



## Public Works Department

Engineering • Facilities  
Solid Waste • Storm Water • Street • Traffic

December 6, 2012

### ADDENDUM NO. 2

ITB: 5636

PIN: 041039.00

Federal Project No.: IVHS-9447-(402)

State Project No.: 90952-1642-54

1. The contract time period will be extended from approximately 12 months to approximately 16 months, with a completion date of May 25, 2014.
2. The bid book must be returned in its entirety as your bid proposal. Do not disassemble or modify the bid book. Fill in required forms in the bid book and in the Addendums. Initial and return addendums with your bid packet to acknowledge you have received and considered them, but do not assemble them in the bid book.
3. The attached Drug Free Workplace Affidavit is included as a part of this addendum and must be filled out and returned with the bid book.
4. The attached Form 1247 A – DBE Award Information is included as a part of this addendum for documentation of DBE participation and must be filled out and returned with the bid book.
5. The attached Bid Form replaces and supersedes the Bid Form in the Bid Book and is included in this addendum; it will be what is used to submit your prices for the bid items.
6. If the weather station processor and interface unit will fit neatly in the adjacent pole mounted cabinet type “B” on sheet 5 of the plans and the pad mounted cabinet type “C” on sheet 45 of the plans (without blocking access to equipment in the cabinet), an additional external processing unit cabinet as shown on sheet 2AK will not be required.
7. *TSP 725* Section 8.2.1 removed paragraph 5 and renumbered. The section’s replacement is found on page 2 of this addendum.
8. *TSP 725* Section 8.3.1 has been updated to require the tube cameras to be HD. The section’s replacement is found on page 3 of this addendum.
9. *TSP 725* Section 8.3.2 removed the last sentence in the first paragraph and renumbered. The section’s replacement is found on page 4 of this addendum.
10. *TSP 725* Section 8.4.2 removed the last sentence in the first paragraph and renumbered. The section’s replacement is found on page 5 of this addendum.

### **8.2.1 General Capabilities and Performance Requirements**

Overall CCTV Camera System capabilities and performance requirements include the following:

- 1) CCTV Cameras shall be placed at fixed locations as shown on the Plans to provide coverage within the project limits including the mainline and side street travel lanes and shoulders.
- 2) The CCTV Camera System components shall be compatible with each other and be of rugged design and suitable for reliable operation when mounted in the configuration as specified in this TSP and the Plans.
- 3) The CCTV Camera System shall be capable of attended and unattended, continuous 24 hours per day operation, in all weather conditions, at the sites as shown on the Plans.
- 4) Ensure that the installed equipment provides unobstructed video of the roadway, traffic, and other current conditions around a roadside CCTV field site; that it responds to camera control signals from an operator of the system; and that the video images can be transmitted to remote locations interfaced to the system for observation.
- 5) Operate over wide dynamic light conditions ranging from low light/dusk to full sunlight having day (color)/night (monochrome) switchover and iris control, with user-selectable manual and automatic control capabilities.
- 6) Capable of being remotely controlled and programmed via the supplied CCTV manufacturer software, as well as by other central software.
- 7) Provide a pressurized integrated optic cartridge (IOC) for environmental protection.
- 8) Camera shall be mounted together with the zoom lens and integrated into the pan and tilt device within the enclosure forming a totally integrated, easily removable assembly.
- 9) Camera shall include a high quality integrated camera/lens combination.
- 10) Shall be equipped with an auto-iris lens capability compatible with the zoom lens supplied.
- 11) Iris capability shall include a provision for manual override via software.
- 12) Capable of auto-focus during zoom-in or zoom-out, with provisions for override via software.
- 13) Provide overexposure protection - the camera shall not be degraded or damaged under normal reasonable operating conditions.
- 14) Provide capability for local control of pan, tilt and zoom functions at the roadside cabinet using vendor-supplied software installed on a laptop computer.
- 15) CCTV cameras shall support the NTCIP 1205 v1.08 communication protocol, unless otherwise approved by the Engineer.

