Influencing the Design Process for Healthcare Safety and Security Directors

14th Annual Joint Conference

• Southeastern Safety and Security Healthcare Council (SSSHC) and
• International Association for Healthcare Security and Safety (IAHSS) (SC and NC Chapters)

Myrtle Beach – August 2018
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Thank You

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Thanks to SSSHC and the SC / NC IAHSS Chapters for hosting this event.
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Jay King, PSP, CPP, PMP
Life Safety and Security Sub-Market Leader, CHA Consulting, Inc.

Jay King has 20+ years’ experience in security program management; including security system evaluation and design. His work for small to large size engineering and logistics firms involved security project management Department of Justice and Department of Defense client organizations.

He provides security program management, crime prevention and physical security infrastructure alternatives which balance risk mitigation with clients’ unique operational requirements.

Jay is a Partner Member of the International Association for Healthcare Security and Safety (IAHSS). He currently supports CHA Consulting’s Facilities Market and Campus and Institutional Group.

CHA provides engineering and security design services for healthcare and mental healthcare providers.

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Purpose

Safety and Security Leaders are the most important advocates for the safety and security of their facilities, and the employees and patients who use them.

The purpose of this presentation is to make Safety and Security Leaders’ advocacy more effective by providing a better understanding of the security design process; and where, when and how their influence can have the most impact on the design process.
### Table of Contents

- Impacts of poor design
- Achieving secure design outcomes
- Types of design processes
- The Security Director’s role in the design process
- Design phases
- **Five** ways to influence the process before it begins
- Additional design and project phases
- The case for design changes
- Design documents and response planning
- Reading design documents
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- Progressive Collapse
- Glass / Debris
- Workplace Violence Contingencies
- Active Shooter Contingencies
- Mental Health Facilities

Impacts of Poor Design
Impacts of Poor Design: Blast Pressure Effects

1. Blast wave breaks windows. Exterior walls blown in. Columns may be damaged.
2. Blast wave forces floors upward.
3. Blast wave surrounds structure. Downward pressure on roof. Inward pressure on all sides.

Building Design for Homeland Security (IS-156/FEMA 426), FEMA
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**Impacts of Poor Design: Progressive Collapse**

*Murrah Federal Building*: The majority of deaths were caused by the collapsing structure.

*Building Design for Homeland Security (IS-156/FEMA 426), FEMA*
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**Impacts of Poor Design:** Amplification of Blast Effects

*Building Design for Homeland Security (IS-156/FEMA 426), FEMA*
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Impacts of Poor Design: Severe Injuries from Glass
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*Impacts of Poor Design: Severe Injuries from Glass*

![Building Inspection Area](image)

*Legend*

- **Yellow**: A. P. Murrah Federal Building
- **Brown**: Collapsed Structure
- **Blue**: Structural Damage
- **Red**: Broken Glass/Doors

Approximate Scale: 1" = 1,300'
Note: Undamaged structures are not shown on this map
Impacts of Poor Design: Trade Offs

Greater stand-off means more real estate, and a larger perimeter.

Less stand-off means additional facility hardening.

Building Design for Homeland Security (IS-156/FEMA 426), FEMA
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*Impacts of Poor Design: Workplace Violence Contingencies*

- Are cameras paired with duress communications?
- Are security/safety personnel located close enough to influence an employee under duress, in sufficient time?
- Can available response forces support existing alarms?
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Impacts of Poor Design: Active Shooter Contingencies

1. Upon arrival, officers find the three front doors chained shut from the inside. Attempts to shoot open the locks fail. Within five minutes, they breach the door to a machine shop using a shotgun.

2. Once inside, officers hear gunshots. They follow the sound of succession of gunshots to the second floor. Meanwhile, on the second floor (in blue):

   Note mounting height of egress hardware, and placement relative to window location.

Division 08 – Openings (Door Hardware)
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Impacts of Poor Design: “Secure, Preserve, Fight”

- Physical design must account for:
  - Planned response contingencies.
  - Constraints and risks associated with the hasty evacuation of non-mobile patients.
  - Maintaining minimum continuity of care throughout all phases of probable emergencies.

“More casualties may be sustained in a disorderly retreat than in a resolute defense.”
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Impacts of Poor Design: OSHA Workplace Violence Regulations

33% of the below OSHA recommended mitigation measures include a significant design component.

- **Nurses station configuration evaluation**
- “Disruptive behavior response teams” Evaluating intake procedures
- Improving intake procedures/screening
- Video surveillance cameras/monitoring
- Providing panic alarms
- Discouraging employees from wearing necklaces or lanyards
- Regularly training staff in methods to protect themselves
- Conducting effective investigations and root cause analyses into violent events
- Establishing a comprehensive medical and psychological counseling and debriefing for employees.
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*Impacts of Poor Design: Mental Health Facility Considerations*

- Spectrum of admission types – *voluntary to forensic*; sometimes within close proximity.
- Separation of populations by age, risk and care requirements
- Design and materials choices that support staff response tactics, and patient safety.
- Anti-ligature design element choices.
- Elopement’s impact on continuity of care; counter-elopement design features.
- Staff safety and duress communication.
- Consider the impact of video (and audio) surveillance on misconduct inquires and manpower hours.
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- Design, Bid, Build
- Design, Build
- Pros, Cons

Most Common Types of Design Processes
Most Common Types of design processes

**Design/Build**

Under this method, an owner typically hires a single entity, the design/builder, to perform both design and construction under a single contract.

Portions or all of the design and construction may be performed by the entity or subcontracted to other companies.

DB is characterized by high levels of collaboration between the design and construction disciplines, input from multiple trades into the design, and a single entity bearing project risk. Typically, the general contractor is responsible contractually for this delivery method. Security is typically a lower level budget item.

*An Analysis of Design/Build vs. Design-Bid-Build, Beck Group.*
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Most Common Types of design processes

**Design/Bid/Build**

This is the most traditional process in the U.S. construction industry, where the owner contracts separately with a designer and a contractor.

The design firm is hired to deliver 100% complete design documents. The owner or agent then solicits fixed price bids from contractors to perform the work.

Designers and contractors bear no contractual obligation to one another and the owner bears the risk associated with the completeness of the design documents.

