

BID FORM

MISSOURI DEPARTMENT OF TRANSPORTATION

GENERAL SERVICES

P.O. BOX 270

JEFFERSON CITY, MO 65102

REQUEST NO. 2-130522KH

DATE May 6, 2013

SEALED BIDS, SUBJECT TO THE ATTACHED CONDITIONS WILL
BE RECEIVED AT THIS OFFICE UNTIL**May 22, 2013 at 2:00 PM CDT**AND THEN PUBLICLY OPENED AND READ FOR FURNISHING
THE FOLLOWING SUPPLIES OR SERVICES.**QUOTATIONS TO BE BASED F.O.B. MISSOURI****DEPARTMENT OF TRANSPORTATION**

Submit net bid as cash discount stipulations will not be considered

See Attached

BUYER:

Kristi Hixson, Sr. GS Specialist

BUYER TELEPHONE:

573-526-1975

BUYER EMAIL:

Kristi.Hixson@modot.mo.gov

SUPPLIES OR SERVICES

The Missouri Department of Transportation is seeking bids from qualified bidders to provide **Trimline Channelizers** for a contract period of July 1, 2013 through June 30, 2014.

*****NOTE:** It is the responsibility of the Bidder to access MoDOT's website in order to obtain any and all addenda(s) issued during the course of this RFB Process.

All questions regarding this RFB shall be submitted to the RFB Coordinator/Contact.

(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:**Firm Name:****Telephone No.:****Address:****Fax No.:****Email Address:****By (Signature):****Type/Print Name****Title:****Is your firm MBE certified?**☐

Yes

☐

No

Is your firm WBE certified?☐

Yes

☐

No

1. Introduction

This solicitation seeks bids from qualified organizations to provide Trimline Channelizers with an effective contract period of July 1, 2013 through June 30, 2014, with three (3) one-year renewal option periods to the Missouri Highways and Transportation Commission (MHTC) and Missouri Department of Transportation (MoDOT).

- a. **Renewal Period** - If the option for renewal is exercised by MoDOT, the contractor shall agree to all terms and conditions of the RFB and all subsequent amendments. Additionally, in the event MoDOT exercises its option(s) to renew the contract, the requirements for future months shall remain the same. The contractor shall understand and agree MHTC does not automatically grant a price increase at the time of renewing the contract. In the event a price increase is granted due to an approved escalation, the renewal percentage shall be based upon the current contract value.
- b. **Escalation Clause** - In the event the contractor requests a price increase during the renewal period, the contractor 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 contractor's written request and documentation for a price increase, and decide if a price increase is to be granted at that particular time. No price increase shall be granted during the first 3 months of the contract period.

2. Quantities

- 2.1 MoDOT does not have estimated quantities.
- 2.2 MoDOT does not guarantee any specific quantities that may be required to be provided by the contractor. Bidders should submit pricing for an as needed, if needed basis.
- 2.3 Purchase orders will be issued on an as needed basis.

3. Specifications

The Trimline Channelizers offered by the bidder must comply with specifications MGS-02-10B, Section 1063 and Section 1042.2.7.3. A copy of the specifications is attached to the bid documents for reference. The bidder will also be required to submit a copy of the reflective sheeting certification statements for the Trimline Channelizers bid.

4. Delivery

- 4.1 The contractor shall deliver Trimline Channelizers, as specified herein, to all MoDOT districts located throughout the state as identified by each order. *See attached district map.*
- 4.2 Deliveries must be within 2 to 3 weeks after receipt of purchase order.
- 4.3 In the event the vendor does not expect to meet the contract delivery date and time requirements, the ordering district should be notified of the delay.

5. Cost Determination

The low bid shall be determined by adding the bidder's line items within each range of the products listed on the pricing page. The totals from the ranges of each item will be added together for each bidder to obtain a Grand Total and determine the lowest bid.

6. Invoicing and Payment Requirements

- 6.1 The contractor shall submit an itemized invoice to the applicable requesting address for the completion of deliverables, as specified herein.
- 6.2 The contractor shall be paid in accordance with the firm, fixed prices stated on the pricing page of this document after completion of deliverables specified herein and acceptance by MoDOT.

7. Award

7.3 In the event of tie low bids, the Commission reserves the right to establish the method to be used in determining the award.

9. Bid Submission

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 bidders regarding specifications, requirements, competitive bid process, etc., must be directed to the buyer from the MoDOT, 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.

