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Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) Pocket Version



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Cover—A group of forest visitors setting up camp in the White Mountain National Forest in New Hampshire.

Photo credit: Northeast Passage, Durham, NH



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Missoula, MT

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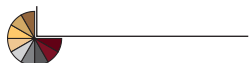
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1.0 Application

The Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) and the Forest Service Trail Accessibility Guidelines (FSTAG) are the legally enforceable standards for facilities, routes, and features within the National Forest System. Although the guidelines are not legally enforceable outside of the National Forest System, they may be used by other entities to define best practices for recreation areas.

FSORAG provides guidance for maximizing the accessibility of outdoor recreation areas while protecting the unique characteristics of the natural setting.

All facilities and features addressed in the FSORAG that are constructed or altered within the National Forest System must comply with the FSORAG. These facilities include, but are not limited to, camping facilities, picnic areas, viewing areas at overlooks, beach access routes, outdoor recreation access routes (ORARs), and other constructed features associated with outdoor recreation areas in the National Forest System.

The FSORAG does not apply to:

- Most buildings; recreational facilities that are not addressed in the FSORAG or FSTAG must comply with the applicable requirements of the Architectural Barriers Act Accessibility Standards (ABAAS).

- Trails; most new or altered pedestrian/hiker trails must comply with the FSTAG.
- Boating and fishing facilities, swimming pools, play areas, sports arenas, miniature golf courses, and amusement parks must comply with chapter 10: Recreation Facilities of the ABAAS.
- Maintenance work (routine or periodic repair of existing recreation sites or facilities).
- Certain alterations at existing recreation areas:
 - ◊ Where an existing element or space is altered, but the circulation path to the altered element or space is not altered, the circulation path is not required to comply with accessibility requirements. The altered element or space must comply with accessibility requirements.
 - ◊ Where an existing individual site furnishing (such as a picnic table or fire ring) is altered or replaced, but the floor or ground surface under or around it is not altered, the floor or ground surface is not required to comply with accessibility requirements. The new or altered site furnishing must comply with accessibility requirements.





1.1 Conditions for an Exception—Where described in individual sections of the guidelines, some specific technical requirements may be reduced or changed if one or more of the following conditions exists. The exception shall not be used on the portion of the feature where the condition does not exist. If no exception is provided for the technical requirement, no exception is allowed. All other appropriate design options should be considered before applying the exception.

Some specific technical requirements also contain general exceptions that may be applied irrespective of the presence of a condition for an exception, due to manufacturing limitations or other considerations. These are detailed specifically in the applicable technical sections and shall not be used for other features.

Condition for an Exception 1. Where compliance with the technical requirement is not practicable due to terrain.

Condition for an Exception 2. Where compliance with the technical requirement would fundamentally alter the function or purpose of the facility or the setting.

Condition for an Exception 3. Where compliance with the technical requirement cannot be accomplished with the prevailing construction practices.

Condition for an Exception 4. Where compliance is precluded by the following:

- Endangered Species Act (16 U.S.C. §§ 1531 et seq.),
- National Environmental Policy Act (42 U.S.C. §§ 4321 et seq.),
- National Historic Preservation Act (16 U.S.C. §§ 470 et seq.),
- Wilderness Act (16 U.S.C. §§ 1131 et seq.),
- Other Federal, State, or local law, the purpose of which is to preserve threatened or endangered species; the environment; or archaeological, cultural, historical, or other significant natural features.

1.2 Definitions—See the full text of the FSORAG for definitions.

2.0 Outdoor Recreation Access Routes (ORARs)

2.1 General—ORARs shall be provided between units and constructed features in campgrounds, picnic areas, trailheads, viewing areas, and other outdoor recreation sites. ORARs shall connect the outdoor constructed features within each recreation site and shall connect to common use features such as toilets, showers, water spouts, trash or recycling receptacles, parking spaces, and beach access routes.

Exception 1. ORARs shall not be required where camping facilities, picnic facilities, viewing areas, or outdoor constructed features are provided on trails. The routes connecting those facilities are to comply with the technical provisions for trails.

Exception 2. When an existing camping facility or unit, picnic facility or unit, or trailhead is altered or reconstructed and a condition for an exception in section 1.1 prohibits full compliance with a specific requirement in section 2 on a portion of an ORAR, that portion of the ORAR shall comply with the specific requirement to the extent practicable.

Exception 3. When a new viewing area is constructed, or an existing viewing area is altered or reconstructed and a condition

for an exception in section 1.1 prohibits full compliance with a specific requirement in section 2 on a portion of an ORAR, that portion of the ORAR shall comply with the specific requirement to the extent practicable.

Exception 4. Where an element, space, or outdoor constructed feature is altered in a camping facility, picnic facility, viewing area, or trailhead but the circulation path to the altered element, space, or outdoor constructed feature is not altered, an ORAR shall not be required.

Exception 5. Where ORARs are provided within vehicular ways, those ORARs shall not be required to comply with sections 2.4 Slope, 2.5 Resting Intervals, and 2.6 Passing Spaces.

Exception 6. An ORAR is not required to connect accessible camping units to a recreational vehicle (RV) dump station if an accessible vehicle pullup space is provided at the RV dump station.

2.2 Surface—The surface of an ORAR shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

2.3 Clear Tread Width—The clear tread width of an ORAR shall be at least 36 inches (915 millimeters), as shown in figure 1.



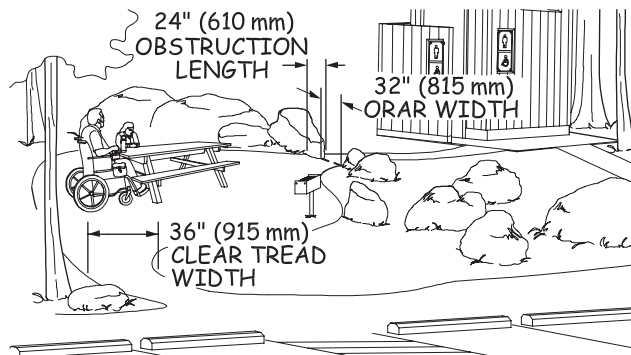


Figure 1—The clear tread width is the unobstructed width of the traveling surface.

Exception 1. Where a condition for an exception in section 1.1 prevents achieving the required width, the clear tread width may be reduced to 32 inches (815 millimeters) minimum. If the condition for an exception prevents achieving the reduced width of 32 inches (815 millimeters), comply to the extent practicable.

Exception 2. Where an ORAR is provided within a vehicular way, clear passage of 32 inches is required around or through speed restriction devices, gates, and other barriers on the roadway.

2.4 Slope—The running slope (grade) and cross slope of ORARs shall comply with section 2.4, as shown in figure 2.

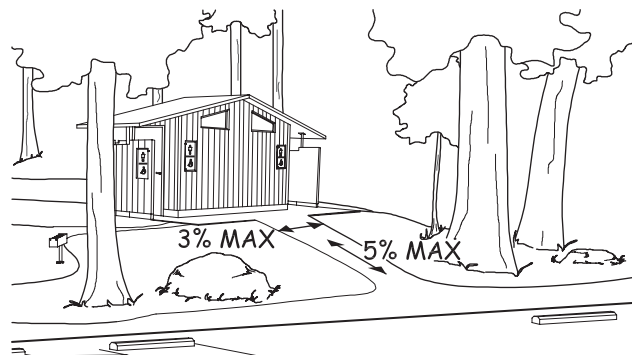


Figure 2—The basic slope requirements for outdoor recreation access routes and beach access routes.

Exception: Where an ORAR is permitted to be provided within a vehicular way, the integrated ORAR shall not be required to comply with section 2.4.

2.4.1 Running Slope (Grade).

2.4.1.1 The running slope (grade) of an ORAR shall be 1:20 (5 percent) or less for any distance.

2.4.1.2 A grade of up to 1:12 (8.33 percent) is permitted for up to 50 feet (15 meters) of an ORAR. Resting intervals complying with section 2.5 shall be provided at distances of no more than 50 feet (15 meters) apart, as shown in table 2.4.1.

2.4.1.3 A grade of up to 1:10 (10 percent) is permitted for up to 30 feet (9 meters) of an ORAR. Resting intervals complying with section 2.5 shall be provided at distances of no more than 30 feet (9 meters) apart, as shown in table 2.4.1.

2.4.2 Cross Slope. The cross slope of an ORAR shall be no more than 1:33 (3 percent). Where the surface is paved or is elevated above the natural ground, the cross slope shall not be steeper than 1:48 (2 percent).

2.5 Resting Intervals

2.5.1 Location. A resting interval shall be provided between each ORAR segment, in compliance with section 2.4.1. Depending on the design and location, the intersection of two ORARs may act as a resting interval.

Exception: Where a vehicular way serves as the ORAR, the integrated ORAR shall not be required to comply.

2.5.2 Length. The resting interval length shall be a minimum of 60 inches (1,525 millimeters) long, as shown in figure 3.

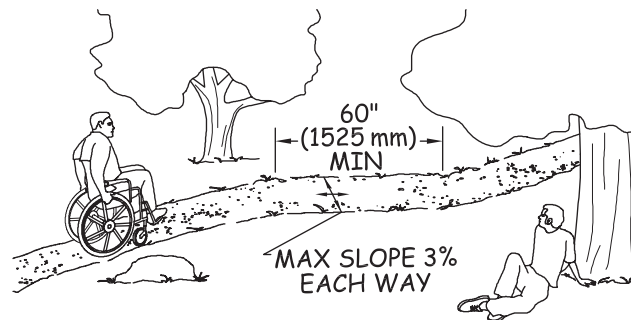


Figure 3—The basic resting interval requirements for outdoor recreation access routes.