*An Analysis of Design/Build vs. Design-Bid-Build, Beck Group.*
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Most Common Types of Design Processes

**Design/Build**
- Generally faster
- Generally less costly
- Less client involvement through project life cycle (design – construction)
- Opportunities for value engineering; achieved through innovation (or routine)
- No competitive bidding for construction contractor; sometimes perceived as lack of transparency
- Less control (and less risk) for the client

**Design/Bid/Build**
- Longer process; each design submission requirement adds to the schedule.
- Client involvement and input through all phases of the design and construction.
- Distinct design disciplines
- Competitive bidding for construction contractors
  - Designer remains involved in construction administration.
- More control (and more risk) for client
- Most common method (especially for publicly funded projects)
- Method often directed by statute for public sector projects.
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• Rapport and experience

• The critical necessity of Safety / Security Director Involvement

• Arriving early

The Safety/Security Director’s Role in the Design Process
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The Safety/Security Director’s role in the Design Process

“Your security system expectations are not in harmony with our design concept.”

Translation:

“Where were you during the Programming Phase?”
The Security Director’s role in the Design Process

• Understanding the process, and being involved in it early will help you influence design outcomes in ways that support your security program as much as possible.

• Issues resulting from a Security Director’s failure to be effectively involved will take many years, and a significant amount of your security budget to overcome.

• Stand-off Distance and CPTED in particular concerns the organization of space, and the location/orientation of whole facilities. It is more than the installation of equipment. Early involvement is critical.

“That is the great fallacy; the wisdom of old men. They do not grow wise. They grow careful.”

Ernest Hemingway
Farewell to Arms
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The Security Director’s role in the Design Process

• Experience yields effectiveness
• Rapport built before the design process increases your influence during it.
• Most Security Directors will have few opportunities in their careers to be involved in major capital design projects.
• You are your facility’s resident security advisor; you will use the security systems being designed. Your perspective and advocacy is essential.
• Stay active through all phases; be ready to translate “no” into “not right now”. All gains are incremental.

“That is the great fallacy; the wisdom of old men. They do not grow wise. They grow careful.”

Ernest Hemingway
Farewell to Arms
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The Safety/Security Director’s role in the Design Process

**Ability of a Security Director to Influence a Design Project**

- **High**
  - Minimal Cost of Changes $ $
- **Negligible**
  - Maximum Cost of Changes $$ $

**Work Completed over Design Project Life Cycle**

Initiation

Closure
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The Security Director's role in the Design Process

What **Healthcare Facility Leaders owe their Security Directors in the Design Process:**

- **A seat at the table.** Safety and Security Departments should be *directly* represented at design guidelines development, design programming, design services procurement and design document review meetings.

- Recognition that the senior security expert in your hospital system is the Security Director. Why else do you employ this person?
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The Security Director's role in the Design Process

What **Healthcare Facility Leaders owe their Security Directors in the Design Process:**

- **Appreciate that the Security Director is not just sharing his/her bright ideas.** The Joint Commission, IAHSS and other organizations have published thorough, well documented expectations for patient, employee and facility safety.

- **Remember that safety supports continuity of care.** Safety is near the base of this hierarchy. An individual patients treatment goals are unlikely to be realized in an environment where he/she feels unsafe.
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The Security Director's role in the Design Process

What Security Directors owe their Healthcare Facility Leaders in the Design Process:

• An understanding of the design process and what happens in each phase; as well as an appreciation of hospital system’s funding cycles and their impact on design projects.

• Informed and active participation in design project meetings.

• Well documented and justified security design requirements which are each supported by program documentation, published security guidelines, best practices, and/or regulatory requirements.
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The Security Director's role in the Design Process

What Security Directors owe their Healthcare Facility Leaders in the Design Process:

• An openness to incremental improvement. Few people get everything they want, when they want it.

• Be prepared to develop thorough, longer range plans that enable you to achieve your goals over a defined timeline; this approach will be easier for Hospital Executives to support.

• Rank requirements in order of risk reduction to be achieved, or asset criticality.
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- Programming
- Schematic Design (10-30%)
- Design Development (60%)
- Final Design (95%-100%)
- Construction Administration

Design Process Phases
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**Design Process Phases**

AIA – Emphasis on Assessment through Construction Phases; procurement process abbreviated

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Adapted from: *Security Planning and Design, A Guide for Architects and Building Design Professionals* (Fig. 6.1) edited by Joseph A. Demkin, AIA; The American Institute for Architects / John Wiley & Sons, Inc., 2004
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Design Process Phases

Traditional Design/Bid/Build Process
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**Design Process Phases**

### Assessment Phase
- Consensus Achieved for Expansion Project
- Criticality Assessment
- Threat Assessment
- Vulnerability Assessment
- Risk Analysis
- Design Basis Threat

### Architect Selection
- Scope of Work for RFQ
- Bidder Conference
- Question Period
- Solicitation Review
- Presentation, Negotiation
- Architect Selected

### Programming Phase
- Develop Owners Needs Lists
- RFQ Published
- Architecture
- Design Guidelines or Standards Identified
- PS/CPTED Design Guidelines or Standards Verified
- Hardware & Software Engineering
- Personnel Requirements
- Operational Requirements
- Support / Service Requirements
- Installation Requirements
- Budget Identified

### Schematic Design Phase (10-30%)
- Develop Basis of Design Narrative
- Determine Inspection Criteria
- Identify Vendor Compatible w/ Design Narrative
- Acceptance Testing Process Determined

### Design Development Phase (60%)
- Design Documents
- Design
- Specifications
- Final Inspection Criteria
- RFP Published

### Final Drawings (95%-100%)
- Owner Review
- Site
- Civil
- Structural
- Acceptance Testing Process Determined
- Bidder Conference
- Architectural

### General Contractor Selection
- General Contractor Selected
- Final Drawings
- Construction Administration
- Bidder Conference
- Presentation, Negotiation
- General Contractor Selected

### Construction Phase (PPS System)
- Construction Progress Meetings
- System Operation and Support
- Prepare Facilities
- Select and Train Personnel
- Install System
- Acquire Hardware, Software
- Test System
- Establish System Support

### Operations Phase

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**Traditional Design/Bid/Build Process**
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Design Process Phases

**Assessment Phase**
- Consensus Achieved for Expansion Project
  - Criticality Assessment
  - Threat Assessment
  - Vulnerability Assessment
  - Risk Analysis
  - Design Basis Threat

