

<b>JAIL SECURITY CONTROLS 2019 5-21-2019</b>	<b>ADVANCED SYSTEMS TECHNOLOGY INC</b>	<b>CORNERSTONE DETENTION PRODUCTS INC</b>	<b>ELECTRONIC CONTRACTING COMPANY</b>	<b>STANLEY CONVERGENT SECURITY SOLUTIONS INC</b>	<b>CORSAIR CONTROLS INC</b>
	2610 S GREEN RIVER RD EVANSTVILLE IN 47715	2391 NE LOOP 410 STE 208 SAN ANTONIO TX 78217	1823 W SUNSET ST SPRINGFIELD MO 65807	8350 SUNLIGHT DR FISHERS IN 46037	190 WOODCREST DR HIGHLAND IL 62249
<b>TOTAL COST OF PROJECT</b>	\$219,200.00	\$257,655.00	\$158,301.00	\$174,700.00	\$196,340.00
<b>REQUIRED DOCUMENTS</b>					
NOTARIZED WORK AFFIDAVIT COMPLETED	Y	Y	Y	Y	Y
E-VERIFICATION DOCUMENTATION (Y/N):	Y	Y	Y	Y	N
COPY OF INSURANCE PROVIDED	Y	Y(EXPIRED)	Y	Y	Y
TAX RECEIPTS OR NOTARIZED LETTER STATING NO REAL OR PERSONAL PROPERTY OWNED IN JEFFERSON COUNTY	Y	Y	Y	Y	Y
COOPERATIVE BID FORM (Y/N)	Y	Y	N	Y	Y
COOPERATIVE CONTACT INFO:	N	Y	Y	Y	Y
COMPANY INFORMATION AND SIGNATURE	Y	Y	Y	Y	Y
BID DEPOSIT REQUIRED	N/A	N/A	N/A	N/A	N/A
COMMENTS:	CHANGE MADE TO PAGE 11 & 14	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED	SEE ATTACHED



**JEFFERSON COUNTY**  
**DEPARTMENT OF ADMINISTRATIVE SERVICES**  
729 MAPLE ST / PO BOX 100  
HILLSBORO MO 63050  
[WWW.JEFFCOMO.ORG](http://WWW.JEFFCOMO.ORG)

**BID #:** 19-0047

**Request for Proposal:** [JAIL SECURITY CONTROLS 2019](#)

**Date Issued:** 4-23-2019

PROPOSALS SHALL BE ACCEPTED UNTIL: TUESDAY, MAY 21, 2019, AT 2:00 P.M. LOCAL TIME.

**Specification  
Contact:**

**JASON JONAS**

Department of Public Works  
636-797-5369  
jjonas@jeffcomo.org

**Contract  
Contact:**

**VICKIE PRATT**

Department of Administrative Services  
636-797-5380

**Mail (3) Three  
Complete Copies  
With Vendor And  
Proposal  
Information As  
Shown In Sample:**

**Contract Term:**  
**ONE YEAR CONTRACT  
UPON APPROVAL OF THE  
COUNTY COUNCIL AND  
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**Vendor  
Information:**

**SAMPLE ENVELOPE**

**VENDOR NAME**

**VENDOR ADDRESS**

**CONTACT NUMBER**

**DEPARTMENT OF THE COUNTY CLERK**

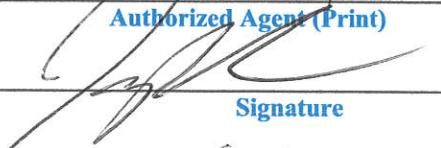
**JEFFERSON COUNTY MISSOURI**

**729 MAPLE ST / PO BOX 100**

**HILLSBORO MO 63050-0100**

**SEALED PROPOSAL: (PROPOSAL NAME)**

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Advanced Systems Technology, Inc   
**Company Name** **Authorized Agent (Print)**  
2610 S. Green River Rd.   
**Address** **Signature**  
Elansville, IN 47715 Owner  
**City/State/Zip Code** **Title**  
(812) 476-5534 5/13/19 35-1906724/  
**Telephone #** **Date** **Tax ID #**  
ASTEVILLE@Aol.com (812) 477-5534  
**E-mail** **Fax #**

# SPECIFICATIONS

## SCOPE OF SERVICES JAIL SECURITY CONTROL SYSTEM UPGRADE

### ***Project Purpose and Introduction:***

Request the services of a security controls consultant and/or contracting company to review existing system conditions and submit a proposal on required and/or recommended improvements. The awarded contractor shall oversee any needed design, construction and installation of an upgrade solution for the Jefferson County, Missouri Jail facility security control system. The services anticipated for this project are detailed further in the contract work section.

The chosen Contractor shall be committed to work with Jefferson County Jail and Facility Services staff, as well as the assigned County Project Manager during installation and implementation to aid staff with a general understanding of the system. The Contractor shall be trained on the proper use and basic trouble shooting of the equipment. Upon completion of the installation, the Contractor shall be prepared to fully test the system to assure optimum functionality and performances are achieved.

### ***Project Objectives***

The Contractor shall be responsible to provide all labor, materials, equipment, supplies, and tools required to complete the work that has been proposed and awarded, and in compliance with all applicable federal, state and local codes and standards. The Contractor must oversee and coordinate the entire project. Any subcontractor must be approved by the County prior to the commencement of the contract work. The Contractor shall be responsible for cleanup and disposal of all trash and construction debris generated by the project, disposal of any existing items removed, but not used in the new installation, and repair of any damage to other jail components caused by the Contractor or their subcontractors. Final acceptance of the project will be provided by the County Project Manager.

The following are the basic project objectives:

1. Increase safety and security of the jail facility by providing a reliable, non-proprietary control system upgrade solution.
2. Increase reliability by providing PLC-based system.
3. Decrease County risks by providing all as-built documentation, programming and passwords upon project completion.
4. Improve facility safety by providing and integrating a digital intercom system.
5. ~~Provide an IP-based CCTV system that is easily expandable and able to utilize the newly installed software, hardware, and licenses for future upgrades and expansion.~~
6. Prepare the end users for operation and basic system maintenance by providing comprehensive training to user groups and maintenance staff.

