the following minimum characteristics:

1. Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of changeable characters with minimum heights of 52 inches (1300mm), 28 inches (700mm), and 18 inches (450mm), respectively, and a minimum width of 12 inches (300mm). Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages. At the 18-inch (450mm) setting, the sign shall display three lines containing eight changeable characters per line.

2. Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing eight individual changeable characters per line. Each character shall be a minimum of 12 inches wide and 18 inches (450 mm) high.

3. Full matrix CMS and character matrix CMS shall meet the following:

(a) The overall sign dimensions shall not be less than 72 inches (1800 mm) high x 126 inches (3150 mm) wide.

(b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m) with 18 inch (450 mm) characters.

(c) When fully raised in the display position, the bottom of the CMS board shall be at least a height of 7 feet (2100 mm) from the ground and the ability to rotate a complete 360 degrees independent of the trailer frame. A sight tube, used to aim the CMS board to oncoming traffic, shall be installed on the CMS board or mast. The CMS shall have an electrical-hydraulic lifting mechanism that includes a fully functioning manual lifting and lowering relief mechanism as a backup. The CMS shall have the ability to lock into various viewing angles as determined best for the motorists by the CMS operator.

(d) All LED displays and control circuitry shall be operational from -20 F (6 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.

(e) The CMS face shall be constructed that if an individual panel fails or is disconnected, all other panels shall continue to display the message. The CMS face shall be constructed that if an individual pixel fails all other pixels shall continue to display the message.

(f) Remote Communication - 1. Option 1 - The CMS shall have a digital cellular transceiver compatible with the district's current cellular IP (packet data) service provider and be capable of receiving a message from a remote location and forwarding the message to the CMS controller to change the displayed message. The cellular carrier and modem shall have GPS tracking capabilities and external GPS/Antenna connectors.

2. The modem shall be accessible with a browser compliant with the latest recommended HTML specification from the W3C Web Platform Working Group. All device configuration and management operations shall be accessible without using browser plugins or extensions.

3. Option 2 - The CMS shall be constructed with the capability of installing a future digital cellular transceiver.

(g) The CMS shall have the necessary hardware on board that will allow the message to be changed from the CMS location without connection with modem. Also, a connecting cable a minimum of 5 feet (1.5 meters) long shall be provided to allow for the connection from the sign controller to a notebook computer. For on-sight operation, the CMS shall have a removable waterproof keyboard with display panel. (Note: Notebook computer is secondary control for sign).

(h) The sign controller shall provide an event time clock, a minimum storage capacity of 400 messages, a battery-charge status, pixel status, and all other required controls for the operation of the display.

(i) The supplier shall provide the Commission the required compatible National Transportation Communications for ITS Protocol (NTCIP) software and licenses necessary to change the message from a remote location. This software shall be compatible with the district's Windows operating systems and be able to issue compatible modem commands. The supplier shall provide technical assistance with the installation and operation of software.

(j) The trailer body frame, fenders, control and battery boxes shall be constructed of metal. The trailer welding shall be in accordance with American Welding Society standards. The trailer shall have a 2000-lb (910-kg) swiveling jack located at the four corners. The trailer shall have a minimum of 15-inch (380 mm) tires. The axle assembly shall have a capacity of 3500-lb (1590-kg). The axles shall have bearing buddies to provide grease to the spindles. Dependent on the request, the trailer tongue shall have either a 2-inch (50-mm) ball with single latch type trailer hitch with double chains or a pintle hitch "lunette eye" connection with double chains. The control box shall have either an interior light or the keyboard display shall be backlit for nighttime lighting.

(k) While driving, the unit shall be able to withstand a 65-mph (105-kmph) maximum speed. The trailer shall be able to support the fully extended CMS board in an 80-mph (130-kmph) gust wind load.