Table 2.4.1 Running Slope (Grade) and Segment Length Between Resting Intervals.

Running Slope (Grade) of Segment of Outdoor Recreation Access Route		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)





2.5.3 Width. Resting intervals shall be at least as wide as the widest segment of the ORAR leading to the resting interval. Where resting intervals are provided adjacent to an ORAR, the resting interval clear width shall be 36 inches (915 millimeters) minimum.

2.5.4 Slope. Resting intervals shall not be steeper than 1:33 (3 percent) in any direction. Where the surface is paved or is elevated above the natural ground, the slope shall not be steeper than 1:48 (2 percent) in any direction.

2.5.5 Turning Space. Where resting intervals are provided adjacent to an ORAR, the turning space should be at least 60 inches (1,525 millimeters) in diameter or T-shaped with a minimum 36 inches (915 millimeters) wide by 24 inches (610 millimeters) deep base centered on a minimum 36 inches (915 millimeters) wide by 60 inches (1,525 millimeters) long crossarm. Vertical alignment between the ORAR, turning space, and resting interval shall be nominally level. The access route, turning space, and resting interval may overlap.

2.6 Passing Spaces—ORARs with a clear width less than 60 inches (1,525 millimeters) shall provide passing spaces at intervals of 200 feet (61 meters) maximum. Passing spaces and resting intervals shall be permitted to overlap.

Exception: Where a vehicular way serves as the ORAR, the integrated ORAR shall not be required to comply with section 2.6.

2.6.1 Size. The passing space shall be either:

2.6.1.1 A space 60 inches (1,525 millimeters) minimum by 60 inches (1,525 millimeters) minimum, as shown in figure 4.

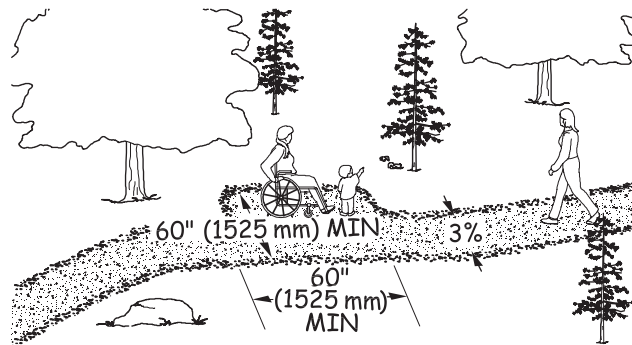


Figure 4—Minimum required dimensions for a passing space for an outdoor recreation access route or a beach access route.

2.6.1.2 The intersection of two ORARs providing a T-shaped space where the base and the arms of the T-shaped space extend 48 inches (1,220 millimeters) minimum beyond the intersection, as shown in figure 5. Vertical alignment at the intersection of the ORARs that form the T-shaped space shall be nominally level.

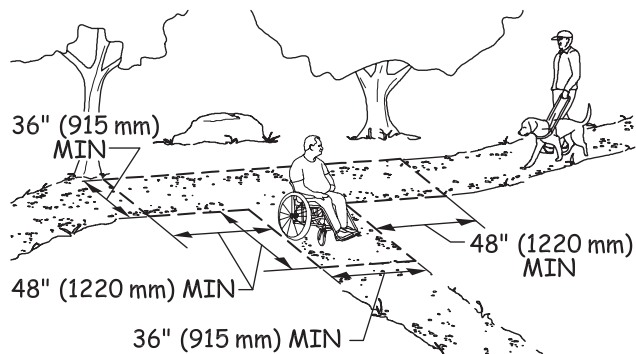


Figure 5—A T-intersection may be used as a passing space on an outdoor recreation access route or a beach access route if it has dimensions as shown, or larger.

2.7 Tread Obstacles—Tread obstacles shall not exceed 1 inch (25 millimeters) in height. Where the surface is paved or is elevated above the natural ground, obstacles shall not exceed one-half inch (13 millimeters) in height measured vertically to the highest point.

2.8 Openings—Openings in the surface of ORARs shall be small enough to prevent passage of a ½-inch (13-millimeter) diameter sphere. Elongated openings should be placed perpendicular, or as close to perpendicular as possible, to the main direction of travel, as shown in figure 6.

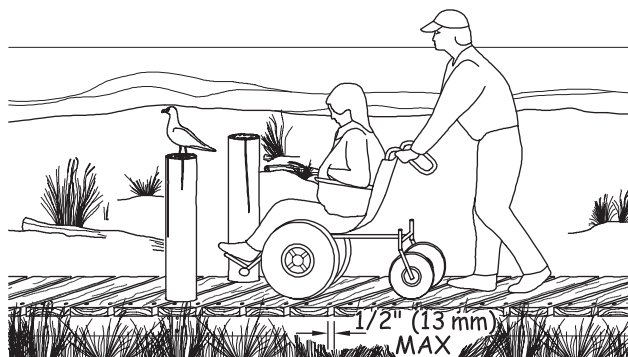


Figure 6—Elongated openings should be perpendicular to the direction of travel.





2.9 Protruding Objects—Constructed features, including signs, water sources, and so forth shall not extend into the space above an ORAR more than 4 inches (100 millimeters) if they are between 27 inches (685 millimeters) and 80 inches (2,030 millimeters) above the surface of the ORAR, as shown in figure 7.

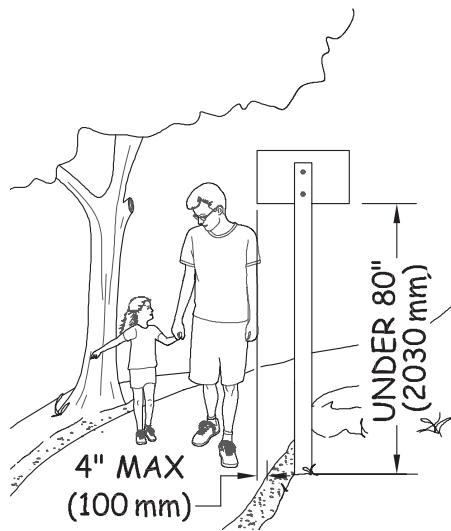


Figure 7—Constructed objects can't extend into the clear width area more than 4 inches if they are between 27 and 80 inches (685 to 2,030 millimeters) above the walking surface.

2.9.1 Natural Elements. Accessibility guidelines for protruding objects do not apply to natural elements such as tree branches and rock formations. However, safety regulations or Forest Service construction and maintenance standards may define clear space and limit the allowable extension of natural protruding objects over the ORAR surface.

2.10 Gates and Barriers—Gates or barriers that are constructed to control access to an ORAR shall comply with section 2.10.

2.10.1 Clear Width. Gate openings and openings in barriers for pedestrian passage shall provide a clear width of 36 inches (915 millimeters), complying with the Outdoor Developed Areas Accessibility Guidelines (ODAAG), section 1017.3 Clear Tread Width.

2.10.2 Gate Hardware. Gate hardware must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less, and must be 34 inches (865 millimeters) minimum and 48 inches (1,220 millimeters) maximum above the floor or ground.

3.0 Recreation Sites

3.1 Vehicle Parking

3.1.1 General Vehicle Parking

3.1.1.1 Vehicle parking lots with more than two parking spaces that are not associated with an individual camping or picnic unit shall comply with ABAAS sections 208 and 502. These are the same requirements as for parking lots associated with buildings.

3.1.1.2 Where a parking spur is adjacent or attached to a picnic unit or a camping unit living area, it shall comply with section 3.3, as well as section 3.1.

3.1.1.3 Where recreational vehicle (RV) parking areas are provided at a camping facility, parking areas shall be provided for accessible RVs and trailers in accordance with table 3.1.1.

3.1.2 Surface of Vehicle Parking Spurs. The surface of vehicle parking spurs shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

Table 3.1.1 Minimum Number of Accessible Recreational Vehicle (RV) Parking Areas.

Number of Camping Units	Maximum Number of Accessible RV Parking Areas in Units Designed for Recreational Vehicles and Trailers
1	1
2 to 25	2
26 to 50	3
51 to 75	4
76 to 100	5
101 to 150	7
151 to 200	8
201 and over	8, plus 2 percent of the number more than 200





3.1.3 Slope of Vehicle Parking Spurs

3.1.3.1 The slope of vehicle parking areas shall not exceed 1:48 (2 percent) in any direction, as shown in figure 8.

Exception: When the surface is not paved, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

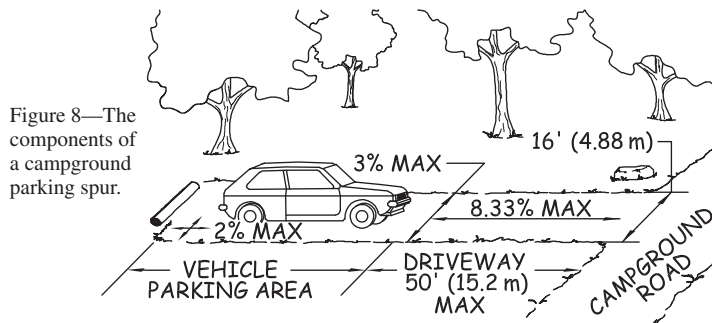


Figure 8—The components of a campground parking spur.

3.1.3.2 The running slope (grade) of driveways shall be no more than 1:12 (8.33 percent) for no more than 50 feet (15 meters).

Exception 1. A running slope of up to 1:10 (10 percent) for driveways is permitted for up to 30 feet (9 meters).

Exception 2. For alteration only, not new construction, if exception 1 of section 3.1.3.2 cannot be met because one or more conditions for exception in section 1.1 exist, a running slope of no more than 1:10 (10 percent) is permitted for no more than 50 feet (15 meters).

