

Basis of Design

This section applies to new building construction locations and significant building renovation in the selection and installation of lock hardware for classroom doors, auditoria, student study areas and other rooms of 1000 square feet or more in order for occupants of the room to be able to secure the room if a violent emergency occurs. There are two cases; one where the Campus Automated Access Management System (CAAMS) will be used and one where CAAMS will not be used. In the case where CAAMS is used, this design guide incorporates the Emergency Classroom Locking Device (ECLD) into the CAAMS hardware/software. In the case where CAAMS is not used, this design guide identifies lock hardware that allows occupants to secure the room without the use of a key. See examples on page 3 and 4.

Background

In the event of a violent emergency it is critical that persons be able to acquire a secure place of refuge from the person causing the violence. Many offices and business areas at the University have doors that can be locked from the inside. As of 12/27/2010 most classrooms, auditoria, and student study areas do not. This Design Guide is intended to improve the efficacy of these types of rooms as places of refuge in a violent emergency.

Programming

Coordinate with CAAMS, Exterior Doors, UW Violence Prevention and Response (SafeCampus). In cases where CAAMS is used, see this [example hardware section on page 3](#). In cases where CAAMS is not used, [this example hardware section on page 4](#).

Design Criteria

- ECLD or Lock hardware must
 - Allow a person inside the room to lock the door from the inside without the use of a key.
 - Allow authorized persons to open the door from the outside with the use of a key.
 - Be appropriate to the use of the door, durable, serviceable, and replaceable.
 - Conform to all fire and life/safety regulations.
 - Allow use by persons with disabilities.
- This Design Guide applies to rooms with an area of 1000 or more square feet.
- Coordinate with the Facilities Services (FS) carpenters and Lock Shop to set level of quality for the finished hardware for each project.
- Coordinate with CAAMS officials and CAAMS or RFI directly to initiate design development of the CAAMS system including ECLD.
- Product Lists and substitutions must be approved by the University
- Hardware shall be designed and installed in accordance with appropriate provisions of DHI, BHMA, SDI, NAAMM, and ASAH.

Design Evaluation

The following information is required to evaluate the design:

Programming Phase: Identify special needs, i.e., automatic door operators, electric supply for doors with exit hardware. Will hardware specification be written by the Architect, a private consultant or a hardware supplier? Hardware designers must be available to the University during design and construction. Coordinate with the UW SafeCampus Manager to identify specific rooms and list them. Coordinate with CAAMS when applicable.

Schematic Design: Verify Program information. See CAAMS when applicable. Prepare outline specification listing hardware by group for specific functions.

Design Development: Plan drawings showing all doors needing lock hardware and ECLD installation. CAAMS officials and RFI has designed a typical layout (Mac 4 board that can control up to 4 entry ways into one room. Identify each door with a unique number. Draft specification listing hardware by function and acceptable manufacturers. List CAAMS hardware to be furnished by the hardware supplier when applicable. Prepare a schedule of hardware needs in 'door-by-door' format. Hardware 'groups' may be used for the various configurations. Finish samples.

Contract Documents: As noted for DD submittal and, prepare drawing showing hardware placement. Include CAAMS items when applicable. Complete the drawings, specifications and hardware schedule for construction.

Quality Assurance: (*information about confidence testing will be added*)

Construction Submittals

The following minimum submittals are required from the Contractor:

- Finish hardware schedule in MS Excel. Confirm format before submitting.
- Samples of actual hardware for all finishes
- Certificate of local availability
- Product data for each hardware items
- Keying Schedule

Related Sections

- Facilities Services Design Guide – Finish Hardware
- Facilities Services Design Guide – Access Control – CAAMS
- Facilities Services Design Guide – Exterior Doors
- Facilities Services Design Guide – Interior Doors
- Environmental Health & Safety Design Guide – Fire Alarm System
- Classroom Services Design Guide

- Local codes and trade standards

Products, Materials, and Equipment

A list of hardware items and acceptable manufacturers is located in the 'Facilities Services Design Guide – Finish Hardware'.

For CAAMS-related ECLD installation, see CAAMS design guide

Example for buildings/rooms with CAAMS

Description of security measures for classrooms/buildings with CAAMS

Objective: To cause the following conditions to exist in the classrooms.

