

ADDENDUM NO 4
Issued May 14, 2018

FROM: Seattle Housing Authority
Mel Henley
190 Queen Anne Avenue North
P.O. Box 19028
Seattle, WA 98109

TO: All Planholders

This Addendum No. 4, containing the following revisions, additions, deletions and/or clarifications, is hereby made a part of the Contract Documents for the above-named project. Bidders shall take this Addendum into consideration when preparing and submitting their response to this solicitation. Receipt of this Addendum shall be acknowledged by inserting its number in the space provided in Section 00300 Bid Form. Failure to do so may deem the proposer as non-responsive.

NOTE:

The Bid Due Date has been changed to no later than 1:00 PM on June 6, 2018.

The following are attached to, and hereby made part of this Addendum No. 4.

- Cover Sheet
- Section 28 00 01 – Security General Requirements
- Section 28 05 02 – Security Wiring
- Section 28 13 01 – Access Control System
- Section 28 23 01 – Security Video System
- Security Details
- Drawings – Sheet SE322.2.01

1. CHANGES TO PROJECT MANUAL

Volume 1, Division 0, Section 00020 – Pre Bid Information

- Revise Section 00020 Pre-Bid Information, Part 1.05A Bid Submittal:

○ **Delete in its entirety and Insert:**

Sealed bids must be received for this project by the Seattle Housing Authority (SHA) at its offices at 190 Queen Anne Avenue North (5th Floor, Reception), Seattle, Washington 98109, no later than **1:00 PM on June 6, 2018.** Bids received after 1:00 PM will not be accepted or read. Faxed bids will not be accepted.

- Revise Section 0020 Pre-Bid Information, Part 1.06 Pre-Bid Meeting / Site Visit:

○ **Insert the following:**

An additional pre-bid site visit will be held starting at **8:00 AM on May 15, 2018 and ending on May 16, 2018.** Each day potential bidders will be taken through multiple buildings. Prospective bidders should meet on the first day starting at Ravenna School Apartments, 6545 Ravenna Ave. NE, Seattle, WA 98115.

- **Revise Section 0020 Pre-Bid Information, Part 1.09 Technical Questions**
 - o **Insert the following:**
Technical Questions regarding this project must be received in writing no later than **3:00 PM, on May 18, 2018**, and addressed to:

Mel Henley, Sr. Contracts Administrator
Seattle Housing Authority
190 Queen Anne Ave. North
P.O. Box 19028
Seattle, WA 98109-1028
Email: mel.henley@seattlehousing.org

Volume 2, Division 28, Section 28 00 01 – Security General Requirements

- **Delete in its entirety and replace with the attached updated section.**

Volume 2, Division 28, Section 28 05 02 – Security Wiring

- **Delete in its entirety and replace with the attached updated section.**

Volume 2, Division 28, Section 28 13 01 – Access Control System

- **Delete in its entirety and replace with the attached updated section.**

Volume 2, Division 28, Section 28 23 01 – Security Video System

- **Delete in its entirety and replace with the attached updated section.**

Volume 2 – Security Details

- **Delete in its entirety and replace with the attached updated section.**

2. CHANGES TO DRAWINGS

THE FOLLOWING DRAWINGS ARE RE-ISSUED IN THEIR ENTIRETY.

SE322.2.01 Ravenna School Apartments, First Floor

End of Addendum No. 4



***SEATTLE HOUSING
AUTHORITY***

***SSHP Implementation
Phase 2A&B
Addendum #4***

May 9, 2018th, 2018
Rev. 1
SHA170109 & SHA170902

ADDENDUM NO. 4
May 9, 2018

PROJECT # : SHA project #5037

SUBJECT : **Addendum No. 4**

The following changes, omissions, and/or additions to the Drawings shall apply to proposals made for and to the execution of the various parts of the work affected thereby, and all other conditions shall remain the same.

Careful note of the Addendum shall be taken by all parties of interest so that the proper allowances may be made in strict accordance with the Addendum, and that all trades shall be fully advised in the performance of the work which will be required of them.

In case of conflict between Drawings and this Addendum, this Addendum shall govern.

I. Specifications

a. Security General Requirements 28 00 01:

1. 1.01 Project Intent, A, paragraph two was changed to read: The sites included in this project are part of SHA's Seattle Senior Housing Program (SSHP) portfolio. In Phase 1 the original design had the first 6 buildings federated into a larger system. Since the implementation of Phase 1 SHA has decided that they no longer want the separate sights Federated. This phase will require the assistance of Genetec Pro Services to un-federate the previous six sights.
2. 2.01 Work Included, J, was modified to read: Any modifications, changes, or replacement of any access controlled or local noise doors to make them operational as specified in the details.
3. 3.01 General Installation G was modified to read: Where required provide at access controlled doors any modification, alterations or replacement to accommodate the required new door hardware or access control hardware.

4. 3.06 Database Preparation, Checking, and Activation, A was changed to read: Provide Owner with the appropriate forms necessary to organize the security systems database inputs not less than 30 days prior to scheduled central system activation. This includes each individual site and at the system head-end.
- b. Security Wiring 28 05 02:
1. 2.01 Work Included, C, was changed to read: Paint all building mounted EMT, back boxes, j-boxes, and wire mold. Use paint color as appropriate for each site. Submit a paint sample for each location.
 2. 2.02 B was changed to read: Conduit and Wire Mold
 3. 2.02 B Conduit and Wire Mold, #3 was added and reads: Use wire mold in lieu of EMT for all runs that are within 50' of a main lobby door. (confirm use of wire mold with SHA Project Manager prior to installation)
- c. Access Control System 28 13 01:
1. 1.01 Description, C Work Included, 2, 3 & 14 were added to the existing list and read: (2) Removal of the previously installed Genetec Federation and Global Cardholder Management software, with the assistance of Genetec Pro Services. (3) Configuration of the system once the Genetec Federation and Global Cardholder Management software have been uninstalled. Again with the assistance of Genetec Pro Services. (14) Modifications, replacement, or alterations to doors to accept required door hardware. (All preexisting letters moved down one).
 2. 2.02 Materials, C was added to the to the existing list and now reads: Contract Genetec Professional Services to assist with any database work. This includes adding to and editing of all existing database information, as well as importing and programming any new database information from existing systems. (all preexisting letters moved down one)
 3. 3.01 General Installation, D, subsection 1 and 2 were added and read: (1) The installation of the Rack listed in Detail 03.03.02a will need to be installed as one of the first tasks. The installation of the Rack should be

coordinated with the SHA Project Manager and SHA's I.T. Department.

(2) Any specified door that requires modification, alteration, or replacement in order to accommodate the specified door hardware is the responsibility of the contractor.

4. 3.02 System Installation, E, was changed and now reads: The head end software is currently residing on a Virtual Machine (VM) environment at the SHA Main Office, along with a separate VM for the SQL database.
5. 3.03 System Programming, A, was changed to read: Program the system database using new and existing system data. Continue the programming that was begun in Phase #1 and add to it. Be sure to use already begun programming and naming conventions. This work will require the assistance of Genetec Professional Services.
6. 3.03 System Programming, C 1 and 2 were added to the existing list and now read: (C) During Phase 1 the first 6 sites were federated to allow each site to function as a standalone site, it is the desire of SHA that this functionality be removed. This system federation also required Global Cardholder Management Software. (1) The Federation and Global Cardholder Management Software will need to be un-installed. (2) The existing sites will need to be reconfigured into one holistic system. Use Genetec Professional Services to accomplish this task.

d. Security Video System:

1. 3.03 System Programming, A, 4 was changed to read: Connectivity to and integration into the Owners head-end Enterprise system.

II. Security Drawings

- a. Sheet SE322.2.01- Refer to clouded areas for changes on this sheet.

III. Security Details

- a. AS:
 1. An EP-1501 controller was added to the detail.

2. The Security Equipment list was updated to reflect this addition.
 3. The point to point diagram was updated to reflect this addition.
- b. GA:
1. This detail changed the Mercury board from an MR51e to an EP-1501 controller.
 2. The Security Equipment list was updated to reflect this change.
 3. The point to point diagram was updated to reflect this addition.
- c. KB:
1. A weather cap was added to the literature sheet.
 2. The Security Equipment list was updated to reflect this change.
- d. KC:
1. A weather cap was added to the literature sheet.
 2. The Security Equipment list was updated to reflect this change.
- e. KD:
1. A weather cap was added to the literature sheet.
 2. The Security Equipment list was updated to reflect this change.
- f. NO:
1. An EP-1501 controller was added to the detail.
 2. The Security Equipment list was updated to reflect this addition.
 3. The point to point diagram was updated to reflect this addition.
- g. 03.03.002- Half Rack Equipment and Elevation.
1. This detail changed the size of the required rack.
 2. The Genetec SV-32 was changed to an SV-300.
 3. The SV-32 part number was also revised to SV-300-4T-I5-ARC-SHA.
 4. The Genetec SV-PRO was changed to an SV-1000.
 5. The SV-PRO part number was also revised to SV-1000-R2-8TB-8-120-SHA.

END OF BULLETIN #4

SECTION 28 00 01

SSHP SECURITY UPGRADES PHASE 2A & 2B

SECURITY GENERAL REQUIREMENTS

TABLE OF CONTENTS

PART 1 - GENERAL

- 1.01 PROJECT INTENT
- 1.02 TERMINOLOGY
- 1.03 PRECEDENCE
- 1.04 BASIC DEFINITIONS
- 1.05 CODES AND STANDARDS
- 1.06 QUALITY ASSURANCE
- 1.07 BID RESPONSE
- 1.08 SUBMITTALS
- 1.09 CHANGES
- 1.10 SUPERVISION OF WORK
- 1.11 PROJECT MEETINGS
- 1.12 EXAMINATION OF SITE AND VERIFICATION OF EXISTING CONDITIONS
- 1.13 DATA ACCURACY
- 1.14 PARKING
- 1.15 SECURITY
- 1.16 UTILITIES
- 1.17 PERMITS
- 1.18 NORMAL WORKING HOURS
- 1.19 NOTIFICATION
- 1.20 INTERFERENCES WITH OWNER
- 1.21 PROJECT RECORD DRAWINGS
- 1.22 WARRANTY

PART 2 - PRODUCTS

- 2.01 WORK INCLUDED
- 2.02 MATERIALS

PART 3 - EXECUTION

- 3.01 GENERAL INSTALLATION
- 3.02 WORKMANSHIP
- 3.03 COORDINATION WITH OWNER (PROJECT PROGRESS SPREADSHEET)
- 3.04 CUTTING, PAINTING AND PATCHING
- 3.05 SITE MANAGEMENT RESPONSIBILITY
- 3.06 DATABASE PREPARATION, CHECKING, AND ACTIVATION
- 3.07 START-UP RESPONSIBILITY
- 3.08 PREPARATION FOR ACCEPTANCE (PRIOR TO FINAL INSPECTION)
- 3.09 SYSTEM ACCEPTANCE REQUIREMENTS
- 3.10 NOTICE OF COMPLETION

PART 1 - GENERAL

1.01 PROJECT INTENT

The intent of this project is to provide and install the conduit infrastructure, cabling, Access Control (ACS), and Security Video Systems (SVS), required to provide a fully functioning Federated Security System for each of the sixteen (16) existing Seattle Housing Authority (SHA) sites listed in this project. The project is broken into two phases, phase 2A and Phase 2B. The contractor is to utilize the best practices and most reasonable means and methods needed to meet the project expectations when providing the project infrastructure (conduit).

The sites included in this project are part of SHA's Seattle Senior Housing Program (SSHP) portfolio. In Phase 1 the original design had the first 6 buildings federated into a larger system. Since the implementation of Phase 1 SHA has decided that they no longer want the separate sights Federated. This phase will require the assistance of Genetec Pro Services to un-federate the previous six sights.

The sites included in this phase currently have little to no existing infrastructure to support the implementation of these new ACS and SVS systems. This will require that conduit; back boxes, J-boxes, Security Junction Boxes, and necessary cabling are installed to produce a complete and fully functional system. It may also require the installation of line voltage at each site.

Phase 2A installation will include six (6) sites. They are as follows: Willis House, Blakely Manor, Nelson Manor, Primeau Place, Sunrise Manor, and Ravenna School Apartments. Phase 2B will include the (10) remaining SSHP sites. They are as follows: Wildwood Glen, Pleasant Valley Place, Fremont Place, Island View, Michaelson Manor, Fort Lawton Place, Schwabacher House, Phinney Terrace, Olmstead Manor, and Carroll Terrace, In order to accommodate the Phase 2B portion this project will require extended pricing on all security components for three years from the date that the contract is awarded.

It is expected that standard labor and material pricing will be applied referenced to the MSRP and any manufacturer's discounts that may apply, holding pricing constant for one year. If during the course of the second through third year, labor rates or material MSRP values escalate, the Contractor will be allowed to proportionally adjust the cost for any new work to reflect the cost increase.

Genetec has agreed in writing in a letter dated 06/26/16 to extend an additional cost discount, above the standard discount, to all certified system integrators for any Genetec systems deployed at SHA, to include software licenses, SV-xxx series NVR appliances, access control hardware and Genetec Advantage maintenance agreements, and this agreement will apply to all purchases made before December 31st 2019.

- A. Acceptance by SHA of this scope of work for these SSHP sites is no guarantee of future projects or future work.
- B. The Access Control and Security Video Platform includes components of :

1. The Genetec Unified Platform; Security Center, Synergis Access Control, and Omnicast Video.
- C. The primary components of this security approach include:
 1. Installation of all conduit, back boxes, security junction boxes and cabling required to provide a functioning Access Control and Security Video System
 - a. Possible line-voltage installation.
 2. Access Control System
 3. Security Video System
- D. Bids will only be accepted from Genetec Authorized Integrators with a minimum of two technicians fully certified on Synergis and Omnicast at the Enterprise level. Proof of the certifications and a letter from Genetec stating that the integrator is a fully authorized integrator for Genetec is a precursor to reviewing the bids. Bids will not be accepted from any party that is attempting to meet these requirements by utilizing a sub-contractor that is Genetec certified and where the bidding party is not Genetec certified.
- E. Owner may decide to accomplish some future installation work with Owner's certified technicians once they are fully trained and certified by Genetec. This contract expects the potential for some future "box" sales of equipment from Contractor to Owner at pricing defined in the Bid Response Forms. No "box" sales are specifically defined in this scope of work.
- F. This project will also include the installation of all conduit, back boxes, security junction boxes and cabling required to provide a functioning Access Control and Security Video System

1.02 TERMINOLOGY

- A. This project's owner is referred to in this document as Owner, and the respondent is referred to as Contractor. The term Owner also includes direct employees, affiliates owning the respective sites where the work is to be performed, and other Owner-appointed agents such as architects or consultants. These agents may be requested by Owner to represent Owner in undertaking certain project tasks.
The System Designer for the project is:
Security By Design (SBD)

1.03 PRECEDENCE

- A. If any statement in this or any other Specification is in conflict with any provision of the General Terms and Conditions to the contract, the provision stated in the General Terms and Conditions shall take precedence. Immediately bring to Owner's attention any questions that result from such potential conflict which require additional interpretation and guidance.
- B. Architectural drawings shall have precedence over other drawings in regard to dimensions and location.

1.04 BASIC DEFINITIONS

- A. Business days, weekdays or working days:
 - 1. In these specifications, days are counted as business days.
- B. Specified Items – Substitutions
 - 1. No Substitutes: Provide without exception the exact make and model number identified in this specification.
 - 2. Or Equal: An item may be substituted for the specified item provided that in every technical sense, the substituted item provides the same or better capability.
 - 3. Or Approved Equal: A substitute item for the specified item may be offered for approval by Owner. The proposed substitute item shall in every technical sense provide the same or better capability than the specified item. Submit such requests for approval in accordance with the provisions of BID RESPONSE - 1.07 - Prior Approvals, within the time frames outlined.
- C. Beneficial Use
 - 1. Each component of a system will be considered available for beneficial use when all components are installed and conditions are met to make the system fully operational.
 - 2. Beneficial use by the owner does not mean the warranty period has started. The warranty period only begins once the systems integrator has completed all of the contractual obligations for the contract. Reference section 1.22 for start of warranty information.
- D. Award of Contract, or award of contract:
 - 1. In these specifications, award of contract means both – The Owner choosing the Contractor as the successful bidder, and the execution of a contract for the work. In all cases, it is a condition of an award of contract that the Contractor agrees to use the form of contract supplied by Owner.

1.05 CODES AND STANDARDS

- A. Perform the work in accordance with current editions of the following codes, rules and regulations:
1. Appropriate State and Local governmental codes
 2. National Electrical Code (NEC)
 3. Uniform Building Code (UBC)
 4. National Fire Protection Association (NFPA), National Fire Code
 5. National Fire Protection Association (NFPA), Life Safety Code
 6. National Electrical Contractors Association (NECA), National Electrical Installation Standards
 7. Federal Communications Commission (FCC), Communications Act of 1934
 8. Code of Federal Regulations, title 47, Telecommunication
 9. Underwriters Laboratories, Inc. (UL)

1.06 QUALITY ASSURANCE

- A. Contractor Qualifications
As part of Section 00210 Supplemental Criteria, the selected contractor must provide evidence of:
1. Having manufactured, supplied or installed at least 3 other systems of similar size, complexity, and general operation as the systems described in these specifications. Furnish written proof of compliance with this paragraph as requested by owner.
 2. Holding all legally required licenses and registrations as noted in Section 00210 Supplemental Criteria. Submit copies of licenses.
 3. Having local factory-trained staff available to provide service within the timeframes specified in 1.22, with experience on systems of similar complexity and function as described in these specifications.
 - a. Providing a letter from Genetec stating that the Contractor is an authorized integrator of Genetec Access Control and Video products.
 - b. Have, as full time employees, a minimum of two Genetec trained and certified technicians at Enterprise level.
 - c. The factory-trained technicians shall be fully capable of system engineering support, installation supervision, system start-up, and

providing Owner with training and service on both hardware and software for the systems specified.

- d. Submit copies of the technician's factory-training certifications or other Genetec documentation that clearly defines each technician's technical training qualifications for Synergis, Omnicast, and Security Center at the Enterprise level.

1.07 BID RESPONSE

A. Bidders' Responsibility

1. Review the specifications and drawings (mandatory).
2. Verify actual conditions by walking the sites (mandatory).
3. Advise Owner in writing of any conditions that may adversely affect the work.
4. The drawings are accurate in terms of work scope and design for the function sought by Owner, but may have discrepancies in their depiction of the actual physical construction as of the date of production. Notify Owner if discrepancies are found.
5. Provide a bid response that meets the intent of the drawings and specifications to the satisfaction of Owner.

B. Unit Price Bid Response Form

1. Provide installed unit prices for each major component of the security systems and each lettered detail shown on the drawings and details. The unit prices shall be the basis for the costing of changes to the security systems.
2. Use the provided spreadsheet that is defined in the Bid Response Forms. Submit the Excel spreadsheet in Microsoft ".xlsx" digital format on a thumb drive or CD included in the sealed bid.

C. Prior Approvals

1. Submit the following for any substitution proposed by Bidder for equipment items and material (identified by catalog numbers and specified brands or trade names) that are designated as "or approved equal".
 - a. A list describing each proposed substitute item or material no later than 10 working days prior to bid opening.
 - b. Provide sufficient data, drawings, samples, literature or other detailed information to demonstrate that the proposed substitute is equal in quality, appearance and functionality.

- c. Submit a statement listing every technical and operational variance from the specified item. If the bidder fails to list a particular variance that is subsequently deemed to be unsatisfactory, such equipment shall be replaced or modified without cost to Owner.
- d. Owner will respond in writing to substitution requests at least 5 working days prior to the bid opening date. An addendum will be issued listing products which are approved for substitution, and will be the sole source for such approval. After that date, no substitutions will be allowed.
- e. Such approval shall not relieve Contractor from complying with the requirements of the drawings and specifications.
- f. Contractor shall be responsible, at Contractor's sole expense, for any detrimental consequences resulting from Owner-approved Bidder-proposed substitutions, including, but not limited to, their impact upon Contractor's work or the work of others.

1.08 SUBMITTALS

A. Requirements - At Bid Submission

- 1. Submit in “.pdf” digital format the following:
 - a. List of manufacturers, model numbers, and technical information for all equipment proposed (this requirement is waived where manufacturer is dictated by Owner).
 - b. Letter from the manufacturer of each major system stating that Bidder is a factory-authorized distributor or installer of the proposed system.
 - c. Proof of technical training certifications as specified in section 1.06 QUALITY ASSURANCE.
- 2. Submit unit prices using the Unit Price List format described in 1.07 B.
- 3. Bid Response forms.

B. Requirements - After Award of Contract

- 1. No later than 15 working days after the effective date of the Agreement (for construction and/or services) submit in “.pdf” digital format for approval the following:
 - a. Plan of Operations and Project Schedule:
 - 1) Submit for approval a complete plan and schedule of proposed operations.

- 2) Account for the schedules of all subcontractors, transportation, storage, and all other matters affecting the work.
 - 3) Revise this schedule on a weekly basis and present the updated version to Owner weekly.
- b. Submit the initial version of the PROJECT PROGRESS SPREADSHEET in Microsoft Excel “.xlsx” format that is defined in Section 3.03. This spreadsheet will be edited and provided Owner each week by Contractor throughout the project until project completion.
- c. Point-to-Point Detail Drawings and Equipment Schedules
- 1) System Designer will furnish point-to-point detail drawings and equipment schedules to Contractor.
 - 2) Submit for approval any proposed revisions to the point-to-point detail drawings or equipment schedules with clear, legible, specific, and reproducible markings on “.pdf” files of the affected detail drawings or schedules. Any proposed revisions (not previously addressed in the bid process) accepted by Owner must be undertaken at Contractor’s sole expense.
 - 3) Submit only those drawings that have proposed revisions.
 - 4) These proposed revisions shall be without cost to Owner.
- d. Markings:
- 1) Submit for approval samples of wire marking, panel label, zone label, terminal strip numbering, terminal strip identification styles, and typical per Section 28 05 01 - SECURITY WIRING and Detail Drawings 00.05.501 thru 505, et al.
 - 2) Each CAT6 cable and other cables such as grounds require a machine printed label at each end.
- e. Conduit Plan.
- 1) Submit for approval the conduit plan for each site. Define all paths, show conduit sizes, and show that the longest conduit runs from the MDF or IDF do not exceed one CAT6 cable segment. Define the length of the longest runs.
 - 2) Define the power work required to support the racks and equipment that are shown in the design drawings. This work will be based on the 30-day metering testing that Owner is having accomplished during this bidding process.

- a) If the 30-day metering tests are not complete and the information is not available at the date when the bids are due, assume that the panel has sufficient load capacity and that a breaker can be added without changing anything else on the panel.
 - b) If the 30-day metering information is received prior to the date that the bids are due, include all work required for bringing the panel to an acceptable state that can be permitted.
2. Submit for approval each of the following no later than 20 working days after the effective date of the Agreement (for construction and/or services):
- a. Operations Manual
 - 1) Submit for approval a complete operations manual for all of the system products being supplied.
 - b. Submit for approval the conduit plans for the other 5 sites.
 - c. Paint samples that match the present paint for painting new surface mounted conduit, back boxes and j-boxes. SHA has procured the service of a powder coating company that has been used for the first set of SSHP locations; confirm with SHA that this is the preferred method of covering new surfaces.
 - d. Test Procedures.
 - 1) Submit for approval in “.pdf” digital form all test procedures to be followed in evaluating and proving the installed system(s), OR inform Owner that testing processes defined in SECTION 28 08 01 - SECURITY TESTING will be utilized.
 - 2) Comply with the requirements stated in 3.09 - SYSTEM ACCEPTANCE REQUIREMENTS in this section.
 - 3) Include the test procedure as a part of the Contract Documents.
 - 4) Specification SECTION 28 08 01 – SECURITY TESTING provides a framework for testing all aspects of the installed systems. The forms are designed to be augmented by a software and hardware system test specific to the particular system(s) being installed.
3. No later than 20 working days after the effective date of the Agreement submit for approval a training plan for operation and maintenance of the installed systems. This plan should resemble the one used in Phase 1. This will require

coordination with the owner to ensure that all of the training elements desired are covered

- a. Design the training program to provide selected Owner personnel with an appropriate level of competence with the systems.
- b. The trained owner personnel will train other owner personnel utilizing the training and training documentation provided by the contractor.
- c. Comply with the requirements stated in PART1-SYSTEM TRAINING in each respective system specification.
- d. Submit a lesson plan for each class hour of training. Include a detailed outline of all subjects to be covered in each lesson plan. Also include a materials list of equipment, required handouts, cut sheets, etc.
- e. Design and apportion the training hours to include "hands on" experience with appropriate system equipment. Identify the "hands on" time in each lesson plan.
- f. In order to develop appropriate training plans using other training materials, expend .5 to 2.0 hours of preparation time for each actual classroom hour of training.
- g. Submit a curriculum for each subject of actual training. Account for all required hours.

1.09 CHANGES

- A. Prior to proceeding with changes or claims for extras for work that is out of scope,
 1. Provide written notice to Owner.
 2. Obtain written approval from Owner.
 3. Substantiate the actual cost of each change or claim.
- B. Base the cost of each change upon the item cost as shown in the Unit Price List (see 1.07 B).

1.10 SUPERVISION OF WORK

- A. Supervise the work from beginning to completion and, within reason, keep the same workers and lead technician on site throughout the duration of the project.
- B. Site Project Manager
 1. Provide a site project manager to interface with all appropriate subcontractors during the installation of the system.

2. Maintain continuing coordination with Owner via the site project manager regarding progress and any problems that may develop.
- C. Do not begin the work before receiving Owner approval of the complete plan and schedule of proposed operations submitted in accordance with 1.08.

1.11 PROJECT MEETINGS

A. Pre-Construction Meeting

1. Attend a pre-construction meeting to be scheduled prior to the start of construction.
2. Owner will identify a representative at this time and will discuss specific work rules with Contractor.
3. Discuss the various aspects of the work and procedures for smooth job progress.

B. Progress Meetings

1. Hold periodic job site meetings to review progress of the work and resolve installation problems. Invite representatives of Owner and System Designer. Provide current copies of Project Progress Spreadsheet (defined in 3.03 A.2) to all attendees.
2. At the initial meeting, review all required permits.
3. Also during the initial meeting, establish the frequency of future meetings to Owner's satisfaction. Meetings will be one per week, except by mutual agreement.

1.12 EXAMINATION OF SITE AND VERIFICATION OF EXISTING CONDITIONS

A. Visit the site and become familiar with all existing conditions prior to submitting bid.

1. Perform and complete the work within the existing limitations.

B. Verify all required dimensions, including those shown on the drawings, by measurement at the job site.

1. Notify Owner of all exceptions before proceeding with the work.

C. Confirm the availability of a proper power source for each piece of specified equipment to be installed, on the basis of site visits and the drawings.

1. If proper power is not available, consult with Owner for affirmative guidance.

1.13 DATA ACCURACY

- A. Absolute accuracy of information regarding existing conditions is not guaranteed. The drawings and specifications are for the assistance and guidance of Contractor.
- B. Exact locations, distances, elevations, etc., will be governed by actual field conditions.
- C. Obtain prior approval where variations from the bid documents are required. If no exceptions are brought to the attention of Owner prior to or at the time of bidding, Contractor is still required to perform the work as if exceptions had been noted or changes recommended, but at the cost of Contractor. Even without recompense from Owner, nothing shall excuse Contractor from satisfactorily completing the work in the manner customarily expected from a professional contractor.

