

**Invitation to Bid
Town of Warren, RI
Thermal Imaging Devices**

The Town of Warren seeks sealed bids for the provision of two (2) thermal imaging devices.

Specifications are available online at www.townofwarren-ri.gov or in the Warren Town Clerk's Office, 514 Main Street, between 9 a.m. and 4 p.m. Monday through Friday.

Bids shall be submitted in a sealed envelope marked "THERMAL IMAGING" and delivered to the Town Clerk's Office prior to 10 a.m. Thursday, July 28, 2011, at which time the bids will be publicly opened and read.

The Town of Warren reserves the right to reject any or all bids and to waive any informalities and to accept the proposal deemed to be in the best interest of the Town.

Persons requesting interpreter services for the hearing impaired must notify the Town Clerk's Office not less than 48 hours prior to the bid opening. (401-245-7340)

Warren is an equal opportunity provider and employer.

Julie A. Coelho
Town Clerk

INSTRUCTIONS TO BIDDERS

1. DEFINITION OF TERMS

- 1.1 The word “Town” is used to designate the Town of Warren having its principal office at 514 Main Street, Warren, RI 02885-4369, or its duly authorized representatives for whom the goods or services described are to be acquired.
- 1.2 The term “Contract Documents” means all documents contained in the “Specifications and Bid Documents” along with any addenda thereto, and also includes all Plans, Reports or other drawings or materials specifically referred to in the Contract Documents.
- 1.4 The word “Bidder” is used to designate any party submitting a Bid to supply the goods or services specified in the Contract Documents.
- 1.5 The words “Scope of Work” or “Scope of Services,” which may be used interchangeably, mean that which is required, whether fully or partially provided, and includes all other labor, materials, equipment and services provided or to be provided to fulfill the obligations of this Contract.

2. BIDDERS TO EXAMINE CONTRACT DOCUMENTS

- 2.1 In accordance with the terms and conditions of the contract documents, the Bidder must do the following before submitting a bid:
 - 2.1.1 Examine the Contract Documents thoroughly.
 - 2.1.2 Become familiar with federal, state and local laws, ordinances, rules and regulations that may in any manner affect the cost, progress or performance of the Contract.
- 2.2 Bidders must carefully examine the contract Documents and, in addition, must use whatever means may be necessary to completely satisfy themselves of the extent and requirements thereof.
- 2.3 Submission of a Bid by a bidder is a representation that the Bidder has become familiar with the extent and requirements of the Contract and has correlated personal observations with the requirements of the Contract Documents.
- 2.4 Failure on the part of Bidders to thoroughly acquaint themselves with all details of all goods or services to be provided under the Contract and the conditions under which they will be provided will not be considered as a valid excuse for claims of any kind after the award of the Contract.

3. INTERPRETATION OF CONTRACT DOCUMENTS

- 3.1 If Bidders fail to fully understand any clause or requirement of the Contract Documents, inquiry must be made of the Purchasing Director for an interpretation in advance of the submission of the bid. Also, Bidders shall promptly notify the Purchasing Director of any ambiguity, inconsistency or error

that they may discover upon examination of the Contract Documents. Such inquiries or notices shall be in writing and shall be received by the Purchasing Director at least seven (7) days prior to the date fixed for the opening of bids. Inquiries that are received fewer than seven (7) days prior to the date fixed for the opening of bids may not be answered. Answers will be issued in the form of addenda mailed or delivered to all parties known as having received a set of the Contract Documents. Only those questions that are answered by written addenda shall be binding. Oral and any other interpretations that may be given will be considered as having no legal effect on either the Bidder or the Town.

- 3.1.1 Receipt of addenda must be acknowledged in the space provided for the purpose in the Bid Forms. If a Bidder does not acknowledge receipt of any Addendum, he shall still be required to comply with said Addendum.
- 3.1.2 All Addenda shall become part of the Contract Documents and shall take precedence over the original Contract Documents. Subsequent Addenda shall take precedence over previously issued Addenda.

3.2 In the interest of brevity, the Contract Documents frequently omit modifying words such as “all” and “any” and articles such as “the” and “an”, but the fact that a modifier or an article is absent from one (1) statement and appears in another is not intended to affect the interpretation of either statement.