- Programmable Logic Controller (PLC), which provides actual door, intercom and utility control;
  - PLC system is in good working condition and all its components are still being manufactured. The County expects these components to last for the foreseeable future.
  - PLC system consists of a single PLC with components installed in remote racks located in ten cabinets, in four areas of the Jail facility. The remote racks and control system computers are linked together with various ethernet cables and switches. The existing system was designed to utilize only one PLC processor to control all of the facility security controls. This system reliance on one processor creates a single point of failure. If the processor fails, then all door control, intercom control and inmate utility control cease to operate. The video system is the only control system that is not operated by the PLC.
  - There currently are no known spare parts on hand for the PLC system.
- Intercom Components;
  - Currently the intercom system is functioning well.
  - The existing system is a hybrid and not stand-alone.
  - It utilizes some Dukane intercom components and relies on the PLC system to provide system control.
  - The PLC system receives call-in requests, announces call-ins, queues multiple call-ins, and places out-bound calls to intercom stations.
  - If the PLC system or the officer control station fails, then the officers are no longer able to initiate or answer intercom calls.
  - It is suspected that the existing Dukane intercom hardware is obsolete and unsupported. Replacement components are viewed to be difficult to obtain and repair of existing components may also be problematic going forward.
- Control System Ethernet Network;
  - Ethernet dedicated to the security control system is composed of good cabling and very good, industrial-hardened, DIN rail mounted ethernet switches. There does not appear to be any performance issues with this system.
  - There currently are no known spare ethernet switches in the event of a failure.
- Video System.
  - The current system works reliably; however, is short on storage capacity.

~~The facility is unable to keep the desired 60 days of camera videos.~~

The proposing teams are highly encouraged to explain how they best meet the above stated categories to assist the County in rating the proposals. The County reserves the right to reject proposals that do not entirely cover the scope of services being requested. The firms are highly encouraged to contact the County Project Manager with any questions pertaining to what is being requested or required in the proposal. All correspondence that relates to this project must be directed to the County Project Manager only in order to maintain a fair bidding environment. The County Project Manager for this project is as follows:

Jason Jonas, P.E  
Office: 636-797-5369  
Email: [jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

Total cost of project \$ 219,200



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729 MAPLE ST / PO BOX 100  
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**BID #: 19-0047**

**Request for Proposal: JAIL SECURITY CONTROLS 2019**

**Date Issued: 4-23-2019**

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636-797-5369  
[jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

**Contract  
Contact:**

**VICKIE PRATT**  
Department of Administrative Services  
636-797-5380

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**SAMPLE ENVELOPE**

*VENDOR NAME*

*VENDOR ADDRESS*

*CONTACT NUMBER*

DEPARTMENT OF THE COUNTY CLERK

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*CORNERSTONE DETENTION, PROUDCTS INC.*

*David Tidwell*

*Company Name*

*Authorized Agent (Print)*

*2391 NE LOOP 410 Suite 208*

*David Tidwell*

*Address*

*Signature*

*San Antonio, TX 78217*

*Vice President Business Development*

*City/State/Zip Code*

*Title*

*256-560-4434*

*5-2019*

*63-1196091*

*Telephone #*

*Date*

*Tax ID #*

*BBurleson@cornerstonedetention.com*

*210-467-5130*

*E-mail*

*Fax #*

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Jason Jonas, P.E  
Office: 636-797-5369  
Email: [jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

Total cost of project \$ 257,655.00

## SCOPE OF WORK

### **JAIL SECURITY CONTROL SYSTEM UPGRADE**

1. Basis of Project Proposals / Contract Work:
  - a. The following will outline our anticipated project work required or assumed by Jefferson County, Missouri. We understand that these details and assumptions will not be construed as either all-inclusive or essential in terms of the contract and have been viewed per our own independent evaluation. The County Anticipated Security Control System Upgrade Solutions include:
    - b. Officer Control Stations (OCS).
      - i. Proposed basic and enhanced upgrades and improvements of five OCS stations located in rooms #131, 331, 311, 370 & 389.
        1. Proposed PC hardware replacements for OCS. New Dell Computers
        2. Proposed touchscreen monitors replacement for OCS. 24" ELO monitors.
        3. Upgrade to the latest version, the existing WonderWare HMI program software.
        4. Facilitate IP integration with the New Bosch Video managements System (BVMS) to provide camera call-up with breach alarms, intercom call-in and camera icons on the touch screens for 96 cameras.
        5. Remote access will be facilitated.
    - c. Programmable Logic Controller (PLC) located in rooms 131, 331, 318 & 379.
      - i. Proposed basic and enhanced upgrades for five (5) PLC locations.
        1. New Omron PLC CJ2 series with Ethernet modules.
        2. New interposing relays
        3. New power supplies
        4. Approximately 179 door locks and DPS monitors.
        5. Phone relays (17) and utility control relays (17) reconnect.

- d. Intercom Components (IC).
  - i. Proposed basic and enhanced upgrades for five (5) IC locations, located in rooms #131, 331, 318, 370.
    - 1. New Harding DXL Digital Intercom System with Ethernet connection to the network switches. Approximately 225 stations.
    - 2. New Digital Communication Controllers (DCC) which will reuse the existing wiring and analog stations.
    - 3. New master Touch screen stations at five (5) locations
    - 4. An alternate Analog solution is listed separately.
- e. Control System Ethernet Network (CSEN).
  - i. Proposed basic and enhanced upgrades for the CSEN.
    - 1. Replace four (4) network switches with new Dell switches.
- f. Alternate for an analog intercom system.
  - i. Replace the existing Dukane analog intercom with new Tech Works amplifiers, relays boards instead of the Digital System.
    - 1. Reconnect existing wiring and stations
    - 2. Integrate into the HMI/PLC system.
    - 3. Program in camera call-up when a station is selected.
  - ii. **Subtotal cost saving, deduct \$20,000.00**
- g. Administration of the Jail Security Control System Upgrade Project
  - i. CDP will develop/manage the design, installation, scheduling, details, etc.
  - ii. We do not anticipate any subcontractors on this project.
  - iii. CDP will coordinate with contractors associated with the Jail video system upgrade project. We understand that they are providing a Bosch VMS system and we have interface on over two dozen other locations.
  - iv. CDP will communicate with the County and all monitoring agencies on project progress.
  - v. Our Project Manager will act as the general information source for all questions regarding the project.



