



## GENERAL INSTRUCTIONS TO BIDDERS

Please read carefully as changes have been made.

Revised 04/02/08

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### **Please Read, Sign and Return the Acknowledgement with Bid**

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1. Section 11-43-12 of the Code of Alabama, 1975, prohibits elected officials, officers or employees of a municipality from being directly or indirectly involved in business with the municipality. This law has been interpreted by the Attorney General's Office of the State of Alabama to include employees and their spouses. If you are a city employee or a spouse of a city employee, you may not be eligible to bid. If you or your spouse as city employees are stockholders in a family held business that is attempting to bid on a city contract, you may not be eligible to bid. Exceptions do exist so contact the City of Dothan Purchasing Agent at (334) 615-3410 should you have questions and need clarification.
2. Any Contractor desiring to bid on any work for the City of Dothan as set forth in, and in the amount established by "The State of Alabama Licensing Board For General Contractors", (to include future amendments), shall be licensed by the State of Alabama.
3. Each bid must be submitted in a separate sealed envelope addressed to the Purchasing Agent, City of Dothan, P. O. Box 2128, Dothan, Alabama 36302. FAX bids cannot be accepted. All bidders must use our bid form and show on the envelope the bid number, item, department and opening date. Any bid received after the bid opening date and time will not be opened or considered. If your bid is a "NO BID", please indicate it on the outside of your mailing envelope.
4. All bid openings and any scheduled pre-bid conferences are open to the public and will be held in the General Services Department conference room located at 288 Complex Drive, Suite 2, Dothan, Alabama. A pre-bid conference may be requested to review and answer any pertinent questions concerning the bid and the specifications.
5. The City of Dothan provides equal opportunities for all businesses and does not discriminate against any vendor regardless of race, color, creed, sex, national origin, or handicap in consideration for an award.
6. The attached specifications are being provided to potential bidders as guidelines, which describe the type and quality of equipment, supply, and/or service The City of Dothan is seeking to purchase. The bidder must indicate compliance or list exceptions to each specification item for consideration. Failure to comply with this provision could be cause for rejection of the bid.

7. The name of a certain brand, make, manufacturer, or definite specification is to denote the quality standard of the article desired but does not restrict the bidder on the specified brand, make, manufacturer or specification names. It is set forth to convey the general style, type, character, and quality of the article desired by the City of Dothan. Whenever the words “or approved equal” appear in the specifications, they shall be interpreted to mean an item of material or equipment similar to that named, and which is suited to the same use as that named and which is approved by the Purchasing Department. Vendor shall incur all cost involved in obtaining an Independent Laboratory Test if the City of Dothan deems necessary. Should a vendor feel he has an “equal or better” alternate product/good, the vendor may bid that alternate. However, the vendor should be aware that the City may or may/not accept the alternate.
8. It will be assumed that all bids are based upon the specifications unless the bidder stipulated to the contrary on the proposal form; in which case, the bidder shall point out in detail any and all deviations from the specifications. Bidders having items, which do not meet the specifications, may offer the same on an optional basis.
9. If it becomes necessary to revise any part of this, a written addendum will be provided to all bidders. The City of Dothan is not bound by any oral representations, clarifications, or changes made in the written specifications by the City’s employees, unless such clarification of change is provided to bidders in written addendum form from the Purchasing Agent.
10. When new equipment is stipulated, the bidder shall guarantee that the units submitted for their bid shall be new, and of the latest and most improved model of the current production, and shall be of first quality as to workmanship and materials used in said units. All modification shall be made at the factory. Equipment shall not have been operated for any purpose other than routine operational testing. Demonstrators will not be accepted.
11. All bids shall be typewritten or in ink on the form(s) prepared by the City. Bids prepared in pencil will not be accepted. All proposals must be signed by officials of the corporation or company duly authorized to sign bids. Any bid submitted without being signed will automatically be rejected.
12. All corrections or erasures shall be initialed and dated by the person authorized to sign bids. If there are discrepancies between unit prices quoted and extensions, the unit price will prevail.
13. Prices quoted shall be delivered prices, exclusive of all federal or state excise, sales and manufacturer’s taxes. The City will assume no transportation or handling charges other than specified in this bid. The City of Dothan is tax exempt by law – Code of Alabama – Title 40, Section 24, Sub. Section 4, Paragraph 11.

