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Questions related to specific materials, methods, and services will be addressed at the conclusion of each presentation.

Learning Objectives

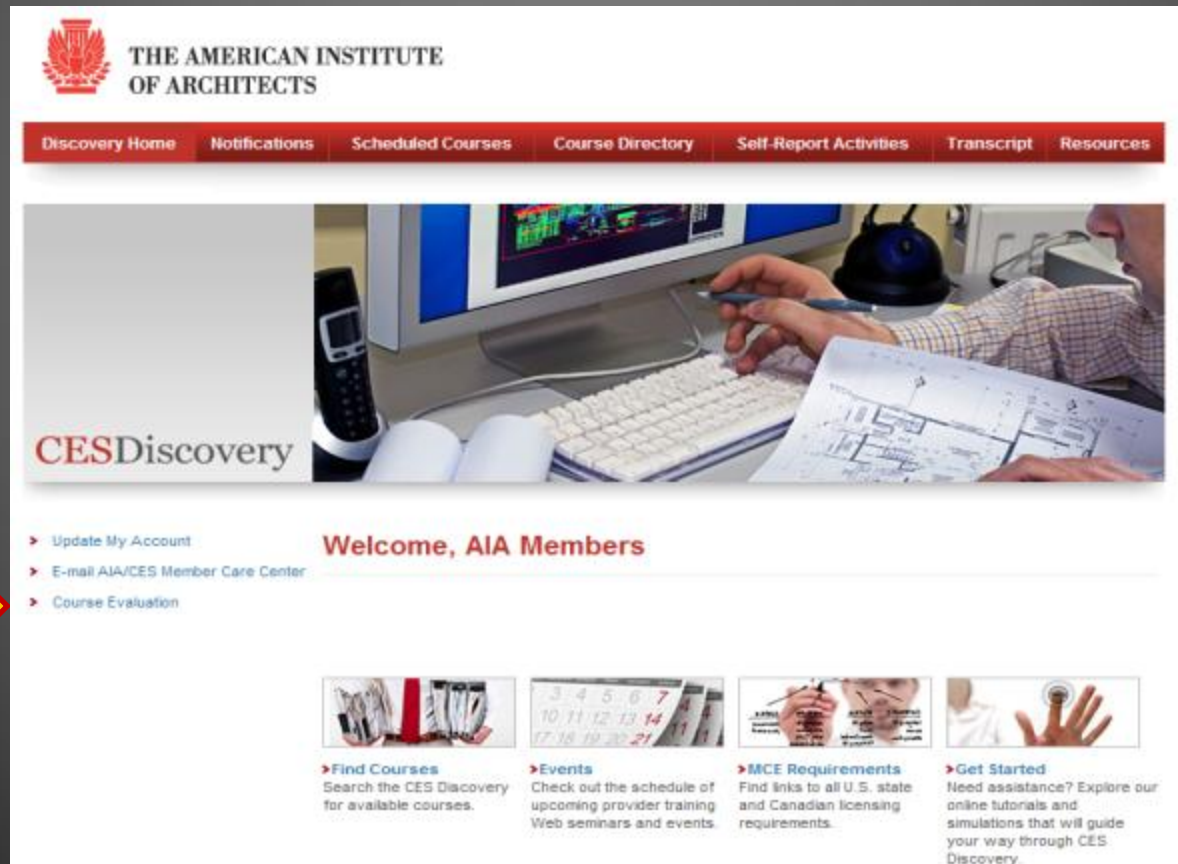
Best Practices for Safer Schools

At the end of this program, participants will be able to:

- 1. Be familiar with the principles of Crime Prevention through Environmental Design*
- 2. Have practical solutions to the most common safety concerns and risk factors in public school campuses*
- 3. Show knowledge of current trends and changing priorities in Risk Management as relates to campus facilities*
- 4. Be aware of the most up to date practices relating to the use of electronic technology to enhance security and student safety.*

Course Evaluations

In order to maintain high-quality learning experiences, please access the evaluation for this course by logging into CES Discovery and clicking on the [Course Evaluation](#) link on the left side of the page.



The screenshot shows the AIA CES Discovery website. At the top left is the AIA logo and the text "THE AMERICAN INSTITUTE OF ARCHITECTS". A red navigation bar contains the following links: "Discovery Home", "Notifications", "Scheduled Courses", "Course Directory", "Self-Report Activities", "Transcript", and "Resources". Below the navigation bar is a banner image of a person at a computer workstation with the text "CESDiscovery" overlaid. Underneath the banner, on the left, is a vertical list of links: "Update My Account", "E-mail AIA/CES Member Care Center", and "Course Evaluation". A yellow arrow points to the "Course Evaluation" link. To the right of this list is the heading "Welcome, AIA Members". At the bottom of the page, there are four promotional boxes with icons and text:

- Find Courses**: Search the CES Discovery for available courses.
- Events**: Check out the schedule of upcoming provider training Web seminars and events.
- MCE Requirements**: Find links to all U.S. state and Canadian licensing requirements.
- Get Started**: Need assistance? Explore our online tutorials and simulations that will guide your way through CES Discovery.

Thank you for your time!

QUESTIONS??

This concludes The American Institute of Architects
Continuing Education Systems Course

Best Practices for Safer School Facilities

Panelists:

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Agenda:

In this presentation, we will:

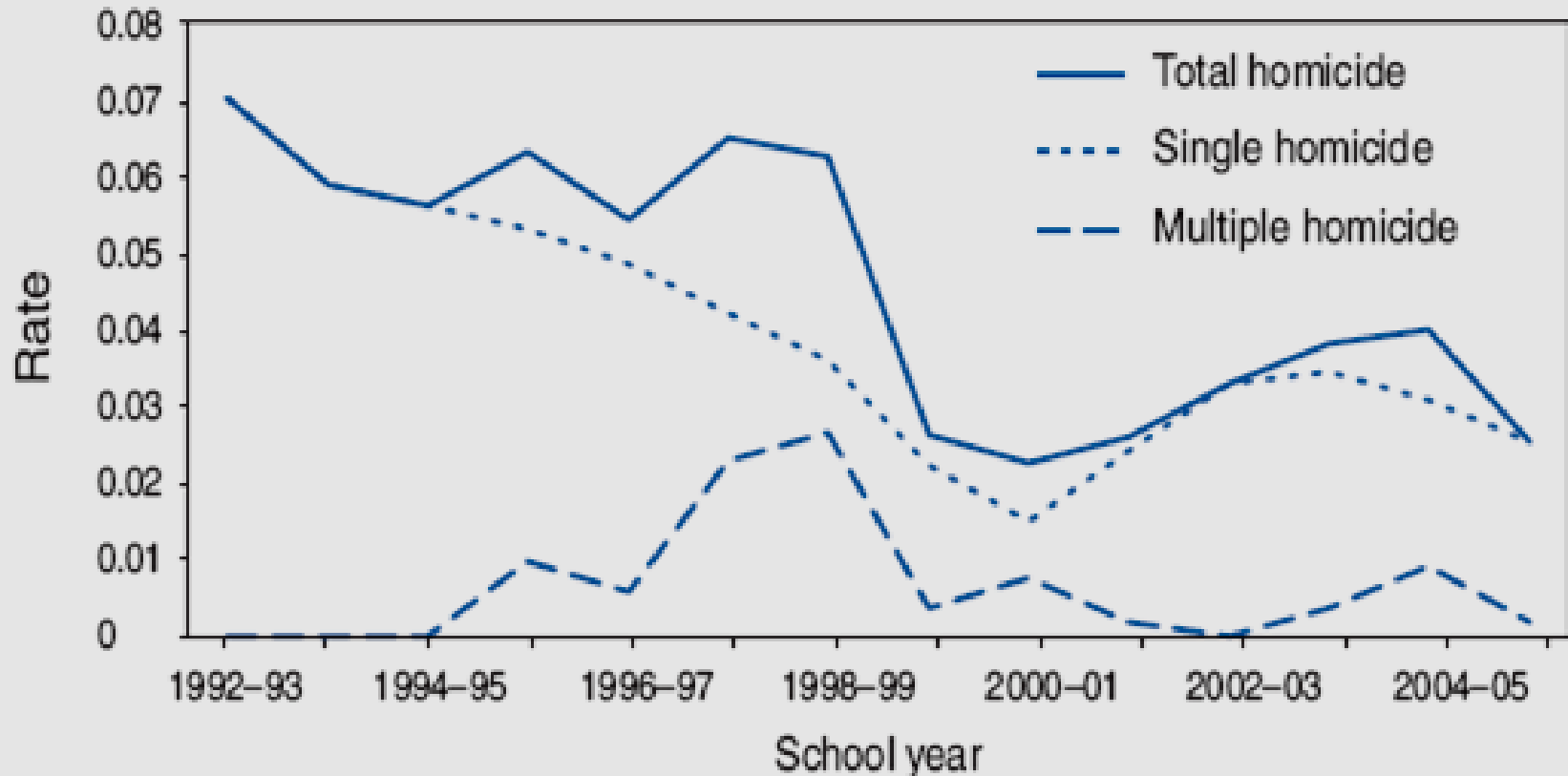
- Review the factual context relating to safety concerns on campus
- Describe the fundamental strategies of Crime Prevention through Environmental Design
- Show you some realistic steps you can take, particularly focusing on secure entries
- Equip you with additional suggestions and resources going forward.

