Accessibility

Introduction

Since the Civil Rights Act of 1964, disability rights legislation and increasing public awareness about the rights of people with disabilities have produced various pieces of legislation, the most extensive of which is the Americans with Disabilities Act, Public Law 101-336. Passed in January 1990, the law identifies equal access as a civil right and prohibits discrimination on the basis of disability in both privately and publicly owned accommodations. Public accommodations include services, programs, activities, goods, and commercial establishments, such as restaurants, hotels, theaters, hospitals, museums, and parks.

The executive branch of the federal government is not bound to the provisions of the Americans with Disabilities Act. Executive agencies and recipients of federal funding are required to comply with the accessibility provisions contained in two pieces of earlier legislation:

- Architectural Barriers Act (1968)
- Section 504 of the Rehabilitation Act (1973)

Accessibility Requirements

Both the Architectural Barriers Act and Section 504 of the Rehabilitation Act contain standards and guidelines that identify the conditions necessitating accessibility requirements and give technical specifications for new construction, alterations, and additions. For both Acts, the minimum standards of accessibility for federal buildings and facilities is defined by the *Uniform Federal Accessibility Standards* (UFAS), published in 1984 by the Architectural and Transportation Barriers Compliance Board.

For nonfederal public accommodations, minimum accessibility requirements are outlined in the *Americans with Disabilities Act Accessibility Guidelines (ADAAG)*. The ADAAG was published in 1991 by the Architectural and Transportation Barriers Compliance Board.

The UFAS and ADAAG have common technical requirements. The general technical requirements for ADAAG (titled "Accessible Elements and Spaces") are the same as the UFAS technical requirements. Both require that the design of new construction be accessible; however, they differ slightly in their scoping requirements for existing facilities. ADAAG has many new technical requirements for various types of public accommodations, including restaurants and cafeterias, medical care facilities, business and mercantile, libraries, transient lodging, and transportation facilities. Both UFAS and ADAAG have special rules for historic preservation, which are discussed in this text.

The technical requirements common to both UFAS and ADAAG are actually derived from accessibility standards first developed in 1961 by the American National Standards Institute (ANSI). The ANSI standards have been modified very little over the past 30 years despite medical and technology advancements and increased awareness about the needs and life expectations of people with disabilities.

The federal government intends to revise the UFAS to be at least equivalent to the ADAAG in its technical and scoping requirements. In a June 30, 1993 memorandum, the Department of Justice requested that until the UFAS are revised, the executive agencies use the higher standards of the ADAAG whenever the guidelines result in more universal access. Currently, both the UFAS and the ADAAG are being reviewed by the Architectural and Transportation Barriers Compliance Board for possible revisions to their respective technical requirements. This review is being conducted in conjunction with the Civil Rights Division of the Department of Justice and the four standard-setting agencies under the Architectural Barriers Act: General Services Administration, the United States Postal Service, the Department of Housing and Urban Development, and the Department of Defense.

Universal Design

Universal design is based on the premise that a facility or product should be usable by anyone. Despite advancements toward universal accessibility, the disability community and universal design advocates have criticized the use of accessibility guidelines. Critics maintain that the use of minimum construction specifications does not promote a greater understanding about the needs of people with disabilities, or contribute to removing attitudinal barriers.

Critics believe that for designed environments, attitudinal barriers are more persistent than architectural ones, and the way to remove the attitudinal barriers is to increase awareness about the many distinctive needs of users. Critics assert that in practice, minimum design standards

Figure 1. View of the original office walkway and location of a proposed accessibility project to create universal access. Frederick Law Olmsted National Historic Site. (NPS, 1995)

