



Use of the International Symbol of Accessibility and Other Signs

Signs provide key information concerning the accessibility of programs and facilities. People often think of the International Symbol of Accessibility (ISA) (figure 68) as an all-purpose sign to be used any time an accessible feature is available, which is not necessarily true.



Figure 68—International symbol of accessibility.

In accordance with ABAAS, section 216, ISA must be posted at only six places:

- At accessible parking spaces in parking lots with five or more designated parking spaces.
 - ✧ Sign van accessible parking spaces in these lots as such.
 - ✧ Sign RV accessible parking spaces in these lots as such.
 - ✧ Do not post ISA at parking spurs provided at camping units or other individual accessible features.
- At accessible loading zones.
- At accessible restrooms and bathing facilities.
- At the main entrance to a building, with an arrow directing people to the closest accessible entrance, if the main entrance is not accessible.
- On the door to an accessible area of refuge inside multistory buildings.
- At an accessible means of egress out of a building.

Except for the requirement to post the VAN ACCESSIBLE plaque at van accessible spaces, no other descriptive

words are required to be used with ISA. If words are used, use “*accessible*.” Do not use “handicapped.”

Where **all** constructed features and areas comply with the accessibility provisions, you may post ISA, but it is not required. Do not individually sign accessible sites with ISA because this can stigmatize and draw unwanted attention to the individuals using those sites.

When only some constructed features and areas comply with the accessibility provisions, people need to know whether they will be able to use a particular campsite or picnic area. This can be accomplished using several methods, depending on the type of campground or picnic area.

The Federal agency recreation reservation system (<<http://www.recreation.gov>>) contains accessibility information about campsites and picnic areas that are registered in the system, including which individual sites are accessible. When using this system to reserve a site, people are automatically notified if they are about to reserve an accessible site. ISA also can be used to identify individual accessible sites on the recreation site map on the Web site describing the recreation site. These are both good ways to provide accessibility information to recreationists with Internet access.

If some—but not all—campsites or picnic areas are accessible and recreationists choose their site when they arrive at the recreation area, provide accessibility information to recreationists as they enter the area. ISA can be used to identify the individual units that comply with the accessibility guidelines on the recreation site map at the entrance kiosk, fee station, bulletin board, or registration area. Post the following type of statement on the registration information sign: “Units 2, 4, 6, and 10 are accessible. If no one in your group needs an accessible site, please fill these units last.” Forests that use this type of statement on the registration sign report that visitors generally have complied.

If some—but not all—campsites or picnic areas are accessible and the sites are assigned by a person onsite who can provide information about each unit, you don’t have to post accessibility information. The accessible units should be assigned as requested by individuals. The accessible sites that are not assigned to persons with disabilities should be filled last, keeping them available in case they are needed. Do not ask people who request or reserve an accessible site to state or show any type of verification of their disability.



Their vehicles are also not required to display a license plate or placard indicating a disability. This site reservation and assignment process complies with the court-ordered process followed by hotels concerning their accessible rooms.

There is **no** legal requirement on federally managed lands for ISA signs to be blue and white, even at parking spaces. If ISA is used, post it on a vertical sign in accordance with ABAAS, section 703.7, in high-contrast colors with a nonglare finish. A cream or pale yellow ISA on a brown background complies with this requirement and blends into an outdoor setting.

If you want the local law enforcement agency to be able to issue tickets for illegal parking at accessible parking spaces in parking lots, display ISA in blue and white to comply with the Manual of Uniform Traffic Control Devices (MUTCD), section 2B.39. Although their use is optional, the only approved colors for pavement markings designating accessible parking spaces are blue and white (MUTCD, section 3B.18).

If a sign or kiosk has materials to be handled, such as maps, brochures, fee envelopes, and so forth, design the sign or kiosk so that the materials are displayed within the standard accessible reach ranges in accordance with ABAAS, section 308, as explained in “Reach Ranges and Operability Requirements” of this guidebook. Provide clear floor or ground spaces of 30 by 48 inches (760 by 1,220 millimeters) to allow a forward or parallel approach.

Post the appropriate international symbols where various modes of alternative formats, communication, or adaptive equipment are available. Large print, open captioning, sign language interpreters, and so forth are each represented by a specific symbol (figures 69 through 77).

If you have questions about applying any of the above information, please contact your region’s recreation accessibility coordinator. Current contact information is available at <http://www.fs.fed.us/eng/toolbox/acc/documents/coord.htm#leaders>.



Figure 69—International symbol for information.

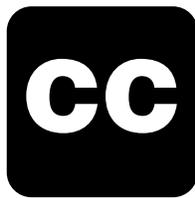


Figure 72—International symbol for video or film with closed captions.



Figure 75—International symbol to indicate sign language interpretation is available.



Figure 70—International symbol for teletypewriter (also referred to as “TTY”).



Figure 73—International symbol to indicate audio description is available.



Figure 76—International symbol to indicate large print (18 point) material is available.



Figure 71—International symbol for a telephone with volume control.



Figure 74—International symbol to indicate an assistive listening system is available.



Figure 77—International symbol to indicate materials are available in Braille.



Constructed Features in Recreation Sites

All new constructed features at Forest Service recreation sites must meet accessibility requirements. Depending on the type of site, ensure all or a portion of the features are connected to the other features within the recreation site by an outdoor recreation access route as explained in “Recreation Site Layout” of this guidebook.

If constructed features are replaced, but the ground under the feature isn’t changed, the surface and slope of the ground under the feature doesn’t have to be brought into conformance with accessibility requirements for clear floor and ground space. Because of the Forest Service policy of universal design and the cost savings inherent in accomplishing all anticipated improvement work at an area at once, doing whatever is feasible to improve accessibility while you’re working in the area is recommended.

Picnic Tables

All new picnic table installations must comply with requirements for accessible seating spaces, table clearance, slope, and surface. This is true whether the table is in a campground, picnic area, or other recreation site. “Recreation Site Layout” explains how the tables in each of these types of recreation sites must be connected to the other major constructed features at the recreation area. If the picnic tables are provided on trails, ensure the routes connecting them to any other major constructed features in the area comply with the technical requirements for trails.

The number of wheelchair seating spaces that must be provided at each table is based on the length of the picnic table (figure 78). Always ensure at least one wheelchair seating space. For larger tables, one wheelchair seating space is required for each 24 linear feet (7.32 meters) of usable space around the perimeter of the table. Practically speaking, tables up to 9 feet (2.74 meters) long usually require one space. Tables between 10 feet (3.05 meters) and 20 feet (6 meters) long usually require two wheelchair spaces, and so on for longer tables, such as four spaces for tables that are 40 feet (12 meters) long.

Knee space for wheelchair seating must be at least 30 inches (760 millimeters) wide, 19 inches (485 millimeters) deep, and 27 inches (685 millimeters) high, as measured

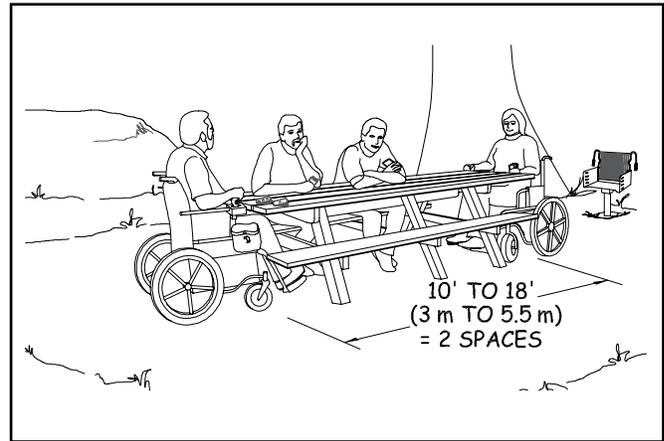


Figure 78—At least two spaces must be accessible at a 10- to 18-foot (3- to 5.5-meter) -long picnic table.

from the ground or floor to the bottom of the tabletop. Toe clearance of at least 9 inches (230 millimeters) above the ground or floor must extend at least an additional 5 inches (25 millimeters) beyond the required knee clearance. Figure 79 illustrates the required knee and toe space. Toe clearance is required to ensure that someone in a wheelchair is able to sit close to the tabletop, regardless of the design of the picnic table. If the table is constructed with one solid leg on each end, as opposed to an A-shaped frame or two individual legs on each end of the table that would allow the wheelchair to fit in between, the toes of a person in a wheelchair would hit the table leg at the end of the 19-inch (485-millimeter) knee space. Without additional toe clearance, a person in a wheelchair wouldn’t be able to get close enough to the tabletop to use it comfortably.

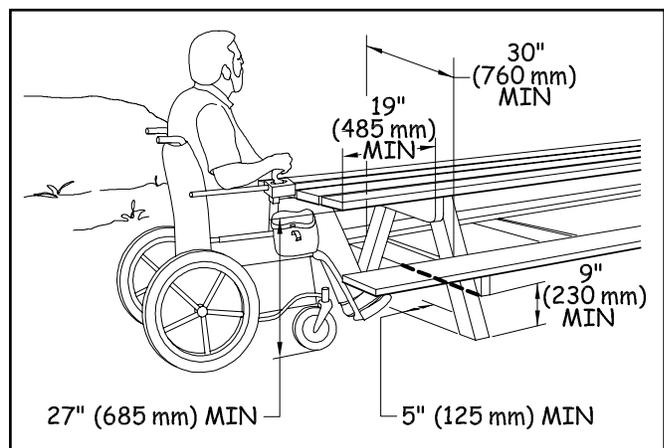


Figure 79—The requirements for knee and toe space at a picnic table.



Construction Tip

Ensure picnic tables are accessible.

Manufacturers often claim their tables are accessible even though they don't meet accessibility requirements. Check the dimensions to verify whether a table is accessible.

Provide clear floor or ground space that is 30 inches by 48 inches (760 millimeters by 1,220 millimeters) at each wheelchair seating space, positioned to accommodate a forward approach to the table (figure 80). No exceptions to the wheelchair seating space requirements are permitted.