1.14 PARKING

- A. Use normal facility parking.
- B. Make special arrangements with Owner if delivery to specific outside doorways or loading docks is required.

1.15 SECURITY

- A. Comply with all Owner and facility security requirements.
 - 1. Be responsible for theft or damage to Owner's equipment, tools and materials.
 - 2. If any deviation from Owner security requirements is necessary, obtain approval for such deviation from Owner.
- B. Do not disclose any confidential information of Owner.
 - 1. Comply with the policies and provisions of Owner regarding outside contractors and consultants.

1.16 UTILITIES

- A. Owner will supply facilities at the closest convenient box for Contractor use.
- B. Provide all temporary connections and cables, lighting, light stands and hoses.
- C. Use facilities in accordance with applicable state and local government regulations with regard to operations, safety and fire hazards.

1.17 PERMITS

- A. Secure all permits required for the performance and completion of the work.
- B. Review permits at the initial project progress meeting.

1.18 NORMAL WORKING HOURS

- A. Do not begin work at the facility earlier than 7:00 a.m. and do not work later than 5:00 p.m., Monday through Friday, unless approved otherwise by Owner.

1.19 NOTIFICATION

- A. Do not shut off any existing systems without first notifying Owner and receiving Owner's express authorization.
- B. Give Owner at least 7 business days' notice of any requirement to shut off or interfere with existing alarm, regulating, computer or other service systems.
- C. Owner will arrange and execute any shutdown.
- D. Perform all work necessary to establish or re-establish any system, such as splicing or connecting, in close coordination with Owner.

1.20 INTERFERENCES WITH OWNER

- A. Conduct transportation, storage of materials, work involving the facility, and all other matters affecting the use by Owner of its buildings, to cause the least possible interferences.
- B. Coordinate with Owner to eliminate or minimize interferences.

1.21 PROJECT RECORD DRAWINGS

- A. Project Record Drawings include all bid drawings and all submittals. Obtain Owner backgrounds at Contractor's sole expense.
- B. Owner will furnish backgrounds electronically in current AutoCAD version.
- C. Obtain, keep up-to-date, and make available to Owner, complete electronic plans (full size), details, and schedules of the project clearly annotated with "as-built" data as the work is performed. Include the following:
 - 1. Routing of conduit, and signal cables, including the cable designations assigned to each cable.
 - 2. Accurate location of all equipment installed under the specifications.
 - 3. A complete equipment list for each functional area.
 - 4. Complete schedules for all equipment, indicating addresses.
 - 5. Complete point-to-point wiring diagrams, including complete terminal strip layout and identification, and wire termination and tagging for all conductors.
- D. Record drawings are required to be kept up-to-date on a daily basis and are required to be current prior to the authorization of each progress payment.

- E. Upon completion of this project, transfer all information shown on these prints to the final set of as-built drawings.
- F. The as-built drawing review will be performed in two stages.
 - 1. Stage 1. Submit the following to Owner for review:
 - a. Complete set of as-built plans for both the electrical and system in DWG, DXF, or AutoCAD, Version 2014 or later.
 - b. Complete set of as-built plans in PDF.
 - c. Complete set of as-built point-to-point detail drawings in DWG, DXF, or AutoCAD, Version 2014 or later.
 - d. Complete set of as-built point-to-point detail drawings in PDF.
 - e. Equipment schedules in spreadsheet format and PDF with clear line breakouts for each individual equipment item.
 - 2. Stage 2. After receiving Owner's comments on the documents submitted in Stage 1, incorporate Owner comments and resubmit the following:
 - a. Complete set of as-built plans in DWG, DXF, or AutoCAD, Version 2014 or later at no additional cost to Owner.
 - b. Complete set of as-built plans for both the electrical and system in PDF at no additional cost to Owner.
 - c. Complete set of as-built point-to-point detail drawings in DWG, DXF, or AutoCAD, Version 2014 or later.
 - d. Complete set of as-built point-to-point detail drawings in PDF.
 - e. Equipment schedules in spreadsheet format and PDF with clear line breakouts for each individual equipment item.
- G. Submit the final as-built drawings in accordance with 3.09 SYSTEM ACCEPTANCE REQUIREMENTS in this section.

1.22 WARRANTY

- A. Warrant for one full year after Notice of Completion that the work is:
 - 1. Free from defects in workmanship and material
 - 2. Free from design defects
 - 3. New, and of the kind and quality specified

4. Suitable for the use intended
 5. Performing in the manner specified
- B. The warranty shall start upon filing of Notice of Completion, shall remain in effect for one year, and shall include on-site service for parts and labor:
1. Because this scope of work encompasses 16 sites it is acceptable to file a notice of completion on one complete site, thus starting the warranty on these elements prior to the completion of the other sites.
 2. Normal Service
 - a. Provide normal service at no additional cost to Owner during normal business hours (7:00 AM to 5:00 PM) Monday through Friday on a same-day basis for service calls requested by phone before 1:00 PM Monday through Friday, excluding holidays. If normal service is requested after 1:00 PM on a working day or over a weekend or holiday, respond on the next working day before 1:00 PM.
 - b. Normal service is defined as repairs, adjustments, parts, replacement of parts, or any service that the system requires to be fully functional that is not an emergency service.
 3. Emergency Service
 - a. Provide emergency service at an additional cost to Owner according to labor rate schedule contractually agreed upon. Emergency service shall respond within a 4-hour period on a 24-hour-per-day, 365-day-per-year basis.
 - b. Emergency service is defined as any repair that Owner deems an emergency and for which it requests emergency service.
 - c. Provide full factory technical support and same day shipping of replacement parts for all equipment.
 - d. Upon award of contract, finalize with Owner the cost for emergency service, based on the amount provided in Exhibit 4- Schedule of Craft Rates; emergency time.
 4. Prior to filing the Notice of Completion, system maintenance is the sole responsibility of Contractor.

PART 2 - PRODUCTS

2.01 WORK INCLUDED

- A. Provide all the materials required to provide a conduit infrastructure for the security system defined on the drawings and details.
- B. Use EMT within the buildings.
- C. Use RMC for exterior areas.
- D. Provide all cabling defined on the drawings.
- E. Where cabling will be in conduit runs that will be below surface level in exterior environments, use OSP jacketed cable.
- F. On drawing SE0.01, there is a Cable Schedule and a detail to cable Detail Schedule. Use these two schedules and the drawings to define the conduit and cabling design.
- G. In the detail package, there is a sheet 5 for each detail. Use these sheets that define the conduit required around each detail type.
- H. Install all CAT6 cabling including termination on each end and provide cabling testing per EIA/TIA standards.
- I. Tag per the detail drawings each end of each cable.
- J. Any modifications, changes, or replacement of any access controlled or local noise doors to make them operational as specified in the details.
- K. Provide all the materials listed in PART 2 - PRODUCTS of the individual specification sections and on the detail drawings unless specifically excluded or modified in other portions of the contract document.
- L. These material lists and equipment lists are not necessarily 100% complete and/or accurate. Verify all quantities and part numbers, whether listed or not.

2.02 MATERIALS

- A. Use the following items to complete equipment, conduit, wire and cable installation called for by the other security specification sections and detail drawings. Provide the make and model shown below when the items are needed but not called out in the specifications or the detail package drawings.
 - 1. Terminal Blocks
 - a. Phoenix Model UK5 Universal Terminal Blocks, or approved equal.
 - b. Include Phoenix terminal marking material - ZB, SBS, or approved equal.
 - c. Use Phoenix bridging accessories, end covers, partition plates, and other parts as required, or approved equal.

2. Mounting Rails
 - a. Phoenix Model NS 35/7.5 (perforated), or approved equal
3. Wire Duct
 - a. Tyton or Panduit wire duct with slotted sidewall and cover, or approved equal.
 - b. Size for specific backboard or backplane space and load requirements.
4. Cable and Wire Marking
 - a. Brady B-321, or approved equal, machine-printed Polyolefin wire markers for each cable and each conductor at every cable termination point.
 - b. For any exposed wiring, all cables are to be neatly tethered and either braided or combined using hook and loop type wire wraps to prevent damage to the cables. Do not use plastic tie-wrap or twist ties to secure cabling.
5. Cable Ties
 - a. Provide hook and loop plenum rated cable ties, sized appropriately to the conditions. Velcro, Tefzel, or equal.
6. Wire Soldering
 - a. Do not splice cable or wire without specific written authorization from owner.
 - b. UL Listed 3M Insulation Displacement Connector (IDC) moisture resistant seal or approved equal.
7. Tamper Resistant Screws
 - a. Tamperproof Snake Eyes type fasteners, <http://tamperproof.com/categories/snake-eyes-spanner.html> or approved equal.
 - b. Provide 6 tamper-resistant screwdrivers and transfer to Owner prior to final acceptance testing.
8. Engraved Labels
 - a. Rowmark Ultra-Matte labels, or approved equal,
 - 1) Laminated impact acrylic flexible engraving material, 2-ply, matte finish, for interior and ADA exterior signage.

- 2) Permanently bond with adhesive or with screws.
 - 3) Round and smooth edges.
 - 4) Black with white underlayment. Font = Arial bold, 1/4" high (40 pt.).
- B. Use the conduit and cabling, junction and pull boxes and associated items to complete equipment, wire and cable installation.
- C. In certain ACS details, provide the box at the field end of the conduit and cable run. Where this case exists, as defined in the materials list of each detail, the security integration contractor will supply these boxes for their integration into the conduit infrastructure.
- D. At each MDF/IDF the security integration contractor will provide a rack with a CAT6 punch down block.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. This contract may involve functioning systems.
1. If it does, coordination with Owner is critical.
 2. Do not interrupt any functioning system without complying with 1.19 NOTIFICATION.
- B. This project has a critical scheduling path which must be closely followed in order to meet the completion date.
1. Review the proposed schedule at the Award of Contract meeting.
 2. Provide work force staffing according to the schedule constraints presented at that meeting.
- C. Aesthetics are an important consideration in this installation.
1. Install all components to have aesthetically pleasing results to Owner.
 2. Coordinate actual locations of all visible components in advance with Owner.
- D. Furnish and install all back-boxes, pull-boxes, connectors, supports, conduit, cable and wire necessary to provide a complete and reliable system.
1. Submit the exact location of all boxes, conduit and wiring runs to Owner for approval prior to any installation.

- E. Where required or when requested by Owner, provide and terminate 120-VAC, 60HZ power from nearest electrical panel through a junction box, to security system device locations.
- F. Install conduit, cable and wire parallel and square with building lines, including raised floor areas.
 - 1. Do not exceed 40% conduit fill.
- G. Where required provide at access controlled doors any modifications, alterations, or replacement to accommodate the required new door hardware or access control hardware.
- H. Install all equipment parallel and square to building lines.
 - 1. Provide sufficient clearances to meet all applicable codes and to facilitate observation and testing.
 - 2. Securely hang and/or fasten with appropriate fittings to ensure positive grounding, free of ground loops, throughout the entire system.
- I. Install, make fully operational and test the system as indicated on the drawings and in the specifications.
 - 1. Where any requested information is not available from Owner for bidding purposes, assume the worst case condition necessary to ensure complete, functional systems.
- J. Be responsible for interfacing with other systems under this contract.
 - 1. Show the details (both logical and physical) of such interfaces on the Submittal drawings and as-built (1.21) drawings.
- K. Coordinate interfaces with Owner's telecommunications system with Owner.
- L. Furnish equipment boxes to electrical contractor for installation by electrical contractor.
- M. Install all equipment to achieve quiet and vibration-free operation.
 - 1. Adjust, repair, balance, or replace any equipment producing any noise or vibration that is objectionable to Owner.
 - 2. Provide additional brackets and bracing as necessary.
 - 3. Provide any such additions or changes at no additional cost to Owner.
- N. Comply with 1.05 CODES AND STANDARDS.
 - 1. Where more than one code or regulation is applicable or where specifications and codes disagree, the more stringent shall apply.

2. Install seismic bracing on equipment where required by local codes.
- O. Where new equipment is replacing existing equipment, remove the existing equipment and perform repair work as necessary to meet Owner standards.
- P. At the completion of work and prior to final testing, install fire stopping at all penetrations in slabs and fire walls to meet codes.
- Q. Install Theft-Pruf™ type fasteners for all security equipment in accessible locations.
1. Provide 6 tamper-resistant screwdrivers and transfer to Owner prior to final acceptance testing.

3.02 WORKMANSHIP

- A. Perform the installation in a professional and workmanlike manner.
- B. Perform all preparation, handling, and installation work in accordance with the manufacturers' written instructions and technical data.
- C. Perform all work in conformance with the National Electrical Contractors Association "Standard of Installation" for general installation practice.
- D. On a daily basis, clean up all debris from work performed and deposit in appropriate containers.
 1. Stack and organize all parts, tools, and equipment when not being used.
- E. At the conclusion of the installation at all work areas, including all panel boxes, vacuum and clean to remove all debris and grease.

3.03 COORDINATION WITH OWNER (PROJECT PROGRESS SPREADSHEET)

- A. Coordinate closely with Owner to achieve a complete and aesthetically pleasing installation.
 1. Keep Owner fully apprised of job progress. Provide a fully vetted and updated copy of this spreadsheet to the Owner and construction team one working day prior to the weekly meeting.
 2. PROJECT PROGRESS SPREADSHEET - At time of first construction meeting with Owner or System Designer, secure from System Designer a copy of the Detail Point List in an EXCEL spreadsheet format.
 - a. Agree upon a series of additional columns (with headings) to insert in the spreadsheet for the purpose of tracking completion milestones for all Points in the list. For example, create a column named "Door Devices Installed". A column with this heading could be used to show when a door Point has all its security equipment mounted (e.g. reader, lock,

REX, door contact, etc.). Include headings to track work accomplished by other contractors. For example, a column entitled, “Door Installed” will aid in coordination between security and door contractors. Contractor will enter a date in the pertinent cell to show when the task was completed, and this spreadsheet can then be used by all parties to accurately assess the status of all Points and the progress of the installation work.

- b. Include in the spreadsheet not only those points such as “camera – KA 00123” but also the rack- and wall-mounted security equipment and panels, so that important installation milestones can be recorded. Inevitably, some column headings such as, “Camera Focused” will not apply to all Points (like reader doors).
- c. Name the column farthest to the right, “ISSUES” or “CHALLENGES”. Entries in this column can reflect impediments to completion such as, “Conduit not installed to door frame.” When this problem has been rectified, the entry can be deleted. Only rows with current problems or concerns should have data in this column.
- d. The notes field is not intended to store a cumulative record of the history of work at that Detail Point. Rather, the information briefly describing the most current challenge(s) can be entered and updated as problems are corrected.
- e. Organize the spreadsheet in such a way that any party can “sort” data by whether there is an entry in the final, ISSUES column. This will enable efficient review of only those Points with outstanding challenges.
- f. Name the two columns preceding the last column, “Contractor Tested”, and “System Designer Tested”.
- g. One purpose of this document is to assist in the distribution of current and accurate data regarding the state of the project. While installation work is in “full-swing”, submit the latest electronic version of the spreadsheet to Owner and System Designer each week.
- h. The spreadsheet will also assist Owner in making timely progress payments based on an accurate assessment of the degree of project completion.

3.04 CUTTING, PAINTING AND PATCHING

- A. Do not: drill, bore, or notch any structural member in any manner that impairs its structural value.

1. If cutting holes in structural members is required, only use core drills and only with the specific approval of Owner for each instance.
- B. Returned to their original condition all walls cut or repaired during the installation process.
 1. Match colors and finishes to the satisfaction of Owner, at no additional cost to Owner.

3.05 SITE MANAGEMENT RESPONSIBILITY

- A. Provide an on-site Project Manager as defined in 1.10 - SUPERVISION OF WORK.

3.06 DATABASE PREPARATION, CHECKING, AND ACTIVATION

- A. Provide Owner with the appropriate forms necessary to organize the security systems database inputs not less than 30 days prior to scheduled central system activation. This includes each individual site and at the system head-end.
 1. Clearly identify the delivery of the forms on the Project Schedule.
- B. Train Owner-designated personnel to ensure their understanding of database formats requirements and constraints not less than 30 days prior to scheduled central system activation.
 1. Clearly identify the training on the Project Schedule so that database preparations are accomplished in sufficient time to permit orderly and on time security systems activation.
- C. Owner will be responsible for the accuracy of the database information by thoroughly checking all completed data entry forms.
- D. Ensure that all database formatting is correct prior to security systems activation.
- E. Provide the initial database entries into the security systems prior to activation.
 1. The databases will consist of hardware related information, i.e., doors, alarm points, software parameters for system management, alarm and cardholder information, camera and monitor matrices relationships, PTZ camera pre-positioning, etc.
 2. Provide Owner with a printout of the final databases for review and approval prior to security systems activation.
- F. Provide security systems activation.
 1. Once the security systems and databases have been demonstrated to be functioning properly according to manufacturers' guidelines and the systems

designs, all further database entries and upgrades will be the responsibility of Owner.

- G. If later versions of the operating security systems or application software are made available by the manufacturers, install the software and ensure that it is fully operational at no additional cost to Owner over the life of the warranty and/or software maintenance agreement(s).
 - 1. Before installing upgrade software, ensure that existing database information is properly "backed-up".

3.07 START-UP RESPONSIBILITY

- A. Properly ground each piece of electronic equipment prior to applying power.
- B. Properly ground all shielded wire shields to the appropriate earth ground at the hub end only, not at the remote or device end.
- C. Hardwire power to the UPS in each MDF/IDF rack.
- D. Initiate security systems operation.
 - 1. Provide competent start-up personnel on each consecutive working day until the security systems are functional and ready to start the acceptance test phase.
- E. Where appropriate, bring the security systems on-line in their basic state (i.e., alarm reporting, facility code access control, etc.).
 - 1. Owner will provide the specific database information that will allow fully integrated security systems operation.
 - 2. Request the database information from Owner in sufficient time to not delay the project schedule.
- F. Use a start-up sequence that incrementally brings each portion of the system on-line in a logical order that incorporates checking individual elements before proceeding to subsequent elements until the entire system is operational. The basic steps should include:
 - 1. Establishing ground planes at the security closets and hub end of the system.
 - 2. Setting up battery and power supplies at security closets and hub end of the system.
 - 3. Disconnecting power.
 - 4. Connecting the first security point or camera, reconnecting power, and verifying operational correctness.

5. Repeat steps 3 and 4 until the entire security systems are verified and operational.
- G. If any technical problems occur, and if in Owner's judgment adequate progress is not being demonstrated resolving the problems, provide manufacturers' factory technical representatives and diagnostic equipment at no additional cost to Owner until the problems are resolved.

3.08 PREPARATION FOR ACCEPTANCE (PRIOR TO FINAL INSPECTION)

- A. If, under the scope of Services of this project, Contractor is required to remove and dispose of any existing apparatus or materials, undertake such disposal in accordance with any and all legal requirements.
- B. Label and identify all systems, equipment, and devices.
 1. Apply laminated labels to all racks and panel boxes.
 2. Label both ends of all cable jackets.
 3. Clearly mark electrical covers with the electrical circuit /panel
- C. Have all systems, equipment, and devices in full and proper adjustment and operation.
- D. Have all equipment and materials in neat, clean and unmarred condition with parts securely attached.
- E. Replace or properly repair all broken work, including glass, raised flooring and supports, ceiling tiles and supports, walls, doors, etc. Clean up and appropriately discard all debris.
- F. Deliver and store all extra materials at the premises as directed.
- G. Complete the test reports of each system and each system component, the As-built project drawings, and the O&M manuals.
 1. Deliver to Owner for review and acceptance.

3.09 SYSTEM ACCEPTANCE REQUIREMENTS

- A. Before final acceptance of work, perform and/or deliver each of the following in the order stated.
 1. System Operations and Maintenance Manuals
 - a. Deliver 3 composite "System Operations and Maintenance" manuals in three-ring binders, sized to hold the material below, plus 50% excess. One copy will also be provided in PDF format. Each separate PDF and printed version shall contain appropriately tabbed sections:

- 1) **Warranty:** Warranty statement including date of warranty termination, complete contact information to include: Name, email address and phone number of the person to be called in the event of equipment failure.
 - 2) **Operating Procedures:** Set of operating procedures for the security systems that includes all required Owner activities and describes Owner operation of all attributes and facilities of the security systems.
 - 3) **Manufacturers' Information:** Separate sections containing the manufacturer's information for each specific type of equipment. Include all manuals, instruction sheets, and any related literature from the original shipping containers for the equipment. Include all warranty cards.
2. **Testing**
- a. Perform all tests required by the Security Testing Specification SECTION 28 08 01 and those submitted per the "Test Procedure" section of 1.08 – SUBMITTALS in this section.
 - b. Activate all devices and verify proper operation of the security systems. Include supervisory and trouble circuit tests.
 - c. If activation of a device is impractical (e.g., a discharge test of a fire suppression system), initiate a simulated alarm or trouble by closing or opening the appropriate contact points.
 - d. Do not activate audible alarms except on a one-time, coordinated basis, to check the actual sounding devices. Coordinate closely with Owner.
 - e. Using the testing web site, submit a test report for each piece of equipment to Owner. Include a complete listing of all security systems devices, the dates tested, by whom, the results, and dates retested (if failure occurred during any previous tests). Provide pictures in the web site as defined for each type of point.
 - f. Successful testing of all security systems devices is required. Failure to completely test and document the tests will delay final testing and acceptance.
3. **As-built Drawings**
- a. After completion of all the tests listed above, and prior to the final acceptance test, Contractor shall submit the complete as-built drawings as identified in SECTION 1.21 – PROJECT RECORD DRAWINGS.

- b. The final as-built drawings shall consist of full-size format plans, point-to-point detail drawings, equipment schedules, and the complete detailed technical data that was shipped by the Manufacturer with all installed System components. Provide final drawings as described in SECTION 1.21 – PROJECT RECORD DRAWINGS.

B. Final Acceptance Test

1. Contractor will have all of their conduit and cable utilized by the security system integration contractor. Acceptance will be by the utilization of the security system integration contractor.
2. Adjust, fix, or otherwise alter any work that does not meet the needs of the Owner and which varies from that which has been agreed upon through the submittal process under this scope of work.
3. Before final acceptance testing begins, submit the following to Owner for review and approval:
 - a. Operations and maintenance manuals
 - b. Test reports from the web site
 - c. As-built drawings
 - d. Tamper-resistant screw drivers
4. After the manuals, test reports, and as-built drawings are approved by Owner, test the completed security systems in the presence of Owner. Demonstrate performance and compliance with security systems specifications.

3.10 NOTICE OF COMPLETION

- A. Letter of Completion. After the system acceptance requirements described above, including the final acceptance testing described above, have been satisfactorily completed, Owner will issue a letter of completion to Contractor indicating the date of such completion.
- B. Notice of Completion. Record the Notice of Completion upon receipt of Owner's letter of completion. The date of recording shall be the start of the warranty period.

END OF SECTION 28 00 01

SHA 170109_027_280001_Security_General_Requirements. Rev.0

SECTION 28 13 01

SSHP SECURITY UPGRADE PHASE 2A & 2B

ACCESS CONTROL SYSTEM

TABLE OF CONTENTS

PART 1 - GENERAL

- 1.01 DESCRIPTION
- 1.02 BASIC DEFINITIONS
- 1.03 SUBMITTALS
- 1.04 PERFORMANCE EVALUATION/TERMINATION
- 1.05 SYSTEM TRAINING
- 1.06 DATABASE ASSISTANCE
- 1.07 OVERVIEW OF THE SYSTEM

PART 2 - PRODUCTS

- 2.01 WORK INCLUDED
- 2.02 MATERIALS
- 2.03 SPARE PARTS

PART 3 - EXECUTION

- 3.01 GENERAL INSTALLATION
- 3.02 SYSTEM INSTALLATION
- 3.03 SYSTEM PROGRAMMING
- 3.04 SYSTEM TESTING
- 3.05 WARRANTY SERVICE
- 3.06 ATTACHMENTS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install an Access Control and Alarm Monitoring System that has the following key characteristics:
 - 1. Proximity card access technology.
 - 2. Extensive interactive integration with video through Security Center, a Genetec product, supporting Synergis, an Access Control product of Genetec.
- B. This scope of work defines the initial application of a Genetec integrated Access Control System (ACS) for Owner. There are 16 sites, all SSHP facilities that are part of this installation package. These 16 sites are to be integrated into the Owner's data center where Virtual Machines (VMs) are already being used to support the software application and the relational databases. It is the design intent that this installation will support all Owner's applicable sites at a future date, and that this scope is an initial step in a much larger security environment.

C. Work Included:

Furnish, install, program, test, and make fully operational at the locations shown, the specified equipment and all associated conductors to provide a completely operational Access Control System. Include:

1. Installation of the VM based platform for the application and the relational database.
2. Removal of the previously installed Genetec Federation and Global Cardholder Management software, with the assistance of Genetec Pro Services.
3. Configuration of the system once the Genetec Federation and Global Cardholder Management software have been uninstalled. Again with the assistance of Genetec Pro Services.
4. Workstation software for Owner provided workstations.
5. Workstation functionality through SV300s for each of the 16 field sites.
6. Workstation hardening that eliminates any services that are not required, assuring that passwords have been set and that any default passwords have been replaced. Coordinate with Owner.
7. Remote field panels: These will take the form of either Mercury PoE panels or Assa Abloy Sargent PoE ACS locks.
8. Access control cards by HID.
9. Access control card readers by HID.
10. Door alarm devices.
11. Power supplies.
12. Cables and conductors.
13. Door hardware defined on the details.
14. Modifications, replacement, or alterations to doors to accept required door hardware.
15. Software support contracts between Owner and Manufacturer.
16. Core Drilling and installation of building conduits.
17. 120 VAC power to panels.
18. Conduit and raceways.

- D. Work Included, but Specified Under Other Sections:
 - 1. Section 28 00 01 - Security General Requirements
 - 2. Section 28 05 01 - Security Wiring
 - 3. Section 28 08 01 - Security Testing
- E. Related Work:
 - 1. Section 28 23 01 - Security Video System
 - 2. Section 28 50 20 - Security Network
 - 3. Section 28 05 11- Cyber Security
- F. Work by Others:
 - 1. Installation of new doors.
 - 2. Coring of existing doors.

1.02 BASIC DEFINITIONS

- A. Abbreviations:
 - 1. ACS: Access Control System
 - 2. VM: Virtual Machine
- B. Terminology:
 - 1. Server: Central Server Computer

1.03 SUBMITTALS

- A. Provide submittals as required in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- B. Submit proposed shop test schedule and procedure.
- C. Complete the installation of one controller and photograph it. Submit these photos graphs to Owner for approval of labeling, cable routing, and general installation, prior to installing any other door boards or controllers.

