Vulnerability Solutions Group, LLC

Risk and Vulnerability Assessments
For Educational Institutions

Different Times Indeed…

Goals

- **Protection of**
  - People: Students, Staff, Visitors
  - Assets
  - Infrastructure
- **Harden Targets**
  - Decrease Vulnerability
  - Decrease Attractiveness
- **Mitigate Injury & Losses**
- **Maintain Educational Culture**

What is a Risk & Vulnerability Assessment?

- A comprehensive examination of physical facilities and operational procedures. The assessment identifies critical assets, threat potentials, and vulnerabilities. It includes recommendations to improve the security posture of the facility.

What areas will be assessed?

- Parking
- Access Control
- Interior Security
- CCTV
- Lighting
- Mail Handling
- HVAC
- Emergency Preparedness

How Long does an assessment take?

- The length of the assessment varies and depends on the size and/or complexity of the school. Generally, the comprehensive on-site portion of the assessment may last from three to six hours. Additionally, we conduct a lighting and nighttime site survey on a night prior to the assessment to ascertain lighting levels in critical areas, as well as general nighttime security.

What is the Role of the school?

- The requestor will be asked to provide copies of emergency procedures, floor plans, and security policies for review. During an assessment, the assessor may also interact with employees and ask questions regarding security matters.

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How are the results presented?

- At the conclusion of the assessment, complete findings will be furnished on a confidential, comprehensive report. containing observations, existing positive school security measures, best practices, and specific recommendations for modifications or improvements in over 180 individual standards among approximately 30 categories

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SOLUTIONS GROUP

525 West Areba Avenue

Hershey, Pennsylvania 17033

ANYSCHOOL, USA

123 Main Street

Anytown, Pennsylvania 12345

Completed by

Brian C. Krause

January 29, 2018

Assessment #VSG2018 - 001

PRIVILEGED AND CONFIDENTIAL

Introduction

Anyschool, USA is a public educational institution with a student population of approximately 1000, grades six through eight, and a total faculty and support staff of approximately 100. The campus is located in the Borough of Anytown, Anycounty, Pennsylvania and is supported by the Anytown Police Department as primary law enforcement. Secondary law enforcement service is provided by various neighboring police departments. The school also employs one security officer for daylight and evening shifts. The campus is bordered by residential housing, a retail district, and an elementary school. According to administration officials, no specific entity in the neighborhood poses a particular threat to students or staff.

In addition to standard public educational opportunities, Anyschool also provides early learning and child care support services to young children and their parents, low-income families, child care providers, and educators. Anyschool boasts exemplary curriculum, faculty, administrators, co-curricular and extra-curricular programs. Annually more than 90% of their graduating seniors pursue post-secondary education.

Anyschool has also been recognized as one of the top public schools in America by several different national publications. At all assessed grade levels, statewide assessment scores are consistently well-above state and national averages.

Description

The primary classroom facility is comprised of two buildings (East & West) connected via sky bridge. A third building, (North) is situated slightly north of the East and West Buildings. East and West Buildings are constructed of masonry and are each three stories in height. North Building is a single story and is finished with gray vinyl siding. Athletic fields and recreational facilities are present on the south side of the campus.

The campus and school buildings are utilized regularly by various community groups, both affiliated and not affiliated with the school district. A food pantry is operated in North Building twice per month to provide groceries to under-privileged members of the community. Additionally, a local Alcoholics Anonymous group meets in the basement of East Building on a weekly basis after school hours. The number of visitors to the school varies by the day and season and is dependent upon school activities. Winter sporting events bring many spectators to the gymnasium area several times per week.

Asset and Threat Information

1. **Key Assets**

   a. **Students and Employees:** Students, faculty, and staff interact to form the core of our educational community. Injury or death to these vital assets would be devastating to families and the community at large. A tragic event would also affect students and faculty at other educational institutions throughout the country, impairing the ability to learn in a safe educational environment.