PRICING PAGE

The bidder shall provide firm, fixed prices to MHTC as stated on the PRICING PAGES in accordance with the terms of this Request for Bid. **All costs associated with providing the required deliverables shall be included in the prices, including freight.**

TRIMLINE CHANNELIZERS AND BALLAST						
Item	Commodity Code	Description	Original Contract Period Firm, Fixed <u>Price Per Item</u> 1 – 99 Ordered	Original Contract Period Firm, Fixed Price Per Item 100- 200 Ordered	Original Contract Period Firm, Fixed Price Per Item 201+ Ordered	TOTAL FOR ALL 3 RANGES
001	5507852142	Trimline Channelizers with Ballast . See attached specifications MGS-02-10b.	\$ _____	\$ _____	\$ _____	\$ _____ —
002	TBD	Trimline Channelizers without Ballast . See attached specifications MGS-02-10B.	\$ _____	\$ _____	\$ _____	\$ _____ —
003	TBD	Ballast Only for Trimline Channelizers. See attached specifications MGS-02-10B, Section 2.3 (no estimated qtys).	\$ _____	\$ _____	\$ _____	\$ _____ —
GRAND TOTAL						\$ _____ —

State the Minimum Qty for Each Order: Channelizers: _____ Ballast: _____

State the Manufacturer/Model #: Channelizers: _____ Ballast: _____

IF BIDDER HAS AVAILABLE A 30# BALLAST WEIGHT, PLEASE NOTE PRICE PER WEIGHT THAT INCLUDES ALL COSTS: \$ _____. There are no estimated quantities but some Districts have expressed interest in the availability of 30# weights. This price will not be included in the overall cost determination as noted on the second pricing page.

In the event that MHTC exercises its options to renew the contract for three (3) additional one-year periods pursuant to the applicable provisions outlined in this document, the Bidder shall provide below the maximum percentage of increase or maximum percentages of decrease for each renewal period. The percentages shall be computed against the current contract prices during renewal periods. Furthermore, the Bidder is advised that the MHTC does not automatically grant increases at the time of renewing the contract and that if an increase is requested, documentation of need must be provided at the time of renewal.

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

Signature: _____ Title: _____

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 <u>Addresses of Missouri Offices or Places of Business.</u></i>							
M/WBE INFORMATION: List all certified Minority or Women Business Enterprises (<u>M/WBE</u>) utilized in the fulfillment of this bid. Include <u>percentages</u> for subcontractors and identify the M/WBE certifying agency: <table><tr><td><u>M/WBE Name</u></td><td><u>Percentage of Contract</u></td><td><u>M/WBE Certifying Agency</u></td></tr><tr><td>_____</td><td>_____</td><td>_____</td></tr></table> <i>If additional space is required, please attach an additional sheet and identify it as <u>M/WBE Information</u></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 <u>not</u> 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 <u>Location Products are Manufactured or Produced.</u></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: 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. <table><tr><td><u>Veteran Information</u></td><td><u>Business Information</u></td></tr><tr><td>Service-Disabled Veteran's Name (Please Print)</td><td>Service-Disabled Veteran Business Name</td></tr><tr><td> </td><td> </td></tr><tr><td>Service-Disabled Veteran's Signature</td><td>Missouri Address of Service Disabled Veteran Business</td></tr></table>		<u>Veteran Information</u>	<u>Business Information</u>	Service-Disabled Veteran's Name (Please Print)	Service-Disabled Veteran Business Name			Service-Disabled Veteran's Signature	Missouri Address of Service Disabled Veteran Business
<u>Veteran Information</u>	<u>Business Information</u>								
Service-Disabled Veteran's Name (Please Print)	Service-Disabled Veteran Business Name								
Service-Disabled Veteran's Signature	Missouri Address of Service Disabled Veteran Business								

COOPERATIVE PROCUREMENT

The Department is interested in assisting Missouri counties, cities, special road districts, etc. in purchasing equipment, various materials and supplies that meet the Missouri Department of Transportation specifications.

Each bidder is asked to indicate below whether they would be willing to offer **Trimline Channelizers** listed in the attached "Request for Bid RFB 2-130522KH" 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 **Trimline Channelizer** 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 _____

(Each vendor must complete the appropriate sections of this form and submit with their bid.)



TRIM-LINE CHANNELIZERS (MGS-02-10B)

1.0 DESCRIPTION. This specification covers Trim-Line Channelizers.

2.0 MATERIAL.

2.1 BODY. Trim-line channelizers shall be cone-shaped devices measuring a minimum of 42 inches in height, not including projections designed for ease of handling or attachment of appurtenances, and approximately eight inches in width at the base, exclusive of any flanges or lips designed for use in stabilization of the device. These devices shall be fabricated from low-density, reshapeable and reboundable polyethylene plastic and manufactured specifically for traffic control purposes. The plastic shall be highway orange in color and stabilized against fading from ultra-violet or other light rays by the incorporation of adequate inhibitors.