14. Prices quoted to the City of Dothan shall remain firm for a minimum of 60 days from the date of opening of the bid, unless so stated differently in the bid.
15. Bids may be amended or withdrawn by the party(s) submitted such bid or his authorized representative, up until the scheduled opening time; no bid may be amended thereafter regardless of the circumstances.
16. The delivery schedule must be entered in the appropriate space in order for the bid to be considered. If all items cannot be delivered on the same schedule, please note variances.
17. A 24-hour notice is to be given when material is delivered to the Water and Electric Department. Receiving hours for material delivered to the Water and Electric Department are to be between the hours of 7:00 a.m. and 2:00 p.m. Major material delivered to the City's Water and Electric Department shall be single stacked on an open trailer. Shipments not in compliance will be refused. The Supervisor of Stores and Warehouse must approve exceptions to this requirement prior to shipment: Telephone (334) 615-3301 for the Electric Division and (334) 615-3333 for the Water Division.
18. The City of Dothan is to be protected against any increase above the price in the bid. Any bid containing an "Escalator Clause" will not be considered unless so stipulated in the Invitation to Bid.
19. The bidder shall assume full responsibility for warranty of all components of the equipment. The manufacturer's standard warranty shall be enclosed.
20. *If the total value of all items in your bid exceeds \$10,000, a bid bond is required with the bid proposal. This does not include estimated quantities.* The bond shall be in the amount of 5% of the bid price. Only a bid bond issued by a company licensed by the State of Alabama to issue bid bonds or a certified check in lieu of a bid bond is acceptable. The bond shall be in effect until a contract has been executed. If the bid bond is not furnished with the bid proposal, the bid will not be evaluated due to failure to meet specifications.
21. Vendors may elect to post an annual bid bond issued by a company licensed by the State of Alabama. This annual bond shall be renewed on October 1<sup>st</sup> each year. The vendor shall make the bond equal to or greater than 5% of the highest estimated bid to be submitted during the year.

Should a vendor submit a bid during the year for which the annual bid bond is less than 5% of the bid price, the vendor shall be required to submit a separate bond for that bid.

22. Bid bonds are required of bids for a specified period of time such as for electrical lamps, electric meters, and times of this nature where the cumulative purchase will exceed \$10,000.
23. Bonds and/or certified checks will be kept by the City of Dothan until the contract has been executed to the satisfaction of the City. Should the vendor decide not to honor the contract, and the City of Dothan either rebids or takes the second low bid, the difference shall be deducted from bid bond – not to exceed the total bid bond amount.
24. Performances and Surety Bonds – Public Works Construction or Repairs
  - (a) Bid Bond for repair to or construction of public works having a value in excess of \$50,000 must be replaced by a performance bond in the amount of 100% of the bid price and a surety bond in the amount of 100% of the contract price upon award of the contract (purchase order). These bonds will remain in effect until completion of the contract.
  - (b) Final payment on contracts for repairs to or construction of public works cannot be made until the contractor places an advertisement in a newspaper of local circulation once a week for four (4) consecutive weeks and until a thirty (30) day waiting period elapses after the final advertisement, except for contracts of less than \$50,000 which must be advertised one time and the contractor must submit a sworn statement that all bills have been paid.
25. The City of Dothan reserves the right to request a demonstration of any and all items bid before making the award.
26. Termination of Contract: The City of Dothan may terminate the contract, in whole or in part, without showing cause upon giving at least a thirty (30) days written notice to the contractor. The City and the contractor may agree upon reasonable termination costs to be paid to the contractor which amount shall include payment for goods or services delivered and accepted up to the date of termination.
27. The City reserves the right to accept or reject any or all items covered in the request, or any portion(s) thereof: waive formalities, re-advertise and/or take such other steps decreed necessary and in the best interest of the City. The City reserves the right to accept or reject any proposals within a bid when they are deemed to be in the best interest of the City.