1. Review and approve all shop drawing and material selections.
2. Determination and acquisition of all necessary permits, certification, or inspections.
3. Submission and approval of all phases of the project through Local, State and Federal permitting/controlling agencies (any fees to be paid by Contractor).
4. Assist County Project Manager in the selection of project features (if required).

vi. CDP will assist the County Project Manager with project close out.

1. Inspection reports, permits, certifications and documents detailing compliance with building, safety, and ADA standards.
2. Insurance requirements and lien waivers for all project contractors.
3. Prevailing wage requirements.
4. Warranty documents and operation and maintenance manuals.
5. List of all supplier specific parts and components with the contact and order information for the suppliers.

vii. CDP's site superintendent for the project will:

1. Schedule updates of the construction progress must be provided to County Project Manager.
2. Accommodations will be made to provide minimum disturbance to the normal functions and activities of the Jail facility.
3. Work area to be tidy and comply with all safety regulations.



**Norment**  **trentech**  **ECS** 

EO Integrated  
Systems, Inc.  
ENGINEERED CONTROL SYSTEMS

**Com-Tec**

Additional information requested is included as follows:

**Project Team:**

The proposed project team members that will be utilized on this project are all experienced detention professionals with years of experience. Several resumes are attached.

**Category Definitions:**

**Related Project Experience** – Cornerstone has deployed hundreds of jail system installation, both new and existing upgrades, throughout the United States. Attached are several references of our past work.

**Technical Competence and Expertise** – Cornerstone employees dozens of system engineers, programmers, fabricators and field installers. With over 270 employees in eight offices, we have the talent, experience and workforce for this project.

**Details of the Project Proposal** – We feel we have met or exceed the requirements listed in the RFP. We have attached various product data sheets.

**Evaluation of the Project Site** – We attended the second site visit on June 6<sup>th</sup>.

**Project Schedule** – The attached proposed project time line is:

Notice of award / Notice to proceed: TBD

Product submittals – 4 weeks

HMI screen submittals – 2 additional weeks

Fabrication and Programming - 2 months following approved submittals

Site installation – 3 weeks

Training, closeout – 1 week.



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**Electronic Contracting Company**

**David Daehling**

**Company Name**

**Authorized Agent (Print)**

1823 W Sunset St.

*David Daehling*  
**Signature**

**Address**

Springfield, MO 65807

**Sales Engineer**

**City/State/Zip Code**

**Title**

(417) 413-5630

5/16/2019

47-0534405

**Telephone #**

**Date**

**Tax ID #**

ddaepling@eccoinc.com

(816) 561-6857

**E-mail**

**Fax #**

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Jason Jonas, P.E  
Office: 636-797-5369  
Email: [jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

**Total cost of project \$ 158,301**

# Scope of Work + Pricing

Electronic Contracting Company will furnish and install a fully functional Touch Screen Jail Control, Intercom, and Camera Call-Up Systems. Included in our proposal is the following:

## Jail Controls

- ▶ Furnish and install five (5) 32" Touch Screen Monitors with All Headend Equipment, Relays, and Cabinets for Jail and Intercom Control
- ▶ Integrate approximately 151 Existing Door Locks into New Touch Screen Monitors for Door Release and Door Status Monitoring
- ▶ Integrate with Existing Ancillary Functions currently controlled by the Existing System
- ▶ Engineered Drawings of the New Jail Control System along with Equipment Data Sheets
- ▶ Comprehensive pretest of Existing Jail Control System to determine any Existing Faults. If any Faults are found with the Existing Wiring, ECCO will consult with Owner for needed repairs
- ▶ Programming and 100% testing of New Jail Control System and Locks
- ▶ Thorough training of Owner's Personnel of the New System

## Intercom

- ▶ Replace Existing Intercom Headend with New Equipment and interface approximately 125 Existing Cell Door Intercom Speakers and 12 Existing Wall-Mount Speakers into New Jail Control System. All Existing Speakers and Intercom Wiring will be reused
- ▶ One Intercom Microphone will be installed at four (4) of the Touch Screen Monitors
- ▶ Programming and 100% testing of New Intercom Interface into Jail Control System
- ▶ Thorough training of Owner's Personnel of the New System

## Camera Call-Up

- ▶ Camera Call-Up will work in conjunction with the Jail Control System. Camera Icons will be placed on the Touch Screen. When pressed, that particular Camera will display on a 19" Monitor located by the Touch Screen
- ▶ A thin Client Decoder will be installed at each of the five Master Control Systems with each Decoder connecting to a 19" Monitor

## Exclusions/Qualifications

- ▶ Proposal is based upon reusing the Existing Wiring but does not include repairs to Existing Wiring Conditions (Faults, Shorts, etc.) Any repairs to Existing Wiring will be on a Time and Material Basis. No repairs will be made without prior Owner approval
- ▶ Proposal does not include any 120VAC Wiring
- ▶ Proposal does not include any Applicable Taxes
- ▶ Proposal only includes New Conduit or Raceway Systems for the New IP Cameras and as needed from Existing Control Panel Wiring to New Cabinets

**Grand Total**

**\$158,301**

\*Applicable Taxes Not Included

**Note: This proposal is subject to acceptance within 45 days. We reserve the right to submit new prices thereafter.**

Proposal Prepared By: *David Dachling*

Proposal Acceptance Signature:

**TO: DEPARTMENT OF THE COUNTY CLERK**

JEFFERSON COUNTY MISSOURI  
729 MAPLE ST / PO BOX 100  
HILLSBORO MO 63050-0100



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*STANLEY CONVERGENT  
SECURITY SOLUTIONS, INC.*

Company Name

*MICKEY WYDICK*

Authorized Agent (Print)

*8350 SUNLIGHT DR.*

Address

*Mickey Wydick*

Signature

*FISHERS, IN 46037* *SALES ENGINEER*

City/State/Zip Code

Title

*317-572-2114*

Telephone #

*5-20-19*

Date

*20-1044950*

Tax ID #

*mickey.wydick@sbdinc.com*

E-mail

*317-578-4983*

Fax #

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Jason Jonas, P.E.  
Office: 636-797-5369  
Email: [jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

Total cost of project \$ 174,700.00

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## Project Summary

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- Review existing control system conditions
- Replace existing PLC controller and PLC input/output modules
- Replace existing Dukane intercom headend equipment with digital headend
- Provide documentation, drawings, and training
- Offer different levels of extended service agreements

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## Project Details

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Stanley Security will supply an updated Jail Control System. We will replace the following components:

- PLC processor
- PLC input/output modules
- Dukane analog headend equipment for the intercom system
- Master intercom stations at the control desks for communication
- Control station PCs and touchscreen monitors

Stanley Security will provide new control station PCs with 22" widescreen touchscreen monitors for control of the facility. These PCs will come loaded with Windows10 and the latest version of the Wonderware HMI software.