Context: *Violent Crime on Campus by Location:*

Parking lots and bus stops:	38%
Stairs and Corridors:	30%
Grounds:	23%
Classrooms:	21%
Entries:	11%
Courtyards or between buildings:	9%
Bathrooms:	6%
Cafeterias:	5%

**Per Kachur et al, 1996*

Context: *Trends in School-Associated Violence*



* Per 100,000 students.

Context: *From Columbine to Sandy Hook -
School aged violent deaths from 1999 through 2012*

School Age Victims of Homicide:	23,936
School Age Victims of Suicide:	<u>26,589</u>
Total School Age Violent deaths:	50,525
Total “Mass” Homicides at K-12 schools:	44
Proportion of Mass Homicides as compared to total School Age violent deaths:	0.08%

**“School Age” is here counted as being from 5 through 19 years of age*

*Per FBI, Dept. of Education, and Center for Disease Control (data for certain years
is extrapolated)*

Context: *From Columbine to Sandy Hook -
School aged violent deaths from 1999 through 2012*

Total Violent Deaths on School *Campuses: 328

**Proportion of violent deaths on campus as
compared to total School Age Violent Deaths: 0.64%**

**Proportion of Mass Homicides as compared
to total violent deaths on Campus: 12.83%**

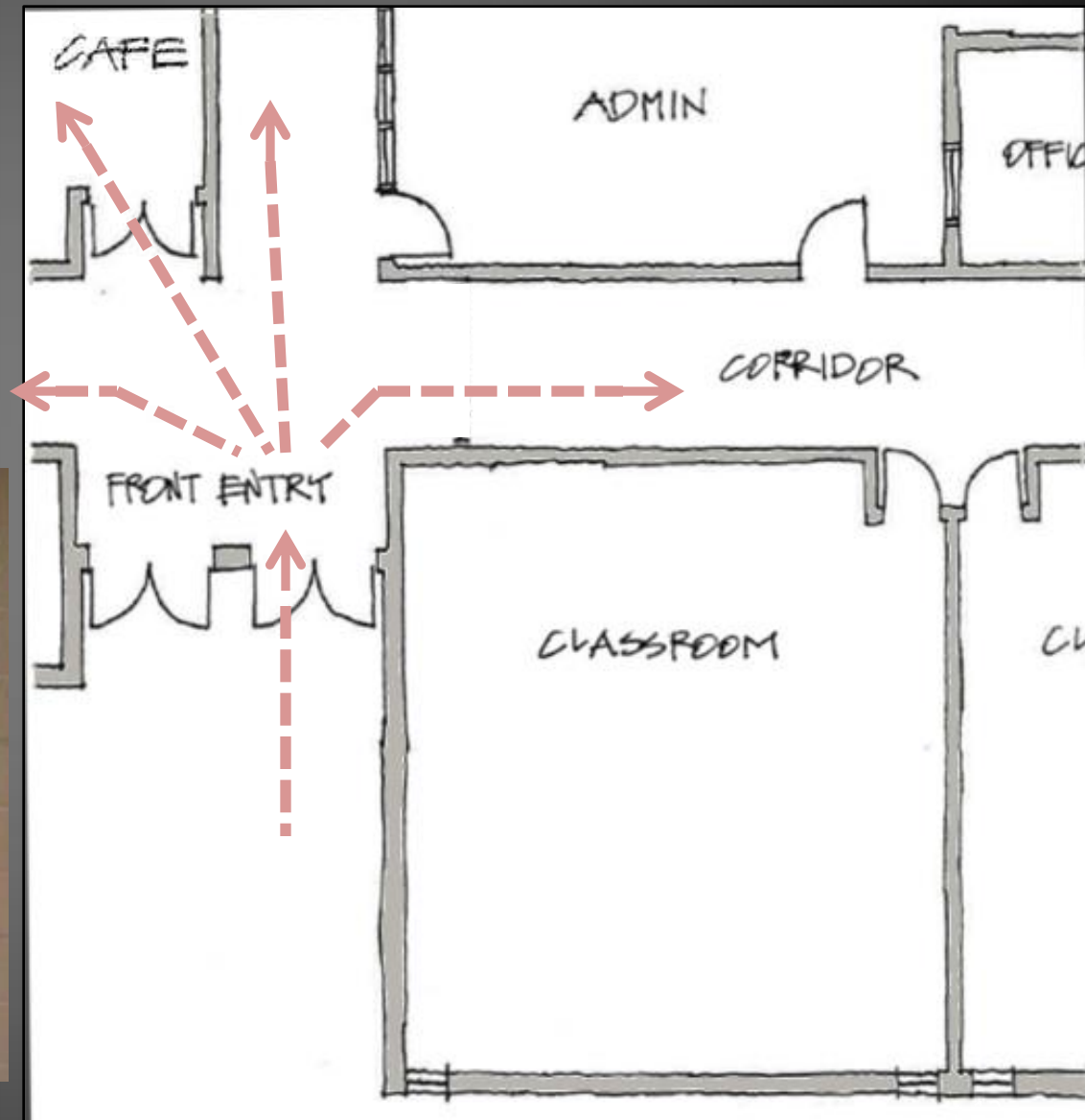
**"On Campus" means on school property (including buses) or while attending
any school supervised activity*