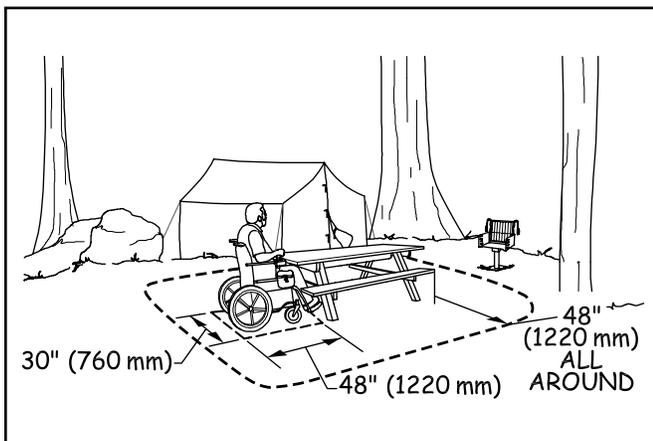


Figure 80—The requirements for clear space at a picnic table.

In addition to the clear floor or ground space for each wheelchair seating space, provide a 48-inch (1,220-millimeter) clear floor or ground space around the usable portions of the table (see figure 82). Measure table clearance from the table seat out. You may reduce the table clear space to 36 inches (915 millimeters) if there is a condition for an exception.

The slope of the required clear floor or ground space for wheelchair seating spaces and for table clearance is not allowed to exceed 1:48 (2 percent) in any direction. Slopes not steeper than 1:33 (3 percent) are permitted, however, where necessary for drainage on surfaces that are unpaved or not built with boards. The surface of the clear floor or ground space must be firm and stable. The type of surfacing used should be appropriate to the setting and level of development.

Design Tip

Design for appropriate picnic table height.

There is no height requirement in Forest Service Outdoor Recreation Accessibility Guidelines for the table top surface of a picnic table or the top of the table benches. Architectural Barriers Act Accessibility Standards require that tops of dining surfaces be 28 inches (710 millimeters) to 34 inches (865 millimeters) above the finished floor or ground. Table tops may be constructed of a number of different materials, and some of them, such as heavy timbers, may be quite thick. The knee space for wheelchair seating at a picnic table must be at least 27 inches (685 millimeters) high. User comfort is important. Generally, benches that are around 18 inches (457 millimeters) above the ground with table top surfaces that are about 32 inches (813 millimeters) above the ground are reasonably comfortable for most people, accommodate common picnic table construction materials, and meet accessibility requirements.

If a condition for exception in an alteration project at an *existing* site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or location), the clear floor or ground space only has to comply with requirements to the extent practicable.

Design Tip

Use different clear spaces for forward and parallel approaches.

A forward approach means that the person is facing the object (see figure 50). A parallel approach means that the person is beside the object (see figure 51). People need different-sized spaces to position their wheelchairs in front of an object and beside an object. That is why there are different clear floor or ground space requirements for forward and parallel approaches.



Design Tip

Use the picnic tables recreationists prefer.

The most popular accessible picnic tables look like ordinary 8-foot-long tables, but the legs are located slightly closer to the center of the table so that they meet wheelchair seating requirements at both ends. The benches are the same length as the tabletop (figure 81). The benches that extend the same length as the table top provide a seat at each corner beyond the table leg. The four corner seats are prized by individuals who may have difficulty stepping over the bench to be seated. At the corner seats, a person simply slides in. Figures 82, 83, and 84 show some examples of accessible tables that can be built by contractors or Forest Service crews. The tables can be locally constructed using the plans available at <http://www.fs.fed.us/recreation/programs/accessibility> and also available to Forest Service employees at <http://fsweb.wo.fs.fed.us/eng/facilities/accrec/tables/>. Use the links to view the tables or to save AutoCAD drawings of the tables.



Figure 81—This picnic table at Nevada Beach day use area in the Lake Tahoe Basin Management Unit is a popular design that allows people who use wheelchairs to use either end without the appearance of “separate” space. A Forest Service shield is routed into the cross piece on each end, adding to the design appeal.

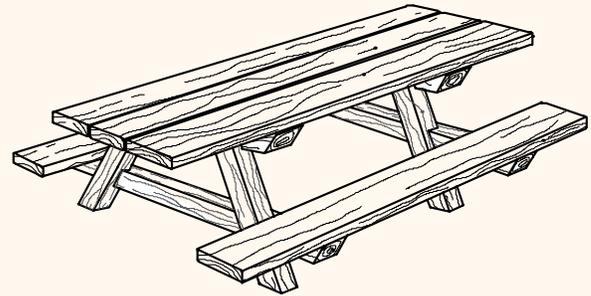


Figure 82—An accessible wood picnic table.

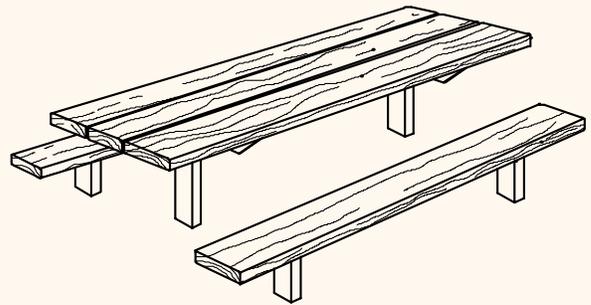


Figure 83—An accessible steel leg picnic table.

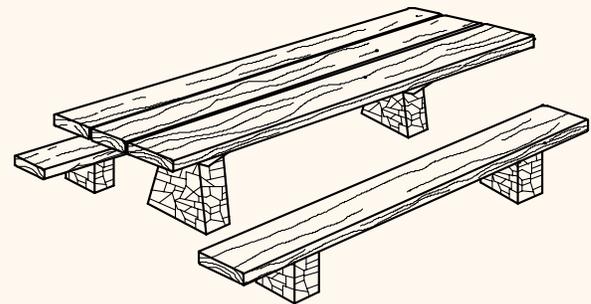


Figure 84—An accessible stone leg picnic table.

Constructed Features in Recreation Sites

Fire Rings, Grills, Fireplaces, and Wood Stoves

An outdoor recreation access route must connect fire rings, grills, fireplaces or wood stoves that are provided in recreation sites to the other major constructed features at the recreation site. If the fire rings, grills, fireplaces, or wood stoves are provided in an area accessed by rail (rather than by vehicle), the routes connecting them to any other major

constructed features provided in the area must comply with the technical requirements for trails.

Provide a clear floor or ground space around all usable sides of a fire ring, grill, fireplace, or wood stove so that someone isn't forced to get too close to the heat or fire and risk getting burned. The clear space must extend at least 48 inches (1,220 millimeters) out from the feature and be at least 48



inches (1,220 millimeters) wide. In many cases, a 48-inch (1,220-millimeter) -wide ring of clear space must be provided all around (figure 85), because all sides are usable. For instance, if a pedestal grill can rotate 360 degrees and all positions along that rotation are usable, the 48-inch (1,220-millimeter) clear space must completely surround the grill. If the grill doesn't rotate, clear space is only required on the sides from which access is needed to use the grill. Most fire rings are also usable on all sides. This space may be reduced to 36 inches (915 millimeters) minimum where a condition for exception exists.

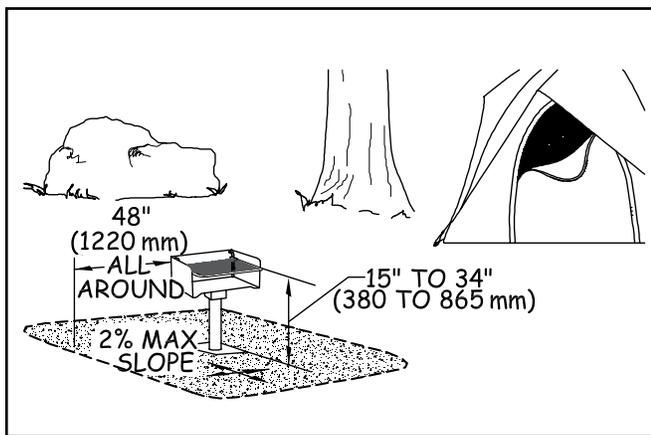


Figure 85—The requirements for height, clear space, and reach range for a pedestal grill.

The slope of the clear floor or ground space must not exceed 1:48 (2 percent) in any direction. When the surface is unpaved or not built with boards, slopes 1:33 (3 percent) and less are allowed where necessary for drainage. The surface of the clear floor or ground space must be firm and stable, and the surface material used should be appropriate to the setting and level of development. However, if a condition for exception in an alteration project at an *existing* site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or location), the clear floor or ground space only has to comply with requirements to the extent practicable.

Ensure the fire-building surface within a fire ring is a minimum of 9 inches (230 millimeters) above the floor or ground surface. Figures 86 and 87 show fire-building surfaces above the ground. This matches the low side reach range in ABAAS.

Some “fire rings” are not constructed features and don't meet the criteria for applying these requirements. For example, in the Boundary Waters Canoe Area Wilderness, people



Figure 86—This manufactured fire ring has an internal grate that elevates the fire-building surface 9 inches (230 millimeters) above the ground. The mesh ring above the fire-building grate allows enjoyment of the fire and allows air supply to aid combustion. The cooking grate swings to the side for access to the fire. Photo credit: Jamestown Advanced Products Corporation, Jamestown, NY



Figure 87—The Prescott National Forest uses standard manufactured steel fire rings on fire-hardened concrete bases so that the fire-building surface meets accessibility requirements for height above the ground.

sometimes assemble rings of rocks at popular campsites and build campfires in them. To reduce the risk of campfires becoming uncontrolled fires, they may sometimes be allowed to remain rather than being immediately dismantled by the agency. The accessibility requirements for fire rings do not apply to these temporary, user-built “fire rings.”

Controls and operating mechanisms for fire rings, grills (figure 88), fireplaces, and wood stoves must meet the requirements for reach ranges and operability specified in ABAAS, sections 308 and 309 that are explained in “Reach Ranges and Operability Requirements” of this guidebook. Several fire ring and grill manufacturers make models that comply with the reach range and operability requirements.



Figure 88—This pedestal grill at a campground on the Coconino National Forest works well for just about everybody.

Accessible models of some other wood-burning devices are not yet readily available. For these devices, compliance with the accessibility requirements for operating controls isn't required until models that meet the requirements are readily available from more than one source.

Ensure that each cooking surface, grill, and pedestal grill meets the requirements for cooking surface height, clear floor or ground space, slope, and surface. The height requirements are based on the height for countertops and the minimum low forward reach range in ABAAS. Ensure the height of the cooking surface is 15 inches (380 millimeters) to 34 inches

(865 millimeters) above the floor or ground surface (see figure 85). Practically speaking, the lower range of the required height is associated with fire rings, not pedestal grills. Adjustable pedestal grills may be adjustable beyond the required range, but must include adjustments within the specified range. The adjustments don't have to include the entire range of acceptable heights for cooking surfaces.