Stanley Security will re-use the existing wall-mount and floor mount enclosures along with the existing door control relays, lighting contactors, phone control relays, and cabling. We will also re-use the existing door locks, field intercom stations, field paging speakers, and any other "field" devices that are controlled by the Touchscreen control system. We will provide the following NEW equipment:

- Allen-Bradley PLC processor
- Allen-Bradley PLC input/output modules
- Harding digital intercom system headend equipped with Harding DCC and DCE boxes
- Harding gooseneck master intercom stations at the control desks for communication
- Ethernet switches

Stanley anticipates the following preliminary schedule based off receiving a signed contract June 17<sup>th</sup>, 2019:

- June – Anticipated Issuance of Notice to Proceed
- July - September – Site trip, submittal documentation, drawings, ordering and receiving of equipment at Stanley factory

- September - October – Factory software programming, system setup, factory test, customer visit for factory demonstration
- October - November – Onsite demolition, new equipment installation, startup, commissioning, and testing of new system
- November – Customer training
- December – System completion and turnover

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## **Warranty**

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After substantial completion, the new equipment will come with an all-inclusive 1-year warranty. Extended warranty options are attached. Existing field devices being re-used as part of this project will not be included in this warranty.

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## **Training**

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Stanley Security will provide one (1) day of onsite training on the new system.

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## **Bill of Material**

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(1)..... PLC processor  
(32) .... PLC input/output modules  
(5)..... Control PCs  
(5)..... Wonderware licenses  
(5)..... 22" touchscreen monitors  
(4)..... Ethernet switches  
(1)..... Datalogger PC with monitor  
(1)..... High-speed dial in gateway  
(1)..... Harding Instruments digital intercom headend system

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## **Pricing**

---

Base Bid Proposal ..... **\$174,700.00**

**Stanley Convergent Security  
Solutions, Inc**  
Corrections Division  
8350 Sunlight Dr.  
Fishers, IN 46037  
Phone 317-572-2114

### Extended Service Agreement Options

Please find two (2) options below we can offer you for an extended service agreement.

**Phone Support Only Plan:** This includes UNLIMITED phone support for the Stanley security system during normal business hours. Any onsite system repair or equipment replacement is EXCLUDED in this agreement. ....**\$400/month – Term 36 months**

**Labor Only Service Plan:** This includes the **labor** that is involved in normal “wear and tear” repairing or replacement during normal business hours. This includes UNLIMITED site trips until the service issues is fixed. Repair or replacement of equipment damaged by the customer, acts of God or vandalism is not covered. Service rates for after-hours work are not included and are based on current Stanley Service labor rates. Parts can be purchased through this contract at a reduced rate. This includes the Phone Support Only agreement above. ....**\$550/month – Term 36 months**

Sincerely,



Mickey Wydick  
Sales Engineer  
[mickey.wydick@sbdinc.com](mailto:mickey.wydick@sbdinc.com)  
317-572-2114 direct



**JEFFERSON COUNTY**  
**DEPARTMENT OF ADMINISTRATIVE SERVICES**  
729 MAPLE ST / PO BOX 100  
HILLSBORO MO 63050  
[WWW.JEFFCOMO.ORG](http://WWW.JEFFCOMO.ORG)

**BID #:** 19-0047

**Request for Proposal:** JAIL SECURITY CONTROLS 2019

**Date Issued:** 4-23-2019

PROPOSALS SHALL BE ACCEPTED UNTIL: TUESDAY, MAY 21, 2019, AT 2:00 P.M. LOCAL TIME.

**Specification  
Contact:**

**JASON JONAS**  
Department of Public Works  
636-797-5369  
[jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

**Contract  
Contact:**

**VICKIE PRATT**  
Department of Administrative Services  
636-797-5380

**Mail (3) Three  
Complete Copies  
With Vendor And  
Proposal  
Information As  
Shown In Sample:**

**SAMPLE ENVELOPE**

<i>VENDOR NAME</i>	
<i>VENDOR ADDRESS</i>	
<i>CONTACT NUMBER</i>	<b>DEPARTMENT OF THE COUNTY CLERK</b>
	JEFFERSON COUNTY MISSOURI
	729 MAPLE ST / PO BOX 100
	HILLSBORO MO 63050-0100
<i>SEALED PROPOSAL: (PROPOSAL NAME)</i>	

The undersigned certifies that he/she has the authority to bind this company in an agreement/contract to supply the commodity or service in accordance with all terms, conditions, and pricing specified. This Proposal, if accepted, will constitute an Agreement and Contract with Jefferson County, Missouri, upon approval of the County Council and County Executive. Prices are firm during this agreement term, unless agreed upon in writing by the County. The County has the option to renew this agreement at the same terms and conditions as the original agreement for one additional one-year term with the written consent of the successful bidder. Price increases for renewals are not authorized unless approved in writing by the County.