1.04 PERFORMANCE EVALUATION/TERMINATION

Furnish and install a complete ACS which meets or exceeds the following performance requirements:

- A. NEC Class II standards:

1. Furnish and install the ACS in such a way that it is fully compliant with the Class II limited power requirements of the NEC.
- B. Underwriters' Laboratories Compliance:
1. Furnish and install ACS to fully satisfy all UL 294 requirements both in terms of its design and documentation, and also in the completed installation. All aspects of the enclosures, power supplies, relays, circuit breakers, controllers, reader-port circuit boards, I.P. interface hardware and cabling must meet the requirements of UL 294.
- C. Ethernet Connectivity:
1. Furnish and install ACS hardware and software utilizing the ability to connect controllers, servers and workstations through Ethernet to Owner's LAN or WAN. All aspects of the controller and I.P. interface hardware must meet the requirements of UL 294. Where controllers are equipped and installed with I.P. modules, the hardware must also be able to be installed in a way that fully satisfies UL 294.
 2. Owner uses Cisco hardware and software for their network. All switches are defined as Cisco equipment.
- D. Event processing performance:
1. Maximum card access transaction time of 0.5 seconds.
 2. Alarm processing time of 4 seconds or less.
- E. Processing Multiple Bit Formats:
1. Furnish and install ACS with controllers which can concurrently process different card populations and which can be set up to process any Wiegand bit format up to 64 bits.
- F. Door Re-locking:
1. Furnish and install ACS with the programmability to set each door to re-lock after any of the following events:
 - a. Door has been opened (provide ability to re-lock within no more than 0.5 seconds).
 - b. Door has been left open for a certain (Owner-defined) length of time (e.g. five seconds).
 - c. Door has been closed (provide ability to re-lock no more slowly than within 0.5 seconds).

- G. Shunt REX:
1. Furnish and install ACS with the ability to program door apparatus to shunt the alarm upon receipt of a signal from a request-to-exit (REX) device, without sending an unlock signal to the door.
- H. Controllers:
1. Furnish and install ACS with controller panels as defined in the details.
 2. Provide “flash”, online-upgradeable firmware so that remote application version updates can be safely accomplished.
 3. Provide a clock within each controller so that Owner can perform all time-related changes and activities while off-line from the server.
 4. Furnish and install ACS with the capability to support:
 - a. A one-door or two-door controller (to be located at the door) with Ethernet TCP/IP, Power-over-Ethernet (PoE) which uses a data connection back to the controller, and which supports (at a minimum) four-state, REX and supervised-door-contact inputs, a tamper input, a reader input, an LED, a beeper, and lock outputs.
 - b. PoE door locking/controller integrated hardware.
 - c. Controllers that can be configured to support up to 32 readers.
 - d. Support OSDP V2 with encryption for connection of HID readers, with control of LED and beeper functionality.
 5. In each case, provide controllers with the capability of being configured with sufficient memory to support at least 100,000 cardholders.
- I. Coordinate with owner on all lock hardware finish and trim style. Submit finish and trim for each site for approval.
- J. Report Management
1. Furnish and install ACS which provides users with the ability to use common report-generating software to create a report on any of the system’s database or history records and to store and manipulate reports within the application itself.
- K. Alarm Presentation
1. Alarm management screen must have the following attributes and functions:
 - a. ACS software must present alarms on the alarm screen in a “double-sort” fashion, with priority as the first sort, and initiation time as the second

sort. Sort order must refresh in real time upon each addition or deletion of active alarm events.

- b. Owner must have the ability to govern permissions granted to alarm management screen operators, and the option to deny them the ability to modify sort preferences.

L. User Permissions

- 1. Furnish and install ACS which offers a “matrix” approach to the granting of operator permissions. Provide different groups of operators with the ability to manipulate any programmable set of system functions.
- 2. Provide Owner with the capability of limiting or controlling operators’ ability to view, edit, add or delete any fields or attributes of the database.

M. Operator Audit Trail

- 1. Create a record of, and provide the ability to create reports of, all operator actions within the ACS software, including:
 - a. The time a change was made by an operator.
 - b. The operator’s name.
 - c. The item’s state before the change was made.
 - d. The item’s state after the change.

N. Badging Integration with ACAMS

- 1. Furnish and install an ACS whose badging system software is (or can be) seamlessly integrated with access control software suite. Ensure that, as a rule, when updates or upgrades become available for the access control portion of the software, the badging software application (along with technical support available for it) is also concurrently updated by the same software manufacturer.

1.05 SYSTEM TRAINING

- A. Furnish personnel to execute the training plan described in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- B. Establish a specific schedule that meets the convenience of Owner.
- C. Provide training literature and outlines at the beginning of each session.
- D. Operator and management training:
 - 1. Contractor to provide 1-hour sessions for system operators when required by Owner at mutually agreeable schedules as sites are brought on line.

2. Provide a minimum of 12 1-hour sessions.
3. If the add alternate option is exercised for a site; provide an additional 2 1-hour training sessions for each additional site selected.

1.06 DATABASE ASSISTANCE

- A. Assist Owner in adding to the existing database for these 16 sites. Utilize and add to the existing database that was developed during phase 1 of this project. Provide appropriate forms and written instructions to Owner. Provide examples of the sequence of completion for all related forms.

1.07 OVERVIEW OF THE SYSTEM

- A. The following overview of the ACAMS is provided to define a framework for understanding the system design approach.
 1. Two main categories of security doors will connect public areas with private Owner areas.
 - a. Access Control System (ACS) doors.
 - b. Emergency exits:
 - 1) By their nature, emergency exits must allow egress by anyone from inside the building.
 - 2) Certain emergency exit doors at stairways will be unlocked automatically by a signal from the fire alarm system, to allow entry into the building.
 2. Owner will use proximity technology access control cards encoded with a unique card number for each cardholder.
 3. ACS databases will be organized by unique person ID.
 - a. Main database at the Server:
 - 1) Will contain cardholder card numbers and access information that will be used to control door unlocking.
 - 2) May also store other personnel related data such as name, address, employer, etc.
 - 3) Normally, no door unlocking decisions will be made at the Server level.
 - b. Remote panel databases:
 - 1) Will be subsets of the main Server database.

- 2) Will store card number, time zone, and door group data from cardholder records downloaded from the Server.
 - 3) Normally, all door unlocking decisions will be made at the remote panel level.
 - 4) Initially, all remote panel databases will be empty.
 - 5) Data will be downloaded from the Server on demand and edited on need.
4. Security Video System (SVS) will provide Owner a tool for auditing security doors' activity.

PART 2 - PRODUCTS

2.01 WORK INCLUDED

- A. Furnish and install all of the materials listed below and in the Details.
- B. Review the Details and Schedules to identify any additional components required to provide a complete and operable system. Verify all quantities with those shown on the design Drawings and Details.
- C. The ACS central components and field panels shall all be from the same system manufacturer.

2.02 MATERIALS

- A. Furnish and install products from the following manufacturers:
 1. Genetec
 2. Genetec Professional Services (for Database transfer assistance)
 3. HID – Card Readers
 4. APC - UPSs
 5. Middle Atlantic – Racks
 6. Mercury (through Genetec) – ACS panels- (Sy-EP1501)
 7. PoE Door Locks – Assa Abloy
 8. Door Hardware – As specified in the details including door operators
- B. Primary ACS head end components for this project shall be obtained from only the following manufacturer(s):
 1. Genetec Security Center

- a. GSC-Base (most recent revision)
- b. GSC-Sy-P
- C. Contract Genetec Professional Services to assist with any database work. This includes adding to and editing of all existing database information, as well as importing and programming any new database information from existing systems.
- D. Furnish and install all materials identified in SECTION 28 50 90 – SECURITY DETAILS, and in the Plan Drawings. Confirm item unit counts and quantities with Owner and/or System Designer before bid.
- E. Carefully review all details for exact type and quantity of parts and devices required to support field and head-end security apparatus.
- F. Furnish and install materials, equipment, software, and any other apparatus or support necessary to comply with the requirements articulated above in Part 1.04, PERFORMANCE.
- G. Provide appropriate door hardware trim with approved finish at each site.

2.03 SPARE PARTS

- A. For each type of system component, maintain a viable working spare during the life of the support contract between Contractor and Owner. Across the entire set of phase 2 sites, (excluding add-alternates) maintain the following quantity of spares:
 - 1. Total counts across all sites under this contract 6 sites > 10, Maintain 1 spare
 - 2. Total counts across all 6 sites > 100, Maintain 3 spares
- B. Provide an inventory of spare parts for the items listed; label the list SSHP phase 2A or 2B, as agreed with Owner. These parts may be stored on site or at Contractor's storage facility, depending upon the criticality of the part and general availability.
- C. Owner may want to purchase additional material as spares. Throughout the life of the relationship between Owner and Contractor, provide system materials at the pricing defined in the Bid Response Forms.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. This contract may involve currently functioning systems. Coordination with Owner is critical. Do not interrupt any functioning system without complying with the provisions of specification SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.

- B. Aesthetics are an important consideration in this installation. Install all components to provide aesthetically pleasing results. Coordinate the actual locations of all visible components in advance with Contractor, and Owner.
- C. Provide appropriate conductors for all security devices, per schedules in the Detail package.
- D. Locate and install all security devices and components in accordance with the details and floor plans.
 - 1. The installation of the Rack listed in Detail 03.03.02a will need to be installed as one of the first tasks. The installation of the Rack should be coordinated with the SHA Project Manager and SHA's I.T. Department.
 - 2. Any specified door that requires modification, alteration, or replacement in order to accommodate the specified door hardware is the responsibility of the contractor.
- E. Install all accessible components with tamperproof security fasteners.
- F. Comply with the wire marking and panel labeling provisions stated in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- G. Before commencing installation, confirm that the necessary electrical power and grounding provisions are available to meet the security system manufacturer's stated requirements.
- H. Coordinate with doorframe installation and window wall installation for installing and pulling wire and cable at those locations.

3.02 SYSTEM INSTALLATION

- A. At the Owner's data center, the Enterprise software and SQL installation was installed during Phase #1. Coordinate with Owner to access the existing installation information.
- B. Confirm that the locking hardware for individual doors is consistent with the security design and the normal use of the space.
- C. Do not apply power to a remote panel until the manufacturer's grounding requirements are complete.
- D. System Workstations. Install:
 - 1. The client for the ACS software will reside on the SV-300, and will require an owner supplied keyboard, mouse and monitor.
- E. The head end software is currently residing on a Virtual Machine (VM) environment at the SHA Main Office, along with a separate VM for the SQL database.

3.03 SYSTEM PROGRAMMING

- A. Program the system database using new and existing system data. Continue the programming that was begun in Phase #1 and add to it. Be sure to use already begun programming and naming conventions. This work will require the assistance of Genetec Professional Services.
- B. In instances where an existing database must be converted to a newer revision, take the following steps:
 - 1. Locate the most recent existing database files residing on Owner's server(s).
 - 2. Determine the most appropriate portable media (CDs, DVDs, portable hard drives, etc.).
 - 3. Back-up all current versions of database files (and/or folders) to portable medium, making two copies, one to be given to Owner, the other to be retained by contractor until project completion.
 - 4. Perform database conversion(s) according to manufacturer's instructions.
- C. During Phase 1 the first 6 sites were federated to allow each site to function as a standalone site, it is the desire of SHA that this functionality be removed. This system federation also required Global Cardholder Management Software.
 - 1. The Federation and Global Cardholder Management Software will need to be uninstalled.
 - 2. The existing sites will need to be reconfigured into one holistic system. Use Genetec Professional Services to accomplish this task.
- D. Program graphic screens to show all doors, alarm points, and cameras. Set up these screens to provide manual camera call-up of all cameras.
- E. Where Security Video cameras will be used to qualify alarms, create links to allow both live and recorded viewing of the video feeds through the alarm monitoring process. Program relationships between card-reader or alarm doors.
- F. Program the hardware as defined the Detail Package and on the Drawings.
- G. Coordinate with the Owner or the owner's representative when setting up the permissions for the system.
- H. Point descriptions:
 - 1. Input a description for each point.
 - 2. Use descriptions that are consistent in form and character.

3. Use all uppercase characters.
4. Use consistent abbreviations throughout the database. If a word is abbreviated in one location, always use the same abbreviation.
 - a. See Attachment A.1 for a list of approved abbreviations.
 - b. Submit any additions or changes to Owner for approval before loading the point descriptions in the database.
5. Use cardinal points for geographic directions:
 - a. Use N for North, S for South and E for East and W for West.
 - b. Use only NE, NW, SE, or SW for combined directions.
 - c. Use a single character (or combined characters) between two spaces preceding the name to qualify a building area, room, door, or device.
6. Use a consistent order of information:
 - a. Fixed and consistent sequence: site code (obtain from SHA) building (1 character), space, floor (2 characters), description of device or object
 - b. Examples:
 - 1) 303 7 01 LBY DR
 - 2) 303 7 01 LBY FIRE PNL ALM
 - 3) 303 9 04 BLDG OFFICE

3.04 SYSTEM TESTING

- A. Site Test: After the system is installed:
 1. Perform the appropriate tests in accordance with SECTION 28 08 01, SECURITY TESTING.
 2. In addition, perform all manufacturer-recommended tests.

3.05 WARRANTY SERVICE

- A. Provide warranty service in accordance with the provisions stated in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- B. Provide normal service as specified in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.

1. Normal service is defined as repairs, adjustments, parts, replacement of parts, or any service that the system requires to be fully functional that is not an emergency service.
- C. Provide emergency service as specified in SECTION 280001, SECURITY GENERAL REQUIREMENTS. Emergency service is defined as any repair that Owner deems an emergency and for which it requests emergency service.
- D. Provide full factory technical support and same day shipping of replacement parts for all equipment.

3.06 ATTACHMENTS

- A. Attachment A.1 - Point List Abbreviations

END OF SECTION 28 13 01

SHA170109_031_281301_Access_Control_System. Rev.0

ATTACHMENT A.1

POINT LIST ABBREVIATIONS

Word or Words	Abbrev.
ANNUNCIATOR	ANN
BUILDING	BLDG
CABINET	CAB
CAFETERIA	CAFE
CARD READER	C/R
COMMUNICATION (S)	COMM
CORRIDOR	COR
DATA CENTER	DC
DOOR	DR
DOORS	DRS
DOUBLE	DBL
DURESS	DURESS
EAST	E
ELEVATOR	ELEV
EMERGENCY	EMR
EMPLOYEE	EMP
ENTRY	ENT
EXIT	EXIT
FIRE	FIRE
FLOOR	FLR
GARAGE	GAR
GATE	GATE
GLASS BREAKS	G/B
HALL	HALL
HIGH	HI
HIGH TEMP	HITMP
IDENTIFICATION	ID
KEY	KEY
KEYPAD	K/P
KEYSTATION	K/S
LOBBY	LOBBY

Word or Words	Abbrev.
LOCK	LOCK
LOWER	LOW
LOW TEMP	LOTMP
MAIN DISTRIBUTION FRAME	MDF
MONITOR	MON
NORTH	N
NORTH EAST	NE
NORTH WEST	NW
OFFICE	OFFICE
OPERATOR	OP
PANIC/DURESS	PANIC
PASSIVE INFRARED DETECTOR	PIR
PENTHOUSE	PH
POWER	PWR
ROOF	ROOF
ROOM	RM
SOUTH	S
SOUTH EAST	SE
SOUTH WEST	SW
STAIR (S)	STR
TELCO CLOSET	TELCO
TRAINING	TRNG
TROUBLE	TRB
UPPER	UP
WEST	W

SECTION 28 23 01

SSHP SECURITY UPGRADES PHASE 2A & 2B

SECURITY VIDEO SYSTEM

TABLE OF CONTENTS

PART 1 - GENERAL

- 1.01 DESCRIPTION
- 1.02 BASIC DEFINITIONS
- 1.03 SUBMITTALS
- 1.04 SYSTEM TRAINING

PART 2 - PRODUCTS

- 2.01 MATERIALS
- 2.02 SPARE PARTS

PART 3 - EXECUTION

- 3.01 GENERAL INSTALLATION
- 3.02 CAMERA SETUP
- 3.03 SYSTEM PROGRAMMING
- 3.04 SYSTEM TESTING
- 3.05 WARRANTY SERVICE

PART 1 - GENERAL

1.01 DESCRIPTION

Provide, install, program, and activate equipment that will provide Security Video System (SVS) with central control, monitoring, and recording capability.

This Security Video System will utilize Genetec SV-300's (formally SV-32) and SV-1000's (formally SV-Pro) network security appliances, and the Omnicast Video platform, and includes the unification of the Omnicast with the Access Control System (Synergis) via the utilization of the Security Center software. All video will be recorded and stored locally, at each SSHP site. All locations will utilize Hanwha Techwin (Samsung) cameras.

Work included:

1. Ensure System is connected to Main Server at SHA Main Office.
2. Provide and install cameras, camera mounts, switches, servers, patch panels, connectors, NVRs, and Security Junction Boxes (SJB).
3. Furnish, install, test, and make fully operational at locations shown, the specified equipment and all associated conductors to provide a completely operational SVS without additional cost to Owner.

4. The SVS system shall include cameras, lenses, camera enclosures, camera mounts, power supplies, video monitors, recording servers, switches, patch panels, client monitoring components, and patch cables.

B. System Overview:

1. The cameras, SV-300's, and SV-1000's are to be connected to the LAN infrastructure.
2. The Owner will be able to remotely access the LAN and view and download from the SVS over WAN connectivity that Owner will provide.
3. The SV-300 will also contain the Softwire and the Security Center Client software.

C. Work included, but not specified under other sections

1. Section 28 00 01 - Security General Requirements
2. Section 28 05 01 - Security Wiring
3. Section 28 05 11- Cyber Security
4. Section 28 08 01 - Security Testing

D. Related Work

1. Section 28 13 01 - Access Control System
2. Section 28 50 20 - Security Network
3. Section 28 50 90 – Security Details

1.02 BASIC DEFINITIONS

A. Abbreviations:

1. DVR: Digital Video Recorder
2. FOV: Field of View
3. IDF: Intermediate Distribution Frame
4. IP: Internet Protocol
5. IPS: Images Per Second
6. MDF: Main Distribution Frame
7. NVR: Network Video Recorder

- 8. PTZ: Pan, Tilt, & Zoom
- 9. SAN: Storage Area Network
- 10. SVS: Security Video System

1.03 SUBMITTALS

- A. Provide submittals as required in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.

1.04 SYSTEM TRAINING

- A. Furnish personnel to execute the training plan described in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Provide all the materials listed in PART 2 - PRODUCTS, of this specification.
- B. Review the Details and Schedules to identify any additional components required to provide a complete and operable system. The quantities of individual components shall be determined by reviewing the design Drawings and Details.
- C. Primary SVS head-end components for this project shall be obtained from only the following manufacturer(s):
 - 1. Genetec Security Center Clients – One per site
 - a. GSC-1U
- D. Cameras and the NVRs and software shall be obtained from only the following manufacturers:
 - 1. Hanwha Techwin (Samsung)
 - 2. Genetec SV-300
 - a. SV-300-4T-I5-ARC-SHA
 - b. At each site, the SV-300 will have:
 - 1) Security Center client software
 - 2) Software for access control
 - 3) Directory

- 4) NVR capability
3. SV-1000
 - a. SV-1000-R2-8TB-8-120-SHA
4. Camera license for each camera
 - a. GSC-Om-E-1C
- E. Furnish and install the following SVS components in the locations shown:
 1. Utilize tamper-resistant type fasteners for installation of all cameras, camera mounts, camera enclosures, and associated junction boxes and panel boxes serving the SVS.
 2. Provide power strip and tie downs for camera power supplies in each security closet as required.

2.02 SPARE PARTS

- A. For each type of system component, maintain a viable working spare during the life of the support contract between Contractor and Owner. Across the entire set of sites, maintain the following quantity of spares:
 1. Total counts across all 16 sites > 10, Maintain 1 spare
 2. Total counts across all 16 sites > 100, Maintain 3 spares
- B. Provide an inventory of spare parts for the items listed, as agreed with Owner. These parts may be stored on site or at Contractor's storage facility, depending upon the criticality of the part and general availability.
- C. Owner may want to purchase additional material as spares. Throughout the life of the relationship between Owner and Contractor, provide system materials at the pricing defined in the Bid Response Forms.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. This contract may involve currently functioning systems. Coordination with Owner is critical. Do not interrupt any functioning system without complying with the provisions of SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- B. Aesthetics are an important consideration in this installation. Install all components to provide aesthetically pleasing results. Coordinate the actual locations of all visible components in advance with Owner.

- C. Locate all cameras according to plans. Coordinate with Owner and System Designer for location of all cameras and to determining specific camera mounting.
- D. Work with Owner's IT technical team to plan the installation, execute the installation, and test the installation. This includes the Genetec Enterprise software application and the SQL databases.
 - 1. Work with Owner's IT technical team to coordinate the connectivity to each site including the site routers.
 - 2. Assure that the entire system is installed such that the sites function with both ACS and SVS.
 - 3. Lock down the system to the greatest extent possible that allows for normal operation and recovery from any technical events. An example would be the permissions for the database for installation versus normal daily operation, where, if there is a problem, the system needs to be able to recover gracefully.
 - a. Change all default passwords in coordination with the Owner.
 - 4. Help Owner set up a viable backup process and assure that it is working.
- E. Install all cameras on the mount/enclosure specified, insuring that mounting location and method provide the necessary camera stability to meet system performance standards. Types of cameras and their respective mount/enclosures are identified in the camera details.
- F. The security cameras are intended primarily for archival and forensic use. They will not be actively monitored. Fixed view cameras are located in order to capture views of the building perimeter doors, parking areas, and common interior areas.
- G. All cameras will be set up for two streams:
 - 1. D1 at 7 IPS, 0.2Mbps to the SV-32 – Constant Recording
 - 2. 720P at 15IPS, 1.5Mbps, or 1080P at 15 IPS, 3.0Mbps to the SV-Pro. – Motion Recording
- H. Recorded video will have the ability to be viewed remotely on a D1 stream at a low bandwidth from the SV-32. Set up the ability of clients that are remote from the specific site to view the D1 streams.
- I. Recorded video will have the ability to be viewed locally at the site on a 720P or 1080P stream, whatever was recorded for the particular camera, at this higher bandwidth from the SV-Pro.
- J. All recorded video will be stored for 30 days.

- K. Allocate 10% of the recording space for tagged video clips that are to not be removed. The Owner will need to manage this area.
- L. Route the camera video PoE Ethernet cable in conformance with the guide lines contained in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- M. Program the NVRs and demonstrate their operability. None of the preparation and demonstrations associated with this task will be included as training. Training will be provided once the system is shown to be operable.
- N. Install security video central system components in the security rack in accordance with the rack configuration layout being provided under Security Details 03.03.002a-b and 03.03.003a-b.
- O. Set up the system with appropriate level settings to send a “video loss” alarm input to the system in the event that the loss of any video signal is detected. Program the alarm input to identify the specific camera involved.

3.02 CAMERA SETUP

- A. Set up camera with manufacture software.
- B. Change default password to agreed upon password.
- C. Set recording streams as specified in this document above.
- D. Field of view. Use hallway view for all hallway cameras where appropriate.
- E. Focus.
- F. Motion zones and blockout areas for high resolution motion recording.
- G. Privacy setting if required.
- H. Camera Hardening
 - 1. Utilize the WiseNet Whitepaper for hardening video devices.
 - 2. Validate and log that the camera has the latest firmware.
 - 3. Document the serial number and MAC address for each camera against the point number for the as-built records.
 - 4. Change the default password and use high strength passwords – Coordinate with Owner to agree on a password plan.
 - 5. Set up a “Least Privilege Principle” with all permissions.
 - 6. Set up the cameras so that the passwords are transmitted in an encrypted format.

7. Disable SNMP
8. Disable RTSP
9. Disable UPnP
10. Disable Bonjour
11. Disable Link-local address
12. Disable Audio
13. Enable tamper detection
14. Using device logs, validate all changes to the cameras have been made and that not additional unwanted changes were made prior to final sign-off.
15. Backup configurations for future use.

3.03 SYSTEM PROGRAMMING

- A. Program the video systems to make fully functional.
 1. Viewing locally
 2. Two recorded streams on two different devices
 3. Validate appropriate recording as described in the set up streams
 4. Connectivity to and integration into the Owner's head end Enterprise system

3.04 SYSTEM TESTING

- A. After the system is completely installed in accordance with the Specifications, Drawings, and Details, conduct a full systems test. Provide a copy of the record of results to Owner. Use the test procedures submitted as outlined in SECTION 28 08 01, SECURITY TESTING to test and evaluate the system. These tests shall be part of the overall Final System Acceptance Testing Requirements.
- B. Ensure that the entire SVS is free of ground loop problems. Test for and remove any ground loop problems in the SVS at no additional cost to Owner.
- C. In the test procedure for the SVS, each camera and all associated video transmission devices and cables must be tested for a good crisp video signal.
- D. These tests must be performed and signed off for each device in the system, prior to setting the vertical interval switching for each camera.

3.05 WARRANTY SERVICE

- A. Provide warranty service in accordance with the provisions stated in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
- B. Provide normal service as specified in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS.
 - 1. Normal service is defined as repairs, adjustments, parts, replacement of parts, or any service that the system requires to be fully functional that is not an emergency service.
- C. Provide emergency service as specified in SECTION 28 00 01, SECURITY GENERAL REQUIREMENTS. Emergency service is defined as any repair that Owner deems an emergency and for which it requests emergency service.
- D. Provide full factory technical support and same day shipping of replacement parts for all equipment.

END OF SECTION 28 23 01

SHA170109_032_282301_Security_Video_System. Rev.0

SECTION 28 05 02
SSHP SECURITY UPGRADES PHASE 2A & 2B
SECURITY WIRING

TABLE OF CONTENTS

PART 1 - GENERAL

1.01 DESCRIPTION

PART 2 - PRODUCTS

2.01 WORK INCLUDED

2.02 MATERIALS

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

3.02 WIRE AND CABLE

3.03 IDENTIFICATION AND TAGGING

PART 1 - GENERAL

1.01 DESCRIPTION

Furnish and install conduit, back boxes, wire and cable for the security system components shown on the security drawings, details, and schedules.

A. Work Included

1. Furnish, install, tag, and document wire and cable to provide all electrical and data circuits for the Access Control, the Security Video System, all other systems, and any other associated work shown on the security drawings, details, and schedules.
2. Furnish and install conduit, back boxes, Security Junction Boxes (SJB's) and associated back panels.
3. Coordinate with Owner (and, where applicable, Owner's General Contractor) for all aspects of work and schedule.

B. Work Included but Specified under other sections

1. Section 28 00 02 - Security General Requirements
2. Section 28 08 02 - Security Testing

C. Work By Others

1. Termination of all non-CAT6 low voltage conductors.

2. Installation of all of the security components.

PART 2 - PRODUCTS

2.01 WORK INCLUDED

- A. Provide all materials listed in PART 2 - PRODUCTS of this specification unless specifically excluded or modified in other portions of the contract document.
- B. Wire/cable pulls are scheduled on the Plan Sets Sheet Index. Use the wire/cable brand and type shown unless a substitute has been specifically approved by Owner.
- C. Paint all building mounted EMT, back boxes, j-boxes, and wire mold. Use paint color as appropriate for each site. Submit a paint sample for each location.

2.02 MATERIALS

- A. Wire Hangers
 1. Provide Head First products – “STIFFY” type. UL 2239 and UL 2043 for use in plenum environments. Use comfort cradle, clip-on, trapeze, or radius drop trapeze as determined by jobsite conditions. Mounting type for concrete, wood, or beam clamp with length as specified.
 2. Provide and install hangers at 4-foot maximum intervals along every wire run.
- B. Conduit and Wire Mold
 1. Provide and install all conduits, back boxes. Use EMT within buildings and RMC for exterior applications.
 2. Use screw fasteners and accessories to securely mount all conduit. These sites are subject to some rough conditions and the conduit infrastructure may be stressed.
 3. Use wire mold in lieu of EMT for all runs that are within 50’ of a main lobby door. (confirm use of wire mold with SHA Project Manager prior to installation)
- C. Cable and Wire Marking
 1. Permanent Wire Tags
 - a. Provide Brady, Panduit, or equal heat-shrink or permanent wrap-around, machine-printed, polyolefin wire markers for all cables.
 - b. Hand written tags are not acceptable.