Some outdoor fireplaces and custom-built fire rings have a raised edge or wall around the fire-building area, perhaps built out of bricks or mortared stone. In addition to meeting the requirement for a fire-building surface that is at least 9 inches (230 millimeters) above the ground or floor, make sure the width of the raised edge or wall does not exceed 10 inches (255 millimeters). Figures 89, 90, and 91 illustrate the requirements for fire rings and outdoor fireplaces.

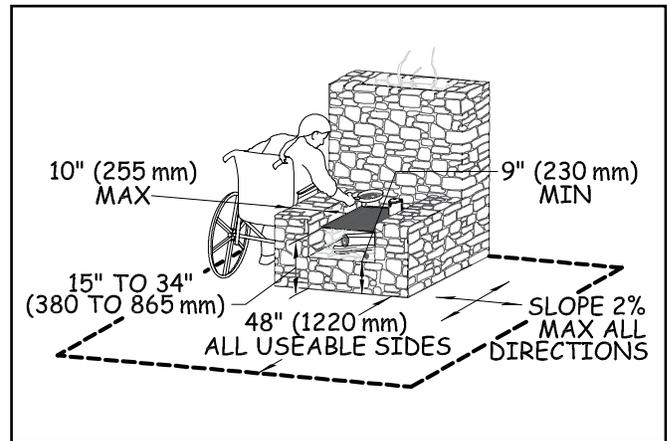


Figure 89—The height, clear space, and reach range requirements for an outdoor fireplace.

Construction Tip

Install pedestal grills at appropriate heights.

Most pedestal grills have adjustable cooking heights. Make sure that the pedestal is installed at a height that allows adjustments to include cooking surfaces 34 inches above the ground or lower, but still provide a reasonable clearance between the cooking surface and the fire-building surface.

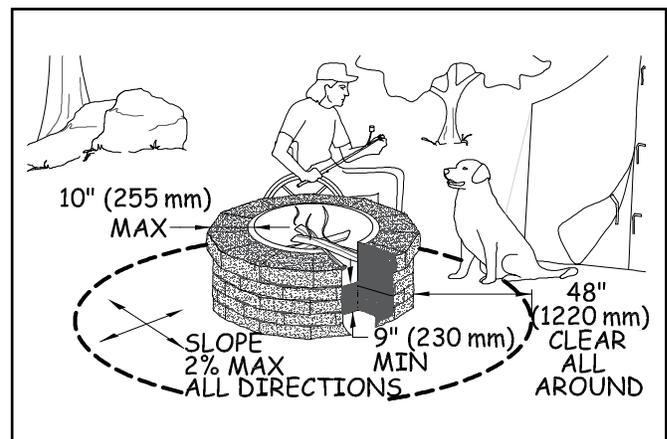


Figure 90—The height and reach requirements for custom-built fire rings.

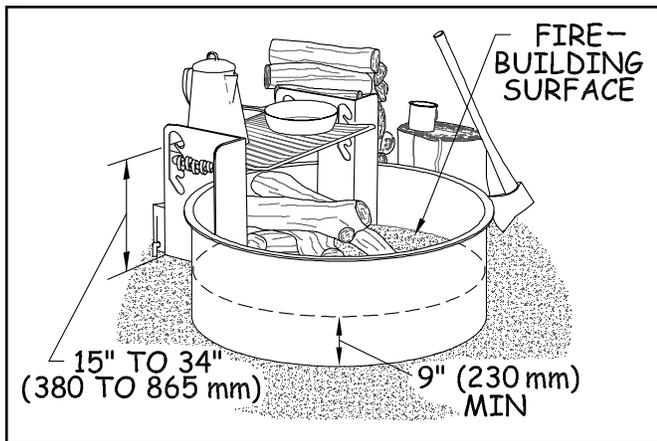


Figure 91—The height and reach requirements for manufactured steel fire rings.

Tent Pads and Tent Platforms

Ensure that tent pads and tent platforms at single camping units in a recreation area meet the following requirements and are connected to the area's other major constructed features by an outdoor recreation access route. At least 20 percent (but not less than two) of the tent pads or tent platforms in group camping units that contain more than one tent pad or tent platform must meet the following requirements and be connected to the area's other major constructed features by an outdoor recreation access route.

Provide a minimum 48-inch (1,220-millimeter) clear floor or ground space on all sides of tents on tent pads and platforms that are required to be accessible. Where there is a condition for an exception, the clear floor or ground space only has to meet the size requirement to the extent practicable.

There is no minimum tent pad size because the types of tents commonly used in recreation sites vary widely in different parts of the country and even in different parts of a single district. For example, at a campground near a wilderness access point, small tents may be used. Large family tents may be common at a more developed campground with numerous constructed features.

Local campground managers are the best source of information about the size of tents commonly used in an area. Adding the 48-inch (1,220-millimeter) or 36-inch (915-millimeter) clear space to the size of a typical tent will determine the minimum size of tent pads and platforms for that campground. Designers may want to provide a range of tent pad or platform sizes to accommodate a variety of tents.

Do not allow the slope of an accessible tent pad or platform to exceed 1:48 (2 percent) in any direction, except when the surface isn't paved or built with boards, the slope may be up to 1:33 (3 percent) if needed for proper drainage. Figure 92 shows the requirements for tent pads and platforms.

Ensure the surface of an accessible tent pad or platform is firm and stable, can accommodate the use of tent stakes or other devices to secure the tent, and is made of a material that is appropriate for the level of development and setting (figure 93). Where there is a condition for an exception, the surface only has to be as firm and stable as is practicable.

FSORAG does not require any framed tent platforms or raised tent pads to be constructed. The decision to construct tent pads or tent platforms is a local decision that should be based on what is appropriate for the setting. If tent platforms or raised tent pads are constructed, they must comply with the

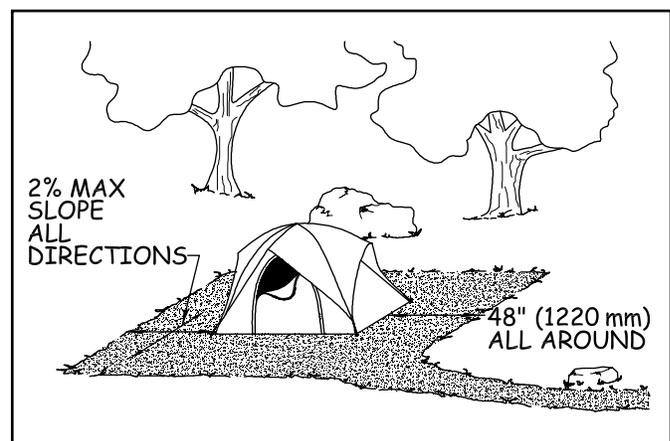


Figure 92—The requirements for a tent pad.



Figure 93—Campers are pitching their tent on a surface that is both accessible and appropriate for the setting.



previously explained clear space, slope, and surface requirements, as well as the following connection requirements.

Accessible surfaces for pitching tents may or may not be at ground level. A level connection that meets outdoor recreation access route standards should be provided to ground-level tent floor surfaces. For above-grade platforms or raised tent pads, the outdoor recreation access route may either slope up to the same level as the tent floor surface or end at a clear space that is adjacent to and 17 to 19 inches (430 to 485 millimeters) lower than the tent floor surface. This height is suitable for transferring from a wheelchair to the tent surface.

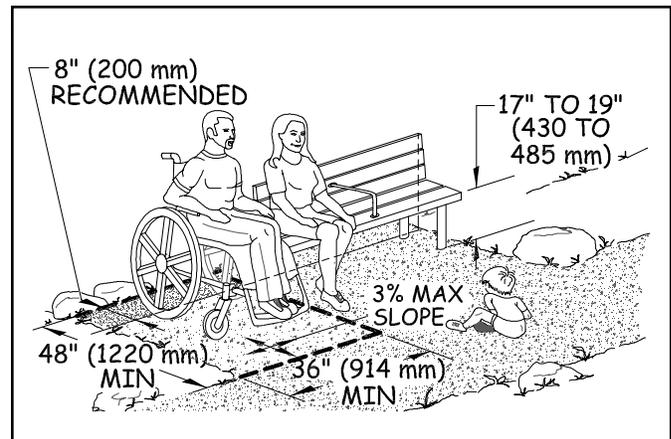


Figure 94—The requirements for benches.

Benches

Ensure that all benches provided along Forest Service trails or beach access routes or at Forest Service recreation sites (other than those inside a building or in an amphitheater) meet the following requirements. Connect at least 20 percent of benches at a Forest Service recreation area to the area's other major features by an outdoor recreation access route. Benches inside buildings must comply with sections F221.2.1.1, F221.2.2, and 903 of ABAAS. Benches in amphitheaters must comply with the requirements in ABAAS section F221 for assembly areas, including wheelchair spaces, companion seats, designated aisle seats, and lawn seating. Even if most benches in the amphitheater don't have back support, consider providing it at the designated aisle seats required by ABAAS, section F221.4.

Ensure that the front edge of the bench seat is 17 to 19 inches (430 to 485 millimeters) above the ground or floor space. When more than one bench is provided in a common area such as a scenic overlook, at least half of the benches must have back support that runs the full length of the bench.

Provide one armrest on at least half of the benches with back support. Consider the visitors who will use a particular area when deciding where to locate an armrest. For people who have difficulty standing up from a seated position, having an armrest can be helpful. However, armrests on both ends of the bench could prevent a person using a wheelchair from being able to transfer onto the bench. A compromise design is a bench with back support and one armrest placed in the middle of the bench. Figure 94 shows a bench that meets these requirements. Another option is to place a single armrest on the end of the bench farthest from the clear floor or ground space.

All parts of the bench must be able to withstand 250 pounds (1,112 newtons) applied vertically or horizontally at any point of the seat, fastener, mounting device, or supporting structure. This requirement is the same as the ABAAS requirement for bench strength in section 903.6.

Provide a clear floor or ground space that is 36 by 48 inches (915 by 1,220 millimeters) adjacent to one end of each bench. Do not allow this clear space to overlap the outdoor recreation access route, trail, or beach access route, so that using the bench or clear space doesn't limit travel past the bench and vice versa. Locate the clear space to provide shoulder alignment between a person sitting on the bench and a person seated in a wheelchair occupying the clear space, so that transfers to the bench are convenient and conversations between people on the bench and beside it are comfortable.