SCHOOL: Anyschool USA	
ADDRESS: 123 Main Street, Anytown, Pennsylvania 12345	
LATITUDE/LONGITUDE: 40.000000 / -77.000000	
TOWNSHIP: Any Township	**COUNTY:** Dauphin
PHONE: 717-555-5555	**WEBSITE:** www.anyschool.org
NUMBER OF STUDENTS: 1000 (Grades 9 - 12)	**NUMBER OF EMPLOYEES:** 100
NUMBER OF BUILDINGS: 1	**CONSTRUCTION TYPE:** Masonry, two stories
PRIMARY LAW ENFORCEMENT AGENCY: Anytown Police Department	
CLOSEST PENNSYLVANIA STATE POLICE TROOP/STATION: Troop "H" Harrisburg	
POINT OF CONTACT INFORMATION: All questions or concerns should be referred to Brian Krause at 717-579-5578, or via email at brian.krause@vsgcompany.com. The point of contact for this site is Dr. John Doe at 717-555-5555 or via email at jdoe@anyschool.org.	

Threat Information

Key Assets: Employees working on the campus and students in attendance.

Threat Potential:

•Armed Intruder: The primary threat at all schools is the introduction of a weapon into the building by a student, parent, visitor, criminal, or terrorist.

•Emplacement of an Improvised Explosive Device (IED): The placement and detonation of an IED in areas where people congregate could cause significant injury or death.

•Terrorist Act: Based on the tactics used by terrorists world-wide, a terrorist attack on a school in the United States is likely. A school related terrorist attack will cause fear and panic nationwide and create world-wide media attention, in addition to significant loss of life and property.

Impact from Loss: The greatest impact would be the loss of life. Depending on the level of violence, the long-term psychological impact on our society could be significant.

Best Practice Standards	Comment	Additional Remarks or Reference
Building Exterior		
Vehicle Access		
Visitor vehicle direction signs should be posted at all vehicle entrances.	No Change Required	Best practice standard is in place.
Vehicle bollards or aesthetically pleasing vehicle barriers should be installed to protect the main and larger entrances from vehicle penetration. References: http://www.fema.gov/media-library-data/20130726-1455-20490-1896/fema428.pdf http://wbdg.org/ccb/DOD/UFC/ufc_4_0 22_02.pdf	Improvement Recommended	Entrances 1, 5, and 12 are vulnerable due to lack of curbing or other barriers (Refer to Photos 1 and 2). The installation of bollards or aesthetically pleasing vehicle impact barriers should be considered. They should be placed close enough to the doors to prevent a vehicle from driving around them and the maximum distance between bollards should not exceed four feet on center. Aesthetically pleasing barriers would be effective at all three of these entrances.
Trespass warning signs should be posted at vehicle entrances.	For Additional Consideration	"Prohibited Items" signs are in place at vehicle entrances; however, these signs are lacking "No Trespassing" language. Signs such as "No Trespassing - Violators Will Be Prosecuted" should be considered for installation at all vehicle entrances.
Restricted area/no trespass warning signs should be posted at entrances to restricted areas not open to general access.	For Additional Consideration	Administration should consider the installation of "Restricted Area" signs at the entrance to the delivery/maintenance area on the east side of the school.
Bus loading and unloading zones should be restricted from general vehicle traffic and not combined with parental student drop-off area(s).	No Change Required	There is no reported conflict of traffic, as bus loading/unloading zones are separate from parent pick-up/drop-off areas. Consideration should be given to posting signage which restricts general vehicle traffic from the bus loading/unloading zones during specific hours.

Appendix B

Additional Assessment Details

Building Exterior: Administration should consider the installation of vehicle bollards or aesthetically pleasing barriers to protect the three front entrances and glass walls from vehicle penetration. The bollards or vehicle barriers should meet or exceed the minimum U.S. Department of State SD-STD-02.01 Revision A, March 2003, K-4 (15,000 lbs. cargo truck traveling at 30 mph with 36" or less penetration of cargo bed/compartment) standards for bollards. They should be placed close enough to the doors to prevent a vehicle from driving around them, and the maximum distance between bollards should not exceed four feet on center. Active bollards (capable of being retracted or removed) could be utilized at the main entrance to allow access for display vehicles. Large planters could be used at the adjacent entrances in place of traditional bollards for a less expensive and more aesthetically pleasing solution. Recent events in Nice, France and several other locations demonstrate the tragic results of vehicle access vulnerability.