3.1.3.3 The cross slope of driveways shall not exceed 1:33 (3 percent).

Exception: The cross slope of driveways may be no more than 1:20 (5 percent) where needed to ensure proper drainage or to transition from the running slope of a campground road, as shown in figure 9.

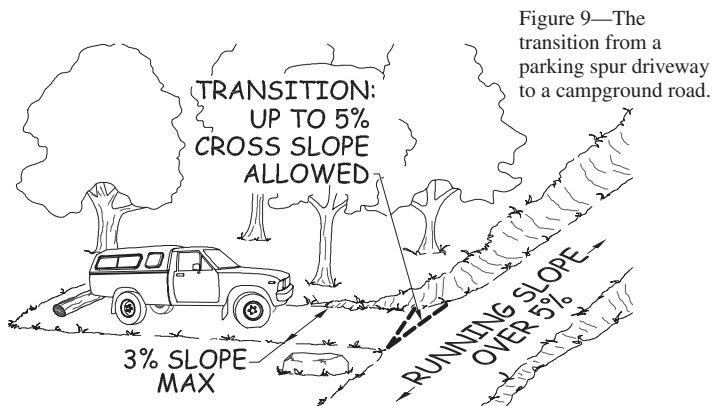


Figure 9—The transition from a parking spur driveway to a campground road.

3.1.4 Width of Campsite and Dump Station Vehicle Parking Areas

3.1.4.1 The width of non-RV campsite vehicle parking areas shall be at least 16 feet (4,880 millimeters).

Exception 1. Where the width of a vehicle parking area cannot be at least 16 feet (4,880 millimeters) because one or more conditions for exception in section 1.1 exist, the width of the vehicle parking area may be reduced to no less than 13 feet (3,960 millimeters), with the following limitations:

- Where only one or two vehicle parking areas are provided, no exception is permitted.
- Where 3 to 10 vehicle parking areas are provided, no exception is permitted for 2 of the vehicle parking areas.
- Where more than 10 vehicle parking areas are provided, no exception is permitted for 20 percent of the vehicle parking areas.

Exception 2. Where a double camping unit is provided with two parking areas so that two vehicles can park side-by-side, the total width of the vehicle parking area may be reduced from 32 feet (9,760 millimeters) to 24 feet (7,320 millimeters).

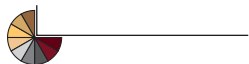
3.1.4.2 Where RV camping units or dump stations are provided, vehicle parking areas for recreational vehicles and trailers that are required to be accessible in accordance with table 3.1.1 shall be at least 20 feet (6,100 millimeters) wide. The 20-foot width requirement applies only to the RV parking area and does not apply to the driveway of a parking spur or dump station.

Exception: Where a double camping unit or dump station is provided to accommodate two RVs or trailers side by side, the total width of the vehicle parking area may be reduced from 40 feet (12 meters) to 36 feet (11 meters).

3.2 Camping Units

3.2.1 General. Where camping units are provided in a campground, section 4.0 and 5.0 shall apply to each camping unit. Camp living areas shall comply with section 3.2. Vehicle parking spaces shall comply with section 3.1.

3.2.2 ORARs in Camping Units. Connections shall be provided between site furnishings and constructed features in camping units, as well as between accessible camping units, parking areas, and accessible common use features in compliance with section 2.0.





3.2.3 Surface. The ground surface in all camp living areas shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

3.2.4 Slope. The ground surface in all camp living areas shall have a slope of no more than 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

3.2.5 Camp Living Areas. All constructed features provided in a camp living area shall comply with applicable provisions in sections 4.0 and 5.0.

3.2.5.1 Where walk-in camping is provided, an ORAR connecting the camp living area to the parking area shall be provided in accordance with section 2.0.

3.2.6 Identification of Accessible Camping Units. Accessible camping units shall be identified at an entrance kiosk, on a bulletin board, or on a sign at the registration area of a campground. They shall not be identified using individual signs adjacent to the camp units.

Exception 1. Identification of accessible camping units is not required at campgrounds where all camping units are accessible.

Exception 2. Identification of accessible camping units is not required where camping units are assigned upon arrival or through a reservation system.

3.3 Picnic Units

3.3.1 General. Site furnishings and constructed features provided in picnic units shall comply with the applicable provisions of sections 4.0 and 5.0 of the FSORAG.

3.3.2 ORARs in Picnic Units. Connections shall be provided between site furnishings and constructed features in picnic units as well as between accessible picnic units, parking areas, and accessible common use features in compliance with section 2.0.

3.3.3 Identification of Accessible Picnic Units. Where not all picnic units are accessible, the picnic units that are accessible shall not be identified by signs at the individual units. Information on the location of accessible picnic units shall be provided on Web sites, in brochures, and at bulletin boards or information kiosks if available at the picnic facility.

3.4 Viewing Areas

3.4.1 General Viewing Area Exceptions:

Exception 1. Where multiple viewing areas at overlooks are provided, at least one of each viewing opportunity for distinct points of interest shall be accessible.

Exception 2. When a new viewing area is constructed, or an existing viewing area is altered or reconstructed, if a condition for exception in section 1.1 prohibits full compliance with a specific requirement in section 3.4, the viewing area shall comply with the specific requirement to the extent practicable.

3.4.2 ORARs in Viewing Area. Connections shall be provided between site furnishings and constructed features in viewing areas as well as between accessible viewing areas, parking areas, and accessible common use features in compliance with section 2.0.

Exception. Where a condition for an exception in section 1.1 prohibits full compliance with a specific technical requirement on a portion of an ORAR for a viewing area, that portion of the ORAR shall comply with the specific requirement to the extent practicable.

3.4.3 Unrestricted Viewing Opportunities. Each viewing area that is required to be accessible by section 3.4.1 shall provide at least one unrestricted viewing opportunity that accommodates eye levels between 32 inches (815 millimeters) minimum and 51 inches (1,295 millimeters) maximum above the ground or floor.

Where there is a dropoff of more than 30 inches (762 millimeters), a guard railing or barrier that complies with the height and opening requirements of the International Building Code sections 1013.2 and 1013.3 (2006 edition) shall be provided. One way to provide both safety and viewing is shown in figure 10.

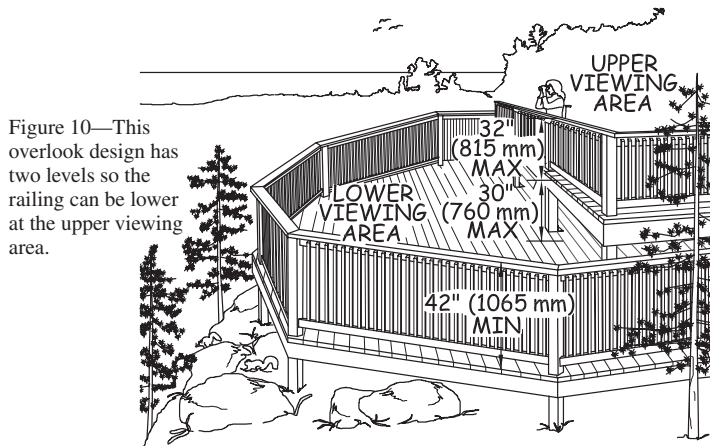


Figure 10—This overlook design has two levels so the railing can be lower at the upper viewing area.





3.4.4 Clear Ground Space and Turning Space. Each viewing area that is required to be accessible by section 3.4.1 shall have a clear ground or floor space 36 inches (915 millimeters) minimum by 48 inches (1,220 millimeters) minimum positioned for either forward or parallel approach to the viewing location, and at least one turning space that complies with section 304.3 of the ABAAS, as shown in figures 11 and 12.

3.4.5 Grade. The clear ground space and turning space required by section 3.4.3 shall have a slope of no more than 1:48 (2 percent) in any direction.

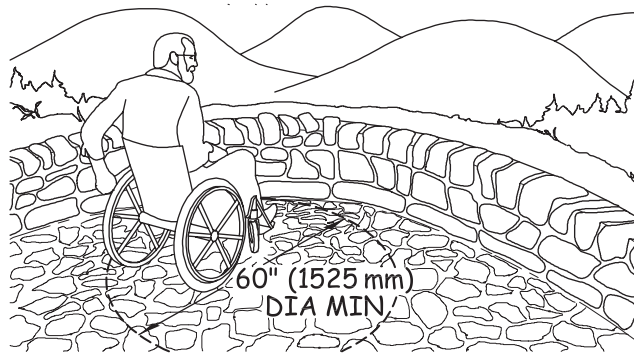


Figure 11—One way to meet the requirements for turning space at a viewing area.

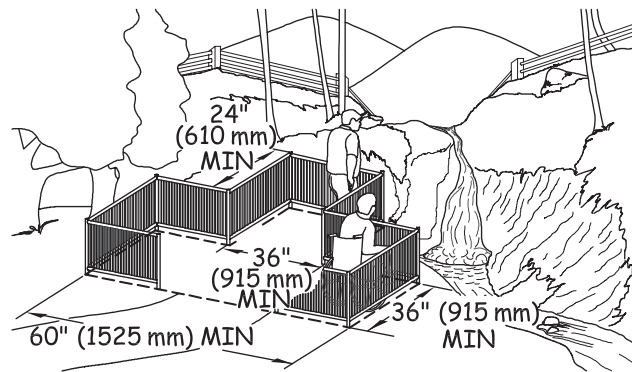


Figure 12—The requirements for a T-shaped turning space at a viewing area.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

3.4.6 Surface. The surface of each viewing area shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

3.4.7 Openings. Openings in the clear ground space and turning space surface shall not allow passage of a sphere more than ½-inch (13 millimeters) diameter. Elongated openings shall be placed perpendicular, or as close to perpendicular as possible, to the main direction of travel.

