Appendix B: Planning, Design & Construction (PD&C)

B.1 New Construction and Alterations Requiring AEDs

(a) AEDs shall be placed in all newly constructed buildings, modified, renovated, or tenant improved as described by section (b) in the occupancy groups with occupant loads more than that shown in Table A. The occupant load shall be determined based on the occupant load factors in the California Building Code. Occupancy groups shall be determined based on Chapter 3 of the California Building Code.

(b) Prior to approval of final inspection, AEDs shall be placed in all existing buildings undergoing *alteration* when any of the following apply:
   (1) The building undergoing *alteration* was constructed prior to January 1, 2017;
   (2) The accumulated value of the *alterations* within the building within one calendar year is $100,000 or more; or
   (3) The *alterations* are within a public assembly occupancy use, including auditoriums and performing arts and movie theaters.

(c) The requirements in (b) shall not apply to the following:
   (1) A general acute care hospital, acute psychiatric hospital, skilled nursing facility or special hospital licensed under Section 1250(a), (b), (c), or (f) of the California Health and Safety Code; and
   (2) An existing AED that is located within a common area of the building described in subdivision (b) such as the main entry lobby or similar location.

(d) AEDs shall be visibly placed and readily accessible in the event of an emergency. AEDs shall be mounted such that the top of the AED is no more than five (5) feet above floor level.

***Table A: Occupancy Groups on UCR Campus**

Occupancy Group	Occupant Load
Group A “Assembly”	300
Group E “Educational”	200

Group I “Institutional”	200
Group R “Residential”[1]	200

*Occupancy Group(s) in Table A are selected based on the relevant building types on campus.

[1] Excluding single-family and multi-family dwelling units

The following buildings on campus have an occupancy of 200 or more and do not have an AED unit on site. Evaluation is required to assess compliance with CA Health and Safety Code §19300.

The following locations in Table B: Aberdeen-Inverness, CHASS Interdisciplinary South, Winston Chung Hall, Lothian Hall, Pentland Hills Bear Cave, and Physics Building, and Spieth Hall, have been identified within the current Capital Projects Schedule. These buildings meet the occupant loads and must be evaluated for the accumulated value of alterations within the building within one calendar year.

Table B: Buildings with 200 or more Occupancy Limit

Building	Occupancy Limit
Aberdeen-Inverness	1499
Bourns Hall	1136
Boyce Hall	279
CHASS Interdisciplinary North	761
CHASS Interdisciplinary South	805
Chemical Sciences	499
Winston Chung Hall	1671
Dundee A	673
Dundee B	561
Genomics Building	473
Geology Building	327
Humanities & Social Sciences	1239
Humanities Building	610
International Village	322

Life Sciences Building	621
Lothian Hall	1122
Material Sciences Engineering	1136
North District A	1603
North District B	1020
Olmsted Hall	994
Pentland Hills Bear Cave	237
Physics Building	863
Pierce Hall	959
Psychology 1 Building	369
Science Laboratories 1 Building	240
Skye Hall	1093
Spieth Hall	538
Sproul Hall	1267
Stonehaven	556
University Lecture Hall	570
University Village Building E	270
Watkins Hall	854

Table C: Locations on UCR Campus with an AED as of 01/01/2024

Building Name	Occupant Load
Alumni & Visitors Center	165
Arts Building Fine Arts Seismic Facility	1135
Athletics and Dance	248
Batchelor Hall	414
Botanical Gardens House	9
Chancellor's Residence	4
Central Utility Plant	8
Corporate Yard D Car Shelter	0

Culver Center for the Arts	144
Boyd Deep Canyon Tevis Edu. Center	46
Environmental Health & Safety	124
Facilities Services Annex B	25
USDA Clonal Germplasm Repository	5
Heckman Center Complex PH 2	570
Ivan Hinderaker Hall	323
Highlander Union Building	2147
James San Jacinto Mtn Reserve Garage	0
Multidisciplinary Research Building 1	734
Raymond L. Orbach Science Library	1764
Parking Services Building	40
Tomas Rivera Library	1250
Police Building	55
USDA Salinity Laboratory	69
School of Medicine Education I	478
School of Medicine Education II	1164
School of Medicine Research Building	238
Student Recreation Center North	98
Student Recreation Center Pool	0
Student Recreation Center South	63
Student Health & Counseling Center	284
Student Success Center	1610
Student Support Services Building	374
USDA Modular	12

The following locations in Table D are identified as new construction(s) to the UCR campus. Their occupancy load must be evaluated based on CA Health and Safety Code §19300 standards to determine whether an AED is required in the newly constructed building.

Table D: Anticipated New Construction(s) for UCR Campus

Building Name
School of Business Building
Undergraduate Teaching & Learning Facility
Greenhouse 16-3 Rebuild
North District Phase 2
Oasis Park
PD&C Annex A

B.2 Health and Fitness Centers

AEDs are required in health studios, fitness centers and public swimming pools.