(l) Lights: LED and DOT Approved 12-volt, two tail/stop signals and two separate tail/turn signals; side, rear and tongue reflectors. Tail lights shall have metal guard protective assemblies. Wires shall be identified as to function. Each CMS unit shall have a trailer lighting system with a 7-wire flat prong round RV male molded plug.

(m) Batteries shall be absorbed glass mat (AGM) type; class GC2, rated at no less than 200 amp hours per battery when fully charged. The power supply shall use a battery bank sufficient in capacity to operate a full display of characters under normal operating conditions for 15 continuous days when disconnected from the solar panels. The battery bank shall be arranged so the weight is distributed evenly. An optional package shall be provided for 30 day continuous days.

(n) Solar charging system shall allow for total autonomy of 24/7/365 continuous operation.

(o) The solar panels shall be able to rotate 360-degrees independent of the direction of the CMS board. The solar panels shall be able to tilt from 0-degree horizontal to 40- degrees vertical. An optional package shall be provided for a fixed solar panel.

(p) The CMS shall have the capability to charge the battery bank from a 120 VAC power source within a 48 to 72 hour time period. The CMS shall have power control circuitry to manage solar charging. The CMS shall also be equipped to accept power from a 120 VAC utility power source. All terminals and connections shall be clearly labeled.

(q) All exterior surfaces except the sign face shall be cleaned, primed, and finished with two coats of Highway Safety Orange and the sign interior itself shall be cleaned and finished with one coat of corrosion inhibiting primer and two coats of flat black. The sign face shall be covered with a rigid translucent material to prevent damage to the sign face caused by the environment.

3.0 WARRANTY. New units delivered to the Missouri Department of Transportation must be covered by the manufacturer's standard warranty for a minimum of one year, which includes on-site repair and maintenance (parts, labor, and travel), at no expense to MoDOT.

3.1 All units manufactured shall be exactly the same as the units tested.

3.2 All units shall meet or exceed the specifications for CMS boards as listed in Part 6F.60 of the current Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD).



TRUCK MOUNTED SOLAR POWERED CHANGEABLE MESSAGE SIGN MGS-06-07B

1.0 DESCRIPTION. All truck mounted solar powered changeable message signs, hereinafter referred to as a CMS, shall be designed and manufactured in accordance with this specification.

2.0 MATERIAL. The truck mounted CMS shall consist of a CMS board, mounting frame and rotating or folding mechanism, remote control switches and circuitry, and a lockable control cabinet housing electronic components in a self-contained power supply. Each unit shall be fully assembled when delivered.

Each CMS shall consist of an all LED (light emitting diode) pixel matrix message board, solar/battery power supply and a user operated interface.

2.1 Each CMS shall have the following minimum characteristics:

1. Full Matrix - Each CMS shall be the Full Matrix type with the capability of providing one, two, and three lines of changeable characters with a minimum height of 10.5 inches (265 mm). Full Matrix signs shall be capable of both static and dynamic graphics, and full display sized messages.

2. Character Matrix (Three Line) – Each CMS shall consist of a minimum of three lines containing six individual changeable characters per line. Each character shall be a minimum height of 10.5 inches (265 mm).

3. Full matrix CMS and character matrix CMS shall meet the following:

(a) The overall sign dimensions should be approximately 42 inches (1060 mm) high x 76 inches (1900 mm) wide. The screen dimensions shall be a minimum of 38 inches high x 68 inches wide.

(b) The CMS shall be legible up to a distance of 650 feet (200 m) for both day and night operations and shall be visible for ½-mile (800 m).

(c) The average truck bed height is 52 to 56 inches. When fully raised in the display position, the bottom of the CMS board shall be at least a height of 8 feet (2100 mm) from the ground. The CMS shall have an electrical-hydraulic lifting mechanism. The CMS shall be designed to maintain a maximum height of 11 feet - 9 inches in the storage/travel position.

(d) All LED displays and control circuitry shall be operational from -20 F (6 C) to 120 F (50 C). The LED's shall have a rated life of 100,000 hours. The LED's shall be ITE amber in color on a flat black background.