3.4.8 Viewing Areas Accessed by Vehicular Ways. Where a viewing area is accessed by a vehicular way and parking spaces are provided adjacent to the viewing area, the accessible parking spaces shall be connected to the viewing areas by an ORAR complying with 2.0. The ORAR shall connect the distinct viewing locations, accessible outdoor constructed elements, and other accessible elements, accessible spaces, and accessible facilities in the viewing area.

3.5 Use of the International Symbol of Accessibility (ISA) and Other Signs

3.5.1 General. Per section F216 of the ABAAS, the ISA (figure 13) shall be posted at the following six locations:

- Accessible parking spaces in parking lots where there are five or more designated parking spaces, including accessible parking spaces.
 - ◊ VAN accessible parking spaces in lots must be signed as such.
 - ◊ RV accessible parking spaces in lots must be signed as such.
- Accessible loading zones.
- Accessible restrooms and bathing facilities.



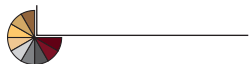
Figure 13—International symbol of accessibility.

- In the vicinity of the closest accessible entrance if the main entrance to a building is not accessible.
- Accessible means of egress out of a building.
- Accessible areas of refuge inside multistory buildings.

In addition, the ISA may only be posted at the entrance to recreation areas with Recreation Site Development Scale level of 3 or higher, where **ALL** constructed features within that recreation area comply with applicable provisions of the ABAAS and FSORAG.

Use of the ISA for identification of accessible camping units shall conform to 3.2.6; identification of accessible picnic units shall conform to section 3.3.3.

3.5.2 Color of the ISA. Per section 703.7 of the ABAAS, the ISA shall be posted in high-contrast colors. The ISA is not required to be blue and white when posted on Federal lands.





3.5.2.1 To be enforceable at accessible parking spaces, the ISA must comply with the Manual on Uniform Traffic Control Devices (MUTCD) section 2B.35 that requires the ISA to be displayed in blue and white.

3.5.2.2 Where parking spaces are paved, any pavement markings designating accessible parking spaces must be blue, per the MUTCD section 3A.05.

3.5.3 Signs in General. If materials need to be obtained from or manipulated on a sign or kiosk, the sign or kiosk shall be designed to meet the reach ranges in section 308 of the ABAAS and shown in figures 14 through 19.

Figure 14—The requirements for unobstructed forward reach.

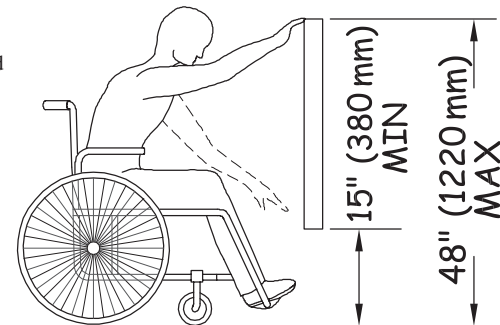


Figure 15—The requirements for obstructed high forward reach, narrower obstacles.

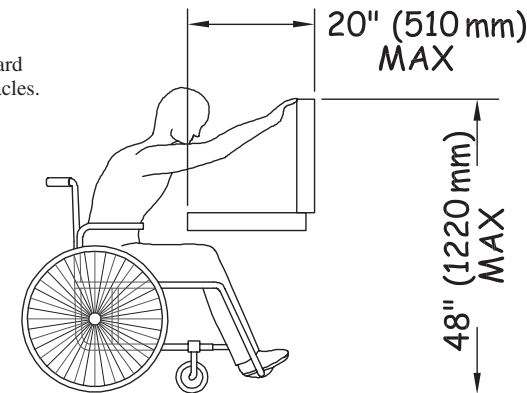


Figure 16—The requirements for obstructed high forward reach, wider obstacles.

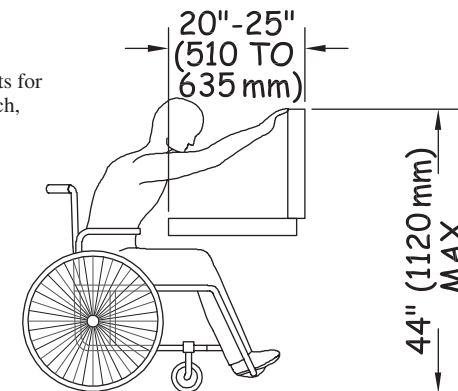


Figure 17—The requirements for unobstructed side reach.

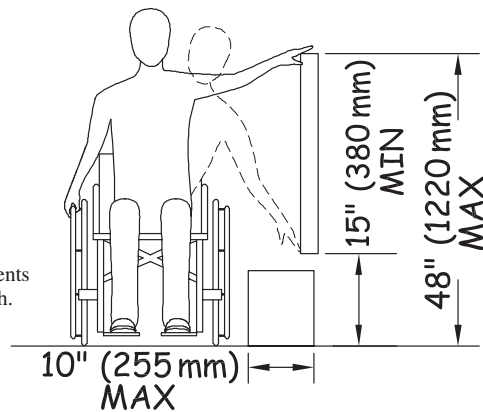


Figure 19—The requirements for obstructed high side reach, wider obstacles.

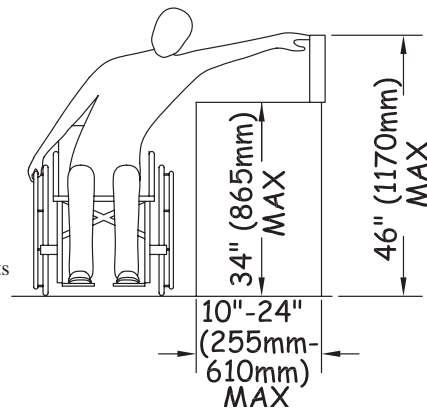
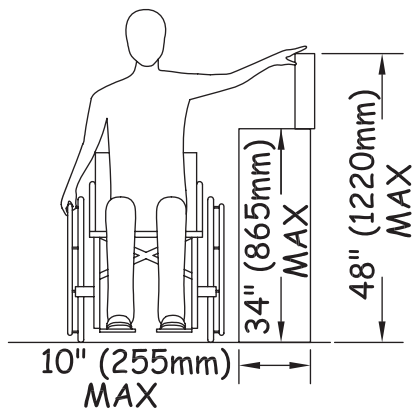


Figure 18—The requirements for obstructed high side reach, narrower obstacles.





4.0 Constructed Features in Recreation Sites

4.1 Picnic Tables

4.1.1 General Picnic Table Exception: In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.

4.1.2 Number of Wheelchair Seating Spaces. Each picnic table shall have at least one wheelchair seating space. Picnic tables shall have at least one wheelchair seating space for each 24 linear feet (7 linear meters) of usable table surface perimeter, as shown in table 4.1.2. Each wheelchair seating space shall comply with sections 4.1.3 through 4.1.6.

Table 4.1.2 Number of Wheelchair Seating Spaces.

Tabletop Perimeter	Typical Table Length for 2 foot 6 inch (760 millimeters) Table Width	Number of Wheelchair Seating Spaces Required
Up to 24 linear feet (7 linear meters)	Up to a 9-foot table (3 meters)	1 space
24 to 48 linear feet (7 to 15 meters)	10- to 20-foot table (3.1 to 6 meters)	2 spaces
48 to 72 linear feet (15 to 22 meters)	Depends on table configuration	3 spaces
72 to 96 linear feet (22 to 29 meters)	Depends on table configuration	4 spaces
96 to 120 linear feet (29 to 37 meters)	Depends on table configuration	5 spaces

4.1.3 Wheelchair Seating Space. Knee space for wheelchair seating shall be at least 27 inches (685 millimeters) high, 30 inches (760 millimeters) wide, and 19 inches (485 millimeters) deep. Toe clearance of at least 9 inches (230 millimeters) in height shall extend at least an additional 5 inches (125 millimeters) from the knee clearance, as shown in figure 20. Clear floor or ground space that is at least 30 inches by 48 inches shall be provided at each seating space that is required to be accessible and positioned for a forward approach to the table.

4.1.4 Clear Floor or Ground Space. At least 48 inches (1,220 millimeters) of clear floor or ground space shall surround the usable sides of a picnic table, measured from the back edge of the benches, as shown in figure 21. This space may overlap the ORAR.

Exception: The clear floor or ground space for a picnic table may be reduced to no less than 36 inches (915 millimeters), where one or more conditions for an exception in section 1.1 exist.

4.1.5 Slope. The slope of the surface of the clear floor or ground space around a picnic table shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, grades not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

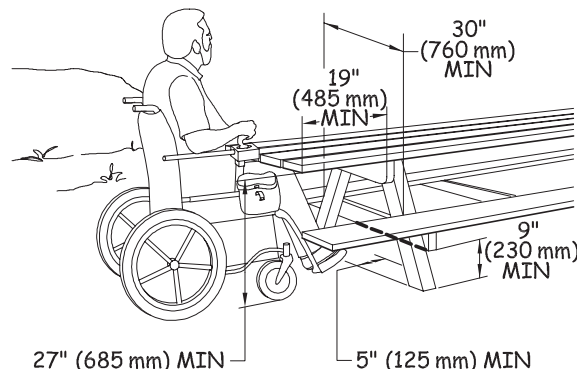


Figure 20—The requirements for knee and toe space at a picnic table.