Secure Entries: The Basics

- **Checkpoint Traffic Flow**
- **Visibility**
- **Emergency Communications**

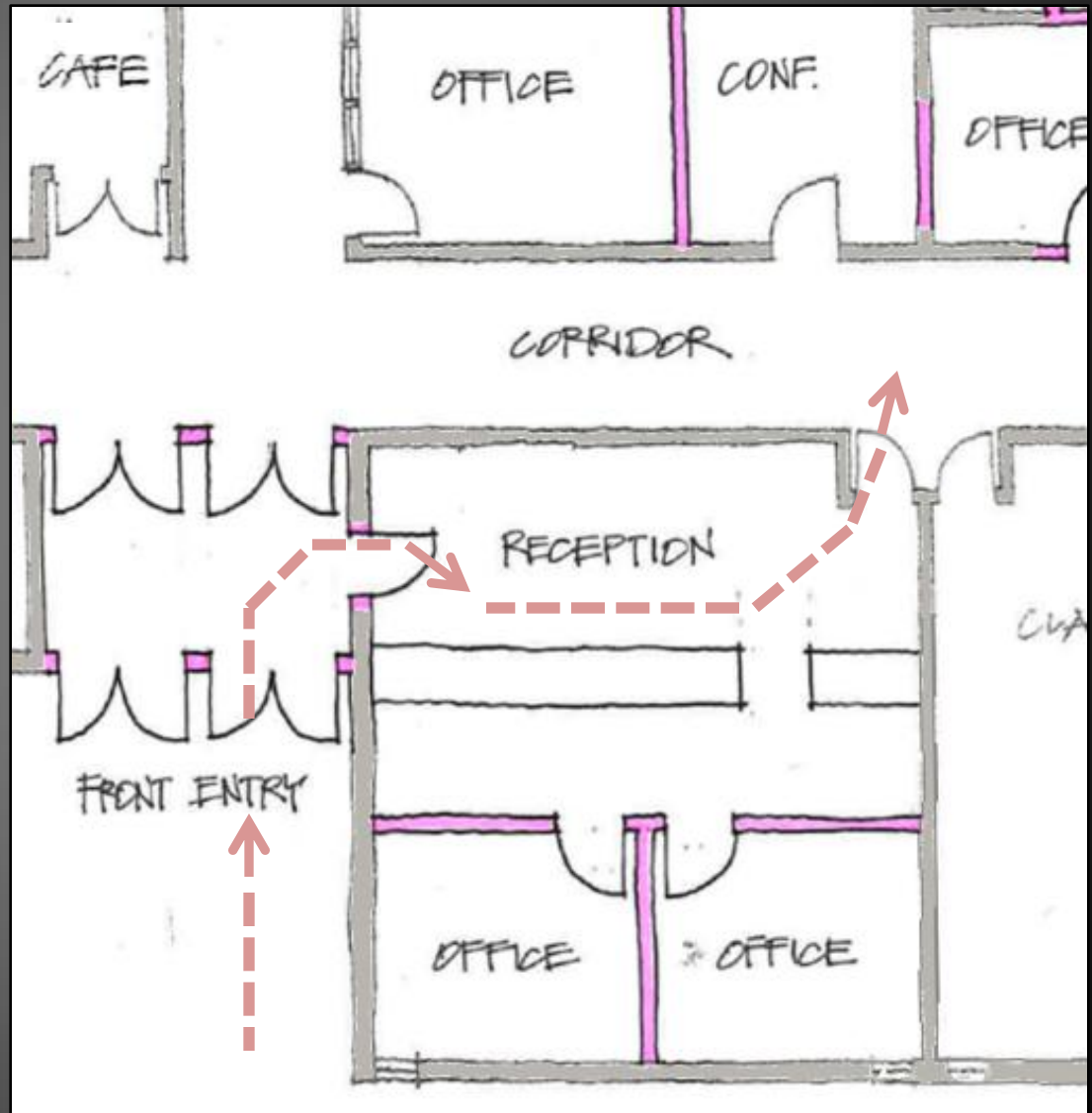
Checkpoint Traffic Flow: Existing Conditions

- No Visibility from Office to front entry
- Visitors can freely go in multiple directions



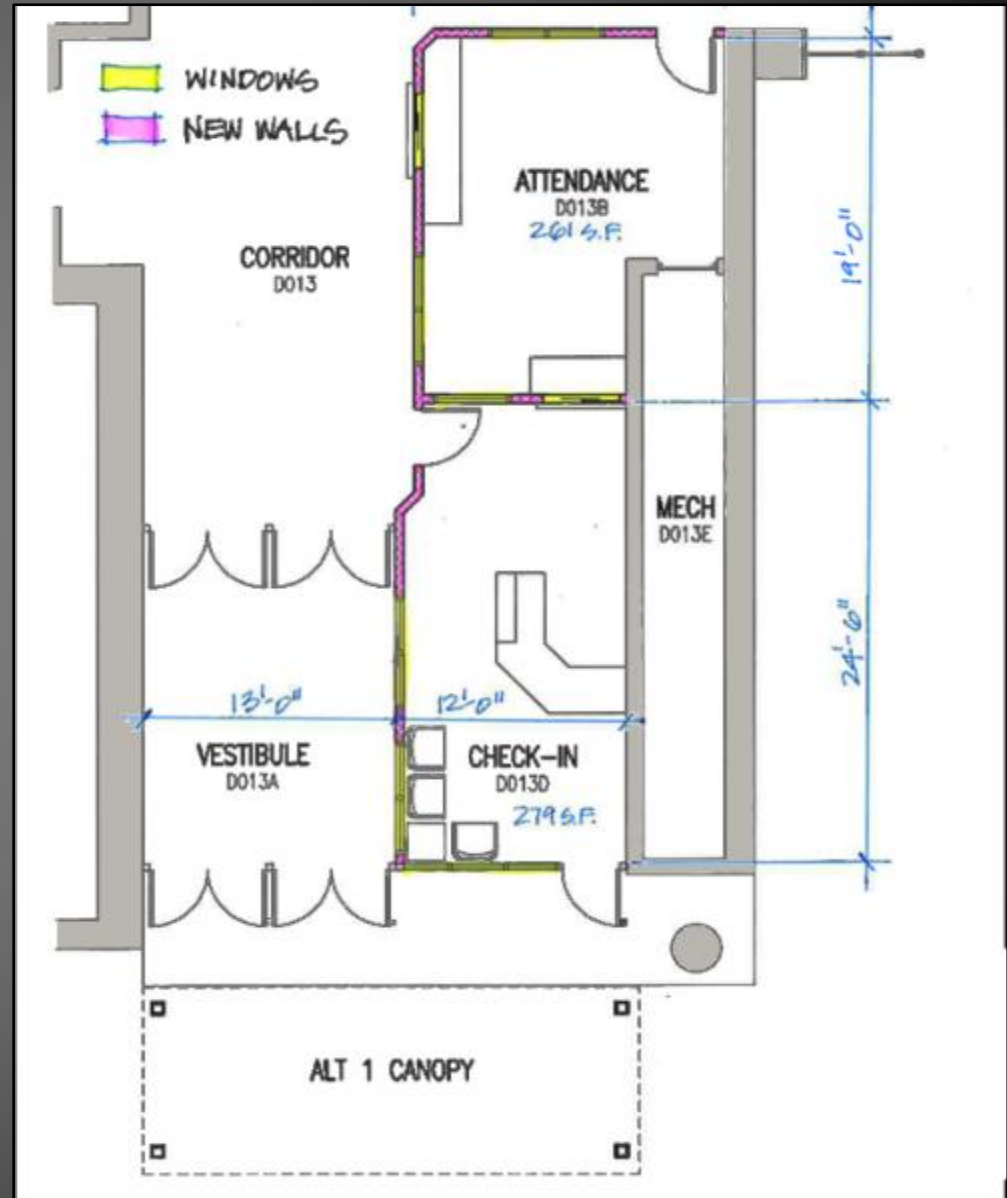
Checkpoint Traffic Flow: Proposed Upgrades

