CITY OF CASA GRANDE, ARIZONA

NOTICE OF BID

The City of Casa Grande will receive sealed bids for the following:

Modular Video Detection System

Each bid shall be in accordance with the specifications and instructions on file with the City Clerk at City Hall, 510 East Florence Boulevard, Casa Grande, Arizona, 85122, where copies can be obtained by calling the City Clerk's Office (520) 421-8600, or a complete packet is available on the City's website: www.casagrandeaz.gov.

All bids must be submitted by **April 16, 2013**, at **1:30 P.M.**, City time to the City Clerk, Remilie S. Miller, 510 East Florence Boulevard, Casa Grande, Arizona 85122. The bid opening will take place on **April 16, 2013**, **1:30 P.M.**, Main Conference Room (2nd Floor), 510 E. Florence Boulevard, Casa Grande.

Bids must be addressed to:

Remilie S. Miller, City Clerk
City of Casa Grande
510 E. Florence Boulevard
Casa Grande, Arizona 85122

The envelope must be boldly marked:

BID ON MODULAR VIDEO DETECTION SYSTEM
FOR THE CITY OF CASA GRANDE
BID OPENING: APRIL 16, 2013, AT 1:30 P.M.

The City of Casa Grande reserves the right to waive any informalities or irregularities in this Request for Bids, or to reject any or all bids; to be the sole judge of the suitability of the materials offered, and to award a contract or contracts for the furnishing of one or more items of the services it deems to be in the best interest of the City.

/s/James V. Thompson
City Manager

INFORMATION TO BIDDERS

I. SECURING BID DOCUMENTS

Specifications and other bid document forms are available at the City Clerk's Office:

Remilie S. Miller, MMC
City Clerk
City of Casa Grande
510 E. Florence Blvd.
Casa Grande, Arizona 85122
(520) 421-8600 Ext. 1110

II. ADDITIONAL INFORMATION

Pedro Apodaca
Street Superintendant
City of Casa Grande
510 E. Florence Blvd.
Casa Grande, AZ 85122
(520) 421-8600
Extension: 4840

III. CONTENT OF BID

The Bid package should contain the following:

* Call for Bids Notice
* Information to Bidders
* General Information/Bid Specifications
* Bid Form
* Check List (If applicable)
* Certification of Bid

IV. INTERPRETATION OF DOCUMENTS

If any person contemplating submitting a bid is in doubt as to the true meaning of any part of this Request for Bids, or finds discrepancies in or omissions from the specifications, the bidder may submit to the City Clerk, a written request for an interpretation or correction thereof. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents will be made only by Addendum duly issued by the Department, and a copy of such Addendum will be mailed or delivered to each person who received a Bid Packet. All Addendums will be forwarded to the City Clerk's Office to be included in the

Original Bid Packet. The Department will not be responsible for any other explanation or interpretation of the Request for Bids.

V. ANY ADDENDUMS OR BULLETINS

Any addendums or bulletins issued by the Department during the time of bidding or forming a part of the documents provided to the bidder for the preparation of the bid shall be covered in the bid and shall be made part of the contract. ***No addendums will be issued five (5) days prior to the bid opening.***

VI. WITHDRAWAL OF BIDS

Any bidder may withdraw his bid, either personally or by a written request, at any time prior to the scheduled time for the opening of bids.

VII. ECONOMY OF PREPARATION

Bids should be prepared simply and economically, providing a straightforward, concise description of the bidder' capabilities to satisfy the requirements of these guidelines. The bidder shall be responsible for costs incurred in the proposal preparation and delivery.

VIII. SCHEDULE

The following schedule is planned:

Call For Bid:	**March 25, 2013**
Mail Request For Bids:	**March 25, 2013**
Last Date to Submit Bids:	**April 16, 2013 at 1:30 p.m.**
Bid Opening:	**April 16, 2013 at 1:30 p.m.**
Bid Review:	**April 29, 2013**
Bid Award:	**June 3, 2013**

IX. EVALUATION PROCESS

Bids that are judged by the City to be unresponsive or materially incomplete will be immediately rejected.

Finalists will be selected from the remaining bidders.

The City will perform whatever research it deems necessary into the bidder's history, financial viability and references. The bidder shall cooperate with the **City Clerk's Office** by providing appropriate information.

X. EVALUATION CRITERIA

The primary evaluation criteria shall be the overall benefit/cost as perceived by the Street Division, rather than cost only.

The **Street Division** shall consider many factors, including the following (which are not in any specific sequence):

* Responsiveness to the needs of the Department
* Bidder's qualifications
* Quality of Product
* Quoted price

XI. MULTIPLE BIDS

Bidders may submit multiple bids if they so desire. Such multiple bids will be evaluated separately on their own merits.

XII. REQUIREMENTS

The City has established certain requirements as specified in the General Requirement/Bid Specifications. None of these requirements are designed to give any bidder an advantage or disadvantage in the bidding process. Bidders are encouraged to bid even if the bid does not meet the requirements as stated. However, the bidder must state specifically which requirements are not met, how the same function may be otherwise performed, and why this deviation should not be considered material. The City's determination that a deviation is not material does not excuse the bidder from full compliance with other specifications if he is awarded the contract.