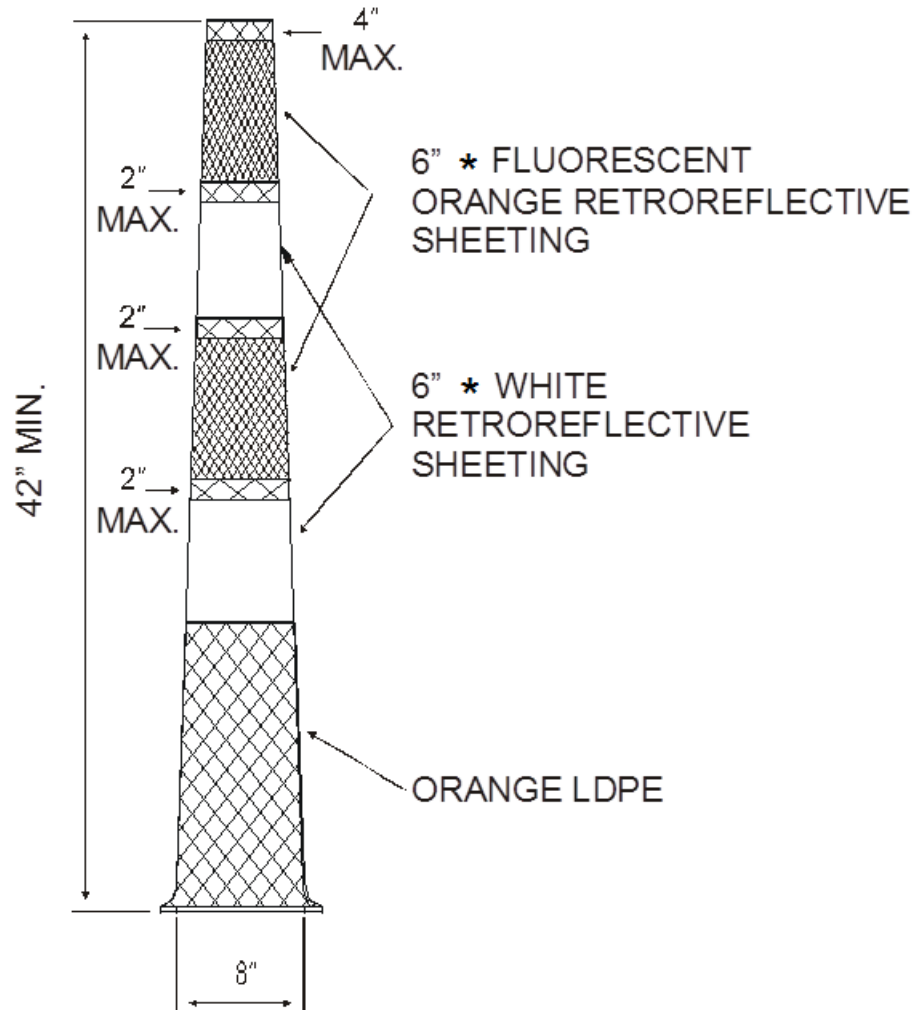
2.2 RETROREFLECTIVE SHEETING. Trim-line channelizers shall be marked as shown in Figure 1. Retroreflective marking shall be in accordance with [Sec 1063](#) and ASTM D 4956, Supplemental Requirements Section S2.

2.3 BALLAST. Trim-line channelizers shall be designed to resist overturning by means of an external, solid rubber ballast located at the bottom of the device. The ballast shall have a minimum weight of 15 pounds and be no more than 18 inches in width.

3.0 CERTIFICATION. The manufacturer shall provide written certification indicating that the trim-line channelizers are in accordance with the requirements of NCHRP 350, Test Level 3 and with this specification.

4.0 ACCEPTANCE. Acceptance of trim-line channelizers will be by certification and testing for compliance with this specification.

Figure 1:



*Fluorescent orange and white reflective sheeting shall be in accordance with Section 1063.3

Plan of Trim-Line Channelizer

*Note – Drawing is not to scale.



SECTION 1063

TEMPORARY TRAFFIC CONTROL DEVICES

1063.1 Scope. This specification covers material to be used for temporary traffic control devices.

1063.2 General Requirements. All temporary traffic control devices shall be manufactured as shown on the plans and as specified, in accordance with MUTCD requirements and shall be NCHRP 350 compliant. Nominal dimensions will be permitted for dimensional lumber where applicable. All temporary traffic control devices shall exhibit good workmanship and shall be free of objectionable marks or defects that affect appearance or serviceability. The brand name or model number shall be permanently identified on each traffic control device.

1063.3 Channelizers and Tubular Markers. All channelizers and tubular markers shall be manufactured from a non-metallic material, pigmented and molded of a Highway Orange color throughout and stabilized against fading by ultraviolet or other light rays by the incorporation of adequate inhibitors. Tubular markers shall be applied with reflective sheeting meeting either ASTM D 4956 Type 4 or 5. Drum-like channelizers shall be closed-top and applied with either ASTM D 4956 Type 3 or 4 reflective sheeting. Trim-line channelizers shall be applied with white sheeting meeting either ASTM D 4956 Type 3 or 4 and fluorescent orange in accordance with [Sec 1042.2.7.3](#). All retroreflective marking on channelizers and tubular markers shall be in accordance with ASTM D 4956, Supplemental Requirements, Section S2. Retroreflective marking on cones will not be required.

1063.4 Signs.

1063.4.1 Rigid Signs.

1063.4.1.1 Sign Substrate. All signs shall be fabricated of substrate designed to provide satisfactory structural rigidity.

1063.4.1.2 Sign Sheeting. All signs shall have a retroreflectorized background. Retroreflective sheeting shall be in accordance with [Sec 1042](#), Type 4 or fluorescent orange and yellow, as shown on the plans. Sheeting shall be applied to the sign substrate in accordance with the manufacturer's recommendations and the surface shall be free of air bubbles, wrinkles or other blemishes as determined by the engineer.

