

CODE WORD CLEARANCE:

AN INSIDE LOOK AT DODEA'S APPROACH TO

SCHOOL SECURITY DESIGN



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WALLER TODD & SADLER • FANNING HOWEY

21st Century Design Excellence

Team

WALLER, TODD & SADLER

- Established 1956
- \$2B+ in K-12 Designs
- Firm Services
 - Architecture, Master Planning, Facilities Planning ,Interiors
- Over 1000 School Projects
 - 52 New Construction

FANNING HOWEY

- Established 1961
- Subject Matter Experts at 2011 DoDEA 21st Century Learning Design Charrette
- 170 Local and National K-12 awards for design excellence
- 21 Impact on Learning Awards

Safety and Security

UFC 4-010-01
9 February 2012
Change 1, 1 October 2013

UNIFIED FACILITIES CRITERIA (UFC)

DoD MINIMUM ANTITERRORISM STANDARDS FOR BUILDINGS



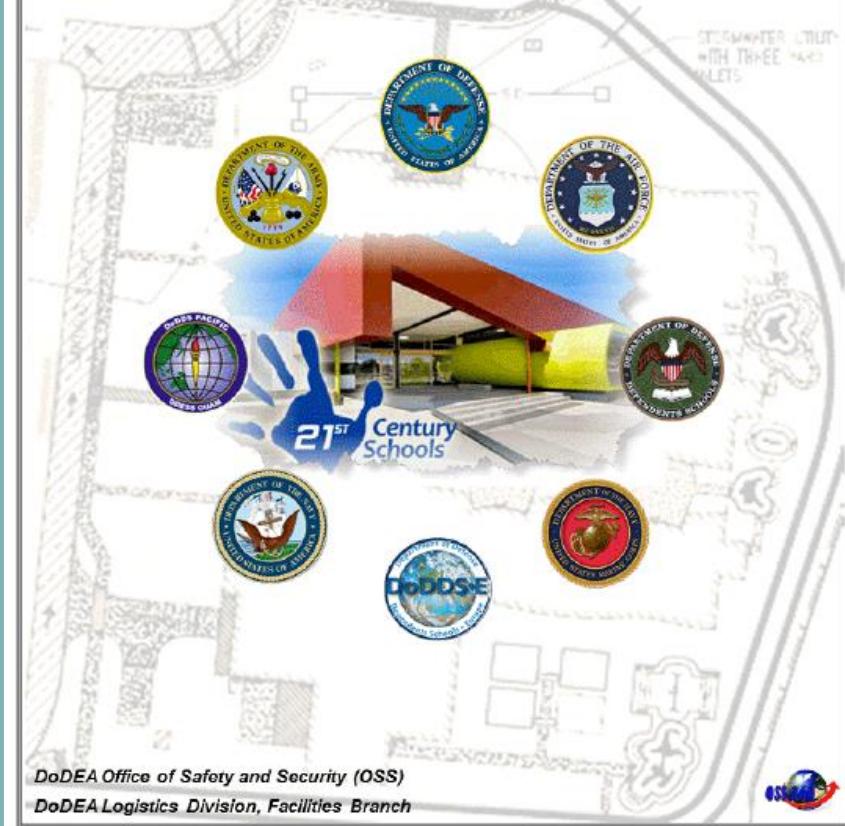
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dodea
DEPARTMENT OF DEFENSE EDUCATION ACTIVITY

Department of Defense Education Activity
(DoDEA)

Safety and Security Design Specifications for New Educational Facilities

Version 04-13: Revised March 2013



The Bigger Why?



Safety and Security

Secure Access



Transparency



Passive Security



Active Security

Design Approach

- Where to Invest???