XIII. METHOD OF PAYMENT

Bidder should submit billing statement to the attention of the Finance Department. When applicable the bidder should reference on the billing statement the purchase order number or City contract number. The City of Casa Grande makes every effort to generate payment for claims within 30-days from initial request.

XIV. DELIVERY OF PRODUCT/COMPLETION OF WORK

Upon receiving Notice of Proceed or Purchase Order Number, Bidder shall **provide services as specified in the bid specifications**.

XV. EXECUTION OF AGREEMENT

Successful bidder will be required to enter into a formal agreement that is consistent with the bid package outlined within. The bidder to whom the Contract is awarded by the City shall within 15 days after notice of award and receipt of Agreement forms from the City, sign and deliver to the City all required copies. ***(Sample of Agreement attached in bid packet – specifics may change to comply with bid specifications)***

XVI. MISCELLANEOUS INFORMATION

A. All prices quoted will reflect the total to the City for the item/project/service and shall include all applicable taxes, and other charges.

B. The City will not honor any invoices or claims, which are tendered sixty (60) days after the close of the City's fiscal year for work completed.

C. The City is not responsible for any bidder's errors or omissions.

D. All bids submitted to the City are to remain firm for a minimum period of sixty (60) days from the date the bids are officially opened.

E. The successfully bid is not officially accepted until such time as the bidder receives written notice of acceptance from the City Clerk.

F. If bidder conducts business inside the City Limits, then a business license number is required.

G. Where bidder is a corporation or other type of legal entity, bids must be signed in the legal name of the entity followed by the name of the state of incorporation or place of formation, and the legal signature of an officer authorized to bind the entity to a contract.

Specification for a Modular (Multi or Single Camera) Video Detection System

		Comply		Non Comply
1. General				
The City Of Casa Grande is going out to bid for a total of 6 (six), 4 (four) camera video detection systems.				
This specification sets forth the minimum requirements for a system that detects vehicles on a roadway using only video images of vehicle and bicycle traffic.				
1. <u>System Hardware</u>				
The video detection system (VDS) shall consist of up to four video cameras, a video detection processor (VDP) capable of processing from one to four video sources, output extension modules, video surge suppressors and a pointing device.				
<u>Available System Configurations</u>				
a. The VDS will be deployed at locations where site conditions and roadway geometry vary. The VDS system may also be deployed at locations where existing cabinets or equipment exist. Existing sit configurations will dictate the availability of cabinet space and VDS usage.				
b. The proposed VDS shall be available in various configurations to allow maximum deployment flexibility. Each configuration shall have an identical user interface for system setup and configuration. The communications protocol to each configuration shall be identical and shall be hardware platform independent. The proposed VDS shall have multiple configurations available for deployment as described in Table 1.				

Table 1. VDS Configuration

Description	No. Video Inputs	No. Video Outputs	Mounting Configuration	Power Supply Requirements
Single-Channel Rack Mounted	1	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12 or 24 VDC Power From Rack
Dual-Channel Rack Mounted	2	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12 or 24 VDC Power From Rack
Quad-Channel Rack Mounted	4	1	Rack Mount (Type 170 or NEMA TS-1, TS-2 Racks)	12 or 24 VDC Power From Rack

		Comply		Non Comply
1.2 System Software				
The system shall include software that discriminately detects the presence of individual vehicles and bicycles in a single or multiple lanes using only the video image. Detection zones shall be defined using only an on-board video menu and a pointing device to place the zones on a video image. A minimum of 24 detection zones per camera view shall be available. A separate computer shall not be required to program the detection zones.				
2. VDP Hardware				
2.1 VDP System Interfaces				
The following interfaces shall be provided for each of the configurations identified in Table 1.				
2.1.1 Video Input				
Each video input shall accept RS170 (NTSC) or CCIR (PAL) signals from an external video source (camera sensor, DVD or video tape player). The interface connector shall be BNC type and shall be located on the front of the video processing unit. For four-channel VDPs, an adapter cable that converts a DB15 interface to 4 individual BNC connectors shall be used. The VDP shall have the capability to be terminated into 75-ohms or high impedance (Hi-Z) using dip switchesor software control from the user menu.				
2.1.2 Video Lock LED				
A LED indicator shall be provided to indicate the presence of the video signal. The LED shall illuminate upon valid video synchronization and turn off when the presence of a valid video signal is removed.				
2.1.3 Video Output				
One video output shall be provided. The video output shall be RS170 or CCIR compliant and shall pass through the input video signal. For multi-channel video input configurations, a momentary push-button shall be provided on the front panel to cycle through each input video channel. In the absence of a valid video signal, the channel shall be skipped and the next valid video signal shall be switched. The real time video output shall have the capability to show text and graphical overlays to aid in system setup. The overlays shall display real-time actuation of detection zones upon vehicle detection or presence. Overlays shall be able to be turned off by the user. Control of the overlays and video switching shall also be provided through the serial communications port. The video output interface connector shall be positive locking BNC type. Friction type (e.g. RCA type) connectors shall not be allowed.				