28. The City of Dothan gives a 3% preference to local vendors in the award of bids. This local preference shall be given to vendors who have a City of Dothan business license and a place of business located within the City of Dothan. The address given on the bid submission sheet will be the address used to determine whether or not the 3% local preference shall apply.
29. The successful bidder agrees, by entering into this contract, to defend, indemnify, and hold the City of Dothan harmless from any and all causes of action or claims of damages arising out of or related to bidder's performance under this contract.
30. All items bid will be inspected by a representative of the City of Dothan upon delivery to ascertain compliance with specifications. Items not in compliance with the specifications will be rejected until proper remedial measures are taken to assure compliance.
31. Bidders may be disqualified and rejection of proposals may be recommended to for any of (but not limited to) the following causes:
  - a. Failure to use the bid forms furnished by the City of Dothan.
  - b. Lack of signature by an authorized representative on the bid form.
  - c. Failure to properly complete the bid form and vendor compliance.
  - d. Evidence of collusion among bidders.
  - e. Submittal of noncertified personal or company checks as a Bid Bond.
  - f. Unauthorized alteration of the bid form.
32. The City of Dothan assumes no legal liability to purchase items or services under any annual/semi-annual contract until funds are appropriated for that particular fiscal year.
33. Any actual or prospective bidder, offerer, or contractor who is allegedly aggrieved in connection with the solicitation or award of a contract may protest. The protest will be submitted in writing to the Purchasing Agent within seven (7) days after such aggrieved person knows or should have known of the facts given rise thereto. If the protest is not resolved by mutual agreements, the Purchasing Agent will promptly issue a decision in writing to the Protestant and any other party intervening. If the Protestant wishes to appeal the decision rendered by the Purchasing Agent, such appeal must be made to the governing body, through the Purchasing Agent. The decisions of the governing body will be final. The governing body need not consider protests unless this procedure is followed. *Formal bid.*

NOTICE TO ALL BIDDERS-BID RESULTS

*The Purchasing Division of the City of Dothan will no longer routinely mail copies of bid results to companies submitting bids on items for the City. Should your company want to receive a copy of the bid tabulation for a particular bid, please enclose a postage paid self-addressed envelope with your formal bid. We will, in return, send you a copy of the bid results. If you prefer you may contact the Purchasing Division and we will e-mail you the bid results in Microsoft Excel format. Should you require more information than the overall bid results, please include specifics to our department and we will be glad to include the information requested. Bid information will not be given over the telephone or facsimile.*

*Should you have any questions, please call (334) 615-3410. Your cooperation will be appreciated.*

*Sincerely,*

*Darryl Mathews*

*Purchasing Agent*

**ACKNOWLEDGEMENT**

*I HEREBY CERTIFY THAT I HAVE READ AND UNDERSTAND THE ABOVE INSTRUCTIONS AND AFFIRM THAT I HAVE NOT BEEN IN ANY AGREEMENT OR COLLUSION AMONG BIDDERS OR PROSPECTIVE BIDDERS IN RESTRAINT OF FREEDOM OF COMPETITION, BY AGREEMENT TO BID AT A FIXED PRICE OR TO REFRAIN FROM BIDDING, OR OTHERWISE. I ALSO CERTIFY THAT UPON AWARD OF THIS BID, I WILL NOT SUBSTITUTE ANY ITEMS ON THIS BID UNDER ANY CIRCUMSTANCES.*

\_\_\_\_\_  
*Signature of Bidder*

\_\_\_\_\_  
*Name of Bidder (Typed or Printed)*

*Vendor in violation shall be subject to debarment from bidding on future City of Dothan Invitations for Bid.*

**IS YOUR BID COMPLETE?**

*Enclosed:*

- Copy of Warranty-if requested*
- Bid Bond-all bids over \$10,000*
- Performance Bond-if requested*
- Copy of State Contractors License-if required*
- Statement of Delivery Dates*

Bid Number, opening date are written on the outside of the bid package/envelope.

*All of the above may not apply to every bid. If you have a question as to whether or not a specific item applies, please contact the Purchasing Division at (334)615-3410.*

# Dual Frequency RTK GPS Unit:

## 1.0 Overview

The City of Dothan is requesting bids for the following GPS equipment. The City already owns a two unit dual frequency RTK/Post processing system. The City is purchasing two additional units that can operate as RTK rovers. Compatibility of the system with the existing City GPS equipment is essential. To ensure compatibility with existing equipment compatible antennas, batteries, chargers, cables, and data formats are required. The system must allow for a direct download of binary raw and RTK data into the current City base station.

