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ITEM 632 - SIGNALIZATION MISC.: VIDEO DETECTION SYSTEM, AS PER PLAN, AUTOSCOPE SOLO, TERRA MVP - ALTERNATE BID

THE VIDEO DETECTION UNIT SHALL BE AN AUTOSCOPE SOLO TERRA MACHINE VISION PROCESSOR (MVP) AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. 3360 E. LA PALMA, ANAHEIM, CALIFORNIA, 92806-2856 (1.740.630.3700) AND SHALL INCORPORATE OR BE FURNISHED WITH ALL DESIGN FEATURES, AUXILIARY EQUIPMENT, AND ACCESSORIES AS REQUIRED IN THE STANDARD BID ITEM.

PAYMENT SHALL BE MADE AT THE CONTRACT BID PRICE FOR EACH, COMPLETE AND IN PLACE INCLUDING ALL CONNECTIONS TESTED AND ACCEPTED.

ITEM 632 SIGNALIZATION, MISC.: VIDEO DETECTION SYSTEM, AS PER PLAN

THIS ITEM OF WORK SHALL CONSIST OF FURNISHING AND INSTALLING A VIDEO DETECTION SYSTEM CAPABLE OF INTERSECTION DETECTION CONTROL, FREEWAY MANAGEMENT DETECTION, INCIDENT VERIFICATION, TRAFFIC SURVEY DATA COLLECTION AND TEMPORARY DETECTION DURING CONSTRUCTION. REAL-TIME POLLING, DIAL-OUT OR STORED TRAFFIC DATA TO INCLUDE: VOLUME, OCCUPANCY, SPEED, DENSITY, HEADWAY AND 5 VEHICLE CLASSIFICATIONS EITHER BY PHASE OR PROGRAMMED TIMED INTERVALS RANGING FROM 1 SECOND TO 60 MINUTES. EXTENSIVE BOOLEAN LOGIC CAPABILITIES SHALL BE PROVIDED FOR FLEXIBLE DETECTOR LAYOUTS AND CAN BE USED TO HELP VALIDATE AN EVENT OR INCIDENT. THE DETECTION SYSTEM SHALL INCLUDE THE FOLLOWING LIST OF FEATURES AND CAPABILITIES:

THE VIDEO DETECTION SYSTEM SHALL BE AN AUTOSCOPE SOLOPRO VIDEO DETECTION SYSTEM AS MANUFACTURED BY ECONOLITE CONTROL PRODUCTS, INC. 3360 E. LA PALMA, ANAHEIM, CALIFORNIA. 92806-2856 (1-740-630-3700) AND SHALL INCORPORATE OR BE FURNISHED WITH ALL DESIGN FEATURES, AUXILIARY EQUIPMENT, AND ACCESSORIES AS REQUIRED.

PROVIDE A DETECTION SYSTEM THAT INCLUDES AN INTEGRATED COLOR CAMERA, 22XZOOM LENS, AND MACHINE VISION PROCESSOR IN ONE UNIT. THE CAMERA SHALL BE IP ADDRESSABLE, SHALL INCORPORATE A WEB SERVER INTERFACE FOR EASY SETUP AND PROVIDE MPEG4 STREAMING VIDEO OUTPUT.

PROVIDE A SYSTEM THAT INCORPORATES SIMPLE SETUP AND CONFIGURATION OF THE INTERSECTION STOP BAR DETECTION APPLICATIONS WITH MINIMAL NUMBER OF DETAILED STEP-BY-STEP INSTRUCTIONS.

PROVIDE A COMMUNICATIONS INTERFACE THAT FULLY SUPPORTS AN ETHERNET IEEE 802.3 COMPLIANT 10/100BASE T AUTO SENSING PORT FOR ADVANCED SYSTEMS COMMUNICATIONS. THE ETHERNET PORT SHALL PROVIDE AN UPSTREAM CONNECTION TO OTHER ETHERNET DEVICES IN THE CABINET. AN INDUSTRY STANDARD RJ-45 TYPE CONNECTOR SHALL BE INCLUDED THAT SUPPORTS A SIMPLE CAT5E PATCH CABLE INTERFACE. THE ETHERNET PORT SHALL SUPPORT HIGH SPEED SERIAL COMMUNICATIONS UP TO 230,400 BPS. THE ETHERNET PORT SHALL BE CONFIGURED USING A STATIC IP OR DHCP AND SHALL FACTORY PRE-CONFIGURED WITH A PRIVATE IP ADDRESS AND CALLS C SUBNET MASK.

PROVIDE A DETECTOR STATION THAT COLLECTS AND REPORTS TRAFFIC DATA GATHERED OVER SPECIFIC TIME INTERVALS.

PROVIDE CONTRACT LOSS DETECTORS THAT MONITOR THE QUALITY OF THE VIDEO IMAGE THAT IS BEING PROCESSED.