1063.4.2 Roll-up Signs.

1063.4.2.1 Sign Substrate. Sign and overlay blanks shall consist of either white, yellow, fluorescent orange and/or pink microprismatic retroreflective sheeting sealed to a heavy-duty coated fabric or vinyl material. The sheeting shall have a minimum coefficient of retroreflection, expressed as candelas per footcandle per square foot, as shown below, when measured in accordance with ASTM E 810 and shall meet the minimum color requirements in accordance with [MGS-04-01L](#) specification. The color specifications shall be in accordance with ASTM D 4956. Material shall be submitted by the manufacturer to NTPEP for a minimum exposure time of one year. Results shall be published by NTPEP and available for MoDOT review. For all NTPEP test decks, weathered material shall be within the color

specification limits. Heat and impact resistance of the sheeting shall be in accordance with the latest version of ASTM D 4956.

1063.4.2.2 Overlays. Overlays, when used, shall be mechanically fastened to the face of the sign in a manner that will ensure the overlay remains securely attached. Fasteners shall not detract from the appearance of the sign when the overlay is not in use. Velcro fasteners will not be permitted.

1063.4.2.3 Bracing. Each sign shall have a horizontal and vertical cross brace and at least one anti-kiting device located near the center of the sign. Cross braces of sufficient cross-section shall be fastened to each other at the midpoints and the ends securely held to the back of the sign by mechanical means. The design shall ensure that the sign remains taut and retains the sign's intended shape when exposed to normal field conditions.

1063.4.3 Legend and Borders. Legends and borders of all signs shall be vinyl or silk-screened. Vinyl shall be cut by die or a computer-driven cutter. Stencil ink used shall be in accordance with the sheeting manufacturer's recommendations. Free-hand legend and borders will not be permitted.

1063.4.4 Sign Layout and Design. Sign layout and design shall be as shown on the plans or as directed by the engineer.

1063.4.5 Flag Assembly. Flag assemblies, when specified, shall consist of a flag bracket and two flags. Flags shall be 18 in x 18 in fluorescent orange, vinyl and be securely attached on one side to a blank suitable for displaying the flag as shown on the plans. The blank shall be securely attached to the flag bracket, be of sufficient cross-section to display the flag in wind speeds up to 50 mph and be of sufficient length to hold the flags approximately six inches from the sign.

1063.4.6 Advance Warning Rails. Advanced warning rails shall be supplied as a system of three rails as shown on the plans. The rail system may be post mounted or mounted on portable structures. When used on post mounted signs, the advance warning rails shall consist of substrate of high-density polyethylene plastic. The rail wall thickness shall be 1/4 in. with white and orange reflective sheeting in accordance with [Sec 1042.2.7.3](#), and shall be applied as shown on the plans.

1063.5 Strobe Lights. Strobe lights shall be 12/24 VDC battery or solar-powered with amber fresnel, high-profile lenses. Strobe lights shall have a flash rate of 60 to 80 flashes per minute. Each strobe light shall provide no less than 500,000 candlepower of illumination. Each light shall be fully visible through an arc of approximately 120 degrees when viewed facing the sign.

1063.6 Flashing Arrow Panels. All lamps shall have a nominal 5-inch, 360-degree tunnel visor. A lamp on the back side of the flashing arrow panel shall be continuously energized during operation of the flashing arrow panel. Lamps shall be visible at an angle of 15 degrees to the left and right of center and 4 degrees above and below center during "on" time. The flashing arrow panel shall contain a device to align the arrow panel to oncoming traffic. Arrow panels shall be capable of displaying the flashing arrow, flashing double arrow and four corner flashing caution modes. Solar-powered flashing arrow panels shall be capable of operating in the flashing arrow mode for 20 consecutive days and shall be provided with a device to indicate the remaining charge in batteries.

1063.6.1 Trailer-Mounted Flashing Arrow Panels. Trailer-mounted flashing arrow panels shall be MUTCD, Type C. Trailer-mounted flashing arrow panels shall be 4 feet high and 8

feet wide and shall have a minimum of 15 lamps. Trailer-mounted flashing arrow panels shall be solar powered.

1063.6.2 Truck-Mounted Flashing Arrow Panels. Truck-mounted flashing arrow panels shall be MUTCD, Type B. Truck-mounted flashing arrow panels shall be 30 inches high and 60 inches wide and shall have a minimum of 13 lamps.

1063.7 Changeable Message Sign. Each Changeable Message Sign (CMS) shall consist of a message board, solar power supply, computer interface and mounting and transporting equipment.

1063.7.1 Message Board. Each sign shall consist of three lines containing eight individually changeable characters per line. Each character shall be yellow in display on a black background. The CMS shall be legible up to a distance of 650 feet for both day and night operation.

1063.7.2 Computer Interface. The CMS shall have a digital cellular transceiver capable of receiving a message in the location deployed from a remote location and forwarding the message to the CMS controller to change the displayed message.