**Contract Term:**

ONE YEAR CONTRACT  
UPON APPROVAL OF THE  
COUNTY COUNCIL AND  
COUNTY EXECUTIVE

**Vendor  
Information:**

<u>CORSAIR Controls, Inc</u>	<u>ALAN THUENEMAN</u>
Company Name	Authorized Agent (Print)
<u>190 Woodcrest Dr</u>	<u>AT Signature</u>
Address	Signature
<u>Highland IL 62249</u>	<u>President</u>
City/State/Zip Code	Title
<u>618-654-8322</u>	<u>05/20/2019</u>
Telephone #	Date
	<u>37-1268603</u>
<u>alan@corsaircontrols.com</u>	<u>618-654-4403</u>
E-mail	Fax #

The proposing teams are highly encouraged to explain how they best meet the above stated categories to assist the County in rating the proposals. The County reserves the right to reject proposals that do not entirely cover the scope of services being requested. The firms are highly encouraged to contact the County Project Manager with any questions pertaining to what is being requested or required in the proposal. All correspondence that relates to this project must be directed to the County Project Manager only in order to maintain a fair bidding environment. The County Project Manager for this project is as follows:

Jason Jonas, P.E  
Office: 636-797-5369  
Email: [jjonas@jeffcomo.org](mailto:jjonas@jeffcomo.org)

Total cost of project \$ 196,340 <sup>00</sup>

One Hundred Ninety Six Three Hundred Forty Dollars + <sup>00</sup> ~~100~~



Corsair Controls, Inc.  
190 Woodcrest Drive  
Highland, Illinois 62249  
Phone (618) 654-8322  
Fax (618) 654-4403

## Corsair Controls, Inc.

May 20, 2019

Department of the County Clerk  
Jefferson County Missouri  
729 Maple Street / PO Box 100  
Hillsboro, Missouri 63050-0100

*Re: PROPOSAL for Jail Security Controls 2019 – BID #: 19-0047*

Attached is our Proposal to the County's Request for Proposal: JAIL SECURITY CONTROLS 2019. We have attached all the documents that were requested as a part of the RFP.

### **Contractor Selection Criteria:**

- 1) Total Project Cost
- 2) Related Project Experience
- 3) Technical Competence and Expertise
- 4) Details of the Project Proposal
- 5) Evaluation of the Project Site
- 6) Project Schedule

We will provide answers to all your Selection Criteria in the following pages, but will document our Total Project Cost Bid at the end, after responding to all the criteria that are factors in the Bid.

### **Related Project Experience:**

Corsair Is a Controls Systems Integrator that provides systems design, programming, installation, and startup services. We work primarily in four industries; Corrections, manufacturing, mining, and water treatment. Our Highland, IL Office is in the St. Louis Metro area and we service clients primarily in Missouri, Illinois and Indiana.

We started providing Security Control Systems in Jails and Prisons 34 years ago and are experienced with new construction, facility expansions, system upgrades and ongoing maintenance projects. As part of our design services, we provide complete AutoCAD drafting of Project electrical systems and project layouts. In addition, we have our own in-house electrical panel shop that builds the required automation cabinets for our Projects. While we often work with Electrical and General Contractors that are local to the location of our Projects, we also have the in-house expertise to provide field installation services on small jobs and repairs.

Our employees average 22 years of experience with Corsair, which allows us to provide knowledgeable support long after the initial Project is over. Corsair currently has five full-time employees and three part-time employees. We work with the major domestic PLC manufacturers, such as Allen Bradley, Modicon and General Electric, as well as several smaller PLC manufacturers. We develop touchscreen HMI control systems utilizing products from the largest industry providers,

such as Wonderware, Rockwell FactoryTalk and G.E.'s iFix, as well as several less recognized products such as CorsairHMI.

In the past four years, Corsair has performed major Security Control Systems work at the following locations:

1. North East Correctional Facility in Bowling Green, MO, (upgrade completed in 2015): This 2000+ inmate facility received a complete replacement of the Security Control System (SCS). Corsair provided the overall integration of the SCS, new Programmable Logic Controllers, new redundant, server-based Touchscreen HMIs, and 2 new microwave detection systems. In addition, Corsair integrated other components provided by Tech Electronics into the SCS (new intercom systems, new Ethernet Camera and DVR systems, and a new proximity card access control system). The new system was installed and tested with only very minor disruption to the everyday operation of the facility.
2. Shelby County Jail in Shelbyville, IN (upgrade completed in 2015): This was a complete replacement of an old Security Control System. Corsair provided a new Programmable Logic Controller, Touchscreen HMIs, and the security Intercom system. In addition, Corsair integrated the existing video camera system into the Touchscreen HMI. The new system was installed and tested with only very minor disruption to the everyday operation of the facility.
3. St. Louis County Courthouse expansion (new construction completed in 2016): A new 64-cell Juvenile Detention Facility was created within the Courthouse. Corsair provided a redundant Programmable Logic Controller, a server-based Touchscreen HMI system, a Guard-One tour reporting system, a Juvenile record system, and a Harding Security Intercom system with audible threshold alarming. In addition, in coordination with Tech Electronics, Corsair integrated the Ethernet camera system into the Touchscreen HMIs.
4. Chester Mental Health Center, Security Controls System expansion (completed in 2017): This facility is the State of Illinois' only maximum security mental health facility. An additional three housing Units were added to the existing Security Control System (originally installed by Corsair). It controls door access and Fire Alarm egress.
5. St. Charles County Jail, St. Charles, MO, building upgrades in 2016-2017. Corsair has been the sole Security Control System contractor for the St. Charles County Jail since 1993. There have been several jail expansions and upgrades over this time which resulted in significant growth of the Control System. The latest building modifications to the Security Control System in 2016-2017 resulted from the construction of a new medical unit, a new visitation area, new attorney interview rooms, and a new officer squad room.
6. Phelps County Jail, Annex Renovation Project (complete building rehab in 2018): Due to overcrowding, the County completely renovated the prior jail that was abandoned in approximately 2003 when a new Jail was completed (SCS by Corsair). Corsair provided a Programmable Logic Controller, a Touchscreen HMI system, and a Harding Security Intercom System. In addition, in coordination with Central Security Alarms, LLC, Corsair integrated the Ethernet camera system into the Touchscreen HMIs.

7. Madison County Jail, Edwardsville, IL, total replacement of old relay-based Dukane intercom system with a Harding Security Intercom System. The new Harding system is being integrated into the existing security Control System, previously provided by Corsair (PLC and Touchscreen HMI system). In addition, Corsair is upgrading twelve electrical control panels for cell block Gang Release Panels. This work is currently underway as part of a Major Jail renovation project (complete replacement of electrical, plumbing and HVAC systems as well as construction of some new building additions to the Jail) that will be completed in 2020.
8. New Fulton State Hospital, Fulton, MO. This is a new, high-security mental health facility. Corsair is providing the PLC-controlled door control system and touchscreen HMI Operator Control Stations for six (6) residential buildings, two outside visitor Sallyport stations and one delivery Sallyport station. There is a total of nine (9) PLCs in control panels, 12 touchscreen HMI stations and three pushbutton control stations. The Project is scheduled for completion in June 2019.