Shoulder alignment generally can be achieved by positioning the back of the bench so that it is 8 inches (200 millimeters) closer to the outdoor recreation access route, trail, or beach access route than the back of the required clear floor or ground space adjacent to the end of the bench (see figure 94).

Do not allow the slope of the clear floor or ground space to exceed 1:48 (2 percent) in any direction, except if the surface isn't paved or built with boards, the slope may be up to 1:33 (3 percent) when needed for proper drainage. The surface must be firm and stable and made from a material that is appropriate to the setting and level of development.

If a condition for exception in an alteration project at an existing site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or



location), the clear floor or ground space only has to comply with requirements to the extent practicable.

Trash, Recycling, and Other Essential Containers

Many recreation areas have trash and recycling containers for visitors' convenience to protect the environment or to discourage visits to the area by wild animals. Some campgrounds also provide bear-resistant food storage containers. Each container must meet the requirements that follow. If containers are provided in a recreation site, connect them to the area's other major features by an outdoor recreation access route. If containers are provided on trails, ensure that routes connecting those containers and the other major constructed features comply with technical requirements for trails rather than outdoor recreation access routes.

In a multibin container, only half the bins for each purpose must meet the accessibility requirements. For example, if a trash container has four separate compartments, only two of the compartments are required to meet the technical requirements. But all the bins of a recycling container with four separate bins to collect four different types of recyclable materials must meet the requirements. Figure 95 illustrates these requirements.

Provide a clear floor or ground space that is either 36 inches (914 millimeters) by 48 inches (1,220 millimeters) positioned for a forward approach or 30 inches (760 millimeters) by 60 inches (1,525 millimeters) positioned for a side approach to the receptacle opening at each container. The clear space may overlap the clear space for adjacent containers. It must be adjacent to and may overlap the outdoor recreation access route. The slope of the clear space must not be steeper than 1:48 (2 percent) in any direction. When the surface is unpaved or not built with boards, slopes not steeper than 1:33 (3 percent) are allowed if necessary for drainage. Ensure the surface is firm and stable and made from a material consistent with the setting and level of development. However, if a condition for exception in an alteration project at an *existing* site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or location), the clear floor or ground space only has to comply with requirements to the extent practicable.

Ensure controls and operating mechanisms for containers

operability specified in ABAAS, sections 308 and 309, and explained in "Reach Ranges and Operability Requirements" of this guidebook.

An exception is allowed for lids and operating controls designed to deter large animals, such as grizzly bears (figure 96). Large animals pose a threat to humans when they become accustomed to wandering through recreation sites in search of food. Most containers equipped with accessible controls and operating mechanisms can be opened by determined bears. Containers in recreation areas where bears and other large animals pose a risk to humans don't have to comply with accessibility provisions for operating controls until accessible bear-proof containers are available from more than one source. Dumpster type trash and recycling receptacles are not required to comply with the operability requirements.

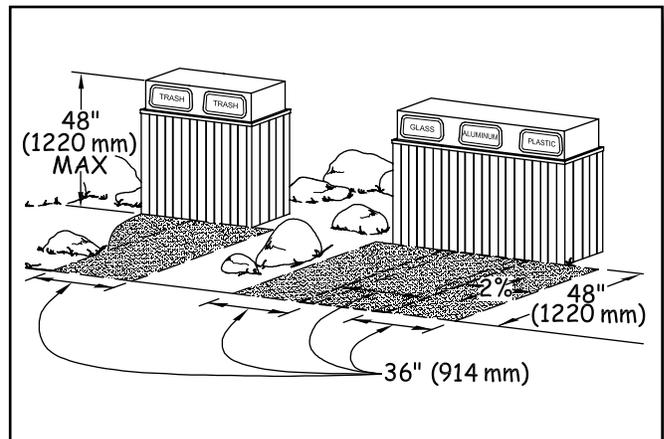


Figure 95—The requirements for trash and recycling containers.



Figure 96—Grizzly bears have the power and persistence to get food that is not secured properly.



Telescopes and Periscopes

Viewing areas are sometimes equipped with mounted telescopes or periscopes to provide the visitor with a better view of a point of interest. Whenever a telescope or periscope is provided, ensure that a separate telescope or periscope is available for use from a standing position (60 inches above the floor or ground surface is suggested) and from a seated position at each distinct viewing location. This allows all visitors to experience views similarly. Telescopes and periscopes that are usable from a seated position will provide the widest range of viewing opportunities for seated individuals, as well as children and people of short stature. The telescopes or periscopes at each location can be mounted separately or on the same pedestal. Telescopes or periscopes for use from a seated position must be connected to the other major constructed features at the recreation area by an outdoor recreation access route and meet the following requirements.

Ensure that controls and operating mechanisms for telescopes and periscopes usable from a seated position comply with the technical requirements for reach ranges and operability specified in ABAAS, sections 308 and 309, as explained in “Reach Ranges and Operability Requirements” of this guidebook. The eyepiece of each telescope or periscope usable from a seated position must be 43 inches (1,090 millimeters) minimum and 51 inches (1,295 millimeters) maximum above the floor or ground surface. Although not required, an adjustable scope mount is ideal for accessible viewing. Figure 97 shows one way to configure an accessible telescope area.

Provide a clear floor or ground space that is adjacent to (and may overlap) an outdoor recreation access route at all

accessible telescopes and periscopes so that someone using a wheelchair or other assistive device can approach and move around them. This maneuvering space must be at least 36 inches by 48 inches (915 millimeters by 1,220 millimeters). Position the clear floor or ground space for a forward approach to the telescope or periscope and so that the eyepiece of the telescope or periscope is centered on the space. Provide knee and toe clearance complying with ABAAS, section 306, under the telescope or periscope (figure 98). Knee space under the telescope or periscope must be at least 30 inches (760 millimeters) wide, 19 inches (485 millimeters) deep, and 27 inches (685 millimeters) high, as measured from the ground or floor to the bottom of the structure that supports the telescope or periscope. Toe clearance of at least 9 inches (230 millimeters) above the ground or floor must extend at least an additional 6 inches (150 millimeters) beyond the required knee clearance.

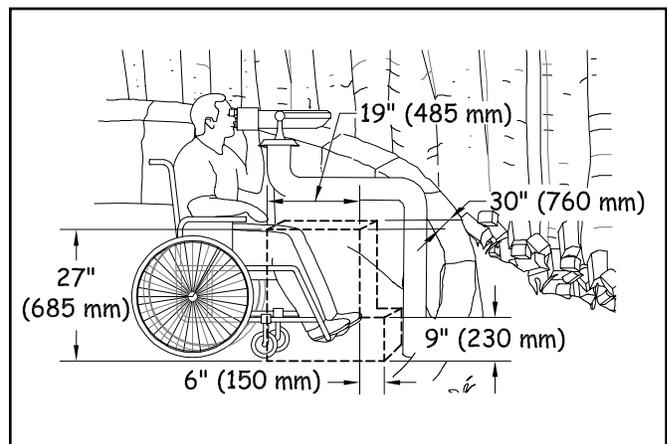


Figure 98—Requirements for knee and toe space at telescopes and periscopes.

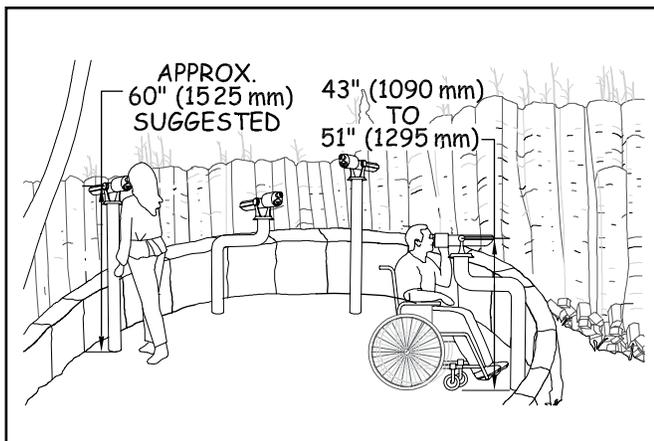


Figure 97—Requirements for viewing areas with telescopes and periscopes.

Do not allow the slope of the clear floor or ground space to exceed 1:48 (2 percent). However, when the surface is unpaved or not built with boards, grades not steeper than 1:33 (3 percent) in any direction are allowed if required for proper drainage. Ensure the surface of the maneuvering space is firm, stable, and made from a material appropriate to the level of development and setting.

If a condition for exception in an alteration project at an existing site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or location), the clear floor or ground space only has to comply with requirements to the extent practicable.



Utilities at Recreation Sites

In general, connect electricity hookups, drinking water faucets, outdoor rinsing showers, utility sinks, sewer hookups, and other utilities that are provided in recreation sites to the other major constructed features at the recreation area by an outdoor recreation access route and ensure they meet the following requirements. However, if a condition for exception in an alteration project at an *existing* site prohibits full compliance with a specific requirement for clear floor or ground space (surface, slope, size, or location), the clear floor or ground space only has to comply with requirements to the extent practicable.

Ensure controls and operating mechanisms for utilities comply with the technical requirements for reach ranges and operability specified in ABAAS, sections 308 and 309, which are explained in “Reach Ranges and Operability Requirements” of this guidebook. Sewage hookups don’t have to comply with the reach ranges of ABAAS, section 308 or operation requirements of section 309, but the slope and surface requirements must still be met.

Provide a clear floor or ground space of at least 30 by 60 inches (760 by 1,525 millimeters) oriented for front or parallel approach to all usable sides of utilities, except at water hydrants and outdoor rinsing showers. Hydrants and showers have their own requirements that are explained after this section. One full side of the clear floor or ground space around utilities must be adjacent to or overlap the outdoor recreation access route. The clear space also may overlap adjacent clear spaces. Figures 99 and 100 illustrate this requirement.

Ensure the slope of the clear space required at utilities and water hydrants does not exceed 1:48 (2 percent) in any direction. When the surface is unpaved or not built with boards, grades up to 1:33 (3 percent) are allowed if needed for proper drainage. The surface of the clear space must be firm, stable, and made of a material that is appropriate to the level of development and setting.

Ensure openings in the surface of the clear floor or ground spaces are not big enough to allow passage of a sphere more than a half of an inch (13 millimeter) in diameter. Place elongated openings more than a quarter of an inch wide with the long dimension perpendicular to the primary direction of travel.

