



ACCESSIBILITY GUIDELINES FOR RENOVATIONS AND NEW CONSTRUCTION

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Appendix VII to the University Design Guidelines and Performance Standards

Table of Contents

1	Introduction	3
2	Types of Projects and Accessible Scope of Work.....	4
	2.1 New Construction	4
	2.2 Renovations	4
3	Elective Accessibility Requirements.....	4
	3.1 Entrances and Doors	4
	3.2 Entrance Ramps	4
	3.3 Curb Ramps (On Sidewalks, At Crosswalks, etc.)	5
	3.4 Elevators	5
	3.5 Drinking Fountains and Water Coolers.....	5
	3.6 Toilets and Bathrooms.....	5
	3.7 Urinals	5
	3.8 Lavatories, Mirrors, and Sinks.....	6
	3.9 Dispensers and Wall-Mounted Fixtures.....	6
	3.10 Laundry Facilities	6
	3.11 Protruding Objects.....	6
	3.12 Public Telephones and Blue Phones	6
	3.13 Assembly Areas, Auditoriums and Lecture Halls	6
	3.14 Fixed or Built-in Seating, Tables, Computer Workstations, Counters	7
	3.15 Food Service Areas.....	7
	3.16 Parking Spaces	7
	3.17 All-Gender Restrooms.....	7
4	Emphasis on certain ADA and ANSI Standards	7
	4.1 Entrances and Doors	7
	4.2 Ramps and Stair Railings.....	7
	4.3 Curb Ramps (On Sidewalks, At Crosswalks, etc.)	8
	4.4 Parking	8
	4.5 Elevators	8
	4.6 Drinking Fountains and Water Coolers.....	8
	4.7 Toilets and Bathrooms.....	8
	4.8 Urinals	9
	4.9 Lavatories, Mirrors, and Sinks.....	9
	4.10 Bathtubs.....	9
	4.11 Shower Compartments for Standard Roll-in Showers with a Seat.....	9
	4.12 Dispensers and Wall-Mounted Fixtures.....	10
	4.13 Laundry Facilities	10
	4.14 Areas of Rescue Assistance	10
	4.15 Stairs	10
	4.16 Ground and Floor Surfaces	10
	4.17 Protruding Objects.....	10
	4.18 Assembly Areas, Auditoriums and Lecture Halls	10
	4.19 Signage	11
	4.20 Fixed or Built-in Seating, Tables, Computer Workstations, Counters	11
	4.21 Food Service Areas.....	11

Appendix VII to the University Design Guidelines and Performance Standards

1 Introduction

The Accessibility Guidelines for Renovations and New Construction (Accessibility Standards) have been developed in an effort to ensure physical and programmatic access to all University programs and services for individuals with disabilities. These guidelines have been adapted for The University's use and are based on the 2010 Americans with Disabilities Act (ADA) Standards for Accessible Design (published on September 15, 2010) and ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities. These guidelines are intended to assist the Designer and University in complying with existing legal obligations in conjunction with creating inclusive and accessible facilities and are not intended to replace applicable standards, regulations and building code requirements. It is the expectation that design professionals, consultants, service providers and others involved in the built environment incorporate the following elements applicable to a project. Any discrepancies between these guidelines and the University's Design Guidelines and Performance Standards (University Design Standards) and its Appendixes shall be resolved by the University Planning, Design and Construction Department (UPDC). The Accessibility Standards is an appendix to the University of Connecticut Design Guidelines and Performance Standards (University Design Standards).

Design professionals should take into consideration the full range of human diversity with respect not only to disability, but to language, gender, age and other differences or characteristics. Such attention to diversity in the design process is integral to creating socially responsible built environments and will result in design features that facilitate social interaction, community, identity and belonging. Design choices starting from initial site planning to the choice of hardscape and hardware products effect usability and impact equitable design. When spaces are designed "universally," individuals are no longer disabled by their impairments or differences and can experience things in the same ways as others.