		Comply		Non Comply
2.1.4 Serial Communications				
A serial communications port shall be provided on the front panel. The serial port shall be compliant with EIA232 electrical interfaces and shall use a DB9 type connector mounted on the front panel of the VDP. The serial communications interface shall allow the user to remotely configure the system and/or to extract calculated vehicle/roadway information. The interface protocol shall be documented or interface software shall be provided. The interface protocol shall support multi-drop or point-to-multipoint communications. Each VDS shall have the capability to be addressable. The VDP shall at a minimum support data rate of 1200 bps to 230,400 bps, inclusive.				
2.1.5 Contact Closure Output				
Open collector (contact closure) outputs shall be provided. Four (4) open collector outputs shall be provided for the single, dual or quad channel rack-mount configuration. Additionally, the VDP shall allow the use of extension modules to provide up to 24 open collector contact closures per camera input. Each open collector output shall be capable of sinking 30 mA at 24 VDC. Open collector outputs will be used for vehicle detection indicators as well as discrete outputs for alarm conditions. The VDP outputs shall be compatible with industry standard detector racks assignments.				
2.1.6 Inputs				
Logic inputs such as delay/extend or delay inhibit shall be supported through the appropriate detector rack connector pin or front panel connector in the case of the I/O module. For VDPs and extension modules, 4 inputs shall be supported via detector rack interface. The I/O module shall accommodate eight (8) inputs through a 15-pin “D” connector.				
2.1.7 Detection LEDs				
Detection status LEDs shall be provided on the front panel. The LEDs shall illuminate when a contact closure output occurs. Rack-mounted video processors shall have a minimum of four (4) LEDs. Rack-mounted extension modules shall have two (2), four (4) or eight (8) LEDs (depending upon extension module type) to indicate detection.				
2.1.8 Test Switches				
The front panel of the VDP shall have detector test switches to allow the user to manually place vehicle and bicycle calls on each VDP output channel. The test switch shall be able to place either a constant call or a momentary call depending on the position of the switch.				
2.1.9 Mouse Port				

		Comply		Non Comply
A USB mouse port shall be provided on the front panel of the rack mount VDP unit. The mouse port shall not require special mouse software drivers. The mouse port shall be used as part of system setup and configuration. A mouse shall be provided with each VDP.				
2.1.10 Extension Module Port				
Extension modules (EM) shall be connected to the VDP by an 8-wire twisted-pair cable with modular RJ45 connectors. VDP and EM communications shall be accommodated by methods using differential signals to reject electrically coupled noise.				
2.2 Extension Modules				
Extension modules (EM) shall be available to eliminate the need of rewiring the detector rack, by enabling the user to plug an extension module into the appropriate slot in the detector rack to provide additional open collector outputs. The EM shall be available in both 2- and 4-channel configurations. EM configurations shall be programmable from the VDP. A separate I/O module shall also be available having 32 outputs through a 37-pin "D" connector on the front panel and 8 inputs through a 15-pin "D" connector using an external wire harness for expanded flexibility.				
2.3 Both the VDP and EM shall be specifically designed to mount in a standard detector rack, using the edge connector to obtain power, provide contact closure outputs and accept logic inputs (e.g. delay/extend). No adapters shall be required to mount the VDP or EM in a standard detector rack and no rack rewiring shall not be required.				
2.4 VDP printed circuit boards (PCBs) shall be conformally coated in accordance with Caltrans and NEMA specifications.				
2.5 On-board Memory				
The VDP shall utilize non-volatile memory technology to store on-board firmware and operational data.				
2.6 Firmware Upgrade				
The VDP shall enable the loading of modified or enhanced software through the EIA232 or front-panel USB port (using a USB thumb drive) and without removing or modifying the VDP hardware.				
2.7 Input Power				

		Comply		Non Comply
The VDP and EM shall be powered by 12 or 24 volts DC. VDP and EM modules shall automatically compensate for either 12 or 24 VDC operation. VDP power consumption shall not exceed 7.5 watts. The EM power consumption shall not exceed 3 watts.				
2.8 Operating Temperature				
The VDP shall operate satisfactorily in a temperature range from -30° F to +165° F (-34° C to +74° C) and a humidity range from 0%RH to 95%RH, non-condensing as set forth in NEMA specifications.				
2.9 Video Surge Suppression				
An Edco CX-06M video surge suppresser shall be provided and utilized for each video input. The surge suppresser shall be appropriately grounded to the cabinet ground rod using 14 AWG ($2.5mm^2$) minimum.				
3. VDP Software				
3.1 General System Functions				
3. 1.1 Detection zones shall be programmed via an on-board menu displayed on a video monitor and a pointing device connected to the VDP. The menu shall facilitate placement of detection zones and setting of zone parameters or to configure system parameters. A separate computer shall not be required for programming detection zones or to view system operation.				
3.1.2 The VDP shall store up to three completely independent detection zone patterns in non-volatile memory. The VDP can switch to any one of the three different detection patterns within 1 second of user request via menu selection with the pointing device. Each configuration shall be uniquely labeled and able to be edited by the user for identification. The currently active configuration indicator shall be displayed on the monitor.				
3.1.3 The VDP shall detect vehicles and bicycles in real time as they travel across each detection zone.				
3.1.4 The VDP shall accept new detection patterns from an external computer throug EIA232 port when the external computer uses the correct communications protocol for downloading detection patterns. A Windows™-based software designed for local or remote connection and providing video capture, real-time detection indication and detection zone modification capability shall be provided with the system.				
3.1.5 The VDP system shall have the capability to automatically switch to any one of the stored configurations based on the time of day which shall be programmable by the user.				