1063.7.2.1 The CMS shall have the necessary hardware to allow the message to be changed from the CMS location without connection. A minimum 5-foot connecting cable shall be provided to connect the CMS sign controller to a notebook computer. For on-sight operation, the CMS shall have a removable waterproof keyboard with display panel.

1063.7.2.2 The supplier shall provide the Commission the required software and licenses necessary to change the message from a remote location. This software shall be compatible with Windows 98, NT, XP, or 2000 operating systems and shall be able to issue -compatible modem commands. The supplier shall provide technical assistance with the installation and operation of software.

1063.7.3 Solar Power Supply. The power supply shall use a battery bank with sufficient capacity to operate a full display of characters for 30 consecutive days with no sun. All terminals and connections shall be clearly labeled.

1063.7.4 Support. A factory trained service representative shall be available at the delivery location to provide technical assistance, including the installation and operation of software. No additional payment will be made for travel expenses.

1063.8 Portable Traffic Signals. Each portable traffic signal (PTS) system shall consist of two trailer-mounted PTS units, a controller assembly and communication link. Each PTS unit shall consist of signal heads and indications, a solar power supply, vehicle detection and mounting and transporting equipment. All components shall be capable of operating in a temperature range of -20 to 120 F.

1063.8.1 Controller Assembly. The controller assembly shall be a minimum two-phase, solid-state traffic signal controller with a conflict monitor capable of operating the signals in accordance with MUTCD requirements and NEMA Standard TS1. The controller shall operate as a fully-actuated unit and shall have the capability of being manually operated to display simultaneous red on both phases. The controller shall be capable of red rest during non-actuated periods. Upon detection of a conflict, the system shall change to a solid red clearance interval followed by flashing red.

1063.8.2 Communication Link. A continuous communications link between the PTS units shall be provided. If a break in communications between the PTS units occurs, the system

shall change to a solid red clearance interval followed by flashing red. Upon restoration of communications, the system shall change to a solid red clearance interval followed by normal operations.

1063.8.3 Signal Heads and Indications. Each unit shall consist of two polycarbonate signal heads, including backplates and visors. One signal head shall be mounted on the mast arm assembly and the other on the vertical upright. The signal head mounted on the mast arm shall provide a minimum lateral clearance of 9.5 feet from the center of the outer signal head to the edge of the trailer and a minimum vertical clearance of 16 feet from the bottom of the backplate to the roadway surface. The signal head mounted on the vertical upright shall provide a minimum clearance of 8 feet from the bottom of the backplate to the roadway surface. All signal indications shall be 12 inches in diameter. Traffic signal heads and indications shall be in accordance with the vehicle traffic control signal head requirements of ITE and NEMA Standard TS1 and TS2.

1063.8.4 Solar Power Supply. The power supply shall use a battery bank with sufficient capacity to operate the PTS for 20 consecutive days with no sun. All terminals and connections shall be clearly labeled.

1063.8.5 Vehicle Detection. Detection shall be provided by one of the non-intrusive vehicular detection methods specified in [Sec 902](#) or temporary loop detectors with the capability of providing coverage for a 6-foot x 30-foot area. Temporary loops shall be preformed at the factory. The temporary loops shall have self-adhesive rubberized asphalt backing, which shall bond to the pavement.

1063.8.6 Support. A factory trained service representative shall be available at the delivery location to provide technical assistance and training, including the installation and operation of software. No additional payment will be made for travel expenses.

1063.9 Portable Signal Flagging Device. Each portable signal flagging device (PSFD) system shall consist of four portable cart-mounted units. Each PSFD unit shall provide a vertical upright with one signal head, vehicle detection, radio controller, and self-contained power supply capable of operating the unit for 16 continuous hours. All components shall be capable of operating in a temperature range of -20 to 120 F.

1063.9.1 Signal Heads and Indications. The signal head shall consist of three (red ball, amber ball, green ball) 12-inch LED signal indications. All signal heads shall be mounted on the vertical uprights with a minimum clearance of 7 feet when the upright is fully extended.

1063.9.2 Vehicle Detection. Detection shall be provided by one of the non-intrusive vehicular detection methods specified in [Sec 902](#) with the capability of providing coverage for a 6-foot x 30-foot area.

1063.9.3 System Operation. The system shall be able to operate in a fixed-time, traffic-actuated, and manual-control mode. The system shall be MUTCD compliant with a controller and conflict monitor and include a wireless radio communication package and wireless remote.

1063.10 Radar Speed Advisory System. Each radar speed advisory system shall consist of a radar unit, speed display, speed limit display, solar power supply and mounting and transporting equipment.

1063.10.1 Radar Unit. The radar unit shall include necessary cables for connection to the digital display and power supply, shall be capable of instantaneously displaying and locking readings and shall meet the following minimum requirements:

Radar Unit Requirements	
Speed range	15 to 99 mph
Accuracy	±1 mph
Internal test	32 mph check

1063.10.2 Speed Display. The speed display shall be a minimum of 12 inches high and shall be capable of displaying the radar unit output from 0 to 99 mph.