Employee Access: Consideration should be given to the installation of electronic keyless access, in the form of proximity/swipe cards, at main and frequently used entrances of the school building. This type of entry system is very effective at preventing unauthorized persons from making entry. Cards are capable of being programmed individually with restricted days/times of entry. Additionally, the cards are easily deactivated if lost and administrators have the ability to maintain records of usage. This type of system also assists in preventing the propping of doors.

Common Areas: Large lobby and common areas on the first floor are utilized for social & public events, as well as school dances. Secure shelter-in-place options within or adjacent to common areas should be identified for use in lockdown emergencies. In the East Building, the Media Room and/or the administrative office area could be utilized in the event of a lockdown. Escape routes should be considered for common areas and any area that cannot be secured. Escape avenues should afford a direct route to the exterior of the building. Considerations for escape should be coordinated with first responding agencies during the planning process. The EdJIT mobile platform is able to provide information, via mobile device or desktop computer, on shelter-in-place options and escape routes tailored to specific areas of the school. This information can be accessed at a moment's notice and is capable of being referenced as an emergency is occurring.

Appendix A – Photographic Reference

Photo 1: Vehicle impact bollards will prevent accidental or intentional vehicle strikes at the main entrance.

Photo 2: Bollards could be combined with large planters at entrance #5 to prevent vehicle impacts with the school building.
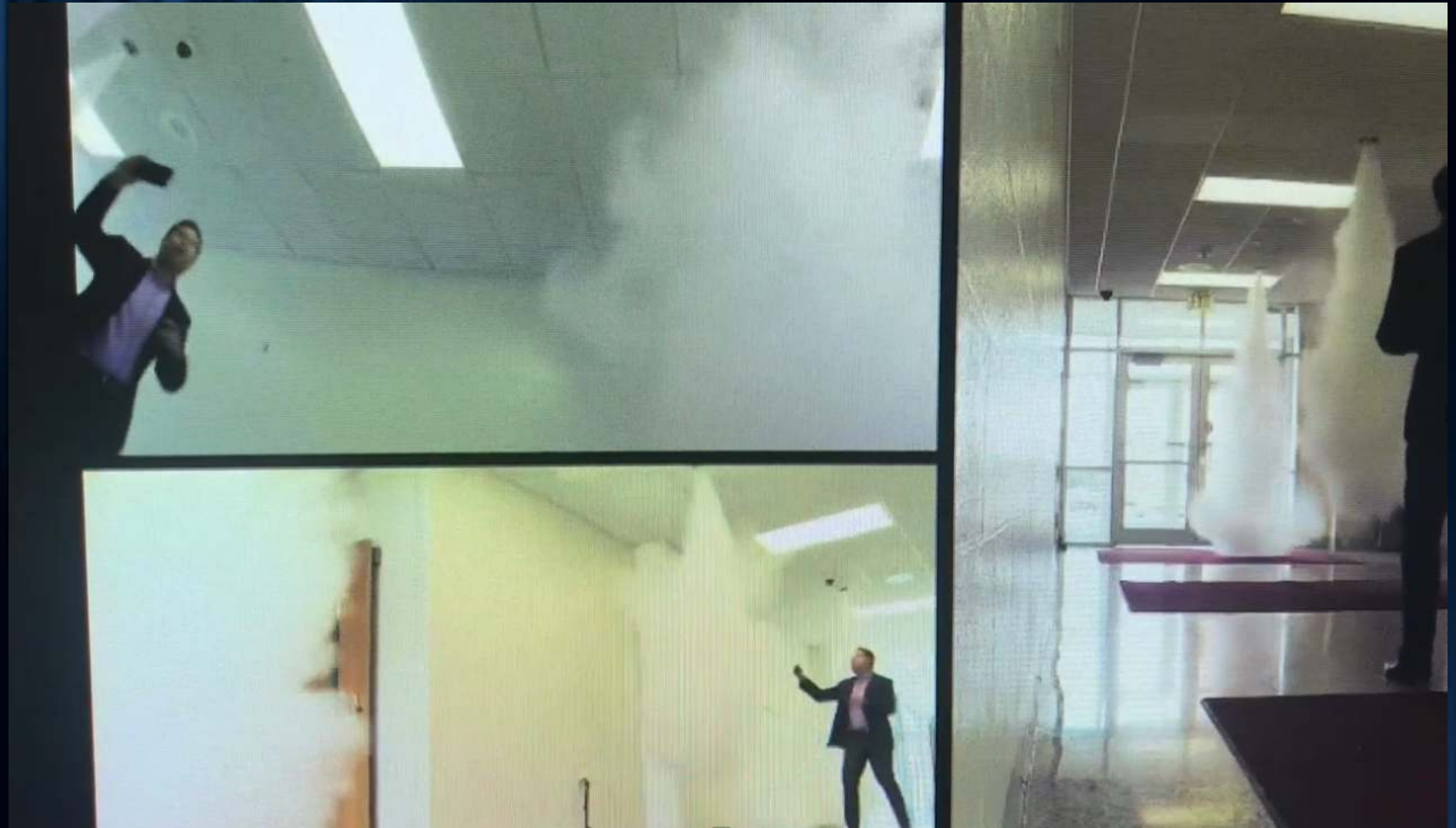