		Comply		Non Comply
3.1.6 The VDP shall send its detection patterns to an external computer through the EIA232 port when requested when the external computer uses the appropriate communications protocol for uploading detection patterns.				
3.1.7 The VDP shall default to a safe condition, such as a constant call on each active detection channel, in the event of unacceptable interference or loss of the video signal.				
3.1.8 The system shall be capable of automatically detecting a low-visibility condition such as fog and respond by placing all affected detection zones in a constant call mode. A user-selected alarm output shall be active during the low-visibility condition that can be used to modify the controller operation if connected to the appropriate controller input modifier(s). The system shall automatically revert to normal detection mode when the low-visibility condition no longer exists.				
3.1.9 Up to 24 detection zones per camera input shall be supported and each detection zone must be user-sizeable to suit the site and the desired vehicle detection region.				
3.1.10 The VDP shall provide up to 24 open collector output channels per camera input using one or more extension modules.				
3.1.11 A single detection zone shall be able to replace multiple inductive loops and the detection zones shall be OR'ed as the default or may instead be AND'ed together to indicate vehicle presence on a single approach of traffic movement.				
3.1.12 When a vehicle is detected within a detection zone, a visual indication of the detection shall activate on the video overlay display to confirm the detection of the vehicle for the zone.				
3.1.13 Detection shall be at least 98% accurate in good weather conditions, with slight degradation possible under adverse weather conditions (e.g. rain, snow, or fog) which reduce visibility. Detection accuracy is dependent upon site geometry, camera placement, camera quality and detection zone location, and these accuracy levels do not include allowances for occlusion or poor video due to camera location or quality.				
3.1.14 The VDP shall provide dynamic zone reconfiguration (DZR). DZR sustains normal operation of existing detection zones when one zone is being added or modified during the setup process. The new zone configuration shall not go into effect until the configuration is saved by the operator.				
3.1.15 Detection zone setup shall not require site specific information such as latitude and longitude to be entered into the system.				
3.1.16 The VDP shall process the video input from each camera at 30 frames per second. Multiple camera processors shall process all video inputs simultaneously.				
3.1.17 The VDP shall output a constant call during the background learning period of no longer than 3 minutes.				
3.1.18 Detection zone outputs shall be individually configurable to allow the selection of presence, pulse, extend, and delay outputs. Timing parameters of pulse, extend, and delay outputs shall be user definable between 0.1 to 25.0 seconds.				

		Comply		Non Comply
3.1.19 Up to six detection zones per camera view shall have the capability to count the number of vehicles detected. The count value shall be internally stored for later retrieval through the EIA232 port. The zone shall also have the capability to calculate and store average speed and lane occupancy at user-selectable bin intervals of 10 seconds, 20 seconds, 1 minute, 5 minutes, 15 minutes, 30 minutes and 60 minutes.				
3.1.20 In addition to the count type zone, the VDP shall be able to calculate average speed and lane occupancy for all of the zones independently. These values shall be stored in non-volatile memory for later retrieval.				
3.1.21 The VDP shall have an "advance" zone type where raw detection output duration to the traffic controller is compensated for angular occlusion and distance.				
3.1.22 The VDP shall employ color overlays on the video output.				
3.1.23 The VDP shall have the ability to show controller phase status (green, yellow, or red) for up to 8 phases. These indications shall also be color coded.				
3.1.24 The user shall have the ability to enable or disable the display of the phase information on the video output.				
3.1.25 The VDP shall have the capability to change the characteristics of a detection zone based on external inputs such as signal phase. Each detection zone shall be able to switch from one zone type (i.e. presence, extension, pulse, etc.) to another zone type based on the signal state. For example, a zone may be a "count" zone when the phase is green but change to a "presence" zone type when the phase is not green. Another application would be zone type of "extension" when the signal phase is green and then "delay" when red.				
3.1.26 For alpha numeric user inputs, the VDP shall utilize a virtual keyboard on the video overlay system to ease user input. The virtual keyboard shall use the standard QWERTY keyboard layout.				
3.1.27 The VDP shall aid the user in drawing additional detection zones by automatically drawing and placing zones at appropriate locations with only a single click of the mouse. The additional zone shall utilize geometric extrapolation of the parent zone when creating the child zone. The process shall also automatically accommodate lane marking angles and zone overlaps.				
3.1.28 When the user wishes to modify the location of a zone, the VDP shall allow the user move a single zone, multiple zones or all zones simultaneously.				
3.1.29 When the user wishes to modify the geometric shape of the zone, the VDP shall allow the user to change the shape by moving the zone corner or zone sides.				
3.1.30 On screen zone identifiers shall be modifiable by the user. The user shall be allowed to select channel output assignments, zone type, input status, zone labels or zone numbers to be the identifier.				
3.1.31 For multiple camera input VDPs, the user shall have the ability to enable automatic video output switching. The dwell time for each video input shall be user programmable.				