**Architect Selection**
- RFQ Published
- Bidder Conference
- Question Period
- Solicitation Review
- Presentation, Negotiation
- Architect Selected

**Programming Phase**
- Develop Owners Needs Lists
- RFQ Published
- Bidder Conference
- Question Period
- Solicitation Review
- Presentation, Negotiation
- Architect Selected

**Schematic Design Phase (10-30%)**
- Execute Programming Requirements
- Design Documents
- Site
- Civil
- Structural
- Architectural
- Mechanical Electrical Plumbing
- Physical Protection Systems (PPS)
- Final Inspections
- Acceptance Testing Process Determined

**Design Development Phase (60%)**
- Determine Inspection Criteria
- Final Illustrations
- Acceptance Testing Process Determined
- Solicitation, Bid Review
- Presentation, Negotiation
- General Contractor Selected

**Final Drawings (95%)**
- Design Review
- Final Inspections
- Acceptance Testing Process Determined
- Solicitation, Bid Review
- Presentation, Negotiation
- General Contractor Selected

**General Contractor Selection**
- Owner Review
- Specifications
- Site
- Civil
- Structural
- Architectural
- Mechanical Electrical Plumbing
- Physical Protection Systems (PPS)
- Final Inspections
- Acceptance Testing Process Determined
- Solicitation, Bid Review
- Presentation, Negotiation
- General Contractor Selected

**Construction Phase (PPS System)**
- Scope of Work for RFP
- RFP Published
- Bidder Conference
- Question Period
- Solicitation, Bid Review
- Presentation, Negotiation
- General Contractor Selected

**Operations Phase**
- Construction Administration
- Prepare Facilities
- Stop-Painting
- Acquire Hardware, Software
- Test System
- Construction Progress Meetings
- Establish Self-Sufficiency

**Traditional Design/Bid/Build Process**

= Opportunity for security director involvement

Aug 2018
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Design Process Phases

- Design Guidelines or Standards
- Assessment Phase
  - Exercise and Incident Reporting
- Architect Selection (RFQ)
- Programming Phase
- Schematic Design Phase (10-30%)
- Design Development Phase (60%)
- Final Design Phase (90-100%)
- General Contractor Selection (RFP)
- Construction Phase
- Operations Phase

The Security Manager’s Role: Planning, Procurement and Design Phases
Five ways to influence the design process before it begins.
1. Using and Developing Design Guidelines or Standards
Design Guidelines or Standards enable you to conceive of your ideal facility before the project planning, procurement, or design processes begin.

Guidelines or Standards allow organizations to depict and describe the preferred facility design based on operational requirements.
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Design Guidelines or Standards

- Specifies design requirements, equipment, and materials for site, facility and room types.
- Used for advance planning for renovation projects and new construction.
- Standards assist project budgeting, RFQs/RFPs content, and design planning.
- Most large organizations/systems will have their own Design Guidelines or Standards.

- Are your security program requirements accounted for in your organization’s Design Guidelines or Standards?

“The purpose of this document is to compile work scope requirements.”
- comment from a Design Guidelines or Standards development project.
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Design Guidelines or Standards

- **Facility Systems**

  - “...in the United States, the EC and LS standards chapters encompass a good portion of the requirements that impact facility systems, while internationally, those are addressed by FMS standards. However, at the core, both The Joint Commission and JCI advocate planning for security, safety...”

- Designing for Safety and Reliability
- Ch. 9 – Designing for Security
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Design Guidelines or Standards

1.2-1.2 Multidisciplinary Project Team
1.2-4.8 Security Risk Assessment
2.1-8.6 Electronic Safety and Security Systems

... for each healthcare facility type
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Design Guidelines or Standards

- 01 Parking and the External Campus Environment
- 02 Buildings and the Internal Environment
  - 02.01 Inpatient Facilities
  - 02.02 Emergency Departments
  - 02.03 Behavioral/Mental Health Areas
  - 02.04 Pharmacies
  - 02.05 Cashiers and Cash Collection Areas
  - 02.06 Infant and Pediatric Facilities
  - 02.07 Areas with PHI
  - 02.08 Utility, Mechanical, and Infrastructure Areas
  - 02.09 Biological, Chemical, and Radiation Areas
- 03. Emergency Management
Sample Organization-specific Guidelines

...11th edition!

- Addresses UVA Health System
- Features a full CPTED Annex
  - APPENDIX D – Security References
    - D.1 Crime Prevention through Environmental Design (CPTED)
    - D.1.1 CPTED Introduction - Concepts
    - D.1.2 CPTED Application - Strategies
    - D.1.3 CPTED Related Fixture (includes door hardware configurations)
The Challenge.

A Security Director must ensure that thorough healthcare industry security design guidelines are addressed in his/her organization’s design guidelines for each protected area.

Where there are gaps between the existing built environment and these industry or organization guidelines, the Security Director should have a credible explanation for each, or have a plan to close them.
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• Shared methodology components
• What to expect when you’re assessing
• The function of Foreseeability

2. The Contribution of Safety and Security Program Assessments to Design Projects
Assessment Phase

- Assessment methodology should be formal, repeatable, and an industry recognized/accepted methodology.
- Main purpose *in the design process* is to **justify requirements**.
- Should include:
  - “Design Basis Threat”
    - *What are you designing your defense against?*
  - Distinguish between facility, jurisdiction, and nation state responsibilities for risk mitigation.
  - Mitigation Recommendations
  - Assessment process is a security program requirement that is *independent* of the expansion project
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The Contribution of Security Program Assessments to Design Projects

- Criticality Assessment
- Threat Assessment
- Vulnerability Assessment
- Risk Analysis
- Consequence Analysis
  - Return on Security Investment (ROSI)
  - Countermeasure Determination

Risk Management Model

1. Assess Asset
2. Assess Threat
3. Assess Vulnerability
4. Assess Risks
5. Determine Countermeasure Options

DoD / Center for Development of Security Excellence (CDSE)
Formerly Defense Security Service Academy (DSSA)
If you are looking for a new assessment methodology, wait 60 days. Someone will invent one.