Photo 3: Thick shrubbery adjacent to entrances and walkways should be trimmed or removed completely.

Photo 4: Roofline access via the block wall could be mitigated by the installation of fencing along the roofline or removing several courses of block. Miscellaneous items should be stored inside the building.

Is this too much?

School

Assessments

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Threat Potential

- **Armed Intruder**: The primary threat at all schools is the introduction of a weapon into the building by a student, parent, visitor, criminal, or terrorist.

- **Emplacement of an Improvised Explosive Device (IED):** The placement and detonation of an IED in areas where people congregate could cause significant injury or death.

- **Terrorist Act:** Based on the tactics used by terrorists world-wide, a terrorist attack on a school in the United States is likely. A school related terrorist attack will cause fear and panic nationwide and create world-wide media attention, in addition to significant loss of life and property.

- Time is critical in active shooter situations, as the average length of an active shooter incident at a school is 12.5 minutes (DHS).

- Average police response time is 18 minutes (DHS)

- 17 of 20 high school and middle school shooters were students at the affected school.

- The majority of school shooters were students (12 of 14 high school and 5 of 6 middle school/junior high).

- Every second counts!

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Time

- In active shooter incidents where the duration of the incident could be ascertained, 44 (70%) of 63 incidents ended in 5 minutes or less, with 23 ending in 2 minutes or less (FBI).

- Schools cannot be prisons, but security can be improved often times for little expense.

- Limited Budgets
- Limited Resources
- Practicality
- Community Opinion
- Conflicting Priorities
- Manpower Shortages

The Assessment

Vehicle Access

- Directional signs

- Vehicle Impact Bollards – High Speed Avenues of Approach

- Trespass/restricted area warning signs

- Bus loading and unloading zones – restricted from general traffic and parent drop-off

- Designated parent drop-off areas

Photo 3: Location of proposed playground fencing.

01/01/2003

Troop 'D' Kittanning
April 27, 2006

Parking

- Separated parking areas for staff, students, and visitors.

- Spaces located far away from the building as possible – stand-off distance (varies). If not feasible, control parking with permits, etc.

- If street parking, should be restricted to school use during school hours.

- Ideally, a parking permit system should be established to control vehicles on campus.