PART 3 - EXECUTION

3.01 GENERAL INSTALLATION

- A. Furnish and install all conduit, back boxes, pull boxes, connectors, ceiling wires, supports, cable and wire to provide a complete and reliable system. Verify exact location of all conduits, boxes, cable and wiring runs with Owner in advance of any installation.
- B. Obtain specific approval from Owner for the location and appearance of any conduit, cable or raceway that is not hidden. If approved, install as inconspicuously as possible. This process will be accomplished through the submittal process.
- C. Install conduit and back boxes parallel and square with building lines, including raised floor areas.
- D. Comb wire groups. Route and support all wiring and cable to achieve the highest quality appearance in all areas, including the interior of all panels and racks.

3.02 WIRE AND CABLE

- A. Install all wires/cable on walls in exposed areas in thin wall EMT, unless otherwise noted or exempted.
- B. Wiring Inspection
 - 1. Visually inspect wire and cable for faulty insulation prior to installation.
- C. All wires installed between buildings or in underground conduit:
 - 1. Use OSP cable.
 - 2. Test with a megohmmeter (megger). A reading of 20 megohms minimum is required. Test between each conductor and ground, and between each pair of conductors.
- D. Run wires continuously from termination to termination without splices.
- E. Make all connections at terminal boards with full tagging, labeling and documentation.
- F. Protect wire and cable from kinks.
- G. Provide grommets and strain relief material where necessary to avoid abrasion of wire and excess tension on wire and cable.

3.03 IDENTIFICATION AND TAGGING

- A. Identify all cables, wires, wiring forms, terminal blocks and terminals using labels, tags or other permanent markings.
 - 1. Use the wire-marking format and appropriate naming convention shown on Details 00.01.501 through 00.01.505 for all wiring.

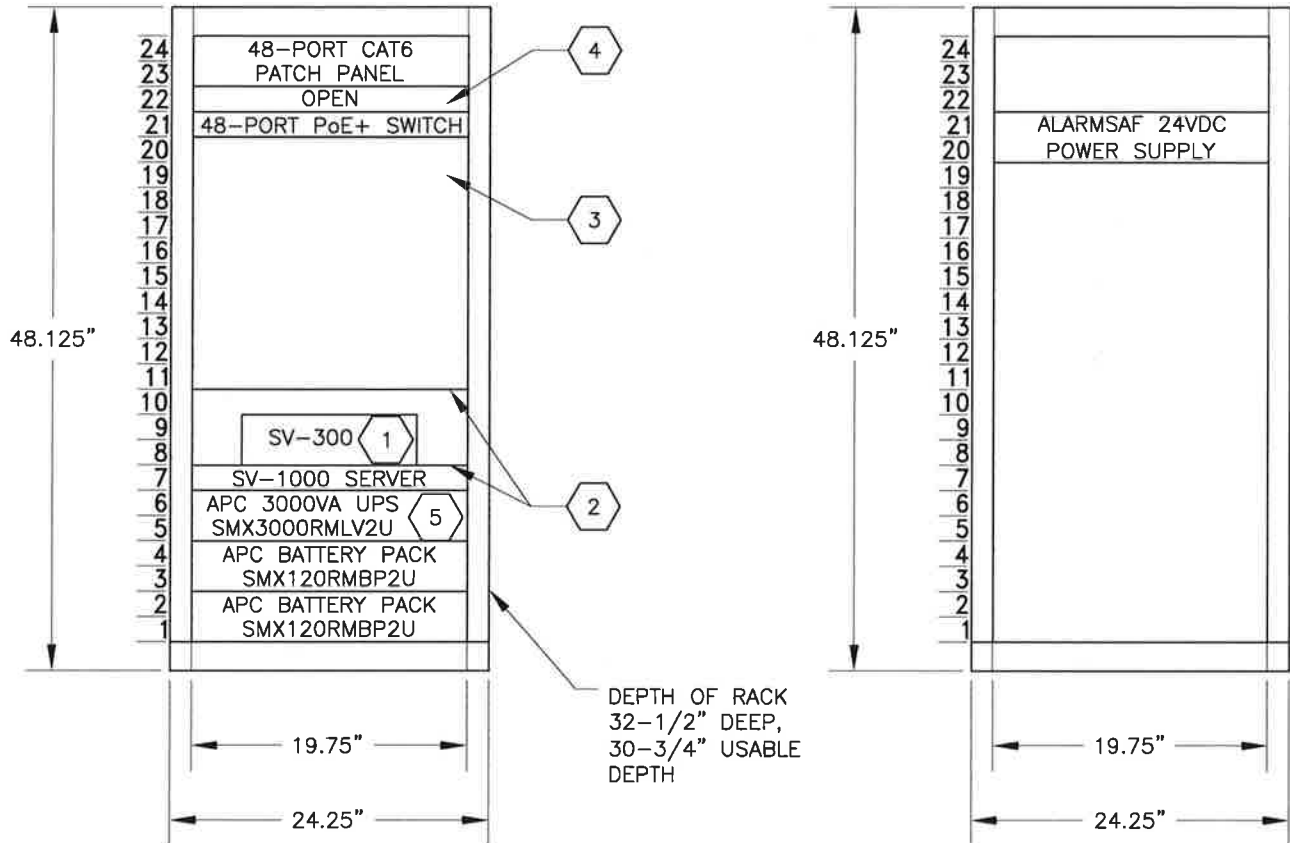
2. Identify all cables and wires with heat-shrink, machine-printed, polyolefin wire markers.
 3. Hand written tags are not acceptable.
- B. If the wire-tagging format as shown on the drawings cannot be used, submit a substitute format that complies with the intent to provide documentation for end-to-end tracing of all wiring.

END OF SECTION 28 05 02

SHA 170109_047_Security_Wiring. Rev.0

FRONT RACK

REAR RACK



NOTES

- 1 INSTALL SV-300 ON RACK SHELF.
- 2 3U RACKSHELVES. MOUNT 2 RACK SHELVES (FRONT AND REAR OF RACK) AT SV-300, REAR RACK SHELF FOR KVM EXTENDER WHEN REQUIRED.
- 3 SPACE FOR INTERNET MODEM AND ANY OTHER MISCELLANEOUS DESKTOP EQUIPMENT.
- 4 24VDC POWER SUPPLY TO BE MOUNTED AT REAR OF RACK BEHIND PoE+ SWITCH.
- 5 UPS REQUIRES A DEDICATED 120VAC/30AMP CIRCUIT WITH A NEMA L5-30R RECEPTACLE.

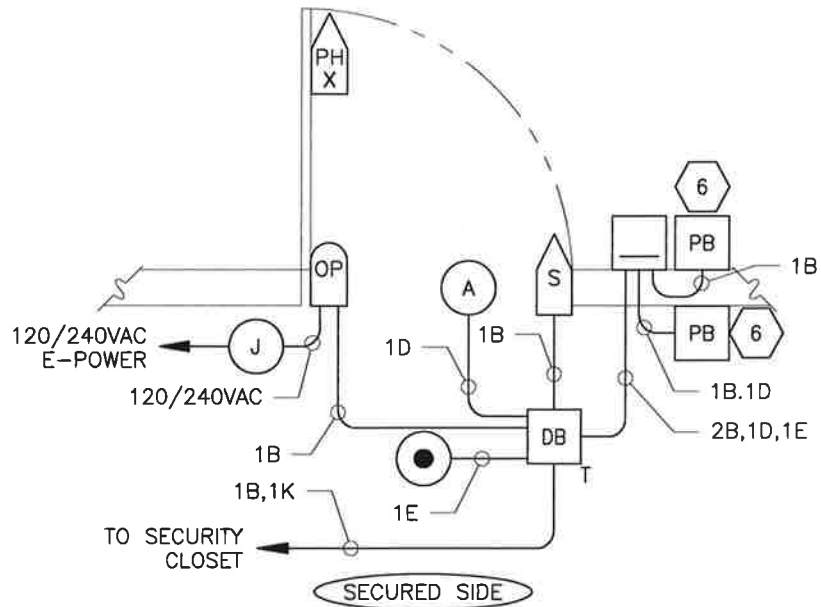
EQUIPMENT LIST					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1	1	MIDDLE ATLANTIC – WRK SERIES RACK, 24 RU, 32”D	WRK-24SA-32	B	
2	1	MIDDLE ATLANTIC – PLEXI FRONT DOOR, 24 RU	PFD-24	B	
3	1	MIDDLE ATLANTIC – CASTER BASE, 32”D, WRK SERIES	CBS-WRK-32	B	
4	1	MIDDLE ATLANTIC – COPPER BUS BARS, 12 RU, 2”W	BB-12	B	
5	AR	MIDDLE ATLANTIC – RACKSCREWS, 10-32, TRUSS-HEAD, 100 pc.	HP	B	
6	3	MIDDLE ATLANTIC – UTILITY RACKSHELF, 3U, 17.75” DEEP	U317	B	
7	1	LEVITON – 48 PORT, CAT6, RECESSED PATCH PANEL	69586-R48	B	
8	AR	MIDDLE ATLANTIC – RACKRAILS	WRK-RR24	A	
9	1	CISCO – 2960X SERIES 48 PORT PoE+ SWITCH	WS-C2960X-48FPS-L	A	
10	1	CISCO – RECESSED RACK MOUNT KIT	HRCKMNT-REC-2KX=	A	
11	1	APC – 3000VA RACKMOUNT SMART-UPS X, LCD, 100-127V	SMX3000RMLV2U	B	
12	2	APC – RACK MOUNT BATTERY PACK	SMX120RMBP2U	B	
13	1	GENETEC – SV-300 NETWORK SECURITY APPLIANCE, w/4TB STORAGE	SV-300-4T-I5-ARC-SHA	A	
14	1	HP – 24” LCD MONITOR 1920X1080 RESOLUTION	24UH	C	2
15	1	MICROSOFT – STANDARD KEYBOARD AND MOUSE COMBO, USB	2LF-00001	C	2
16	1	STARTECH – DISPLAYPORT TO DVI-D CABLE, M/M, 6’	DP2DVIMM6	B	2
17	AR	STARTECH – DVI-D DUAL LINK CABLE, M/M, 6’	DVIDMM6	B	2
18	AR	STARTECH – USB 2.0 A TO B CABLE, M/M, 6’	USB2HAB6	B	2
19	AR	GEFEN – DVI KVM EXTENDER OVER IP	EXT-DVIKVM-LAN	B	2
20	1	GENETEC – SV 1000 SERIES SERVER, RACKMOUNT, w/8TB STORAGE	SV-1000-R2-8TB-8-120-SHA	A	
21	1	GENETEC – SECURITY CENTER BASE PACKAGE, VERSION 5.5	GSC-BASE-5.5	A	
22	AR	GENETEC – SECURITY DESK CLIENT CONNECTION	GSC-1U	A	
23	1	GENETEC – OMNICAST ENTERPRISE PACKAGE	GSC-0m-E	A	
24	1	GENETEC – SECURITY CENTER SYNERGIS PROFESSIONAL PACKAGE	GSC-Sy-P	A	
25	1	GENETEC – FEDERATED SECURITY CENTER DIRECTORY CONNECTION • 20 ENTITIES OR LESS (CAMERAS, READERS, OR SHARP) • 21 ENTITIES OR MORE (CAMERAS, READERS, OR SHARP)	GSC-1SCFED-20 GSC-1SCFED	A	3
26	1	GENETEC – SYNERGIS PROFESSIONAL PACKAGE SOFTWARE	GSC-Sy-P	A	
27	1	GENETEC – SYNERGIS GLOBAL CARD HOLDER MANAGEMENT CONNECTION	GSC-Sy-E-1GCHM	A	
28	1	ALARMSAF – 24VDC/4A RACK MOUNT POWER SUPPLY, UL, 8 PTC OUTPUTS, INDIVIDUALITY SELECTABLE FAI	RMDC-PS5-M-8-UL-FAI	B	1
29	AR	CAT6 – JUMPER CABLE, LENGTH AS REQUIRED	-	C	

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

NOTES	
1.	MOUNT POWER SUPPLY AT RACK REAR BEHIND PoE+ SWITCH.
2.	VERIFY LOCATION FOR MONITOR, KEYBOARD, AND MOUSE WITH OWNER. IF MONITOR, KEYBOARD, AND MOUSE ARE TO BE LOCATED ON THE RACK OR A DESK NEXT TO THE RACK, CONNECT MONITOR (WITH DISPLAYPORT TO DVI-D CABLE), KEYBOARD, AND MOUSE TO THE SV-300 DIRECTLY. WHEN THE LOCATION IS GREATER THAN 6’ FROM THE SV-300, PROVIDE THE GEFEN EXTENDER AND: <ul style="list-style-type: none"> • USB A TO B CABLE (TO CONNECT SV32 TO GEFEN EXTENDER IN RACK) • DVI-D TO DVI-D CABLE (TO CONNECT REMOTE GEFEN EXTENDER TO MONITOR) • CAT6 JUMPER CABLE (TO CONNECT GEFEN EXTENDER IN RACK TO SWITCH) • CAT6 JUMPER CABLE (TO CONNECT SWITCH TO PATCH PANEL PORT) • CAT6 CABLE FROM BACK OF PATCH PANEL TO NETWORK DROP LOCATION WHERE KEYBOARD VIDEO AND MOUSE WILL BE LOCATED. • CAT6 JUMPER CABLE (FROM GEFEN EXTENDER IN REMOTE LOCATION TO NETWORK DROP DEFINED ABOVE)
3.	CHOOSE ONLY 1 DIRECTORY CONNECTION BASED ON THE TOTAL NUMBER OF CAMERAS AND READERS AT SITE



SYMBOLS LIST	
	ADA PUSHBUTTON ACTUATOR
	ALARM CONTACT
	CARD READER
	ELECTRIC STRIKE
	JUNCTION BOX w/COVER
	JUNCTION BOX w/ DOOR BOARD, TAMPER
	MANUAL PANIC HARDWARE OR PADDLE
	OPERATOR
	PIR/REX



OPERATION

IN THE NORMAL STATE, THE DOOR IS CLOSED, LOCKED ON THE UNSECURED SIDE, AND UNLOCKED FROM THE SECURED SIDE. NORMAL OPERATION IS BY ACCESS CARD ON THE UNSECURED SIDE, AND BY EITHER DEADLATCH PADDLE OR PANIC BAR DEPENDING ON APPLICATION AND ADA PUSHBUTTON FROM THE SECURED SIDE. PRESENTING A VALID CARD ON THE UNSECURED SIDE WILL UNLOCK THE STRIKE AND ENABLE THE UNSECURED SIDE ADA PUSHBUTTON. THE PIR/REX WILL SHUNT THE ALARM BUT WILL NOT UNLOCK THE STRIKE. THE SECURED SIDE ADA PUSHBUTTON WILL SHUNT THE ALARM, UNLOCK THE STRIKE AND ACTUATE THE OPERATOR. IF THE DOOR IS HELD OPEN LONGER THAN A PRE-DETERMINED AMOUNT OF TIME, AN ALARM WILL BE GENERATED. IF THE DOOR IS FORCED, AN ALARM WILL BE GENERATED. IF THE CARD READER IS REMOVED, A TAMPER ALARM WILL BE GENERATED.

DIAGRAM NOTES

- IF USING OTHER DOOR HARDWARE MANUFACTURER, SUBMIT DOCUMENTATION TO SHOW FUNCTIONAL AND OPERATIONAL EQUIVALENCY.
 - THIS DRAWING IS FOR DIAGRAMMATIC PURPOSES ONLY. FOR ACTUAL HANDING AND SWING REFERENCE FLOOR PLANS.
 - HARDWARE SUPPLIED THROUGH THE ARCHITECT'S SPECIFICATIONS.
 - DOOR CONTACT SUPPLIED THROUGH SECURITY CONTRACT.
 - FOR RATED ASSEMBLIES, THE DOOR AND FRAME MUST BE FACTORY PREPARED FOR ALL ELECTRIC HARDWARE AND SECURITY DEVICES.
- IF ADA ACTUATORS ARE TO BE CONNECTED TO WIRELESS RECEIVERS/TRANSMITTERS, REFER DETAIL SHEETS AS-3c THROUGH 3e, POINT-TO-POINT, AND AS-4b THROUGH 4c, LADDER, FOR WIRELESS PUSHBUTTON WIRING REQUIREMENTS.



SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-2

EQUIPMENT LIST

DOOR HARDWARE					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1a	1	ADAMSRITE – STANDARD DUTY DEADLATCH	4510 SERIES	D	1,2,4,8
	1	ADAMSRITE – DEADLATCH PADDLE	4590 SERIES	B	
	1	ADAMSRITE – ELECTRIC STRIKE, FAIL SECURE, 24VDC	7110 SERIES	B	
1b	1	ADAMSRITE – MORTISE EXIT DEVICE	8300 SERIES	D	
	1	ADAMSRITE – ELECTRIC STRIKE, FAIL SECURE, 24VDC	7110 SERIES	B	
1c	1	ADAMSRITE – RIM MORTISE EXIT DEVICE	3700 SERIES	D	
	1	ADAMSRITE – RIM ELECTRIC STRIKE, FAIL SECURE, 24VDC	74R1 SERIES	B	
2	2	INTERLOGIX – DOOR CONTACT	1078	B	3,4
3	1	DOOR OPERATOR	–	D	1,2,4
4	2	SDC – ADA PUSHBUTTON DOOR ACTUATOR, FULL LENGTH	SDC484AA36	D	1,2,4
5	AR	WIRELESS TRANSMITTER & RECEIVER, 1 RECEIVER INTERIOR, 1 RECEIVER EXTERIOR, N.O. OUTPUTS	–	D	7

SECURITY EQUIPMENT					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1	1	CARD READER – SEE DETAIL 00.80.001 FOR CARD READER	–	A	
2	1	GENETEC – MERCURY, SINGLE READER DOOR BOARD	SY-EP1501	A	
3		LIFESAFETY POWER – 8.5"Hx11"Wx3"D ENCLOSURE, TAMPER SWITCH & KEYLOCK	E5M	A	9
4	1	BOSCH SECURITY – PASSIVE INFRARED/REQUEST-TO-EXIT	DS160	B	5
5	AR	PHOENIX – TERMINALS	UK-5	B	6
6	AR	PHOENIX – END CLAMP	E/NS 35 N	B	6
7	AR	PHOENIX – END COVER	D-UK 4/10	B	
8	AR	PHOENIX – JUMPER, QTY TBD IN FIELD	LB x-x	B	
9	AR	PHOENIX – DIN RAIL, PERFORATED, 78.74"	NS 35/7,5-PERF 2000	B	6
10	AR	IDEC – DPDT RELAY w/INDICATOR LIGHT, DIODE, 24VDC	RH2B-ULD-DC24V	B	6
11	AR	IDEC – DIN RAIL RELAY SOCKET, DPDT	SH2B-05	B	6
12	AR	IDEC – PULL OVER WIRE SPRING, DPDT	SY4S-02F1	B	6
13	AR	ESD – END OF LINE RESISTOR PACK	EOL-1K	B	
14	AR	DIODE	1N4934	C	
15	AR	4" SQ. J-BOX w/COVER	–	C	

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT LOADING	CR	1	REX	1	CAM	KPD	OUTPUT LOADING	LOCK	1	MON	KPD
	DSM	1	AUX	1	P/I	A/M		AUX		P/I	A/M

EQUIPMENT LIST NOTES
1. IF USING OTHER MANUFACTURER FOR LOCKING HARDWARE, SUBMIT DOCUMENTATION TO SHOW FUNCTIONAL AND OPERATIONAL EQUIVALENCY.
2. HARDWARE SUPPLIED THROUGH THE ARCHITECT'S SPECIFICATIONS.
3. DOOR CONTACT SUPPLIED THROUGH SECURITY CONTRACT.
4. FOR RATED ASSEMBLIES, THE DOOR AND FRAME MUST BE FACTORY PREPARED FOR ALL ELECTRIC HARDWARE AND SECURITY DEVICES.
5. REFERENCE SBD DETAIL 00.03.501, STANDARD CRITERIA, DS160 FOR SETUP.
6. PROVIDE ASSOCIATED STANDARD RAIL AND TERMINAL MARKINGS.
7. HAVE THE DOOR OPERATOR SUPPLIER PROVIDE 1 WIRELESS TRANSMITTER/RECEIVER PER ADA ACTUATOR PUSHBUTTON WHEN NOT ABLE TO DIRECTLY CONNECT ACTUATOR OUTPUTS DIRECTLY TO THE ACS SYSTEM. SEE DETAIL SHEETS AS-3c THROUGH 3d, POINT-TO-POINT, AND AS-4b THROUGH 4c, LADDER, FOR WIRELESS PUSHBUTTON WIRING REQUIREMENTS.
8. IF NECESSARY TO REPLACE, MATCH EXISTING CONDITIONS. (REFERENCE OPTIONS 1a, 1b AND 1c TO SELECT THE APPROPRIATE MATCHING HARDWARE)
9. KEY ALIKE ALL JUNCTION BOXES.



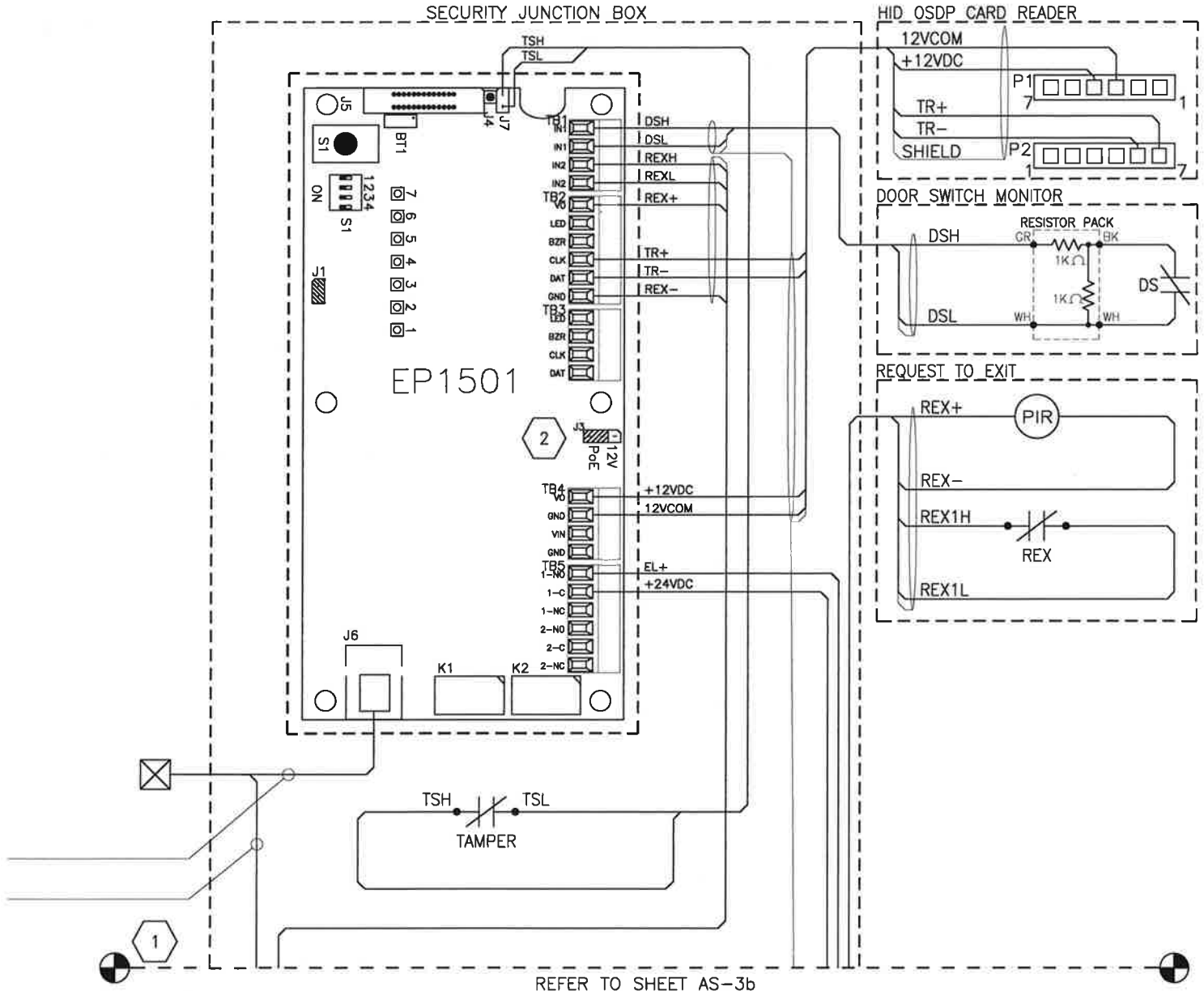
SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-3a

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:	SRB:	Address:

WIRED PUSHBUTTON OPTION





SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

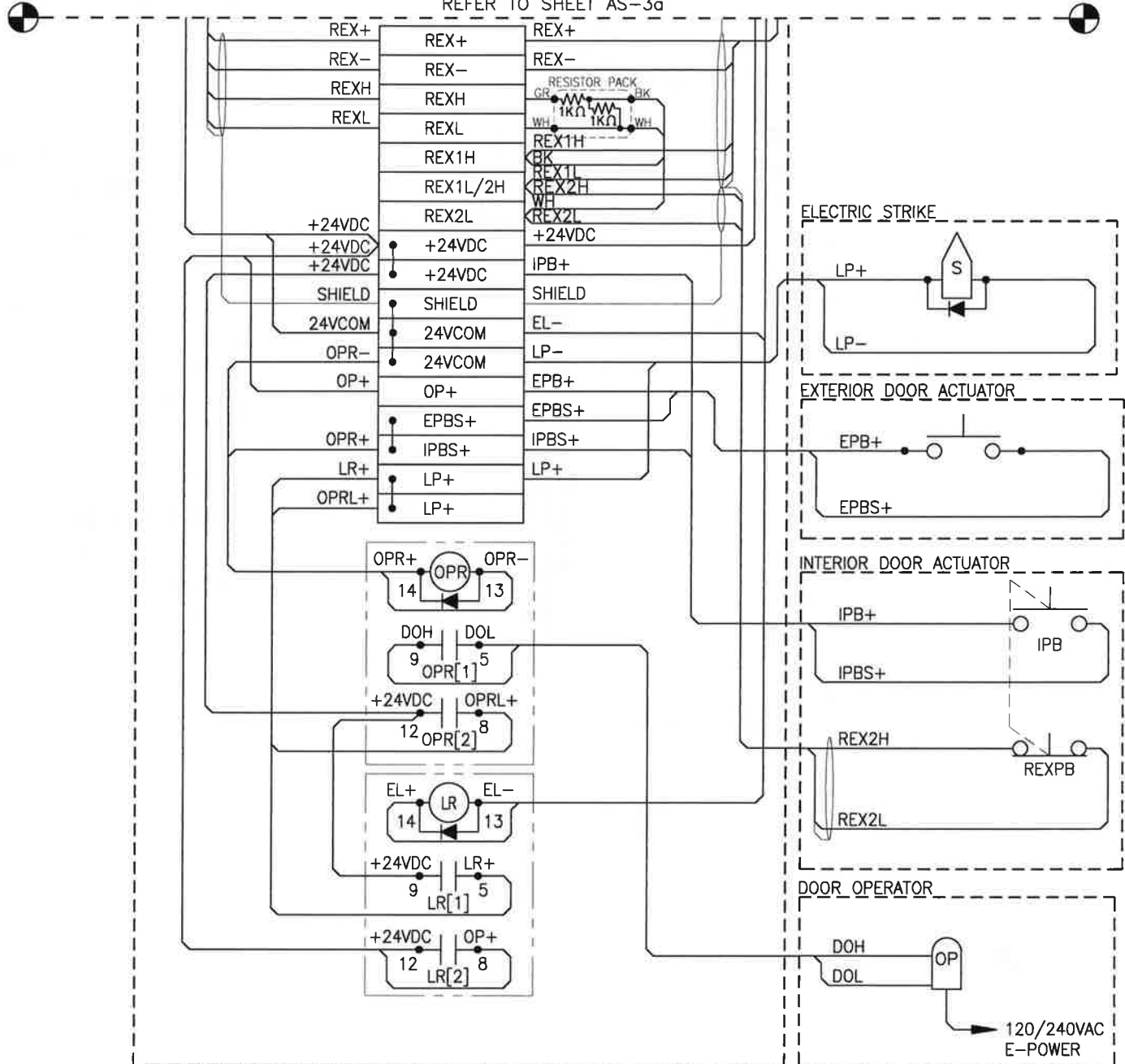
DETAIL AS-3b

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:	SRB:	Address:

WIRED PUSHBUTTON OPTION

REFER TO SHEET AS-3a



POINT-TO-POINT NOTES

- TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, 00.05.501-507 WIRE MARKING FORMAT.
- SET JUMPER J3 TO PoE FOR POWER INPUT.