Or, stick with what works.
The Contribution of Security Program Assessments to Design Projects

- Already part of your Safety/Security Program; independent of the design process
- Pick a methodology and stick with it – don’t make the perfect the enemy of the good. Measure recurring issues and improvements over time.
- Industry recognized, non-proprietary method/toolset.
- Results should be decipherable without the aid of a consultant.
- Assessment recommendations should be expressed (over time) in the design of an organization’s facilities.
The Contribution of Security Program Assessments to Design Projects

- Recommendations should be based on requirements, industry standards, regulations, exercise/response data, best practices, etc.; not on a consultant’s opinion.

- Do recommendations actually impact detection, delay or deny the defined adversaries?

- Report is created as a Risk Management communication tool for multiple levels of the organization’s hierarchy.

- Report helps justify funding, and document foreseeability.
Tracking assessments as a **portfolio of assets** allows for “apples to apples” analysis for criticality ranking and informed resource allocation decisions.
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The Contribution of Security Program Assessments to Design Projects

<table>
<thead>
<tr>
<th>Shelbyville Healthcare System</th>
<th>Security Assessment Checklist</th>
<th>HCF 1</th>
<th>HCF 2</th>
<th>HCF 3</th>
<th>HCF 4</th>
<th>HCF 5</th>
<th>HCF 6</th>
<th>HCF 7</th>
<th>HCF 8</th>
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<tr>
<td>List No.</td>
<td>Question</td>
<td>Reply</td>
<td>Reply</td>
<td>Reply</td>
<td>Reply</td>
<td>Reply</td>
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<td>3</td>
<td>Lighting</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1</td>
<td>Are exterior lights adequate? (Reference 4)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>3.2</td>
<td>Is there lighting at all building entrances? (Reference 4)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>3.3</td>
<td>Do parking facilities have adequate lighting? (Reference 4)</td>
<td>Yes</td>
<td>N/A</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>3.4</td>
<td>Are all lights mounted at 12 to 14 feet in height? (Reference 4)</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Multiple facilities are struggling with this category.

This may be remediated through maintenance requests, a design / installation project, and/or improved design guidelines.

*HCF 4* has the most deficiencies; additional resources may be required.
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The Contribution of Security Program Assessments to Design Projects

**Foreseeable**

- “The ability to reasonably anticipate the potential results of an action, such as the damage or injury that may happen if one is negligent or breaches a contract.

Nolo’s Plain-English Law Dictionary

- “A requirement under tort law that the consequences of a parties action or inaction could reasonably result in the injury. In such cases, the resultant injury was reasonably predictable by a person of ordinary intelligence and circumspection as in the case of throwing a heavy object at someone.”

US Legal, Inc.
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The Contribution of Security Program Assessments to Design Projects

**Foreseeable**

- Assemble your assessment team and route your assessment report with *foreseeability* in mind.
- Report accurately; but overstating risk erodes credibility.
- The security assessment process is *organizational communication* and resource advocacy by another name.
- Peers or consultants can bolster objectivity and bring fresh perspectives.
Discoverable

1. Able to be discovered.

2. (law) Subject to legal discovery; able to be requested by an opposing party through a legal process such as a subpoena.
The Contribution of Security Program Assessments to Design Projects

Discoverable

- Your assessment documents are discoverable.
- In the event of a safety or security incident, these reports may be requested by opposing legal counsel.
  - (1) Assessment reports may show steady progress within resource constraints...
  - (2) ...or these reports may show a sustained pattern of ignoring known risk issues, and a lack of due diligence on the part of facility leaders.
Physical Security Master Plan

- A Physical Security Master Plan is an important **bridging document** for your assessment program.
- A post-assessment laundry list of deficiencies, coupled with expectations of near-term resolution, may not be well received by Healthcare Facility Leaders.
- **Even a boss has a boss.** Healthcare Facility Leaders must also provide justification to hospital / facility, community department managers and boards.

"Writing a memorandum to your chief does not constitute completed staff work, but writing a memorandum for your chief to send to someone else does..."

"...the theory of completed staff work does not preclude a ‘rough draft’, but the rough draft must not be a half-baked idea.”

Brigadier G.E.R. Smith
Shelbyville Hospital Master Plan

Physical Security Master Plan

- Developing a Master Plan shows a willingness to accept an incremental approach, given resource constraints. *Steady progress* is preferable to *no progress*.

- A well developed 3-5 year plan is more likely to be adopted than a “we need it yesterday...” approach.

- Ensure that the Physical Security Master plan aligns with Healthcare Facility Master Plans or Strategic Plans; and that proposed mitigation goals parallel *funding stream milestones*, and capital project/expansion schedules.

“All gains are incremental”
M. Blackwell
3. Exercise Program Impacts on Design Requirements
• Exercise program After Action Reports (AAR) can contain many design requirements.

• Exercise scenarios can be crafted to validate (or disprove) security design or program requirements
Exercise Program Impacts on Design Requirements

**Actual After Action Report comment –** *Pretty good.*

<table>
<thead>
<tr>
<th>Observation of Areas to Improve</th>
<th>Analysis</th>
<th>Recommendations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio communication between the [Team] and ...Dispatch was unreliable and unclear.</td>
<td>The incident took place in an isolated area of [county name] with poor radio coverage; as a result, effective communication between the [Team] and dispatch was not possible.</td>
<td>(1) [Agency] Operations should add contact information for all dispatch centers to the specialized cell phones issued to [Team members]. (2) [County] Operations should explore options to relocate the [Named Road] radio tower to provide better radio coverage across the...area</td>
</tr>
</tbody>
</table>
### Actual After Action Report Comment – *Better!*

<table>
<thead>
<tr>
<th>Observation of Areas to Improve</th>
<th>Analysis</th>
<th>Recommendations</th>
<th>Assigned</th>
<th>Due Date</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radio communication between the [Team] and ...Dispatch was unreliable and unclear.</td>
<td>The incident took place in an isolated area of [county name] with poor radio coverage; as a result, effective communication between the [Team] and dispatch was not possible.</td>
<td>(1) [Agency] Operations should add contact information for all dispatch centers to the specialized cell phones issued to [Team members].</td>
<td>(1) Dispatch Manager</td>
<td>(1) 3rd Qtr, 2018</td>
<td>(1) $500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(2) [County] <strong>Facilities Engineering Dept.</strong> should explore options to relocate the [Named Road] radio tower to provide better radio coverage across the...area.</td>
<td>(2) County Engineer</td>
<td>(2) 4th Qtr, 2020</td>
<td>(2) $37,000</td>
</tr>
</tbody>
</table>
4. Incident Report Data and Design Requirements
Influencing the Design Process for Healthcare Safety and Security Directors

Incident Report Data and Design Requirements

I arrived at 2005 Everest Hill at 12:05. I walked to the house and knocked on the door. I tried the knob and found it to be unlocked...