## Real Time GPS System Rover Requirements

### 1.1 General

- a) The system shall have the capability to perform Real Time Kinematic (RTK) surveys.
- b) The system shall consist of three primary components: antenna/receiver, controller, and phone modem.
- c) The system shall be configured for an "All on the Pole" setup. The system shall be completely cable less and transmit data from the receiver to controller display unit (CDU) via Bluetooth wireless technology.
- d) The CDU shall be a Windows CE Ver. 5.0 or latest version operating system with its own power supply and USB/RS232 port for data downloads and uploads or via a card and reader.
- e) The CDU must have a QWERTY keyboard design that is back lighted.
- f) The CDU shall have a ¼ VGA resolution screen and have touch screen capability.
- g) The system shall weigh no more than 6.2 lbs. when assembled all on the pole including batteries and the 2 meter pole.
- h) The system shall be configured as a rover unit, for real time or non real time operation.
- i) The system shall be set to either transmit or receive either proprietary RTK data and/or RTCM. The system shall additionally have the capability of receiving the RCTM Version 3.0 industry standard message for GPS network corrections.
- j) The system shall support both UHF radio modem and wireless data modems for RTK data transmission..
- k) RTK accuracy shall be at least of the order of 5 – 10 mm + 0.5 – 1.0 ppm.
- l) The system shall be capable of performing RTK while simultaneously recording both field coordinates, raw GPS measurements and codes/attributes without the need to purchase onboard memory.
- m) The user shall be able to perform Rapid Static, Stop-and-Go, Kinematic and Kinematic On-The-Fly surveys in Real Time Mode.
- n) RTK initialization to resolve ambiguities shall include 'On-The-Fly' (OTF), 'Static on Unknown Point' and 'Static on Known Point' scenarios.
- o) On-The-Fly initialization shall typically require less than 8 seconds with suitable satellite geometry and conditions.
- p) The CDU shall be capable of utilizing a dual-processing task to permanently check the real time carrier phase ambiguity values.
- q) Reliability of OTF initialization must be better than 99.99%.
- r) The CDU shall indicate to the user the ambiguity resolution status at all times.
- s) The CDU shall provide information, such as satellite tracking status, battery status and memory capacity, of both the roving unit and the base unit when the user is operating the rover unit.
- t) The CDU shall provide transformation capabilities in the field, including the standard Classical Helmert Transformation (up to 7 parameters) and the One-Step Transformation for converting GPS WGS84 to a State Plane Coordinate System / UTM or a fully arbitrary local grid coordinate system. Should such a transformation be computed in the system software in advanced, the system shall also provide features to upload, as well as download, between the system software and system hardware.
- u) The system shall provide stakeout features with different orientations. See section 3.1 'Real Time Stake-Out.'
- v) The system shall utilize the use of CDMA or GPRS modems to receive RTK messages. RTK applications shall be able to operate up to a minimum baseline distance of 30km at an accuracy not to exceed 5mm+0.5ppm.
- w) The system must come standard with the following software capabilities: Data management, full COGO, line and arc staking, point and road staking, and cross section surveying.
- x) The antenna must have the capability of being removed from the top of the 2m rod and mechanically and electronically integrated on top of a total station for either RTK or static operations in the field.
- y) The system must have the capability of receiving a GPS network correction from the existing ALDot reference station network.

## 2.1 Field Operations

- a) The system shall automatically begin tracking satellites and initialize integer ambiguities when powered on without user interaction.
- b) It shall display the following information:
  - Number of satellites tracked verses number of satellites available
  - Number of satellites for which integers are resolved
  - An indicator of the accuracy of the currently computed coordinates
- c) Once initialized, the system shall enable the user to operate at 0.05 second, i.e. 20 Hz (update position 20 times a second) without any degradation of accuracy.
- d) Latency of system shall be less than 0.03 second.

## 3.1 Real Time Stake-Out

- a) In real time stake-out the system shall allow the user to orientate themselves to True North, Grid North, the Sun, a line, the last survey point or to any user-selected point stored in the system database.
- b) The system shall allow the user to stake-out from a job (geodetic or Cartesian or grid) or from an ASCII file (in any order of Point ID, Northing, Easting and Height).
- c) The stakeout screen shall be able to guide the user to a point by graphics or text. Both the graphical guidance and the textual guidance information shall be displayed on the same screen.
- d) They system shall allow the user to choose between an orthogonal or polar display to assist in guidance to a point.
- e) The system shall provide a graphical display that scales automatically as the user approaches the stakeout point. The target shall appear as a bulls-eye on the graphical screen.
- f) The system shall alert the user when the user is approaching the target. This should be in the form of graphical display and/or audible alarm. The system must allow the user to set a user-definable distance between the user position and the target in order to activate the audible alarm. When the user is within the radius of the defined distance, an audible alarm shall alert the user.
- g) The real time system shall have the ability to compare the surveyed with the to be staked point.
- h) The system shall allow the user to stakeout points, grids or lines.