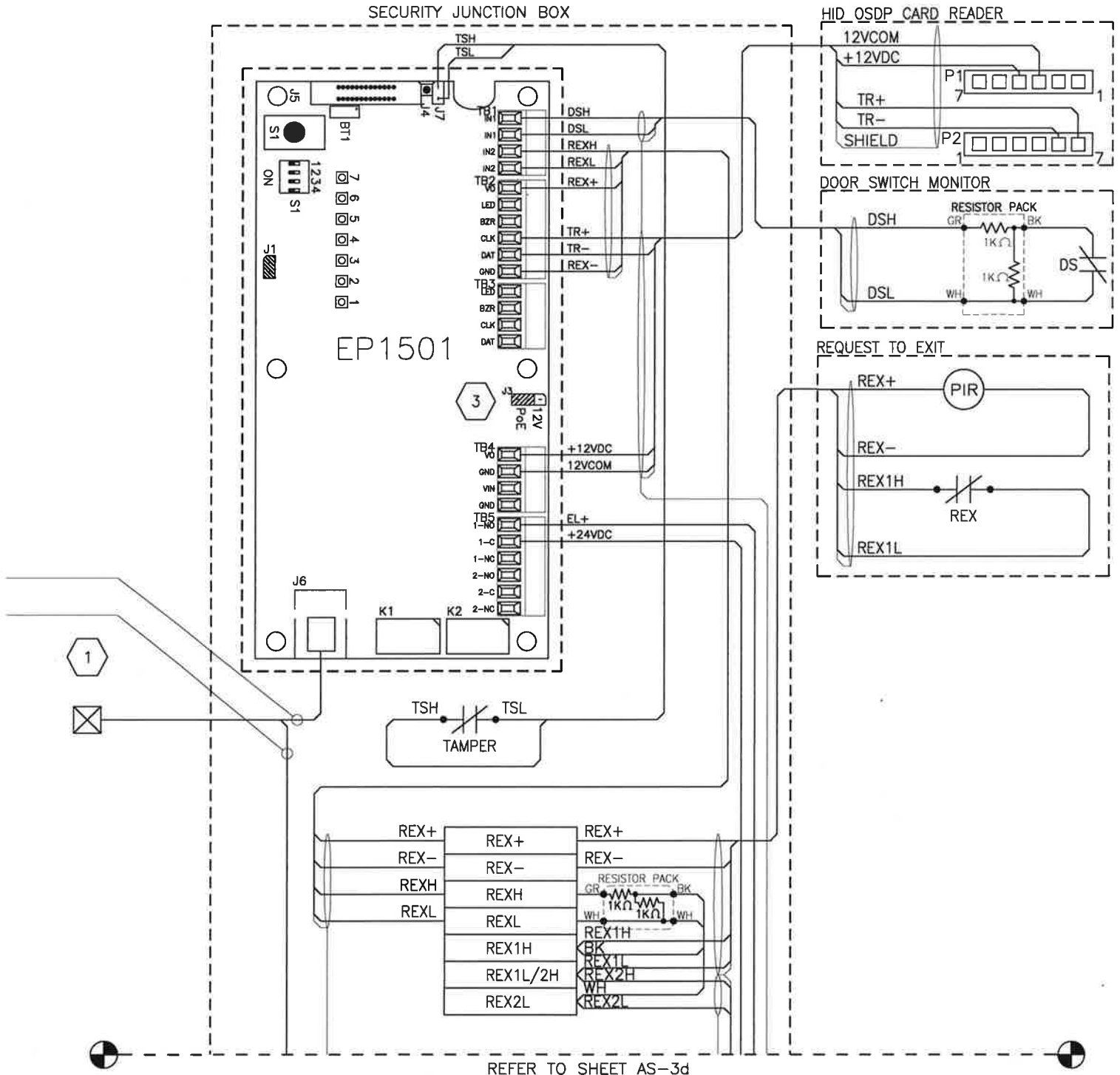
SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-3c

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:	SRB:	Address:

WIRELESS PUSHBUTTON OPTION



REFER TO SHEET AS-3d



SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

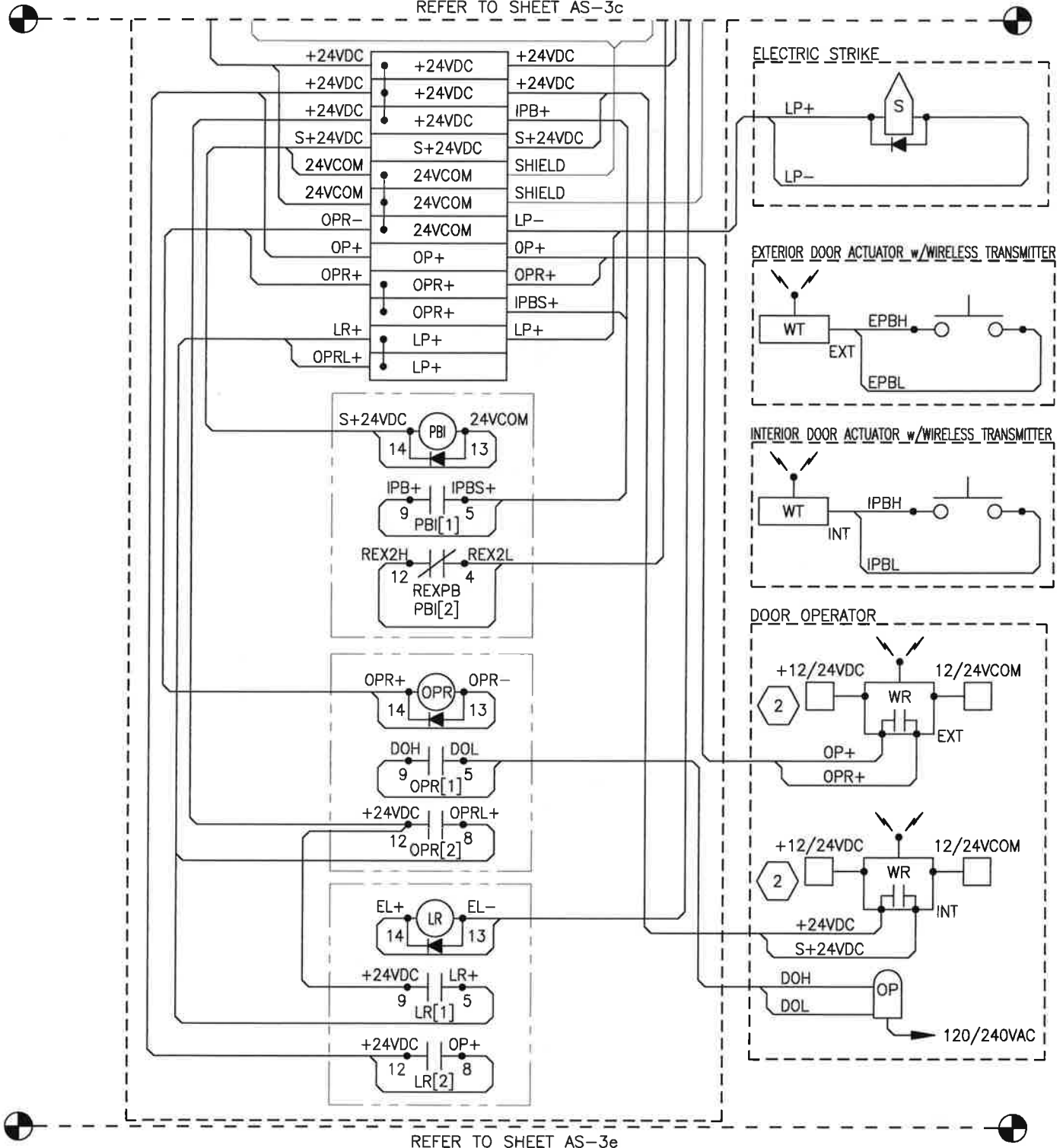
DETAIL AS-3d

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:	SRB:	Address:

WIRELESS PUSHBUTTON OPTION

REFER TO SHEET AS-3c



REFER TO SHEET AS-3e



SINGLE DOOR, CARD IN/FREE EXIT
 ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
 ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-3e
POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:	SRB:	Address:

WIRELESS PUSHBUTTON OPTION

REFER TO SHEET AS-3d

POINT-TO-POINT NOTES

- 1 TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, 00.05.501-507 WIRE MARKING FORMAT.
- 2 DOOR OPERATOR INSTALLER IS TO PROVIDE LOW VOLTAGE POWER TO THE WIRELESS RECEIVERS.
- 3 SET JUMPER J3 TO PoE FOR POWER INPUT.

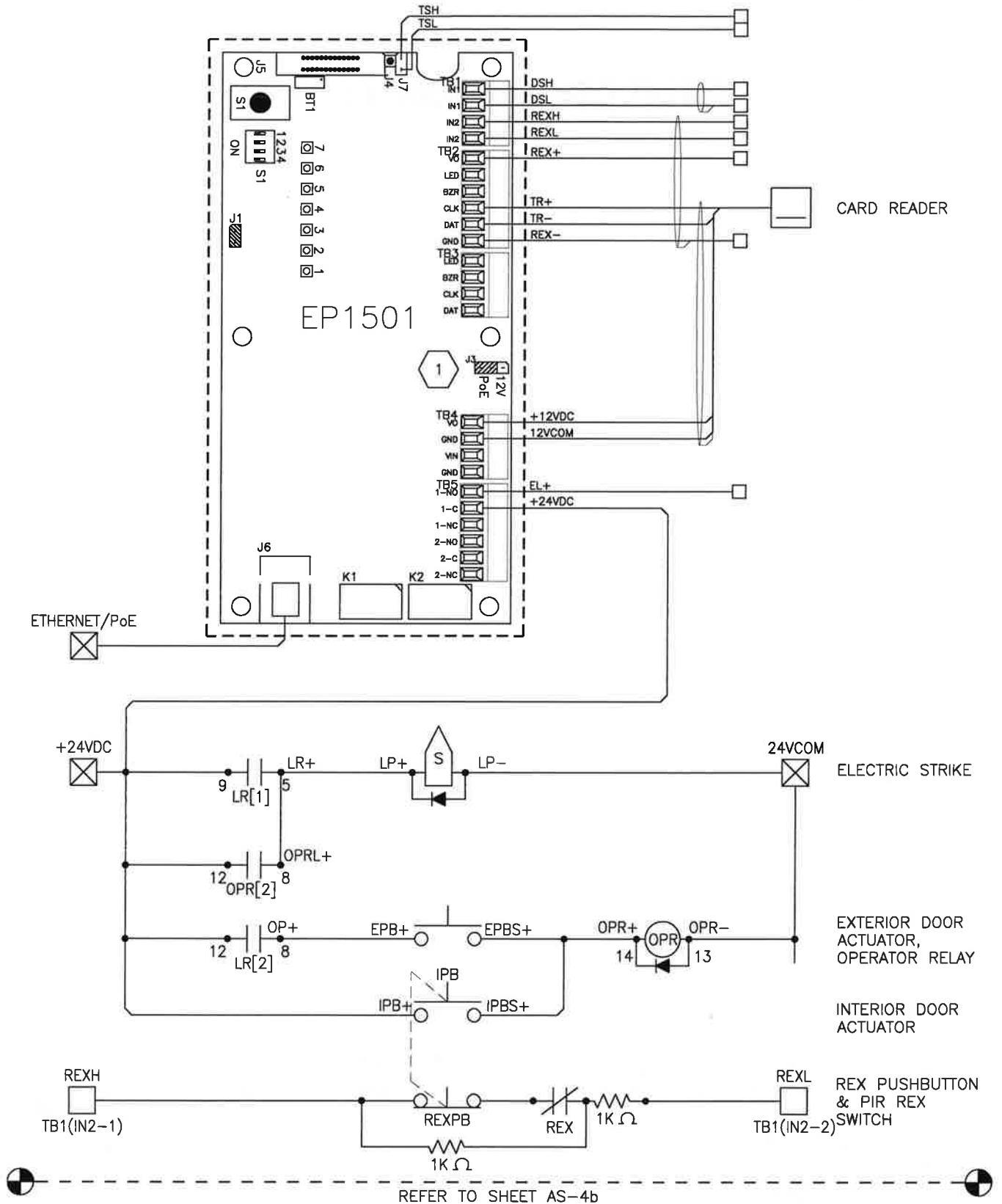


SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-4a

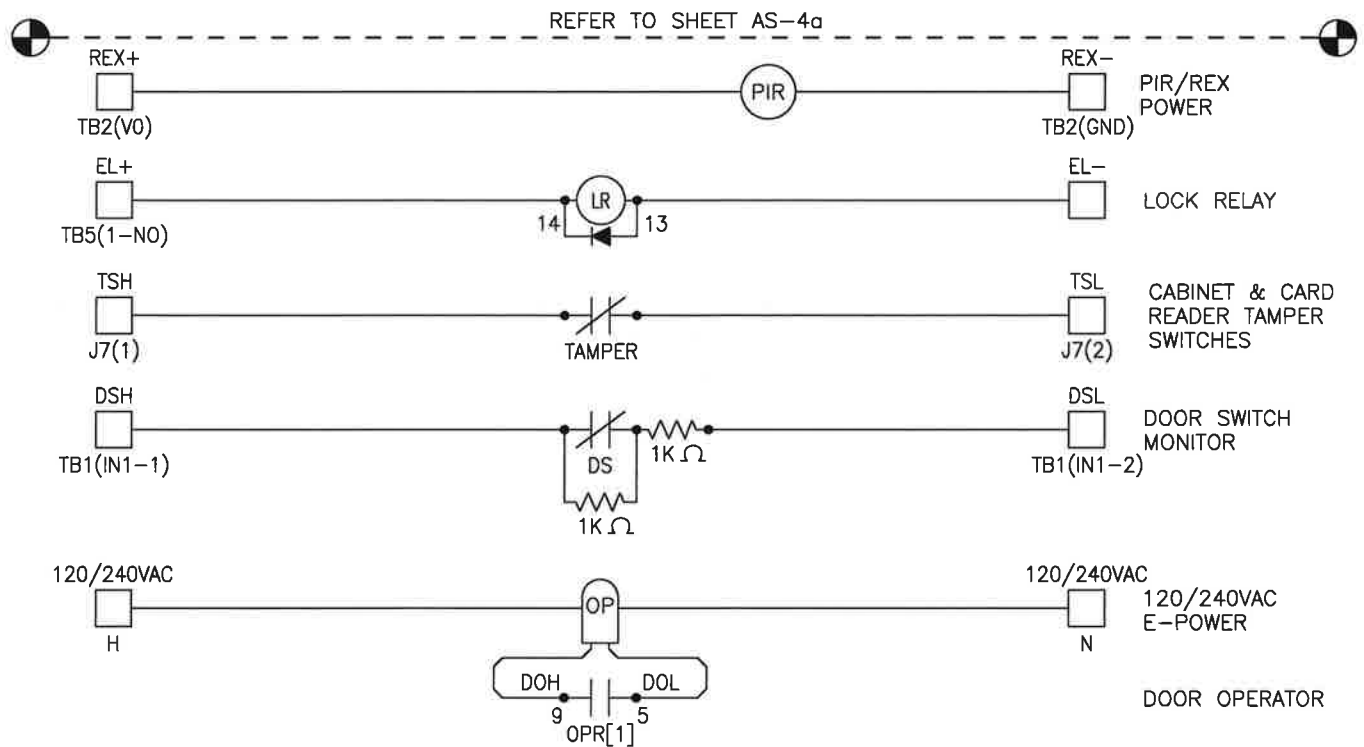
LADDER

WIRED PUSHBUTTON OPTION





WIRED PUSHBUTTON OPTION



LADDER NOTES

1 SET JUMPER J3 TO PoE FOR POWER INPUT.

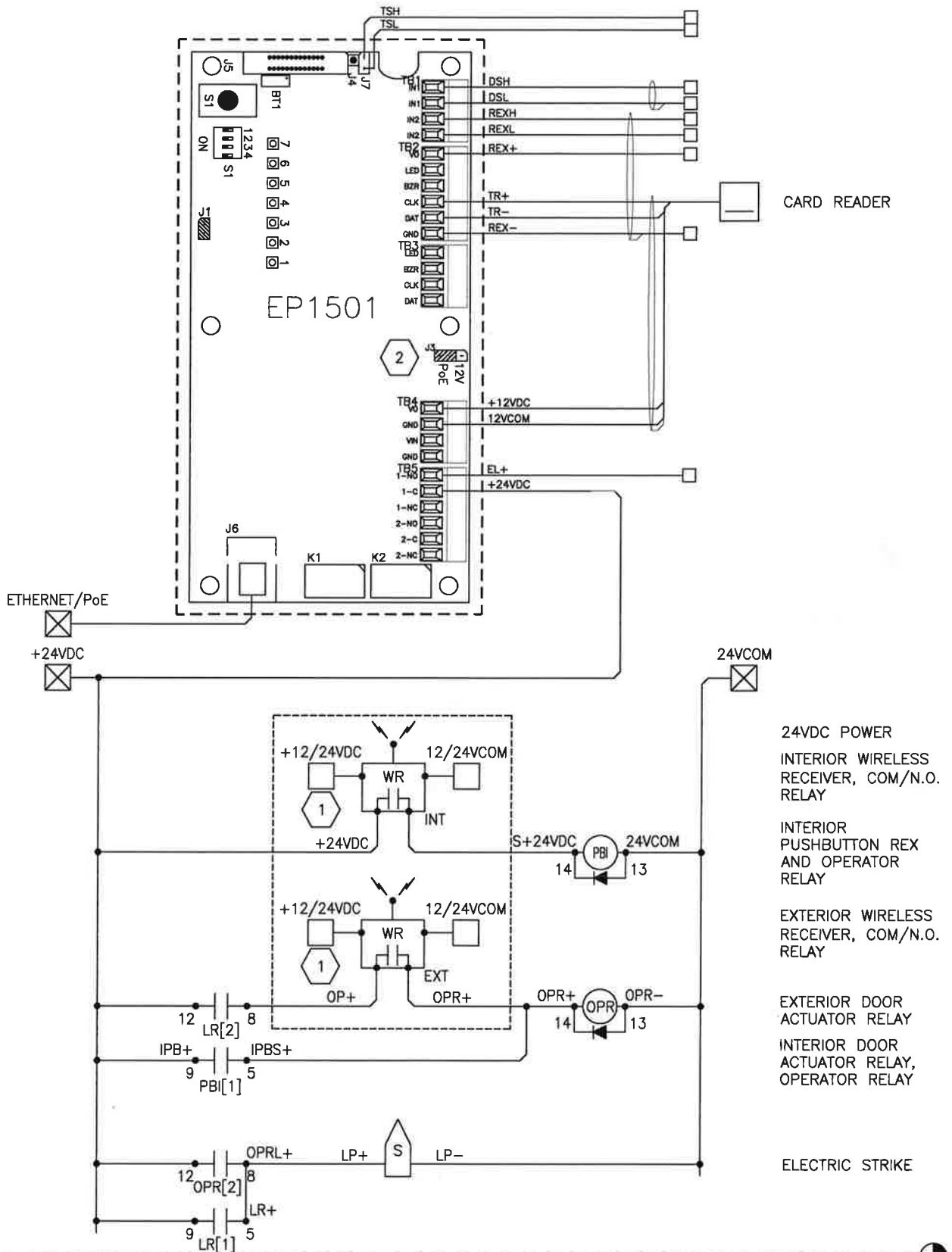


SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-4c

LADDER

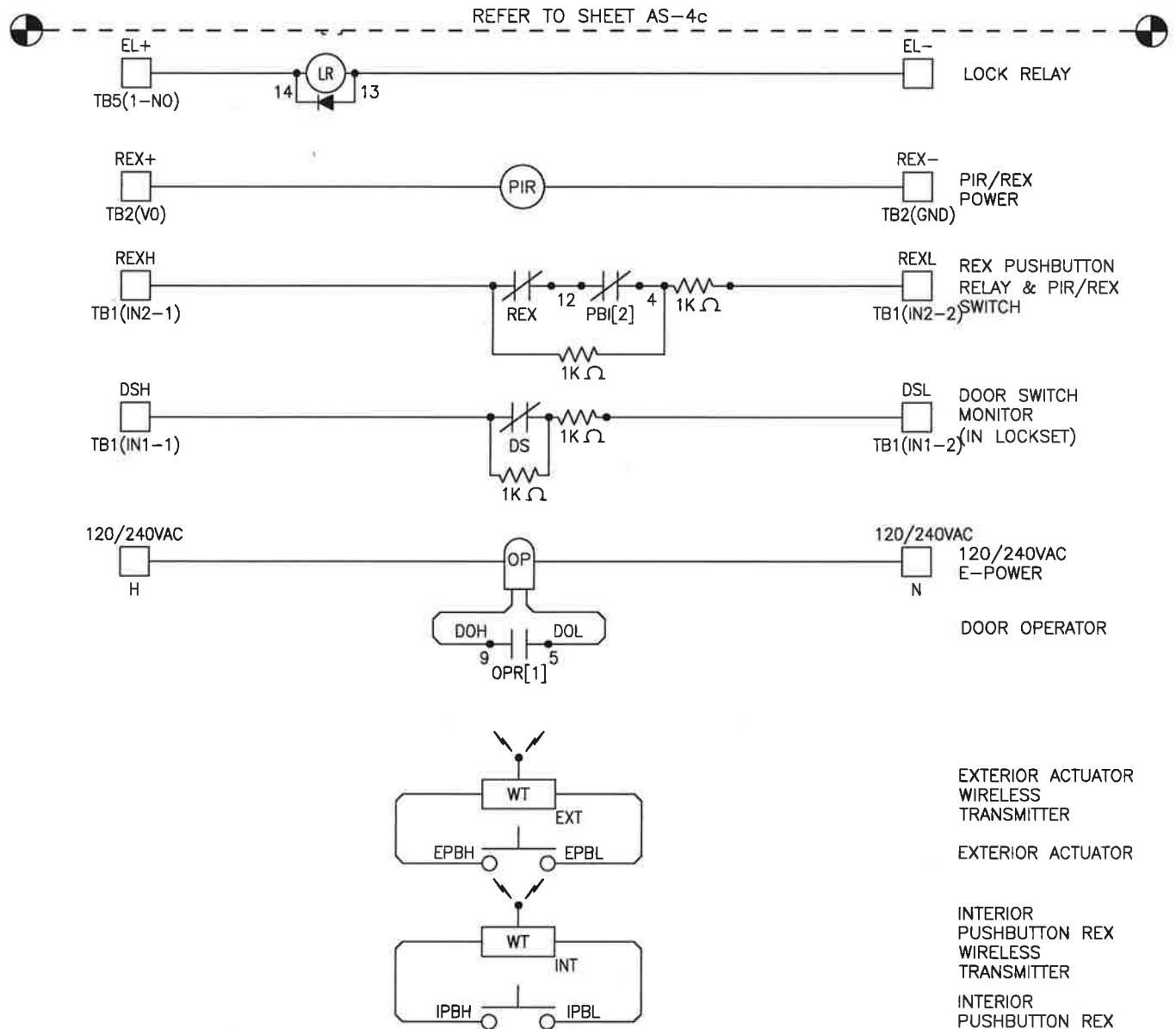
WIRELESS PUSHBUTTON OPTION



REFER TO SHEET AS-4d



WIRELESS PUSHBUTTON OPTION



LADDER NOTES

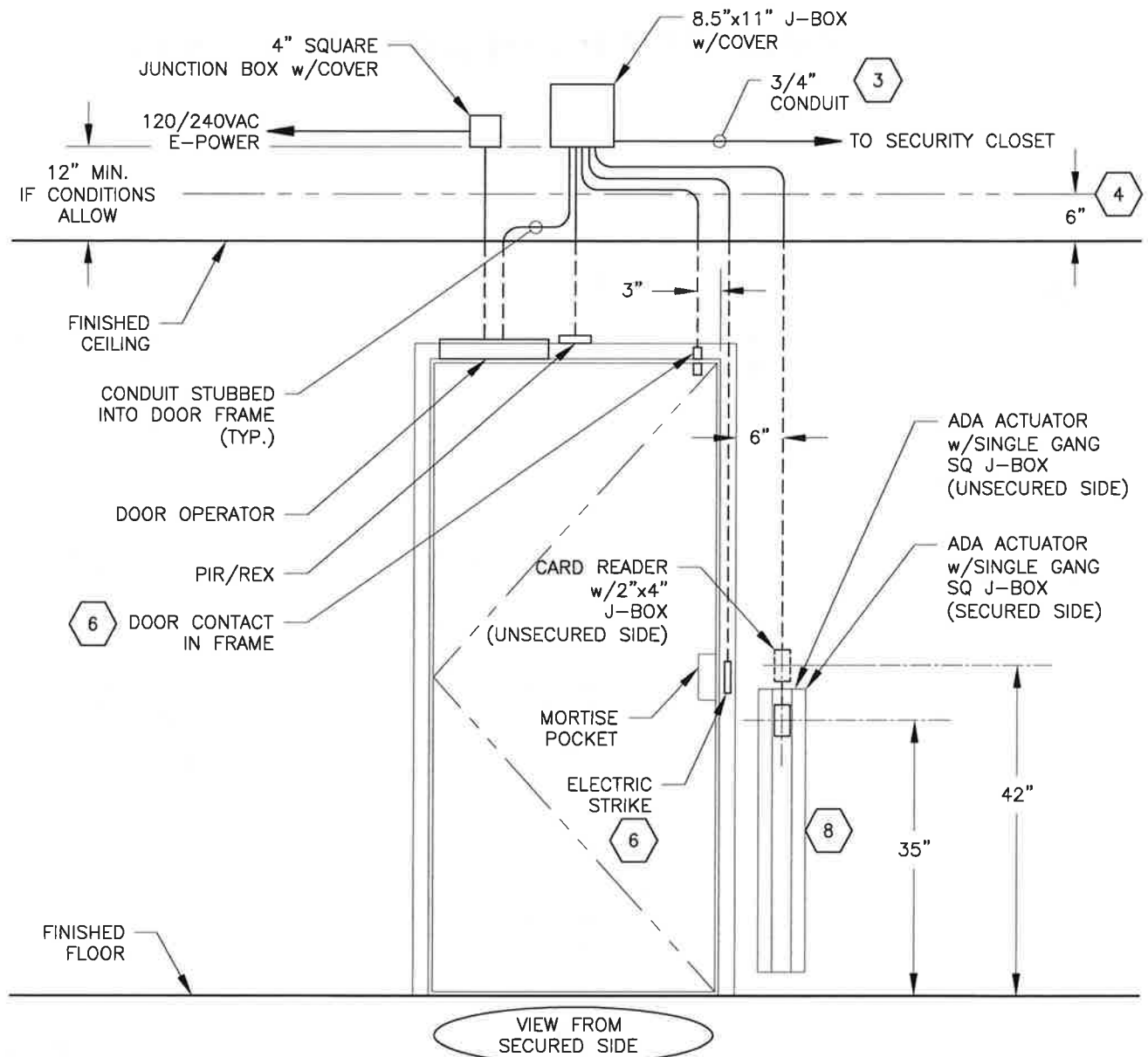
- 1 DOOR OPERATOR INSTALLER IS TO PROVIDE LOW VOLTAGE POWER TO THE WIRELESS RECEIVERS.
- 2 SET JUMPER J3 TO PoE FOR POWER INPUT.