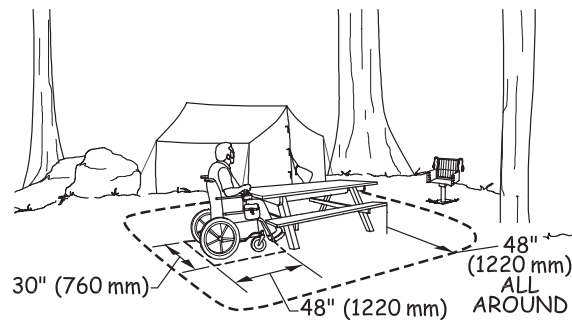


Figure 21—The requirements for clear space at a picnic table.





4.1.6 Surface. The surface of the clear floor or ground space shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

4.2 Fire Rings, Grills, Fireplaces, and Wood Stoves

4.2.1 General Fire Ring, Grill, Fireplace, and Woodstove

Exception: In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface, slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.

4.2.2 Cooking Surface Height. The cooking surface shall be at least 15 inches (380 millimeters) and no more than 34 inches (865 millimeters) above the floor or ground surface, as shown in figure 22.

4.2.3 Operable Parts. Operable parts shall be within the reach ranges shown in the drawings in section 3.5.3 and must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less.

Exception: Fire rings, grills, fireplaces, and wood stoves must comply with reach ranges but are not required to comply with other operability requirements until models that comply are readily available from more than one source.

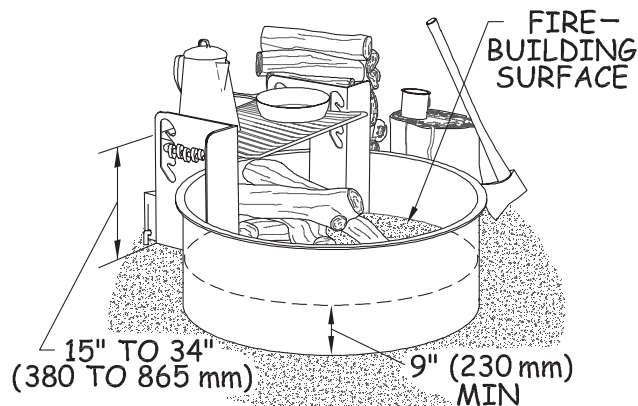


Figure 22—The height requirements for manufactured steel fire rings.

4.2.4 Height of Fire-Building Surface. The fire-building surface within a fire ring shall be at least 9 inches (230 millimeters) above the floor or ground.

4.2.5 Raised Edge. Where fire rings, grills, or fireplaces are constructed with raised edges or walls, the depth of the raised edge or wall shall be 10 inches (255 millimeters) maximum, as shown in figure 23.

Figure 23—The height, clear space, and reach requirements for an outdoor fireplace.

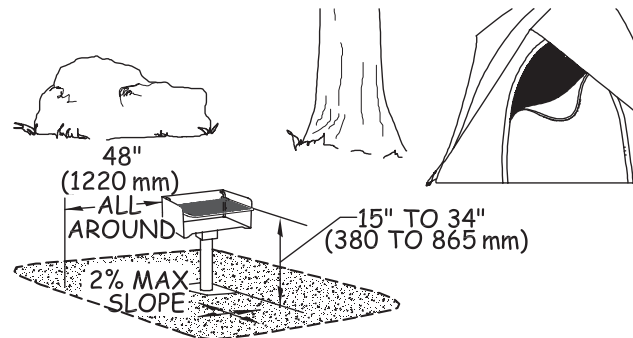
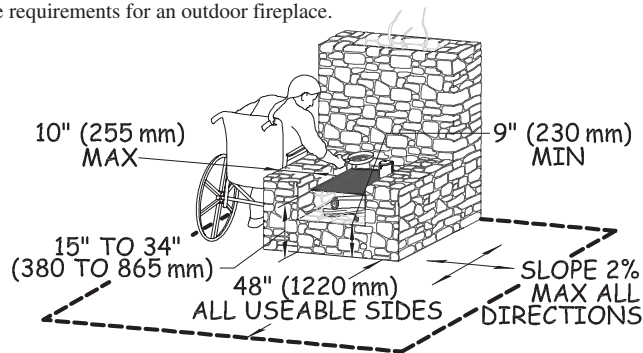


Figure 24—The requirements for height, clear space, and reach range for a pedestal grill.

4.2.6 Clear Floor or Ground Space. At least 48 inches (1,220 millimeters) by 48 inches (1,220 millimeters) of clear floor or ground space shall be provided on all usable sides of fire rings, grills, fireplaces or woodstoves, as shown in figure 24. This space must be adjacent to the ORAR but may not overlap the ORAR, due to safety considerations.

Exception: The clear floor or ground space at fire rings, grills, fireplaces, or woodstoves may be reduced to no less than 36 inches (915 millimeters), where a condition for an exception in section 1.1 exists.

4.2.7 Surface. The surface of the clear floor or ground space shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

4.2.8 Slope. The slope of the clear floor or ground space required by section 4.2.6 shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.





4.3 Tent Pads and Tent Platforms

4.3.1 General. Tent platforms are not required. Where provided, tent pads and tent platforms at single camping units shall comply with section 4.3 and shall be connected to an ORAR complying with section 2.0. Where camping units contain more than one tent pad or tent platform, at least 20 percent, but not less than two, of the tent pads or tent platforms shall comply with section 4.3.

4.3.2 Clear Floor or Ground Space. Tent pads and tent platforms shall have clear floor or ground space surrounding the tent that is at least 48 inches (1,220 millimeters) wide, as shown in figure 25. This space shall not overlap the ORAR.

Exception: Where a condition for exception in section 1.1 prohibits full compliance, the clear floor or ground space shall comply with section 4.3.2 to the extent practicable.

4.3.3 Slope. The slope of tent pads and tent platforms shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

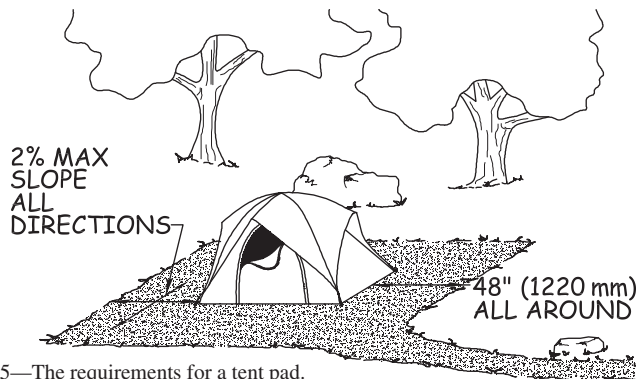


Figure 25—The requirements for a tent pad.

4.3.4 Tent Pad or Platform Surface. Tent pads and tent platforms shall have a surface that is firm and stable and is designed to allow use of tent stakes and other tent-securing devices.

Exception: Where a condition for exception in section 1.1 prohibits full compliance, the surface shall comply with section 4.3.4 to the extent practicable.

4.3.5 Transfer Height. Tent platform surfaces that are not the same elevation as the ORAR shall be between 17 inches (430 millimeters) minimum and 19 inches (485 millimeters) maximum above the floor or ground surface adjacent to the ORAR to facilitate transfer from a wheelchair to the tent platform.

4.4 Benches

4.4.1 General. Where benches are provided, each shall comply with section 4.4. At least 20 percent of the benches provided at a recreation site shall be connected to an ORAR complying with section 2.0.

Exception 1. Section 4.4.1 does not apply to built-in benches provided in assembly areas such as amphitheaters. These benches are covered by sections F221.2.1.1, F221.2.2, and 903 of the ABAAS and are the same as for assembly areas inside a building.

Exception 2. In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface, slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.

4.4.2 Height. The front edge of the seat of a bench shall be at least 17 inches (430 millimeters) and no more than 19 inches (485 millimeters) above the floor or ground, as shown in figure 26.

4.4.3 Backrest and Armrest. When more than one bench is provided in the same area, at least 50 percent of the benches shall have a backrest running the full length of the bench. In addition, one armrest shall be provided at one end or in the

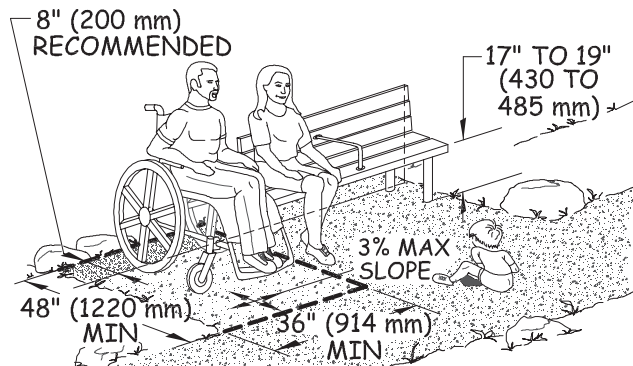


Figure 26—The requirements for benches.

middle of at least 50 percent of the benches with backrests. Materials used in bench backs, armrests, and mounting devices must be capable of supporting vertical or horizontal forces of 250 pounds (1,112 Newtons) applied at any point.

4.4.4 Clear Floor or Ground Space. A clear floor or ground space of 36 inches (915 millimeters) by 48 inches (1,220 millimeters) shall be located at an end of the bench with one side of the space adjoining an accessible route, ORAR, trail, or beach access route. The long dimension of the clear space shall be roughly perpendicular to the length of the bench.





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

The clear floor or ground space shall not overlap the ORAR or trail.

