**SECTION 281305 – Infant Protection System**

# **GENERAL**

## SUMMARY

### This Section specifies the basic requirements for Infant Protection installations as indicated or required and includes requirements common to more than one specification section of Division 28 (where included) such as related documents, related sections, definitions, governing requirements, contractor requirements, warranty requirements, submittal requirements / procedures, and project closeout requirements/procedures, as well as other requirements.

## RELATED DOCUMENTS

### General provisions of the Contract, including Contract Requirements and Division 1 Specification Sections, and any Owner applicable General Conditions apply to this Section.

### Examine the Contract Documents in their entirety (including Drawings and Specification Sections in the other Divisions) for requirements or work which may affect work under this Section, regardless of whether such requirements or work are specifically indicated in this Section.

## related sections

### Refer to Division 28 0500 Common Work Results for Security Systems Specification for Submittals, Substitution Request, Quality Assurance, Warranty, Testing and Inspection requirements.

### Refer to “ICRA for WIC Infant Protection Replacement Project” document for Infection control requirements.

### Other Division Sections referencing this Section

## PROJECT SUMMARY

### This section includes basic requirements for the installation of an Infant Protection (IP) system to monitor and track underage patients and secure the facility from elopement.

#### Provide newly installed Infant Abduction (IA) System components within this facility including remote equipment, power supplied, monitoring and control stations, door hardware connections, and required cabling to provide a fully function and turnkey system.

#### The new Infant Abduction system shall utilize existing door hardware where available. Refer to floorplans for specific locations where additional hardware may be required.

#### Infant Abduction system shall not interfere with existing system within the facility. Contractor to confirm proposed bands will not affect existing conditions.

#### Infant Abduction system shall have the ability to provide room level accuracy of infants.

### Software: Provide all Infant Protection Software, Server Operating Software, System Database Software, Monitoring System Software and any other software required to provide a fully functional and operating Infant Protection System ready for the Owner’s use. Perform testing and verification of system operation.

#### Software Installation: Install software and all necessary components of the System.

#### Software Programming: Provide all programming necessary to provide a fully functioning and operational system ready for the Owner’s use.

##### Schedule meetings with Owner and/or Engineer to establish system requirements including but not limited to; door operation, door naming, map icon appearance, map icon functionality, alarming and log entry.

#### Software Modifications: Provide software modifications through-out construction and warranty phases to ensure flawless system operation including but not limited to; programming corrections, missing functionality, incorporation of added devices, integrated control sets and Owner preferences.

#### Database Integration: Integrate the Infant Protection System Database with the Owner’s Personnel database as needed. Coordinate integration requirement with Owner prior to Systems Installation.

#### Data Entry: Contractor is responsible for data entry as related to system components and functions.

#### Software Maintenance: Provide upgrades to system software as required to provide functionality called for within Construction Documents. Provide updates to system software as required to keep system at the most current software versions.

##### Software Upgrades/Updates shall be valid for the duration of the construction and warranty periods. Purchase the software upgrades in the Owner’s name and provide documentation and renewal information to the Owner.

##### Put into working order any deficiencies the software upgrades/updates may cause to the system operation.

#### Software licenses: Provide software licensing as required for the uninterrupted operation of the Infant Protection System including but not limited to:

##### Reader licenses

##### Client licenses

##### Site license

### Hardware: Provide all Infant Protection System Head-end Equipment, Server Equipment, Network Switches, Computer Workstations, Field Devices and all other necessary equipment to provide a fully functional and operating Access Control System ready for the Owner’s use. Perform testing and verification of system operation.

#### Hardware Installation: Install hardware and all necessary components of the System.

#### Hardware Configuration: Provide all necessary configuration of the hardware including but not limited to: wiring, power connections, backup power connections and censors.

#### Hardware Licenses: Provide all license required to operate system.

#### Owner Provided Equipment: Coordinate all Owner provided equipment prior to system commissioning including but not limited to: IP addresses, Power over Ethernet, systems and monitoring stations.

### System Communication: Provide communication between system equipment including but not limited to: panels, service, field devices, network switches, routers, firewall, workstations, and monitoring equipment.