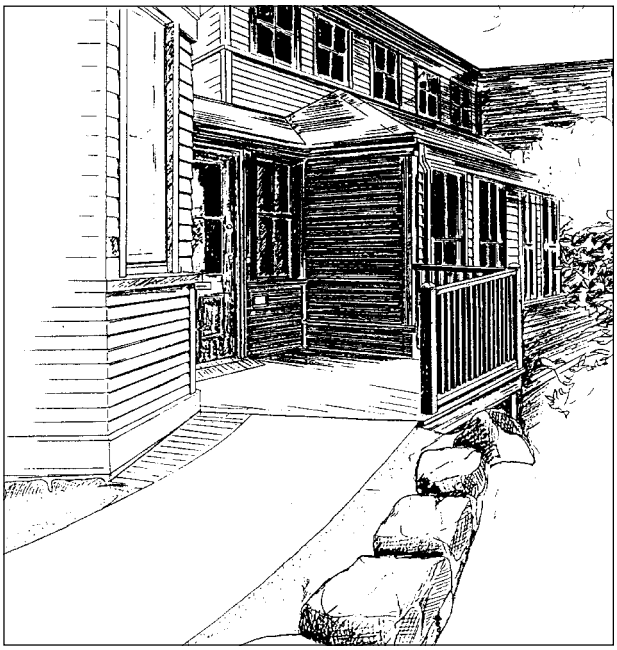

Figure 2. A sketch of the proposed universal access design, which raises the elevation of the historic entrance porch to meet the threshold, and includes a new walkway with an accessible gradient. Frederick Law Olmsted National Historic Site. (NPS, 1995)

become maximum standards, and compliance with minimum standards is viewed as the goal rather than the means to achieving universal or equal access.

Universal design advocates believe strict adherence to accessibility guidelines may result in a design solution that does not create equal access. They distinguish accessibility from universal and equal access, noting that separate provisions for one group of users may ignore the needs of another group with different disabilities. They emphasize education about the concept of "fitness for use by anyone" as the basis for the environmental design process. (See Figures 1, 2, and 3.)

Figure 3. Office walkway following implementation of the accessibility project. The historic stone edge condition of the original walkway was salvaged and relaid to match the gradient of the new walkway. Frederick Law Olmsted National Historic Site. (NPS, 1997)

The Equal Facilitation Clause

A fundamental difference between the UFAS and ADAAG in guiding the creation of universally accessible environments is that the ADAAG has an extra clause within the general provisions, titled "Equivalent Facilitation" (ADAAG 2.2). The clause states:

> *Departures from the particular technical and scoping requirements of this guideline by the use of other designs and technologies are permitted where the alternative designs and technologies used will provide substantially equivalent or greater access to and usability of the facility.*

The ADAAG allows designers to depart from the specifications. For designers to take advantage of this creative opportunity, they should understand the needs of people with disabilities and the reasons underlying the existing guidelines. For example, the reason for requiring handrails along both sides of a ramp or set of steps is that people with different capabilities on either side of their bodies (such as people who have suffered strokes) can use the handrail matching their physical abilities.

Universal design advocates are critical of the prevalence of eight percent gradient ramps with handrails (permitted by UFAS and ADAAG guidelines), because an eight percent gradient is too steep for many people with limited mobility and handrails are unusable by many people with disabilities. They encourage the use of the ADAAG's Equivalent Facilitation clause because it has more potential to change attitudes and improve the usability of designed environments.

Accessibility in Cultural Landscapes

Historically, the needs of people with disabilities have not been considered in the design and construction of places. As a result, many historic properties have features that are obstacles to equal access. Unfortunately, equal access and historic preservation have often been portrayed as antithetical, technically infeasible, and even impossible. But designing equal access to historic properties, including cultural landscapes, does not have to preclude the preservation of significant resources.

Historic preservation exists to allow experiential access to historic properties that are considered culturally valuable or significant. In this context, the goal of equal access is to create equal access to the experience as well as improve physical accessibility. (See Figure 4.) To create equal access to the opportunity to experience the significance of a cultural landscape, the goal of accessibility needs to be united with the goal of preservation. The loss of integrity resulting from the implementation of an accessibility project represents a compromise to the goals of both equal access and preservation.

Equal access to the experience of a cultural landscape is achieved when the significance is conveyed through the physical integrity of landscape characteristics and associated features and when the experience is equally available to all visitors or users. As defined by the National Register of Historic Places, integrity relates to the presence of physical features that have existed since a period of significance and that contribute to and convey the significance of a

historic property. Therefore, the design of accessibility projects in a cultural landscape should retain the extant landscape characteristics and associated features that contribute to and convey the significance of the landscape. New features that are added to provide equal access should be designed in a manner that is compatible with the character of the landscape. The goal is to provide the highest level of access with the lowest level of impact on the integrity of the landscape. (See *A Guide to Cultural Landscape Reports: Appendices*, "Appendix I: Treatment Policy, Guidelines, and Standards.")