How to write a police report, Wikihow

- AM or PM?
- Was the porch light on?
- Was the adjacent street light on?
- Did shrubbery around the porch obscure observation of the door from the street?

The more thorough your report inputs, the more useful they will be in justifying design improvements which support your security program.
Assessment Phase

- If your facility/site has no assessment record, include it in the RFQ (AIA Document B209™–2007)

- “AIA Document B206™–2007 establishes duties and responsibilities where the architect provides services for projects that require greater security features and protection than would normally be incorporated into a building design.

  “This scope requires the architect to identify and analyze the threats to a facility, survey the facility with respect to those threats, and prepare a risk assessment report. Following the owner’s approval of the report, the architect prepares design documents and a security report.”

- Sect. 2.6.1 – Asset Analysis
- Sect. 2.6.2 – Vulnerability Analysis
- Sect. 2.6.3 – Threat Analysis
- Sect. 2.9. – Risk Assessment
Influencing the Design Process for Healthcare Safety and Security Directors

5. Influencing Design Services Procurement

- RFQ Contributions
- Selection Committee
- Creating the perfect quality problem
Architect Selection

Sample RFQ

“The Consultant must coordinate with the [Client] Manager of ... Safety and Security for security camera placement.”

Directive notation for all design phases:

“Continue coordination with...[Client] Safety and Security department.”
N.2 SCORING METHODOLOGY

The Technical Evaluation Team will review and evaluate the Proposals using the following scale:

<table>
<thead>
<tr>
<th>Points</th>
<th>Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 - 10</td>
<td>Outstanding: Meets all of the requirements / exceeds expectations / excellent probability of success in achieving all objectives / very innovative.</td>
</tr>
<tr>
<td>6 - 8</td>
<td>Above Average: Exceeds minimum requirement / sound response / very good probability of success.</td>
</tr>
<tr>
<td>4 - 5</td>
<td>Average: Meets minimum requirement / has a reasonable probability of success.</td>
</tr>
<tr>
<td>2 - 3</td>
<td>Fair: Partially responsive / falls short of meeting basic expectations / has a low probability of success.</td>
</tr>
<tr>
<td>1</td>
<td>Poor: Inadequate / fails to meet the requirement.</td>
</tr>
<tr>
<td>0</td>
<td>Failure: No response / the information is missing altogether.</td>
</tr>
</tbody>
</table>

N.3 EVALUATION CRITERIA

The following criteria and weighting scheme will be utilized to evaluate Proposals:

<table>
<thead>
<tr>
<th>Evaluation Criteria</th>
<th>Maximum Points</th>
<th>Weight</th>
<th>Maximum Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>10</td>
<td>25</td>
<td>250</td>
</tr>
<tr>
<td>B.</td>
<td>10</td>
<td>15</td>
<td>150</td>
</tr>
<tr>
<td>C.</td>
<td>10</td>
<td>30</td>
<td>300</td>
</tr>
<tr>
<td>D.</td>
<td>10</td>
<td>20</td>
<td>200</td>
</tr>
<tr>
<td>E.</td>
<td>10</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

TOTAL POINTS: 1000
Influencing the Design Process for Healthcare Safety and Security Directors

Influencing Design Services Procurement

Architect Selection

• Ensure Physical Security is accounted for in the proposal **evaluation criteria matrix**.

• Be part of the solicitation review panel; attend bidders conference.

• The goal of the RFQ process is to determine Architect **qualifications**.

• How thoroughly have offerors accounted for the RFQ’s physical security emphasis in their proposals?
Architect Selection

Don’t forget Operations Security (OPSEC) in the procurement

• You can request an NDA for the security portion of the RFQ/RFP
• What are your organization’s policies concerning SSI and EEFIs? Do these policies address procurement?
• Do you require your vendors to have their own SSI and HIPAA policies before handling your information?
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Influencing Design Services Procurement - OPSEC

Architect Selection

Pre-ambulatory information to include in publicly available document related security systems:

This project will include upgrades to video surveillance, access control and duress systems. Portions of this project’s information related to physical protection systems are Sensitive Security Information (SSI).

This security system information will be made available to prospective bidders upon signing a non-disclosure agreement. A copy of this agreement may be requested from the [Healthcare Facility Security Director], NAME@hcf.org. Requesting bidders should be prepared to provide a copy of their organizations’ policies for protecting SSI, if requested.
• Leveraging your assessment recommendations

• Articulating the intent or your design goals.

• Meetings that matter

(5.1) Programming Phase
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Programming Phase

• Series of meetings or focus groups led by architect/engineer team; all organization/facility stakeholder groups should be represented.

• Here is where you continue your advocacy for the design needs you identified during you assessments and exercises.

• Design outcomes will tend favor those who understand the importance of these meetings, and arrive prepared.

Does the Security Director have a seat at the table for these programming meetings?
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Programming Phase

• Architect compiles list of owner requirements

• Design standards to be used are determined; physical security design standards are also determined.

• If your industry or organization does not have its own physical security design standards; you can cite the most applicable sections of other industry standards.

• A working project budget is usually determined by this phase; ensure that your security goals are accounted for (and fit within this budget). Take advantage of 3rd party estimators if available.
Specific device numbers, placement and manufacturers are acceptable, but not essential at this point; instead clearly define what you want systems and device types to achieve, and in what areas of the facility you want them to achieve these ends. Your risk assessment documents why you want achieve these things.

Example: What do you want your video surveillance system to achieve in this specific section of your facility?

