STATE OF LOUISIANA

DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT

LOUISIANA DEPARTMENT OF TRANSPORTATION & DEVELOPMENT

TECHNICAL SPECIFICATIONS FOR

BOARD, MESSAGE, VARIABLE, TOWABLE, SOLAR POWERED

SERIES NO. 278-000

Equipment Specification 278-000C

WARNING TO BIDDERS:

Bidder should complete every item described in detail in the "Specification Descriptions" section by either entering a check mark in the space provided to indicate the item being bid is exactly as specified or bidder should enter a written description to indicate any proposed item which will deviate from the specifications.

THIS SPECIFICATION SHOULD BE EXECUTED IN ACCORDANCE WITH THE ABOVE INSTRUCTIONS AND RETURNED ALONG WITH BID AND LITERATURE TO BE CONSIDERED FOR AN AWARD.

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
General	These specifications describe the minimum requirements for a **BOARD, MESSAGE, VARIABLE, TOWABLE, SOLAR POWERED.** **Any proposed value that is less than a minimum requirement will not be accepted.** This equipment shall be new, a production model of current manufacture, and must meet all state and Federal safety standards in effect at time of delivery. Any additions, deletions, or variations from the following specifications should be noted in the Bidder's Proposal. Any items appearing in the manufacturer's regular published specifications furnished by the Bidder are assumed to be included in the "Bidder's Proposal." Any additions, deletions or variations from the manufacturer's regular published specifications should be outlined in an attached letter.	
Typical Specifications	A **Wanco Model** WTLMB **Message Director,** with appropriate options, was used to develop these specifications. Equipment of similar style, type, character, quality, features, and purpose conforming to the following detailed requirements/specifications will be considered. To that end and prior to award, the vendor must provide upon request any necessary manufacturer information (catalogue sheets, detailed specifications, pictures, etc.) for any of the exceptions taken on the bid proposal. This information will be evaluated to determine if the aforementioned exception(s) are equivalent. These specifications used the standard options/features of the above listed items as the basis and minimum requirements for establishing equivalency. **Note: Any variable message sign proposed must be designed in accordance with all applicable MUTCD requirements as well as evaluated by NTPEP for field performance. A sign that does not have documentation of a NTPEP evaluation will not be considered for an award, and that documentation must be available from NTPEP's website.**	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
Workmanship	Any unit delivered under this specification is subject to rejection if there is evidence of poor workmanship, by either the vendor or the original manufacturer. Any defect/nonconformity, so noted, may be corrected by the vendor to the satisfaction of the Equipment Engineer or his representative. All defect/nonconformity corrections must be completed before invoices can be processed for payment. Vendor installation of any portion of equipment unit(s) should be stated in "Bidder's Proposal". Failure to note such installations can result in rejection of the unit(s) at the time of delivery. **Note: Bidder shall have a facility in the State of Louisiana with properly trained technicians plus all other resources necessary to perform warranty service on the truck chassis portion of this piece of equipment. All such service must be performed in complete accordance with the truck manufacturer's requirements, and a letter to certify this ability may be required.**	
Note	**All Values listed below are minimums unless noted.**	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
	Equipment	
Trailer	• Frame shall be all welded structural steel • 16ga, rectangular full wheel fenders with inner splash panel to be bolted to the trailer frame • Tie-downs on each corner of the frame • Shall be coated with oven-baked, safety orange powder-coat finish. Assemblies are to be run through a five-stage, high-pressure phosphate-wash prior to finish coat • Single axle, torsion-type, 3500lb axle • Heavy duty hitch with pintle eye and 2" ball multi-fit coupler, adjustable height • Safety chains with safety hooks • Top-wind swivel jack, 800-lb. capacity with caster wheel • Four (4) each: 2,000 lbs. capacity, top wind, swiveling, non-removable leveling jacks, one mounted on each corner of trailer • Two LED Taillights to be held in place and sealed with a snap-in rubber grommet. Taillight bracket shall be welded to trailer frame • Trailer must meet all State and Federal safety standards applicable at the time of delivery	
Lift	Mast shall be powered for raising to display elevation	
Electrical System	• Battery powered with solar charging • Batteries are to be AGM deep-cycle type (not to exceed 70 lbs. per battery) with sufficient total capacity to operate the variable message sign for a minimum of 10 days without solar input. • A built-in auxiliary 110 VAC powered charging system with sufficient capacity to completely recharge the sign battery bank in 24 hours or less of proper design to prevent over charging or drying out the batteries (i.e. true trickle charge) shall be provided. Charger shall be Dual Pro PS2 or Iota DLS-75 with IQ4 Smart Charger or approved equal	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
	• Electrical system shall be of adequate capacity/design to provide sufficient power to operate the message board continuously for one year at any location in Louisiana without any external inputs. • All electrical and electronic devices shall utilize DC input power only. No DC-to- AC voltage conversions are permissible. All devices must be temperature hardened, able to withstand at least 120F. • Electrical system to be equipped with all necessary instrumentation, controls, and diagnostics. The following minimum real time diagnostic data as obtained from the sign shall be collected and displayed. 1. Sign ID and firmware version 2. Battery voltage and amperage 3. Solar voltage and amperage 4. Pixel error warning 5. Voltage warning 6. Photo cell warning 7. Temperature warning 8. Message error warning 9. Feedback of message displayed	