- Two sets of doors to create locking vestibule
- Re-arrange rooms to put reception up front
- Visitors are forced to go through checkpoint



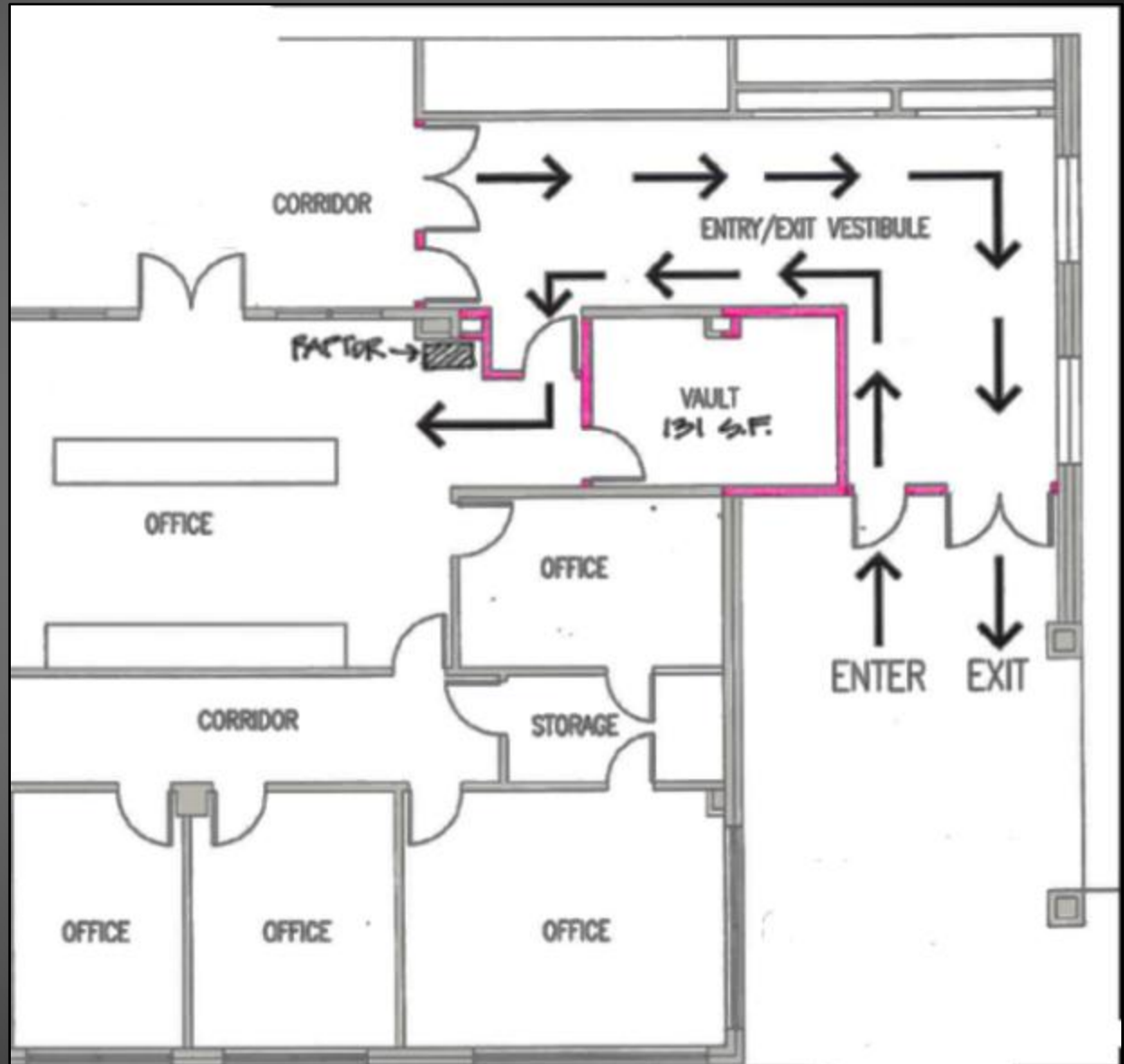
Costs: order of magnitude figures

- \$160,000 – included sidewalk, handicapped parking, canopy



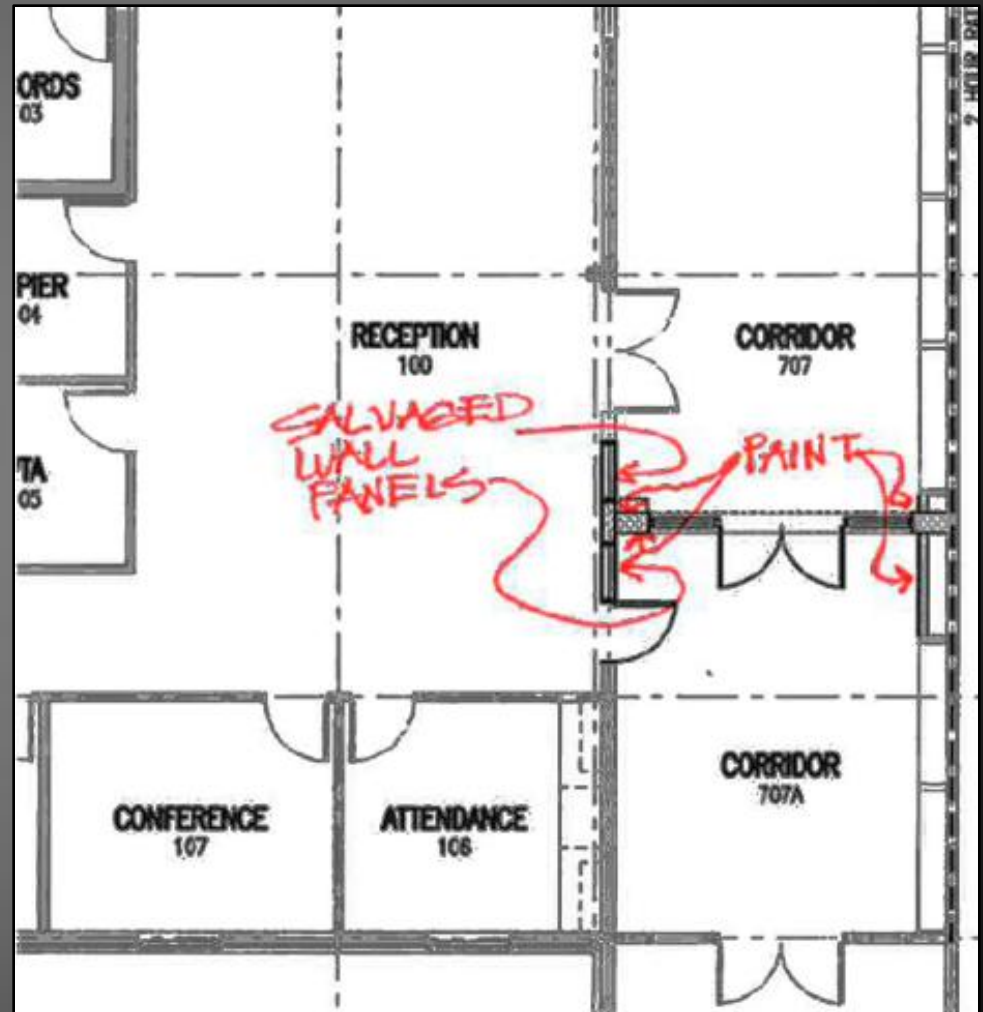
Costs: order of magnitude figures

- **\$100,000**
 - included new vestibule doors, moving a room, new door into office, repair/replace flooring in Office and Corridor, modify casework