#### Serial Communication:

##### Protocols: Support RS232, RS422, and RS485.

##### Components: Provide communication components including but not limited to: modules, protocol converters, extenders, and cabling.

#### Ethernet:

##### Structured Cabling: Cabling required for the Ethernet System which the Infant Protection System communicates upon shall be provided. Structured cabling shall include but not limited to fiber optic and unshielded/twisted/pair copper CAT6A cabling.

##### Networks: Support communication for Local Area Network (LAN) and Wide Area Network (WAN).

###### The Owner shall provide the IT network onto which the communication shall transmit. Coordinate all network requirements with the Owner including but not limited to: port counts, core switches, routers, servers, firewall, power over ethernet, and workstations.

###### Protocols: Support TCP, UDP, IP, ICMP and WiFi 6 802.11ax+. (802.11a/b/n/g/ac).

###### Components: Provide ancillary communication components required for the direct operation of the Access Control System but reside outside of the LAN/WAN network including but not limited to; non-core secondary switches / routes, protocol converters, fiber interfaces, serial interfaces, extenders, network interface card / modules, power injectors and workstations.

### Operation:

#### Communication interruption: The Infant Protection System shall continue to function at full capabilities at a local level in the event of communication disruption. An alarm shall notify users of communication interruption.

#### Power Interruption: Provide battery back-up power for uninterrupted operation of system in the event of a power outage including but not limited to: headend equipment, lock power supplies and verification devices. The system shall notify user of power outage at monitoring station.

#### Secured Doors: Doors indicated on the contract drawings shall be closed at all times, and secured when activated by an infant tag, unless otherwise noted.

##### Electro-Mechanical Egress: Provide a means of delayed egress via electrified hardware, abiding by local codes and AHJ requirements.

#### Monitoring:

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###### Monitoring shall be at identified nurses’ stations and required monitors throughout the departments.

#### Infant Protection Stations:

##### Management Station(s): Provide a Management Station(s) as indicated within Construction Documents. The Management Station shall consist of a workstation, monitor(s), and related software. All equipment shall meet or exceed Manufacturer recommendations.

###### Provide means to enroll / remove infant into / from database.

###### Provide means to modify / override base system.

###### Provide means to view / enter logged events.

###### Graphical mapping: Provide graphical mapping of facility with security icons to indicate locations, status of operation, valid access, invalid access and alarm events. Icons shall be selectable to provide control of entry and response to alarms. Coordinate with Owner for additional requirements.

##### Monitoring Station(s): Provide a Monitoring Station(s) as indicated within Construction Documents. The Monitoring Station shall consist of a workstation, monitor(s), and Security related software. All equipment shall meet or exceed Manufacturer recommendations.

###### Provide means to view / enter logged events.

###### Graphical mapping: Provide graphical mapping of facility with security icons to indicate locations, status of operation, valid access, invalid access and alarm events. Icons shall be selectable to provide control of entry and response to alarms. Coordinate with Owner for additional requirements.

## SYSTEM INTEGRATION

### Software Integrations: Provide integration of the systems listed below by means of a manufacturer’s common software platform. Coordinate with other trades to ensure a fully functional operating system is delivered.

### Hardware Interface: Provide interface between the system(s) (or singular devices) listed below by means of hardware connectivity including but not limited to network / serial communication, contact closure and voltage / ground reference. Coordinate system(s) requirements with other trades to ensure a fully functional and operating system is delivered.

#### Provide an Infant Protection System with interface to the existing Access Control System with capabilities supported by the system integration.

#### Fire Detection Control System (FDCS): The Infant Protection System shall interface with the FDCS equipment. The Contractor shall coordinate the functionality of the Access Control System during the activation of the fire alarm with Authorities Having Jurisdiction and the Owner.

# PRODUCTS

## GENERAL

### Manufacturer: The Manufacturers listed within the subsets of this section shall establish the product specification standards for this system. The Contractor shall provide the most current models available by the listed Manufacturer, unless directed otherwise.