Statements like “100% camera coverage” are highly subjective.
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Programming Phase

TABLE 1
Screen Image Specifications by Function

<table>
<thead>
<tr>
<th>Function^2</th>
<th>Screen Image^3</th>
<th>Typical Applications^4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not less than 5 percent: A figure occupies at least 5 percent of the screen height. From this level of detail, an observer should be able to monitor the number, direction and speed of movement of people, providing their presence is known.</td>
<td><img src="image" alt="Detect" /></td>
<td>Perimeter security: Long-range images over parking lots, etc.</td>
</tr>
<tr>
<td>Not less than 10 percent: The figure now occupies at least 10 percent of the available screen height. After an alert, an observer would be able to search the display screens and ascertain with a high degree of certainty whether a person is present.</td>
<td><img src="image" alt="Monitor" /></td>
<td>Entrance areas: Medium-range perimeter security. Medium-range security of entrance halls, platform areas, etc.</td>
</tr>
<tr>
<td>Not less than 50 percent: When the figure occupies at least 50 percent of screen height, viewers can say, with a high degree of certainty, whether or not an individual shown is the same as someone they have seen before.</td>
<td><img src="image" alt="Recognize" /></td>
<td>Mobile applications: Interior car and bus surveillance at door or call button area. Monitoring applications on vehicles or areas where bus or train exteriors are viewed. Short-range security for hallways, revenue and ticket areas, railroad crossings, call buttons, parking garage entrances/exits and elevator lobbies.</td>
</tr>
<tr>
<td>Not less than 120 percent: With the figure occupying at least 120 percent of the screen height, picture quality and detail should be sufficient to enable the identity of an individual to be established beyond a reasonable doubt.</td>
<td><img src="image" alt="Identify" /></td>
<td>Mobile applications: Cash boxes, fare machines for curb safety. Short-range applications at ticket barriers, fare machines, cash rooms, garage barriers, and secure door entrances (license plate and payment machine).</td>
</tr>
</tbody>
</table>

APTA IT-CCTV-RP-001-11
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Design Process Phases

✓ Design Guidelines or Standards
✓ Assessment Phase
✓ Exercise and Incident Reporting
✓ Architect Selection (RFQ)
✓ Programming Phase
  • Schematic Design Phase (10-30%)
  • Design Development Phase (60%)
  • Final Design Phase (90-100%)
  • General Contractor Selection (RFP)
✓ Construction Phase
✓ Operations Phase

You Are Here

Aug 2018
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A Stacked Deck

Not one design has been created, and we have already stacked the deck in favor of our security program goals.

- Design Guidelines or Standards
- Assessment Phase
  - Exercise and Incident Reporting
- Architect Selection (RFQ)
- Programming Phase

“A stack refers to a deck of cards in a specific order so one can perform a magic effect.”
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Break?

• Impacts of poor design
• Achieving secure design outcomes
• Types of design processes
• The Security Director’s role in the design process
• Design phases
• **Five** ways to influence the process before it begins
• **Additional design and project phases**
• The case for design changes
• Design documents and response planning
• Reading design documents

“The mind can absorb no more than the seat can endure.”

- Morton Blackwell
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Additional Design Phases

Traditional Design/Bid/Build Process
Schematic Design Phase (10-30%)

- Architect develops a narrative and preliminary drawings which documents how the design will meet the Owner’s list of requirements.
- Preliminary list of service, equipment providers is developed of firms that can help fulfill owner’s design requirements as articulated in the narrative.
Schematic Design Phase (10-30%)

- Design inspection criteria determined.
- Site surveys completed.
- Liaison with architect/designers is via Owner’s Rep.
Design Development Phase (60%)

- Engineering disciplines complete design submittals; including physical security engineering.
- Security Director can provide input concerning design document review periods, via Owner’s Representative.
- Outline design specifications.
Final Drawings (90% - 100% CDs)

Final pre-construction design review.

- Design documents evaluated according to agreed criteria.
- Physical security specifications are developed for selected systems and equipment. Range of device types, manufacturers, quantities and placement will be known at this point.
- Ensure that any equipment matrix corresponds with design submittals.
- Acceptance testing criteria develop for inclusion in RFP.
**General Contractor Selection**

- Security Director should assist with SOW development; provide suggested language and editing assistance to procurement staff.
- Physical Security may be addressed in its own annex. Technical requirements are specific; may include system/equipment matrix, and summary testing criteria (or associated references will be stated).
- Coordination with security director in the construction process can be *directed* in technical/specific requirements section.
- Ensure that Physical Security is accounted for in the proposal evaluation criteria matrix.
- Be part of the solicitation review panel; attend bidders conference.
- Provide contract review input.
Bid Document Organization

*Construction Specifications Institute (CSI)*

- Divisions 00, 01 - Procurement requirements/forms. Site information, project owner and contacts, current site conditions, owner regulations.
- Division 08 – Openings (door hardware)
- Division 26 – Electrical and Lighting
- Division 27 - Communication Systems Standards and Design Guidelines
- Division 28 - Electronic Safety and Security Scope (includes electronic door locking)
- Division 32 – Exterior Improvement (fencing, gates and bollards)
- Cyber/networked systems security is expected to become its own division
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Additional Project Phases

Construction Phase

- Final Review / Approval of shop drawings
- As Built, point-to-point drawings completed
- Account for construction/installation impact on normal operations, and associated downtime of any existing systems.
- Develop commissioning plan. *Will a third party tester be used?*
- Coordinate Site Acceptance Test; and Operational Reliability Test and Assessment. Verify test failures have been remediated.
- Coordinate initial system support and sustainment; operator training schedule.
- Warranty requirements should be \( \geq 12 \) months.
Operations Phase

• Ensure that your security program policy framework, response criteria, and security designs remain in alignment.

• Your next system upgrade is ~ 5 years away, begin planning and budgeting for this now.

• Budget for long term maintenance costs

• Continue exercise and assessment cycle; ensure that design and technology requirements keep pace with changing operating requirements or emergent threats. Record alarm to interruption response times.

• Track system effectiveness metrics in order to determine or demonstrate return on security investment over time.
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The Business Case For Design Changes
**Scenario:** Client requests a design change – add one camera.

