ADA Access Standards for Swimming Pools, Wading Pools, and Spas

The sports, places of amusement, and outdoor developed areas subcommittees each provided recommendations in this area. The recommendations from these subcommittees were fairly consistent; however, there were some differences. For example, the sports subcommittee recommended that the methods of providing access into the water be limited to ramps, lifts, or combination stairs-transfer tiers. The places of amusement subcommittee provided the identified methods as examples, but did not limit accessible alternatives to those identified. The places of amusement subcommittee recommended that handrails be required on only one side of ramps, while the sports subcommittee recommended 22 inches clearance between handrails. The outdoor developed areas subcommittee recommended that the need for handrails at ramps, for example, be determined by the facility designer.

Comments to the ANPRM generally agreed with the recommendations of the three subcommittees in terms of requiring one means of access into the water. Many commenters recommended that more specific technical specifications would be necessary to ensure compliance and reduce confusion.

In October 1995, the Board sponsored a research project on swimming pool access. The project was conducted by the National Center on Accessibility at Indiana University. The project included an extensive literature review, telephone surveys of persons with disabilities, telephone surveys of pool operators and on-site testing of various means of accessing the water. Based on this research, the Board received additional information on the specific designs and requirements for providing safe and independent access into the water. The results of the project also supported many of the initial recommendations of the subcommittees. Based on this research and the information provided by the subcommittees, the Board is proposing accessibility guidelines for accessible entry and exit to and from the water.

In addition to the input received from the Board sponsored research project, significant input has also been provided by the ANSI/NSPI-1 Public Pool Standard Committee. This standard is currently under revision. With a parallel development process occurring for these standards, diverse input was received from pool designers and operators on accessibility guidelines for people with disabilities. The Board has made extensive efforts to maintain consistency between the ANSI/NSPI-1 standard and ADAAG. The Board will continue its efforts to seek input and achieve harmonization with the ANSI/NSPI-1 standard.

15.8.1 Swimming Pools

This section requires that at least two means of entry and exit be provided for each public and common use swimming pool. A sloped entry or lift must be the

primary means of access. The secondary means of access is not permitted to duplicate the primary means and also allows transfer walls, transfer systems, stairs, or moveable floors as a means of access. An exception permits swimming pools with less than 300 linear feet of swimming pool wall to have only one means of access, but that means of access must be either a lift or sloped entry.

This section is generally consistent with the recommendations of the subcommittees and is supported by the Board sponsored research project. Sixty percent of the people with disabilities interviewed during the research project had used a pool during the previous year, and most, once a month. Of those individuals, 99 percent indicated that one or more means of access should be required at each pool. The need for more than one means of pool access was also supported by pool operators who participated in the study. At least one means of access was already being provided at 73 percent of the pools surveyed.

No one means of access will fully meet the needs of all persons with disabilities. However, certain means of pool access provide independent operation to a broader range of people. These means include swimming pool lifts and sloped entries. Other means of access such as a transfer wall, transfer system, stairs, and moveable floors provide access for some people with disabilities. For example, stairs with handrails provide support for individuals who walk short distances and transfer systems serve individuals who prefer to transfer into the water without the use of a mechanical lift. When these means are combined with a pool lift or sloped entry, they serve a larger segment of the population of individuals with disabilities. For these reasons, larger pools, those with more than 300 linear feet of pool wall, are required to have at least two means of entry and exit to a pool. In larger swimming pools, multiple access points provide for greater safety and convenience to users, allowing some choice in methods of entering or exiting the pool.

15.8.2 Wading Pools

This section requires at least one accessible means of entry to be provided in wading pools. Acceptable means of entry are sloped entry, transfer wall, or transfer system. Unlike swimming pools, the size and depth of wading pools limits the options for access into the water. For example, the ANSI/NSPI-1 Committee is expected to require wading pool depths to be limited to 18 inches maximum. Where wading pools are less than 18 inches deep, a pool lift cannot be used.

Question 15: It has been suggested to the Board that it is inappropriate to require a means of access into a wading pool because the height of transfer walls and other transfer systems are considered to be hazardous to children. Based on these concerns, should the Board consider exempting these areas?