4. SCOPE OF SERVICE

- 4.1 The Town of Warren is seeking proposals for two (2) thermal imaging devices and a 12V vehicle charger, retractable lanyard, carabiner and batteries. A minimum two-year warranty covering all labor and materials is required.
 - 4.1.1 Specifications are attached. Bidder shall indicate manufacturer on the bid form.
 - 4.1.2 The Specifications are for the device which, in the opinion of the Warren Fire Department, best suits the needs of the Town. Bidders may propose any acceptable thermal imaging device but if the device proposed differs from the device specified, the Bidder must demonstrate to the satisfaction of the Town that the item proposed is equal to or better than that specified. The decision of the Town regarding comparability shall be final.
 - 4.1.3 Bidder shall indicate on the bid form the delivery date in number of days following receipt of order

5. REJECTION OF BIDS

- 5.1 The Town may disqualify a Bidder if the Town has had prior negative experience with the Bidder. In addition, the Town reserves the right to reject any Bid that does not conform with the Contract Document requirements.
- 5.2 In the event that the Town shall reject any or all Bidders for any reason whatsoever, no Bidder shall be entitled to any compensation in connection with

the preparation and submittal of the Bid or for any profits that might have been anticipated had the Contract been awarded to the Bidder.

6. AWARD OF CONTRACT

- 6.1 In evaluation the Bids, the Town shall consider the qualifications of the Bidder and whether Bids comply with the prescribed requirements.
- 6.2 The Town may consider operating costs, maintenance requirements, performance data and guarantees of materials and equipment.
- 6.3 The Town may conduct such investigations as it deems necessary to assist in the evaluation of any Bid, and to establish the responsibility, qualifications and financial ability of the Bidders to complete perform the Contract in accordance with the Contract Documents to the satisfaction of the Town within the Contract time.
- 6.4 Bidders are hereby advised that the Contract, if awarded, shall be awarded to the lowest responsible Bidder based upon the evaluation by the Township. Criteria include but are not limited to, the relationship of the goods or services offered to the specifications, performance and reliability of vendor and acquisition cost.

7. BID SUBMITTALS

- 7.1 Bids must be submitted upon the Bid Form included in the Contract Documents. The Bid Form must be fully filled out. Prices must be written in words and also stated in figures. The Compliance with Specifications form must also be completed. Forms must be filled out in ink or printed. Pencil submissions are not allowed. Failure on the part of Bidder to conform to these requirements may be deemed, in the sole discretion of the Town, cause for rejection of the Bid as non-responsive.
- 7.2 Bids shall be enclosed in a sealed envelope. On the outside of the envelope, bidder shall show its name and address and shall indicate clearly "BID FOR THERMAL IMAGING."
- 7.3 All Bids are due at 10:15 a.m. on July 28, 2011. Any Bid received after the designated time shall be considered unresponsive and shall be returned unopened to the bidder.
- 7.4 All Bids shall be addressed to:
 - Town Clerk's Office
 - Town of Warren
 - 514 Main Street
 - Warren, RI 02885

Bids may be hand-delivered, sent via U.S. Postal Service or by overnight delivery service such as FedEx or UPS. The Town of Warren will not be responsible for late delivery without regard to the method of delivery.

BID FORM: PROVISION OF THERMAL IMAGING DEVICES

TO: Town of Warren
Office of Town Clerk
514 Main Street
Warren, Rhode Island 02885

Date: _____

Submitted By: _____

Include Address _____

Telephone # _____

BASE BID

Having examined the specifications and other Contract Documents prepared by the Town of Warren for the above mentioned project, we the undersigned, hereby propose as follows:

Thermal imaging device as specified: (Amount in figures) \$ _____ per unit

(Amount in words) _____

Equipment manufacturer name: _____

Delivery to be in _____ calendar days from date of order.

ACKNOWLEDGEMENT OF ADDENDA

List number and date received for each addendum.

ACCEPTANCE

This bid shall irrevocably open to acceptance for 90 days from the bid closing date.

SIGNATURES

(Bidders Printed Name)

By: _____
(Signature)

Title: _____

Date: _____

BID FORM: COMPLIANCE WITH SPECIFICATIONS

Bidders must fill out and return this form with their bids. Indicate whether product being proposed meets all aspects of each specification indicated or whether there is an exception taken. If there is an exception, provide details of the variance from the specifications. Use additional sheets as necessary.