1063.10.3 Speed Limit Display. The speed limit display shall indicate the work zone speed limit by means of a 36 x 48-inch speed limit sign. The speed limit sign may be comprised of a rigid or roll-up sign or a rigid sign with a variable speed display. The variable speed display shall be a minimum of 12 inches high and shall be capable of displaying two digits.

1063.10.4 Solar Power Supply. The power supply shall be capable of operating the radar unit, speed display and speed limit display, if applicable, for a minimum of eight hours per day.

1063.11 Truck Mounted Attenuators. Each Truck Mounted Attenuator (TMA) shall be in accordance with Test Level 3 criteria as set forth in NCHRP 350. Each TMA shall have a standard trailer lighting system, including brake lights, taillights, turn signal lights and Federal Motor Carrier Safety Administration identification bar lights. In the operating position, the rear facing of the TMA shall be marked with alternating 8-inch yellow and 8-inch black retroreflective sheeting. The marking shall form an inverted “V” at the center and slope downward at an angle of 45 degrees toward each side of the unit. The TMA shall be marked with this same pattern and shall have the same standard trailer lighting system noted above when the unit is in the transport position.

1063.12 Certification. The contractor shall furnish a manufacturer's certification for all material governed by this specification. The certification shall indicate full compliance with each applicable specification.



SECTION 1042

HIGHWAY SIGN MATERIAL

1042.1 Scope. This specification covers the material used in signs and fastening devices, and the fabrication of signs.

1042.2 Material. Material shall be of new stock and shall be in accordance with the following, unless otherwise shown on the plans.

1042.2.1 Signs.

Item	Specification
Aluminum Flat Sheets	ASTM B 209, 6061-T6 or 5052-H38
Aluminum Extruded Sign Panels	ASTM B221, 6063-T6

1042.2.2 Sign Appurtenances.

Item	Specification
Aluminum Post Clip	ASTM B 108, 356-T6
Aluminum Bolts	ASTM B 211, 2024-T4 or 6061-T6
Aluminum Nuts	ASTM B 211, 2024-T4, 6061-T6, 6262-T9 or 2017-T4
Aluminum Flat Washers	ASTM B 209, or Alclad 2024-T4 or 2024-T4
Aluminum Lock Washers	ASTM B 211, 7075-T6
Aluminum Lock Nuts (Nylon Insert)	ASTM B 211, 2017-T4
Aluminum Edge Molding	ASTM B 221, 6063-T6
Stainless Steel Bolts, Nuts, Screws and Washers	ASTM A 320 or SAE J405D, Austenitic Steel, Min. Yield 30,000 psi

1042.2.3 Certification. A manufacturer or supplier's Certification of Metal used for signing material listed above shall be furnished to the engineer at the fabrication plant at the time of material inspection. The contractor shall furnish to the engineer the fabricator's certification in accordance with [Sec 903.3.5.2](#).

1042.2.4 Structural Signs. Structural signs shall be fabricated of 0.081-inch minimum extruded aluminum panels and mounted as shown on the plans. The maximum allowable deviation from flatness shall not exceed 0.010 inch per inch width of the panel. Shop drawings for approval from the engineer will be required for any variation in the assembly or mounting details.

1042.2.5 Sheet Signs. Flat sheet signs shall be fabricated as shown on the plans from sheet aluminum of the specified thickness. Flat sheet signs shall not have holes except those drilled or punched for proper mounting.

1042.2.6 Washers. Nylon washers recommended by the sign sheeting manufacturer shall be used between the bolt heads and sign faces on flat sheet aluminum signs. The washers shall be

for use with 3/8-inch bolts and shall have a minimum outside diameter of 3/4 inch, and a nominal thickness of 1/16 inch.

1042.2.7 Retroreflective Sheeting. Retroreflective sheeting shall be in accordance with latest versions or ASTM D 4956 and AASHTO M 268, except as noted herein. Color and luminance values for all MoDOT types of reflective sheeting shall be in accordance with ASTM D 4956. Retroreflective sheeting shall have sufficient adhesion, strength and flexibility such that the sheeting can be handled, processed and applied according to the manufacturer's recommendations without appreciable stretching, tearing, cracking or other damage. Adhesive performance for retroreflective sheeting shall be in accordance with ASTM D 4956. The sheeting surface shall be in condition to be readily screen processed and compatible with transparent overlay films, plus recommended transparent and opaque screen process colors. The retroreflective sheeting manufacturer shall furnish information as to the type of solvent or solvents that may be used to clean the surface of the sheeting without detrimental loss of performance and durability. Retroreflective sheeting having a datum mark on the surface shall be oriented vertically. ASTM D 4956 Type IX, XI or AASHTO M 268 Type C or D retroreflective sheeting applied as legend and border for specific signing applications, without a datum mark on the surface of the sheeting, shall be evaluated for rotational sensitivity per AASHTO M 268, Section 3.3. Retroreflective sheeting products that do not meet the rotational sensitivity requirements of Section 3.3 shall follow guidelines detailed in AASHTO M 268 Section 3.3.1 and fabricated per AASHTO M 268 Section 3.3.2.