Accessibility in a cultural landscape is part of the preservation planning process. Currently, under UFAS scoping requirements, only existing facilities undergoing substantial alteration (all alterations in one year amounting to 50 percent or more of the property value) trigger requirements for accessibility. Under ADAAG scoping requirements, any alterations to an existing element, feature, space, or area, triggers new construction standards for accessibility. Until the UFAS has been revised to the greater scoping requirement of ADAAG, the Department of Justice and the Architectural and Transportation Barriers Compliance Board encourage the executive agencies to use the greater scoping requirement of ADAAG for alterations.

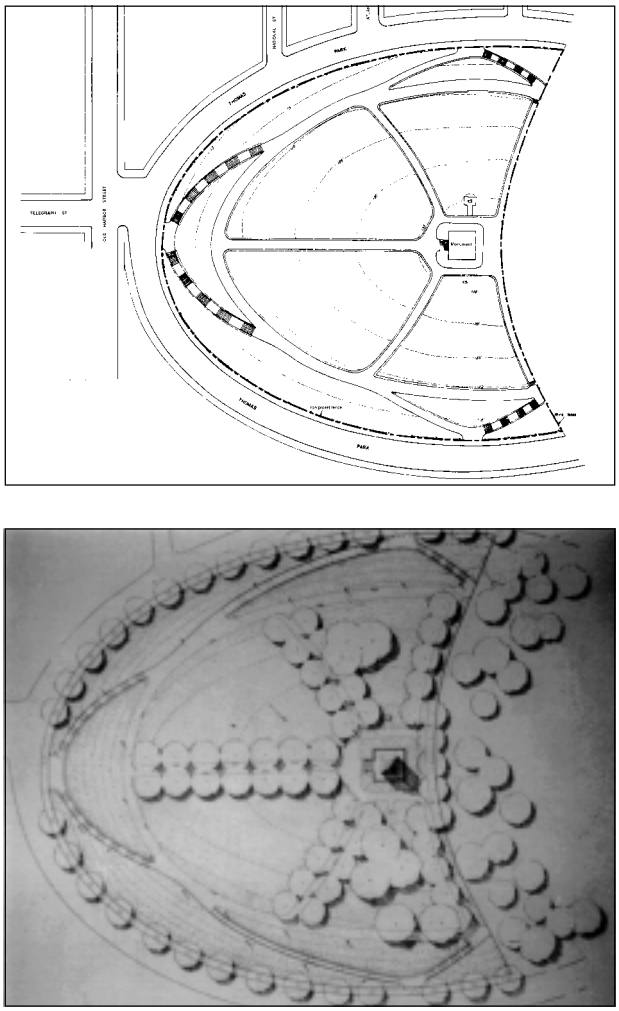

Figure 4. Before (top) and after (bottom) existing conditions plans of Dorchester Heights, the site of an accessibility project in 1995. The accessibility project occurred as part of a rehabilitation treatment plan. It involved "stretching" the pattern of the historic circulation plan (the central walk and the north and south ramps were elongated), to achieve a more shallow, accessible route up to the Dorchester Heights Monument. Boston Historical Park. (NPS, 1994)

Accessibility Planning

The planning and design of accessibility projects is a multidisciplinary activity involving the expertise of preservation professionals, accessibility specialists, and individuals with disabilities and their organizations. Accessibility coordinators, usually located in the National Park Service (NPS) support offices, should be invited to participate in the planning process.

Accessibility planning and design requires a clear understanding of a cultural landscape's significance and how it is conveyed through its extant landscape characteristics and associated features.

Equal access must be defined for each particular cultural landscape based on a variety of factors, including significance, landscape characteristics and associated features, integrity, treatment, and contemporary use of the landscape. These factors influence how a landscape's significance is presented to visitors, and, therefore, affect the extent and location of modifications required to provide access and the physical appearance of access designs.

If a cultural landscape is eligible for listing or is listed in the National Register of Historic Places, and the access project is a federal undertaking, the planning and design stages of an accessibility project involve the review process cited in Section 106 of the National Historic Preservation Act. The NPS initiates consultation with the State Historic Preservation Office to develop a Memorandum of Agreement on the planning and design of access modifications. As a result, the Memorandum of Agreement outlines actions that are agreed upon and it is submitted to the Advisory Council for Historic Preservation for comment. The same review procedure is followed when the less comprehensive scoping requirements of UFAS and ADAAG are used to plan and design access modifications.