Add one fixed camera (with analytics) to stairwell landing area.
## Influencing the Design Process for Healthcare Safety and Security Directors

### Business Case for Design Changes

<table>
<thead>
<tr>
<th>Project Phase</th>
<th>Scenario</th>
<th>Example Cost of Change [labor (unburdened rate) / equipment]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design Programming</td>
<td>Client suggests requirement for additional camera at initial programming meeting. Requires programming draft documentation/notes revision, correspondence.</td>
<td>$6.</td>
</tr>
<tr>
<td>30%</td>
<td>Client requests the additional camera at 30% review meeting.</td>
<td>$76.</td>
</tr>
<tr>
<td>60%</td>
<td>Client requests the additional camera at 60% review meeting.</td>
<td>$1,556.</td>
</tr>
<tr>
<td>90%</td>
<td>Client requests the additional camera at 90% review meeting.</td>
<td>$1,628.</td>
</tr>
<tr>
<td>100%</td>
<td>Client requests the additional camera at 100% review meeting.</td>
<td>$1,700.</td>
</tr>
<tr>
<td>Bid Phase</td>
<td>Response to bidder questions includes the additional camera requirement.</td>
<td>$1,832.</td>
</tr>
<tr>
<td>Construction / Installation – Project Start (30% install)</td>
<td>Client requests the additional camera at immediately after construction project kick-off; requires minor change order.</td>
<td>$1,952.</td>
</tr>
<tr>
<td>Construction / Installation – Execution (90% install)</td>
<td>Client requests the additional camera post kick-off.</td>
<td>$2,378.</td>
</tr>
<tr>
<td>Construction / Installation – Project Close / Acceptance</td>
<td>Client request the additional camera at or near project close.</td>
<td>$2,732.</td>
</tr>
</tbody>
</table>
What is the cost of **not** adding the camera?

*Guard hourly (unburdened) rate: $15*

*Time to Patrol (combined time for multiple visits nightly to a new post/checkpoint): 0.9 hours*

*Area must be patrolled daily: 365*

*Annual operating cost of not having a camera:*

$4,927. *

*Excludes costs associated with exposure to liability.*

*The building is near the city center, the stairwell is located in an area of the building distant from the guard desk. There is a reason why a camera was requested!*

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Aug 2018

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Influencing the Design Process for Healthcare Safety and Security Directors

Business Case for Design Changes
Influencing the Design Process for Healthcare Safety and Security Directors

Business Case for Design Changes

**Traditional Design Requirements Justification**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultant or Security Director's bright idea.</td>
<td>Checklist</td>
</tr>
</tbody>
</table>

**Improved Design Requirements Justification**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Design Guidelines</strong></td>
<td>Risk Assessment Report completed by <em>interdisciplinary</em> team, with recommendations linked to industry or regulatory guidelines.</td>
<td>Checklist tool which tracks unmitigated deficiencies overtime, in order of criticality</td>
<td>Exercise Data</td>
<td>Incident Reports</td>
<td>Consultant or Security Director’s bright idea supported by Items 1 – 5.</td>
</tr>
</tbody>
</table>

**One of these approaches will be easier to defend than the other when resources are tight.**
Influencing the Design Process for Healthcare Safety and Security Directors

Business Case for Design Changes

- Understanding the process, arriving early, and staying involved can minimize changes.

- Demonstrate how the long term costs of not making the change far exceeds the cost of the design change. Address revenue impacts as well.

- Leverage your assessment and exercise documentation to build this case. Document risk acceptance.

- Your change may mean sacrificing or postponing someone else’s design goals to stay within budget.

- Don’t force a “no”; make adjustments which accommodate a “not right now”.

- If you can’t achieve completion; ensure the design allows for expansion.
Influencing the Design Process for Healthcare Safety and Security Directors

Tactical Utility of As-Built Drawings
Influencing the Design Process for Healthcare Safety and Security Directors

Tactical Utility of As-Built Drawings

- Maintain paper copies, and the most readable digital formats (.pdf).
- Ensure that diagrams, imagery or videos can be produced with the bandwidth and power you will have in your worst case scenario.
- Room names/numbers on drawings should align with current wayfinding.
- Clearly note type of patient rooms (infants, intensive care, etc.) on diagrams, and critical life support infrastructure.
- Update with each remodel.
Influencing the Design Process for Healthcare Safety and Security Directors

Tactical Utility of As-Built Drawings

• Layout drawings depict building organization, window locations and entry points; as well as reveal options for isolating, cordonning or canalizing specific areas. Also note potential movement paths and entry points above and below targeted rooms.

• Electrical, Mechanical, Plumbing, Oxygen and BMS Network drawings/details will reveal options for controlling power, heat, NG, water, etc. to specific areas.

• Wall and glazing details may suggest to tactical planners the optimal avenues of approach, available cover, and offensive or defensive options relative to the ballistics associated with available tactical team or adversary weapons.
Influencing the Design Process for Healthcare Safety and Security Directors

Tactical Utility of As-Built Drawings

- Layout drawings can also support patrol planning and reporting, emergency response table top exercises (TTX), tactical decision games for response teams, and evacuation modeling.

- Site/survey drawings may suggest primary and alternative locations for logistics staging areas, mobile command posts, triage areas, and concealed observation points or approach paths.
In the military, range cards indicate the preparedness of the defense.

Your access to, and understanding of, your facility diagrams is a good litmus test for the state of your own organization’s preparedness.

Because you work there, you know the “lay of the land”; however, you will use facility diagrams to share that understanding with third parties (tactical teams, etc.).
Influencing the Design Process for Healthcare Safety and Security Directors

Tactical Utility of As-Built Drawings

**Pro tip:** If building diagrams for your facilities are openly available online, or in some other unrestricted location*, adversaries can also use them for tactical planning.

* This necessarily excludes building egress maps
Reading Design Drawings

So you got that “seat at the table” you wanted.

Now what?
Influencing the Design Process for Healthcare Safety and Security Directors

Reading Design Drawings

- If you do not specify your preferred CAD symbols, the design will use of create his/her own.
- Having standardized design symbol may be useful if you have a large facility portfolio.
- SIA has developed a standard set of CAD symbols for security systems.
Understanding marginal information will help you read and request design documents from the design firm, during or after a design protect.