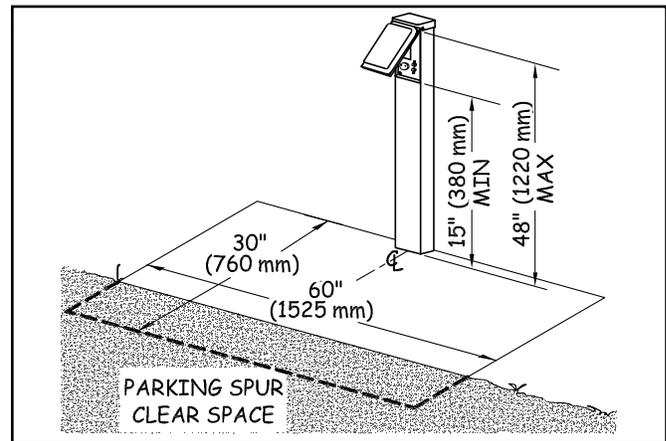


Figure 99—This illustration of an electrical connection shows the requirements for campground utilities.

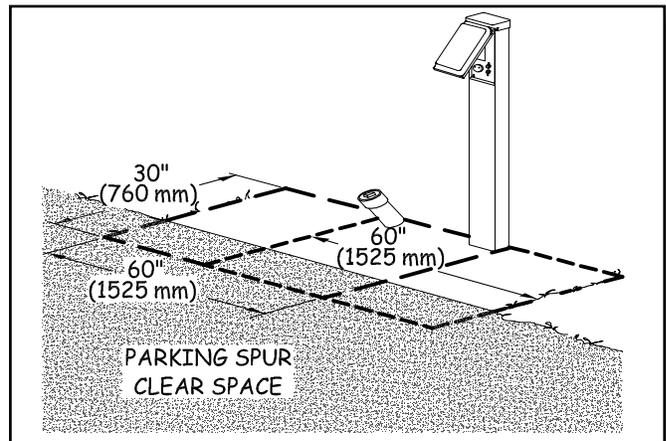


Figure 100—The clear space for utilities can overlap at campsites.

Water Hydrants

Water hydrants, including water faucets on posts and handpumps are the outdoor devices from which people obtain drinking water. The opening where the water discharges is called a water spout. Locate water spouts between 28 inches (710 millimeters) and 36 inches (915 millimeters) above the ground or floor surface on the edge of a clear space that is at least 72 inches (1,830 millimeters) by 48 inches (1,220 millimeters). This clear space must be located with its long side adjoining (and may overlap) an outdoor recreation access route, trail, beach access route, or another clear ground space. This permits a forward or parallel approach to the water spout and allows enough room for someone in a wheelchair to turn around and leave. Locate water spouts 11 inches (280



millimeters) minimum and 12 inches (305 millimeters) maximum from the rear center of the long side of the clear space. The requirements for the surface and slope of the clear space are the same as for other utilities.

If the water hydrant is an unusual design with the handle and spout on different sides of the post, be sure that people can access both sides. In addition, if drainage grates are provided, ensure that the openings in the grates comply with the outdoor recreation access route provision for openings. Figure 101 illustrates these requirements.

Standard handpumps require a force greater than 5 pounds (2.2 newtons) and a long reach to operate. Until handpumps that meet the accessibility standard for operating controls while adequately accessing the water supply are available from more than one source, handpumps are exempt from the requirements for reach ranges and operability in ABAAS, sections 308 and 309.4.

The Forest Service's technology and development program has produced an accessible handpump that can be used when a well is 40 feet (12 meters) deep or less. This pump should be considered for new or replacement shallow well installations when the accessible pump meets the technical specifications for the water supply. A deeper well pump is under development. Information about the commercially manufactured accessible handpumps (figure 102) is available on the Forest Service's internal computer network at <<http://fsweb.mtdc wo.fs.fed.us/programs/eng/handpump.htm>> or on the World Wide Web at <<http://www.fs.fed.us/recreation/programs/accessibility>>.

Clean water tests, energy efficiency, and accessibility compliance can be achieved at most locations using solar powered pumps. The Superior National Forest in northern Minnesota (see figure 18) and the Okanogan-Wenatchee National Forest in eastern Washington (figure 103) are among the forests that have successfully used solar pump systems for a number of years in campgrounds and picnic areas of all sizes. The water spout control for solar pumps easily can be designed to require 5 pounds (2.2 newtons) of pressure or less using one closed fist (figure 104) to provide a sustainable flow of accessible water.

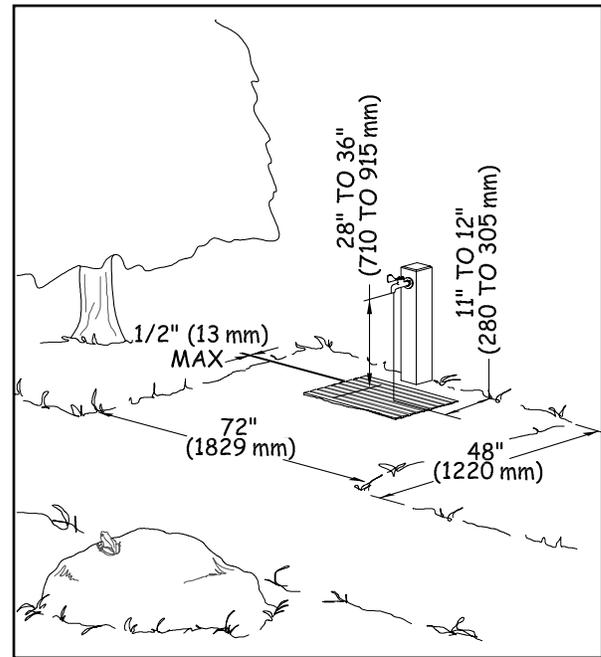


Figure 101—The requirements for water hydrants.

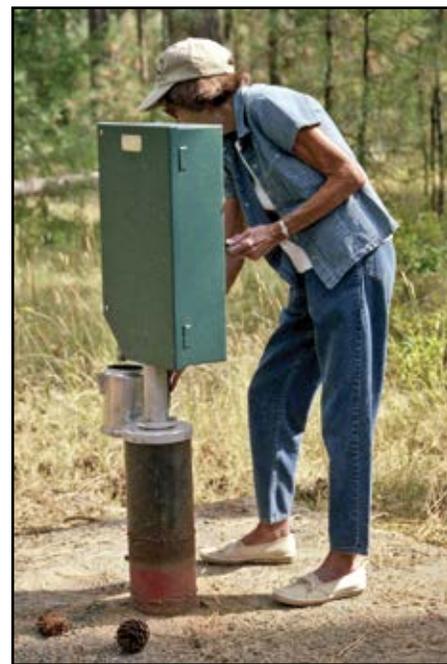


Figure 102—An accessible handpump developed by the Missoula Technology and Development Center.





Figure 103—Solar water pumps and batteries can be housed in small pedestal enclosures and powered by solar panels on an adjacent pole.

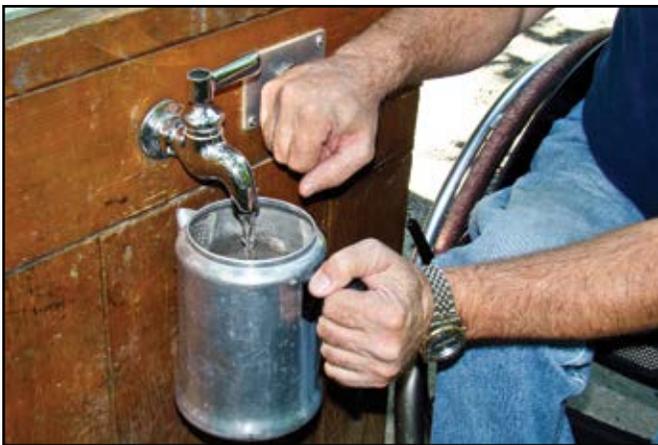


Figure 104—A solar pump provides pressure for this water spigot. A camper uses accessible controls to fill his coffee pot.

Outdoor Rinsing Showers

Outdoor showers permit people to rinse off sand, dirt, and debris. They are not intended for bathing. They generally don't offer privacy, and people usually are not permitted to disrobe when using them.

If outdoor rinsing showers are provided in a recreation site, provide at least one hand-held shower spray unit with a hose 59 inches (1,500 millimeters) long minimum. The hand-held shower spray must have at least one fixed position

located 15 inches minimum (380 millimeters) and 48 inches (1,220 millimeters) maximum above the clear ground space. Because hand-held showerheads are vulnerable to vandalism and breakage, they are not a durable design choice for some recreation sites. In these cases, provide a low shower accessible to someone in a seated position and a high shower accessible to someone who is standing (figure 105). Both showers must meet the clear floor and ground space and outdoor recreation access route requirements that follow. For a low outdoor rinsing shower, mount a fixed showerhead 48 inches (1,220 millimeters) above the ground or floor. For a high outdoor rinsing shower, mount a fixed showerhead at least 72 inches (1,830 millimeters) above the ground or floor. If self-closing controls or operating mechanisms are used, the controls must remain open for at least 10 seconds.

Each accessible outdoor rinsing shower must have a clear floor or ground space at least 60 inches by 60 inches (1,525 millimeters by 1,525 millimeters). Locate the clear space so that the shower pedestal or wall to which the showerhead is attached is at the center back of the clear space so that the water from the showerhead is directed toward the center of the clear space. The requirements for surface, slope, and openings in the clear space are the same as for other utilities. Accessible outdoor rising showers must be connected to the area's other major features by an outdoor recreation access route.