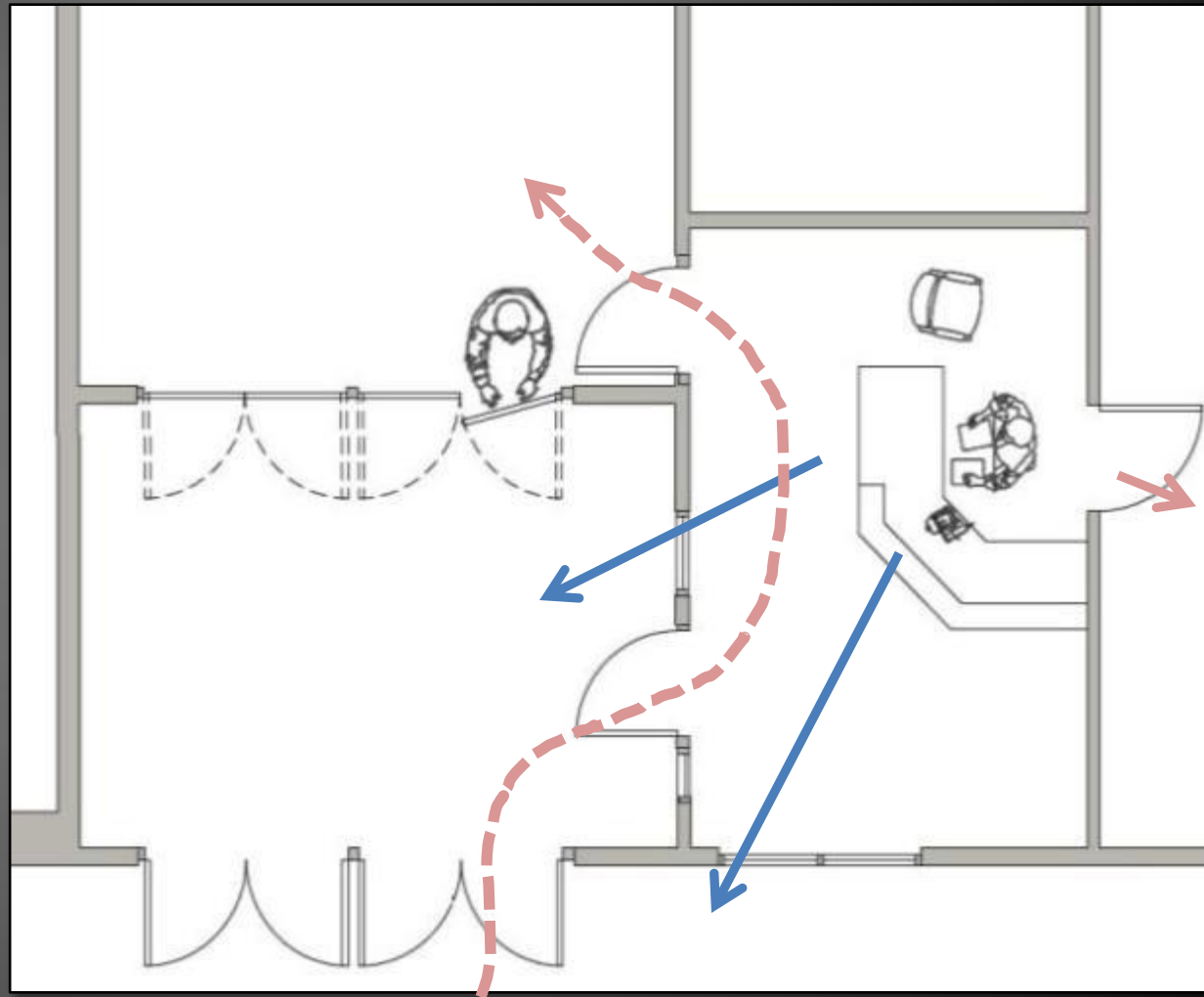
Costs: order of magnitude figures

- \$40,000
- Included new doors, windows, adjacent finish patching and repair



Checkpoint Traffic Flow: Basic Diagram

- Inner doors locked, visitors forced to go through Checkpoint
- Visibility from Checkpoint
- Emergency Communication activated at Checkpoint
- Escape Route from Checkpoint



Exterior

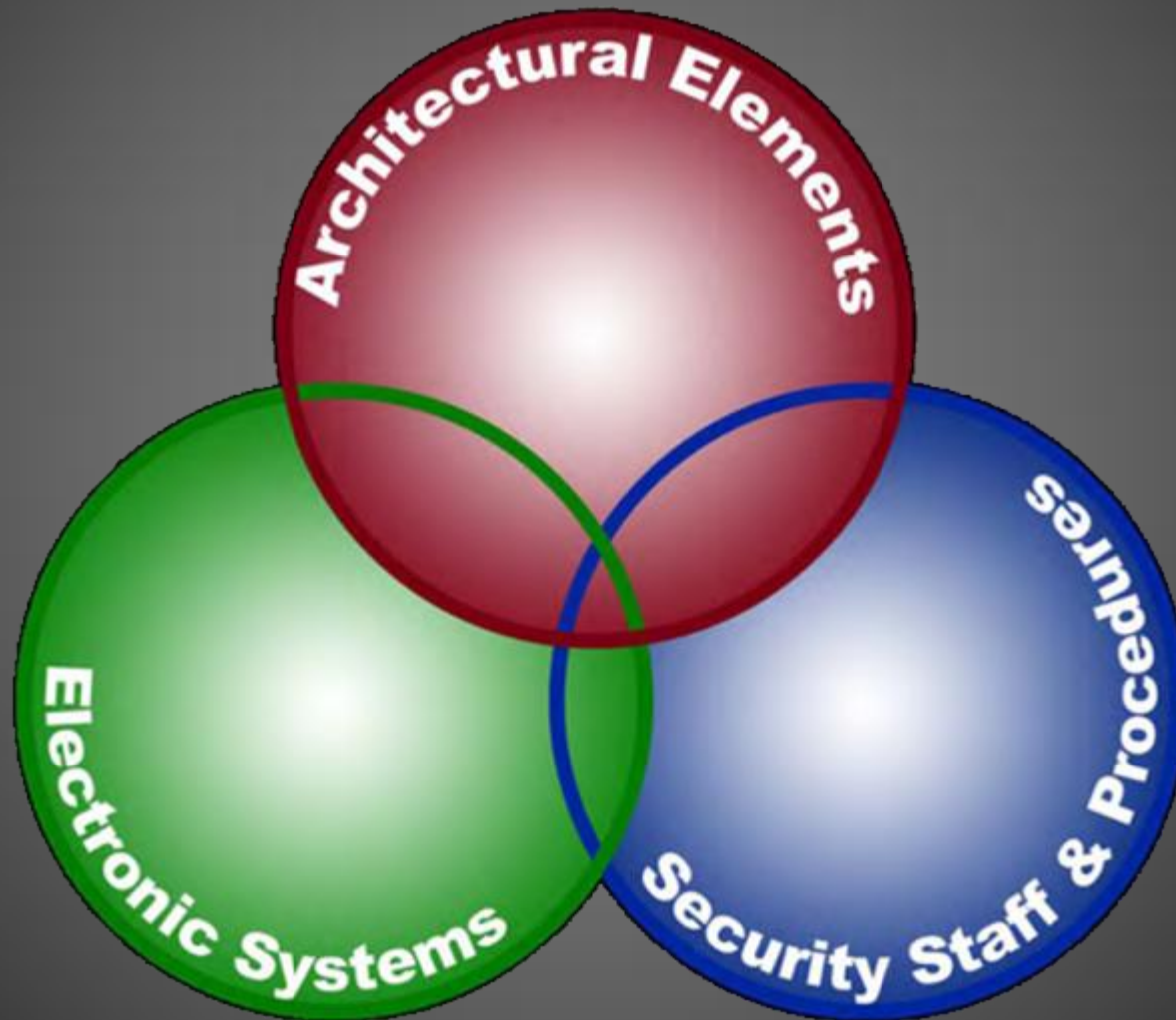
Principles of CPTED (Crime Prevention Through Environmental Design)