All new buildings and alterations constructed after January 1992 must meet applicable accessibility standards of the American with Disabilities Act ("ADA"), as well as, all requirements of the Connecticut State Building Code applicable as the date of the permitting of the project. Please note that renovating existing facilities for public institutions falls under the Title II program, which has higher standards than the Title III private institution requirements, and in general, Title II requires buildings to be fully accessible to the maximum extent possible, while Title III requires barriers to be removed and access provided to the extent it is readily achievable. Renovations that change the function or occupancy of a space must meet the currently applicable standards within the scope of the project along with the supporting amenities and path of travel that serves the renovated space.

Appendix VII to the University Design Guidelines and Performance Standards

2 Types of Projects and Accessible Scope of Work

2.1 New Construction

New construction projects are defined as those projects involving the design and construction of new facilities and outdoor spaces where building and site development are unencumbered by pre-existing building or site accessibility constraints. Additions to existing buildings are also considered new construction projects in regard to building accessibility. Individual evaluation of additions to existing buildings should be undertaken early in the design process to outline the extent of existing building and/or site accessibility compliance that will be necessary. In general, once the project limit lines for a project have been established, all work within the project limit lines must meet the ADA, ANSI and University Accessibility Guidelines, while any existing work that immediately abuts the project limit lines or is a location where new construction connects into existing work, these areas must be investigated for compliance with the ADA, ANSI and University Accessibility Guidelines.

2.2 Renovations

Renovation projects are defined as projects involving the renovation/alteration of a portion of an existing building or site that affects, or could affect, the usability. A renovation that could affect the usability of or access to an area of a facility that contains a primary function shall also include improvements to the path of travel to the renovated/remodeled area and the restrooms/drinking fountains serving that area so that they are readily accessible to and usable by individuals with disabilities. Where the project limits are the renovation of a primary area on one floor only, the project shall review the path of travel to the nearest accessible entrance (if the project is on the main floor) or to the elevator if it is on another floor and shall review the accessibility at the set of restrooms closest to the project. Where the project includes renovations on several floors, the accessible route and path of travel investigation shall include both to the elevators and accessible building entrance and at least one set of restrooms on each floor where the renovation is proposed. The cost and scope of such renovations to the path of travel and restrooms outside the project limits shall not exceed 20% of the cost of the renovation to the primary function area. Individual evaluation of the extent of such improvements to paths of travel and restrooms should be undertaken early in the design process and should outline the extent of existing building and/or site accessibility compliance that will be necessary. Refer to 2010 ADA Standards Section 202.4 for further information.

3 Elective Accessibility Requirements

The following requirements shall be incorporated into the design of projects at The University, where applicable to the specific project scope of work, and are recognized as more stringent than the ADA and ANSI Standards:

3.1 Entrances and Doors

- Slow-opening, low-powered, automatic door(s) shall be included on the primary exterior accessible entrance to the building.
- Building entry door openings and pass-through doors in corridors shall be a minimum clear width of 36 inches (ADA 404.2.3 minimum is 32"). The Design Team shall investigate, but shall not be obliged to provide, 36" doors to large secondary interior spaces, such as auditoriums and classrooms.
- Where interior corridor doors are provided for a fire separation between portions of a building, equip the doors with magnetic hold-opens so that the corridor doors can remain predominately open.

3.2 Entrance Ramps

Maximum slope of ramps at entries shall be 1:16 (ADA 405.2 allows 1:12 slope for ramps). Where space and

Appendix VII to the

University Design Guidelines and Performance Standards

grades allow, sloped sidewalks with a slope 1:20 should be considered in lieu of ramps to overcome changes in elevation.

- Ramps shall include level landings at the bottom and top that are as wide as the ramp run leading to it. The landing (bottom, top or intermediate) length shall be a minimum of 72 inches. (ADA 405.7 allows a minimum of 60 inches).

3.3 Curb Ramps (On Sidewalks, At Crosswalks, etc.)

- Minimum width of ramps should be 48" (ADA 403.5.1 has a minimum width of 36 inches).
- Detectable warnings are to be provided at curb ramps that lead to a vehicular crossing and at driveway crossings (ADA 705 requires detectable warnings only at ramps).
- A minimum 48 by 48-inch landing shall be provided at the top of the curb ramp and the ramp shall have a maximum slope of 1:48 in any direction (ADA 406.4 does not have minimum dimensions for the landing size at the top of curb ramps).