15.8.3 Spas

This section requires at least one accessible means of entry into spas. The means of entry must be a lift, transfer wall, or transfer system. Like a wading pool, size and depth limitations prohibit the use of certain means of entry into a spa. While a swimming pool lift is an option for a spa, a sloped entry may significantly impact size and designs for water containment.

An exception has also been added to address facilities where spas are provided in a cluster. The exception allows for five percent, but not less than one, in each cluster to be accessible. This application is consistent with the other requirements in ADAAG where multiple elements of the same type are clustered.

15.8.4 Swimming Pool Lifts

This section provides technical provisions for swimming pool lifts. The provisions provide specifications for the necessary clear deck space and seat orientation to ensure usability for persons with disabilities.

15.8.4.1 Seat Location

This section requires the centerline of the seat, when in the raised position, to be located over the deck and 20 inches minimum from the edge of the pool. The position of the lift seat is important for ease of operation and for safety. The location in relationship to the edge of the pool is especially important to facilitate safe transfers. The 20 inch minimum distance from the edge of the pool, allows space to transfer over the deck. Unsafe conditions created by locating the seat either over the water or too close to the deck edge were observed during the Board sponsored research project and were identified by research subjects as problems affecting access.

15.8.4.2 Clear Deck Space

This section requires a clear deck space on the side of the seat opposite the water. The space is measured from the seat. Clear space is required to be 30 inches wide minimum and 48 inches long minimum from a line located 12 inches behind the intersection of the seat and its back. The clear space is specified in relationship to the seat to allow unobstructed space for either side or diagonal transfer. The space must be clear and free of deck braces that can interfere with transfer. Figure 71 shows the clear floor space, its position, and dimensions.

15.8.4.3 Seat Height

This section requires the height of a lift seat to be 16 inches minimum to 18 inches maximum above the deck floor. This height is to be measured from the deck to the top of the seat surface when the seat is in the raised (load) position.

In addition to the clear deck space, lift seat height is also critical for transfer from a wheelchair or other mobility device. Several ADAAG provisions such as water closet seat height and bench height establish a transfer height of 17 to 19 inches for adults. Information obtained from the Board sponsored research project supported the heights established for other elements designed for transfer. A slight departure from this provision has been proposed to address the needs of children transferring to a lift seat. ADAAG 4.16.7 (Water Closets for Children) permits 11 inches minimum to 17 inches maximum to the top of a toilet seat height. An adjustable seat may accommodate the need for varying transfer heights for users of all ages.

15.8.4.4 Seat Width

This section requires a lift seat to be 16 inches wide minimum. This dimension is consistent with seat widths established for other seating elements and will accommodate a range of users. Each of the seats tested during the Board sponsored research project either met or exceeded this minimum requirement.

Question 16: Different types of seats are available on swimming pool lifts. The types include flexible sling seats, plastic or fiberglass seats, and larger stretcher designs that accommodate the entire body. Persons with disabilities involved in the Board sponsored research project expressed interest in all types of seats. The Board has not proposed any special technical provisions for the material of the seat. Should a certain type of seat be required on swimming pool lifts?

15.8.4.5 Footrests and Armrests

This section requires footrests to be provided and to move in conjunction with the seat. Many adult legs will extend beyond 16 to 18 inches below the lift seat. Without a footrest, users' feet will drag across the deck, potentially causing injury.

This section also requires that, if provided, the armrest opposite the water be removable or fold clear of the seat when the seat is in the raised (load) position. This clearance is necessary to allow for transfer from a wheelchair or other mobility device. Armrests are not required on the lift seats because there is insufficient information to determine their usefulness and optimal design criteria. However, when provided, armrests may not obstruct transfer.

Question 17: Should armrests be required on swimming pool lifts? If so, please provide specific information regarding the appropriate size and location.

15.8.4.6 Operation

This section requires that a pool lift be capable of unassisted operation from both the deck and water levels. ADAAG requires that platform lifts provide unassisted operation. The need for independence is not diminished by the fact that the user

operates a swimming pool lift. A large percentage of the respondents in the Board sponsored research project noted the importance of using a lift without assistance. Pool facility staff also indicated the importance of a device or design that could be used without pool staff assistance. Lifts that are operated manually do not offer independent use because they require an attendant to operate a crank which is unreachable by the lift user. In most cases, power-operated lifts can offer independent use.