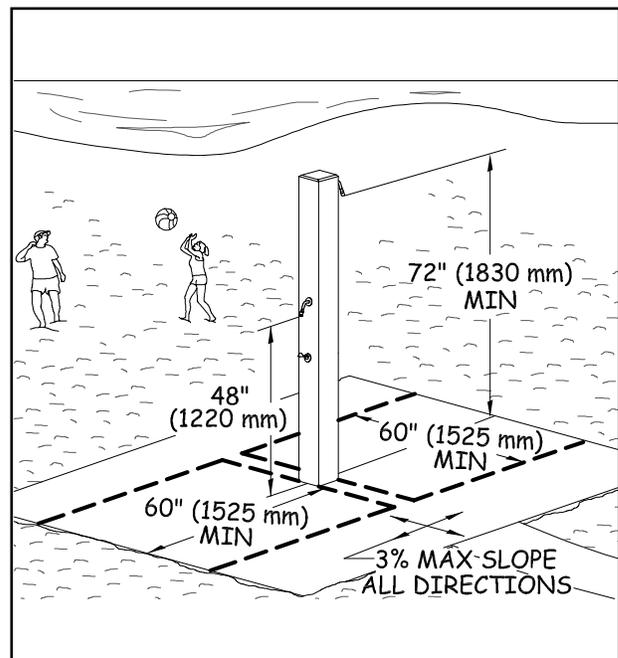


Figure 105—The requirements for outdoor rinsing showers.



Utility Sinks

A utility sink is deeper than a standard restroom basin or kitchen sink and can be used to clean large pots or equipment. Usually, utility sinks are provided only in highly developed recreation areas. If utility sinks are provided in a recreation facility that also contains a cook top or conventional range, at least 5 percent (but not less than 1) in each accessible room or space must comply with the following requirements. Utility sinks don't have to comply with these requirements if they're located in a space without a cook top or range.

Ensure that the height of the counter or rim surrounding the utility sink is not more than 34 inches (865 millimeters) above the ground or floor space and that the bottom of the bowl is at least 15 inches (380 millimeters) above the ground or floor space. The requirements for surface, slope, and openings in the clear space are the same as for other utilities.

If hot water is provided, wrap or shield the pipes to prevent someone from accidentally coming in contact with hot pipes. Ensure that sink controls and operating mechanisms comply with the technical requirements for reach ranges and operability specified in ABAAS, sections 308 and 309, and that water spouts are 28 inches (710 millimeters) to 36 inches (915 millimeters) above the ground or floor. Figure 106 illustrates these requirements.

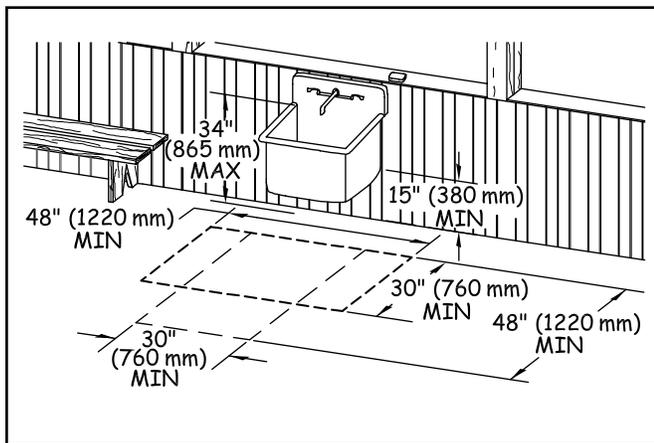


Figure 106—The requirements for utility sinks.

Buildings in Recreation Sites

Permanent buildings with walls, roof, and a door at recreation areas must meet all the applicable provisions of ABAAS, as well as those of other applicable building codes.

However, some buildings are only found in the outdoor recreation environment, such as camp shelters and pit toilets. Accessibility requirements for those buildings are explained below.

Camp Shelters

Camp shelters are small structures typically enclosed on three sides with a roof or overhang. They are often located on trails. Figure 107 shows a typical camp shelter that provides some protection from the weather. Camp shelters aren't cabins. Cabins are typically fully enclosed and must comply with ABAAS, section 806 for transient lodging.



Figure 107—The entrance to the Three Lakes camp shelter at the Tongass National Forest is level with the ground.

Ensure that each camp shelter meets the following requirements, except in two circumstances. If a condition for an exception prohibits full compliance with a specific technical requirement in FSORAG, section 6.1, the camp shelter only has to comply with the specific requirement to the extent practicable. When more than two camp shelters are grouped together in a camping unit, only 20 percent of them (but never less than two) are required to meet the requirements. For example, if five camp shelters are grouped, 20 percent is one shelter. Because of the minimum number required, however, this group must include at least two shelters that meet the requirements. However, in a group of 15 shelters, 20 percent is 3 shelters. At the least, three shelters must meet the requirements. Remember that the requirements are minimums, and the Forest Service commitment to universal design dictates that as many shelters as is practicable should meet the requirements.



Connect camp shelters located on trails to the other constructed features at the site by a trail that meets the technical requirements in FSTAG. Connect camp shelters that are located in a campground and are not on a trail to other constructed features in the camping unit and to the common use features that are provided at the campground, such as toilets, showers, water hydrants, garbage receptacles, parking spaces, and beach access by an outdoor recreation access route.

Provide a clear floor or ground space at least 36 inches (915 millimeters) by 48 inches (1,220 millimeters) at the entrance to the camp shelter. The long side of the clear floor or ground space must be parallel to the camp shelter entrance. One full, unobstructed side of the clear ground space must adjoin or overlap the trail or outdoor recreation access route (as applicable) or another clear ground space. When a condition for an exception prohibits full compliance with the clear ground requirement, the clear ground space only has to comply to the extent practicable.

Ensure that the surface of the clear floor or ground space at the open entrance side of the shelter and the floor of the shelter is firm, stable, and does not slope more than 2 percent (1:48) in any direction. However, when the surface is unpaved or not built with boards, slopes 5 percent (1:20) or less are allowed if necessary for drainage.

When the floor at the entrance to the camp shelter is raised above the ground, ensure that the floor is 17 inches (430 millimeters) minimum to 19 inches (485 millimeters) maximum, higher than the adjoining clear space at the open entrance side (figure 108). This height must be maintained for a length of at least 48 inches (1,220 millimeters) beside the clear space so that someone using a wheelchair or other assistive device can transfer to the floor of the shelter.

If the camp shelter has a level entry, provide a turning space that is 60 inches (1,525 millimeters) minimum in diameter (see figure 62) or is T-shaped with a minimum 60-by 36-inch (1,525-by 915-millimeter) arm and a minimum 36-inch (915-millimeter) -wide by 24-inch (610-millimeter) -long base (see figure 63) inside the camp shelter. This requirement is the same as ABAAS, section 304.3. The clear space and turning space allows someone using a wheelchair or other assistive device to approach and move about the camp shelter.



Figure 108—The entrance to the Hunter Station camp shelter at the Allegheny National Forest is raised above the ground.

The floor surface within the camp shelter must be firm and stable and must not slope more than 2 percent (1:48) in any direction. If amenities such as tables or wood stoves are provided in camp shelters, they must meet the requirements of FSORAG, section 5.

Toilet Buildings and Pit Toilets

Toilet buildings are provided for visitor convenience and comfort in recreation sites that meet the criteria for level 3 or higher on the recreation site development scale. Vault toilets, flush toilets, or composting toilets are typical at these sites. Regardless of the waste disposal system or design of the building, make sure they meet the requirements of ABAAS. Specifically, toilet buildings at developed recreation sites with only one riser must comply with the requirements for toilet room size and clearances in section 603 of ABAAS and with the requirements for toilet seats, grab bars, controls, and dispensers in sections 604.4, 604.5, 604.6, and 604.7 of ABAAS. Toilet buildings with multiple risers must comply with all of section 604 of ABAAS. If washing sinks, showers, or other amenities are provided in toilet buildings, or separate changing or shower buildings, they must also comply with the appropriate sections of ABAAS. When designing toilet buildings, be careful not to confuse the requirements for toilet stalls with those for single riser toilet rooms.

Pit toilets are located in remote areas. They are provided primarily for resource protection, rather than for visitor



convenience and comfort. Pit toilets are primitive outhouses that may consist simply of a hole dug in the ground covered by a toilet riser (figure 109). The pit toilet riser may or may not be surrounded by walls and may or may not have a roof. Pit toilets may be permanent installations or they may be moved from one location to another as the hole is filled or the area has become overused. Waste disposal in pit toilets may be directly into the ground (pit) or may include moldering or composting processes.



Figure 109—A fiberglass riser for a pit toilet in the Boundary Waters Canoe Area.

Do not confuse pit toilets with toilet buildings. Pit toilets are *only* provided in low development areas where it has been determined that they are necessary for resource or environmental protection. Pit toilets are **never** appropriate in a Forest Service recreation site with a development scale level of 3 or higher.

Ensure each pit toilet meets the following requirements and is connected to the area’s other major constructed features by an outdoor recreation access route. Connect pit toilets that are provided on trails to the area’s other major constructed features by a route that complies with the trail specifications rather than an outdoor recreation access route.

The design of pit toilets varies widely depending on the setting, the amount of expected use, and the system used to manage the waste. If an accessible pit toilet has walls, a floor,

a door, or a roof, these components must comply with the appropriate provisions of ABAAS as follows.

If the pit toilet has a riser and toilet seat, ensure that the total height of that seat and the riser it rests on is 17 to 19 inches (430 to 485 millimeters) above the ground or floor.

If the pit toilet has lightweight privacy screens or has no walls, ensure that the riser has vertical or nearly vertical sides and a flat area on each side of the seat that is about 3 inches (75 millimeters) wide.

For pit toilets with lightweight privacy screens or no walls, provide a clear floor or ground space that is at least 60 inches (1,525 millimeters) wide and 56 inches (1,420 millimeters) deep. Of the required width of clear floor space, ensure that only 16 to 18 inches (405 to 455 millimeters) is on one side of the centerline of the riser; the rest must be on the other side. The depth of the clear space is measured from the back of the riser and extends in front of the riser (figure 110). If these clear space requirements can’t be met due to a condition for an exemption, then the clear space must meet the technical requirements to the extent practicable.

If there are sturdy walls around the pit toilet riser, standard riser dimensions, placement, and grab bars are required as shown in ABAAS, sections 603, 604, and 609. Grab bar size, strength, finish, and position requirements are explained in “Grab Bars” of this guidebook.