### **8.2.2 Camera Module**

- 1) Image Size: 1/3" 6mm
- 2) Image Resolution: 1280 horizontal; 720 vertical or better
- 3) Picture Elements Not less than 1348 (H) x 976 (V)
- 4) Video Output: NTSC, 1 V p-p @ 75 ohms, unbalanced and 16 Bit Digital YUV: on integrated H.264 engine
- 5) Maximum Lens Aperture: Not less than f/1.6 (wide) to f/2.8 (tele)
- 6) Optical Zoom Range: Not less than 18X, 4.7mm to 84.6mm
- 7) Digital Zoom Range: 1X (Off) through 6X, Smooth transition from Optical to Digital Zoom
- 8) Optical Zoom Speed: Two speeds, from approximately not more than 3.2 seconds to 6.6 seconds full range
- 9) Minimum Focus Distance: Equal too or less than 40" in tele, 0.4" in wide angle.
- 10) Auto Focus: Selectable Auto/Manual
- 11) Manual Focus Speed: Less than 2.0 seconds to full range.
- 12) Manual Shutter: Selectable shutter speeds
- 13) Auto Iris; Iris shall automatically adjust to compensate for changes in scene illumination to maintain constant video level output within sensitivity specifications.
- 14) Color Balance: Auto Tracking Color balance/Manual with adjustable Red and Blue Levels
- 15) Signal to Noise Ratio: >50 dB
- 16) Sensitivity: Scene Illumination @ F1.4 equal to or greater than:
  - a) 1.0 Lux @ 1/60 shutter, color mode
  - b) 0.1 Lux @ 1/4 shutter, color mode
  - c) 0.01 Lux @ 1/4 shutter, mono mode

### **8.3.2 H.264/MJPEG Encoding Engine**

The Camera Positioning System (CPS) shall fully integrate within its positioning system enclosure an H.264/MJPEG encoding component with functions as specified below.

- 1) Video Encoding: H.264 (Main Profile/Level 3.1) and MJPEG standards
- 2) Video Streams: Two independently configurable streams; (1) H.264 and (1) MJPEG
- 3) Video Stream Configuration Properties;
  - a) Stream Settings
    - 1) Video Stream 1: H.264
    - 2) Video Stream 2: MJPEG
  - b) Image Resolution: Not less than 480p, D1, VGA, CIF
  - c) Streaming Mode: Capable of selectable CBR or VBR
  - d) Image Settings: (GOP (M, N)), Quality Value
  - e) Frame Rates: 30, 15, 7, 4, 2, 1
- 4) Data Rate: Adjustable in a range of not less than 256k to 8Mb/sec for streaming video
- 5) Connection Types: Uni-cast, multi-Unicast or multi-cast
- 6) Positioning system video latency: <150ms (Does not include network latency)
- 7) Network Protocol Layers: RTP, RTSP, UDP, TCP, IP, HTTP, IGMPv2, ICMP, and ARP as a minimum

### **8.4.2 H.264/MJPEG Encoding Engine**

The IP Camera Positioning System (IPCPS) system shall fully integrate within its positioning system enclosure an H.264/MJPEG encoding component with functions as specified below.

- 1) Video Encoding: H.264 (Main Profile/Level 3.1) and MJPEG standards
- 2) Video Streams: Two independently configurable streams: (1) H.264 and (1) MJPEG
- 3) Video Stream Configuration Properties:
  - a) Stream Settings
    - 1) Video Stream 1: H.264
    - 2) Video Stream 2: MJPEG
  - b) Image Resolution: Not less than 720p, D1, VGA, CIF
  - c) Streaming Mode: Capable of selectable CBR or VBR
  - d) Image Settings: (GOP (M, N)), Quality Value
  - f) Frame Rates: 30, 15, 7, 4, 2, 1
- 5) Data Rate: Adjustable in a range of not less than 64k to 12Mb/sec
- 6) Connection Types: Uni-cast, multi-Unicast or multi-cast
- 7) IPCPS Video Latency: <150ms
- 8) Network Protocol Layers: RTP, RTSP, UDP, TCP, IP, HTTP, IGMPv2, ICMP, and ARP as a minimum.