- Install an Emergency Classroom Locking Device (ECLD) such that persons inside a classroom can lock the classroom doors without the use of a key to provide a safe refuge in the event of a violent emergency.
- The operation of the doors will comply with all fire and life safety rules and disability access rules.
 - Persons will be able to exit the classrooms at all times.
- Authorized persons will be able to unlock the classroom doors from the outside of the room by the use of a physical key.
 - For example: When UW Police respond.
- ECLD activation will be detected and transmitted to the UW Police via CAAMS (Campus Automated Access Management System)
 - This applies to authorized users (when an actual emergency is perceived or system testing) and non-authorized users (any other motivation)

Plan to achieve the objective

CAAMS controls the locks on the classroom doors by providing electric power to the locks. The CAAMS contractor will install a switch with a protective cover in each classroom near the door. The location of the switch must be ADA compliant. It is a 2 pole, single throw, manually resettable pull switch. This switch is called an Emergency Classroom Locking Device (ECLD). One switch will affect all the doors in a classroom. When the switch cover is opened, a local alarm will sound. The switch will have two positions (on & off). When the switch is activated it will turn off the power to the door locks and the doors will lock. The emergency exit devices will still work and persons inside the room can exit at any time. If persons leave the room, the doors will close normally and remain locked because the power is still off. Anyone in the room can deactivate the switch and the power will return to the locks and they will become unlocked (if the locks should be unlocked according to the CAAMS schedule). Also, when the switch is activated a signal will be transmitted via CAAMS by the second pole. That signal can be perceived by anyone authorized to use the CAAMS software (CAAMS officials, building managers, UW Police). When that activation signal is transmitted an audible or visual signal will activate in the UW Police Communications

Center to alert the dispatcher that an emergency door locking device has been activated. This alarm will date stamp time and location of the event and PD will be dispatched as first responders. The dispatcher will check the CAAMS software to determine the location of the activated switch and dispatch officers to find out what is going on and stabilize the situation. The UW Police and FOMS can always enter the locked room by using a physical brass key. The UW Police can 'reset' the ECLD by turning the switch off and CAAMS will return to normal operation.

Example Hardware for buildings/rooms *with* CAAMS

This is a URL link to a sample device

<http://www.sti-usa.com/product.asp?PartNo=SS-2449E>



This is the language to be used on the devices

On the shell [first line] 'Emergency Door Lock' [19 characters] ; [second line] 'Push Button' [11 characters]. Then, on the frame around the button 'Emergency' above the red button (as it currently is) and then 'Door Lock' under the red button.

Example Signage to explain the use of the ECLD



Example Hardware for buildings/rooms without CAAMS

Description of security measures for classrooms/buildings without CAAMS

Objective: To cause the following conditions to exist in the classrooms.

- Install lock hardware such that persons inside a classroom can lock the classroom doors without the use of a key to provide a safe refuge in the event of a violent emergency.
- The operation of the doors will comply with all fire and life safety rules and disability access rules.
 - Persons will be able to exit the classrooms at all times.

- Authorized persons will be able to unlock the classroom doors from the outside of the room by the use of a physical key.
 - For example: When UW Police respond.

A vendor, Ingersoll Rand Security Technologies, has identified this list of equipment that meets the design guide specifications.

Single Door with Mortise lock

- Schlage L9050 L 06B Specify Finish and Handing (mortise cylinder by owner)
- Schlage L9050 L 06L Specify Finish and Handing (mortise cylinder by owner)

Single Door with Cylindrical Lock

- Schlage ND73 LD RHO Specify Finish (keyed cylinder by owner)

Single Door with Rim or Mortise Exit Devices

Add to existing exit device

- Von Duprin 98/99-2 Conversion Kit Specify Finish & Hand
- Schlage Thumbturn Rim Cylinder XB 11-979 Specify Finish

Pairs of Doors with Vertical Rod Exit Devices (Concealed or Surface mount)

This section essentially applies to auditoria doors (non-CAAMS). Due to the non-existence of standard door/lock hardware to allow occupants to lock pairs of doors with vertical rod exit devices from inside the room, architects are encouraged to use auditoria door with mullions so that the listed rim or mortise exit devices can be used.

End of Design Guide Section