This section also requires that controls and operating mechanisms be unobstructed when a lift is in use. This is also important for independent operation. Controls and operating mechanisms may not require continuous manual pressure for operation and must comply with ADAAG 4.27.4 which requires that operating controls not require tight grasping, pinching, or twisting of the wrist. Additionally, the controls may not require more than 5 lbf to operate. This is consistent with requirements for other accessible elements with operating mechanisms.

15.8.4.7 Submerged Depth

This section requires that a pool lift be designed so that the seat will submerge to a water depth of 18 inches minimum. This depth is necessary to ensure buoyancy for the person on the lift seat once in the water. Data relating to buoyancy levels was provided through the Board sponsored research project. A diverse group of persons with disabilities were tested to establish minimum levels of buoyancy with a sloped entry and a lift.

15.8.4.8 Lifting Capacity

This section requires that single person pool lifts provide a minimum weight capacity of 300 lbs. Lifts also must be capable of sustaining a static load of at least three times the rated load. ANSI A17.1 for platform lifts (Rule Number 2002.7A) requires a minimum weight capacity of 250 lbs. for single seat lifts. Data from the Board sponsored research project indicated that the 250 lbs. may be insufficient. Swimming pool lifts used at two of the facilities for on-site testing were replaced because of weight damage. Breakdowns and injuries due to insufficient weight capacity of pool lifts were cited in the telephone interviews of pool facility staff and people with disabilities. Based on this information, the weight capacity is proposed at 300 lbs. for single person lifts, with the capability of sustaining a static load of at least three times the rated load. This requirement was also supported by several pool lift manufacturers who provided advice during the Board sponsored research project.

15.8.5 Sloped Entries

This section provides technical provisions for sloped entries. These proposed technical provisions provide requirements for more gradual sloped entries,

commonly referred to as beach entry, zero grade entry, or in-the-water ramps. Due to the similarities of this type of entry with ramps used in other buildings and facilities, provisions in ADAAG have been referenced accordingly.

The use of an aquatic chair or other type of water resistant chair is important for use of a pool ramp and other sloped entries to gain access into the water. Use of personal wheelchairs or power chairs in the water can create safety and health hazards. Provisions regarding aquatic chairs cannot be included in ADAAG. The provision of such chairs, however, may be subject to the Department of Justice ADA regulations.

15.8.5.1 Sloped Entries

This section requires sloped entries designed to provide access into the water to comply with most of the provisions of ADAAG 4.3 (Accessible Route). Where a sloped entry has been designed to provide access into the water, it must provide an accessible route. This requires that when the slope of the entry exceeds 1:20, the provisions of ADAAG 4.8 (Ramps) are applied.

15.8.5.2 Submerged Depth

This section modifies the requirements of ADAAG 4.3 and requires sloped entries designed to provide access into the water to extend to a depth of 24 inches minimum to 30 inches maximum below the stationary water level. This requirement is consistent with the submerged depth requirement for swimming pool lift seats in the water. As indicated in 15.8.4.7, the Board sponsored research project provided data related to buoyancy levels necessary for a variety of subjects with disabilities. Mean buoyancy and mean seated height were calculated to determine the buoyancy point and water depth at which subjects became buoyant or floated off their wheelchairs. While there was limited testing with children, anthropometric data indicated that a water depth exceeding 30 inches would be over the mouth and nose of an average 9 year old child.

This section also requires that at least one landing be located 24 inches minimum to 30 inches maximum below the stationary water level. The requirement for landings applies to sloped entries when the slope exceeds 1:20 and the entry must comply with the provisions for ramps. Beach access or zero grade entries do not have slopes in excess of 1:20 and are not required to have landings. When beach access or zero grade entry is provided, the entry must extend to a depth of 24 inches minimum to 30 inches maximum below the stationary water level.

Since wading pools are less than 24 to 30 inches deep, an exception provides that sloped entries are only required to extend to the deepest part of the wading pool.