#### Sole Source Manufacturers: Model numbers listed within this section shall not be substituted. Notify buyer in writing, if any models listed for this Manufacturer are found to be obsolete or discontinued and engineer will be notified. The Contractor shall not proceed with procurement of obsolete / discontinued product without written approval of Owner / Architect and / or Engineer.

#### Considered Manufacturers: Equipment by selected manufacturer(s) are considered substitutions to the Basis of Design product listed within this section.

### The equipment included in this section is to establish Basis of Design requirements. The equipment specified by no means represents a complete list of components for this system.

#### Substitute Comparison: Product listed within shall establish the specification standard for design. All substitute product offer by the Contractor shall be evaluated to the Basis of Design product for like capability and features.

#### Quantities: Provide materials in quantities as required to provide a fully functional and operational System.

#### Discrepancy: Where discrepancies exist between Basis of Design product within this section and system requirements based upon Construction Documents, provide the most stringent requirements. Notify Owner / Engineer of discrepancy in writing.

#### Owner Provided Equipment: Refer to Construction Documents for designation of Owner provided equipment.

##### Owner Furnished Contractor Installed (OFCI): Equipment procured by the Owner presented to the Contractor for installation including but not limited to mounting, software installation / configuring / programming, system integration and connectorization.

##### Owner Furnished Owner Installed (OFOI): Equipment procured by the Owner and installed by the Owner. The Contractor shall be required to integrate OFOI equipment into the whole of the Security System including but not limited to software installation / configuring / programming, system integration and signal transmission.

## EQUIPMENT SPECIFICATION

### General Requirements:

#### The Infant Abduction (IA) Prevention System shall be:

##### Centrak

##### Accutech – Cuddles Pulse

##### Guard RFID - TotGuard

##### Stanley – Hugs

##### Approved Equivalent – UAB reserves the right to evaluate and make final decisions on all products meeting and exceeding minimal requirements. All decisions made by UAB are final.

#### Current manufacturer published specifications shall set the standard for system equipment.

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#### Equipment not listed within this section, but specified elsewhere in the Construction Documents shall be provided as required to complete operation indicated.

#### Equipment not listed within this section but is required for the complete operation of the Infant Protection System shall be provided as required.

#### Mounting: Mount equipment per manufacturer recommendations. Where equipment is mounted overhead, surface mounted to walls or otherwise suspended in such a way as to allow occupancies to hang on equipment, the equipment shall be mounted to a minimum of a load factor of 5 times equipment weight.

## SERVERS AND WORKSTATIONS

### System Server: All personnel and Infant Protection data shall reside on the new database server. Intelligent Field Panels will be connected to the database server via the Owners LAN. Provide licensing and configuration for the new system components.

### Workstations: Workstations shall be provided by Vendor. Provide licensing and configuration for the workstations. Provide line item cost for each workstation including licensing. Also provide optional pricing for owner provided workstations as well as minimum requirements based on system type.

### Wall Mounted Monitor: 65” monitors shall be provided by vendor as indicated on floorplans. Monitors shall be connected to the workstations.

## CABLING

### Infant Protection cabling shall have the following properties:

#### All system cable shall be of the highest quality.

#### Cables shall be UL listed and NEC certified as CMP, plenum rated.

#### For doors with multiple conductors needed, cable shall be composite cabling with multiple conductors in a single overall jacket.

#### For other devices, cable shall be 18/2 stranded cable.

#### Cable color shall be green.

#### All system cable shall be approved by the relevant manufacturer for use with their equipment.

#### The Contractor shall provide cable / wire in accordance with equipment operational requirements include conductor quantities, gauge sizing, shielding and/or jacketing.

### Manufacturer: Approved Products:

#### Refer to “UAB – Cabling Standards” document for approved cabling

# EXECUTION

## GENERAL

### Provide a complete and functional system as described within these specifications and drawings. The system shall be installed utilizing good wiring and grounding practices according to local and national codes and acceptable to the engineer.

### Local and national life safety and fire codes shall be strictly followed where applicable. Coordinate all code requirements with the Authority Having Jurisdiction. Conform with all AHJ requirements.

### The contractor shall install the system using skilled workmanship and of acceptable quality.

### The contractor is responsible for all cables required for a functional Infant Protection System and all components listed in this specification. The Low Voltage cabling contractor shall install cabling under the control and supervision of the Owner.