Sign/Display	Size: 138" wide x 75" tall Sign shall provide three lines of text with eight characters per line and each character being 18" tall. Each line is to be separated from its adjacent line by a reasonable margin. Any section of the sign face with failed LEDs must be replaceable with interchangeable modules. Message flash rate: variable, from 0.5 to 10.0 seconds per frame. Legibility/Color – Sign shall have a daytime legibility of 970' and angularity (1/2 angle calculation) of 15 degrees as evidenced by NTPEP field performance evaluation results. Display is amber in color. Any product that has not been tested by NTPEP is unacceptable. **Bidder should provide support documentation with bid packet. Documentation must be provided before an award is made.**	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
	View angles – The sign shall rotate a complete 360 degrees atop the lift mechanism when fully elevated. The sign can be locked into various viewing angles with a positive rotation lock. In the transit position, the sign is rotated parallel to the direction of towing for minimum wind loading. Construction – Sign face must consist of a set of individually removable modules that are completely interchangeable with all other modules. Modules must be permanently attached in such a fashion to provide both electrical contact and vibration isolation while being easily replaceable in the field with minimal tools. The message section is in a weather tight housing with the front sign face covered with a polycarbonate hinged cover for ease of service. Sun shields, non-glare coatings, etc. are utilized to maximize daytime visibility of messages. LED brightness is automatically adjusted to accommodate for prevailing ambient lighting conditions.	
Control Panel	• Touchscreen, full color, backlit 7-inch display, capacitive touch panel • Menu-based structure, accessed with virtual buttons on the touchscreen display, provides access to all sign functions including programming messages • Virtual keyboard appears when required for text entry • LED indicators for the following status conditions: 1. Message sign power is on 2. Solar charging system is charging batteries 3. System power shutdown occurred 4. Programmed schedule is active • The software shall utilize multi-tasking protocol to provide communications support while simultaneously allowing a local operator to input commands for local sign control. • Software provides for storage of 25 sequences for display on the sign. Each sequence consists of six, three line by eight character messages. • In a default condition, the controller software automatically switches the trailer to a minimum power mode to preserve batteries.	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
	• The software provides for single keystroke command to display large moving arrows for arrow board type applications • Software allows for message and sequence search by number entry or scrolling of data to select message desired • Software shall be fully NTCIP 9001 compliant	
Communication	Each variable message sign shall be configured and provided with all necessary hardware to allow future remote communication capabilities. Modem shall be for operation in harsh environments and shall also have GPS capability with antenna. Vendor will provide modem only.	
Electrical Interference	Sign shall be unaffected by any RF interference.	
Literature	The following operations information is provided with the sign: 1. Operating Manual 2. Parts Manual 3. Wiring Diagram 4. Trouble Shooting Guide Warranty repair action shall begin within 24 hours after notification is made to the vendor for need of warranty repairs. 72 hours in total downtime, per occurrence, for repairs or parts will be considered the maximum allowable. Any variance will be handled on a case by case basis and at DOTD's discretion. A representative of the vendor will be notified by telephone at the location and telephone number designated by the vendor on the Bid. The vendor shall notify DOTD immediately of any changes in this location and/or telephone number	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
NOTE	The equipment manufacturers must mutually resolve any unexpected component conflict with a sound and functional solution as a requirement of this specification.	
Operation	Unit(s) must have been test run by the vendor for proper operation of all features and capabilities of the make and model described in the successful bidder's proposal, and documentation for verification of the test(s) may be required prior to acceptance by DOTD.	
Delivery	Unit(s) delivered to DOTD must be completely assembled (including but not limited to all components, accessories, etc.) and ready for operation. **Unit(s) must be delivered "on the ground;" DOTD will not unload from any trucks, trailers, vans, etc.** **Note: LADOTD will have space available for successful bidder to unload.**	
Serviced	• All dealer Pre Delivery Inspection (PDI) must be completed prior to acceptance. • All fluid levels are to be at full mark. • Fuel tank(s) to be full. • Any necessary lubrication performed etc.	
Parts	Vendor should attach to bid a listing of the Louisiana locations where parts and service can be obtained.	
Descriptive Literature	TWO (2) COPIES OF DESCRIPTIVE PRODUCT ADVERTISEMENT-LITERATURE (BROCHURES) SHOULD BE FURNISHED WITH BID. EACH PIECE OF EQUIPMENT WILL BE ACCOMPANIED BY: 1. Certificate of Origin 2. Dealer's Service Policy 3. Owner's/Operator's Manual	