Particular public swimming pools must supply lifeguard services and AED during pool operations. Typically, any place where physical exertion is present shall have an AED because of the increased risk of cardiac arrest and other heart problems.

Effective July 1, 2007, all health clubs and health studios in California are required to have an automated external defibrillator (AED) program in place as required in the California Health and Safety code, Section 104113.

Health studios are required to supply, maintain, and train personnel on how to use an AED. For the purpose of this law, a health studio is considered a facility that allows the use of its environment and equipment to people for physical exercise, bodybuilding, reducing, figure development, fitness training, or for a similar purpose on a membership basis.

B.3 Location of AEDs

(a) AEDs shall be located in buildings to optimally achieve a three-minute response time to the person in need of emergency care using the AED.

(1) One AED shall be placed at the main entrance; This ensures that the AED is easily accessible to anyone entering or exiting the building and is positioned in a central and commonly known location, making it more likely to be found and used quickly in an emergency situation.

B.4 AED Installation and Repair

For all newly constructed buildings that require AEDs, the AED Department Designee shall ensure monthly maintenance checks and verify that the AED is in good working condition. The AED Department Designee shall also ensure compliance with all requirements under state and federal law relating to AEDs, which may ensure that the conditions for limits on liability under state law are met. In the absence of an AED Department Designee, the Environmental Health and Safety (EH&S) AED program coordinator will fulfill the role of the AED Department Designee. Such requirements and conditions may include, but may not be limited to the following:

(a) Installation, maintenance, repair, testing, and readiness checks of each AED in accordance with the manufacturer's operation and maintenance guidelines, the American Heart Association, the American Red Cross, the California Code of Regulations, and all other applicable rules and regulations including but not limited to, all regulations promulgated by the federal Food and Drug Administration; and as described in section 6 AED Unit Inspection of the UCR AED program.

(b) Upon rendering an emergency case using the AED, activate Emergency Medical Services (EMS) and the in-house emergency plan by phoning 9-1-1 system as soon as possible and report of any use of the AED. For reporting requirements reference section 7 of the UCR AED program.

B.5 AED Cubix Cabinet Dimensions and Specifications

The Cubix CB2-S and FR-S are two types of AED cabinets utilized on campus. The Semi-Recessed AED cabinet is also an approved AED wall storage cabinet appropriate for the campus. The AED Cabinets must be installed following Americans with Disabilities Act (ADA) standards.

The height to reach the handle of an automated external defibrillator (AED) in a public gathering place shall be no more than 48 inches high. ADA guidelines specify maximum reach ranges for health equipment such as AEDs and other life safety devices. For safety equipment with an unobstructed approach, the maximum forward reach to the equipment is 48 inches above the floor. The maximum side reach for an unobstructed approach to an AED is 54 inches. For more information regarding ADA standards review and reference Appendix C.

Standard AED Wall Storage Cabinet(s)

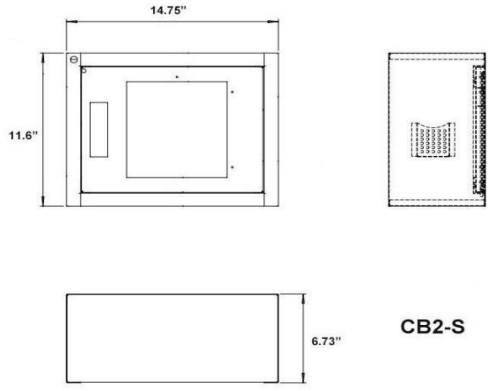
Product Code: CB2-S

Price of one (1) CB2-S Cabinet: $126.65

	Interior Dimensions				Exterior Dimensions			
Standard Cabinets	Height	Length	Depth		Height	Length	Depth	Weight
Small	11 ⅛”	14 ¼”	6 ½”		11 ⅝”	14 ¾”	6 ¾”	7.5 lbs.
	Packaging Dimensions (1 unit)				Palletized Dimensions (60 units)			
Standard Cabinets	Height	Length	Depth	Weight	Height	Length	Depth	Weight
Small	14”	17 ½”	10”	10 lbs.	88”	40”	48”	670 lbs.

Components included:

- Standard AED Wall Storage Cabinet
  - 0.8mm cold rolled steel
- Textured powder coating finish
- Recessed hinges
- Magnetic Door
- Keyed alarm system
- Set of two keys
- 80-120 dB local alarm
  - 9V battery
- Mounting Hardware
  - Screws (4)
  - Wall Anchors (4)
  - Washers (4)



This cabinet is designed to hold Philips, Heartsine, and Defibtech AEDs.