Establish security requirements in the Programming Phase

Estimate cost impacts

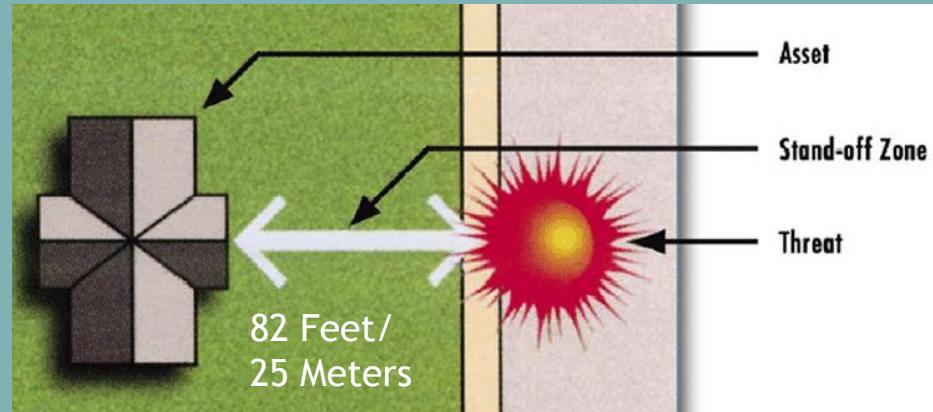
Evaluate alternatives and options

Integrate approaches into the total building and site design

DoDEA focuses the design and the investment on **PREVENTION** rather than surveillance

Facility Siting/Location

- Locate the building as far as possible from points on the site perimeter that are likely vehicle approach routes.
- Then maximize standoff distances
 - The distance maintained between a building and a potential explosive detonation point (i.e. roads, parking, and driving lanes).
- In the public K12 sector, we are probably looking at an 86 foot standoff.
- Unobstructed Space – Space around inhabited buildings in which there are no opportunities for concealment from observation of explosive devices greater than 6 inches in height or width.
- Clear view of approaches to facility (time and evaluate and respond).



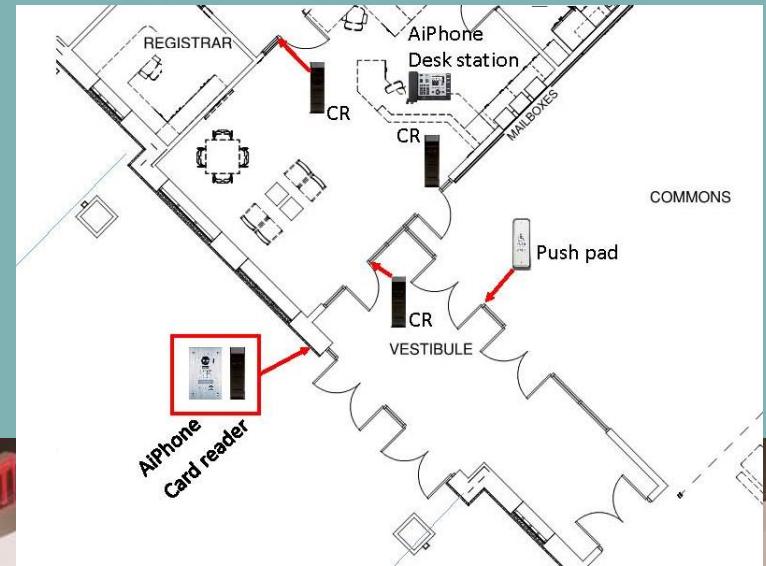
Facility Siting/Location



Vehicle Barrier and storm drainage

Administrative Suite

- Provide a secure vestibule from the main entrance to the Main Office/ Administration Lobby.



Fire Hydrants

- Fire Hydrants adjacent to parking areas or vehicle traffic areas should be protected by bollards.