**Technical Competence and expertise:**

As stated above, Corsair Controls has been providing Security Control Systems for jails and prisons for 34 years. We first started providing services to the Jefferson County Jail in 2012 when ADT subcontracted Corsair to assist in the addition of 54 CCTV cameras to the jail. Corsair modified the WonderWare HMI software installation to control the 54 cameras from the touchscreen HMI stations. Since that time we have returned a number of times to diagnose and repair the HMI system, the PLC system, the intercom system and electrically-operated locks and doors in the jail. We are aware of the various components in the system and have proposed upgrades in the past. The Corsair employees that will be assigned to your Project are very experienced in Jail Control Systems.

We have experience with all your current control system components (your existing PLC, touchscreen HMI software, CCTV system and intercom system), as well as many more available options in security systems. For this RFP, we have evaluated your current system components, their remaining life expectancies, and options for upgrading your systems for a reliable, upgradable control system. Our Project team consists of 1) Corsair employees; Alan Thuenemann (34 years' experience), Mark Robinson (14 years' experience), Jared Thuenemann (5 years' experience) – all these team members have worked on the Projects detailed below; and 2) Pyramid Electrical Contractors who have worked on several jail projects with us (current and past).

We believe that one of the best ways to evaluate our competence and expertise is to talk to our existing customers. If desired, all of them will probably invite you to visit their facilities and see how our final product functions. All the contacts on the list have approved calls from possible clients.

<u>Facility</u>	<u>Contact</u>	<u>Phone</u>	<u>Cell</u>	<u>Title</u>
St. Louis County Juvenile Detention	Cheryl Campbell	314-615-2993		Director
St. Louis County Juvenile Detention	Kellie Landaker	314-615-2993	314-697-5911	Assistant Director

Shelby County Jail, Indiana	Louie Koch	317-392-5114	317-512-6094	Sheriff
Chester Mental Health , Illinois	Rose Dethrow	618-826-4571 xt252		Chief Engineer
Phelps County Jail	Matt Shults	573-426-3860	573-578-1978	Lt
Madison County Jail, Illinois	Christopher Eales	618-296-4832		Captain
Madison County Jail, Illinois	Kurt Geschwend	618-296-5245		County Building Engineer
St. Clair County, Illinois	James Brady	618-277-6600 xt2212		County Buildings Supervisor
St. Clair County, Illinois	Lee Bransletter	618-277-3504 xt5763		Jail Maintenance Manager
Boone County Jail, Mo	Keith Hoskins	573-875-1111	573-228-4056	Captain
Boone County Jail, Mo	Jennifer Atwell	573-875-1111	573-228-4055	Captain
Northeast Correctional Center, Chantay Godert Mo		573-324-9975		Assistant Warden
Northeast Correctional Center, Lori Lewis Mo		573-324-9975		Assistant Warden, Maintenance
St Charles County Jail	Christine Ramsdale	636-949-3034		Director of County Maintenance
St Charles County Jail	Chris Terbrock	636-949-3034		Maintenance Manager

Note: All of these customers utilize the same HMI software that is proposed for this Project.

#### Details of the Project Proposal:

##### **Officer Control Stations (OCS).**

We propose replacing the five old computers with all new hardware and software:

- a. A new Dell OptiPlex PC which will include a Windows 10, 64-bit Operating System, an i5 Intel computer processor, 8 GB of RAM, a solid-state hard drive (no moving parts), and a 3-year, Dell ProSupport, next business day, onsite warranty service.
- b. A new wired keyboard and optical mouse.
- c. A new speaker for alarm annunciation.
- d. A new, high-resolution (1920 x 1200 pixels), 24-inch NEC resistive touchscreen monitor. These new monitors are much wider than the old monitors and will permit you to upgrade to "high performance" graphics (High-performance graphics are designed to be clearer and much more intuitive for Operators to use).
- e. A new, non-proprietary touchscreen HMI software package. We are proposing using CorsairHMI software (not owned or distributed by Corsair Controls, despite the similar name) a HMI software package that is optimized for jails and prisons. We will provide a site license of the Corrections version which permits the owner to install the software on up to ten computers at the jail (at no extra cost). High Performance Graphics will be developed that make the screens easier to understand, quicker to use and more intuitive for the Officers. The screens will be larger, the control icons (for the doors, intercom stations, cameras, etc.) will be simplified and re-sized in order to remove

congestion from the screens, the decluttered floor plans will allow Officers to orient themselves faster and the color schemes will be modified to highlight abnormal situations and alarms.

- f. A Harding Intercom Master Station will be installed at each of the five Operator Controls Stations. See the following section of the Proposal for complete details – it is titled **Intercom Components (IC)**.
- g. Corsair will configure the new PCs for the Security Control System and load the required software and drivers. Corsair will test each new computers for proper operation.

#### **Programmable Logic Controller (PLC).**

When we evaluated the current PLC system, we found it to be in good working condition and all its components are still being manufactured. Spare parts will be available for the foreseeable future, and it is reasonable to expect another 10+ years of service from these components. We do not believe it is necessary to upgrade most components associated with the PLC, based on age. However, we believe there is a benefit to sub-dividing the four major areas of the PLC system for system redundancy. Currently, a single processor module is used to control the doors, secure-area lights and intercoms thorough out the whole jail. Corsair will subdivide the existing Control System into four areas that can function entirely independent of each other, yet can also work as a unified whole. This will minimize disruptions to the facility's security operations in the event of a PLC failure.

With four separate PLCs controlling the four major zones of the Facility (Booking & Reception, Dormitory, Lower Pod and Upper Pod), a failure of a PLC component will affect only one fourth of the Facility, not the whole facility. We will install an independent PLC Processor in each of the four zones. In addition to providing additional system redundancy, subdividing the PLC controls into 4 zones will make it easier and cheaper to add the improved security intercom and reduce the effects of control system outages while the upgrades are underway. We will be able to upgrade each zone without disrupting the other three zones.