Most design files are very large size (MB/GB), and are often archived within a year after project closure.
Consider providing facilities for secure storage of building plans, specifications, and operation and maintenance manuals. These should be easily accessible in cases of emergency.
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Device numbers correspond to amplifying information in riser diagrams, details, and equipment schedules.
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### Equipment Schedule

<table>
<thead>
<tr>
<th>CAMERA #</th>
<th>LOCATION</th>
<th>SHEET NUMBER</th>
<th>MODEL NUMBER</th>
<th>CAMERA MOUNT TYPE</th>
<th>INDOOR/OUTDOOR</th>
<th>ORIENTATION – MAIN AREA OF FOCUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>M-1C</td>
<td>MATERIAL CONTROL BLDG #1</td>
<td>E-102</td>
<td>P1448-IE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTHEAST – P</td>
</tr>
<tr>
<td>M-1C</td>
<td>MATERIAL CONTROL BLDG #1</td>
<td>E-102</td>
<td>P1448-IE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH – MATERI</td>
</tr>
<tr>
<td>M-2C</td>
<td>MATERIAL CONTROL BLDG #2</td>
<td>E-102</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH – AREA RE</td>
</tr>
<tr>
<td>M-2C</td>
<td>MATERIAL CONTROL BLDG #2</td>
<td>E-102</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH – ROADWAY I</td>
</tr>
<tr>
<td>M-3C</td>
<td>MATERIAL CONTROL BLDG #3</td>
<td>E-102</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH – WEST SE</td>
</tr>
<tr>
<td>M-3C</td>
<td>MATERIAL CONTROL BLDG #3</td>
<td>E-102</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTHWEST – AREA I</td>
</tr>
<tr>
<td>M-3C</td>
<td>MATERIAL CONTROL BLDG #3</td>
<td>E-102</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH – MATERIAL C</td>
</tr>
<tr>
<td>MAINT</td>
<td>MAINTENANCE BLDG</td>
<td>E-102</td>
<td>Q6000-E MK II</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH</td>
</tr>
<tr>
<td>MAINT</td>
<td>MAINTENANCE BLDG</td>
<td>E-102</td>
<td>Q6000-E MK II</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH</td>
</tr>
<tr>
<td>1-A1</td>
<td>ADMIN BLDG #1</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH – W</td>
</tr>
<tr>
<td>2-A1</td>
<td>ADMIN BLDG #1</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH – E</td>
</tr>
<tr>
<td>3-A1</td>
<td>ADMIN BLDG #1</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH – E</td>
</tr>
<tr>
<td>4-A1</td>
<td>ADMIN BLDG #1</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>SOUTH – W</td>
</tr>
<tr>
<td>5-A1</td>
<td>ADMIN BLDG #1</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH – E</td>
</tr>
<tr>
<td>1-A3</td>
<td>ADMIN BLDG #3</td>
<td>E-103</td>
<td>P1448-LE</td>
<td>WALL</td>
<td>OUTDOOR</td>
<td>NORTH –</td>
</tr>
<tr>
<td>2-A3</td>
<td>ADMIN BLDG #3</td>
<td>E-103</td>
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Presentation Summary

- Impacts of poor design
- Achieving secure design outcomes
- Types of design processes
- The Security Director’s role in the design process
- Design phases
- **Five** ways to influence the process before it begins
- Additional design and project phases
- The case for design changes
- Design documents and response planning
- Reading design documents

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If you would like documentation for attending this presentation for your professional organization’s continuing education or partial in-service credit requirements, please complete the *roster* or provide a *business card* at the conclusion of this presentation.
Back-Up Slides
The Limits of Deterrence

Avoid expecting of CPTED what can only be provided by physical security.

CPTED can support a physical protection system, but not replace it.

*Deterrence is Relative*
Designing the four Ds of Physical Security
Influencing the Design Process for Healthcare Safety and Security Directors

**Deter**
- Crime Prevention Through Environmental Design (CPTED)
- Perimeter barriers (sensored)
- Access control
- Intrusion detection (alarms)
- Surveillance (VSS) (analytics)
- Duress Annunciation

**Detect**
- Perimeter barriers (unsensored)
- Defense in depth
- Asset compartmentalization
- Target hardening

**Delay**
- Mass Notification
- Response force deployment
- Vehicle denial barriers, stand-off distance

**Deny**

Center for Development of Security Excellence (CDSE), Defense Security Service (DSS)
CPTED – *Deterrence is Relative*

- “Maximize visibility”
- “Guidance”
- “Express ownership”

These are ways to explain *deterrence*.

They are not *quantifiable* measures of:

- Probability of *detection*,
- Adversary *delay*, or
- Probability of interruption (*denial*).
CPTED – *Deterrence is Relative*

*Deterrence* is relative to the motivation of the adversary.

*Detection, Delay, and Denial* are quantifiable, and their contributions to physical protection system (PPS) effectiveness are measurable.

- **PPS Measure:** Chain link fence, wire outriggers
- **Delay:** 7-15 seconds

Video: Sandia National Laboratories
CPTED – *Deterrence is Relative*

In the *execution phase* of an intrusion or attack (“actions on the objective”), *video surveillance* will deter only the person planning to escape unobserved.

**Video surveillance *can***:

- When paired with an intrusion alarm, help assess or qualify alarms
- With analytics, aid *detection*
- Post-local incident, aid investigation

**By itself, video surveillance *cannot***:

- Deter an intruder who has no intent to escape
- Delay an intruder
- Disrupt/Deny an intrusion
Adversary Task Timeline

*Deterrence* happens here. It is not quantifiable in the timeline.
Influencing the Design Process for Healthcare Safety and Security Directors

**Adversary Task Timeline** – *protected asset in safe*

*Design Basis Threat:* One to two intruders, unarmed, with hand-carried equipment (“common hand tools, drills, punches hammers, and pressure applying devices”)

- **Deter**
- **Detect**
- **Delay**
- **Deny**

- *Adversary time to complete task:* 15:10 Min.
- *Response time:* 11:30 Min.
- *Outcome:* Attack fails
Terrorist Attack Planning Cycle

A₀ ← Broad Target Selection → T₀ ← Tᵢ ← Tₖ → Tᵢ ← Tₖ

- Intelligence and Surveillance
- Specific Target Selection
- Pre-Attack Planning and Surveillance
- Attack Rehearsal
- Actions on the Objective
- Escape and Exploit

Period when a **criminal** seeks to avoid detection and interruption.

Period when a **Terrorist** (suicide) seeks to avoid detection and interruption.

Deterrence → Detection

Though not quantifiable when measuring physical protection system (PPS) effectiveness; deterrence can influence a significant portion of the adversary planning cycle.

CPTED’s impact helps shape *perception* and *influence* behavior; *how much* influence remains relative.

Adapted from U.S. Army Provost Marshal General, Antiterrorism Branch

Aug 2018