1042.2.7.1 ASTM D 4956 Type I, Class 1 retroreflective sheeting shall be enclosed lens glass-bead or prismatic sheeting.

1042.2.7.2 Background sheeting applied to flat sheet and extruded panel signs shall be in accordance with ASTM D 4956 Type IV, Class 1. All yellow, orange and red sheeted signs shall be fabricated with ASTM D 4956 Type IX, XI or AASHTO M 268 Type C or D fluorescent yellow, fluorescent orange and prismatic red sheeting respectively. Retroreflective sheeting shall be high intensity that is an unmetallized micro prismatic reflective material.

1042.2.7.3 Retroreflective sheeting applied as legend and border shall be in accordance with ASTM D 4956, Type IX, XI or AASHTO Type C or D, Class 1. Retroreflective sheeting shall be an unmetallized cube corner microprismatic reflective material.

1042.2.7.4 Screen Print and Overlay. For screen printed transparent colored areas or transparent colored overlay films on white sheeting, the coefficient of retroreflection (R_A) shall be no less than 70 percent of the original values for the corresponding color.

1042.2.7.5 Reflective sheeting for temporary traffic control devices and delineators shall be in accordance with [Sec 1063](#) and [Sec 1065](#) respectively.

1042.2.8 Outdoor Exposure. Retroreflective sheeting, except for work zone signs, shall be submitted by the manufacturer to NTPEP for two years of 45-degree south-facing outdoor exposure. Retroreflective sheeting for work zone signs shall be submitted by the manufacturer to NTPEP for an exposure time of one year. Results shall be published by NTPEP and available for MoDOT review. For all NTPEP test decks, retroreflective sheeting shall have a coefficient of retroreflection at least 50 percent of the specified value for ASTM D 4956 Type I or 80 percent of the original reading for ASTM D 4956 Type IV, IX or XI.

1042.2.9 Manufacturer and Brand Name Approval. The manufacturer shall make available, upon request, NTPEP test results from all test decks, and certification to Construction and Materials, showing reflective material is in accordance with ASTM D 4956 specification. In addition, the manufacture shall, upon request, submit samples representing the retroreflective sheeting tested by NTPEP, and with compatible inks. These samples shall be accompanied by a product data sheet, an MSDS, technical bulletins on sign fabrication and

any special fabrication instructions relative to the retroreflective sheeting submitted. Samples of retroreflective sheeting shall 10 x 10 inches and applied to an aluminum substrate.

1042.2.9.1 Materials that fail to provide satisfactory field performance will be evaluated and may be disqualified from future use on fabricated signs for MoDOT. All corrective actions made by MoDOT will control.

1042.2.10 Type of Characters. Letters, numerals, arrows, symbols, borders and other features of the sign message shall be of the type, size and series shown on the plans or as specified by the engineer. Completed letters, numerals and other units shall be formed to provide a continuous stroke width with smooth edges, and shall yield a flat surface free of air bubbles, wrinkles or other blemishes as determined by the engineer. Units of the sign message shown on the plans shall meet the requirements for the specified type. Type L-1 and L-3 characters shall not be intermixed on a single sign face, unless otherwise shown on the plans or as approved by the engineer.

1042.2.10.1 Type L-1 Characters.

1042.2.10.1.1 The letters, numerals, arrows, symbols and borders shall be applied to the background of the sign by the direct or reverse screen process. Messages and borders of a color darker than the sign field shall be applied to the retroreflective sheeting by the direct process. Messages and borders of a color lighter than the sign field shall be produced by the reverse screen process. Inks used in the silkscreen process shall be of the type to produce the desired color and durability when applied on retroreflective sheeting. Silkscreen inks shall be used in accordance with the manufacturer's recommendations. The ink shall produce the desired color when applied on retroreflective sheeting background and shall dry to a good film without running, streaking or sagging. The screening shall be done in a manner that results in a uniform color and tone, with sharply defined edges of legend and border without blemishes on the sign field that will affect the intended use. Signs after screening shall be dried in accordance with the manufacturer's recommendations to provide a smooth hard finish. Any signs on which blisters appear during the drying process will be rejected.

1042.2.10.1.2 Transparent overlay films may be used as a replacement for the reverse screen process, as recommended by the sheeting manufacturer.

1042.2.10.2 Type L-3, Direct Applied Characters. The letters, numerals, symbols, borders and other features of the sign message shall be cut from the color and type of sheeting shown on the plans, and applied to the sign field in accordance with the sheeting manufacturer's recommendations.

1042.2.10.3 Allowable Variations. The design height of rounded letters or numerals shall be 1/64 inch of height greater than normal height, both on top and bottom of letter or numeral, where rounded. The loop portion of letters such as f, g and y, shall conform to the dimensions shown on the plans with the allowable tolerance. The following variations in dimensions of letters and numerals, regardless of character type, will be acceptable with all measurements made to the nearest 1/8 inch.