		Comply		Non Comply
3.1.32 The VDP should support bicycle type zones where the zone can discriminate between motorized vehicles and bicycles, producing a call for one but not the other.				
3.1.33 Bicycle zone types should only output when a bicycle is detected. Larger motorized vehicles such as cars and trucks that traverse a bicycle zone should not provide an output.				
3.1.34 The VDP should provide the ability to assign a separate output channel for bicycle zones to allow traffic controllers to implement special bicycle timing.				
3.1.35 Placement of bicycle type zones in vehicle lanes should be allowed.				
3.1.36 Upon detection of a bicycle, the video output overlay should indicate active detection as well as providing a unique bicycle detection identifier to visually distinguish bicycle detection versus vehicle detection.				
4. VDS Camera Sensor				
To accommodate deployment flexibility, the VDS camera sensor shall be compatible will all VDP platforms identified in Table 1. The VDS camera sensor shall be supplied by the VDS manufacturer.				
4.1. The advanced camera enclosure shall utilize Indium Tin Oxide (ITO) technology for the heating element of the front glass. The transparent coating shall not impact the visual acuity and shall be optically clear.				
4.2 Cable terminations at the camera for video and power shall not require crimping or special tools. The video termination shall only require a coax stripper and a screw driver. No connectors (e.g. BNC) shall be allowed. The power termination shall only require a standard wire stripper and screw driver.				
4.3 The camera sensor shall allow the user to set the focus and field of view either at the camera sensor or from the controller cabinet. Camera sensor control from the controller cabinet shall communicate over the coaxial cable. No additional wires shall be required.				
4.4 The camera shall produce a useable video image of the features of vehicles under all roadway lighting conditions, regardless of time of day. The minimum range of scene luminance over which the camera shall produce a useable video image shall be the minimum range from nighttime to daytime, but not less than the range 0.003 lux to 10,000 lux.				
4.5 The camera electronics shall include automatic gain control (AGC) to produce a satisfactory image at night for the VDS algorithms.				
4.6 The imager luminance signal to noise ratio (S/N) shall be more than 50 dB with the automatic gain control (AGC) disabled.				
4.7 The imager shall employ three dimensional dynamic noise reduction (3D-DNR) t unwanted image noise.				

		Comply		Non Comply
4.8 The camera imager shall employ wide dynamic range (WDR) technology to compensate for wide dynamic outdoor lighting conditions. The dynamic range shall be greater than 100 dB.				
4.9 The camera shall be digital signal processor (DSP) based and shall use a CCD sensing element and shall output color video with resolution of not less than 540 TV lines. The color CCD imager shall have a minimum effective area of 811(h) x 508(v) pixels.				
4.10 The camera shall include an electronic shutter control based upon average scene luminance and shall be equipped with an auto-iris lens that operates in tandem with the electronic shutter. The electronic shutter shall operate between the range of $1/60^{th}$ to $1/90{,}000^{th}$ second.				
4.11 The camera shall utilize automatic white balance.				
4.12 The camera shall include a variable focal length lens with variable focus that can be adjusted, without opening up the camera housing, to suit the site geometry by means of a portable interface device designed for that purpose and manufactured by the detection system supplier.				
4.13 The horizontal field of view shall be adjustable from 2.4 to 58 degrees. This camera configuration may be used for the majority of detection approaches in order to minimize the setup time and spares required by the user. The lens shall be a 27x zoom lens with a focal length of 3.25mm to 88.0mm.				
4.14 The lens shall also have an auto-focus feature with a manual override to facilitate ease of setup.				
4.15 The camera shall incorporate the use of preset positioning that store zoom and focus positioning information. The camera shall have the capability to recall the previously stored preset upon application of power.				
4.16 The camera shall be housed in a weather-tight sealed enclosure. The enclosure made of 6061 anodized aluminum. The housing shall allow the camera to be rotated proper alignment between the camera and the traveled road surface.				
4.17 The camera enclosure shall be equipped with a sunshield. The sunshield shall include a provision for water diversion to prevent water from flowing in the camera's field of view. The camera enclosure with sunshield shall be less than 6" (15.24 cm) diameter, less than 18" (45.72 cm) long, and shall weigh less than 6 pounds (2.73 kg) when the camera and lens are mounted inside the enclosure.				
4.18 The enclosure shall be design so that the pan, tilt and rotation of the camera assembly can be accomplished independently without affecting the other settings.				
4.19 The camera enclosure shall include a proportionally controlled Indium Tin Oxide heater design that maximizes heat transfer to the lens. The output power of the heater shall vary with temperature, to assure proper operation of the lens functions at low temperatures and prevent moisture condensation on the optical faceplate of the enclosure.				