4.4.5 Slope. The slope of the clear floor or ground space for benches shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

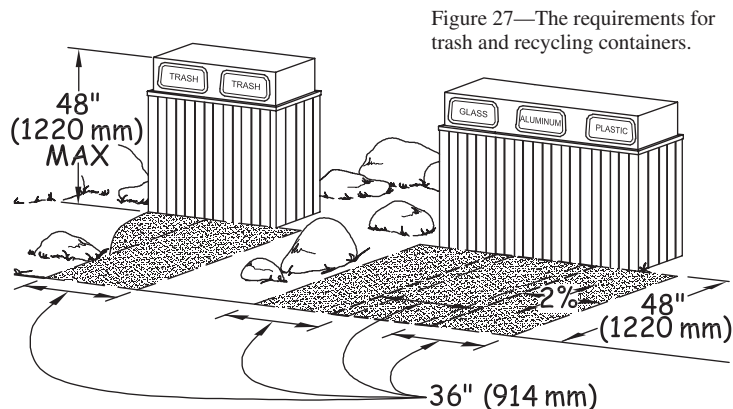
4.4.6 Surface. The surface of the clear floor or ground space for benches shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

4.5 Trash, Recycling, and Other Essential Containers

4.5.1 General Trash, Recycling, and Other Essential Container Exceptions:

Exception 1. Fifty percent of the bins in multibin containers are exempt from section 4.5.1, as shown in figure 27.

Exception 2. In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface, slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.



4.5.2 Clear Floor or Ground Space. A clear floor or ground space shall be provided for each trash, recycling, and other essential container. The space shall be positioned for either forward or side approach to the container opening and be adjacent to or overlap the ORAR.

4.5.2.1 The clear floor or ground space for a forward approach shall be 36 inches (915 millimeters) by 48 inches (1,220 millimeters).

4.5.2.2 The clear floor or ground space for a side approach shall be 30 inches (760 millimeters) by 60 inches (1,525 millimeters).

4.5.3 Slope. The slope of the clear floor or ground space for trash, recycling, and other essential containers shall not exceed 1:48 (2 percent) in any direction.

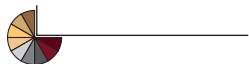
Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

4.5.4 Surface. The surface of the clear floor or ground space for trash, recycling, and other essential containers shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

4.5.5 Controls and Operating Mechanisms. Controls and operating mechanisms shall be within the reach ranges shown in the drawings in section 3.5.3 and must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less.

Exception: Trash and recycling containers with hinged lids and controls designed to keep out large animals must comply with reach ranges but are not required to comply with other operability requirements until models that comply are readily available from more than one source.

4.5.6 Openings. Openings in the clear floor or ground space surface shall not allow passage of a sphere more than ½-inch (13 millimeters) diameter. Elongated openings shall be placed so that the long dimension is perpendicular, or as close to perpendicular as possible, to the main direction of travel.





4.6 Telescopes and Periscopes

4.6.1 General. Where telescopes or periscopes are provided, no fewer than two telescopes or periscopes shall be provided at each distinct viewing location in a viewing area. At least one telescope or periscope for each viewing location shall comply with section 4.6. The other telescopes shall be usable from a standing position. Telescopes or periscopes at different heights can be mounted separately or on a single pedestal.

Exception: In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface, slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.

4.6.2 Operable Parts. Controls and operating mechanisms for telescopes and periscopes that are usable from a seated position shall be within the reach ranges shown in the drawings in section 3.5.3 and must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less.

4.6.3 Eyepiece. The eyepiece for the telescope or periscope that is usable from a seated position for viewing each point of interest shall be positioned 43 inches (1,090 millimeters) minimum and 51 inches (1,295 millimeters) maximum above the floor or ground surface, as shown in figure 28.

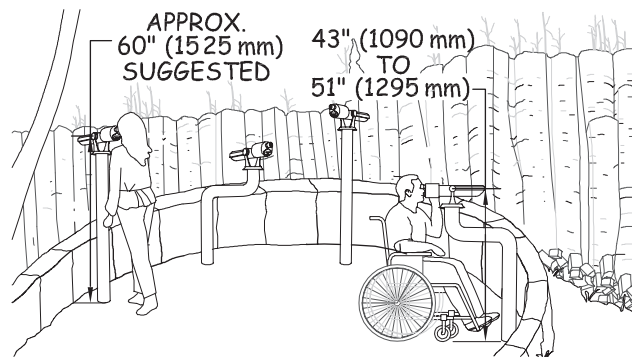


Figure 28—Requirements for viewing heights of telescopes and periscopes.

4.6.4 Clear Floor or Ground Space. The clear floor or ground space for telescopes and periscopes shall be at least 36 inches (915 millimeters) by 48 inches (1,220 millimeters) positioned for forward approach to the telescope or periscope and be located adjacent to an ORAR. Knee and toe clearance complying with ABAAS section 306 shall be provided under the telescope or periscope, as shown in figure 29. Clear floor or ground space shall be positioned so that the eyepiece of the telescope or periscope is centered on the space.

4.6.5 Slope. The slope of the clear floor or ground space required by section 4.6.4 shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

4.6.6 Surface. The surface of the clear floor or ground space required by section 4.6.4 shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

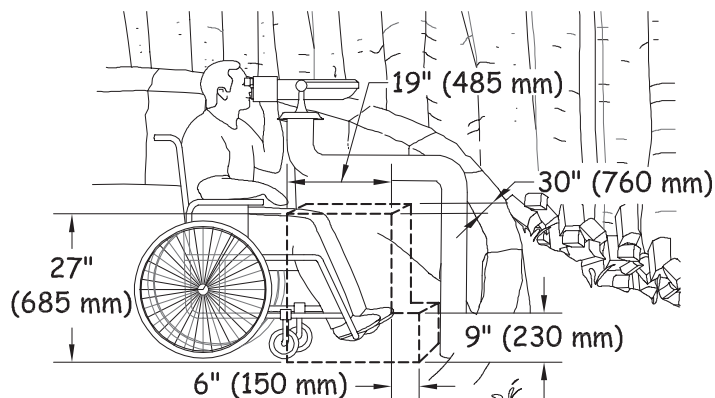


Figure 29—The requirements for knee and toe space at telescopes and periscopes.

4.6.7 Openings. Openings in the clear floor or ground space surface shall not allow passage of a sphere more than ½-inch (13 millimeters) diameter. Elongated openings shall be placed so that the long dimension is perpendicular, or as close to perpendicular as possible, to the main direction of travel.





4.7 Utilities Including Water Hydrants at Recreation Sites

4.7.1 General. All utilities required to be accessible shall be connected to an ORAR complying with section 2.0.

Exception: In alterations, where a condition for exception in section 1.1 prohibits full compliance with a specific requirement for clear floor or ground space surface, slope, size, or location, the clear floor or ground space shall comply with requirements to the extent practicable.

4.7.2 Controls and Operating Mechanisms. Controls and operating mechanisms shall be within the reach ranges shown in the drawings in section 3.5.3 and must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less.

Exception 1. Water hydrants and water utility hookups must comply with the reach range requirements but shall not be required to comply with the other operability requirements in section 4.7.2 until models that comply are readily available from more than one source.

Exception 2. Sewage hatches shall not be required to comply with section 4.7.2.

4.7.3 Slope. The slope of the clear floor or ground spaces required by section 4.0 shall not exceed 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

4.7.4 Surface. The surface of the clear floor or ground spaces required by section 4.0 shall be firm and stable. The type of surface should be appropriate to the setting and level of development.

4.7.5 Openings. Openings in the surface of the clear floor or ground spaces required by section 2.0 shall not allow passage of a sphere more than a 1/2-inch (13 millimeters) diameter. Elongated openings shall be placed so that the long dimension is perpendicular, or as close to perpendicular as possible, to the main direction of travel.

4.7.6 Water Hydrant Clear Floor or Ground Space. Clear floor or ground space around a water hydrant shall be 48 inches (1,220 millimeters) by 72 inches (1,830 millimeters) with the long side of the space adjoining an ORAR, trail, beach access route, or another clear ground space, as shown in figure 30. The clear space at the water hydrant shall not overlap the ORAR, trail or beach access route leading to or passing that water hydrant.

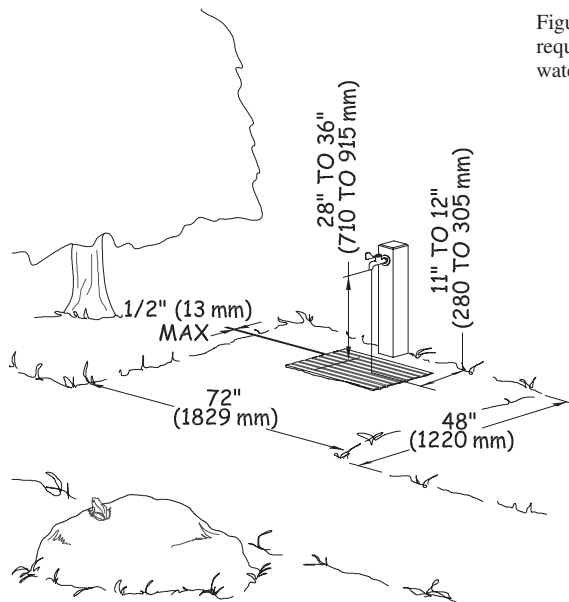


Figure 30—The requirements for water hydrants.

4.7.7 Water Spouts. Water spouts shall be located in the space so that the water spout is 11 inches (280 millimeters) minimum and 12 inches (305 millimeters) maximum from the rear center of the long side of the clear floor or ground space. Water spouts must be 28 inches (710 millimeters) minimum and 36 inches (915 millimeters) maximum above the ground or floor.