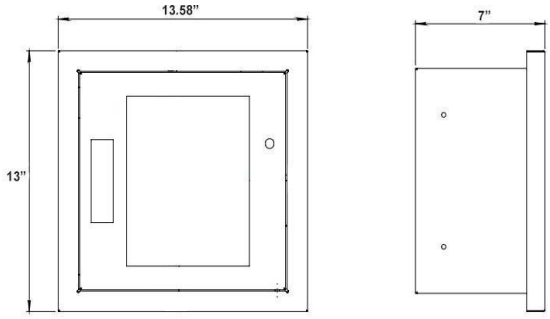
Product Code: FR-S

Price of one (1) CB2-S Cabinet: $143.65

	Interior/Rough Wall Dimensions				Exterior Dimensions			
Recessed Cabinets	Height	Length	Depth		Height	Length	Depth	Weight
Small	12”	12”	6 ¼”		13 ½”	13”	1”	9 lbs.
	Packaging Dimensions (1 unit)				Palletized Dimensions (40 units)			
Recessed Cabinets	Height	Length	Depth	Weight	Height	Length	Depth	Weight
Small	15”	16”	9”	11 lbs.	84”	42”	42”	620 lbs.

Components included:

- Fully Recessed AED Wall Storage Cabinet
  - 0.8mm cold rolled steel
  - Textured powder coating finish
  - Recessed hinges
  - Magnetic door
- Keyed alarm system
  - Set of two keys
  - 80-120 dB local alarm
    - 9V battery
- Mounting Hardware
  - Screws (4)
  - Wall Anchors (4)
  - Washers (4)



Fully Recessed-S

This cabinet is designed to hold Philips, Heartsine, and Defibtech AEDs.

Semi-Recessed AED Wall Storage Cabinet

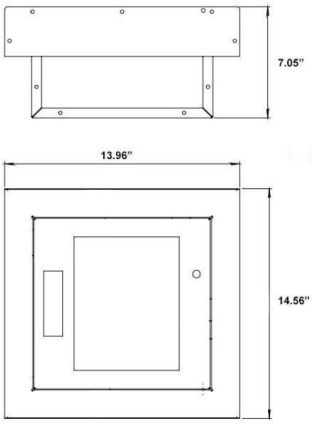
Product Code: SR-S

Price of one (1) SR-S Cabinet: $160.65

	Interior/Rough Wall Dimensions				Exterior Dimensions			
Recessed Cabinets	Height	Length	Depth		Height	Length	Depth	Weight
Large	12”	12”	6 ¾” / 4”		14 ½”	14”	3 ⅛”	9 lbs.
	Packaging Dimensions (1 unit)				Palletized Dimensions (40 units)			
Recessed Cabinets	Height	Length	Depth	Weight	Height	Length	Depth	Weight
Large	17”	17”	10”	11 lbs.	88”	48”	40”	750 lbs.

Components included:

- Semi-Recessed AED Wall Storage Cabinet
  - 0.8mm cold rolled steel
  - Textured powder coating finish
  - Recessed hinges
  - Magnetic door
- Keyed alarm system
  - Set of two keys
  - 80-120 dB local alarm
    - 9V battery
- Mounting Hardware
  - Screws (4)
  - Wall Anchors (4)
  - Washers (4)



This cabinet is designed to hold Philips, Heartsine, and Defibtech AEDs.

B.6 AED Placement Guidelines

The AED must be located in an area accessible to all employees in an unlocked cabinet. Starting in July 2025 all AED cabinets on campus shall be alarmed in such a way that the alarm goes off when the cabinet is opened and stops when the cabinet is closed. The AED cabinets will have to utilize the 9-volt standard for the alarm system.

AED alarm systems are not required for devices within the Chancellor's home, and portable units. Portable units include but are not limited to the ones used by the UCR University of California Police Department (UCPD), athletics, and remote research sites.

The AED shall be installed at a central point relative to the building's population. Ideally, the AED is installed in a high traffic area.

(1) One AED shall be placed at the main entrance; This ensures that the AED is easily accessible to anyone entering or exiting the building and is positioned in a central and commonly known location, making it more likely to be found and used quickly in an emergency.

The AED will have electrodes already connected and be configured in a way to be used immediately. The AED shall also have a spare set of electrodes either in the cabinet or under the lid.

The wall cabinet housing an AED must not protrude more than 4 inches from the wall into walkways, corridors, passageways, or aisles.

The AED must be clearly visible and unobstructed.

The AED must include use and reporting instructions.

To ensure compliance with applicable laws and regulations, including the Americans with Disabilities Act (ADA), the UCR campus must abide by the following requirements regarding the installation and placement of the AED unit:

B.7 AED Cabinet Installation

Per 2010 Americans with Disabilities Act (ADA) standards for Accessible Design, Section 308 unless otherwise noted (see section 2010 ADA standards for detailed description). These national standards are subject to change by authorities having jurisdiction. ADA requirements are constantly evolving through ongoing legislative and judicial actions.