ITEM I/D	SPECIFICATION DESCRIPTIONS	BIDDER'S PROPOSAL
	4. A notarized Bill of Sale (two per unit) 5. Service/Repair Manual(s) **Invoices will not be processed for payment until the delivered unit passes inspection for specification compliance.**	
Delivery Time	**TIME OF DELIVERY MAY BE CONSIDERED IN DETERMINING SUCCESSFUL BIDDER**	

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TECHNICAL SPECIFICATIONS FOR

BOARD, MESSAGE, VARIABLE, TOWABLE, SOLAR POWERED

SERIES NO. 278-000

Equipment Specification 278-000G

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Typical Specifications	A **Wanco Model WVTM Mini Matix Message Sign**, with appropriate options, was used to develop these specifications. Equipment of similar style, type, character, quality, features, and purpose conforming to the following detailed requirements/specifications will be considered. To that end and prior to award, the vendor must provide upon request any necessary manufacturer information (catalogue sheets, detailed specifications, pictures, etc.) for any of the exceptions taken on the bid proposal. This information will be evaluated to determine if the aforementioned exception(s) are equivalent. These specifications used the standard options/features of the above listed items as the basis and minimum requirements for establishing equivalency. **Note: Any variable message sign proposed must be designed in accordance with all applicable MUTCD requirements as well as evaluated by NTPEP for field performance. A sign that does not have documentation of a NTPEP evaluation will not be considered for an award, and that documentation must be available from NTPEP's website.**	

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	Equipment	
Trailer	• Frame shall be all welded structural steel • 16ga, round full wheel fenders with inner splash panel to be bolted to the trailer frame • Tie-downs on each corner of the frame • Shall be coated with oven-baked, safety orange powder-coat finish. Assemblies are to be run through a five-stage, high-pressure phosphate-wash prior to finish coat • Single axle, torsion-type, 2000lb axle • Heavy duty hitch with pintle eye and 2" ball multi-fit coupler, adjustable height • Safety chains with safety hooks • Top-wind swivel jack, 800-lb. capacity with caster wheel • Four (4) each: 2,000 lbs. capacity, top wind, swiveling, non-removable leveling jacks, one mounted on each corner of trailer • Two LED Taillights to be held in place and sealed with a snap-in rubber grommet. Taillight bracket shall be welded to trailer frame • Trailer must meet all State and Federal safety standards applicable at the time of delivery	
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Sign/Display	• Size: 96" wide x 55" tall • Full matrix display • Weather-resistant cabinet contains display modules and related electronics. Hinged door with full-size display window protects electronics and provides access for maintenance • Cabinet and door are coated with oven-baked, flat-black, powder-coat finish to ensure durability and corrosion protection. Assemblies are high-pressure phosphate-washed prior to finish coat • Two cooling fans located at the top of the display cabinet circulate air into, through, and out of the cabinet to cool electrical components. A temperature sensor is mounted on the photocell PC board inside the cabinet to control fan operation. Each fan has its own thermal settings, adjustable with the onboard computer, to optimize battery power usage • Construction	

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	○ Sign face must consist of a set of individually removable modules that are completely interchangeable with all other modules. ○ Each module has a matrix of LEDs installed on its face, which light up to show a portion of the configured message. ○ Modules have quick-connect electrical connectors for easy servicing. All wiring terminates at a single terminal strip inside the display cabinet. ○ Modules must be permanently attached in such a fashion to provide both electrical contact and vibration isolation while being easily replaceable in the field with minimal tools. ○ The message section is in a weather tight housing with the front sign face covered with a polycarbonate hinged cover for ease of service. ○ Sun shields, non-glare coatings, etc. are utilized to maximize daytime visibility of messages. • Color range – Amber • Visibility - 4800 ft. per NTPEP results • LED brightness is automatically adjusted to accommodate for prevailing ambient lighting conditions. • Legibility - Word recognition with default font, 611 to 702 ft. per NTPEP results • Viewing angle - Total viewing area with optical lenses, 44.2 to 48.8 degrees per NTPEP results • Message flash rate: variable, from 0.1 to 25.5 seconds per frame. • Any product that has not been tested by NTPEP is unacceptable. **Bidder should provide support documentation with bid packet. Documentation must be provided before an award is made.** • View angles – The sign shall rotate a complete 360 degrees atop the lift mechanism when fully elevated. The sign can be locked into various viewing angles with a positive rotation lock. In the transit position, the sign is rotated parallel to the direction of towing for minimum wind loading.	

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Parts	Vendor should attach to bid a listing of the Louisiana locations where parts and service can be obtained.	
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