SINGLE DOOR, CARD IN/FREE EXIT
ELECTRIC STRIKE, MANUAL PANIC, PIR/REX
ADA ACTUATOR, OPERATOR, FAIL SECURE

DETAIL AS-5

ELEVATION

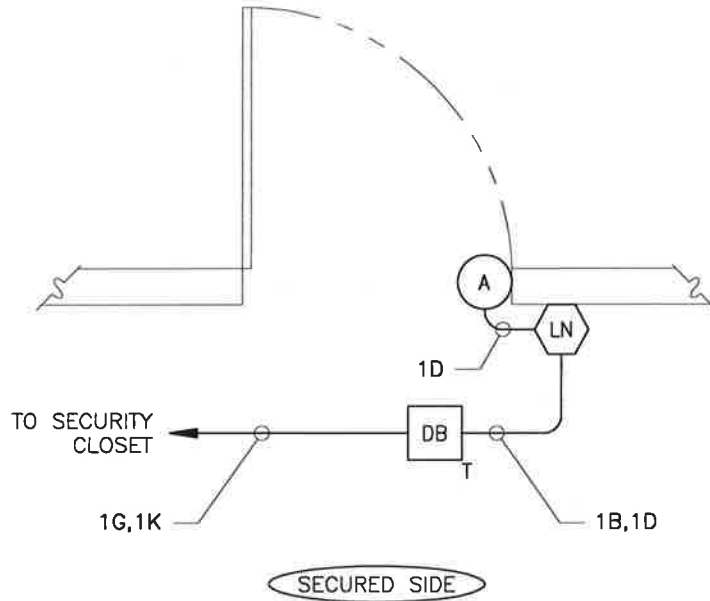


NOTES

1. THIS DRAWING IS FOR DIAGRAMMATIC PURPOSES ONLY. FOR ACTUAL HANDING AND SWING REFERENCE FLOOR PLANS.
2. DIMENSIONS SHOWN FOR COORDINATION ONLY. EXACT LOCATIONS AND MOUNTING HEIGHTS TO BE FIELD COORDINATED WITH OWNER AND ARCHITECT.
- 3 IF PLENUM INSTALLATION, CONDUIT IS NOT REQUIRED FOR THIS CABLE RUN.
- 4 IF PLENUM INSTALLATION, STUB CONDUIT, w/PULL STRING, 6" ABOVE FINISHED CEILING.
5. ALL CONDUIT IS 1/2" UNLESS OTHERWISE NOTED.
- 6 FOR GROUTED DOOR FRAMES, PROVIDE CONDUIT INTO SPECIAL STEEL BOX OR STYROFOAM BLOCK TO FACILITATE BOTH INSTALLATION AND SERVICE.
7. WHEN SJB IS NOT AVAILABLE FOR ROUGH-IN, REFERENCE STANDARD CRITERIA DRAWING, ROUGH-IN.
- 8 CONDUIT TO ADA ACTUATORS IS NOT REQUIRED WHEN WIRELESS ACTUATORS ARE USED.



SYMBOLS LIST	
	ALARM CONTACT
	JUNCTION BOX w/ DOOR BOARD, TAMPER
	LOCAL NOISE



OPERATION

IN THE NORMAL STATE, THE DOOR IS CLOSED, LOCKED ON THE UNSECURED SIDE AND UNLOCKED ON THE SECURED SIDE. IF THE DOOR IS OPENED, AN ALARM WILL BE GENERATED AND A LOCAL NOISE WILL SOUND. THE LOCAL NOISE WILL RESET WHEN THE DOOR IS CLOSED.

DIAGRAM NOTES

1. THIS DRAWING IS FOR DIAGRAMMATIC PURPOSES ONLY. FOR ACTUAL HANDING AND SWING, REFERENCE FLOOR PLANS.
2. DOOR CONTACT SUPPLIED THROUGH SECURITY CONTRACT.
3. DOOR HARDWARE SUPPLIED THROUGH THE ARCHITECT'S SPECIFICATIONS.
4. FOR RATED ASSEMBLIES, THE DOOR AND FRAME MUST BE FACTORY PREPARED FOR ALL ELECTRIC HARDWARE AND SECURITY DEVICES.



DOOR HARDWARE					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1	1	INTERLOGIX – DOOR CONTACT	1078	B	1,2
2					

SECURITY EQUIPMENT					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1	1	GENETEC – MERCURY, SINGLE READER DOOR BOARD	SY-EP1501	A	
2	1	LIFESAFETY POWER – 8.5”Hx11”Wx3”D ENCLOSURE, TAMPER SWITCH & KEYLOCK	E5M	A	3
3	AR	ESD – END OF LINE RESISTOR PACK	EOL-1K	C	
4	1	SYSTEM SENSOR – CHIME SOUNDER, WHITE, 12VDC	CHW	B	
5	1	SINGLE GANG BOX	–	D	
6	AR	PHOENIX – TERMINALS	UK-5	B	4
7	AR	PHOENIX – END CLAMP	E/NS 35 N	B	4
8	AR	PHOENIX – END COVER	D-UK 4/10	B	

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT LOADING	CR		REX		CAM		KPD		OUTPUT LOADING	LOCK		MON		KPD			
	DSM	1	AUX		P/I		A/M			AUX	1	P/I		A/M			

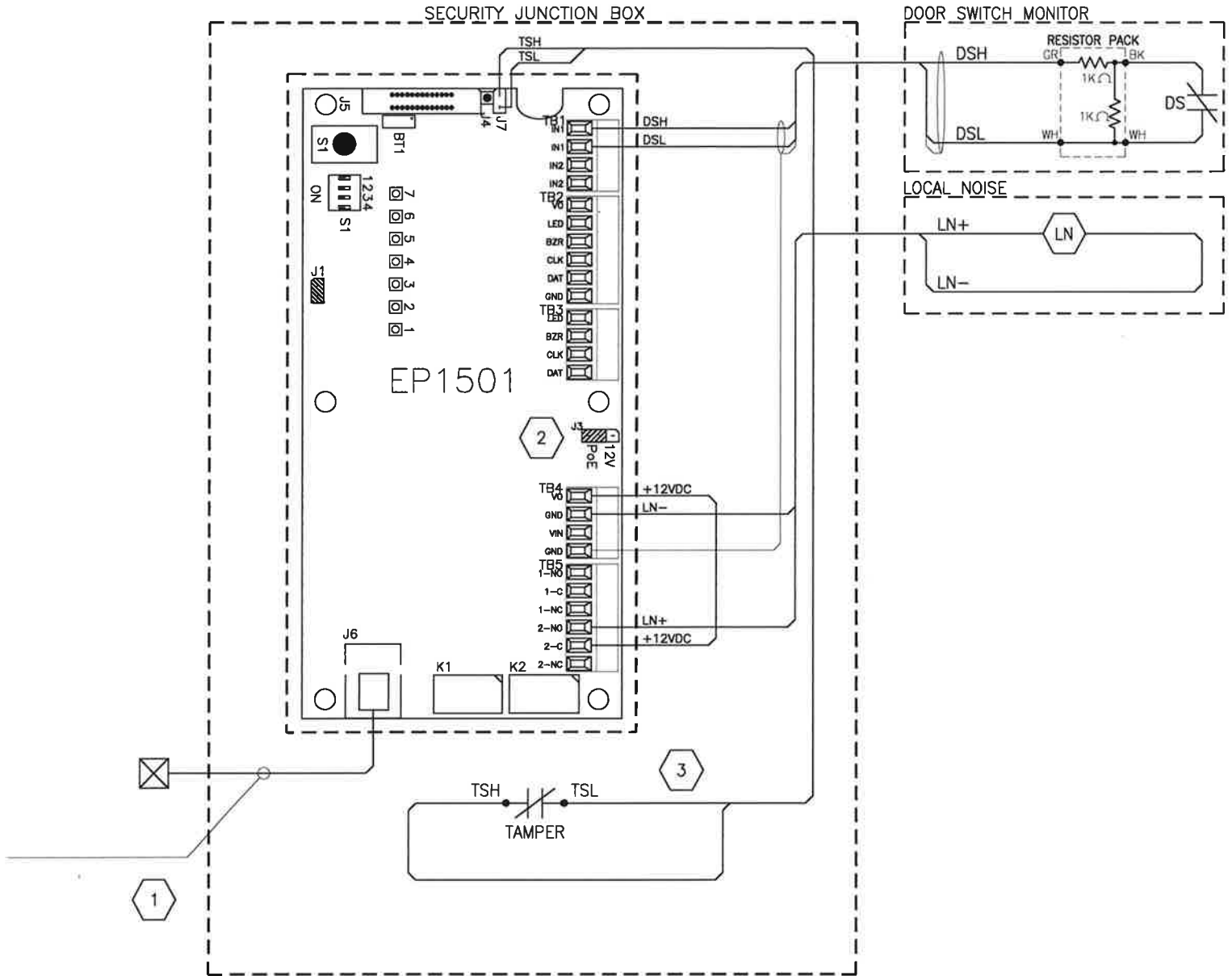
EQUIPMENT LIST NOTES	
1. DOOR CONTACT SUPPLIED THROUGH SECURITY CONTRACT.	
2. FOR RATED ASSEMBLIES, THE DOOR AND FRAME MUST BE FACTORY PREPARED FOR ALL ELECTRIC HARDWARE AND SECURITY DEVICES.	
3. KEY ALIKE ALL JUNCTION BOXES.	
4. PROVIDE ASSOCIATED STANDARD RAIL AND TERMINAL MARKINGS.	



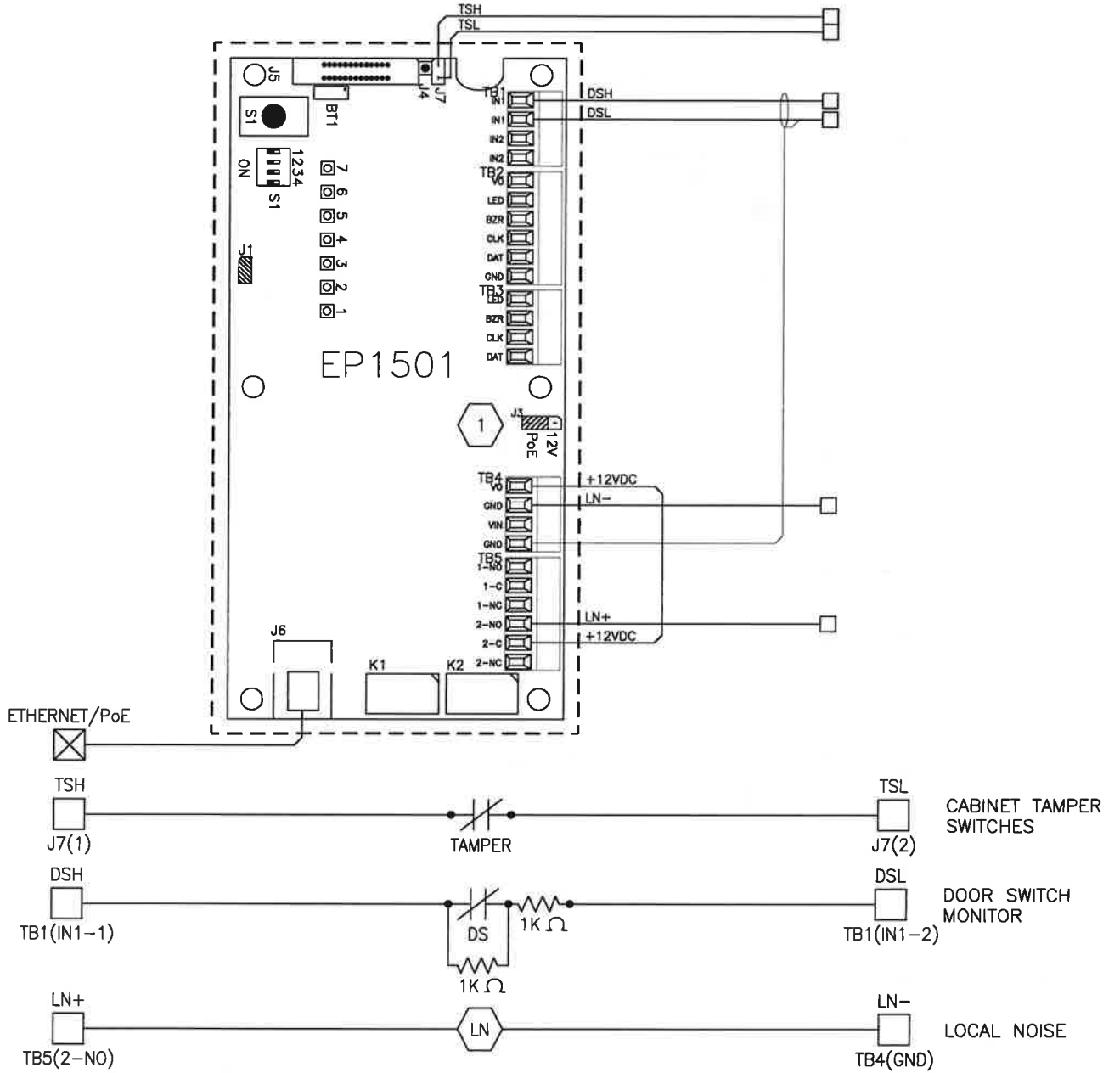
SINGLE DOOR, ALARMED
LOCAL NOISE

DETAIL GA-3 POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:		

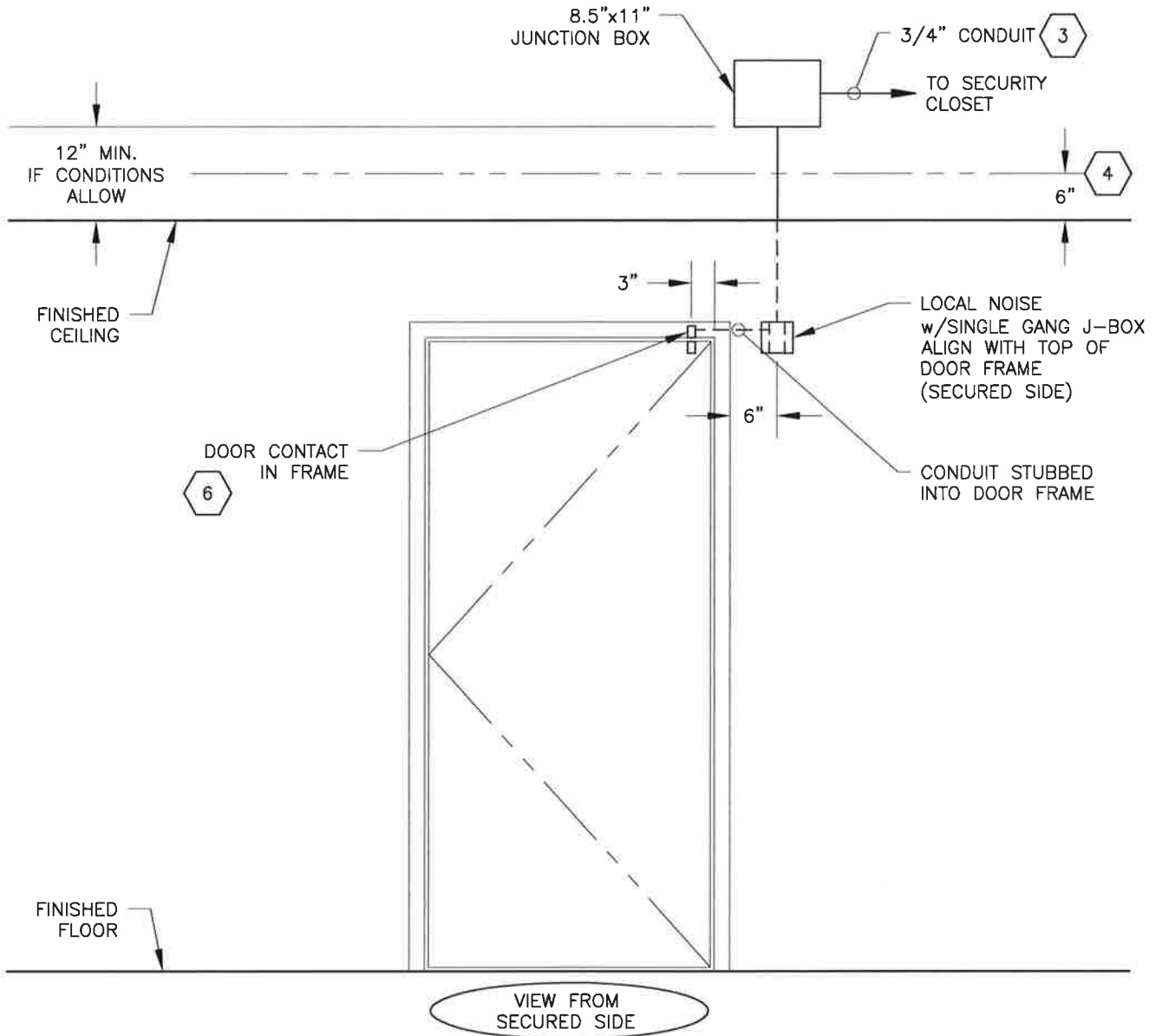


POINT-TO-POINT NOTES	
1	TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, SECURITY WIRE FORMAT.
2	SET JUMPER J3 TO PoE FOR POWER INPUT.
3	TWIST DRAIN WIRES TOGETHER AND CONNECT TO GROUND TERMINAL, COMMON GROUND.



LADDER NOTES

1 SET JUMPER J3 TO PoE FOR POWER INPUT.



NOTES

1. THIS DRAWING IS FOR DIAGRAMMATIC PURPOSES ONLY. FOR ACTUAL HANDING AND SWING, REFERENCE FLOOR PLANS.
2. DIMENSIONS SHOWN FOR COORDINATION ONLY. EXACT LOCATIONS AND MOUNTING HEIGHTS TO BE FIELD COORDINATED WITH OWNER AND ARCHITECT.

3 IF PLENUM INSTALLATION, CONDUIT IS NOT REQUIRED FOR THIS CABLE RUN.

4 IF PLENUM INSTALLATION, STUB CONDUIT, w/PULL STRING, 6" ABOVE FINISHED CEILING.

5. ALL CONDUIT IS 1/2" UNLESS OTHERWISE NOTED.

6 FOR GROUTED DOOR FRAMES, PROVIDE CONDUIT INTO SPECIAL STEEL BOX OR STYROFOAM BLOCK TO FACILITATE BOTH INSTALLATION AND SERVICE.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
2 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KB-1

DIAGRAM

SYMBOLS LIST	
	INTERIOR/EXTERIOR IP/PoE CAMERA, D/N FIXED, DOME, IP66
	JUNCTION BOX

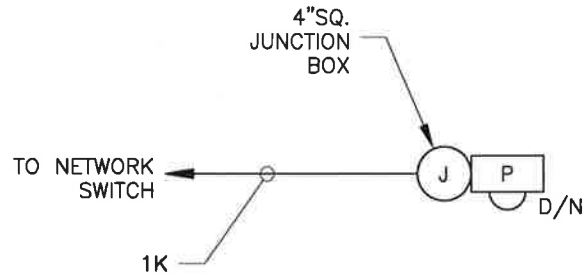


DIAGRAM NOTES

1. ETHERNET CABLE IS TO BE SPLICE FREE FROM THE CAMERA TO THE NETWORK SWITCH.
2. MOUNT JUNCTION BOX w/KEYSTONE JACK WITHIN 10' OF CAMERA MOUNT LOCATION. IF KEYSTONE JACK IS NOT PROVIDED, TERMINATE CABLE DIRECTLY TO THE CAMERA.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 2 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KB-2 EQUIPMENT LIST

SECURITY EQUIPMENT						
	#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
SSU	1	1	SAMSUNG - IP/PoE CAMERA, DAY/NIGHT, FIXED, 2 MEGAPIXEL, 3-8.5(2.8x) MOTORIZED VARI-FOCAL LENS, IR ILLUMINATOR, H.264, 60 FPS @ MAX RESOLUTION, IP66, DOME	SNV-6084R	B	1
	2	AR	L-COM - SURFACE MOUNT BOX FOR 1 KEYSTONE JACK	SMB01K-WT	B	3
	3	AR	L-COM - CAT-6 KEYSTONE JACK, BLACK	MJS110C6-BLK	B	3
	4	AR	CAT-6 PATCH CABLE, SNAGLESS CONNECTORS	-	B	2
	5	AR	4" SQ. JUNCTION BOX	-	C	3
SWC	6	AR	SAMSUNG - WEATHER CAP	SBV-160WC	B	
SFM	7	AR	SAMSUNG - IN-CEILING FLUSH MOUNT ADAPTER	SHD-300F1	B	1
SP	8	AR	SAMSUNG - PENDANT CAP	SBP-300HM6	B	1
SWM	9	AR	SAMSUNG - WALL MOUNT BRACKET	SBP-300WM1	B	1
SPP	10	AR	SAMSUNG - PARAPET MOUNT ADAPTER	SBP-300LM	B	1,3
	11	AR	L-COM - CAT6, IEEE 802.11af/at LIGHTNING AND SURGE PROTECTOR FOR PoE	ALS-CAT6HPW	B	3
SPD	12	AR	SAMSUNG - PENDANT MOUNT ADAPTER	SBP-300CM	B	1
SCM	13	AR	SAMSUNG - CORNER MOUNT ADAPTER	SBP-300KM	B	1
SPM	14	AR	SAMSUNG - POLE MOUNT ADAPTER	SBP-300PM	B	1

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT	CR	REX	CAM	1	KPD	OUTPUT	LOCK	MON	KPD			
LOADING	DSM	AUX	P/I		A/M	LOADING	AUX	P/I	A/M			

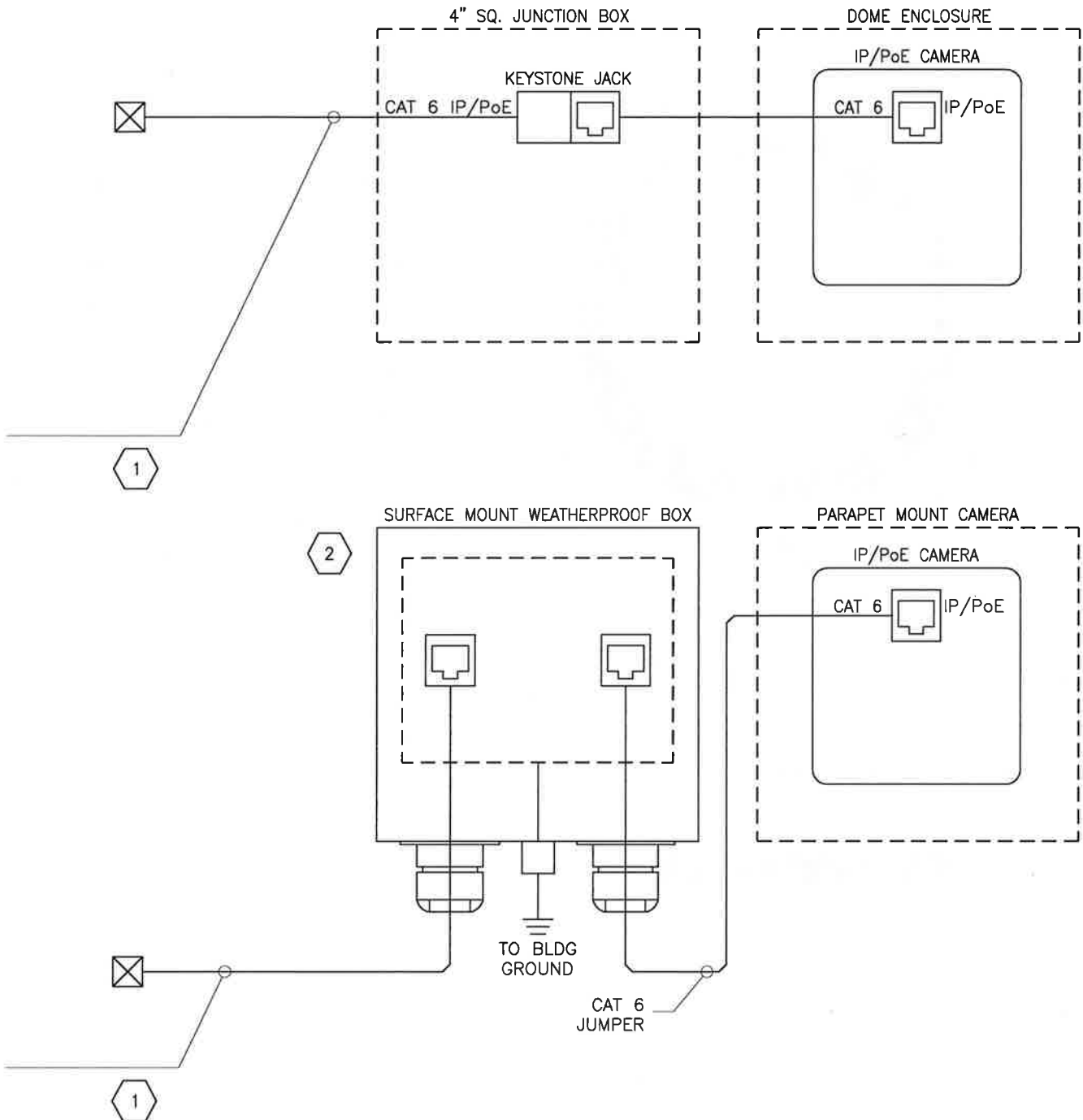
EQUIPMENT LIST NOTES	
1.	SSU - CAMERA AND HOUSING KIT, SURFACE MOUNT SWC - CAMERA WEATHER CAP (ADD SSU) SFM - IN-CEILING FLUSH MOUNT ADAPTER (ADD SSU) SWM - WALL MOUNT BRACKET (ADD SP AND SSU) SPP - PARAPET MOUNT ADAPTER (ADD SP AND SSU) SPD - PENDANT MOUNT ADAPTER (ADD SP AND SSU) SCM - CORNER MOUNT ADAPTER (ADD SP SGW AND SSU) SPM - POLE MOUNT ADAPTER (ADD SP, SGW AND SSU), METAL STRAPPING REQUIRED TO MOUNT ADAPTER TO POLE
2.	PATCH CABLE LENGTH TO BE DETERMINED IN FIELD BASED ON MOUNTING REQUIREMENTS.
3.	USE PoE LIGHTNING PROTECTION WITH PARAPET MOUNT, OMIT LINE ITEMS 3,4, AND 6 WHEN PARAPET MOUNT IS REQUIRED.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 2 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KB-3
POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:		