Grab bars must comply with the reach ranges required in ABAAS, section 308, and explained in “Reach Ranges and Operability Requirements” of this guidebook. As required in ABAAS, section 604.5, grab bars for toilets must be installed in

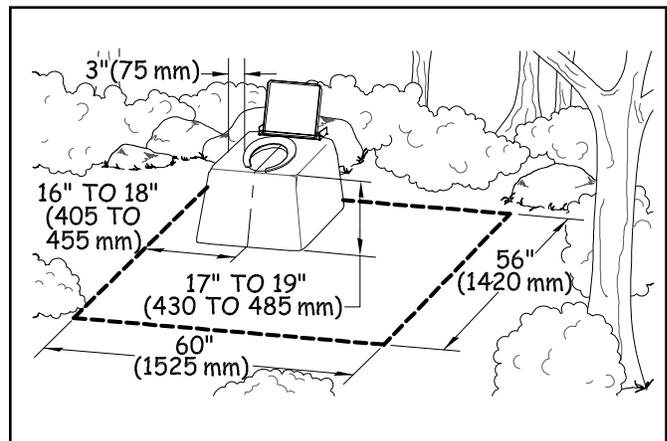


Figure 110—The requirements for clear space at an unenclosed toilet.



a horizontal position, 33 to 36 inches (840 to 915 millimeters) above the finished floor, measured to the top of the gripping surface.

Ensure the grab bar beside the riser is at least 42 inches (1,065 millimeters) long, is located no more than 12 inches (305 millimeters) from the wall behind the toilet, and extends at least 54 inches (1,370 millimeters) from the rear wall. The grab bar behind the riser must be at least 36 inches (915 millimeters) long and extend from the centerline of the water closet at least 12 inches (305 millimeters) on the side closest to the side wall grab bar and at least 24 inches (610 millimeters) on the other side (figure 111).

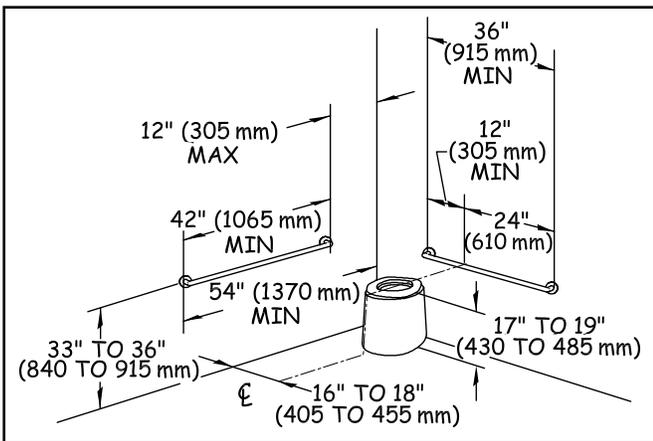


Figure 111—The grab bar placement requirements for pit toilets enclosed by walls.

For pit toilets enclosed by walls, make sure the back of the riser is against the wall behind the riser. Provide a clear floor space that is at least 60 inches (1,525 millimeters) wide and 56 inches (1,420 millimeters) deep around the toilet.

Of the required width of clear floor space, ensure that only 16 to 18 inches (405 to 455 millimeters) on one side of the centerline of the riser, and the rest is on the other side. Provide turning space of at least 60 inches (1,525 millimeters) in diameter or T-shaped with a minimum 60- by 36-inch (1,525- by 915-millimeter) arm and a minimum 36-inch (915-millimeter) -wide by 24-inch (610-millimeter) -long base. This requirement is the same as ABAAS, section 304.3. Portions of the turning space may overlap the toilet clear floor space (figure 112).

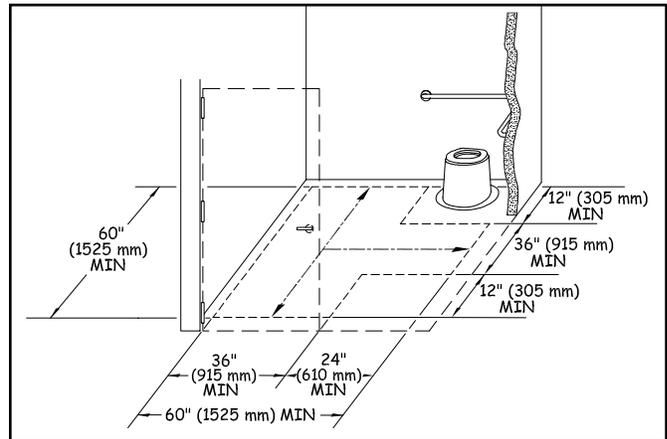


Figure 112—The requirements for a T-shaped turning space for a pit toilet enclosed by walls.

When there are walls, ensure doorways or wall openings that provide entrance to the toilet have a minimum clear width of 32 inches (815 millimeters), in compliance with ABAAS, section 404.2.3. Door swings must not obstruct the clear floor space inside the pit toilet. Doors that open out or slide use space efficiently to provide the required interior clear space, but they are not allowed to block the access route to the building. Ensure door hardware, such as handles,



Construction Tip

Do not use grab bars with privacy screens.

Lightweight privacy screens are sometimes provided for pit toilets in remote general forest areas. Screens may be provided in areas where vegetation or terrain doesn't provide enough privacy but where walls or sturdier enclosures would significantly change the recreational setting or adversely impact significant natural features or where it is difficult and expensive to pack in conventional construction materials. These screens may be made from tent fabric or other lightweight materials and have only enough structural strength to stay upright.

Never attach grab bars to privacy screens. Screens do not have enough strength to support a 250-pound (1,112-newton) load on the grab bars. Instead, position the screens outside the clear area required around the toilet to allow unobstructed access to the toilet area.



Design Tip

Edge protection may be used for inclines in outdoor recreation environments.

Edge protection is a raised curb, wall, railing, or other structure that defines the edge of a travel surface and helps keep people on the travel surface. Edge protection is not required for accessibility, and it is not usually desirable in outdoor environments. However, edge protection may be desirable for safety or other reasons; it should be a little higher in an outdoor environment than in an urban environment. It isn't as easy to see or detect objects near the ground in an outdoor environment, so edge protection curbs should be at least 3 inches (76 millimeters) high (see figure 46).

pulls, latches, and locks, complies with the technical requirements for reach ranges and operability specified in ABAAS sections, 308 and 309 and explained in "Reach Ranges and Operability Requirements."

Whether the pit toilet has walls or not, make sure the slope of the turning space and the clear floor or ground space does not exceed 1:48 (2 percent) in any direction. When the surface is unpaved or not built with boards, grades 1:33 (3 percent) or less in any direction are allowed if required for proper drainage. Provide a surface that is firm, stable, and made from material appropriate to the setting and level of development. When there is a condition for an exception that prohibits full compliance with the slope or surface requirements, they only have to be met to the extent practicable.

Locate the entrance to each pit toilet at ground level whenever possible. For instance, composting and moldering toilets have a "basement" area where waste is processed. The need to service the area under the riser may make it difficult to provide a ground level entrance to the toilet. In other areas, surface bedrock, permafrost, or other ground conditions make it difficult to dig a pit. In situations where the pit toilet is elevated above the ground surface, make sure any inclined access from the connecting outdoor recreation access route or trail to the entrance of the toilet structure is firm and stable, at least 36

inches (915 millimeters) wide, and not more than a 1:12 (8.33 percent) slope to the extent practicable. If an inclined connection meeting these requirements isn't practicable because of a condition for exception, steps are permitted—but only as a last resort. Provide a landing at least 60 inches by 60 inches (1,220 millimeters by 1,220 millimeters) outside the entrance door to the toilet structure. Because it is an outdoor recreation environment, make sure the inclined surface is firm and stable. It doesn't have to be slip-resistant, and handrails aren't required.

Getting to the Water—Beach Access Routes

Beach access routes allow pedestrians to get across the beach so they can play, swim, or participate in other beach-related activities. A beach access route is a continuous unobstructed path that crosses the surface of the beach and provides pedestrian access to the water. Section 6 of FSORAG explains the requirements for beach access routes. Because beach access routes and outdoor recreation access routes perform similar functions, the requirements are similar.

Beaches are grouped into three general types:

- Tidal beaches (figure 113)
- River beaches (figure 114)
- Lake, pond, and reservoir beaches (figure 115)

Beach access routes must extend from an outdoor recreation access route or other beach entry point to the high tide level at tidal beaches, mean high water level at river beaches, and the normal recreation water level at lake, pond, and reservoir beaches.

Beach access routes are required when dune crossings, stairways, or ramps leading from boardwalks to the beach are constructed or altered; when parking facilities, pedestrian routes, toilet facilities or bathing facilities that serve the beach are constructed or altered; or when a beach nourishment project is undertaken. They must coincide with or be located in the same area as other pedestrian access to the beach. Employ universal design wherever possible so that all visitors use the same route to get to the water (figure 116).



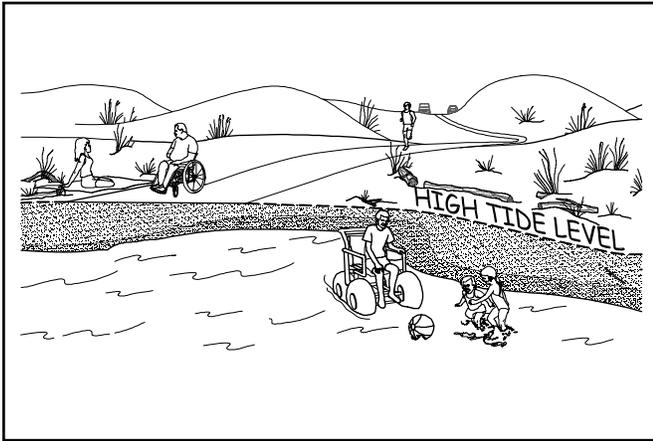


Figure 113—The high tide level at a coastal beach.

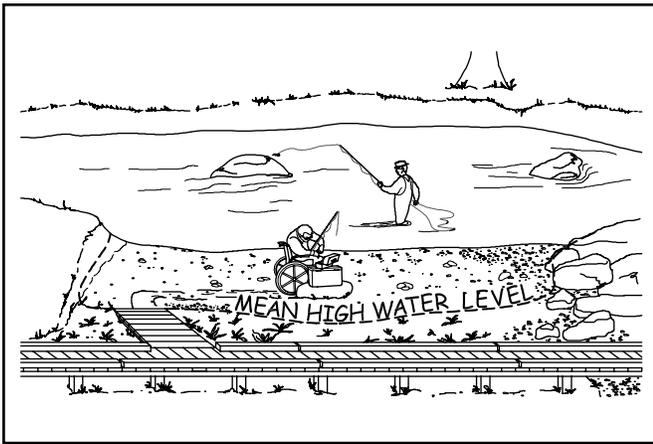


Figure 114—The mean high water level at a river.