- **Natural Surveillance**
- **Natural Access Control**
- **Natural Territorial Reinforcement**

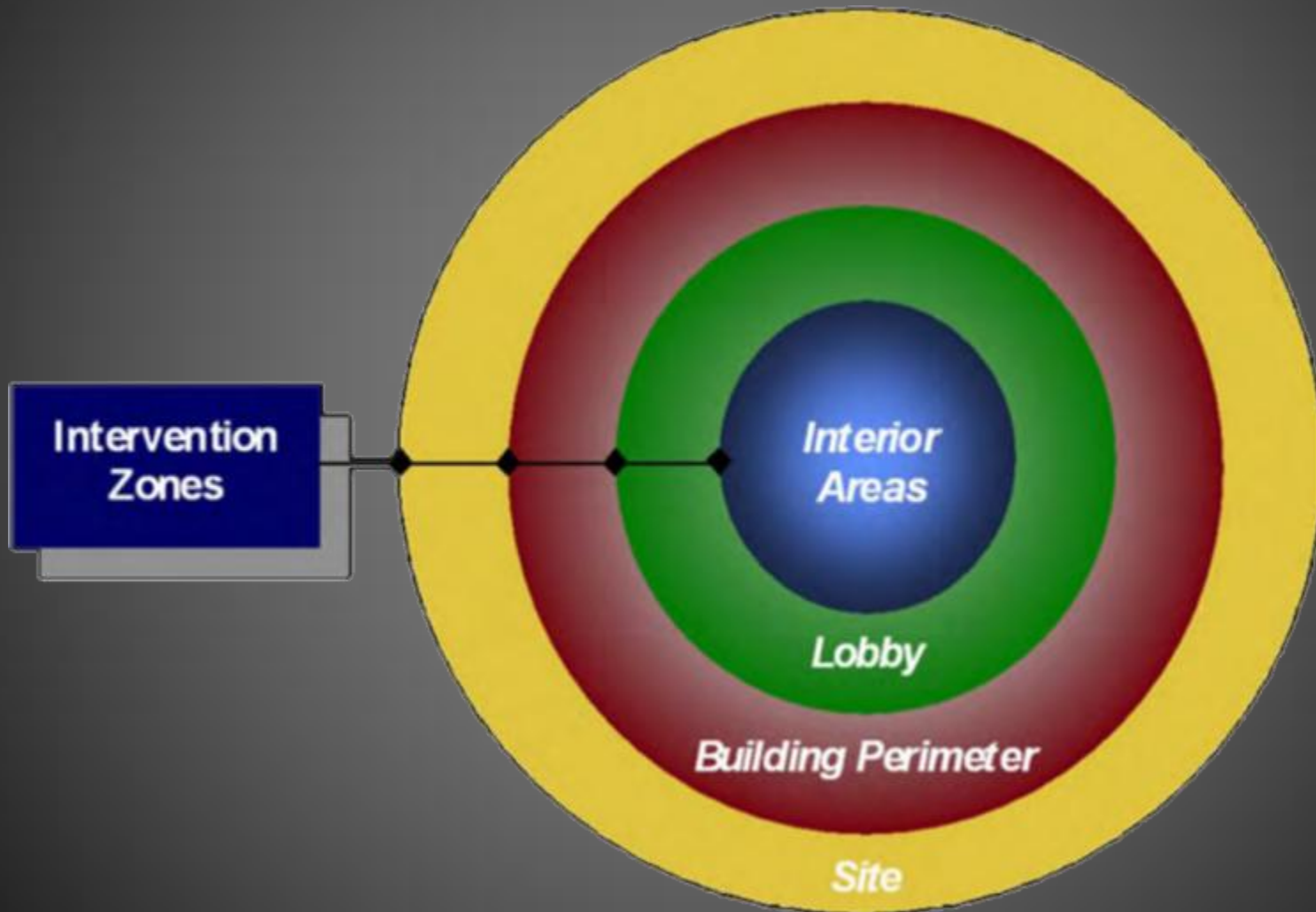
“CPTED is the proper design and effective use of the built environment that can lead to a reduction in the form and incidence of crime and improvement in the quality of life.” - C. Ray Jeffrey, 1971

“CPTED is a tool for identifying, preventing and solving local crime problems. It is a process, a way of thinking about crime and not a "cookie cutter" program to replicate.” - National Crime Prevention Council

Integrated Security Program:



CPTED Strategies: Concentric Circles of Protection



CPTED Strategies: Natural Access Control

- Decreases crime opportunity by denying access to crime targets and creating a perception of risk to the offenders
- Differentiates between public and private space
- Occurs by designing entrances and exits, fencing, lighting and landscape to limit access or control flow
- Tips:
 - Limit number of entrances to your campus
 - Have one main entrance clearly marked that will lead visitors to the main office

CPTED Strategies: Natural Access Control

Roof Access



Roof Access

CPTED Strategies: Natural Surveillance

- Increases the threat of apprehension
- Potential offenders feel increased scrutiny and limitations
- Occurs by designing the placement of physical features, activities and people in such a way to maximize visibility
- Tips:
 - Keep bus drop-off areas, employee parking, and visitor parking separate from each other and away from busy streets
 - Avoid constructing large blank walls, which limit surveillance opportunities and serve as targets for graffiti
 - Use low shrubbery to allow visibility from the classrooms
 - Do not cover entrance windows with posters and announcements