PROVIDE A VIDEO DETECTION SYSTEM THAT INSTALLS WITH ONLY 3-WIRES FROM THE INTERFACE PANEL TO EACH CAMERA THAT COMBINES STATE-OF -THE ART ADVANCES IN DIGITAL IMAGE SIGNAL PROCESSING AND BROADBAND COMMUNICATIONS.

PROVIDE A COMMUNICATIONS PORT THAT WILL ALLOW THE USER TO UPDATE THE EMBEDDED SOFTWARE WITH A NEW SOFTWARE RELEASE AND INTERACT WITH A PC CLIENT/SERVER APPLICATION FOR ALL OF THE VARIOUS DETECTION REQUESTS THAT ARE SUPPORT BY THE SENSOR.

PROVIDE A CAMERA AND PRECESSOR THAT WILL CONSUME A MAXIMUM OF 15 WATTS INCLUDING A THERMOSTATICALLY CONTROLLED FACEPLATE HEATER.

THE DETECTOR SYSTEM SHALL MAINTAIN A NONVOLATILE OPERATIONS LOG WHICH MINIMALLY CONTAINS: REVISION NUMBERS FOR THE CURRENT DETECTOR HARDWARE AND SOFTWARE COMPONENTS IN OPERATION; TITLE AND COMMENTS FOR THE DETECTOR CONFIGURATION; DATE AND TIME THE LAST DETECTOR CONFIGURATION WAS DOWNLOADED TO THE SENSOR; DATE AND TIME THE OPERATION LOG WAS LAST CLEARED; DATE AND TIME COMMUNICATIONS WERE OPENED OR CLOSED WITH THE SENSOR; DATE AND TIME OF THE LAST POWER-UP, AND TIME-STAMPED, SELF-DIAGNOSED HARDWARE AND SOFTWARE ERRORS THAT AID IN SYSTEM MAINTENANCE AND TROUBLESHOOTING.

PROVIDE EXTENSION ARM AND CAMERA JUNCTION BOX AS PER COLOR AND TYPE PROVIDED UNDER SPECIFICATION FOR ALL DECORATIVE TRAFFIC SIGNAL SUPPORTS.

PROVIDE A VIDEO SYSTEM THAT WILL ALLOW FOR COMPLETE CONTROL OF THE CAMERAS, DETECTION PROGRAMMING, ZOOM CAPABILITIES, AND VIEWING A LIVE VIDEO IMAGE.

PROVIDE A VIDEO DETECTION SYSTEM THAT INCORPORATES A VIDEO SERVER THAT CONNECTS DIRECTLY TO A 10/100BT ETHERNET NETWORK AND ACCOMMODATES ALL MPEG4 VIDEO STREAMS UP TO 5 MB/SECOND. ALL VIDEO DETECTION SENSORS SHALL BE CONNECTED TO NETWORK FOR REMOTE VIEWING AND MONITORING.

PROVIDE AND INSTALL IN THE CABINET AN INTERFACE PANEL (ATIP) THAT SUPPORTS 3-WIRE BRANCH CABLE CONNECTIONS TO EACH SENSOR. THE PANEL SHALL SUPPORT AND INTERFACE UP TO 8 IMAGE SENSORS VIA BROADBAND OVER POWER (BoP) TECHNOLOGY.

CONNECT THE ETHERNET PORTS FROM THE INTERFACE PANEL (ATIP) TO THE OPTICAL ETHERNET TRANSCEIVER INSTALLED IN THE CONTROLLER CABINET USING PROPERLY RATED CAT5E CABLES AND RJ45 CONNECTORS.

PRVIDE AND INSTALL IN EACH CABINET AN ACCESS POINT (ATAP) DETECTOR PORT MASTER THAT FULLY SUPPORTS UP TO 8 IMAGE SENSORS AND PROVIDES THE INTERFACE FROM EACH SENSOR TO THE TRAFFIC CONTROLLER. THE ACCESS POINT (ATAP) SHALL INCLUDE 24 CONTACT CLOSURE OUTPUTS, 16 CONTACT CLOSURE INPUTS AND FULLY SUPPORT NEMATS2 SDLC DETECTOR COMMUNICATIONS.

PROVIDE ADDITIONAL INTERFACE PANELS (ATIP) AND ACCESS POINTS (ATAP) AS NEEDED TO FULLY SUPPORT THE REQUIRED NUMBER OF SENSORS AS SHOWN IN THE PLANS.

CONSTRUCTION - LOCATE AND MOUNT DETECTOR IN ACCORDANCE WITH MANUFACTURE SPECIFICATIONS. PROVIDE SUFFICIENT NUMBER OF VIDEO SENSORS TO PROCESS VEHICLE PRESENCE, PASSAGE, AND SYSTEM DETECTOR ZONES AS INDICATED IN THE PLANS. RELOCATION OF SENSORS, ADDITIONAL JUNCTION BOXES, CONDUIT, AND CABLE NEEDED TO DETECT PULSE, PASSAGE AND SYSTEM DETECTION ZONES ARE INCIDENTAL TO THE COST OF THE PROJECT.