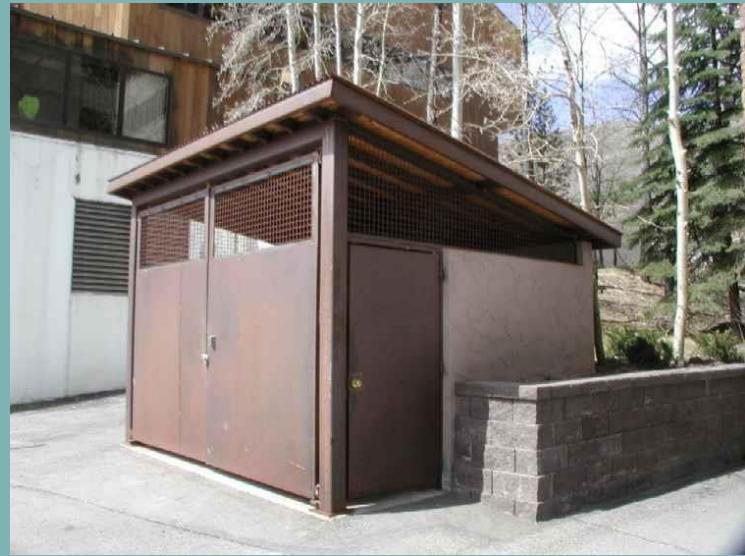
Parking

- Parking areas should not be within the standoff distance.
- Parking lots should be easily monitored and separated from playing fields by fences, retaining walls, or other obstacles.



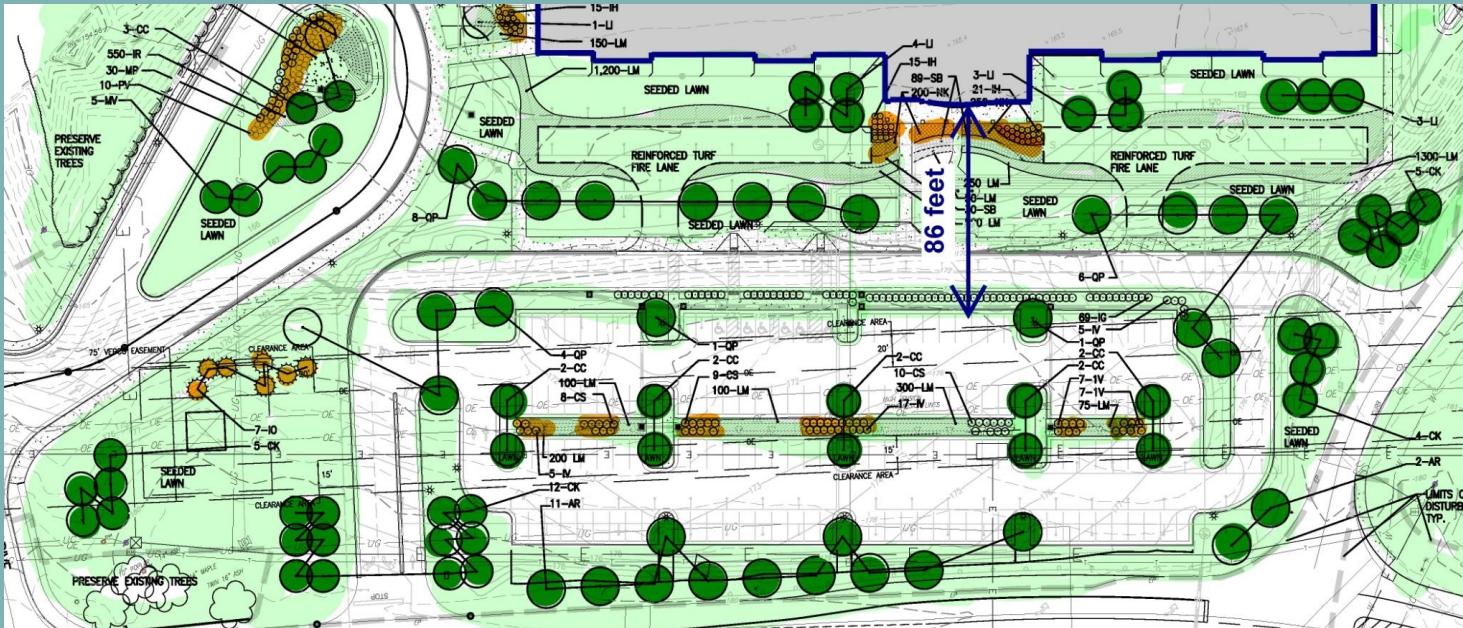
Dumpsters and Recycling Areas

- Locate dumpsters beyond standoff distance if possible or...
- Enclose dumpsters with screen walls of hardened materials that have no openings greater than 6".
- Opaque top enclosures should provide a 2:1 sloping pitch.
- If enclosure walls are transparent and at least 7' high, top enclosures are not required.