4.7.8 Utility and Dump Station Hookup Clear Floor or Ground Space.

The clear floor or ground space around utility and dump station hookups shall be at least 30 inches (760 millimeters) by 60 inches (1,525 millimeters). The clear space shall be located with the long side of the space adjoining or overlapping an accessible parking space or accessible pullup space for recreational vehicles, or an ORAR connecting the accessible vehicle pullup space to the hookups. Hookups shall be located at the rear center of the space. Clear spaces of adjacent utility hookups may overlap, as shown in figure 31. Bollards or other barriers shall not obstruct the clear floor or ground space in front of the hookups.

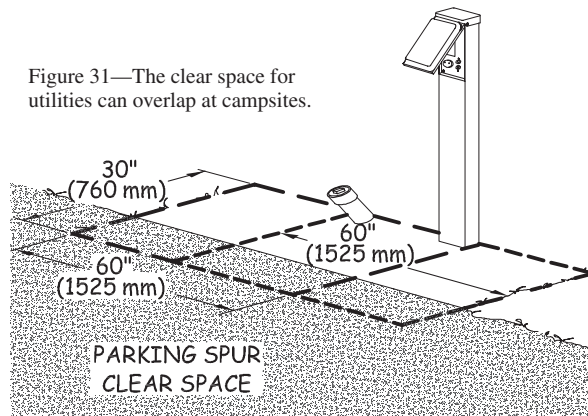


Figure 31—The clear space for utilities can overlap at campsites.



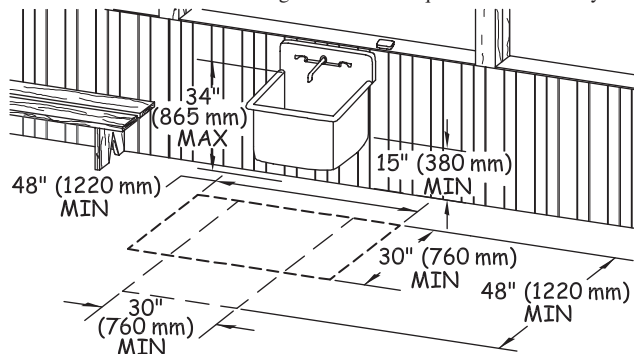


4.7.9 Utility Sinks

4.7.9.1 Where 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 one in each accessible space, shall comply with section 4.7.9 and shall be connected to an ORAR complying with section 2.0.

4.7.9.2 Clear floor or ground space 48 inches (1,220 millimeters) by 30 inches (760 millimeters) oriented for a forward or parallel approach shall be provided for utility sinks required to meet section 4.7.9, as shown in figure 32. This space shall not overlap the ORAR.

Figure 32—The requirements for utility sinks.



4.7.9.3 The counter or rim of the sink shall be no more than 34 inches (865 millimeters) above the floor or ground. Water spouts must be 28 inches (710 millimeters) minimum and 36 inches (915 millimeters) maximum above the ground or floor.

4.7.9.4 The bottom of the bowl shall be at least 15 inches (380 millimeters) above the floor or ground.

4.8 Outdoor Rinsing Showers

4.8.1 General. Outdoor rinsing showers shall provide a handheld shower spray unit with a hose 59 inches (1,500 millimeters) long and at least one fixed spray position between 15 inches (380 millimeters) and 48 inches (1,220 millimeters) above the ground. On-off controls shall deliver water no hotter than 120 °F (49 °C).

Exception: In facilities where vandalism is a consideration, two fixed shower heads may be provided instead of the handheld shower spray. One fixed shower head shall be 48 inches (1,220 millimeters) above the floor or ground surface, and one fixed shower head shall be 72 inches (1,830 millimeters) minimum above the floor or ground surface, as shown in figure 33.

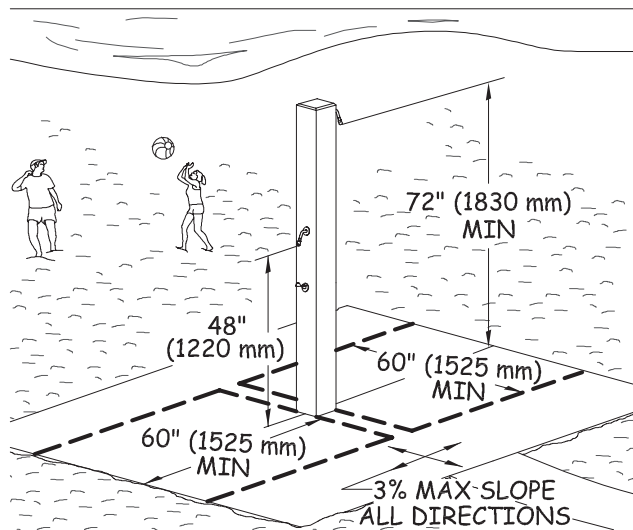


Figure 33—The requirements for fixed shower heads for outdoor rinsing showers.

4.8.2 Clear Floor or Ground Space. The clear floor or ground space around outdoor rinsing showers shall be 60 inches (1,525 millimeters) by 60 inches (1,525 millimeters). The space shall be centered on the showerhead and located so that the shower head is at the rear of the space.

5.0 Buildings in Recreation Sites

5.1 Camp Shelters

5.1.1. General. Camp shelters at single camping units shall comply with section 5.1. Where camping units contain more than one camp shelter, at least 20 percent, but not less than two, of the camp shelters shall comply with section 5.1. Camp shelters located on trails shall be connected to other constructed features in the unit by a trail complying with the FSTAG. Camp shelters located in a campground, not on a trail, shall be connected to other constructed features by an ORAR complying with section 2.0.

5.1.2 Level or Sloped Entry. Camp shelters providing roll-in access shall have a level or sloped entry that complies with the FSORAG ORAR technical requirements if the camp shelter is in a campground with a development level of 3 or higher. If the camp shelter is located off a trail, the sloped entry must comply with the FSTAG trail requirements.

5.1.3 Slope. The slope of the surface of the clear floor or ground space inside the camp shelter shall not be steeper than 1:48 (2 percent) in all directions.





5.1.4 Turning Space. Where the camp shelter floor is not elevated above the trail or ORAR, a turning space that is at least 60 inches (1,525 millimeters) in diameter or T-shaped with a minimum 36 inches (915 millimeters) wide by 24 inches (610 millimeters) deep base centered on a minimum 36 inches (915 millimeters) wide by 60 inches (1,525 millimeters) long crossarm shall be provided.

5.1.5 Floor Height. Where the floor at the entrance to the camp shelter is elevated above the ground surface, the floor shall be 17 inches (430 millimeters) high minimum to 19 inches (485 millimeters) high maximum measured from the clear ground space to the floor surface inside the camp shelter.

5.1.6 Clear Floor or Ground Space. A clear floor or ground space at least 36 inches (915 millimeters) by 48 inches (1,220 millimeters) positioned for a parallel approach shall be provided at the elevated entrance to the camp shelter. One full unobstructed side of the clear ground space shall adjoin or overlap the trail or ORAR, as applicable, or another clear ground space.

5.1.7 Surface. The surface of the clear ground space shall be firm and stable.

5.1.8 Slope. The slope of the surface of the clear ground space shall not be steeper than 1:48 (2 percent) in any direction.

Exception: When the surface is not paved or is not elevated above the natural ground, slopes not steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.

5.1.9 Doors. Where provided, doors shall comply with ABAAS section 404, the same as for doors for buildings at administrative sites. The door shall not swing into or otherwise obstruct the clear floor or ground space or the turning space required by section 5.1.4.

5.2 Toilet Buildings

5.2.1 General. All toilet buildings with one riser at recreation sites with a Forest Service Recreation Site Development Scale of 3 or higher shall comply with sections 603, 604.4, 604.5, 604.6, and 604.7 of the ABAAS, which are the same requirements for size and clearance of toilet rooms, toilet seats, grab bars, mirrors, coat hooks, flush controls, and dispensers (if present) as for toilets in administrative buildings. All toilet buildings at recreation sites with a Forest Service Recreation Site Development Scale level of 3 or higher with multiple risers shall comply with all applicable sections of the ABAAS, the same as for buildings at administrative sites.

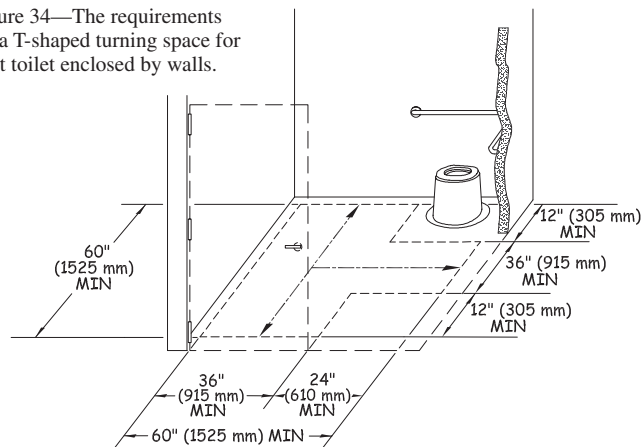
5.3 Pit Toilets

5.3.1 General. Pit toilets may only be provided in Forest Service recreation sites with a Recreation Site Development Scale level of 2 or less or at remote cabin locations. All pit toilets shall comply with section 5.3 and be connected to an ORAR complying with section 2.0. Where pit toilets are constructed in sites that are not accessed by motor vehicles, the pit toilet and all constructed features in the site shall be connected by trail segments complying with the FSTAG.

5.3.2 Turning Space and Clear Floor or Ground Space. Turning space and clear floor or ground space complying with section 5.3 shall be provided at pit toilets.