(e) CMS Panel and Pixel

1) The CMS face shall be constructed such that if an individual panel fails or is disconnected, all other panels shall continue to display the message. The CMS face shall be constructed such that if an individual pixel fails all other pixels shall continue to display the message.

Or

2) The CMS shall be provided with diagnostic software and training. The software shall be capable of locating all failed pixels within the CMS face.

(f) The sign controller shall provide storage capacity for additional messages in addition to preprogrammed messages, graphics and all other required controls for the operation of the display.

(g) Solar Panels: Wattage of the solar panels shall be adequate to fully charge batteries, and shall contain a remote battery charger back-up as described below. Solar panels shall be mounted above top of CMS panel with a minimum 4 degree pitch from the horizontal position to encourage shedding of dirt and rainwater.

(h) Battery Charger: The battery charger with charge indicator shall be included and shall be mounted at the base of the frame of the CMS panel support, inside a lockable, weatherproof, battery box. The battery charger shall have the capability to charge the battery bank within a 48 to 72 hour time period from a 120 VAC utility power source.

(i) Batteries shall be the A.G.M. type (Absorb Glass Mat), class GC2, rated at no less than 200 amp hours per battery when fully charged. The quantity of batteries shall provide enough power to run the unit at full load for 15 consecutive days on battery power only. Solar charging shall be disabled during this 15 day period. An optional package shall be provided for 30 day continuous days.

Battery Box: A fully enclosed (sides, top, bottom) lockable, weatherproof box, mounted at the base of the frame of the CMS panel support, shall be made of minimum 14-gauge steel, with louvered side panels for cross-flow ventilation and with the sides and bottom coated with acid-resistant protector. The battery box shall be large enough to sufficiently house and service the batteries and charger. The lid of the battery box shall be hinged and include a stabilizer rod to allow ease of maintenance and repair of batteries, charger and or photoelectric control.

(j) Voltage Regulator: The voltage regulator shall be solid-state, micro-processor-based, utilizing constant positive voltage and pulse with modulation to optimize battery charging, measuring battery voltage and adjusting current from the solar panels so the batteries are not overcharged and also prevent overcharging of the batteries by the solar panels when the panel is turned off. An automatic disconnect device shall be included to protect the entire system in case of low voltage.

(k) Disconnect and Enclosures: Disconnect plug and receptacle shall be determined by the current, voltage, and number of contacts required for proper operation. Connectors shall have screw terminations and accommodate a wire size of up to #12AWG. The male connector shall be enclosed in a NEMA 4 rated surface base enclosure and cover. The female connector shall be enclosed in a NEMA 4 side-entry hood enclosure. Multi-conductor cable shall enter the bottom of the enclosures through a waterproof, flame-resistant, salt and corrosion resistant cable connector with a sealing nut and internal ratchet containing a neoprene cable gland.

(l) Controller: Ability to program message and monitor messages from inside truck with vendor's supplied handheld controller. For the wired and wireless option, provide a 35-foot controller cable. For the wireless option, provide controller charging from the vehicles 12-volt power outlet. Controller supplied shall not have a power saving sleep mode. Controller shall have the capability to store 100 factory preprogrammed messages and a minimum of 40 additional user-defined messages. The remote cab control switches shall provide MUTCD Sequential Arrow (Merge Right or Left), Flashing Double Arrow and Alternating Diamond Caution. All graphics shall completely fill display area and be legible. The lines of the graphics shall be 6 to 8 inches thick.

(m) The support frame shall be painted one coat of primer and one coat of high-visibility, Safety Orange Paint similar to Federal Standard 595B #12243.