3.4 Elevators

- Regardless of the door locations, dimensions of the elevator car shall be 80 inches wide minimum by 51 inches deep minimum (ADA 407.4.1 allows smaller cab sizes for elevators with off-centered doors).
- For all elevators, an emergency communication device (e.g. phone or intercom) shall be provided at the bottom of the control panel and shall not be greater than 35 inches above the floor. Any controls to operate the communication device (including any door handle) shall be accessible and shall not require grasping, pinching or twisting of the wrist to operate (ADA 407.4 does not require voice intercommunication systems in some elevators).

3.5 Drinking Fountains and Water Coolers

- A clear floor space of 30 inches by 52 inches shall be provided to allow a person in a wheelchair to approach the unit facing forward. (ADA 305 provides a minimum clear floor space at 48").
- Drinking fountain(s) shall be located in an alcove or protected so it does not protrude into a pedestrian path of travel by more than 3".
- Cane Guards should be provided at the base of all water coolers.

3.6 Toilets and Bathrooms

- Toilet room entry doors on the main floor of a building shall be equipped with automatic door operators, where possible. If not possible due to existing conditions, additional power wiring shall be provided for the later installation of an automatic door operator. See Volume II for standards on automatic assist door opener.
- A 66-inch diameter unobstructed turning space shall be provided for wheelchair users and is on an accessible route (ADA 304.3.1 allows 60" minimum diameter turning space).
- A 12-inch toe clearance shall be provided above the floor at the front stall partition and at least one side partition of the toilet stall (ADA 306.2.1 requires a minimum 9-inch toe clearance).

3.7 Urinals

- The clear floor space shall be at least 30 inches by 52 inches and positioned for a forward approach at an assessable urinal (ADA 605.3 requires a minimum width of 48").

Appendix VII to the University Design Guidelines and Performance Standards

3.8 Lavatories, Mirrors, and Sinks

- A clear floor space of 30 inches by 52 inches shall be provided in front of an assessable sink to allow a forward approach (ADA 305 requires a 48" wide clearance).

3.9 Dispensers and Wall-Mounted Fixtures

- Hand dryers with bottom air outlets shall be located so that the operating mechanism is no greater than 40 inches above the floor (48" maximum height in the ADA 308.2).
- Where provided, medicine cabinets with a usable shelf shall be mounted no higher than 44 inches above the floor to the shelf.

3.10 Laundry Facilities

- Laundry facilities mechanisms shall be located at the front of the machine and shall be no higher than 48 inches above the finish floor (ADA has no specific requirements for laundry mechanisms).
- For laundry facilities, a clear floor space of at least 30 inches by 52 inches positioned for a parallel approach shall be provided. For top loading machines, the clear floor space shall be centered on the appliance, while for front loading machines, the centerline of the clear floor space is offset 24 inches maximum from the centerline of the door opening. (ADA 305.3 requires a minimum of 48" clear floor space).

3.11 Protruding Objects

- Where bicycle parking racks are provided, locate racks so that parked bicycles do not encroach in the accessible path of travel.

3.12 Public Telephones and Blue Phones

- Public telephones and blue phones shall be hearing aid compatible.
- A clear floor space of at least 30 inches by 52 inches shall be provided that allows a wheelchair user a forward or parallel approach (ADA 305 requires a minimum of 48").
- A campus phone shall be included near the accessible entrance to any building, which shall provide protection from the elements and an unobstructed view to the accessible van drop-off or parking space.

3.13 Assembly Areas, Auditoriums and Lecture Halls

- Each wheelchair location in an assembly area, auditorium or lecture hall shall provide minimum clear ground or floor spaces of 36 inches wide by 52 inches deep for a front or rear entry or 60 inches deep for a side entry (ADA 305 requires a minimum of 48" deep clear area).
- In fixed seating situations, provide at least 5% of the aisle seats with a fold up arm (ADA 802.4 does not specify a percentage of seats with fold up arms).
- Where audio amplification is provided in a lecture hall, an assistive listening system shall be provided along with signage indicating how to request assistive listening equipment. Magnetic induction loops, infrared and radio frequency systems are types of listening systems which are appropriate for various applications. If a provided assistive listening system serves individual fixed seats, then such seats shall be located within a 50-foot viewing distance of the stage or playing area and have a complete view of the stage or playing area.