## 4.1 Environmental Specifications should withstand at least

	<b>Operation</b>	<b>Storage</b>
<b>Sensor / Receiver</b>	-40°C to +65°C	-40°C to +80°C
<b>Terminal</b>	-30°C to +65°C	-40°C to +80°C
<b>Antenna</b>	-40°C to +70°C	-55°C to +85°C
<b>PCMCIA Flash RAM card</b>	-20°C to +75°C	-40°C to +75°C

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<b>Humidity</b>	100%, non-condensing – submersion to 1mtr.
<b>Weather</b>	Withstand rain, snow, dust, sand, cold and heat
<b>Transport</b>	Withstand rough field transport, shocks, jolts, vibrations, etc, when packed in instrument container
<b>Usage</b>	Build for field use; Drop test to hand surface from 1.5 meters for antenna, 1.0 meter for receiver.

## 5.1 Data Storage Media

- a) The satellite data shall be logged on either Industry Standard compact PCMCIA card and/or optional internal memory residing in the GPS receiver.
- b) The system must support compact PCMCIA ATA Flash RAM cards. The industry standard PCMCIA memory cards must fit into the GPS receiver.
- c) The system must support at least 64MB and larger compact PCMCIA cards.
- d) The memory card shall be able to download into any PCMCIA card reader that allows PCMCIA Flash RAM, Type I or Type II PCMCIA SRAM card. Download time of PCMCIA card through a PCMCIA card reader shall be less than 5 seconds per MegaByte of memory.
- e) GPS data must be able to download to personal computer either by direct transfer through a standard PCMCIA slot, or an external PCMCIA card reader or RS232 download connection.

### Data Storage Medium:

**Standard**  
**Optional**

PCMCIA ATA Flash RAM cards: 64 MB

**Recording Capacity**  
**(GPS raw data with 5**  
**sats on L1 and L2):**

**32 MB**

550 hrs at 15 sec rate of 45000 RTK positions

**(RTK positions with**  
**station ids, codes,**  
**attributes, etc)**

**32 MB**

45000 RTK positions

## 6.1 Connections and Power Consumption

- a) The GPS receiver shall have one power and data transfer port.
- b) Rechargeable lithium ion batteries shall power the GPS receiver.
- c) The batteries shall be connected directly to the GPS receiver without any cables, to eliminate breakage.
- d) 2 plug-in batteries should power the GPS receiver and handheld CDU for a minimum of 15 hours of continuous operation in a post-processed environment, and a minimum of 10 hours of continuous operation in real time differential phase mode. For longer observation periods (> 10 hrs), the GPS receiver must accept any 12 V power supply.
- e) Power consumption for the GPS receiver and the CDU must not exceed 3.5 watts.
- f) Both the GPS receiver and the CDU must be protected against over voltage and reverse polarity.
- g) The system must alert the operator that power level is low and allowing sufficient time to connect another power source without interrupting the measurement process.
- h) Should power failure occur, the system shall save all GPS measurements recorded before power failure, on either a PCMCIA card or optional internal memory.

## 6.2 Data Recording

- a) Data recording shall be user-selectable from 0.05 to 60 seconds.
- b) The system shall allow the user to record GPS raw data, or real time coordinates or both real time coordinates and raw data simultaneously.
- c) The GPS system must allow the user to select different recording/operating rates for GPS raw data and real time coordinates, when both operations are running concurrently.

## 7 System Accuracy, Position Update Rate and System Latency

Under normal to favorable conditions, i.e. sufficient GPS satellites, good satellite geometry, sufficient observation time, good ephemeris accuracy, ionospheric and tropospheric conditions, multipath, interference, etc, the satellite surveying system shall have at least the following accuracy and latency:

### Baseline rms with Real Time / RTK:

#### Range RTK Solution Guaranteed up to a 30km baseline

length

**Rapid static (phase), static mode  
after initialization** 5 mm + 0.5 ppm (rms)

**Kinematic (phase), moving mode  
after initialization** 10 mm + 1 ppm (rms)

**Code only** Typically 25 cm (rms)

### Baseline rms with DGPS / RTCM: DGPS / RTCM

Typically 25 cm (rms)

### Navigation position:

**Autonomous**

- 15 m rms for each coordinate
- Degradation possible due to SA

### Position Update Rate and System Latency:

**Position update rate**

Selectable: 0.05 sec (20 Hz) to 60 sec

**Position latency**

0.03 sec or less

## 8 Training and Support

Technical support must be available within 300 miles of Dothan. A certified repair facility must be available within 300 miles of Dothan. One day of on site training is to be performed by a factory trainee