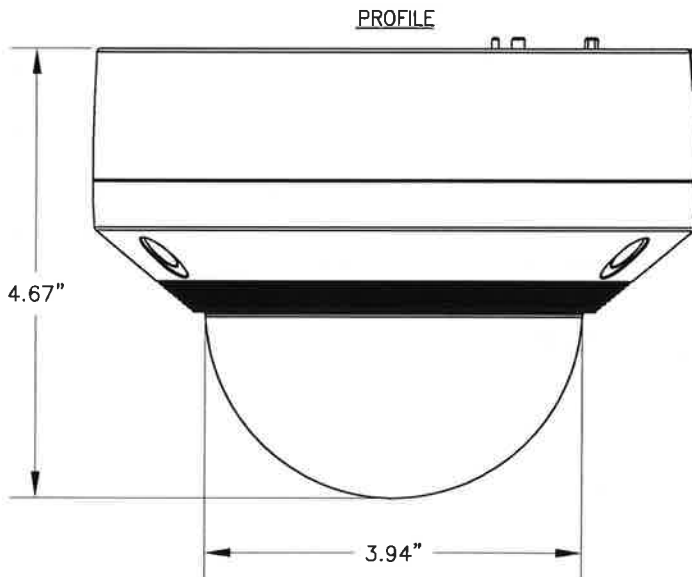
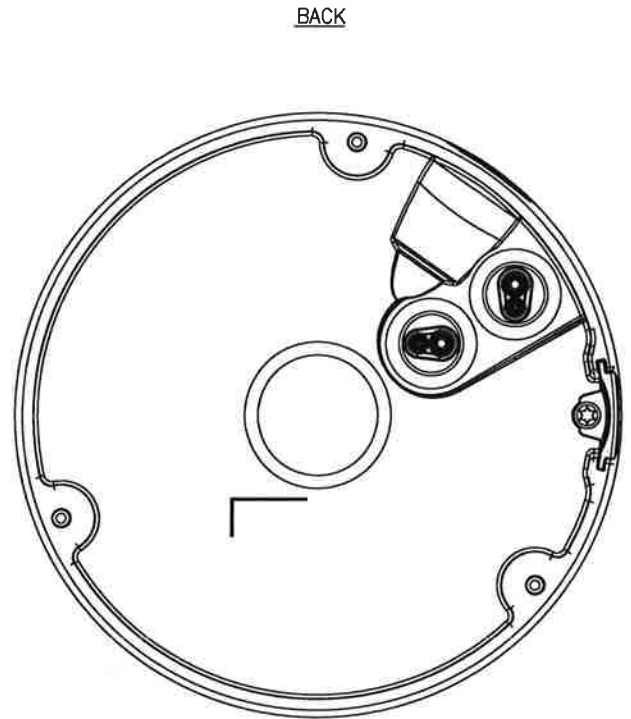
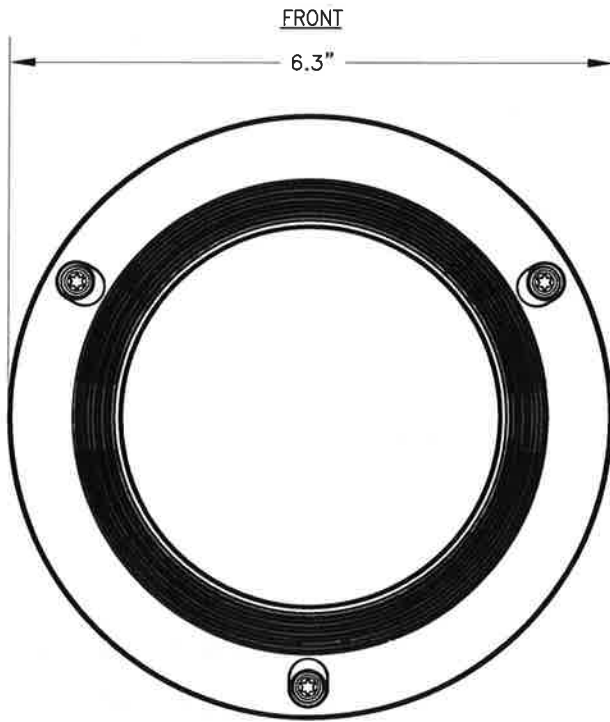


POINT-TO-POINT NOTES	
1	TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, WIRE MARKING FORMAT.
2	ALTERNATE WIRING FOR PARAPET MOUNT CAMERA WITH LIGHTNING AND SURGE PROTECTION.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
2 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KB-5 ELEVATION





INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
2 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KB-6

LITERATURE

	S <u>A</u> M <u>S</u> U <u>N</u> G		S <u>A</u> M <u>S</u> U <u>N</u> G
F <u>L</u> U <u>S</u> H M <u>O</u> U <u>N</u> T		P <u>E</u> N <u>D</u> A <u>N</u> T	
W <u>A</u> L <u>L</u> M <u>O</u> U <u>N</u> T		P <u>A</u> R <u>A</u> P <u>E</u> T_ <u>P</u>	
P <u>E</u> N <u>D</u> A <u>N</u> T M <u>O</u> U <u>N</u> T		C <u>O</u> R <u>N</u> E <u>R</u> M <u>O</u> U <u>N</u> T	
P <u>O</u> L <u>E</u> M <u>O</u> U <u>N</u> T		W <u>E</u> A <u>T</u> H <u>E</u> R C <u>A</u> P	



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
3 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KC-1

DIAGRAM

SYMBOLS LIST	
	INTERIOR/EXTERIOR IP/PoE CAMERA, D/N FIXED, DOME, IP66
	JUNCTION BOX

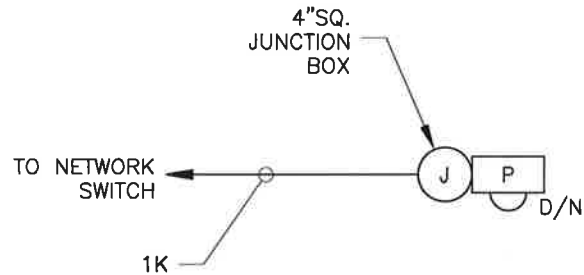


DIAGRAM NOTES

1. ETHERNET CABLE IS TO BE SPLICE FREE FROM THE CAMERA TO THE NETWORK SWITCH.
2. MOUNT JUNCTION BOX w/KEYSTONE JACK WITHIN 10' OF CAMERA MOUNT LOCATION. IF KEYSTONE JACK IS NOT PROVIDED, TERMINATE CABLE DIRECTLY TO THE CAMERA.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 3 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KC-2 EQUIPMENT LIST

SECURITY EQUIPMENT						
	#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
SSU	1	1	SAMSUNG - IP/PoE CAMERA, DAY/NIGHT, FIXED, 3 MEGAPIXEL, 3-8.5(2.8x) MOTORIZED VARI-FOCAL LENS, IR ILLUMINATOR, H.264, 30 FPS @ MAX RESOLUTION, IP66, DOME	SNV-7084R	B	1
	2	AR	L-COM - SURFACE MOUNT BOX FOR 1 KEYSTONE JACK	SMB01K-WT	B	3
	3	AR	L-COM - CAT-6 KEYSTONE JACK, BLACK	MJS110C6-BLK	B	3
	4	AR	CAT-6 PATCH CABLE, SNAGLESS CONNECTORS	-	B	2
	5	AR	4" SQ. JUNCTION BOX	-	C	3
SWC	6	AR	SAMSUNG - WEATHER CAP	SBV-160WC	B	
SFM	7	AR	SAMSUNG - IN-CEILING FLUSH MOUNT ADAPTER	SHD-3000F1	B	1
SP	8	AR	SAMSUNG - PENDANT CAP	SBP-300HM6	B	1
SWM	9	AR	SAMSUNG - WALL MOUNT BRACKET	SBP-300WM1	B	1
SPP	10	AR	SAMSUNG - PARAPET MOUNT ADAPTER	SBP-300LM	B	1,3
	11	AR	L-COM - CAT6, IEEE 802.11af/at LIGHTNING AND SURGE PROTECTOR FOR PoE	ALS-CAT6HPW	B	3
SPD	12	AR	SAMSUNG - PENDANT MOUNT ADAPTER	SBP-300CM	B	1
SCM	13	AR	SAMSUNG - CORNER MOUNT ADAPTER	SBP-300KM	B	1
SPM	14	AR	SAMSUNG - POLE MOUNT ADAPTER	SBP-300PM	B	1

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT LOADING	CR	REX	CAM	1	KPD	OUTPUT LOADING	LOCK	MON	KPD			
	DSM	AUX	P/I		A/M		AUX	P/I	A/M			

EQUIPMENT LIST NOTES	
1.	SSU - CAMERA AND HOUSING KIT, SURFACE MOUNT SWC - CAMERA WEATHER CAP (ADD SSU) SFM - IN-CEILING FLUSH MOUNT ADAPTER (ADD SSU) SWM - WALL MOUNT BRACKET (ADD SP AND SSU) SPP - PARAPET MOUNT ADAPTER (ADD SP AND SSU) SPD - PENDANT MOUNT ADAPTER (ADD SP AND SSU) SCM - CORNER MOUNT ADAPTER (ADD SP SGW AND SSU) SPM - POLE MOUNT ADAPTER (ADD SP, SGW AND SSU), METAL STRAPPING REQUIRED TO MOUNT ADAPTER TO POLE
2.	PATCH CABLE LENGTH TO BE DETERMINED IN FIELD BASED ON MOUNTING REQUIREMENTS.
3.	USE PoE LIGHTNING PROTECTION WITH PARAPET MOUNT, OMIT LINE ITEMS 3,4, AND 6 WHEN PARAPET MOUNT IS REQUIRED.

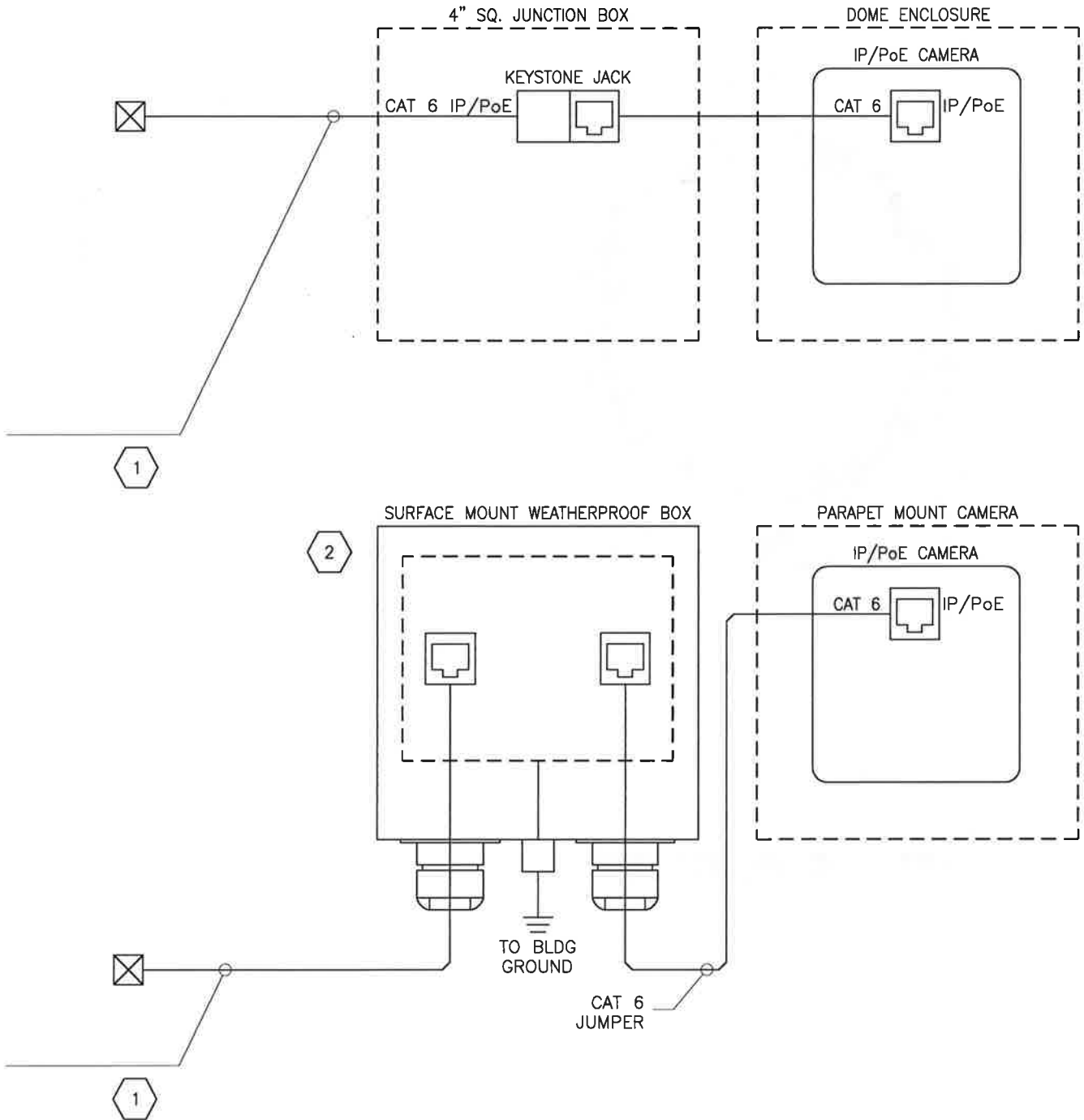


INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 3 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KC-3

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:		

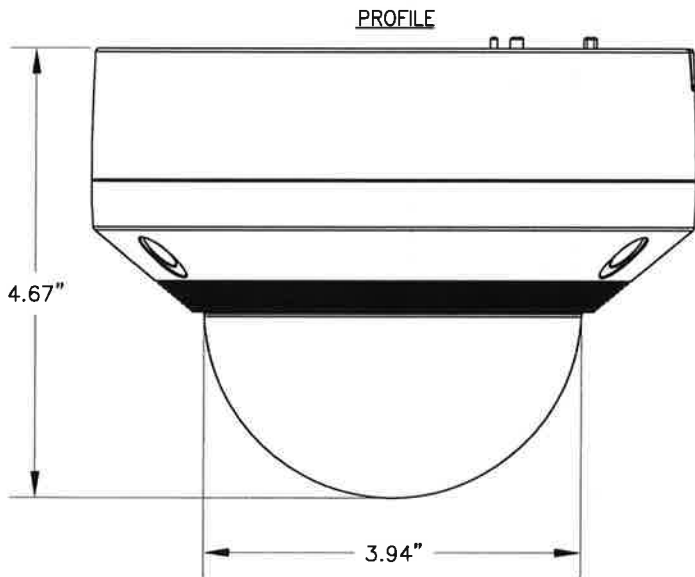
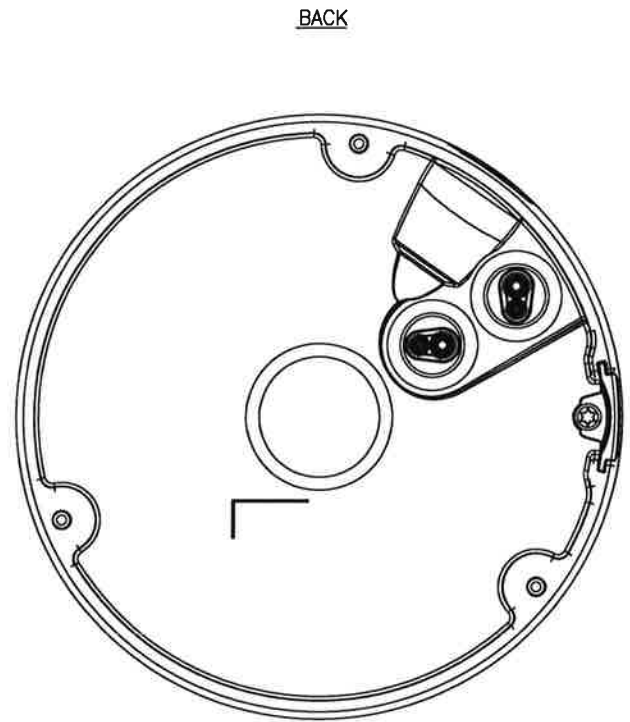
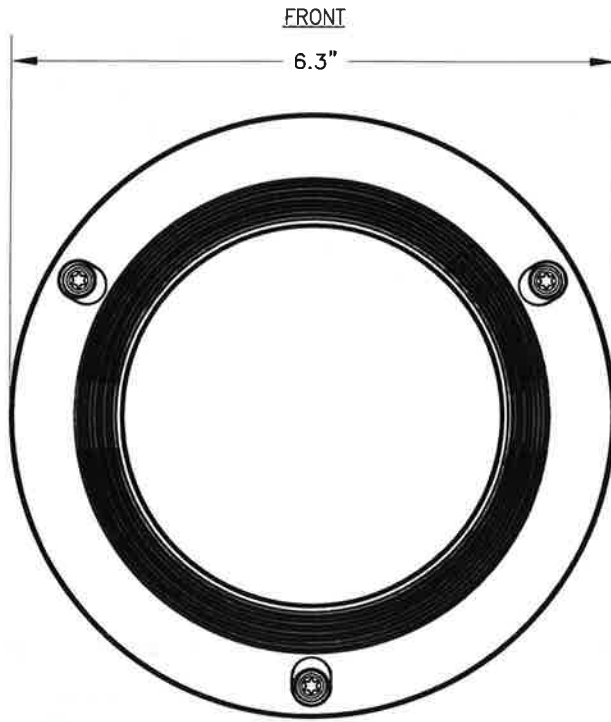


POINT-TO-POINT NOTES	
1	TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, WIRE MARKING FORMAT.
2	ALTERNATE WIRING FOR PARAPET MOUNT CAMERA WITH LIGHTNING AND SURGE PROTECTION.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
3 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KC-5 ELEVATION





INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
3 MEGAPIXEL, 3-8.5mm (2.8x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KC-6

LITERATURE

	S <u>A</u> M <u>S</u> U <u>N</u> G		S <u>A</u> M <u>S</u> U <u>N</u> G
F <u>L</u> U <u>S</u> H M <u>O</u> U <u>N</u> T		P <u>E</u> N <u>D</u> A <u>N</u> T	
W <u>A</u> L <u>L</u> M <u>O</u> U <u>N</u> T		P <u>A</u> R <u>A</u> P <u>E</u> T_ <u>P</u>	
P <u>E</u> N <u>D</u> A <u>N</u> T M <u>O</u> U <u>N</u> T		C <u>O</u> R <u>N</u> E <u>R</u> M <u>O</u> U <u>N</u> T	
P <u>O</u> L <u>E</u> M <u>O</u> U <u>N</u> T		W <u>E</u> A <u>T</u> H <u>E</u> R C <u>A</u> P	



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
5 MEGAPIXEL, 3.93-9.4mm (2.4x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KD-1 DIAGRAM

SYMBOLS LIST	
	INTERIOR/EXTERIOR IP/PoE CAMERA, D/N FIXED, DOME, IP66
	JUNCTION BOX

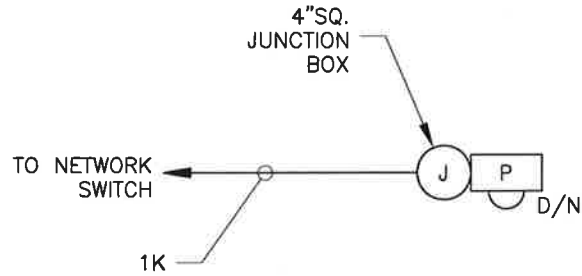


DIAGRAM NOTES

1. ETHERNET CABLE IS TO BE SPLICE FREE FROM THE CAMERA TO THE NETWORK SWITCH.
2. MOUNT JUNCTION BOX w/KEYSTONE JACK WITHIN 10' OF CAMERA MOUNT LOCATION. IF KEYSTONE JACK IS NOT PROVIDED, TERMINATE CABLE DIRECTLY TO THE CAMERA.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 5 MEGAPIXEL, 3.93-9.4mm (2.4x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KD-2 EQUIPMENT LIST

SECURITY EQUIPMENT						
	#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
SSU	1	1	SAMSUNG - IP/PoE CAMERA, DAY/NIGHT, FIXED, 5 MEGAPIXEL, 3.93-9.4mm(2.8x) MOTORIZED VARI-FOCAL LENS, IR ILLUMINATOR, H.264, 30 FPS @ MAX RESOLUTION, IP66, DOME	SNV-8081R	B	1
	2	AR	L-COM - SURFACE MOUNT BOX FOR 1 KEYSTONE JACK	SMB01K-WT	B	3
	3	AR	L-COM - CAT-6 KEYSTONE JACK, BLACK	MJS110C6-BLK	B	3
	4	AR	CAT-6 PATCH CABLE, SNAGLESS CONNECTORS	-	B	2
	5	AR	4" SQ. JUNCTION BOX	-	C	3
SWC	6	AR	SAMSUNG - WEATHER CAP	SBV-160WC	B	
SFM	7	AR	SAMSUNG - IN-CEILING FLUSH MOUNT ADAPTER	SHD-300F1	B	1
SP	8	AR	SAMSUNG - PENDANT CAP	SBP-300HM6	B	1
SWM	9	AR	SAMSUNG - WALL MOUNT BRACKET	SBP-300WM1	B	1
SPP	10	AR	SAMSUNG - PARAPET MOUNT ADAPTER	SBP-300LM	B	1,3
	11	AR	L-COM - CAT6, IEEE 802.11af/at LIGHTNING AND SURGE PROTECTOR FOR PoE	ALS-CAT6HPW	B	3
SPD	12	AR	SAMSUNG - PENDANT MOUNT ADAPTER	SBP-300CM	B	1
SCM	13	AR	SAMSUNG - CORNER MOUNT ADAPTER	SBP-300KM	B	1
SPM	14	AR	SAMSUNG - POLE MOUNT ADAPTER	SBP-300PM	B	1

CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT LOADING	CR	REX	CAM	1	KPD	OUTPUT LOADING	LOCK	MON	KPD			
	DSM	AUX	P/I		A/M		AUX	P/I	A/M			

EQUIPMENT LIST NOTES	
1.	SSU - CAMERA AND HOUSING KIT, SURFACE MOUNT SWC - CAMERA WEATHER CAP (ADD SSU) SFM - IN-CEILING FLUSH MOUNT ADAPTER (ADD SSU) SWM - WALL MOUNT BRACKET (ADD SP AND SSU) SPP - PARAPET MOUNT ADAPTER (ADD SP AND SSU) SPD - PENDANT MOUNT ADAPTER (ADD SP AND SSU) SCM - CORNER MOUNT ADAPTER (ADD SP SGW AND SSU) SPM - POLE MOUNT ADAPTER (ADD SP, SGW AND SSU), METAL STRAPPING REQUIRED TO MOUNT ADAPTER TO POLE
2.	PATCH CABLE LENGTH TO BE DETERMINED IN FIELD BASED ON MOUNTING REQUIREMENTS.
3.	USE PoE LIGHTNING PROTECTION WITH PARAPET MOUNT, OMIT LINE ITEMS 3,4, AND 6 WHEN PARAPET MOUNT IS REQUIRED.