CPTED Strategies: Natural Surveillance

Open Restroom Vestibules



Open Corridors



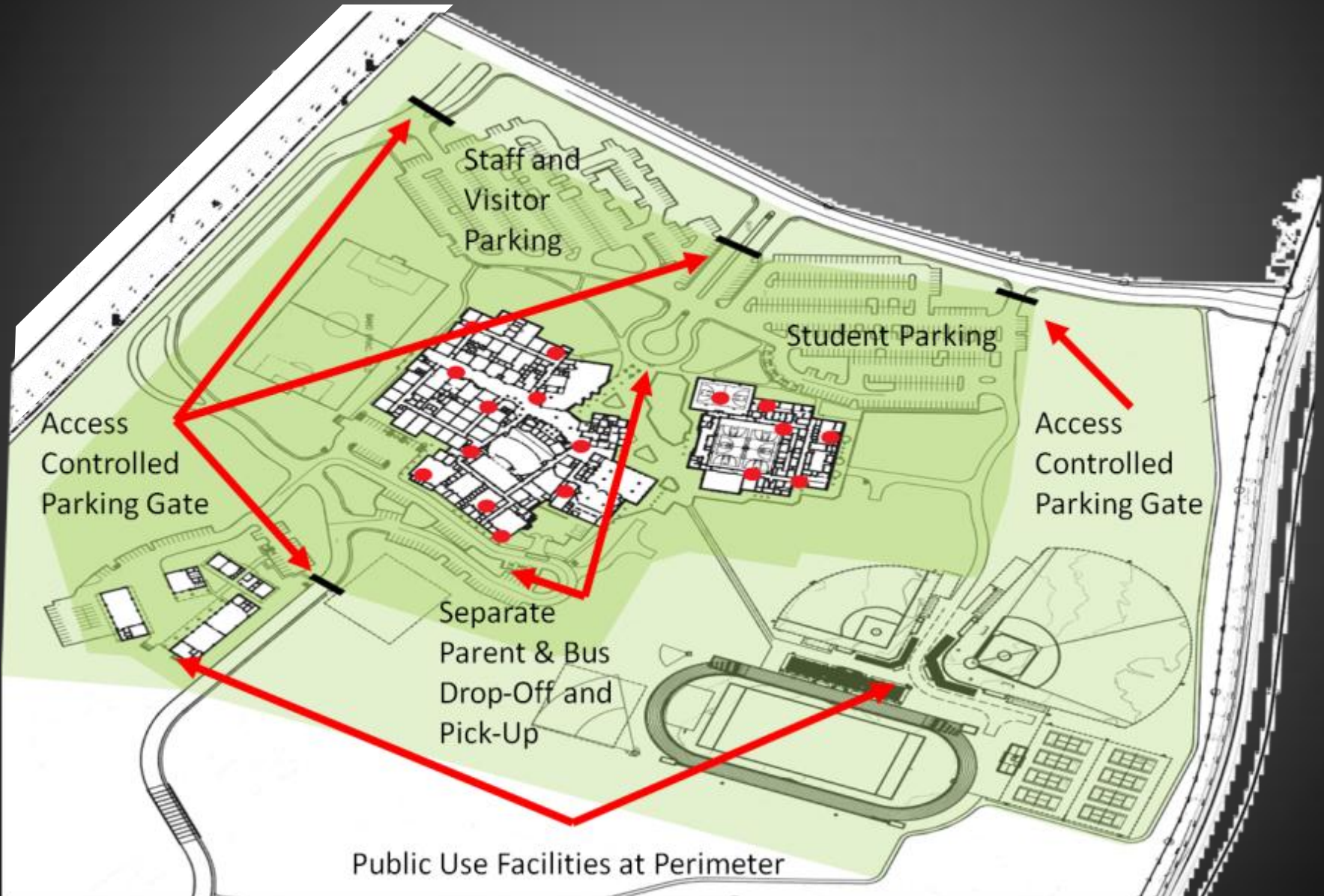
Transparency and Visibility



CPTED Strategies: Natural Territorial Reinforcement

- Promotes social control through increased definition of space
- An environment designed to delineate private space does two things:
 - Creates a sense of ownership
 - Sense of owned space creates an environment where “strangers” and “intruders” stand out
- Occurs by designing buildings, fences, pavement, lighting and landscape to express ownership and define public and private spaces

CPTED Strategies: Natural Territorial Reinforcement

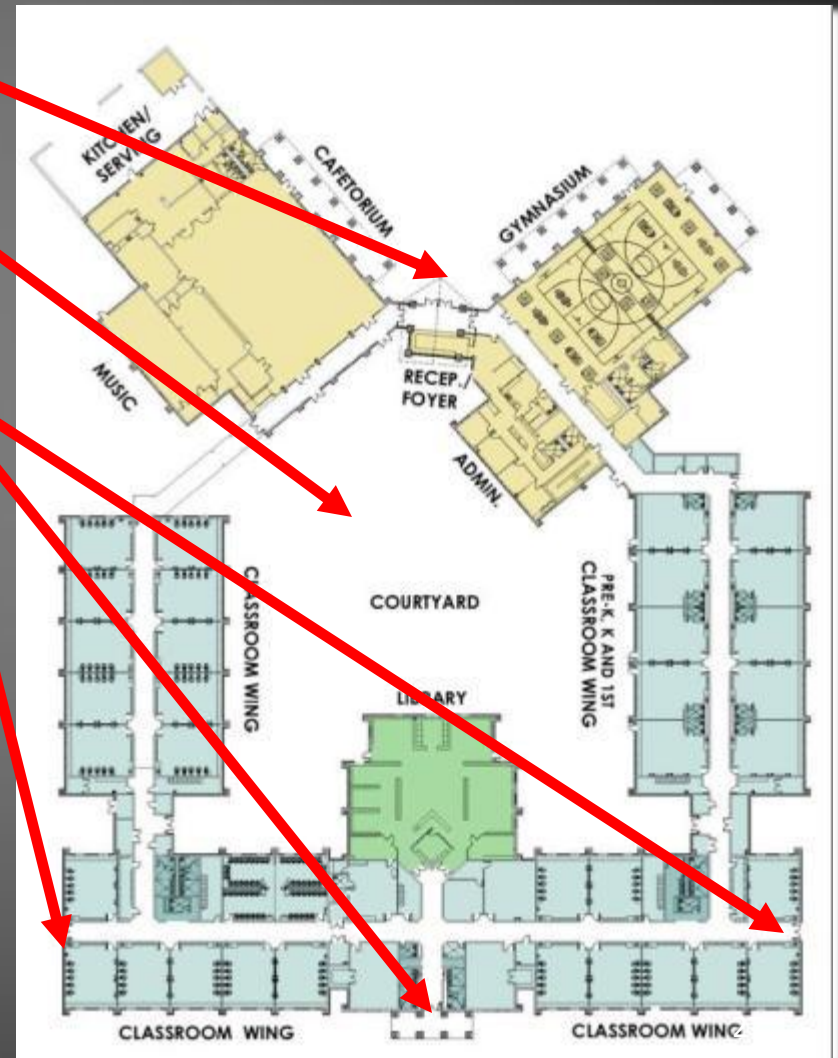


CPTED Strategies: Natural Territorial Reinforcement

Main Public Entrance and Control Point

Secure Courtyard

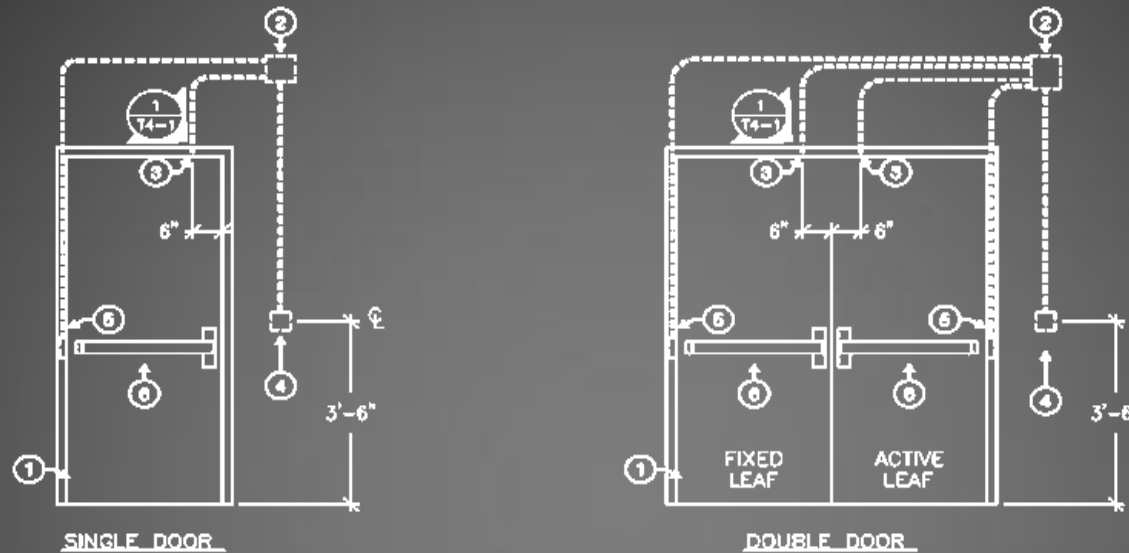
Secondary Exits Limited Access



Electronic Security Systems

- Access Control Systems
 - Benefits:
 - Safer environment
 - Automatic lock-down
 - Automatically grant/deny access to individuals
 - Establish different access levels
 - Monitor real-time movements within the facility
 - Review history and past transactions
 - No need to replace locks in case of lost keys
 - Lost cards are disabled and news ones are issued
 - Trends:
 - IP based systems
 - Non-proprietary systems
 - IClass systems
 - Integration with video surveillance system
 - Minimum Recommendations
 - Prep doors for access control systems