Appendix VII to the University Design Guidelines and Performance Standards

3.14 Fixed or Built-in Seating, Tables, Computer Workstations, Counters

- Access aisles between seating, tables, workstations or other elements shall be at least 48 inches wide (ADA 904.3.1 requires a minimum of 36" wide).
- If benches or picnic tables are provided, provide at least one accessible bench or picnic table in each group of picnic tables.

3.15 Food Service Areas

- Food service lines shall be at least 42 inches wide (ADA 904.5 allows 36" wide lines).
- Tableware and condiment areas shall be accessible, with items a maximum height of 48 inches above the floor. At least one of each type of item must be within the accessible reach range. (ADA 904.5 allows a maximum height of tables and reach at 54").

3.16 Parking Spaces

- Accessible parking spaces shall be located on the shortest accessible route of travel from adjacent parking to an accessible entrance where possible.

3.17 All-Gender Restrooms

- One all-gender, single stall restroom shall be provided on each floor of a building and it shall meet all requirements for accessibility.

4 Emphasis on certain ADA and ANSI Standards

The following are restatements of selective portions and provisions of the ADA and ANSI Standards where the University has historically had review comments, additional costs through change management or installation issues on projects. Restatement of certain provisions are to bring them to the attention of the Design Team and does not relieve the Design Team from meeting all requirements of the ADA and ANSI Standards as applicable to the project's scope of work.

4.1 Entrances and Doors

- Where revolving doors and turnstiles are provided, they cannot be the only means of passage at an accessible entrance (ADA 404.2.1).
- Door opener push plates shall be mounted no higher than 48 inches for a front or side approach (ADA 404.2.7).
- The minimum space between two doors in a series must be at least 48 inches plus the width of any door swing into the space (ADA 404.2.6).
- Thresholds shall not exceed ½ inch in height and any changes in level between ¼ inch and ½ inch shall be beveled with a slope not steeper than 1:2 (ADA 404.2.5).

4.2 Ramps and Stair Railings

- Handrails must extend at least 12 inches beyond the top and bottom of the ramp (ANSI 117.1).
- Handrails shall be mounted between 34 and 38 inches above the ramp measured to the top of the gripping surface (ADA 505.4).

Appendix VII to the University Design Guidelines and Performance Standards

4.3 Curb Ramps (On Sidewalks, At Crosswalks, etc.)

- Maximum slope of 1:20 inches is allowed at the counter slope of adjoining gutter or road surface (ADA 406.2).
- Flared sides of a ramp need to be provided with a maximum slope of 1:10 (ADA 406.3).

4.4 Parking

- Note that ADA 502.2 requires that car parking spaces must be at least 96 inches wide and van parking spaces must be at least 132 inches wide, but the State Building Code has more stringent requirements.
- The surface slope at the parking space or aisle shall not exceed 1:48 inches in all directions (ADA 502.4).
- Access aisles should provide pavement markings of “No Parking” to discourage prohibited vehicles from parking in the access aisle (ADA 502.3.3).
- Where provided, at least one electrical vehicle charging station and associated parking space should provide elements of accessibility including an access aisle, operable parts, controls within reach range and a clear floor space, and a route not obstructed by a cord or barrier.

4.5 Elevators

- For multi-story buildings, at least one elevator needs to be on an accessible route (ADA 402.2).
- All control buttons shall be designated by Braille and raised letters or numbers (ADA 407.2).
- Floor buttons shall be no higher than 48 inches above the floor for a front or side approach (ADA 308).

4.6 Drinking Fountains and Water Coolers

- The spout for a low drinking fountain shall be no higher than 36 inches from the floor to the spout outlet (ADA 602.4).
- At an accessible fountain or cooler, clear knee space shall be at least 27 inches high between the bottom of the apron and the floor, 30 inches wide, and between 17 and 19 inches deep in a wall-mounted unit (ADA 306.3.3).