		Comply		Non Comply
4.20 The glass face on the front of the enclosure shall have an anti-reflective coating to minimize light and image reflections.				
4.21 When mounted outdoors in the enclosure, the camera shall operate satisfactorily in a temperature range from -30° F to +140° F (-34 °C to +60 °C) and a humidity range from 0% RH to 100% RH. Measurement of satisfactory video shall be based upon VDP system operation.				
4.22 The camera shall be powered by 120-240 VAC 50/60 Hz. Power consumption shall be 5 watts typical and 25 watts or Less under worst conditions.				
4.23 Recommended camera placement height should be 33 feet (or 10 meters) above the roadway, and over the traveled way on which vehicles are to be detected. For optimum detection the camera shall be centered above the traveled roadway. The camera shall view approaching vehicles at a distance not to exceed 350 feet (107 meters) for reliable detection (height to distance ratio of 10:100). Camera placement and field of view (FOV) shall be unobstructed and as noted in the installation documentation provided by the supplier.				
4.24 The camera should provide 2 options for set up, diagnostic testing, and viewing of video. A lens adjustment module (LAM) supplied by the VDP supplier, when connected directly to the camera shall allow set up, diagnostic testing, and viewing of video while the camera is being installed on a mast arm or pole. The (LAM) should also allow set up, diagnostic testing, and viewing of the video from the cabinet when connected to the coaxial cable.				
4.25 The video signal should be fully isolated from the camera enclosure and power cabling.				
4.26 Cable terminations at the camera for video and power should not require crimping tools.				
4.27 A weather-proof protective cover shall be provided shall be provided to protect all terminations at the camera. No special tooling shall be required to remove or install the protective cap.				
5. Installation				
5.1 The coaxial cable to be used between the camera and the VDP in the traffic cabinet shall be Belden 8281. This cable shall be suitable for installation in conduit or overhead with appropriate span wire. BNC plug connectors shall be used where applicable. The coaxial cable, BNC connector, and crimping tool shall be approved by the supplier of the video detection system, and the manufacturer's instructions must be followed to ensure proper connection.				
5.2 The power cabling shall be 16 AWG (1.5 mm^2) three-conductor cable with a minimum outside diameter of 0.325 inch (8.25 mm) and a maximum diameter of 0.490 inch (12.45 mm). The cabling shall comply with the National Electric Code, as well as local electrical codes. Cameras may acquire power from the luminaire if necessary.				

		Comply		Non Comply
5.3 The video detection camera shall be installed as recommended by the supplier and documented in installation materials provided by the supplier.				
6. Warranty				
6.1 The supplier shall provide a limited three-year warranty on the video detection system.				
6.2 During the warranty period, technical support shall be available from the supplier via telephone within 4 hours of the time a call is made by a user, and this support shall be available from factory-certified personnel or factory-certified installers.				
6.3 During the warranty period, updates to VDP software shall be available from the supplier without charge.				
7. Maintenance and Support				
7.1 The supplier shall maintain an adequate inventory of parts to support maintenance and repair of the video detection system. These parts shall be available for delivery within 30 days of placement of an acceptable order at the supplier's then current pricing and terms of sale for said parts.				
7.2 The supplier shall maintain an ongoing program of technical support for the video detection system. This technical support shall be available via telephone, or via personnel sent to the installation site upon placement of an acceptable order at the supplier's then current pricing and terms of sale for on site technical support services.				
7.3 Installation or training support shall be provided by a factory-authorized representative and shall be a minimum IMSA-Level II Traffic Signal Technician certified.				
7.4 All product documentation shall be written in the English language.				
8. Extra Equipment				
Bid Spec. shall include pricing on the following:				
8.1 AS-0175-5-62 Pelco Camera Bracket w/85 for each Camera.				
8.1 (EDI-PS-175) PS175 Heavy Duty Rack Power Supply -4 Channel 24 VDC Power for NEMA TS-1 Detector Rack for each system.				

BID FORM

Modular Video Detection System

Cost

Bid Price _____

Applicable Tax _____

Net Bid Price _____

Total Price FOB Casa Grande _____

CERTIFICATION OF BID

FOR

MODULAR VIDEO DETECTION SYSTEM

Bidder hereby certifies by signing and submitting this bid, which includes Notice of Bids, Information to Bidder, Bid Specifications, Bid Form, Issued Addenda and Certification of Bid that they have read and fully understand, and will comply with said invitation for bids.