# DRUG-FREE WORKPLACE AFFIDAVIT

State of \_\_\_\_\_

County of \_\_\_\_\_

I, \_\_\_\_\_, being duly sworn, depose, and say that:

- 1) I am a principal officer of \_\_\_\_\_, the firm that has submitted the attached or enclosed bid or proposal, my title being \_\_\_\_\_ of the firm; and
- 2) I have personal knowledge of the policies of the above-named firm with respect to the maintenance of a drug-free workplace; and
- 3) I certify that all provisions and requirements of the Tennessee Drug-Free Workplace Program, as established by Tennessee Code Annotated §§ 50-9-113 have been met and implemented.

(Signed) \_\_\_\_\_

(Title) \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_

\_\_\_\_\_  
Title

My Commission expires \_\_\_\_\_

Complete and return with response package

## DBE Award Information

For Contractors And Consultants On Locally Let Federal Aid Contracts

County \_\_\_\_\_

Project Number \_\_\_\_\_

Contract Award Amount \$ \_\_\_\_\_

Federal Dollars in the Contract \$ \_\_\_\_\_

Contract Award Date \_\_\_\_\_

Name of Prime Contractor/Consultant \_\_\_\_\_

Proposed DBE Goal (\_\_\_\_\_ %) or (None)

<u>Names of Subcontractors</u>	<u>Ethnicity**</u>	<u>Gender</u>	<u>Subcontract Amount</u>
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____
_____	_____	_____	\$ _____

Total DBE Commitment	\$ _____
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Submitted by \_\_\_\_\_ Date \_\_\_\_\_

\*\*Ethnicity= Black American (BA), Hispanic American (HA), Native American (NA), Subcontinent Asian American (SAA), Asian-Pacific American (APA), Non-Minority Women (WFBE), Other (OT)

<b>BID FORM</b>		<b>JOHNSON CITY ITS AND TMC</b>		<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANT</b>		
712-01	TRAFFIC CONTROL	LS	1		
716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	792		
716-03.02	PLASTIC WORD PAVEMENT MARKINGS (RXR)	EACH	20		
713-16.20	SIGNS (R15-1)	EACH	11		
713-16.21	SIGNS (W10-1)	EACH	11		
713-16.22	SIGNS (W10-2L)	EACH	8		
713-16.23	SIGNS (W10-2R)	EACH	8		
717-01	MOBILIZATION	LS	1		
725-07.08	NETWORK SWITCH (TYPE 'A')	EACH	81		
725-07.09	NETWORK SWITCH (TYPE 'B')	EACH	2		
725-07.44	FIBER OPTIC SPLICE (FUSION)	EACH	744		
725-07.63	AS-BUILT PLANS	LS	1		
725-07.65	SPARE PARTS	LS	1		
725-07.66	BURN-IN PERIOD	LS	1		
725-07.67	TRAINING	LS	1		
725-10.10	CCTV CAMERA SYSTEM ( TUBE)	EACH	17		
725-10.11	CCTV CAMERA SYSTEM ( DOME)	EACH	26		
725-10.12	CABINET (TYPE B) POLE MOUNTED	EACH	9		
725-10.13	CABINET (TYPE B) PAD MOUNTED	EACH	3		
725-10.16	FO CLOSURE 72F	EACH	71		
725-10.17	TERMINAL SERVER	EACH	70		
725-10.18	RS 2324 WIRE FSK MODEM	EACH	1		
725-10.19	FIBER OPTIC DROP PANEL (12F)	EACH	80		