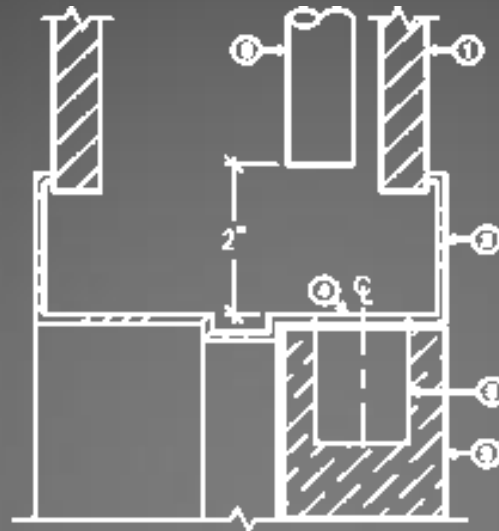
Electronic Security Systems



KEYED NOTES:

- ① SCHEDULED DOOR.
- ② 6-IN X 6-IN X 4-IN DEEP BACK BOX WITH (1) 1-IN CONDUIT WITH 200 LBS PULL STRING AND NYLON BUSHING BUSHING ON SECURE SIDE OF DOOR. (BY DIV. 26)
- ③ ½-IN CONDUIT FROM 6-IN X 6-IN X 4-IN DEEP BACK BOX STUBBED INTO THE HEAD OF DOOR FRAME FOR CONCEALED DOOR POSITION SWITCH. (BY DIV. 26)
- ④ 4 1/16-IN X 4 1/16-IN X 2 1/8-IN DEEP BACK BOX WITH SINGLE GANG REDUCTION PLATE FLUSH MOUNTED AND A (1) ½-IN CONDUIT TO 6-IN X 6-IN X 4-IN DEEP BACK BOX FOR CARD READER. (BY DIV 26)
- ⑤ ½-IN CONDUIT FROM 6-IN- X 6-IN X 4-IN DEEP BACK BOX STUBBED DOWN DOOR FRAME FOR POWER TRANSFER HINGE. (BY DIV 26)
- ⑥ ELECTRIFIED EXIT DEVICE WITH REQUEST-TO-EXIT DEVICE BUILT-IN.

Electronic Security Systems



KEYED NOTES:

- ① SCHEDULED PARTITION.
- ② HEAD OF DOOR FRAME.
- ③ SCHEDULED DOOR.
- ④ 1 5/16-IN. DIAMETER HOLE IN THE HEAD OF FRAME FOR CONCEALED DOOR POSITION SWITCH.
- ⑤ 1 5/16-IN. DIAMETER X 1 5/8-IN. DEEP HOLE IN TOP OF DOOR FOR CONCEALED DOOR POSITION SWITCH MAGNET.
- ⑥ 1/2-IN. CONDUIT FROM 6-IN X 6-IN X 4-IN BACK BOX ABOVE DOOR (BY DM 26).



TYPICAL DOOR POSITION SWITCH

SCALE: N.T.S.

Electronic Security Systems

– Video Surveillance Systems

- Benefits:
 - Identify offenders
 - Crime deterrence
 - Asset protection
 - Real time monitoring
 - Monitor facility from any web enabled device
 - Verify intrusion alarms, minimize false dispatches
- Trends
 - IP based systems
 - Non-proprietary systems
 - Megapixel cameras
 - Built-in analytics
 - Integration with access control systems
- Minimum Recommendations
 - Rough-in and cable for camera locations

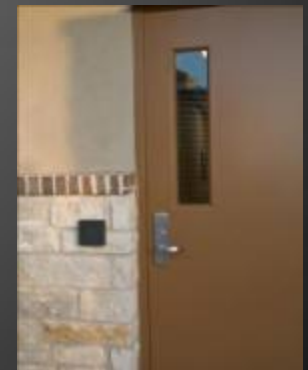
Electronic Security Systems

– Intrusion Detection Systems

- Benefits:
 - Detection and response
 - Asset protection
- Trends
 - Hold-Up and duress buttons
 - Door position monitoring
 - Monitoring other systems
 - » High and low temperatures
 - Integration with access control system
- Minimum Recommendations
 - Key pads
 - Motion sensors
 - Glass break sensors
 - Door position switches

Costs: order of magnitude figures

- **New Double doors** **\$3,000 – \$5,000**
- **Add card reader to door** **\$500 - \$2,500**
- **Add security camera** **\$500 - \$2,000**
- **New door in wall** **\$2000**
- **New vision window in wall** **\$1000**
- **Security Check-in window** **\$2500**
- **Intrusion detection sensor** **\$200**



Mitigating School Safety through CPTED:

Starting at the Front

- Mitigating school safety should always be considered in the design of new schools and renovations.
- Require contracted architects to fully engage those end users such as principals, teachers and support staff.
- The first security priority for schools should always be student and staff safety, with entry control as the main focus.

Target Hardening

- Target hardening or mitigation is an approach to making your school a less attractive target for anyone with "bad intent."
- This can be directed at denying or limiting access to a crime target through the use of physical barriers such as fences, gates, locks, electronic alarms, and security patrol.

Operational Measures

- Policies and procedures
 - Security staffing
 - Actively monitored system
 - School Resource Officer
 - District Police Dept.
 - Visitor access management
 - Maintaining archived video
 - Issuing access cards and access levels
 - Lock down procedures

Culture:

- **Proactively reach out to key stakeholders prior to an emergency**
 - **Parents**
 - **News media**
 - **First Responders**
- **Place more emphasis on prevention and mitigation**
- **Allow solutions/best practices to take on the flavor of your organization and community**

Assessment: where can you go for help?

- ***Your Insurance Provider***
- ***Independent Security Consultant***
- ***Targeted Scope***

***TOP TEN LIST: some answers to the question,
“What are you doing to make your school safer?”***

- 1. Policies and Priorities*
- 2. Door position sensors at all exterior doors*
- 3. Card Readers*
- 4. Surveillance Cameras*
- 5. Cameras – Recording vs. Monitoring*
- 6. Visitor Accountability System*
- 7. Panic Button/Emergency Communication*
- 8. Lockdown Button*
- 9. Wayfinding*
- 10. Coordination with Emergency Responders*

Further Resources:

Texas State University, San Marcos – Texas School Safety Center

www.txssc.txstate.edu

Office of the Attorney General, State of Texas - School Safety Guide

www.oag.state.tx.us

US Department of Education, Office of Safe and Healthy Students, Emergency Planning

www2.ed.gov/admins/lead/safety/emergencyplan

FEMA, Multi-Hazard Emergency Planning for Schools

<http://training.fema.gov/EMIWEB/IS/is362a.asp>

U.S. Department of Homeland Security, School Safety

<http://www.dhs.gov/school-safety>

U.S. Secret Service and U.S. Department of Education, THREAT ASSESSMENT IN SCHOOLS

http://www.secretservice.gov/ntac/ssi_guide.pdf

Texas Education Agency

<http://www.tea.state.tx.us/>