Stand-off Distance

Building Curtilage

- Entrances, windows, and walkways free from shrubbery.

- Natural and manmade platforms that allow access to roofline

- Trash receptacles and other containers near entrances and walkways -IED

- Garbage dumpsters a safe distance from building and secured – IED

Building Curtilage

- Fuel/propane tanks, natural gas manifolds secured and protected from vehicle impacts.

- Electrical transformers, HVAC chillers, cooling towers, solar inverters, air intakes, and emergency generators should also be protected and secured.

Washington Navy Yard 09/16/2013

- Aaron Alexis

- Inside, Alexis made his way to a floor overlooking an atrium and took aim at employees eating breakfast below.

- "He was shooting down from above the people," one law enforcement official said. "That is where he does most of his damage." - unnamed LE official

- Investigators believe he chose the spot because it offered a position of tactical advantage, allowing him to shoot down into the atrium or across to other walkways. "Alexis stayed there, firing away…"

Lighting

- Interior and exterior fixtures maintained and operational
- Commercial grade; tamper resistant; above 12 feet
- Inoperable lighting should be replaced
- Maintenance schedule
- Emergency lighting/backups for interior
- Exterior lighting meets LUX standards of Illuminating Engineering Society of North America
- Motion activated lighting in remote areas

Access Controls
Employee/Student Access

- Electronic keyless access control system on frequently used doors. Exterior doors rekeyed.

- Written key control policy that addresses inventory, possession, lost keys, re-key locks of lost keys, security of master keys, five year re-keying.

- Students exiting school for car should be escorted

Main & Secondary Entrances

- Main entrance should be secured and monitored
- Main entrance should include a secure vestibule/lobby
- Main entrance clearly marked with visitor signage
- Exterior doors check at beginning and during school day
- Looped handles on exit doors
- Dated lever-style emergency push-bar door releases

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Windows

- Low grade or poor condition-easily defeated.
- No blast or shatter resistant windows or windows retrofitted with security laminate-Large lobby windows-higher threat locations.
  - **85%** of blast injuries to building occupants are from glass.
- No security blinds or reflective film on windows to prevent surveillance of building interiors or sensitive locations-this includes observation areas inside buildings.
- CPTED surveillance pros/cons

VISITORS

Delivery Entrance

- Secured at all times & monitored when propped
- Equipped with peephole or small window
- Entrance & surrounding area monitored with CCTV
- Equipped with intercom
- Delivery personnel controlled and monitored by staff
- Milk delivery personnel not issued key

Signage & Coding

- Visitor signage on all doors directing to main entrance

- CCTV signs – combined with visitor/trespass signs. District solicitor consultation for verbiage

- Entrances numbered on exterior (and interior) clockwise around building. Annotated on floor plan

Classrooms

- Classroom doors equipped or retrofitted with locking devices that can be secured from within the room
- Occupied classrooms secured at all times
- Unoccupied classrooms secured at all times (labs/computers/vocational)
- Ballistic/reinforced glass in classroom doors and/or sidelights to resist/prevent forced entry.
- Classroom door windows/sidelights equipped with window covering capable of being closed – consult with local law enforcement

Classrooms

- Blinds on exterior windows
- Substitute teachers issued keys to classrooms so can be secured during school day

Common Areas

- Common areas (gyms, auditorium, cafeteria & library) should be pre-locked and propped when occupied to allow quick lockdown

- Access restricted to a single entrance during activities to quickly secure the area

- Secured when not in use

- Large windows equipped with window coverings and/or ballistic film/glass

- Keys available for staff using common areas

Hallways and Stairwells

- Hallways & stairways numbered, lettered, or coded and annotated on floor plans

- Free of objects and materials (Chairs, desks, A/V equipment, etc.

- Virtual tour completed and provided to first responding agencies. School project.