2.2 Each CMS panel shall be supported on a four vertical post framework.

1. The four vertical post framework shall consist of welded steel tubing in accordance with American Welding Society standards. All open ends of tubing shall be capped and welded shut. When in the horizontal position, the panel shall rest on a rigid frame support, relieving the load from the rotating device. Each panel shall contain an anchor point on each side, (left, right) of the frame to accommodate a 4 to 6 inch (100-150 mm) wide strap to anchor to the truck. Angle and cross bracing of the vertical supports shall be provided at the top and bottom of the supports to ensure a rigid frame. See drawing on Attachment 1.

2. The support frame shall be painted one coat of primer and one of coat high-visibility, Safety Orange Paint similar to Federal Standard 595B #12243. Powder coat of the same color is acceptable.

2.3 Optional Emergency Alert Lights. The Emergency Alert System (EAS) shall be comprised of six white illumination LED light heads placed in two rows of three.

The three high mounted lights should be between 72 to 106 inches from the road surface; see attached photo suggested location A.

The three low mounted lights should be between 42 to 54 inches from the road surface; see attached photo suggested location B.

The vertical separation between the two rows of lights shall be a minimum of 38 inches.

The lights shall be visible when CMS is in the activated or deployed position.

The optional emergency alert lights shall be powered by the truck's battery system.

Nominal Criteria:

- Watts/Amps @ 12VDC: 27.2W / 2.26A
- Operating Voltage: 10~41 VDC
- Kelvin Rating: 6000K
- Shock Resistance: GB/T 10485-2007/11.4.4.2
- Raw Lumens: 2600
- Flashes: 90 per minute
- Automatic Dimming Feature
- Mounting Type: Universal Surface
- Operating Temp: -40~150 degrees C.
- Lead / Connector: 19" w/Waterproof ATP
- Dimensions: 7.59" L x 1.73" H x 3.05" D
- Housing: A403 High Purity Aluminum
- Virtually Unbreakable Polycarbonate Lens
- 93% Optic Purity
- Stainless Steel Mounting Bracket & Hardware

- UV Polyester Powder Coat Finish
- Instant On/Off – Means No Warm Up
- Pressure Relief Valve (Known as Military Breather)
- Over / Under Voltage Protection
- Integrated Thermal Management
- Beam pattern: Horizontal spread of 40 degrees or less / Vertical spread of 30 degrees or more
- Sharp optical “ cut off “
- Easy disconnects shall be used on all wiring so that when the CMS is removed the (EAS) shall also be easily removed and stay attached to one of those devices.