Corporate Name _____

Address _____

City, State, and Zip _____

Type of Entity _____

State of Incorporation _____

Phone Number _____

Casa Grande Business
License Number (if Applicable) _____

Signature of Authorized Officer _____

Print Name of Authorized Officer _____

Title of Authorized Signatory _____

C.G. Contract No. _____

City of Casa Grande
and
_____
Agreement

I. INTRODUCTION

This Agreement (hereinafter referred to as the "Agreement") is entered into by and between the City of Casa Grande, Arizona, a municipal corporation (hereinafter referred to as the "City") and _____, a _____ corporation (hereinafter referred to as "Bidder").

II. EFFECTIVE DATE

This Agreement shall be effective as of the date that the last representative for the parties executes this Agreement.

III. RECITALS

A. WHEREAS, the City issued a Request for Bids for _____; and

B. WHEREAS, Bidder was the lowest responsible bidder which responded to the City's Request for Bids; and

C. WHEREAS, the Casa Grande City Council has, by Ordinance/Resolution No. _____, accepted the Bidder's response and authorized the execution of a contract with the Bidder in accordance with the bid response;

NOW, THEREFORE; in consideration of the mutual promises and agreements contained herein, the parties agree as follows:

IV. TERMS AND CONDITIONS

A. Within _____ days from the issuance of the City's Purchase Order, the Bidder hereby agrees to provide and deliver _____, as specified in and in compliance with all terms of the City's Request for Bids attached hereto as Exhibit 1 and incorporated herein by this reference) and the Bidder's Response thereto (attached hereto as Exhibit 2 and incorporated herein by this reference) at the cost of $_____, including any applicable sales taxes.

B. The Bidder shall indemnify and hold the City, its successors and assigns, harmless from and against all claims and all costs, expenses (including reasonable attorney's fees) and liabilities incurred in connection with all claims, including any action or proceeding brought thereon, arising from or as a result of the death of, or any accident, loss, injury or damage whatsoever to, any person, or to the property of any person, occurring on or about the

provision and/or delivery of a _____, and caused by, due to and/or arising from the acts or omissions of the Bidder, its successors, assigns, agents, employees, invitees or licensees.

C. The Bidder agrees to provide evidence of any performance bond or payment bond if specified in the City's Request for Bids within the time period specified therein.

D. The Bidder agrees to provide, to City Clerk's Office at the City's address in Subsection V(Q), evidence of any liability insurance required in the City's Request for Bids within the time period specified therein.

V. GENERAL PROVISIONS

A. Recitals. The Recitals set forth at the beginning of this Agreement are hereby acknowledged and incorporated herein and the parties hereby confirm the accuracy thereof.

B. Relationship. This Agreement shall not be construed as creating a joint venture, partnership, or any other cooperative or joint arrangement between or among the parties, and it shall be construed strictly in accordance with its terms.

C. Mandatory Signature. This Agreement shall become binding on and enforceable against the City of Casa Grande only after acceptance by the Casa Grande City Council and execution by the Casa Grande City Manager whether or not contract negotiations were conducted by the City Manager or any other agent of the City of Casa Grande.

D. Integration. This contract, including all incorporated documents, components, attachments, addenda, exhibits, and plans, constitutes the entire agreement between the parties pertaining to the subject matter contained herein. This Agreement supercedes all prior and contemporaneous agreements, representations and understandings of the parties, oral or written. No supplement, modification or amendment of this Agreement shall be binding unless in writing and executed by both parties.

E. Equal Treatment of Parties in Interpretation of Agreement. This Agreement is the result of arms-length negotiations between parties of roughly equivalent bargaining power and expresses the complete, actual, and intended agreement of the parties. This Agreement shall not be construed for or against either party as a result of its participation, or the participation of its counsel, in the preparation and/or drafting of this Agreement or any exhibits hereto.

F. Construction. Captions and paragraph headings used in this Agreement are for convenience only, are not a part of this Agreement, shall not be deemed to limit or alter any provisions of this Agreement, and shall not be deemed relevant in construing the agreement. When used herein, the terms "include" or "including" shall mean without limitation by reason of the enumeration. All grammatical usage herein shall be deemed to refer to the masculine, feminine, neuter, singular, or plural as the identity of the person or persons may require. The term "person" shall include an individual, corporation, partnership, trust, estate, or any other entity. If the last day of any time period stated herein shall fall on a Saturday, Sunday, or legal holiday in the State of Arizona, then the duration of such time period shall be extended so that it shall end on the next succeeding day which is not a Saturday, Sunday, or legal holiday in the State of Arizona.

G. Additional Acts and Documents. Each party to this Agreement agrees to do all things, take all actions and to make, execute and deliver such other documents and

instruments as shall be reasonably requested to carry out the provisions, intent and purpose of this Agreement.

H. Authority to Bind Party. The individuals executing this Agreement on behalf of each party represent and warrant that they are duly authorized to execute and deliver this Agreement on behalf of their respective parties.