CCTV

- Should be equipped with comprehensive CCTV system that monitors and records:

-Main and visitor entrances

-Main and visitor lobbies

-Frequently used entrances/exits

-Parking areas

-Exterior activity areas

-Critical building components

-Loading dock

CCTV

- Should be web-based with capability of being monitored on/off site by administration and law enforcement

- Retain video a minimum of 15 days

- Cameras, DVR, monitors should be high resolution units with matching capabilities

- Cameras protected within security housing to resist tampering and weather damage

- Cables within conduit

- Supported by emergency generator

Communications

- Equipped with public address system audible within classrooms, common areas, and on exterior. Also in ancillary buildings

- Connected to emergency generator or battery back-up

- Portable radios available

- Websites free of personal information/maps

- Fire evacuation diagrams don't provide entire floor plan of building

- School has automated email/text/phone alert system to communicate mass messages to parents in emergencies

Communications

- Silent panic alarm in main office – monitored by 911. Ideally monitored at two locations

- Classrooms equipped with email and external phone. Phone not visible from classroom door or hallway.

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FAQ

- Reynolds High School in Troutdale, OR; June 2014; Physical Education teacher was shot by a student and had to hobble to main office to call the lockdown.

- Sandy Hook Elementary had limited number of telephones that could access PA system.

Intrusion Detection System

- Equipped with intrusion detection system?
- Monitor exterior doors, roof hatch, hallways, offices, classrooms, labs, etc.
- Motion detection and door switches
- Supported by emergency generator
- Alarm panels secured at all times
- Tested quarterly by admin and annually by vendor

Utilities

- Connected to building via underground or otherwise protected from access and tampering
- Equipped with emergency generator capable of supporting life safety and other systems
- Generator tested weekly under full load
- Mechanical rooms, custodial closets, etc. secured

HVAC

- HVAC web-based and capable of being controlled off-site?

- HVAC units and fresh air intakes protected from unauthorized access

Visitor Policy

- Visitor policies and procedures should include:

-Present official photo ID which is retained for duration of visit. Visitors without ID prohibited from entering beyond vestibule.

-Visitors issued badge which is openly displayed during visit. Badge collected at visit's conclusion. Self-expiring sticker that changes appearance after time.

Visitor Policy

- Visitor log maintained behind desk, accessible to staff only. Staff should make all entries and include address, telephone number, and vehicle information of visitor.

- Unfamiliar visitors and short-term contractors should be escorted throughout the building.

Employee/Student ID Cards

- School employees should be required to display photo ID at all times while on campus

- Employee ID cards should be integrated with electronic keyless access

- Students issued photo ID and used for library and cafeteria?

Lockdown Procedures

- Written comprehensive "secure in place" and "lockdown" procedures.
- Communicated in plain language over PA
- Lockdown drills should be conducted each semester with assistance of law enforcement
- Faculty, substitute teachers, and students should receive instruction on procedures
- Lockdown procedures should be established and practiced for all common areas. Include alternate securable evacuation locations

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Book Bag Policy

- Students required to stow book bags/backpacks in locker to prevent weapons/contraband throughout school
- Policy of immediate search of book bag if violate policy
- Scattering/piling bags discouraged – especially on school exterior

Evacuation Procedures

- Primary and alternate assembly areas established

- Assembly areas should not be posted or marked

- Staff familiar with assembly areas

- Assembly areas and evacuation routes observed for suspicious items prior to departure or assembly