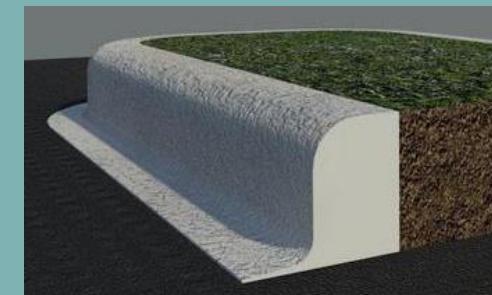
Traffic

- Eliminate unobstructed vehicle approaches that are perpendicular to the building.
- Eliminate potential high-speed vehicle approaches. Limit the number of traffic entrances to the site.
- Integrate landscaping, entry control points, vehicle barriers, fences, and security/traffic lighting into the site design to mitigate threats.
- Utilize landscaping as passive vehicle barriers if vehicles can gain access by driving on sidewalks or over terrain.
- Minimize low bushes close to building to eliminate hiding places.



Vehicle Barriers

- Barriers prohibit unauthorized vehicles from entering drives and access roads.
- Barriers allow aggressors to be noticed.
- Barriers can be either active or passive.
- Curbs are one of the most cost-effective, unobtrusive, and ubiquitous solutions to provide vehicle and safety barriers.
- 8" high curbs at parking areas and roads immediately adjacent to the building are recommended.
- Provide active barriers (access control) on service drives at the standoff distance.
- Active barriers also used at bus loading if closer than 86'.



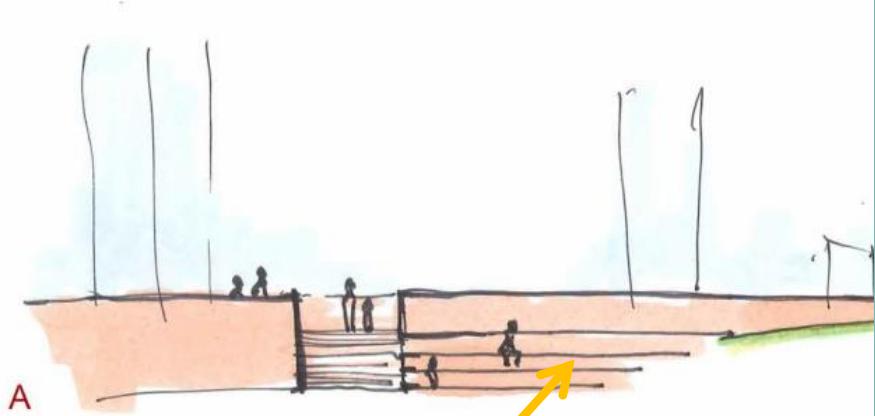
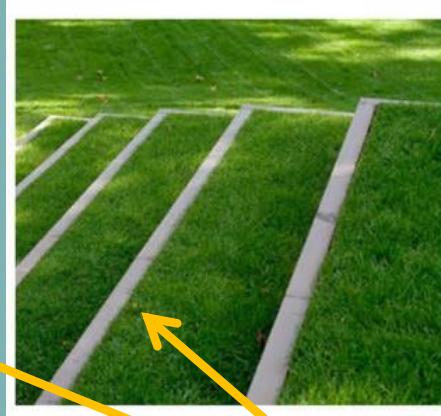
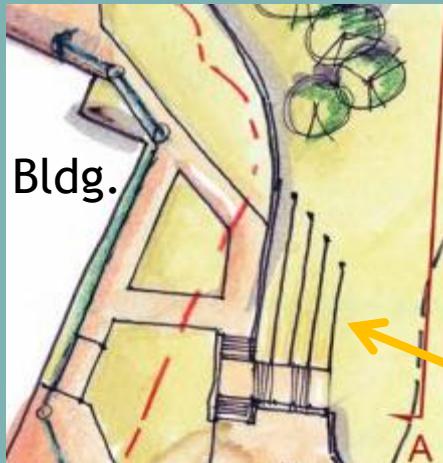
Sidewalks

- Provide 8" high sidewalk edges where they serve as a curb against parking areas or roads that are adjacent to the building.
- Sidewalk layout should maximize opportunities for monitoring activity.
- Minimize opportunities for hiding places



Outdoor Classrooms

- Evaluate outdoor learning spaces from a security perspective. They may need to be included in the building security perimeter or isolated from it.