15.8.5.3 Handrails

This section requires handrails on all sloped entries. The clear width between handrails must be between 33 inches minimum and 38 inches maximum. Information from on-site testing and interviews in the Board sponsored research project indicated a need for handrails on both sides of a sloped entry, regardless of whether mobility aids were used. Pool operators also indicated that two handrails were most often found on pool ramps. Further, while a gradual sloped entry (beach or zero grade entry) increased usability for many individuals, handrails were especially important given the travel distance to sufficiently deep water. Handrails on both sides of ramps are necessary for individuals with limited use of one arm. In light of concerns regarding underwater obstructions, an exception is provided for handrail extensions required at the bottom landing of a pool ramp.

15.8.6 Transfer Walls

This section provides technical provisions for transfer walls. Transfer walls provide a surface at the edge of a pool for transfer into the water. Transfer walls may be elevated walls at the pool edge or lowered sections of the deck. A transfer wall is a secondary means of access into the water and must be combined with a lift or sloped entry. A transfer wall is proposed to be a secondary, not a primary means of access, because this method of entry requires significant upper body strength.

15.8.6.1 Clear Deck Space

This section requires clear deck space of 60 inches minimum by 60 inches minimum to be provided at the base of a transfer wall. Clear space is needed to allow individuals to transfer and maneuver from their wheelchair or mobility device. Where one grab bar is provided on a transfer wall, the clear deck space must be centered on the grab bar. This allows sufficient space for a transfer on either side of the grab bar. Where two grab bars are provided, the clear deck space must be centered on the clearance between the grab bars. This requirement provides sufficient space between grab bars for transfer. Section 15.8.6.5 provides additional requirements for grab bars, including spacing.

15.8.6.2 Height

This section requires the height of transfer walls to be 16 inches minimum to 18 inches maximum measured from the deck below. The height requirement is consistent with proposed requirements for pool lift seat heights at 15.8.4.3 and similarly addresses the needs of some children.

15.8.6.3 Wall Depth

This section requires the depth of a transfer wall to be 12 inches minimum to 16 inches maximum. As a minimum, the 12 inch depth of the transfer wall provides adequate space for a person to comfortably sit on the surface of the wall. The wall depth is limited to 16 inches maximum so that users are not required to traverse the wall to transfer to the water.

15.8.6.4 Surface

This section requires the surface of a transfer wall to be free of sharp edges. This is necessary to reduce the potential for injury when individuals move across the surface of the wall. Sharp edges may result in abrasions and other injuries.

15.8.6.5 Grab Bars

This section requires at least one grab to be provided on a transfer wall. Similar to other elements which require transfer, a grab bar is necessary to assist users to transfer to and from the transfer wall. Grab bars also facilitate transfer to and from the water. Grab bars are required to be perpendicular to the pool wall and extend the full depth of the wall. The top of the gripping surface must be 4 inches maximum above the wall. Where two grab bars are provided, clearance between grab bars must be 22 inches minimum. Where one grab bar is provided, clearance must be 22 inches minimum on both sides of the grab bar. Grab bars must comply with ADAAG 4.26.

15.8.7 Transfer Systems

This section provides technical provisions for transfer systems used as a means of access into the water. A transfer system consists of a transfer surface, combined with a series of transfer steps that descend into the water. Users must transfer from their wheelchair or mobility device to a surface and continue transferring from step to step.

Transfer systems have been used in play areas for the past several years to provide access to elevated structures. While it has been an important method for some children to gain access to an elevated play structure, it is limited to use by persons who are able to transfer, with or without assistance. Transfer systems are not considered a primary means of access because they require sufficient upper body strength to transfer independently, or assistance must be provided. A transfer system may only be used as a secondary means of access in a larger pool with 300 linear feet or more of pool wall and must be combined with either a lift or a sloped entry.

15.8.7.1 Transfer Platform

This section requires a transfer platform to be 19 inches deep minimum by 22 inches wide minimum. Transfer platforms must be provided at the head of each

transfer system. The transfer platform is the first point of transfer from a wheelchair or mobility device before entering the water. The minimum width and depth is necessary to comfortably sit on the platform.