- Include blocked routes to condition faculty/students to change

FIRE EXIT ROUTES
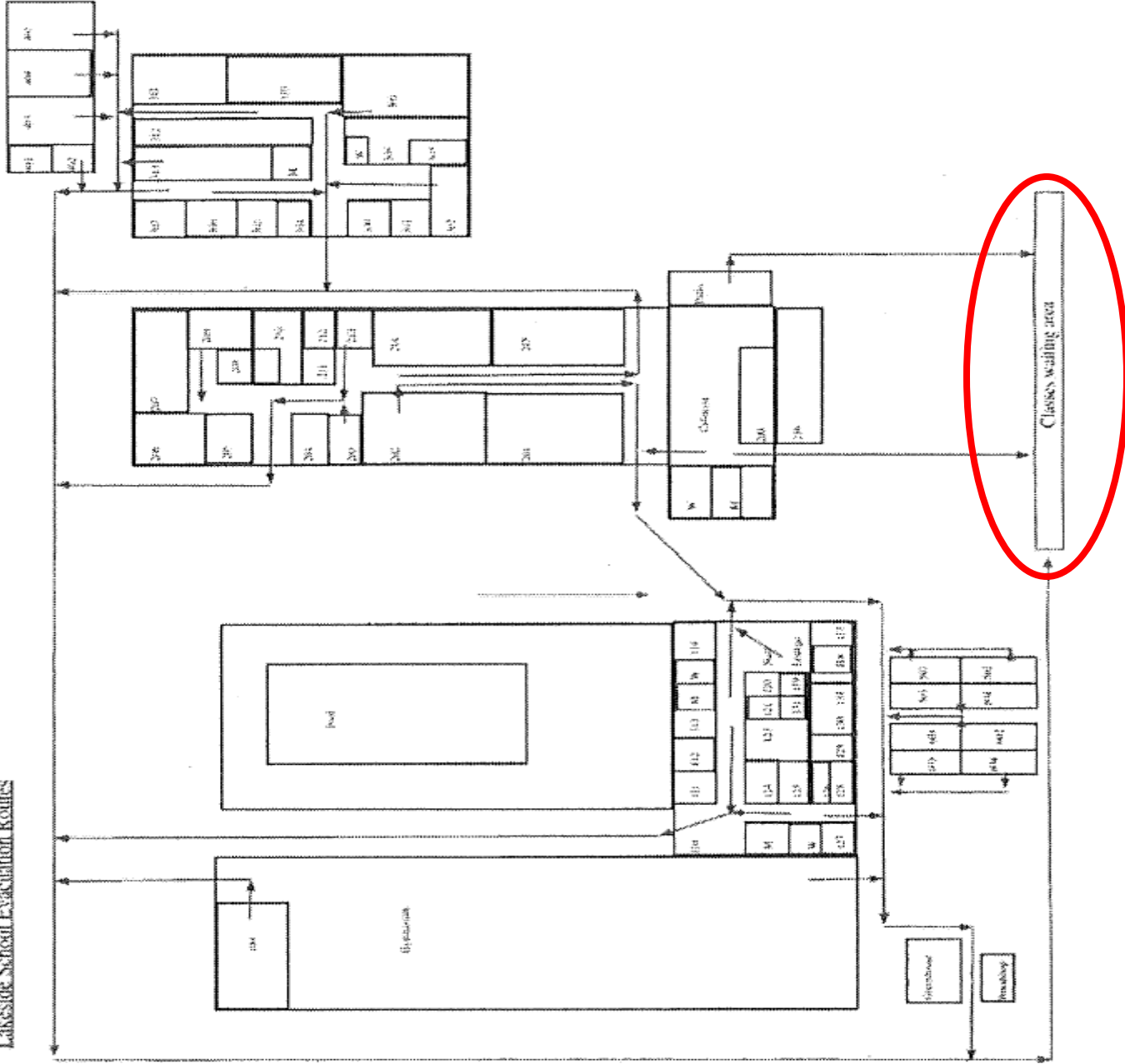
March 24, 1998

- Westside Middle School, Craighead County, Arkansas

- Mitchell Johnson and Andrew Golden pulled school fire alarm and hid in the woods with two semi-automatic rifles, one bolt-action rifle and four handguns, waiting for students and teachers to evacuate.

- Killed four female students, one teacher, and wounded ten others.

Castles of Ulster

Perfect Security?

- Schools cannot be prisons
- Security measures can:
- Deter and/or prevent an intrusion
- Delay an intruder
- Buy time
- Mitigate damage/loss of life
- Assist in obtaining prompt response by police
- Security measures cannot stop or prevent all violent attacks.