<b>BID FORM</b>		<b>JOHNSON CITY ITS AND TMC</b>		<b>UNIT</b>	<b>QUANT</b>	<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
<b>ITEM NO.</b>	<b>DESCRIPTION</b>						
725-10.20	FO TERMINATION CABINET(48F)	EACH	24				
725-10.21	FO TERMINATION CABINET (144F)	EACH	2				
725-10.22	CCTV POLE (50FT POLE HEIGHT)	EACH	6				
725-10.23	OVERHEAD UTILITY RELOCATION	LS	1				
725-10.24	PULL BOX (FIBER OPTIC - TYPE D)	EACH	87				
725-10.25	PULL BOX (FIBER OPTIC - TYPE E)	EACH	48				
725-10.26	MODIFY EXISTING CONDUIT (INSTALL PULL BOX)	EACH	9				
725-10.27	MODIFY EXISTING CONDUIT (SPlice CONDUIT)	EACH	24				
725-10.28	FIBER OPTIC CABLE, 48F (AERIAL)	L.F.	26103				
725-10.29	FIBER OPTIC CABLE, 48F (IN CONDUIT)	L.F.	44275				
725-10.30	FIBER OPTIC CABLE, 12F (SMFO DROP CABLE)	L.F.	18950				
725-10.31	OUTDOOR RATED CATEGORY 5E CABLE	L.F.	70				
725-10.32	REMOVE EXISTING CABLE FROM CONDUIT	L.F.	19285				
725-10.33	RISER ASSEMBLY (2", RGS)	EACH	4				
725-10.34	RISER ASSEMBLY (FIBER RISER)	EACH	27				
725-10.35	CABINET ENTRANCE (CONDUIT AND ASSEMBLY)	EACH	35				
725-10.36	JACKED AND BORED CONDUIT	L.F.	15595				
725-10.37	TRENCHING FOR NEW CONDUIT INSTALLATION	L.F.	14755				
725-10.38	CONDUIT (2" DIA, HDPE)	L.F.	54555				
725-10.39	CONDUIT (1" DIA, RGS)	L.F.	300				
725-10.40	REMOVAL OF CONDUIT	L.F.	1065				
725-10.41	MODIFY CABINET (INTEGRATE FO EQUIPMENT)	EACH	68				
725-10.42	MODIFY CABINET (MODIFY/REPLACE CONDUIT ELBOW ACCESS)	EACH	3				

<b>BID FORM</b>		<b>JOHNSON CITY ITS AND TMC</b>		<b>UNIT PRICE</b>	<b>TOTAL PRICE</b>
<b>ITEM NO.</b>	<b>DESCRIPTION</b>	<b>UNIT</b>	<b>QUANT</b>		
725-10.43	MODIFY CABINET (ELECTRICAL)	EACH	6		
725-10.44	PULL BOX TYPE C	EACH	29		
725-10.45	STREAM GAUGE	EACH	3		
725-10.46	PAVEMENT SENSOR	EACH	12		
725-10.47	WEATHER STATION	EACH	2		
725-10.48	FO INDOOR/OUTDOOR CABLE 144F	L.F.	200		
725-10.49	CORRUGATED RACEWAY	L.F.	100		
725-10.50	DEMARCATON POINT ASSEMBLY	EACH	8		
725-10.51	CABINET (TYPE C) PAD MOUNTED	EACH	6		
725-10.52	FIBER OPTIC CABLE, 144F (IN CONDUIT)	L.F.	4980		
730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	9		
730-05.03	SERVICE CABLE (3 CONDUCTOR #6 AWG)	L.F.	6090		
801-02	SEEDING (WITHOUT MULCH)	UNIT	9		
801-03	WATER (SEEDING AND SOD)	M.G.	500		
803-01	SODDING	SY	2000		
920-10.01	TMC SOFTWARE	LS	1		
920-10.02	TMC HARDWARD	LS	1		
920-10.03	TMC FINISHES	LS	1		
920-10.04	TMC VIDEO WALL	EACH	1		
920-10.05	REMOVE EXISITNG PULLBOXES	LS	1		
920-10.06	SIDWALK REPLACEMENT	SY	224		