Both UFAS and ADAAG have special rules for historic preservation that reduce scoping requirements for particularly challenging circumstances. The rules apply to situations in which creating equal access would destroy the integrity of a historic property because its significance is wholly conveyed by the exact location, original materials, original workmanship, or original design of a feature or features. The special rules add flexibility to the process of creating access changes that retain the integrity of a historic property and therefore allow the significance to be conveyed and experienced. If using the general scoping requirements for accessibility would destroy the integrity of a cultural landscape, the special rules of UFAS and ADAAG are permitted. The circumstances in which to apply the special rules for historic preservation of UFAS (4.1.7 (2)), and ADAAG (4.1.7 (3)) are relatively rare and only apply to a small number of historic properties.

Listed below are the special rules for historic presentation, which are written to apply most directly to historic buildings.

- Allow only one accessible route from one site access point (such as a parking lot) to an accessible entrance.
- The accessible entrance may be different to the one used by the general public (though it cannot be locked and ADAAG requires directional signage to the accessible entrance).
- A ramp steeper than is ordinarily permitted may be used in space limitations (a gradient of 16.6 percent (1:6) for a maximum run of two feet).
- Only one accessible restroom is required and it may be unisex.
- Accessible routes are only required at the elevation of the entrance.
- Interpretive materials should be located where they can be seen by seated persons.

ADAAG also has an exception rule for historic preservation (ADAAG 4.1.7 (1)), which states that if the integrity of a historic property could be destroyed by following the special rules, scoping requirements are reduced even further. The exception permits use of alternative methods to make services and programs available (that is, to create the opportunity to experience the significance of a property). Alternative methods include the use of interpretation (such as audio visual materials), using facilitators to assist individuals with disabilities, and adopting other innovative methods such as those invited by the Equivalent Facilitation clause of ADAAG. UFAS has no exception rule for historic preservation.

Sources of Further Information

The Uniform Federal Accessibility Standards and information can be obtained from:

Architectural and Transportation Barriers Compliance Board
1111 18th Street, NW, Suite 501
Washington, DC 20036
1-800-USA-ABLE

The Americans with Disabilities Act Accessibility Guidelines and information can be obtained from:

Office of the Americans with Disabilities Act—Civil Rights Division
U.S. Department of Justice
P.O. Box 66118
Washington, DC 20035-6118
202-514-0301

For NPS accessibility enquiries contact:

Accessibility Program Coordinator
Parks Facility Management Division
National Park Service
P.O. Box 37127, Suite 580
Washington, DC 20013-7127
202-343-3674

Technical and Scoping Accessibility Requirements for Elements and Spaces

Following is a partial list of ADAAG and UFAS "Technical Requirements for Accessible Elements and Spaces," which are most pertinent to access projects in cultural landscapes. For the full list of technical and scoping requirements, refer to the UFAS or ADAAG.

Accessible Route Minimum Specifications

- Width = 36 inches
- Passing zone = 60 inches wide occurring at 200-foot intervals
- Wheelchair 180-degree turning zone = 60 inches x 60 inches
- Gradient = 5 percent (1: 20)
- A gradient greater than 5 percent shall be called a ramp
- Cross pitches (cross slopes) = 2 percent (1: 50) or less
- Abrupt level changes are no greater than 0.5 inch in height

- 0.25-inch level change is permitted without a beveled edge
- 0.5-inch level change must have a beveled edge
- Surfaces must be of stable, firm, slip resistant material

Accessible Parking

- Space = 96 inches wide
- Access aisle is considered to be part of an accessible route
- Spaces and aisles have a 2 percent (1: 50) maximum gradient in any direction
- Passenger loading zone (access aisle) = 60 inches wide x 20 feet long, adjacent and parallel to the vehicle pull-up space

Curb Ramps

- Must be located wherever an accessible route crosses a curb
- 5 percent (1: 20) gradient or less, unless space is limited, then a gradient between 8 percent (1: 12) and 10 percent (1: 10) is permitted for a rise of 6 inches
- Must have flared sides if they are located where pedestrians must walk across the ramp or are not protected by handrails or guardrails
- Maximum gradient of curb ramp flared sides = 10 percent
- Must have returned curbs where pedestrians do not walk across the ramp
- Built-up curb ramps must be located where they do not project out into vehicular traffic lanes
- Must have a detectable warning of raised, truncated domes or contrasting color that extends the full width and depth of the curb ramp
- Must be located where they will not be obstructed by parked vehicles
- Diagonal curb ramps (corner ramps) must have at least a 48-inch width clear space at the bottom of the ramp
- Where a sidewalk landing beyond a curb ramp is less than 48 inches deep, the curb ramp gradient must not exceed 8 percent (1: 12)