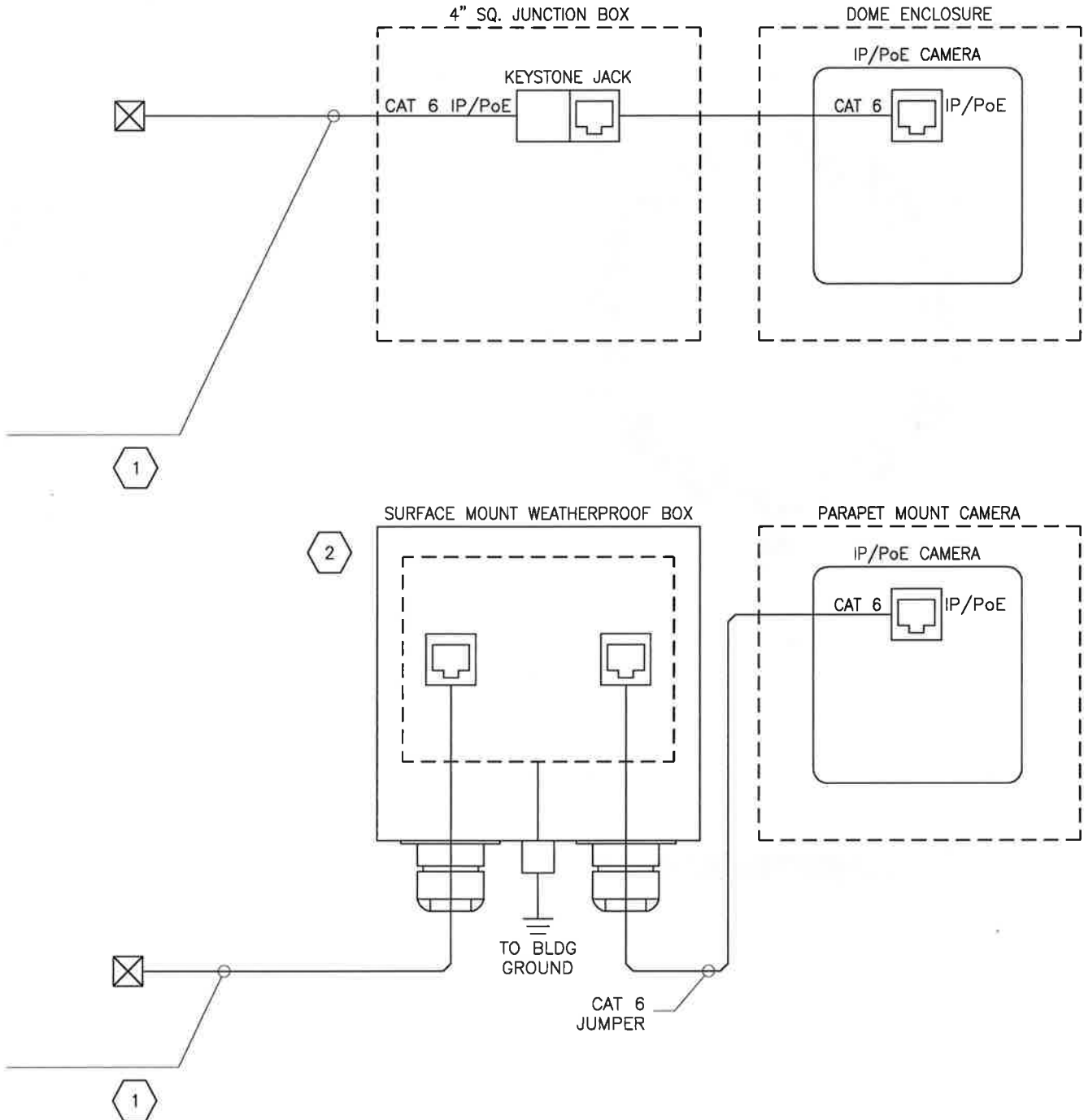


INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
 5 MEGAPIXEL, 3.93-9.4mm (2.4x) MOTORIZED
 VARI-FOCAL LENS, IR ILLUMINATOR
 IP66 VANDAL RESISTANT DOME

DETAIL KD-3

POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:		

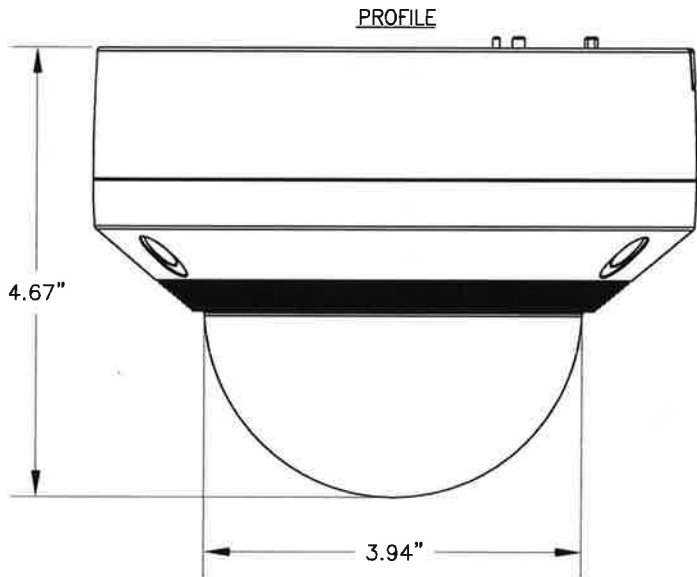
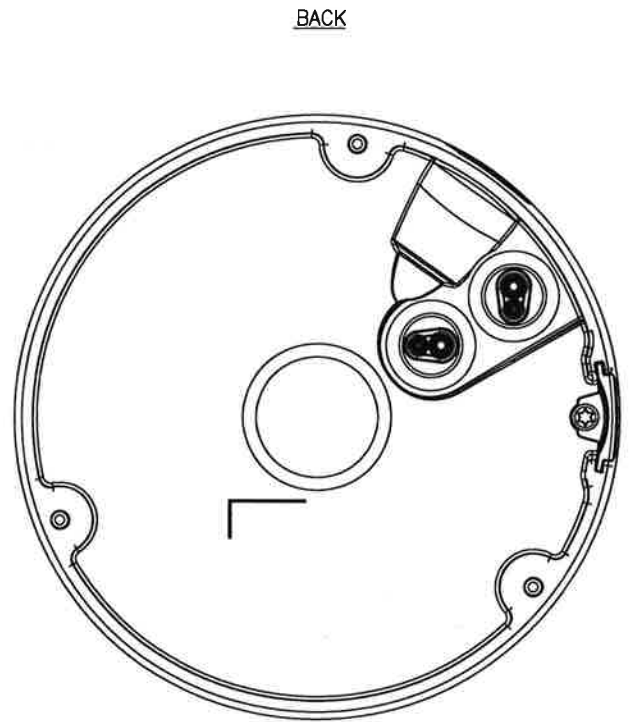
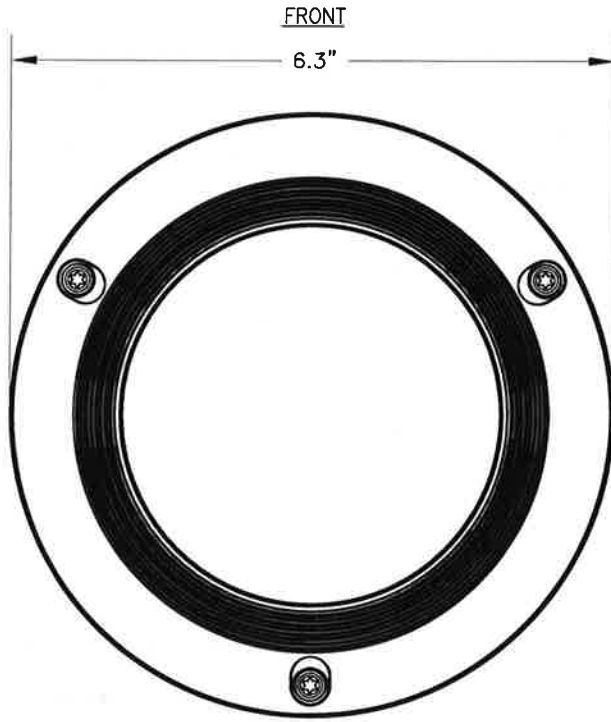


POINT-TO-POINT NOTES	
1	TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, WIRE MARKING FORMAT.
2	ALTERNATE WIRING FOR PARAPET MOUNT CAMERA WITH LIGHTNING AND SURGE PROTECTION.



INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
5 MEGAPIXEL, 3.93-9.4mm (2.4x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

DETAIL KD-5 ELEVATION





INTERIOR/EXTERIOR, IP/PoE CAMERA, DAY/NIGHT, FIXED
5 MEGAPIXEL, 3.93-9.4mm (2.4x) MOTORIZED
VARI-FOCAL LENS, IR ILLUMINATOR
IP66 VANDAL RESISTANT DOME

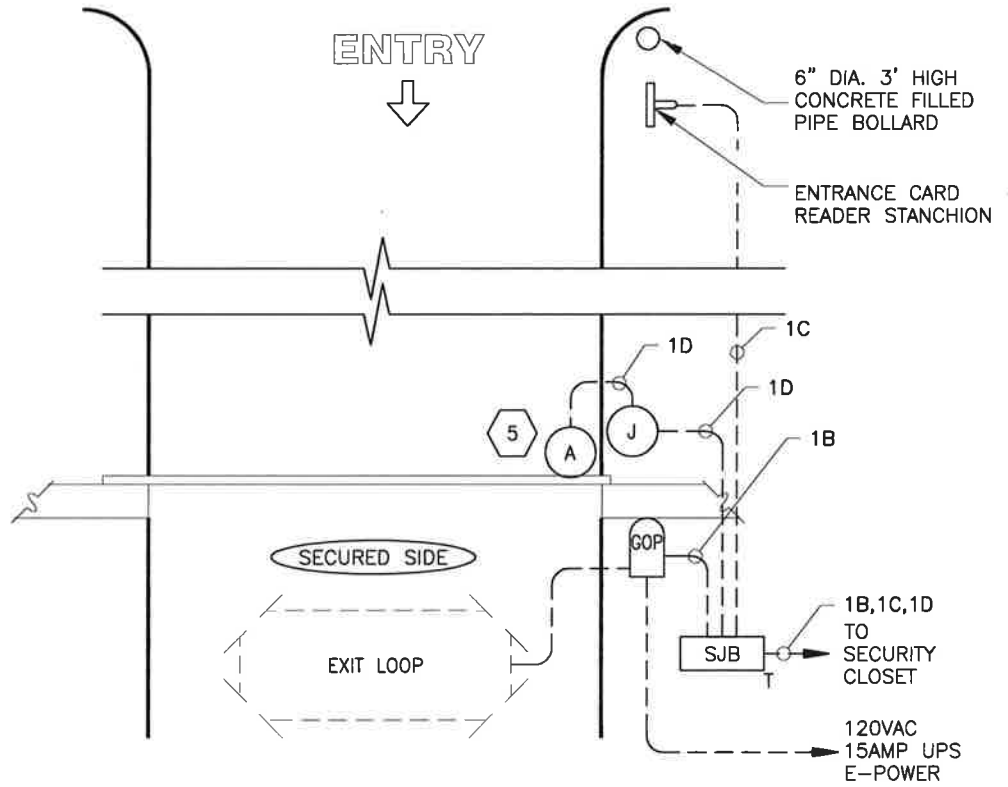
DETAIL KD-6

LITERATURE

	S <u>A</u> M <u>S</u> U <u>N</u> G		S <u>A</u> M <u>S</u> U <u>N</u> G
F <u>L</u> U <u>S</u> H M <u>O</u> U <u>N</u> T		P <u>E</u> N <u>D</u> A <u>N</u> T	
W <u>A</u> L <u>L</u> M <u>O</u> U <u>N</u> T		P <u>A</u> R <u>A</u> P <u>E</u> T_ <u>P</u>	
P <u>E</u> N <u>D</u> A <u>N</u> T M <u>O</u> U <u>N</u> T		C <u>O</u> R <u>N</u> E <u>R</u> M <u>O</u> U <u>N</u> T	
P <u>O</u> L <u>E</u> M <u>O</u> U <u>N</u> T		W <u>E</u> A <u>T</u> H <u>E</u> R C <u>A</u> P	



SYMBOLS LIST	
(A)	ALARM CONTACT
(J)	JUNCTION BOX w/COVER
(O)	ROLL-UP GATE DOOR OPERATOR
(SjB)	SECURITY JUNCTION BOX w/DOOR BOARD, TAMPER



OPERATION

NORMAL ENTRY IS BY ACCESS CARD. A VALID CARD READ RAISES THE ROLL-UP GATE. WHEN A VEHICLE PASSES THE SAFETY BEAMS, THE ROLL-UP GATE WILL CLOSE.
 NORMAL EXIT IS BY A VEHICLE PASSING OVER THE EXIT LOOP WHICH WILL RAISE THE ROLL-UP GATE, WHEN THE VEHICLE PASSES THE SAFETY BEAMS, THE ROLL-UP GATE WILL CLOSE.

- DIAGRAM NOTES**
- THIS DRAWING IS FOR DIAGRAMMATIC PURPOSES ONLY. FOR ACTUAL HANDING AND SWING, REFERENCE FLOOR PLANS.
 - IF USING OTHER MANUFACTURER, SUBMIT DOCUMENTATION TO SHOW FUNCTIONAL AND OPERATIONAL EQUIVALENCY.
 - HARDWARE SUPPLIED THROUGH THE ARCHITECT'S SPECIFICATIONS.
 - DOOR CONTACT SUPPLIED THROUGH SECURITY CONTRACT.
 - (5) SELECT ONLY ONE CONTACT DEPENDING ON FIELD CONDITIONS.



EQUIPMENT LIST					
#	QTY	DESCRIPTION	MODEL NUMBER	CODE	NOTES
1	1	CARD READER – SEE DETAIL 00.80.001 FOR CARD READER	–	A	
	1	GENETEC – MERCURY, SINGLE READER DOOR BOARD	SY-EP1501	A	
2	1	HOFFMAN – 10"x10"x6" JUNCTION BOX	A10N106	B	
3	1	HOFFMAN – INNER PANEL 8.25"x8.25", PERFORATED	A10N10PP	B	
4	1	HOFFMAN – LOCK KIT	AL12AR	B	
5	1	PEDESTAL PRO – 42" ANGLED PEDESTAL	42-3-12	B	
6	1	PEDESTAL PRO – HOUSING, 10"x8", w/LOCK	LANDO-CS-10x8-E	B	
7	1	OPERATOR	–	6	
8	AR	IDEC – RELAY, DPDT, 24VDC	RH2B-U-24VDC	2	
9	AR	IDEC – SOCKET	SH2B	2	
10	AR	ESD – END OF LINE RESISTOR PACK	EOL-1K	B	1

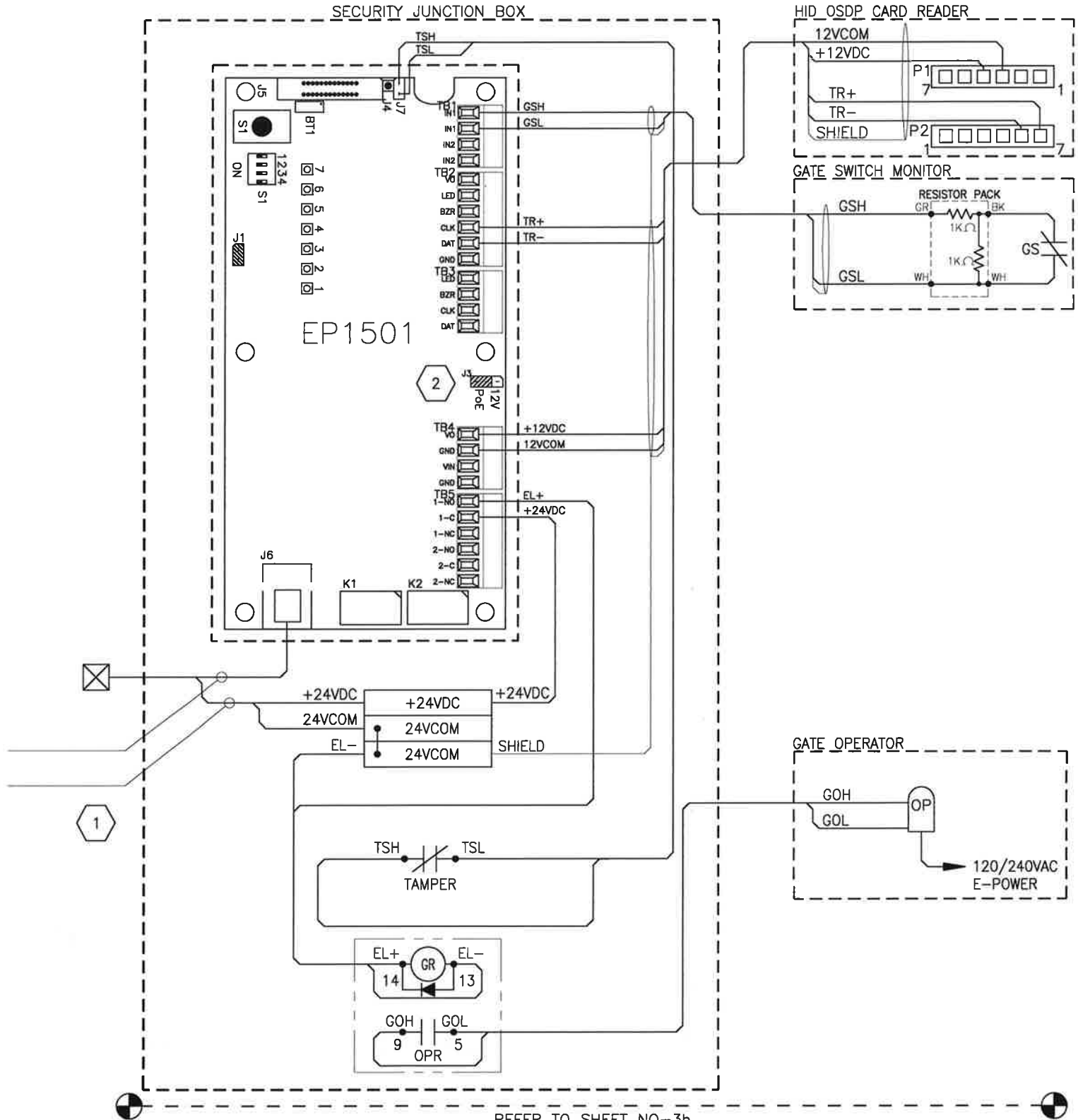
CODE INDEX	
A) BY SECURITY CONTRACTOR, NO SUBSTITUTE	D) BY GENERAL CONTRACTOR
B) BY SECURITY CONTRACTOR, OR APPROVED EQUAL	E) BY OWNER
C) BY SECURITY CONTRACTOR, OR EQUAL	F) EXISTING

INPUT LOADING	CR	1	REX	CAM	KPD	OUTPUT LOADING	LOCK	MON	KPD			
	DSM	1	AUX	P/I	A/M		AUX	1	P/I	A/M		

EQUIPMENT LIST NOTES	
1. PROVIDE ASSOCIATED STANDARD RAIL AND TERMINAL MARKINGS. 2. DESIGNED FOR MOUNTING CARD READER AND INTERCOM.	



AS-BUILT	Building:	Door#:	Point#:
	Description:		



REFER TO SHEET NO-3b



VEHICLE LANE, CARD IN/FREE EXIT
ROLL-UP GATE

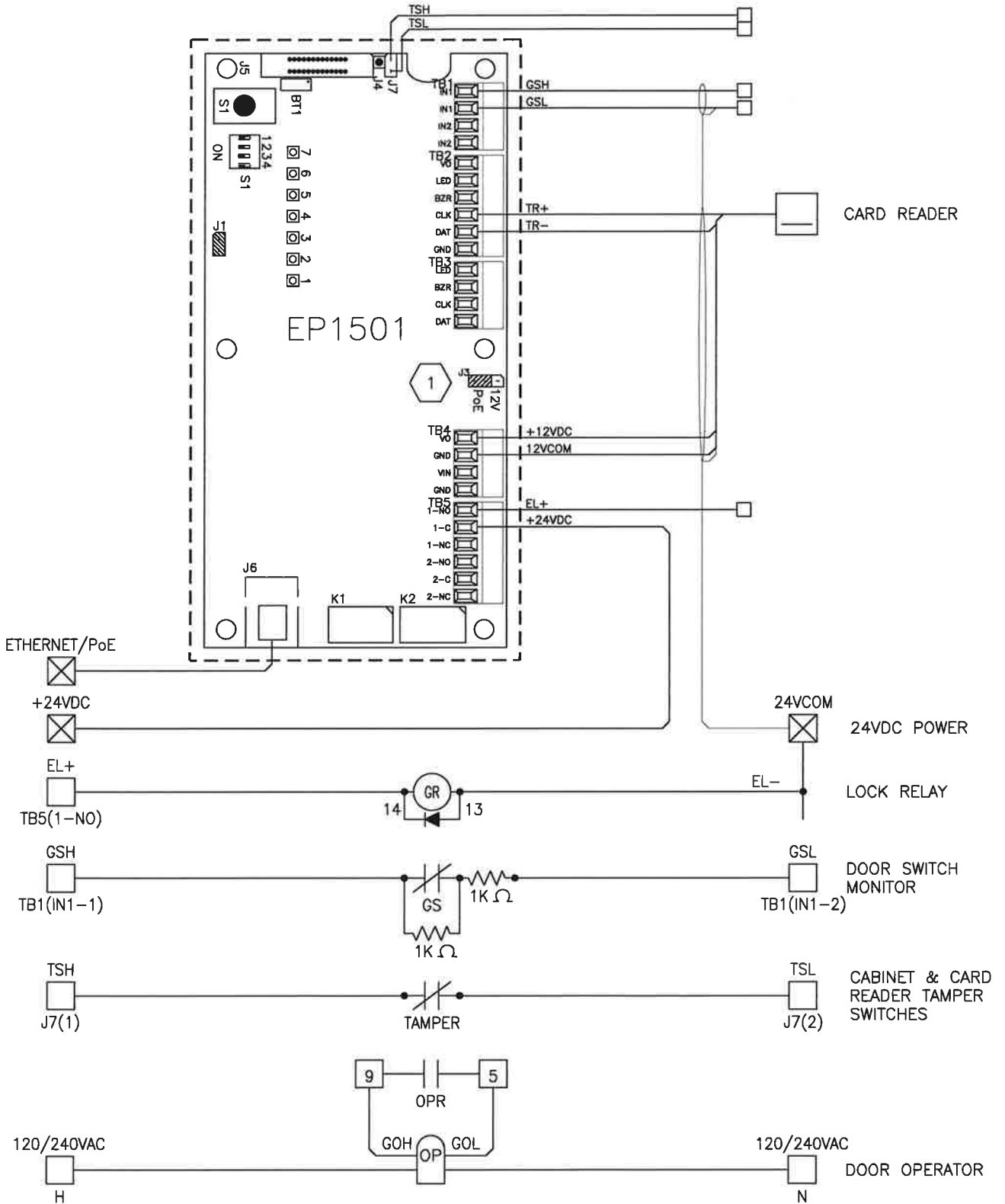
DETAIL NO-3b
POINT-TO-POINT

AS-BUILT	Building:	Door#:	Point#:
	Description:		

REFER TO SHEET NO-3a

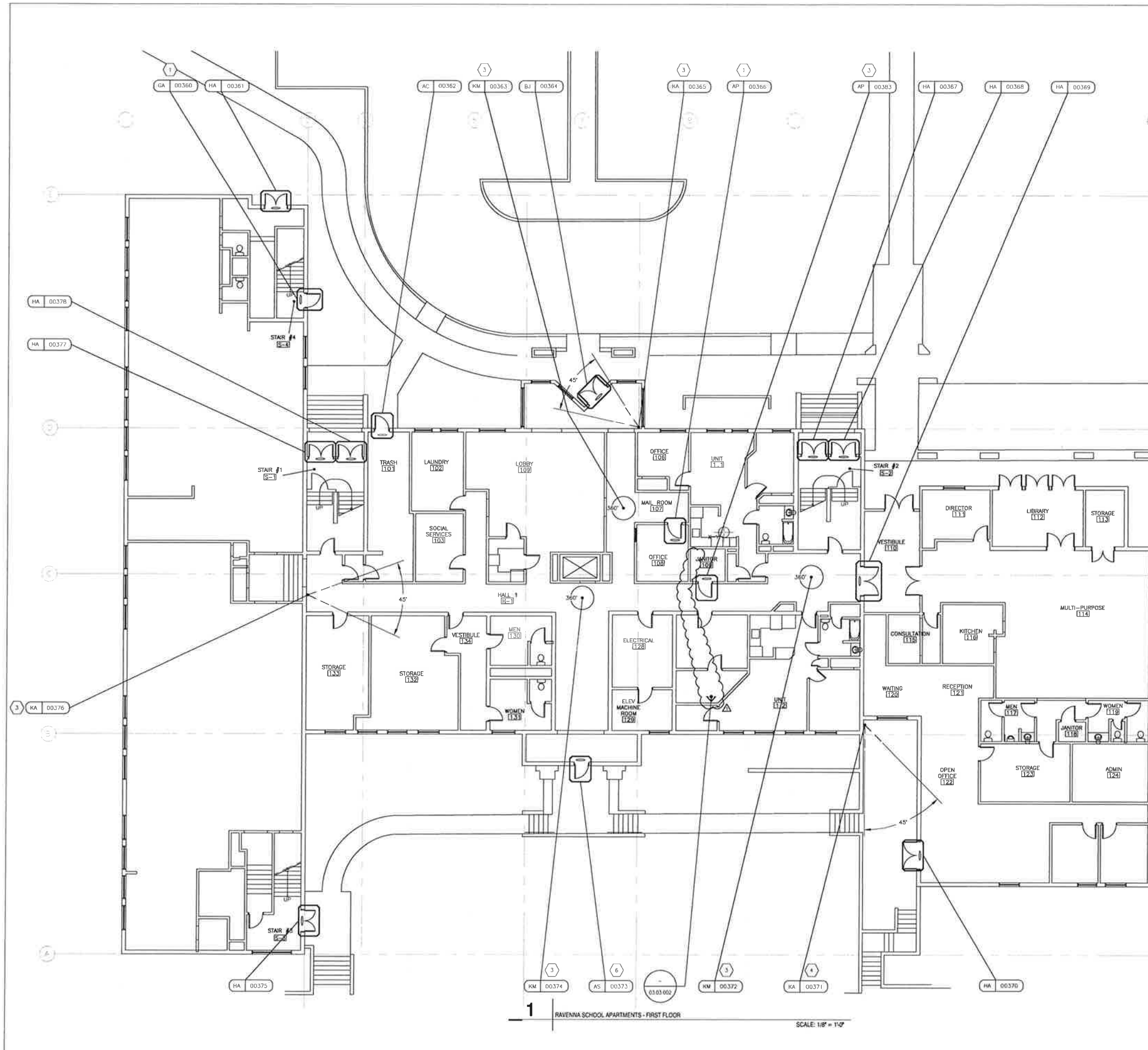
POINT-TO-POINT NOTES

- 1 TAG CABLE WITH CODE AND NUMBER SPECIFIC TO THIS POINT PER PLAN AND SCHEDULE. TAG INDIVIDUAL WIRES AS SHOWN. REFERENCE STANDARD CRITERIA DRAWING, 00.05.501-507 WIRE MARKING FORMAT.
- 2 SET JUMPER J3 TO PoE FOR POWER INPUT.





LADDER NOTES

1 SET JUMPER J3 TO PoE FOR POWER INPUT.



- GENERAL NOTES:**
1. BACKGROUNDS WERE CREATED FROM TIFF FILES PROVIDED BY SHA. THE SCALE SHOWN IS ACCURATE. PHYSICAL DIMENSIONS MAY VARY.
 2. SHEETS INCLUDED CORRELATE DIRECTLY TO SECURITY DETAILS OMITTED SHEETS HAVE NO SECURITY DETAILS ASSOCIATED WITH THEM.
- SHEET NOTES:**
- 1 (L) DOOR TO BE REPLACED WITH NEW DOOR
 - 2 REPLACE DOOR AND FRAME REFER TO BC DETAIL FOR APPROPRIATE DOOR HARDWARE
 - 3 CEILING MOUNT CAMERA
 - 4 WALL ARM MOUNT CAMERA AT 12' AFG
 - 5 IF DOOR REPLACEMENT DOES NOT APPEAR NECESSARY, COORDINATE WITH SHA TO HAVE DOOR CORED TO RECEIVE NEW DOOR HARDWARE.
 - 6 RE-USE (E) DOOR HARDWARE WHEN POSSIBLE. IF NEW DOOR HARDWARE IS REQUIRED MATCH EXISTING CONDITIONS. REFERENCE OPTIONS 1a, 1b AND 1c ON THE "AS" DETAIL, AND SELECT THE APPROPRIATE MATCHING HARDWARE.


SEATTLE HOUSING AUTHORITY


SECURITY BY DESIGN
 An Independent Consulting and Design Firm

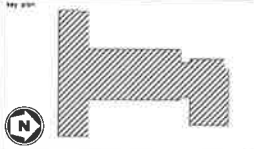
5029 Parkside Blvd., Suite 8-100
 Parkers, CA 94553
 Tel: 925.688.1000
 Fax: 925.688.1001
 www.sbd.ca

PROJECT:
 RAVENNA SCHOOL APARTMENTS
 SSHP IMPLEMENTATION,
 PHASE 2A, ACAM AND SECURITY UPGRADE

PROJECT ADDRESS:
 6545 RAVENNA AVE NE
 SEATTLE, WASHINGTON

OWNER:
 SEATTLE HOUSING AUTHORITY
 190 QUEEN ANNE AVE. NORTH
 SEATTLE, WA. 98109

issue	date	description
1	04/16/2018	ADDENDUM 3
0	10/30/2017	100% CD FOR BID



project number:	SHA170109
engineer:	DMM
drafter:	RV
checked by:	CJW
scale:	1/16" = 1'-0"
filename:	SHA_SE322-2-01.dwg

**RAVENNA SCHOOL APARTMENTS
 FIRST FLOOR**

SE322.2.01

1 RAVENNA SCHOOL APARTMENTS - FIRST FLOOR
 SCALE: 1/8" = 1'-0"