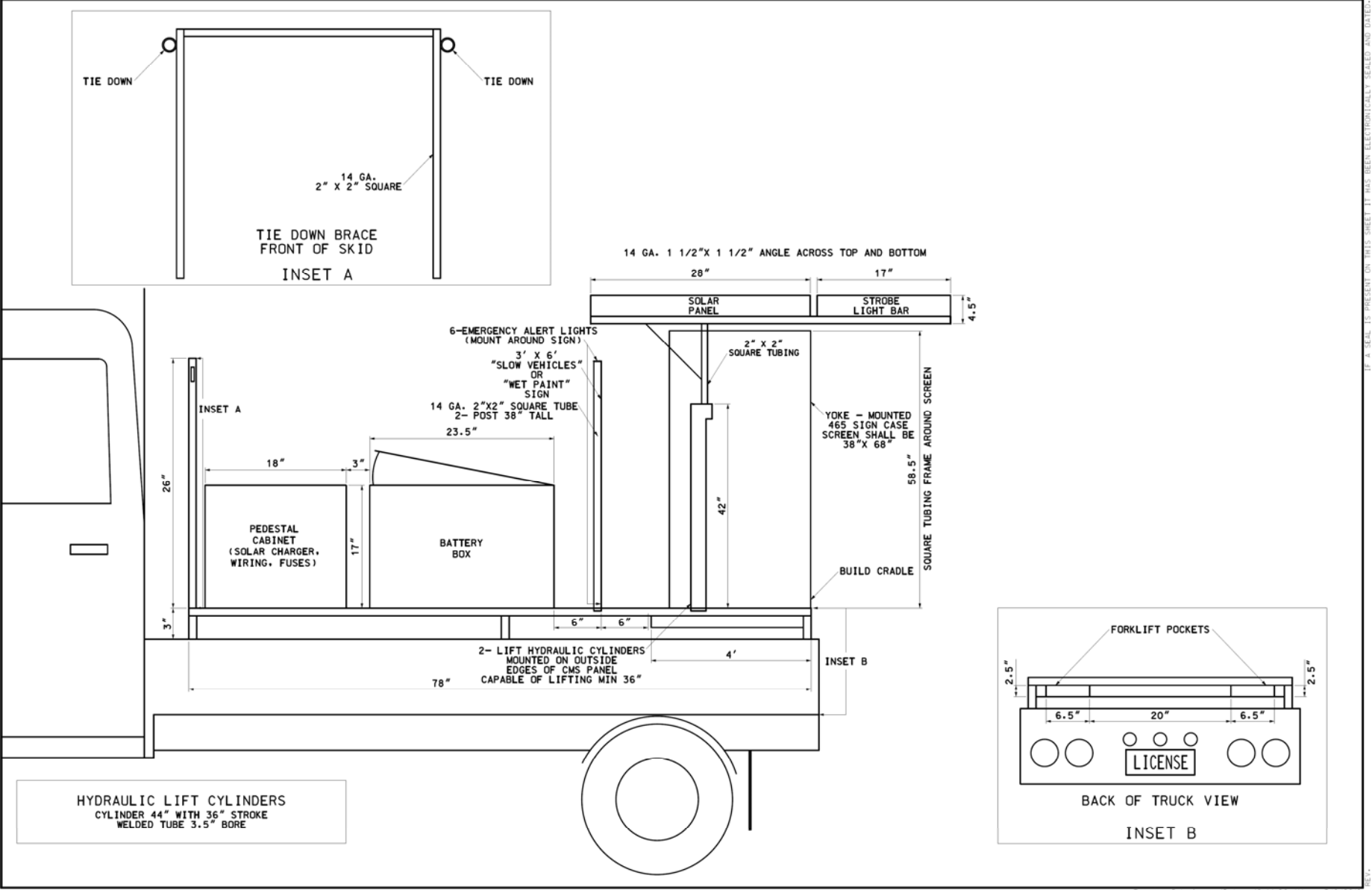
Handheld Controller shall be a momentary on/off switch. A 35 foot control wire with the handheld controller shall be supplied.

2.4 Owner's Manual. The successful bidder shall furnish two Owner's Manuals for each CMS. Each manual shall include the manufacturer's instructions for maintenance and operation of the CMS. Each manual shall also include a detailed, schematic, wiring diagram showing all circuits and components from the power supply through the control to the CMS. The schematic diagram shall list all transistors, resistors, triacs, diodes and other components with the manufacturer's name and part number.

3.0 WARRANTY. Units delivered to the Missouri Department of Transportation must be covered by the manufacturer's standard warranty for a minimum of one year, which includes on-site repair (parts, labor, and travel), at no expense to MoDOT.

3.1 All units manufactured shall be exactly the same as the units tested.

3.2 All units shall meet or exceed the specifications for CMS boards as listed in Part 6F.60 of the current Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD). Units shall be skid mounted to slip into the back of dump trucks.



IF A SEAL IS PRESENT ON THIS SHEET IT HAS BEEN ELECTRONICALLY SEALED AND DATED.

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

STANDARD SOLICITATION PROVISIONS

- a. The solicitation for the procurement of the supplies referenced therein, to which these "Standard Bid Provisions, General Terms and Conditions and Special Terms and Conditions" are attached, is being issued under, and governed by, the provisions of Title 7 – Missouri Department of Transportation, Division 10 – Missouri Highways and Transportation Commission, Chapter 11 – Procurement of Supplies, of the Code of State Regulations. The Missouri Highways and Transportation Commission (**MHTC**), acting by and through its operating arm, the Missouri Department of Transportation (**MoDOT**), draws the Bidder's attention to said 7 CSR 10-11 for all the provisions governing solicitation and receipt of bids/quotes and the award of the contract pursuant to this solicitation.
- b. All bids/quotes must be signed with the firm name and by a responsible officer or employee. Obligations assumed by such signature must be fulfilled.