Ramps

- Must be at least 36 inches wide
- Gradient greater than 5 percent (1: 20) and a maximum of 8 percent (1: 12)
- Maximum rise on any run = 30 inches in height
- In space limitations, a ramp gradient no greater than 16.6 percent (1: 6) may be used for a horizontal run of 2 feet
- In space limitations, a ramp gradient between 8 percent (1: 12) and 10 percent (1: 10) may be used for a maximum vertical rise of 6 inches
- An 8 percent (1: 12) gradient and a rise greater than 6 inches, or a horizontal run greater than 72 inches, must have handrails on both sides of the ramp

- Surface must be stable, firm, and nonslip
- Ramps and landings with dropoffs on either side must have curbs at least 2 inches high
- Must be well draining to prevent the accumulation of rainwater
- Cross pitch (cross slope) must be no greater than 2 percent (1: 50) gradient

Landings

- Must be located at every 30-inch vertical rise in a ramp
- Dimensions of landing = 36 inches wide x 60 inches deep at the top and bottom of a ramp run
- Dimensions of landing = 60 inches wide x 60 inches deep at a ramp dogleg
- Drop-offs must have curbs with a minimum height of 2 inches
- Height of door thresholds = 0.5-inch high or less, with a beveled 50 percent (1: 2) edge
- Width of clear landing on latch side of door = 24 inches wide

Handrails

- Not required on curb ramps
- Required on either side of 8 percent (1: 12) gradient ramps with a 6-inch rise or greater, or a 72-inch horizontal run, and on either side of stairs
- Must be continuous on the inner side of a dogleg ramp or dogleg stairs
- Must continue at least 12 inches beyond the top and bottom of a ramp and be parallel to the ground plane
- Must continue at least 12 inches beyond the top riser of stairs parallel to the ground plane, and continue to slope for a distance of one tread width from the bottom stair riser and become parallel to the ground plane for an additional distance of 12 inches
- Distance from mounting wall = 1.5 inches wide
- Gripping surface must be uninterrupted
- Diameter or width of gripping surface of handrail or grab bar must be 1.25 - 1.5 inches, or the shape must provide an equivalent gripping surface UFAS 4.26.2.
- Top of gripping surface = 34 - 38 inches in height above the ramp or stair tread surface
- Terminal ends of handrails must be rounded off or returned smoothly to the ground, wall or post

Stairs

- Must have uniform tread widths and riser heights
- Width of treads must be no less than 11 inches high
- Open risers are not permitted
- Nosings must project no more than 1.5 inches
- Nosing undersides must be angled at no greater than 60 degrees from the horizontal
- Handrails must be located on either side of stairs
- Inside handrail at stair dogleg must be continuous
- Handrails must extend 12 inches beyond the top riser, and at least one tread width and an additional 12 inches beyond the bottom riser

- Handrails at the top of stairs must be parallel to the ground plane, and at the bottom of stairs, handrails must continue to slope for a distance of one tread from the bottom riser and for an additional 12 inches be parallel to the ground plane
- Handrail gripping surface must be uninterrupted and be located 34 - 38 inches above the stair treads
- Terminal ends of handrails must be rounded or returned smoothly to the ground, wall, or post
- Stairs must be well draining to prevent the accumulation of rainwater

References

Adaptive Environments, Inc. 1992. *Checklist for Existing Facilities: The Americans with Disabilities Act Survey for Readily Achievable Barrier Removal*. Massachusetts: Adaptive Environments, Inc. and Barrier Free Environments, Inc.

Ballantyne, Duncan. 1984. *Accommodation of Disabled Visitors at Historic Sites in the National Park System*. Washington, DC: USDI, NPS, Park Historic Architecture Division.

Battaglia, David H. 1991. The Impact of the Americans with Disabilities Act on Historic Structure. *Information Series* 55. Washington, DC: National Trust for Historic Preservation.

_____. 1991. Americans with Disabilities Act: Its Impact on Historic Buildings and Structures. *Preservation Law Reporter* 1169.