B.8 AED Cabinet Height

Forward Reach

The requirements specify that the cabinet handle, and consequently the AED handle, shall have a maximum height of 48 inches above finished floor (AFF), with a minimum height of 15 inches AFF. When reaching forward over an obstruction, the clear floor space shall extend beneath the element for distance equal to or greater than the required reach depth over the obstruction. For a high forward reach where the reach depth is 20 inches maximum, the maximum height shall be 48 inches. However, if the reach depth exceeds 20 inches, the high forward reach shall not exceed 44 inches, and the reach depth shall be limited to 25 inches.

Parallel or Side Reach
Where the side reach is unobstructed, both the cabinet handle AND the AED handle shall not exceed 48 inches in height above the finished floor or ground, with a minimum height of 15 inches. An obstruction is permissible between the clear floor or ground space and the element if the depth of the obstruction does not exceed 10 inches.

B.9 AED Cabinet Protrusion

Per 2010 ADA Standards for Accessible Design requires any wall-mounted cabinet that protrudes more than 4 inches shall have the bottom corner no higher than 27 inches from the floor in a walkway.
In a circulation path (walks, hallways, ramps, stairways, landings, courtyards)

- If the mounting location is in a circulation path and the leading edge is between 27’ and 80’ AFF (48” in above section), it shall protrude no more than 4” maximum horizontally into the circulation path (section 204 and 307.2)
- If mounting 27 to 48 inches, the cabinet must be recessed or semi-recessed into the wall so it will not protrude more than 4 inches.
- If the cabinet has the leading edge below 27 inches, it may protrude any amount as long as it does not violate any exit corridor requirements in a room.
- If the mounting location is not in a circulation path, it may project any amount from the wall.

B.10 2010 ADA Standards

Advisory 308.1 General. The following table provides guidance on reach ranges for children according to age where building elements such as coat hooks, lockers, or operable parts are designed for use primarily by children. These dimensions apply to either forward or side reaches. Accessible elements and operable parts designed for adult use or children over age 12 can be located outside these ranges but must be within the adult reach ranges required by 308.

Children's Reach Ranges

Forward or Side Reach	Ages 3 and 4	Ages 5 through 8	Ages 9 through 12
High (maximum)	36 in (915 mm)	40 in (1015 mm)	44 in (1120 mm)
Low (minimum)	20 in (510 mm)	18 in (455 mm)	16 in (405 mm)

308.2 Forward Reach

308.2.1 Unobstructed. Where a forward reach is unobstructed, the high forward reach shall be 48 inches (1220 mm) maximum and the low forward reach shall be 15 inches (380 mm) minimum above the floor or ground.

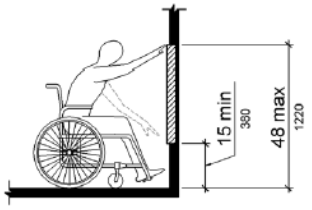


Figure 308.2.1 Unobstructed Forward Reach

308.2.2 Obstructed High Reach. Where a high front forward reach is over an obstruction, the clear floor space shall extend beneath the element for a distance not less than the required reach depth for the obstructions. The high forward reach shall be 49 inches (1220 mm) maximum where the reach depth is 20 inches (510 mm) maximum. Where the reach depth exceeds 20 inches (510 mm), the high forward reach shall be 44 inches (1220 mm) maximum and the reach depth shall be 25 inches (635 mm) maximum.

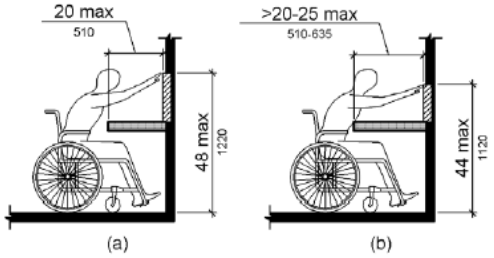


Figure 308.2.2 Obstructed High Forward Reach

308.3 Side Reach

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

Exceptions:

1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches (255 mm) maximum.
2. Operable parts of fuel dispensers shall be permitted to be 54 inches (1370 mm) maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs.

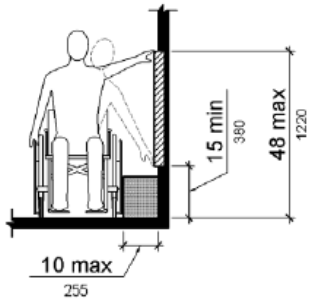


Figure 308.3.1 Unobstructed Side Reach

B.11 Signage

AED devices shall have signage at the building exterior, at the main entry door, indicating the location in the building. The sign shall include the international symbol for the AED and the text, “AED, Automatic External Defibrillator INSIDE” this part of the sign shall be 5 inches wide by 3 inches tall.