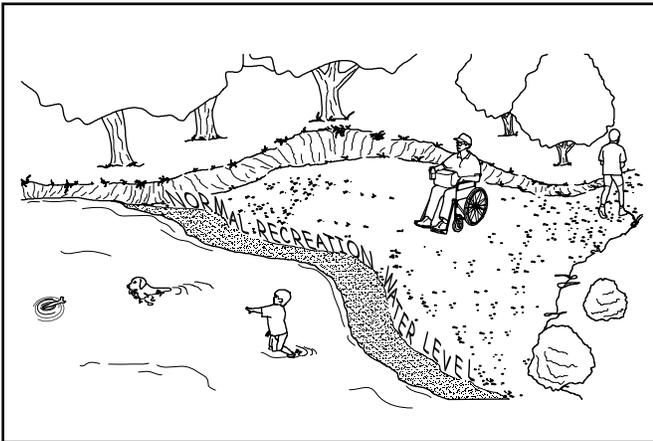


Figure 115—The normal recreation water level at a lake.



Figure 116—Everybody ought to be able to get to the beach.

When beach access routes are required, provide them for each half mile of managed shoreline. However, the number of beach access routes doesn't have to exceed the number of pedestrian beach access points that are provided. Beach access routes are not required where pedestrian access to the beach is not allowed. Beach access routes associated with beach nourishment projects are only required up to an expenditure of 20 percent of the costs of the beach nourishment project.

Removable beach access routes can be moved to a protected storage area during storms and other periods when the routes are subject to damage. Removable beach access routes are not required to comply with the slope and resting interval technical requirements. Use temporary beach access route surfaces as necessary where restrictive permits are required in coastal and shoreline areas where seasonal tides or high flows would remove a permanent structure, or in areas where the beach erodes or builds up each season, quickly turning a permanent beach access route into a hazard. Vehicular access or access provided by an assistive device isn't an acceptable temporary beach access route.





Design Tip

Extend beach access routes to a reasonable point on the beach.

Access to the water at tidal beaches will vary considerably depending on geographic locations because the difference between low and high tides will vary from place to place. For example, a beach in Alaska may experience tidal differences of up to 30 feet (9 meters); beaches in Florida will have much smaller differences between the tides. The high tide mark is a reasonable location to stop constructed features; they are much more likely to wash out below this point. The same general guidance applies to mean high water level at rivers and the normal recreation water level at lakes.

In some locations, it may make sense to continue the beach access route below the mean high water level or normal recreation water level. In locations with significant variations in water level through the recreation season, visitors appreciate extended access routes where they can be constructed (figure 117).

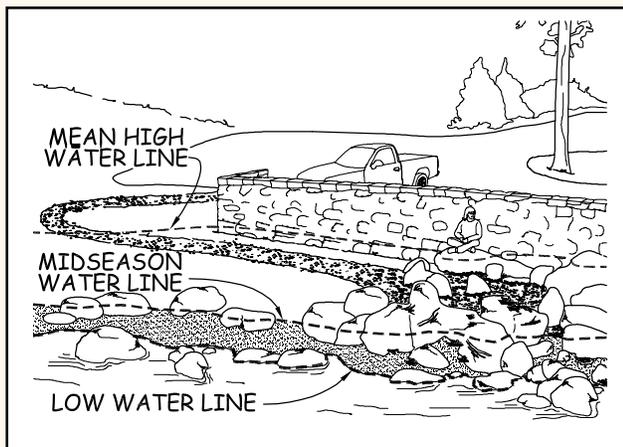


Figure 117—Some beach access routes are partly inundated every year.

Exceptions to the Guidelines That Apply to Beach Access Routes

When a condition for an exception prohibits full compliance with a specific technical requirement on a portion of a beach access route, that portion of the beach access route must still comply with the requirement to the extent practicable. (See “Using the Conditions for an Exception in FSORAG.”) Document the reason that full compliance wasn’t achieved and file it with the project records for the construction or alteration project.

Notifying the U.S. Access Board About Exemptions

Infrequently, an entire beach access route must be exempted from the technical requirements because extreme or numerous conditions for exemptions make it impractical to provide a route that meets the requirements. In these cases, document the reason for the exemption, the date of the decision, and the names of the individuals who made the decision. Retain documentation with the records for the construction or alteration project. Notify the U.S. Access Board of the determination and the reason for that decision. Contact information for the U.S. Access Board is available at <http://www.access-board.gov/>

The U.S. Access Board has drafted a form that may be used to document and submit an exemption decision. The form will be available at <http://www.access-board.gov/guidelines-and-standards/recreation-facilities/outdoor-developed-areas> when the U.S. Access Board final guidelines are published.

Surface and Clear Tread Width on Beach Access Routes

A beach access route must have a firm, stable surface, and have a clear tread width of 60 inches (1,525 millimeters) minimum.





Slopes and Resting Intervals for Beach Access Routes

Running slope, also referred to as “grade,” is the length-wise slope of a beach access route, parallel to the direction of travel. Sections of beach access route of any length are allowed to have a running slope ratio of up to 1:20 (5 percent grade) (see figure 37). Steeper terrain may make this slope difficult to achieve. Many visitors can negotiate steeper slopes for short distances, so running slopes up to 1:12 (8.33 percent) are permitted for up to 50 feet (15 meters), and running slopes of up to 1:10 (10 percent) are permitted for up to 30 feet (9 meters). To ensure that the beach access route isn’t designed as a series of steep segments, no more than 15 percent of the total length of the beach access route may exceed a slope of 1:12 (8.33 percent), as shown in table 4.

Cross slopes—the side-to-side slope of a beach access route—are not allowed to exceed 1:33 (3 percent, see figure 37). When the surface is paved or is built with boards, the cross slope is not allowed to be steeper than 1:48 (2 percent).

Resting intervals are relatively level areas that provide an opportunity for people to catch their breath before continuing along the beach access route. These intervals are required between each segment of the beach access route any time the running slope exceeds 1:20 (5 percent). A resting interval must be at least 60 inches (1,525 millimeters) by 60 inches (1,525 millimeters).

The slopes of a resting interval are not allowed to exceed 1:33 (3 percent) in any direction. When the surface is paved

or is built with boards, the slope is not allowed to be steeper than 1:48 (2 percent) in any direction.

Tread Obstacles on Beach Access Routes

Tread obstacles on a beach access route must not be more than 1 inch (25 millimeters) high. When the surface of the beach access route is paved or is built with boards, tread obstacles must not be more than a half of an inch (13 millimeters) high. Where possible, ensure obstacles on beach access routes are separated by at least 48 inches (1,220 millimeters) so people who use wheelchairs can maneuver around the obstacles.

Openings in Beach Access Routes

Openings are gaps in the surface of a beach access route. Gaps include spaces between the planks on a boardwalk and drainage holes in temporary or permanent surfaces. Openings that are big enough to allow wheels, cane or crutch tips, or shoe heels to drop through or get stuck are hazards that shouldn’t exist in pedestrian routes. Openings up to a half of an inch (13 millimeters) wide are permitted. Place elongated openings more than a quarter of an inch wide with the long dimension perpendicular or diagonal to the primary direction of travel (see figure 44).

Table 4—Beach access route running slope and segment length.

Running Slopes on Beach Access Routes		Maximum Length of Segment Between Resting Intervals
Steeper than	But not Steeper than	
1:20 (5 percent)	1:12 (8.33 percent)	50 feet (15 meters)
1:12 (8.33 percent)	1:10 (10 percent)	30 feet (9 meters)





Protruding Objects on Beach Access Routes

Outdoor accessibility guidelines define protruding objects as constructed features such as signs that extend into the clear width area of a beach access route or resting interval and are between 27 inches (685 millimeters) and 80 inches (2,030 millimeters) above the travel surface. Do not allow constructed features to extend more than 4 inches (100 millimeters) into the clear width area (see figure 45). Constructed features that extend into the travel way of a beach access route from the side or from overhead can be hazardous to people who are paying more attention to their companions than the travel route, as well as to people who are blind or have low vision.

Accessibility guidelines do not consider natural elements such as tree branches and rock formations to be protruding objects. Provide and maintain clearance from natural elements around beach access routes in accordance with your unit's standards; keep in mind overhanging hazards to people who are blind or have low vision or are not focused on the route ahead.

Elevated Dune Crossings

A dune crossing that is elevated or has a slope that exceeds 1:20 (5 percent) that is part of a beach access route must have handrails and edge protection (figure 118). Locate handrails continuously along both sides of the dune crossing at a height of 34 inches (865 millimeters) to 38 inches (965 millimeters) above the walking surface. Ensure the handrails are easy to grip and comply with all the other requirements in ABAAS, section 505. Provide a curb or barrier directly under the handrail that would prevent a 2-inch (50-millimeter) sphere on, or up to 2 inches (50 millimeters) above, the dune crossing surface from rolling under the handrail. The clear width of elevated dune crossings may be narrower than the rest of the beach access route, but must be at least 48 inches (1,220 millimeters). Resting intervals are not required on elevated dune crossings. Consider including resting intervals similar to those for outdoor recreation access routes if the elevated crossing is steeper than 1:20 (5 percent).

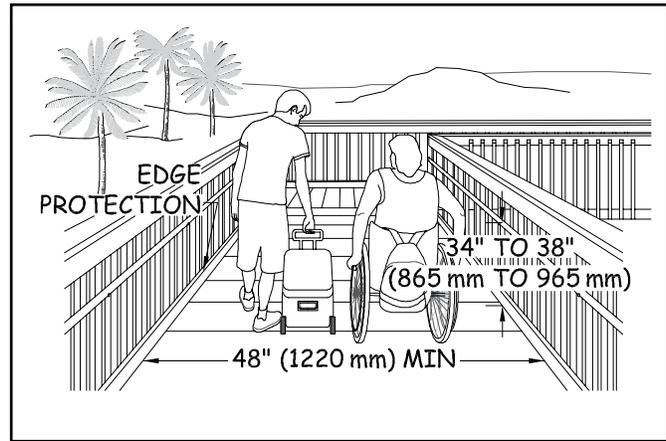


Figure 118—The requirements for width, handrails, and edge protection on an elevated beach access route.

Gates and Barriers on Beach Access Routes

If gates or barriers are constructed to control access to beach access routes, include openings wide enough to allow hiker passage. Refer to the FSORAG for the technical provisions for gates and barriers. These requirements are also explained in “Getting From Here to There—Outdoor Recreation Access Routes” of this guidebook.





Notes