In addition to providing four (4) new PLC processor modules, we will replace each 24 VDC power supply and DIN rail-mounted Uninterruptable Power Supply (UPS) with new units. These power supplies and UPSs are the units most degraded by 10 years of continuous use and subject to failure (several of the UPSs have already failed and currently need to be replaced). We plan to re-use the existing input/output wiring modules, terminal blocks and internal cabinet wiring within the approximately 10 PLC cabinets scattered throughout the facility. These items typically have lifetimes of 20-30 years and will permit us to save the expense of replacing them. Also, when the Harding intercom system is installed, there will be a significant number of spare PLC parts that will be available for the door control system, should a component fail there.

#### **Intercom Components (IC).**

Corsair will replace the old Dukane intercom system with a new, state-of-the-art Harding Instruments Security Intercom System. The Harding intercom system will consist of four integrated, stand-alone zones; 1) Booking & Reception (Master Station only), 2) Dormitory and second floor security electronics room, 3) Lower Pod and 4) Upper Pod (that match the proposed PLC zones discussed above). The four separate zones will be integrated together into a single intercom system that functions with each Officer Control Station (like the current Dukane system). However, the system will still function totally independent of the touchscreen

monitors, should a PLC, a touchscreen HMI station or the Ethernet network experience a malfunction.

An intercom Master Station will be provided at each of the Operator Control Stations. A Master Station is a phone-like console (very similar to a business phone) that permits direct dialing to any intercom station or other Master Station (as opposed to the current goose-neck intercom microphones that can only answer calls). By placing a Master Station at the Receptionist Station in the front lobby, the receptionist will be able to answer intercom calls at any of the doors that she controls near the lobby and visitation areas. It will make communications with visitors in the lobby easier too, as the Receptionist will be able to adjust intercom sound levels so that both parties can hear easier (than talking through the small voice port in the separating security glass).

It will also be possible to make or answer intercom calls or pages directly from the touchscreen HMI station. Security features in the Harding allow the facility to choose which Master Stations are permitted to make or answer intercom calls to any of the various intercom stations throughout the facility. Another advantage of the Harding Security Intercom system is that it communicates to the touchscreen HMIs over Ethernet, not relay modules through the PLC. This both simplifies the installation and maintenance of the system and allows the facility to modify the system much easier, if expanded capabilities are desired.

#### **Control System Ethernet Network (CSEN)**

Corsair proposes to reuse most of the CSEN components in the jail. However, we will replace the existing, unmanaged, DIN-rail mounted Ethernet switches in the Control System with new, managed, DIN-rail mounted Ethernet switches (this is a requirement of the VOIP-enabled Harding Intercom System).

The CSEN is a separate network and is segregated from all other jail computers, printers or servers, for security reasons. In addition, there is no access outside of the jail, except for the maintenance link that was initially established with an earlier integrator following the last system upgrade, approximately 10 years ago (we believe this connection was removed when the Booking computer was repaired several years ago). We propose limiting all outside access to the Jail Control System at all times with a keyed switch, until actual maintenance work is required. At that time an authorized person will check out the key and open the key switch to permit a connection to one of several possible secure devices (chosen by IT). We would prefer to have tightly-controlled access to the Internet with a firewall, secure Cell modem, and/or other devices (specified by the County's Information Technology Department). That would allow us to troubleshoot any Control System problems remotely, which will reduce the County's potential cost and time of responding to suspected problems. Note: any defects in new materials and labor are warranted for one year, and will be corrected without cost to the County.

#### **Evaluation of the Project Site**

Corsair provided the original evaluation of the Project Site – upon which the RFP was ultimately prepared (it is included in its entirety below). The basis for our evaluation is our 34 years of experience, the available Control System components in the marketplace today, and the current needs of our many Security clients. As you read our evaluation, please keep in mind that there are many Security Control System designers and providers that create complicated control systems that can cost much more, create flashy graphics and reports, but don't answer a real need within the facility. Eventually the jail management grows tired of trying to maintain a complicated system, parts of which do not give them added value. For example, in recent years

we were hired to repair the Security Control Systems in several Illinois prisons. We found that some of the expensive systems that were originally installed were never used, or too much trouble and expense to maintain. With limited budgets and frequent staff turnover, the Prison managers ended up requesting that those systems be removed in order to simplify operations and maintenance of the systems. Our observations are based on providing a solid, long life system that meets the actual needs of most clients. If this proposal does not meet the needs of your facility, we will be glad to work with you to modify the scope and costs of the Project until a satisfactory Proposal is achieved.

***Site Observations:******A. Observations on the Officer Control Stations.***

- *The age of the desktop computers used at the Officer Control Stations is approximately 10 years, well beyond the typical 5 - 7 year lifetime of a high quality, office-grade desktop.*
- *The touchscreen monitors have been in constant 24/7/365 use since their installation. Touchscreens are typically rated for 50,000 hours MTBF, or just under 6 years. The existing monitors were manufactured with an aspect ratio of 4:3, which was the standard screen format at the time. These monitors are becoming hard to find as the monitor industry switches to the 16:9 aspect ratio, or widescreen format.*
- *In addition, the operating systems on the desktops are Windows XP Pro, an OS that is no longer supported and contains many security vulnerabilities. The Booking computer has already failed (the system's administrative control/programming station was taken and repurposed to get the Booking station back in service). If another Control Station computer fails, only another XP Pro computer can be used to replace it.*
- *The current version of the WonderWare software that operates the Officer Control Stations is InTouch version 9.5. Version 9.5 must be upgraded in order to work properly with Win 10 or newer OSs.*
- *The desktop in the Dormitory serves both as an Officer Control Station and as a communication server to call-up camera views to all five Officer Control Stations. When this computer fails (and it has several times in the past), it not only takes down the Dormitory controls, but all of the video display requests generated from the touchscreen monitors in all the other Officer Control Stations.*
- *Most graphic screens that display the various areas and floor plans in the jail are congested with icons that show approximate locations of intercom stations, video cameras, security doors and room/door labels.*

***B. Observations on the PLC system.***

- *The PLC system is responsible for taking the Officer commands from the touchscreen computers and actually executing most commands. It directly controls all security doors, intercoms and inmate housing utilities. The PLC system is in good working condition and all its components are still being manufactured. Spare parts will be available for the foreseeable future. It is reasonable to expect another 10+ years of service from these components.*
- *The PLC system consists of a single PLC with components installed in remote racks located in 10 cabinets, in four areas of the Building. The remote racks (and Control System computers) are linked together with various Ethernet cables and switches. The system was designed to utilize only one PLC Processor, or "brain", to control all of the jail. This system reliance on just one Processor creates a key, single point of failure. If the Processor fails, all door control, all intercom control and all inmate*

*utility control in the whole jail ceases to operate. The video system is the only Control System component that can operate independently from by the PLC. While it is integrated into the touchscreen HMI, each Operator Control Station also has a separate video controller that the Officers can use to bring up video streams.*

- As far as we can determine, there are no spare parts for the PLC system. Should a component fail, a spare part would have to be ordered (after a service call to diagnose the failed component). Most spare parts require a one or two business day wait for delivery. With the exception of the PLC Processor and main Ethernet switches, most component failures would only disable small areas of the Control System.