I. Waiver Not Implied. No waiver by either party of any portion of this Agreement or any breach by either party shall constitute a waiver of any other provision, whether or not similar, or of any subsequent breach of the same or any similar provision. Except as expressly provided in this Agreement, no waiver shall be binding unless executed in writing by the party making the waiver. Each party specifically waives notice of default and right to cure said default unless specifically provided for in this Agreement.

J. Timely Performance. Time is of the essence for the performance of all conditions and obligations under this Agreement.

K. Governing Law/Choice of Forum. This Agreement and the rights, duties, and obligations of the parties hereto shall be governed by and construed in accordance with the laws of the State of Arizona, and any controversy, dispute or litigation shall be brought or commenced only in a court of competent jurisdiction in Pinal County, Arizona (or in the United States District Court for the District of Arizona if, but only if, the appropriate court in Pinal County lacks or declines jurisdiction over such action). The parties irrevocably consent to jurisdiction and venue in such courts for such purposes and agree not to seek transfer or removal of any action commenced in accordance with the terms of this paragraph.

L. Prevailing Party's Costs. The parties agree in the event of a breach of this contract, the non-prevailing party will pay the other party's reasonable expenses, including, but not limited to, expert witness fees, and reasonable attorney's fees incurred because of the breach, whether a lawsuit is instituted or not.

M. Severability. If any provision of this Agreement is declared void and unenforceable, such provision shall be deemed severed from this Agreement which shall otherwise remain in full force and effect. Further, if any such provision may be reduced and/or narrowed in scope or the like, such provision shall be reduced, narrowed, and/or the like, and so enforced. The same shall apply to any portion of any provision.

N. Prohibition on Assignment. The Bidder agrees it will not transfer or assign any obligations, duties, rights or benefits under this contract to any person or entity without express written permission of the City. Permission of City may be withheld with or without cause.

O. Cancellation for Conflict of Interest. This Agreement is subject to the cancellation provisions for conflicts of interest pursuant to A.R.S. §38-511.

P. E-verify requirements. To the extent applicable under ARIZ. REV. STAT. § 41-4401, the Bidder and its subcontractors warrant compliance with all federal immigration laws and regulations that relate to their employees and compliance with the E-verify requirements under ARIZ. REV. STAT. § 23-214(A). The Bidder's or subcontractor's breach of the above-mentioned warranty shall be deemed a material breach of the Agreement and may result in the termination of the Agreement by the City. The Bidder agrees to insert language similar to this paragraph in all contracts in which they engage with subcontractors on this project to ensure that those subcontractors are meeting the requirements of the above-mentioned statutes. The City retains the legal right to randomly inspect the papers and records of the Bidder and its subcontractors who work on the Agreement to ensure that the

Bidder and its subcontractors are complying with the above-mentioned warranty. The Bidder and its subcontractors warrant to keep the papers and records open for random inspection during normal business hours by the City. The Bidder and its subcontractors shall cooperate with the City's random inspections including granting the City entry rights onto its property to perform the random inspections and waiving their respective rights to keep such papers and records confidential.

Q. Compliance with A.R.S. §35-391.06 and 35-393.06. Bidder, and his/her firm, certifies that it does not have, nor will it for the duration of this contract have, scrutinized business operations in Sudan or Iran as defined in A.R.S.§ 35-391.06 and 35-393.06.

R. Notices. All notices required or permitted to be given hereunder shall be in writing and shall become effective upon personal service or seventy-two (72) hours after being deposited in the United States mail, certified or registered mail, postage prepaid, addressed as shown below or to such other address as the parties have designated and acknowledged in writing.

City of Casa Grande
ATTN: Office of City Manager
510 East Florence Boulevard
Casa Grande, Arizona 85122

_____
ATTN: _____
_____
_____

We, the undersigned, have executed this document on the dates below written and hereby swear and affirm that we are duly authorized in accordance with law to execute this document.

CITY OF CASA GRANDE, an
Arizona municipal corporation

_____
James V. Thompson, City Manager
Date: _____, 2013.

ATTEST:

_____
Remilie S. Miller, City Clerk MMC

APPROVED AS TO FORM:

_____
Brett D. Wallace, City Attorney

_____

_____
typed name of signatory:
signatory's title
Date: _____, 2013.

State of Arizona)
) ss
County of Pinal)

City Manager
Acknowledgment

On this ____ day of _____, 2013, James V. Thompson who acknowledged himself to be the Casa Grande City Manager personally appeared before the undersigned and that he, as such City Manager, being authorized to do so, executed the Agreement between Bidder and the City (identified in City of Casa Grande records as C.G. Contract No. _____) in the capacity therein stated and for the purposes therein contained by signing his name.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

_____
Notary Public

My commission expires:_____

State of Arizona)
) ss
County of _____)

_____
Acknowledgment

On this _____ day of _____, 2013, _____ personally appeared before the undersigned and acknowledged himself/herself to be the _____ of _____ being authorized so to do, executed the Agreement between Bidder and the City (identified in City of Casa Grande records as C. G. Contract No._____) in the capacity therein stated and for the purposed therein contained by signing his/her name.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal.

_____
Notary Public

My commission expires:_____