Spec		Comply	Exception
A	Component Parts	_____	_____
B	Certifications	_____	_____
C	Specific Requirements		
	1 Sensor	_____	_____
	2 Optics	_____	_____
	3 Mechanical	_____	_____
	4 Electrical	_____	_____
	5 Environmental	_____	_____
	6 Warnings/Indicators	_____	_____
	7 Battery Status	_____	_____
	8 Low Sensitivity Indicator	_____	_____
	9 Over-temperature Warning	_____	_____
	10 Direct Temperature Measurement	_____	_____
	11 Heat Seeker PLUS Indicator	_____	_____
	12 Rechargeable Lithium Ion Battery Pack	_____	_____
	13 Stand-alone Battery Charger	_____	_____
	14 Truck-mounted Charger	_____	_____
	15 Carrying Attachments	_____	_____
	16 Video Connector	_____	_____
	17 Operation/Instruction Manual	_____	_____
	18 Warranty	_____	_____

NON-COLLUSION AFFIDAVIT

To: Town of Warren
Re: Provision of Thermal Imaging Devices

STATE OF RHODE ISLAND }
COUNTY OF BRISTOL }

I _____ (name) of the _____ (municipality)
In the County of _____ and the State of _____, of full age, being duly sworn
according to law, on my oath depose and say
I am _____ (official position) of _____ (bidder's name), the Bidder
making the Bid for this Project.

I execute the said Bid with full authority to do so.

I, and to the best of my knowledge, the Bidder, and any officer, director, employee or other representative of the Bidder, have not, directly or indirectly, entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free, competitive bidding in connection with the above named Project.

All statements contained in said Bid and all Contract Documents and in this affidavit are true and correct, and made with full knowledge that the Project Owner relies upon the truth of the statements contained in said Bid and Contract Documents, and in the statements contained in this affidavit, in awarding the contract for the said Project.

I further warrant that no person or selling agency has been employed or retained to solicit or secure such contract upon an agreement or understanding for a commission, percentage, brokerage or contingent fee except bona fide employees or bona fide established commercial or selling agencies maintained by the Bidder.

Sworn on behalf of: _____
By: _____

Sworn and subscribed to
before me this _____ day
of _____, 2011

BIDDER CORPORATE/PARTNERSHIP RESOLUTION

This document shall be executed where the bidder is a corporation or partnership and is evidence of authority to bind the bidder if it is such an entity.

To: Town of Warren
Re: Provision of Thermal Imaging Devices

Resolved that the following named Officers or Partners

Be and they are hereby authorized and empowered to sign and submit to the Town of Warren the attached Bid and other Bid Submission Documents, and further that said Officers or Partners are authorized to execute the Contract and any other agreement or bond or statement necessary to fulfill the obligations required by the Contract Documents incurred by the acceptance of the Bid by the Town of Warren.

I hereby certify that the above constitutes a true copy of a Resolution or Partnership Agreement passed and approved by the Board of Directors or Partners at a meeting held on the _____ day of 20__.

Signature of Bidder's Authorized Representative: _____
Title of Signer: _____ Date: _____

Attested by: _____
Title: _____
Date: _____

**TOWN OF WARREN FIRE DEPARTMENT
BID SPECIFICATIONS
THERMAL IMAGING CAMERA**

The Town of Warren is accepting bids for a Thermal Imaging Camera (TIC). It is the intent of these specifications to provide the Town two (2) Thermal Imaging Cameras as hereinafter specified. With a view of obtaining the best results and the most acceptable instrument for service in the fire department, these specifications cover only the general requirements as to which the camera must conform, together with certain details which the successful bidder must conform. The Town of Warren reserves the right to accept the best bid and also reserves the right to waive any formalities.

The Thermal Imaging Camera (TIC) covered by this specification shall be of the type incorporating a 320x240 vanadium oxide microbolometer focal plane array sensor. The TIC displays black and white representations of the scene on a 3.5 inch diagonal LCD display. Its design is optimized for firefighters in its ergonomic design and ease of incorporation with firefighting gear. It features a dual handle design for easy handoff and handling and a high impact, heat resistant housing that ensures that the TIC will withstand the rigors of the firefighting environment. It is further protected by a rubber bumper system that provides additional protection from extremely harsh environments. The TIC shall be tested and comply with the following standards:

A. Component Parts:

The product shall consist of the following component parts.
One Thermal Imaging Camera with Direct Temperature Measurement and Heat Seeker PLUS Indicator
Two Lithium Ion Battery Packs
One stand alone battery charger with wall plug and cigarette lighter adapter
One vehicle mounted charging system
One attachment carabiner and retractable lanyard
One video out connector
One Operating manual

B. Certifications:

1. The product must meet the following standards/certifications:

- a. Water/Dust Ingress International Standard CEI, IEC 529, IP 67 Classification
- b. Direct Flame/Heat Exposure Simulated NFPA 1981-2002 Ed., NFPA 1982-1998 Ed.
- c. Vibration MIL-STD-810E Category 1 Loose Cargo Transport
- d. Radio Frequency Interference CE/EN 50081-2:1992, EN 50082-2: 1992, FCC Part 15
- e. Rollover (Vehicle Charger) Simulated NFPA 1901-12, 1.7

C. Specific Requirements:

1. Sensor:

- a. Type: Uncooled Vanadium Oxide Microbolometer Focal Plane Array Detector
- b. Array Size: 320x240
- c. Spectral Response: 8-14 microns
- d. NETD: $\leq 65\text{mK}$ (in High Sensitivity), $\leq 250\text{mK}$ (in Low Sensitivity)
- e. Dynamic Range: -40° to 320°F (-40° to 160°C) in High Sensitivity, -40°F to 1040°F (-40°C to 560°C) in Low Sensitivity
- f. Video standard: 16 bit real time analog
- g. Frame rate: 30 Hz
- h. Video output: NTSC

2. Optics:

- a. Lens: 19mm, F1.4
- b. Field of View: 36° horizontal, 27° vertical
- c. Focus: Optimal 3' to ∞ (1m to ∞)
- d. Digital Zoom: 2X (optional)

3. Mechanical:

- a. Dimensions: 10.8" x 8.1" x 4.4" (275mm x 205mm x 112mm)
- b. Base Weight: 45 oz. (2.8 Lbs)
- c. Materials: Outer case and bumper materials pass simulated NFPA 1981:2002 edition direct flame and heat exposure tests.
- d. Outer housing: Bayer PCPET Makroblend
- e. Rubber Bumpers: FR Neoprene
- f. Display cover: Heat and scratch resistant polycarbonate

4. Electrical:

- a. Power Supply: Supplied by an integral battery pack
- b. Power Consumption: $< 6\text{ W}$ nominal
- c. Video Output: RS-170 a standard SMA connector is included under the display for direct connection to a remote video source. An SMA to BNC adapter is included.
- d. Display: 3.5 inch LCD backlit display

5. Environmental:

The TIC shall be designed to have the following temperature tolerances:

- a. Ambient Temp.: Operating Time
 - 80°C , 176°F : > 30 minutes
 - 120°C , 248°F : > 20 minutes
 - 260°C , 500°F : > 8 minutes
 - -30°C , -22°F : > 40 minutes
 - -40°C , -40°F : > 25 minutes
- b. Water/Dust Ingress: The TIC shall resist the ingress of dust and water and must conform to International Standard CEI IEC 529; Degrees of Protection Provided by Enclosures (IP Code); IP-67 classification.
- c. Impact/Drop: Dropped 3 consecutive times onto concrete from 6' at any angle with no operational defaults or physical compromise of the outer housing.
- d. Vibration: The TIC and components housed in the carrying case shall be resistant to vibration and must conform to MIL-STD-810E, Category 3, loose cargo transport.

- e. RFI/EMC: The TIC should not interfere with standard firefighter frequency bands at power levels found in hand-held (3-5W) and vehicle mounted systems (~100W). Communication/electronic devices cannot affect the TIC to the point where navigation with the TIC is compromised when the TIC is subjected to RF interference of 80 MHz to 1 GHz at 30V/m. The TIC must meet RFI emissions and susceptibility of CE/EN.

6. Warnings/Indicators:

There will be one green LED to indicate the TIC status. It will function as follows:

- a. Green: TIC in normal mode and functioning correctly
- b. Flashing Green: TIC in standby mode and functioning correctly

7. Battery Status:

- a. Total battery capacity will be indicated in the viewing area with a row of 3 LEDs. They will function as follows:
 - Green: Full Battery Capacity
 - Yellow: Marginal Battery Capacity
 - Red: Battery Warn – Lit for 15 min. before shutdown
 - Flashing Red: Battery Shutdown – Flashes 60 sec. before shutdown
- b. Shutter Indicator: On-screen indicator which appears as a small block in the upper left corner of the display when the camera shutters, indicating that a re-scan of the area is necessary.