### Coordinate all Owner provided equipment including but not limited to: provisioning, configuring, assignment, power provisioning and communication path.

### Mount equipment per manufacturer recommendations. Where equipment is mounted overhead, surface mounted to walls or otherwise suspended in such a way as to allow occupancies to hang on equipment, the equipment shall be mounted to a minimum of a load factor of 5 times equipment weight.

### Install all equipment and materials in accordance with the current manufacturer recommended standards. The work shall also be in accordance with:

#### Installation Criteria defined in these specifications and in the construction documents.

#### Reviewed Submittals (including product datasheets and drawings showing installation methods).

#### Applicable Requirements of Referenced Standards.

### Provide installation of all system components in a straight and neat order. Refer to plans for exact system component locations.

### At panel locations, provide wall mounted finger ducts with covers to enclose and hide cabling routed between panels, power supplies, relay boxes, etc. and the ladder tray.

## PROGRAMMING

### Program system configuration parameters (hardware and software, zone/circuit numbers, communication parameters).

### Program operational parameters (time periods, time profiles, access levels, access codes, holiday periods and profiles, automatic lock/unlock schedules, and input/output event responses).

### Provide other system programming tasks required by the Owner. These additional programming requirements shall be submitted by the Owner to the Contractor prior to system programming.

### Load graphic maps, attach icons and configure for monitoring and control from graphic displays. Submit graphic display scheme to Owner for approval prior to installation. Delete all games from the operating system and other non-essential software.

## CABLING

### No splices are allowed except in designated junction boxes above doors.

### Security cabling is permitted in the cable tray. Bundle security cables together within tray separate from data cables and adhere to the same rules as described in the communications specifications for routing cables in the tray.

### Where cable tray is not present, route security cabling in dedicated J-hooks. Provide and install J-hooks for security cabling separate from other cabling types. The J-hooks may be attached to the same infrastructure as other J-hooks. J-Hooks cannot be supported on pipes, duct, or other items affixed to the building.

### The cable routing inside the room in which the panels are located shall comply with the following:

#### Follow the same standards as set under Division 27 specifications for routing cabling inside communications rooms.

#### Route cabling neatly in ladder tray provided by others. Route the cabling separate from non-security cabling. Route to security equipment location and route cable into vertical finger duct provided by the Contractor.

#### Bundle the cabling neatly with Velcro straps. Zip-ties are not permitted.

## TESTING

### Operational Testing: The Contractor shall perform thorough operational testing and verify that all system components are fully operational.

### System Printout: The Contractor shall submit an electronic system printout of all components tested and Certify 100% operation indicating all devices/panels/units have passed the test criteria set forth by the Manufacturer.

### Acceptance Test Plan Form: An acceptance test plan form shall be prepared/provided by the Contractor prior to the acceptance walk-through. This form shall include separate sections for each device/panel/unit as well as a column indicating the manufacturer's performance allowance/margin, a column indicating the result of the testing performed by the Contractor (Pass/Fail), and an empty column for recording findings during the walk-through.

## Demolition

### After testing is completed and the new system is operational, the contractor will be required to remove any unused equipment and associated cabling from the old system.

## TRAINING

### **Provide (3) days of** **in-person user training to approximately 800 users: approximately 30 to be trained as system administrators, approximately 100 to be trained as super users, and approximately 670 to be trained as basic system users. Training times to cover AM, PM & weekend shifts with all levels of training available on all shifts. Provide 24/7 system go live support for approximately two weeks on AM/PM & weekend shifts. See user types defined below:**

#### **System Admins - up to and including rebooting systems**

#### **Super User - up to and including rebooting systems with ability to train new users**

#### **Administrative access - adding user, removing users, update passwords, add/remove tags**

#### **Basic user- admit, transfer, transport, clear alarms and discharge users.**

### After (6) months of operation, return and provide (8) hours of additional training.

### Provide training for new staff (4) times per year and **provide remedial training on system use after major updates.**

### Provide alternate pricing for yearly maintenance.

### END OF SECTION