Outdoor Learning Area

Fences

- Perimeter site fencing should be considered in the initial evaluation.
- Fencing should be designed to funnel pedestrian traffic to the main entrance.
- Fencing should provide minimum points of entry and deter accidental or casual intruders.
- Six-foot high fencing with lockable pass-through gates and provisions for emergency egress are suggested.



Landscaping

- The landscaping design approach should recognize that there should be unobstructed space where visual detection by building occupants is enhanced.
- Nothing should allow for concealment of items 6" or greater in height or width.
- Site furnishings should allow unobstructed views.
- Trees and shrubs should ensure that no foliage extends lower than 3 feet above the ground.



Signage

- The intent of signage is to require all visitors to enter through the Administration Lobby prior to gaining access to the school.
- All doors except the Entry Vestibule door should have signage indicating that they are locked and not for public use.
- Signage at the Receiving Area should include instructions for drop-off.



Site Power

- The preferred location for electrical and mechanical equipment is outside the unobstructed space or on the roof.
- If located within the unobstructed space, the equipment should provide no opportunity for concealment of anything larger than 6 inches, or the equipment should be enclosed and secured to prevent concealment.



Beyond 30'



Beyond Perimeter

Exterior Walls

- Building components such as walls, doors, windows, floors, ceilings, and roofs should provide enough resistance to require aggressors to force their way through them and violate the covert nature of their activities by being noticed.
- Laminated glass can be added to the interior light of an insulating glass unit to increase the time necessary for forced entry and to mitigate the effects of an explosive blast.