**C. Observations on the Intercom system.**

- *At the current time the intercom system appears to be functioning well, but spare parts are difficult to locate. The gooseneck microphones are no longer available and maintenance is having to modify them with non-standard parts to keep them in operation.*
- *The Intercom System is a hybrid system (not a stand-alone system). It utilizes some Dukane intercom components and relies on the PLC system to provide system control. The PLC receives call-in requests, announces call-ins, queues multiple call-ins, and places out-bound calls to intercom stations. If/when the PLC System or the Officer Control Station (touchscreen) fails, the Officers are no longer able to initiate or answer intercom calls.*
- *According to our current intercom supplier (who also reps Dukane), your Dukane intercom hardware is obsolete and unsupported. The latest and current owner of the Dukane brand, Carehawk Safety Communications, has severely curtailed support for this old equipment. Carehawk still supports some of the newer, more advanced Dukane products, but is focusing on new Carehawk intercoms. Based on our experience at other jails with the same hardware, it is difficult to obtain new headend components or to get the components repaired.*

**D. Observations on the Ethernet system.**

- *Our observations here relate only to the Ethernet network that is dedicated to the Security Control System (not the County's Ethernet system devoted to Jail administration).*
- *The system is composed of good cabling and very good, industrial-hardened, DIN rail mounted Ethernet switches. There does not appear to be any performance issues with this system. These switches are rated for higher ambient temperatures that are found in closed Control System cabinets*
- As far as we can determine, there are no spare Ethernet switches. Should a switch fail, a replacement would have to be ordered. Regular office Ethernet switches, while they may be used temporarily, are not DIN rail mountable and typically not industrially hardened for continuous use in higher temperature environments. Depending on the location of the switch in the network topology, a failure could disable anything from a small area of the facility to all system controls.

**E. Observations on the Video system.**

- *The current system appears to be working reliably, but is short on storage capacity. As a result, the facility is unable to keep the desired 60 days of camera videos.*

**Project Schedule.**

Ultimately, we will work with Jail Management to achieve a mutually satisfactory Project Schedule. The Project start time will be based on work that Corsair has already committed to prior to the award of the Contract, the availability of system components, the amount of system programming and development that must be completed before coming on site and the schedule of our Electrical Subcontractor (which will perform installation tasks). Once the start time is determined, we will work with Jail Management to discuss a schedule that fits their operational needs. Since the upgrade work will be disruptive to normal Jail operations, we have designed the Project to proceed in four smaller phases. This will allow us minimize disruptions to the whole jail by working in only 1 zone at a time. The expected Zones are 1) Booking and Reception, 2) Dormitory, 3) upper Control Room, and 4) lower Control Room. Once the conversion of a zone has started, there will be short periods of time when one or more subsystems are not working. The major subsystems in your facility are Door Control, Intercoms, Video and Auxiliary lighting/utility control. For example, once we start to upgrade the Intercom subsystem, it will not be possible to make/receive intercom calls in that zone, until the new intercom system is installed. In most cases, there will not be disruptions of the subsystems in other zones, except for brief periods of time.

Expected milestones in performance of the Contract work:

	Step Descriptions	Estimated time
1	Award of Contract	
2	Corsair Preparation of submittals	2-3 weeks
3	Submittals to Owner's Representative	
4	Submittal approvals	10 days
5	Procurement of materials and software	8-10 weeks
6	Corsair programming and graphic development	Concurrent with procurement
7	Owner's review of proposed graphic screens and system operation at Corsair Office	2 days
8	Pretest of existing system	4 days
9	Cutover of new intercom system	
	Booking	5 days
	Upper Detention	10 days
	Lower Detention	10 days
	Dormitory/2 <sup>nd</sup> floor security	10 days
10	Cutover of PLC/HMI	
	Booking	2 days
	Upper Detention	2 days
	Lower Detention	2 days
	Dormitory/2 <sup>nd</sup> floor security	2 days
	Lobby/reception area	1 day
11	Final Cleanup	1 day
12	Final Punch list	2 days
13	Training	2 days
14	Delivery of final closeout documents	1 day

-Note; the "Pretest of existing system" determines the working/non-working condition of devices monitored/controlled by the Security Control System; e.g. security locks, doors, intercom stations, paging speakers, lights, etc. Corsair will be responsible to bring the new Control System up to the working conditions established in the Pretest. The new Control System hardware may correct some of the problems, but the owner is responsible to repair non-working field devices identified in the Pretest.

**Video System.**

We understand that the County is also taking bids to upgrade the Video System under a separate Contract. Since the details and capabilities of the new Video system that will be selected is unknown at the current time, we are not able to include integration of it into the touchscreen HMI stations. If the County selects a new system that can be integrated into touchscreen HMIs, and purchases the video vendor's integration software and configuration (needed to integrate to the touchscreen HMI computers), Corsair will be able to evaluate and bid integration into the HMI computers.

**Total Project Costs (as awarded).**

The total cost of providing the Jail Security Controls Upgrade, as detailed above is:

**One Hundred Ninety Six Thousand, Three Hundred and Forty Dollars**

**(\$ 196,340.00)**

We are presenting this cost as a single Lump Sum, because it is not possible to pick and choose different components (and their share of the costs) in the proposed Control System Upgrade, without affecting the costs of other components of the work. For instance, if the County chooses to delete the Harding Intercom upgrade from the quote and to continue using the old Dukane intercom system, there will be more costs associated with HMI's graphical development and PLC programming. However, if the County would like to specify a different set of equipment for this upgrade, we will be happy to quote it according to your wishes.

Please call if you have any questions.

Sincerely,

Alan Thuenemann