GENERAL TERMS AND CONDITIONS

Definitions

Capitalized terms as well as other terms used but not defined herein shall have the meaning assigned to them in section 7 CSR 10-11.010 Definition of Terms.

Nondiscrimination

- a. The Contractor shall comply with all state and federal statutes applicable to the Contractor relating to nondiscrimination, including, but not limited to, Chapter 213, RSMo; Title VI and Title VII of Civil Rights Act of 1964 as amended (42 U.S.C. Sections 2000d and 2000e, *et seq.*); and with any provision of the "Americans with Disabilities Act" (42 U.S.C. Section 12101, *et seq.*)
- b. **Sanctions for Noncompliance:** In the event of the Contractor's noncompliance with the nondiscrimination provisions of this contract, MHTC shall impose such contract sanctions as it or the Federal Highway Administration may determine to be appropriate, including, but not limited to:
 - i. withholding of payments to the Contractor under the contract until the Contractor complies, and/or,
 - ii. cancellation, termination or suspension of the contract, in whole or in part.

Contract/Purchase Order

- a. By submitting a bid/quote, the Bidder agrees to furnish any and all equipment, supplies and/or services specified in the solicitation documents, at the prices quoted, pursuant to all requirements and specifications contained therein.
- b. A binding contract shall consist of: (1) the solicitation documents, amendments thereto, and/or Best and Final Offer (BAFO) request(s) with any changes/additions, (2) the Contractor's bid response, and (3) the MHTC's acceptance of the bid by post-award contract or purchase order.
- c. A notice of award does not constitute an authorization for shipment of equipment or supplies or a directive to proceed with services. Before providing equipment, supplies and/or services, the Contractor must receive a properly authorized notice to proceed and/or purchase order.

Applicable Laws and Regulations

- a. The contract shall be construed according to the laws of the State of Missouri. The Contractor shall comply with all local, state, and federal laws and regulations related to the performance of the contract. The exclusive venue for any legal proceeding relating to or arising, out of the contract shall be in the Circuit Court of Cole County, Missouri.
- b. The Contractor must be registered and maintain good standing with the Secretary of State of the State of Missouri, Missouri Department of Revenue, and other regulatory agencies, as may be required by law or regulations. Prior to the issuance of a purchase order and/or notice to proceed, the Contractor may be required to submit to MHTC a copy of their current Authority Certificate from the Secretary of State of the State of Missouri and/or a copy of their Certificate of No Tax Due from the Missouri Department of Revenue.
- c. Prior to the issuance of a purchase order and/or notice to proceed, all **out-of-state** Contractors **providing services** within the state of Missouri must submit to MHTC a copy of their current Transient Employer Certificate from the Missouri Department of Revenue, in addition to a copy of their current Authority Certificate from the Secretary of State of the State of Missouri.

Executive Order:

The Contractor shall comply with all the provisions of Executive Order 07-13, issued by the Honorable Matt Blunt, Governor of Missouri, on the sixth (6th) day of March, 2007. This Executive Order, which promulgates the State of Missouri's position to not tolerate persons who contract with the state engaging in or supporting illegal activities of employing individuals who are not eligible to work in the United States, is incorporated herein by reference and made a part of this Agreement.