4.7 Toilets and Bathrooms

- Where six or more toilet compartments or the combination of urinals and toilets totals six or more fixtures, an ambulatory stall is provided (ADA 417).
- Clearance around a toilet shall be 60 inches minimum measured perpendicular from the side wall and 56 inches minimum measured perpendicular from the rear wall for wall hung toilet, and 59 inches minimum measured perpendicular from the rear wall for floor mounted toilets (ADA 604.3.1).
- The flush controls shall be located on the open or wide side of the toilet (ADA 604.6).
- The centerline of the toilet shall be 16 inches minimum to 18 inches maximum from the side wall or partition, except that the toilet shall be 17 inches minimum and 19 inches maximum from the side wall or partition in the ambulatory accessible stall (ADA 604.2).
- In assessable stalls, a side wall grab bar shall be provided and shall be at least 42 inches long, located 12 inches maximum from the rear wall, and extends at least 54 inches from the rear wall (ADA 604.5.1).
- In assessable stalls, a rear wall grab bar shall be provided and shall be at least 36 inches long, extends at least 12 inches minimum from the centerline of the toilet on one side, and shall extend at least 24 inches on the other side of the centerline (ADA 604.5.2).

Appendix VII to the University Design Guidelines and Performance Standards

- The seat height of an assessable toilet shall be 17 inches minimum and 19 inches maximum measured to the top of the toilet seat (ADA 604.4).
- Doors shall not swing into the clear floor space or clearance required at the accessible stall toilet. Stall doors shall be located in the front partition or in the side wall or partition farthest from the toilet. The clearance between the door side of the compartment and any obstruction shall be at least 42 inches. (ADA 604.2 and 604.8.1).
- Door pulls are provided on both sides of the accessible and ambulatory stall doors (ADA 604.8.1).

4.8 Urinals

- Urinals can be stall-type or wall-hung, with the rim 17 inches maximum above the finish floor and are at least 13 ½ inches deep measured from the outer face of the urinal rim to the back of the fixture (ADA 605.2).
- Flush controls on an assessable urinal shall be no higher than 48 inches above the finish floor (ADA 605.4).

4.9 Lavatories, Mirrors, and Sinks

- Assessable counter surfaces shall be no higher than 34 inches above the finish floor (ADA 606.3).
- The minimum depth of an assessable sink shall be 17 inches (ADA 306.2.3).
- A knee clearance of at least 27 inches above the floor at a minimum 8 inches deep shall be provided under an assessable sink (ADA 306.3).
- Mirrors located above an assessable lavatory or countertop shall be mounted with the bottom edge of the reflecting surface no higher than 40 inches above the finish floor. Mirrors not located above lavatories or countertops shall be mounted with the bottom edge of the reflecting surface no higher than 35 inches above the finish floor (ADA 603.3).

4.10 Bathtubs

- Clearance in front of a bathtub shall extend the length of the bathtub and must be at least 30 inches wide (ADA 607.2).
- A permanent seat at the head end of the bathtub or removable in-tub seat shall be provided (ADA 607.3).
- Controls shall be located on an end wall and shall be installed between the bathtub rim and grab bar, and between the open side of the bathtub and the centerline of the width of the bathtub (ADA 607.5).
- A shower spray unit with a hose at least 59 inches long that can be used both as a fixed shower head and as a hand-held shower shall be provided (ADA 607.6).

4.11 Shower Compartments for Standard Roll-in Showers with a Seat

- The shower compartment shall be at least 30 inches wide by at least 60 inches deep and shall have an at least 60-inch wide entry on the face of the shower compartment (ADA 608.2.2).
- A 30-inch wide minimum by 60-inch long minimum clearance shall be provided adjacent to the open face of the shower compartment (ADA 608.2.2).
- A fixed folding type seat shall be provided and shall be mounted on the wall adjacent to the controls between 17 and 19 inches from the bathroom floor (ADA 604.4).
- Controls, faucets and shower spray unit shall be located above the grab bars, but no higher than 48 inches

Appendix VII to the University Design Guidelines and Performance Standards

above the shower floor. Controls, faucets and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located no further than 27 inches from the seat wall. (ADA 608.5.2).