Allowable Variation		
Nominal Height, inches	Variation in Height, inches	Variation in Width, inches
4 thru 12	-1/8 to +3/8	-1/4 to +1/4
Over 12	-1/8 to +3/8	-3/8 to +3/8

1042.3 Sign Fabrication. A sign shall consist of aluminum flat sheets or extruded panels retroreflectorized on the face side with all letters, numerals, symbols, borders, corners and route shields mounted on the face, and shall include all necessary mounting devices shown on

the plans. Signs equal to or greater in width than six feet are considered structural (ST) and shall be fabricated on extruded panels. Signs less than six feet in width will be considered sheet (SH) signs and shall be fabricated with flat sheet. Any exceptions to these fabrication standards will be indicated on the plans.

1042.3.1 All signs shall be of the highest quality with consistent daytime and nighttime color and retroreflectivity throughout the sign and produced as follows.

1042.3.1.1 All aluminum substrate shall be given a chromate conversion coating in accordance with ASTM B 449, Class 2, and shall be prepared by one of the Treatment Sequence Options described in ASTM B 449, Appendix X2. The chemicals and solvents shall be applied in strict accordance with the manufacturer's recommendations. Sufficient laboratory facilities to test and control the concentration of the solutions used shall be maintained at the treating plant. A log of the concentration of treating solutions shall be maintained. Treated panels shall be handled in such a manner as to prevent contamination. Panels shall be stored in a dry, clean area free from dust, acid fumes or vapors. When aluminum is shipped to a secondary location for retroreflectorizing, adequate precautions shall be taken to ensure that the material arrives at the destination uncontaminated.

1042.3.1.2 All materials used to fabricate a sign legend, including retroreflective and non-retroreflective sheeting, used for background, letters, numerals, arrows, symbols, borders and other features of the sign message shall be from a single manufacturer.

1042.3.1.3 Retroreflective sheeting splices on structural signs shall be kept to a minimum. Rolled overlap splices in accordance with the sheeting manufacturer's recommendations may be used, with no more than one allowed per panel. Retroreflective sheeting shall be placed on the individual extruded panels in accordance with the manufacturer's recommendations. The sign panels may be clear coated or edge sealed after application of the retroreflective sheeting, if recommended by the sheeting manufacturer. If edge sealer is used, the sealer shall be applied to all splices and edges. The completed sign shall have good color matching of retroreflective sheeting and shall be free from air bubbles, wrinkles or other blemishes.

1042.3.1.4 Retroreflective sheeting applied to standard flat sheet signs shall not have splices on signs where the smallest dimension is less than 4 feet. One vertical overlap splice approximately 1/4 inch wide will be allowed on standard flat sheet signs where the smallest dimension is greater than 4 feet. Any special flat sheet signs requiring splicing other than noted for the standard flat sheet signs shall be as approved by the engineer. The sign panels may be clear coated or edge sealed after application of the retroreflective sheeting if recommended by the sheeting manufacturer. If clear finish is used, the finish shall be applied after screening of messages and borders. If edge sealer is used, the sealer shall be applied to all splices and edges. The completed sign face shall be free from air bubbles, wrinkles or other blemishes.

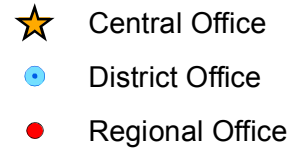
1042.3.2 Nuts on panel bolts used to connect extruded panels together to form a structural sign shall be torqued to 220 - 230 inch-pounds.

1042.3.3 Signs will be accepted on certification from the manufacture assuring all fabrication and sheeting specifications are in compliance with all applicable requirements specified herein. Periodic shop inspections of sign fabrication will be made at the discretion of MoDOT, to include contractor furnished signs for MoDOT projects. Routine shop inspections will include inspection and sampling of materials, inspection of treatment and fabrication processes, and of any signs completed at time of inspection. Inspections on delivered signs for maintenance operations will be conducted for quality assurance purposes by the appropriate district inspectors. Signs may be rejected at the fabrication shop and/or upon delivery based on unsatisfactory workmanship and/or material applications or based on any aspect of the

product that is not in accordance with the specifications. The contractor will be charged with the transportation costs of sign inspectors for trips from Jefferson City, Missouri to which the inspectors must travel for signs provided to MoDOT projects. Transportation costs will be deducted by the Commission from monies due the contractor.

1042.3.4 Signs shall be packaged and shipped according to the reflective sheeting manufacture's recommendations. Signs fabricated and shipped to MoDOT for maintenance operations shall be shipped in accordance with manufacture's recommendations and in a manner that meets the requirements of the engineer. All signs shall include decals indicating sign production date, lot number of reflective sheeting used in the production of sign and other information necessary for proper sign fabrication. Upon shipment of signs to MoDOT, certifications shall be submitted thereafter to Construction and Materials. Required paperwork shall include a certification statement indicating signs meet all applicable requirements herein to include aluminum standard and extruded panel, reflective sheeting (manufacturer, series and color), and hardware certifications. Material quantities, such as square foot of flat sheet, extruded panels, if produced, reflective sheeting and a shipping list of all signs shall be included in the certification packet.

District Map



6/27/2011

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.