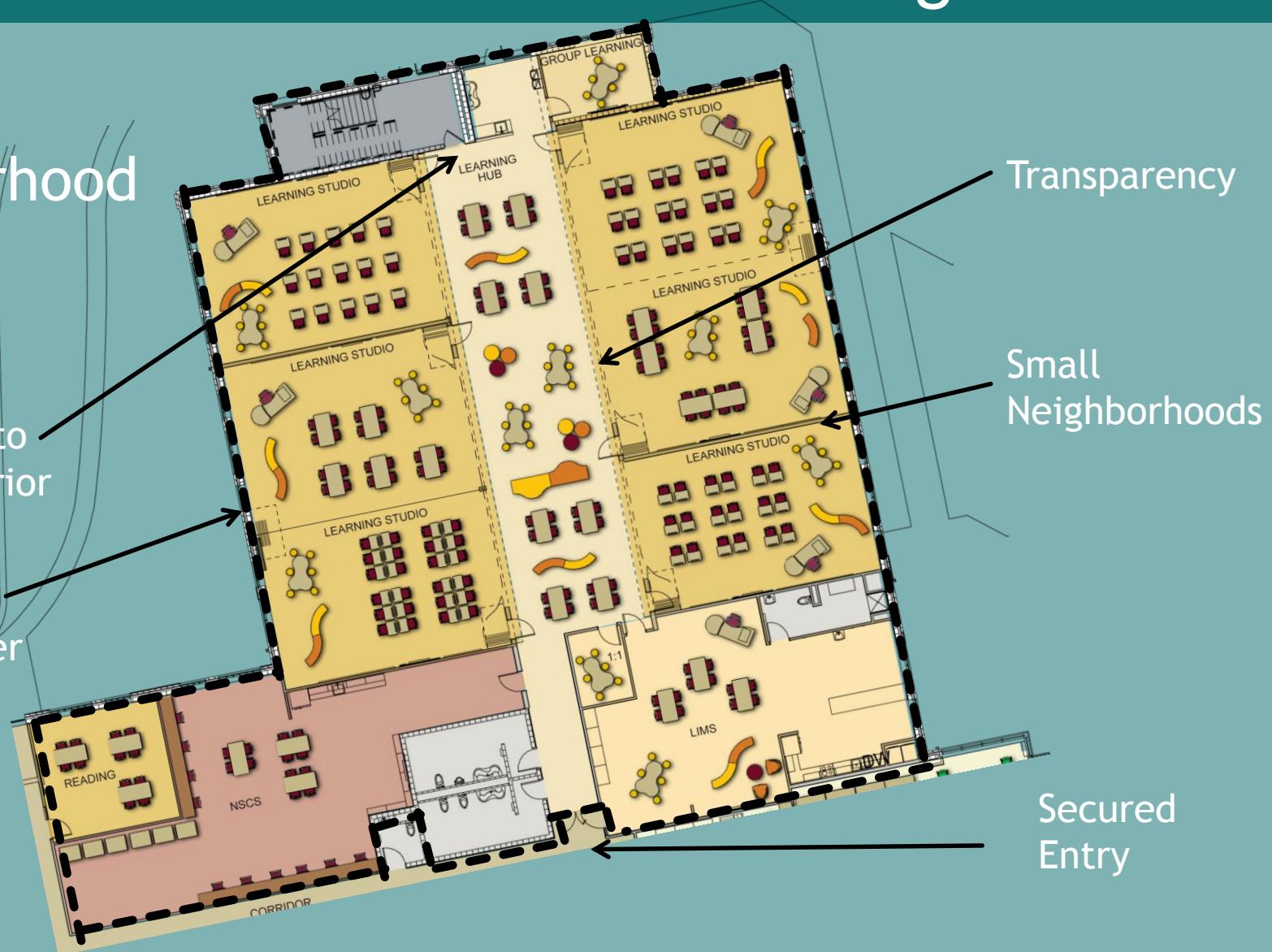


Shelter – in – Place Design

Basic Neighborhood

Exit to Exterior

Secured Perimeter



Roof

- Eliminate all external roof access by providing access from internal locations only.



Windows

- Minimize individual window pane areas to limit available entry targets.
- Laminated glass is the preferred inner light in insulating glass units because when it fails the laminate layer tends to retain the glass fragments rather than allow fragments to enter inhabited areas.
- Skylight glazing should be designed to break but remain in the frame.



Typical Neighborhood



Typical Neighborhood



Window Coverings

- Provide window coverings at line-of-sight locations from the corridors to occupied spaces.
- If window coverings in a staffed area are automated or tied into a control system, a single point of operation should be provided.



Doors

- Doors shall be capable of being closed and locked quickly by one person single-handed and unlocked from the inside without the use of tools or keys.
- Doors with electronic locks should default to locked position when power is lost.
- Interior doors should provide a one-minute delay time to limited hand tools .
- Interior doors when closed should minimize air infiltration as part of a shelter-in-place envelope.
- All exterior doors should have an electronic strike and proximity card access and an electronic lock controlled from the main office.



Key Cabinet

- Provide a heavy steel key cabinet for 150% of the cylinders, in the Administrative Area.



Exterior Key Safe

- Provide an exterior mounted high security key safe for use by firefighters, EMTs, and other first responders.



Security Lighting

- Exterior lighting design should facilitate nighttime surveillance.
- Consider placing exterior lighting on motion sensors or photocells with manual override.
- Consider a lights-out policy after hours with an intrusion system that will turn lights on and notify authorities if an intruder is detected.



Fire Alarm and Mass Notification

- Combined or separate Fire Alarm and Mass Notification Systems are acceptable.
- The system should provide the capability to initiate live voice emergency notifications broadcasting over the entire system from any phone/console within the building or from a primary alternate emergency and contingency location within the building.
- The system should be able to provide real time information to occupants or personnel during emergency situations, and allow origination both locally and from a remote location.



HVAC

- Provide an emergency Shutoff Switch in the HVAC Control System that can immediately shut down the air distribution system throughout the building.
- Outdoor air louvers to be a minimum of 10 feet above grade, and should automatically close when the emergency shutoff switch is activated.