- Shower spray unit with a hose at least 59 inches long that can be used both as a fixed shower head and as a handheld shower shall be provided (ADA 607.6).

4.12 Dispensers and Wall-Mounted Fixtures

- Where provided, baby changing tables shall be installed so that the open and lowered position surface is 34" maximum above the floor, the hardware or handle is no higher than 48 inches, and the changing table is not located within any type of stall (ADA 902).

4.13 Laundry Facilities

- Top loading machines shall have the door to the laundry compartment located 36 inches maximum above the finish floor. Front loading machines have the bottom of the opening to the laundry compartment located 15 inches minimum and 36 inches maximum above the finish floor (ADA 611.4).

4.14 Areas of Rescue Assistance

A method of two-way communication with both visual and audible signals shall be provided at an Area of Rescue Assistance (ADA 4.3.11).

- Each area of rescue assistance shall be identified by a sign which states, "AREA OF RESCUE ASSISTANCE" and shall display the International Symbol of Accessibility (ADA 4.3.11).

4.15 Stairs

- Stairways shall have continuous handrails on both sides of all stairs (ADA 505.2).

4.16 Ground and Floor Surfaces

- If gratings are located in walking surfaces, they shall have spaces no greater than ½ inch wide in one direction. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel and are no greater than ½ inch wide (ADA 302.3).

4.17 Protruding Objects

- Objects projecting from walls with their leading edges between 27 inches and 80 inches above the finished floor may protrude no more than 4 inches into walks, halls, corridors, passageways, or aisles (ADA 307.2).

4.18 Assembly Areas, Auditoriums and Lecture Halls

- Wheelchair areas are an integral part of any fixed seating plan and shall be provided so as to provide people with physical disabilities a choice of admission prices and lines of sight comparable to those for members of the general public (ADA 221.2.2).
- At least one companion seat (fixed or movable) shall be provided next to each wheelchair seating area. Companion seat shall have a shoulder to align with adjacent wheelchair space, measured to be 36 inches from the front of the wheelchair space. (ADA 221.3).
- An accessible route shall be provided that connects wheelchair seating locations with performing areas, including stages, arena floors, dressing rooms, locker rooms, and other spaces used by performers. Where a circulation path directly connects a performance area to an assembly seating area, an accessible route

Appendix VII to the University Design Guidelines and Performance Standards

shall directly connect the assembly seating area with the performance area (ADA 206.2).

- In facilities where coat hooks are provided, at least one hook should be provided at an accessible height not to exceed 48 inches maximum above the finished floor (ADA 213.3.7).

4.19 Signage

- Connecticut State Building Code requires use of the State-approved accessibility symbols, but some signage is still required to include the International Symbol of Accessibility. For example, where not all building entrances are accessible, signage with the International Symbol of Accessibility must be provided at all accessible entrances. Refer to Section 216 of the 2010 ADA Standards for further specifications on signage required to include the International Symbol of Accessibility.
- Where permanent identification is provided for rooms and spaces, signs are to be installed on the wall adjacent to the latch side of the door. If there is no wall space on the latch side of the door for a sign, including at double leaf doors, signs are to be placed on the nearest adjacent wall (ADA 703.4.2).
- Letters and numerals shall be raised 1/32 inch minimum and shall be upper case, sans serif or simple serif type and must be accompanied with Grade 2 Braille (ADA 703.2).
- Pictograms must be accompanied by the equivalent verbal description placed directly below the pictogram (ADA 703.6.3).

4.20 Fixed or Built-in Seating, Tables, Computer Workstations, Counters

- Knee clearance shall be at least 27 inches high, 30 inches wide and 19 inches deep at tables and/or counters (ADA 306.3.3).
- The surface height of accessible tables or counters shall be between 28 and 34 inches from the floor (ADA 902.3).

4.21 Food Service Areas

- If food or drink is served at counters exceeding 34 inches in height for consumption by customers seated on stools or standing at counters, a portion of the main counter, which is 60 inches in length minimum, must be provided and must be between 28 to 34 inches above the floor (ADA 902.3).
- Tray slides must be mounted no higher than 34 inches above the floor (ADA 904.5.2).