- 1) "By signing this Agreement, the Contractor hereby certifies that any employee of the Contractor assigned to perform services under the contract is eligible and authorized to work in the United States in compliance with federal law."
- 2) In the event the Contractor fails to comply with the provisions of the Executive Order 07-13, or in the event the Commission has reasonable cause to believe that the contractor has knowingly employed individuals who are not eligible to work in the United States in violation of federal law, the Commission reserves the right to impose such contract sanctions as it may determine to be appropriate, including but not limited to contract cancellation, termination or suspension in whole or in part or both.
- 3) The Contractor shall include the provisions of this paragraph in every subcontract. The Contractor shall take such action with respect to any subcontract as the Commission may direct as a means of enforcing such provisions, including sanctions for noncompliance.

Preferences

- a. In the evaluation of bids/quotes, preferences shall be applied in accordance with 7 CSR 10-11.020(7). Contractors should apply the same preferences in selecting subcontractors. The attached document entitled "**VENDOR INFORMATION AND PREFERENCE CERTIFICATION FORM**" must be completed and returned with the solicitation documents.
- b. Bidders are encouraged to obtain minority business enterprise (MBE) and women business enterprise (WBE) participation in this work through the use of subcontractors, suppliers, joint ventures, or other arrangements that afford meaningful participation for M/WBEs. Bidders are encouraged to obtain 10% MBE and 5% WBE participation.

Missouri Highways and Transportation Commission
Standard Bid/Proposal Provisions, General Terms and Conditions and Special Terms and Conditions

Cancellation of Contract

The MHTC may cancel the Contract at any time for a material breach of contractual obligations or for convenience by providing Contractor with written notice of cancellation. Should the MHTC exercise its right to cancel the contract for such reasons, cancellation will become effective upon the date specified in the notice of cancellation sent to the Contractor.

Bankruptcy or Insolvency

Upon filing for any bankruptcy or insolvency proceeding by or against the Contractor, whether voluntarily, or upon the appointment of a receiver, trustee, or assignee, for the benefit of creditors, the Commission reserves the right and sole discretion to either cancel the Agreement or affirm the Agreement and hold the Contractor responsible for damages.

Warranty

The Contractor expressly warrants that all equipment, supplies, and/or services provided shall: (1) conform to each and every specification, drawing, sample or other description which was furnished to or adopted by the MHTC, (2) be fit and sufficient for the purpose expressed in the solicitation documents, (3) be merchantable, (4) be of good materials and workmanship, and (5) be free from defect.

Status of Independent Contractor

The Contractor represents itself to be an independent Contractor offering such services to the general public and shall not represent itself or its employees to be an employee of the MHTC. Therefore, the Contractor shall assume all legal and financial responsibility for taxes, FICA, employee fringe benefits, workers' compensation, employee insurance, minimum wage requirements, overtime, etc., and agrees to indemnify, save and hold the MHTC, its officers, agents and employees harmless from and against any and all losses (including attorney fees) and damage of any kind related to such matters.

Non-Waiver

If one of the parties agrees to waive its right to enforce any term of this Contract, that party does not waive its right to enforce such term at any other time or to enforce any or all other terms of this Contract.

Indemnification

The Contractor shall defend, indemnify and hold harmless MHTC, including its members and department employees, from any claim or liability whether based on a claim for damages to real or personal property or to a person for any matter relating to or arising out of the Contractor's performance of its obligations under the contract awarded pursuant to this solicitation.

SPECIAL TERMS AND CONDITIONS

Holidays

- a. The following days shall be construed as **official holidays** under the terms of the contract:

January 1	New Year's Day
Third Monday in January	Martin Luther King, Jr.'s Birthday
February 12	Lincoln's Birthday
Third Monday in February	Washington's Birthday
May 8	Truman's Birthday
Last Monday in May	Memorial Day
July 4	Independence Day
First Monday in September	Labor Day
Second Monday in October	Columbus Day
November 11	Veteran's Day
Fourth Thursday in November	Thanksgiving Day
December 25	Christmas Day

- b. When any of the above **holidays falls** on a **Sunday**, the holiday will be observed on the following **Monday**; when any of the above **holidays falls** on a **Saturday**, the **holiday** will be observed on the immediately preceding **Friday**.

District Map