15.8.7.2 Clear Deck Space

This section requires a clear deck space of 60 inches wide minimum by 60 inches long minimum with a slope not steeper than 1:48 at the base of the transfer platform. A level unobstructed space at the base of the transfer platform, centered along the 22 inch side, is necessary to facilitate a transfer from a wheelchair or mobility device. The clear space requirement is consistent with spaces also needed at the base of a transfer wall.

15.8.7.3 Height

This section requires the height of transfer platforms to be 16 inches minimum to 18 inches maximum measured from the deck. This height requirement is consistent with other elements used to provide access into the water.

15.8.7.4 Transfer Step Risers

This section requires transfer step risers to be 7 inches maximum in height. It also requires that transfer step risers extend to a water depth of 18 inches minimum. Based on the Board sponsored research project, a 7 inch maximum step riser was considered to be a comfortable transfer height when moving from step to step. The 18 inch minimum depth requirement is consistent with the buoyancy data obtained from on-site testing completed during the Board sponsored research project.

15.8.7.5 Surface

This section requires the surface of a transfer system to be free of sharp edges. Similar to other transfer surfaces, this is necessary to reduce the potential for injury. Sharp edges may result in abrasions and other injuries.

15.8.7.6 Size

This section requires each transfer step to have a tread depth of 12 inches minimum and 17 inches maximum. A 22 inch minimum tread width is also required. A minimum tread depth and width is necessary to ensure adequate space for movement on transfer steps.

15.8.7.7 Grab Bars

This section requires one grab bar on each step to be located so that the grab bar does not obstruct transfer at either a transfer platform or a transfer step. The

top of the gripping surface must be 4 inches maximum above each step. Grab bars must comply with ADAAG 4.26.

15.8.8 Pool Stairs

This section provides technical provisions for pool stairs used as a means of entry and exit to the water. Stairs may only be used as a secondary means of access in a larger pool with 300 linear feet or more of pool wall and must be combined with either a lift or a sloped entry.

15.8.8.1 Pool Stairs

This section requires pool stairs to comply with ADAAG 4.9 (Stairs), except as modified. ADAAG 4.9 has been referenced since stairs in pools are used in a similar manner as stairs elsewhere. Unlike transfer steps which are designed for individuals to use in a seated position, pool stairs are used by individuals who walk.

15.8.8.2 Handrails

This section requires the width between handrails to be 20 inches minimum to 22 inches maximum. To reduce the potential for underwater protrusions, handrail extensions required by ADAAG 4.9.4 are not required at the bottom landing serving a pool stair. The handrail width provides users who are ambulatory the opportunity for support. During the Board's work with the ANSI/NSPI-1 Public Pool Standard Committee, pool designers supported this requirement based on their experience and preferences from users. The width requirement is similar to the grab bar configuration required in ADAAG Figure 30(b) (Alternate Stalls).

15.8.9 Moveable Floors

This section requires that the pool coping comply with ADAAG 4.5.2 where a moveable floor connects with a pool deck. Moveable floors in pools are designed in several ways. In some cases, the entire pool floor or only a section of the floor is raised or lowered to the desired depth. Hydraulic pistons are used to slowly move the floor. When the floor is raised to deck level, people can either walk or roll their wheelchair or mobility device onto the pool floor and then be lowered to the desired water depth.

The ANSI/NSPI/WWA-9 Committee is developing new standards for public pools and water sources for aquatic recreation facilities. This includes wave pools, activity pools, leisure rivers, and other facilities often found in water parks. This standard will not address conventional swimming pools, pools for competitive aquatic sports, and wading pools which are covered by ANSI/NSPI-1. ADAAG will apply to all swimming pools and aquatic recreation facilities. The proposed guidelines provide designers with a choice of options of how to provide access.

For example, while moveable floors may not be appropriate for a wave pool, sloped entries have been used as a means of access into water. Designers and operators can select the means of access appropriate to the design and function of the pool.

Question 18: Are there specific features within aquatic recreation facilities where it is technically infeasible in new construction to comply with the proposed requirements in 15.8? If so, the Board is interested in specific examples of why this is not feasible, along with alternatives to providing access for persons with disabilities.