Birnbaum, Charles, A., and Sharon C. Park. June 1993. Maintaining Integrity: Accessibility and Historic Landscapes. *Landscape Architecture* 83 (6). Washington, DC: American Society of Landscape Architects.

Casciotti, Lynn, M. 1992. *Americans with Disabilities Act Resource Guide for Park, Recreation, and Leisure Service Agencies*. Draft. Virginia: National Recreation and Park Association, Resource Development Division, Arlington.

Clark, Roger, N., and George H. Stankey. 1979. *The Recreation Opportunity Spectrum: A Framework for Planning, Management and Research*. Washington: USDI, Forest Service, Pacific Northwest Forest and Range Experiment Station, Seattle.

Goltsman, Susan, and Timothy Gilbert. 1979. *The Accessibility Checklist: An Evaluation System for Buildings and Outdoor Settings*. Berkeley, California: MIG Associates.

Harold Russell Associates, Inc. 1978. *Accommodation of Handicapped Visitors at Historic Sites: The Impact of Accessibility and Historic Preservation Laws, Regulations and Policies on NPS Historic Sites, Analysis and Recommendations*. Washington, DC: USDI, NPS.

Jester, Thomas C., and Judy, L. Hayward, eds. Photocopy 1992. *Accessibility and Historic Preservation Resource Guide*. Sponsored by Historic Windsor; the NPS, Preservation Assistance Division; the Advisory Council on Historic Preservation; the National Conference of State

Historic Preservation Officers; Accessibility and Historic Preservation Workshops. Reprint information available from Historic Windsor, Inc., Windsor, Vermont.

Jester, Thomas, C., and Sharon C. Park. 1993. *Preservation Brief No. 32: Making Historic Properties Accessible.* Washington, DC: USDI, NPS, Preservation Assistance Division.

Kraus, L.E., and S. Stoddard. 1989. *Chartbook on Disability in the United States*. Washington, DC: National Institute on Disability and Rehabilitation Research.

Mace, Ron, L., Graeme J. Hardie, and Jaine P. Plaice. 1990. Accessible Environments: Toward Universal Design. *Design Interventions: Toward a More Humane Architecture*. Preiser, Vischer, and White, editors. New York: Van Nostrand Reinhold.

Majewski, Janice. 1987. *Part of Your General Public Is Disabled: A Handbook for Guides in Museums, Zoos, and Historic Houses*. Washington, DC: Smithsonian Institution Press, Office of Elementary and Secondary Education.

National Park Service. 1991. Preserving the Past and Making it Accessible to Everyone: How Easy a Task? *CRM Supplement 1991*. Washington, DC: USDI, NPS.

National Park Service. 1992. *Accessibility Checklist for Historic Properties*. Washington, DC: USDI, NPS, Preservation Assistance Division.

National Park Service. 1993. *Entrances to the Past*. Video recording. Washington, DC: USDI, NPS, Preservation Assistance Division, Cultural Resources Training Initiative.

Park, D.C., and A. Farbman. Spring 1989. Accessible Outdoor Recreation Facilities. *National Park Service and National Recreation and Park Association Design*. Washington, DC: USDI, NPS.

Park, D.C., Wendy Ross and Kay Ellis. 1986. *Interpretation for Disabled Visitors in the National Parks System*. Washington, DC: USDI, NPS, Special Programs and Populations Branch.

Robinette, Gary, O., and Richard K. Dee. 1985. *Barrier-Free Exterior Design: Anyone Can Go Anywhere*. New York: Van Nostrand Reinhold.

Smith, Kennedy. September 1991. The Americans with Disabilities Act: What it Means to Main Street. *Main Street News*. Washington, DC: National Trust for Historic Preservation.

Smith, William, and Tara G. Frier. 1989. *Access to History: A Guide to Providing Access to Historic Buildings for People with Disabilities*. Massachusetts: Massachusetts Historical Commission.

United States Congress. 1990. The Americans with Disabilities Act. *Public Law* 101-336.

United States Department of Justice. July 26, 1991. Standards for Accessible Design: ADA Accessibility Guidelines (ADAAG). Appendix A to 28 CFR 36 (ADA Title III). *Federal Register*, vol. 56, no. 144.

Walter, Burke. 1994. The Americans with Disabilities Act (ADA): Compliance Solutions for Historic Buildings Using Landscape Architecture. *Georgia Landscape* 2-3. Georgia: University of Georgia School of Environmental Design.

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