8. Low Sensitivity Indicator:

On-screen indicator which appears as the letter “L” in the lower left portion of the screen. This indicates activities when the TIC is in Low Sensitivity.

9. Over-temperature Warning:

There will be one red LED to indicate the TIC's over-temperature status. It will function as follows:

- a. Not Lit: TIC is within operational thermal limits
- b. Flashing Red: TIC has exceeded recommended operational thermal limits

10. Direct Temperature Measurement

- a. Installation: Integrated inside of the TIC without any add-on devices.
 - Capability can be included at time of purchase or added to the base camera by MSA Repair and Service Center.
- b. Device: Measurement taken from FPA
- c. Range: 32°F to 300°F (0° to 150°C) in High Sensitivity, 32°F to 1000° (0° to 500°C) in Low Sensitivity
- d. Tick Marks: 100°F and 200°F (50°C and 100°C) in High Sensitivity; 250°F, 500°F, 750°F in Low Sensitivity
- e. Accuracy: $\pm 27^{\circ}\text{F}$ (15°C) or $\pm 10\%$ which ever is greater. For temperatures greater than 435°F (225°C) $\pm 20\%$
- f. Readout: Thermometer style bar indicator in Fahrenheit or Celsius available. Digital temperature feature displays the approximate number value of the temperature of objects located in the spotter.

11. Heat Seeker PLUS Indicator

- a. Installation: Integrated inside of the TIC without any add-on devices.
Capability can be included at time of purchase or added to the base camera by manufacturer's repair and service center.
- b. Device: Measurement taken from FPA
- c. Readout: Graduated color (yellow to orange to red) of portions of a scheme that are above 275°F, (135°C)-yellow, 297°F (147°C)-red, in High Sensitivity, or 842°F (450°C)-yellow, 914°F, (490°C)-red, in Low Sensitivity mode

12. Rechargeable Lithium Ion Battery Pack

- a. Battery Type: Rechargeable Lithium Ion battery pack
- b. Battery Location: Inside the handle
- c. Battery Weight: 3.2 oz.
- d. Operating Time: 2 hours

13. Stand-Alone Battery Charger

- a. Battery Charge Time: 2 hours nominal
 - b. Power Supply: 110 VAC (220VAC optional)
 - c. 12 VDC Cigarette adapter included
- ### **14. Truck Mounted Charger**
- a. Functionality: The truck mounted charger will charge the TIC and one spare battery while properly installed in the vehicle. Each truck charger will come with a mounting kit for installation on the vehicle.
 - b. The charger will draw less than 1.5 amps of power.
 - c. Battery Charge Time: 3 hours nominal, trickle maintenance charge.
 - d. Power Supply: 12-24 VDC
 - e. Vibration: The truck mounted charger must safely charge the TIC while in a moving vehicle – reference MIL-STD-810E — vibration resistance.
 - f. Rollover: The truck mounted charger must meet the rollover requirements identified in NFPA 1901-12-1.7
 - g. LED Indicators: The truck mounted charger user interface will consist of 3 LEDs: 1 LED for each battery (inside the TIC and one spare) and 1 LED for the system status. They will operate as follows:
Battery Status: Not Lit - Battery not present
Flashing Green-Slow: Charge pending
Flashing Green-Fast: Charge in process
Green: Battery fully charged
Red: Fault, Lost signal to battery
System Status: Not Lit - System Fault
Green; Power On, System Operational
 - h. Dimensions: 10 3/8" L, 5 3/4"W, 6"H

15. Carrying Attachments

- a. Carabiner: Each TIC shall come equipped with a carabiner attachment for securing the TIC to a tool belt or other gear.
- b. Retractable Lanyard: A retractable lanyard for use with the TIC/carabiner assembly. Retraction line is to be made of a Kevlar core material. The housing to be heat resistant.

16. Video Connector:

- a. The TIC shall come standard with an SMA video out connector. An SMA to BNC cable is also included.

17. Operation and Instruction Manual

18. Warranty

- a. A minimum of a two-year warranty covering all labor and materials shall be provided.