THE CONTRACTOR SHALL SET UP EACH DETECTION UNIT FOR VEHICLE DETECTION. THE SYSTEM SHALL BE SET UP TO RETRIEVE COUNT INFORMATION FROM EACH DETECTION UNIT ON 15 MINUTE INTERVALS, AND MAKE SUCH REPORTS TO THE INTERSECTION TIMER THE CONTRACTOR SHALL SET THE TIMER UP TO RETRIEVE THE VEHICLE DETECTION REPORTS AND LOG ALL SUCH INFORMATION PRIOR TO THE 10-DAY PERFORMANCE TEST.

PAYMENT FOR ITEM 632-SIGNALIZATION MISC: VIDEO DETECTION SYSTEM, AS PER PLAN SHALL BE MADE AT THE CONTRACT PRICE BID FOR EACH CAMERA SENSOR COMPLETE AND IN PLACE TESTED AND ACCEPTED INCLUDING PPRICE FOR NECESSARY COMMUNICATION PANELS, MINI-HUBS, DETECTOR INTERFACE CARD/DETECTOR PORTS, AND ALL ASSOCIATED WIRING AND CONNECTIONS INSTALLED IN THE CABINET TO MAKE A COMPLETE FUNCTIONING SYSTEM. PAYMENT SHALL ALSO INCLUDE SOFTWARE INSTALLED ON THE CITY'S TRAFFIC ENGINEERING COMPUTERS.

ITEM 632 - SIGNALIZATION MISC.: EXPANSION OF ICONS SYSTEM  
THE CONTRACTOR SHALL EXPAND THE EXISTING SYSTEM TO ACCOMMODATE ALL SIGNALS INCLUDED IN THIS PROJECT.


PAYMENT FOR THIS ITEM SHALL BE AT THE CONTRACT LUMP SUM FOR ITEM 632 - SIGNALIZATION MISC.: EXPANSION OF ICONS SYSTEM COMPLETELY FURNISHED, INSTALLED, WIRED, TESTED AND ACCEPTED.

ITEM 632 - SIGNAL PERFORMANCE TEST AND SYSTEM CHECKS

THE TRAFFIC ENGINEERING DIVISION REQUIRES THAT ALL TRAFFIC CONTROL SIGNAL COMPONENTS AND THE ENTIRE SYSTEM SHALL BE TESTED BY THE CONTRACTOR ACCORDING TO SPECIFICATIONS TO ASSURE PROPER OPERATION BEFORE ACCEPTANCE. GROUND ROD SHALL BE TESTED FOR SATISFACTORY LOW RESISTANCE GROUND. A SHALL BE PERFORMED ON ALL CONDUCTION TO ASSURE THERE ARE NO SHORTS, CROSSES AND HIGH RESISTANCE OR IMPROPER CONNECTIONS. ALL TRAFFIC CONTROL EQUIPMENT IN THE CONTROLLER CABINET SHALL BE CHECKED FOR CORRECT SETTINGS AND MANIPULATION AND OPERATION.

THE TRAFFIC ENGINEERING DIVISION REQUIRES A TEN DAY PERFORMANCE TEST TO START AFTER ABOVE MENTIONED TESTS ARE CONDUCTED AND PROPERLY LOGGED ON TEST REPORT FORMS AS REQUIRED BY CMS 632.28. THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST TO THE TRAFFIC ENGINEERING DIVISION STATING THAT SIGNAL INSTALLATION IS 100% COMPLETE AND THE TEN DAY TEST IS REQUESTED. THE TRAFFIC SIGNAL ENGINEER OR HIS ASSIGNEE SHALL MONITOR THE TESTS TO ACCEPT THE SIGNAL INSTALLATION ON BEHALF OF THE CITY OF AKRON. AND DISCREPANCY DETECTED SHALL BEE REPAIRED AND THE TEN DAY TEST SHALL BE RESTARTED.

ALL COST OF PERSONNEL, EQUIPMENT, ELECTRICAL ENERGY AND INCIDENTALS REQUIRED TO PERFORM THE TESTS ARE TO HAVE BEEN INCLUDED IN THE CONTRACT UNIT PRICE OF NEW OR UPGRADED SIGNAL ITEMS.

 CITY OF AKRON DEPARTMENT OF PUBLIC SAFETY/SERVICE TRAFFIC ENGINEERING DIVISION	CITY OF AKRON TYPICALS	VIDEO DETECTION SPECIFICATION NOTES	AMENDED SPECIFICATIONS	REVISIONS	08-07	REVISION RAC	CHECKED NKS	DATE 08-2007
			SCALE:	DATE				