5.3.2.1 The clear floor or ground space shall be 60 inches (1,525 millimeters) wide minimum measured parallel with the back of the pit toilet, and 56 inches (1,420 millimeters) deep minimum measured parallel to the sides of the pit toilet. A turning space that is at least 60 inches (1,525 millimeters) in diameter or T-shaped with a minimum 36 inches (915 millimeters) wide by 24 inches (610 millimeters) deep base centered on a minimum 36 inches (915 millimeters) wide by 60 inches (1,525 millimeters) long crossarm shall be provided, as shown in figure 34. The turning space and clear floor or ground space may overlap.

Figure 34—The requirements for a T-shaped turning space for a pit toilet enclosed by walls.



5.3.2.2 The surface of the turning space and clear floor or ground space shall be firm and stable.

5.3.2.3 The slope of the turning space and clear floor or ground space surface shall not be steeper than 1:48 (2 percent) in all directions.

Exception: When the surface is not paved or is not elevated above the natural ground, no slopes steeper than 1:33 (3 percent) shall be permitted where necessary for drainage.





5.3.3 Seats.

5.3.3.1 The total height of the toilet seat on the riser for a pit toilet shall be between 17 inches (430 millimeters) and 19 inches (485 millimeters) above the floor or ground surface.

5.3.3.2 Where walls or partitions are provided, the seat shall be positioned with a wall or partition to the rear and to one side of the seat for a left-hand or right-hand approach. The back of the riser shall be flush against the back wall. The centerline of the seat shall be 16 inches (405 millimeters) minimum to 18 inches (455 millimeters) maximum from the side wall or partition.

5.3.3.3 Where walls or partitions are not provided, the seat shall be positioned in a corner of the clear floor or ground space required by section 5.3.2 for a left-hand or right-hand approach. The back of the seat shall be flush against the perimeter of the clear floor or ground space, as shown in figure 35.

5.3.4 Grab Bars. Where walls or partitions are provided, grab bars complying with ABAAS section 604.5 and 609 shall be provided, the same as for grab bars for toilets in administrative buildings. Required locations are shown in figure 36.

Exception: Where the walls or partitions cannot support a vertical or horizontal force of 250 pounds (1,112 Newtons), grab bars shall not be installed. In such cases, the riser shall

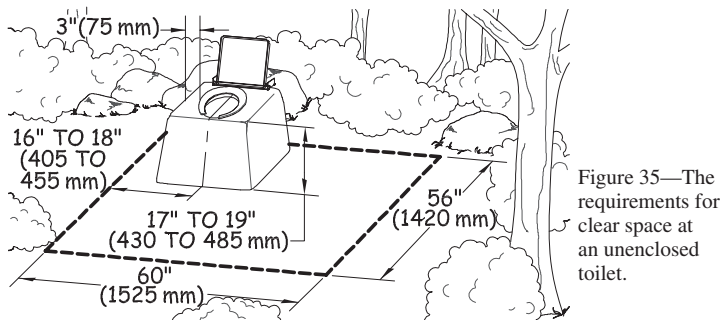


Figure 35—The requirements for clear space at an unenclosed toilet.

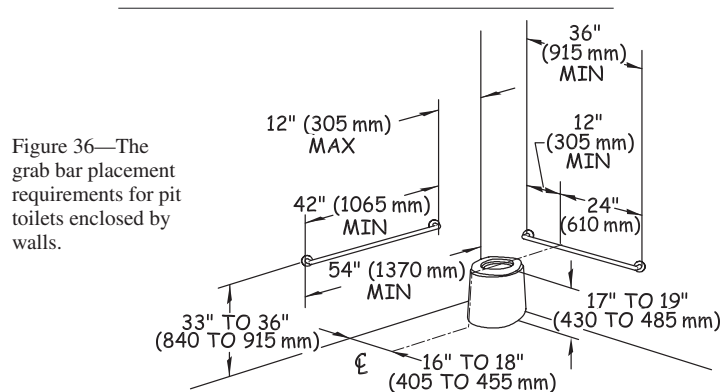


Figure 36—The grab bar placement requirements for pit toilets enclosed by walls.

have vertical or nearly vertical sides and a flat area on each side of the seat that is about 3 inches (75 millimeters) wide.

5.3.5 Doors. Where provided, doors shall comply with ABAAS section 404, the same as doors for buildings at administrative sites. The door shall not swing into or otherwise obstruct the clear floor or ground space required by section 5.3.2.1.

5.3.6 Entrance. The entrance to the toilet shall be level with the surrounding surface.

Exception: Where bedrock, permafrost, or other environmental conditions prohibit a level entry or the toilet design (such as a composting toilet) necessitates a raised toilet structure, a sloped entry complying with the FSTAG provisions for a trail may connect the toilet entrance with the trail or ORAR. A 60-by 60-inch (1,220 by 1,220 millimeters) level landing must be provided outside the door to the toilet. Sloped entries do not require handrails.

6.0 Beach Access Routes

6.1 General—Beach access routes shall be permanent or removable surfaces. Removable beach access routes can be moved to a protected storage area during storms and other periods when the routes are subject to damage.

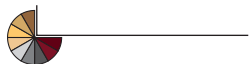
Exception 1. Where a condition in section 1.1 prohibits full compliance with a specific requirement in section 6.0 on a portion of a beach access route, that portion of the beach access route shall comply with the specific requirement to the extent practicable. The basis for the determination shall be documented and maintained with the records of the construction or alteration project.

Exception 2. If it is determined not to be practicable to provide a beach access route complying with section 6.0 after applying section 6.1 Exception 1, a beach access route shall not be required. The basis for the determination of impracticability shall be documented, the documentation shall be maintained with the records of the construction or alteration project, and notification of this determination shall be sent to the Access Board. The [optional form](http://www.access-board.gov/outdoor) available at <<http://www.access-board.gov/outdoor>> may be used.

Exception 3. Removable beach access routes shall not be required to comply with the grade requirements in section 6.7 and the resting interval requirement in section 6.8.

Exception 4. Beach access routes shall not be required where pedestrian access to the beach is not permitted.

6.2 Where Required—Beach access routes shall be provided in a number complying with section 6.3 where any of the following facilities to serve the beach are constructed or altered:





- Where circulation routes such as boardwalks, walkways, or dune crossings are provided along or across developed beach sites to provide pedestrian access to the beach or shoreline.
- Where parking facilities are provided at developed beach sites and pedestrian access to the beach is provided near the parking facilities.
- Where bathing and toilet facilities are provided at developed beach sites and pedestrian access points to the beach are provided near the bathing and toilet facilities.
- Where a beach nourishment project is undertaken.

Exception: No more than 20 percent of the costs of a facility construction or alteration project or beach nourishment project shall be required to be expended to provide beach access routes.

6.3 Minimum Number—At least one beach access route shall be provided for each one-half mile of shoreline where required by section 6.2.

Exception: The number of beach access routes shall not be required to exceed the number of pedestrian access points that are provided to a beach.

6.4 Connections—Beach access routes shall coincide with or be located in the same general area as the pedestrian access points to the beach. Beach access routes shall extend to:

- High tide level at tidal beaches, as shown in figure 37
- Mean high water level at river beaches, as shown in figure 38
- Normal recreation water level at lake, pond, and reservoir beaches, as shown in figure 39

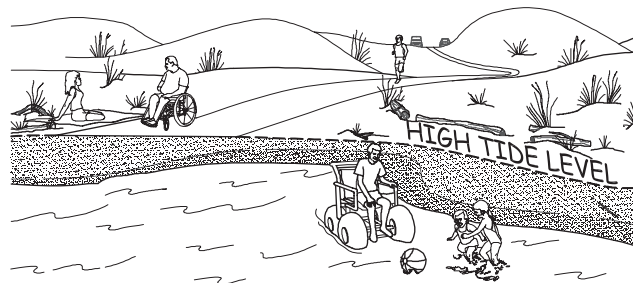


Figure 37—The high tide level at a coastal beach.

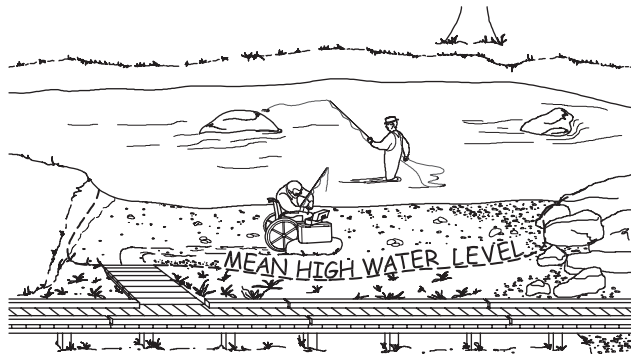


Figure 38—The mean high water level at a river.

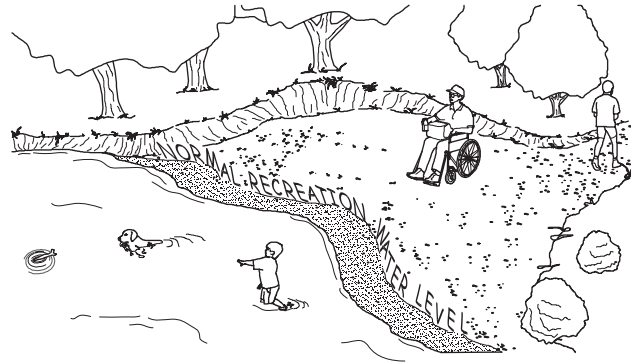


Figure 39—The normal recreation water level at a lake.

6.5 Surface—The surface of beach access routes and their related resting intervals shall be firm and stable.

6.6 Clear Width—The clear width of beach access routes shall be 60 inches (1,525 millimeters) minimum.

Exception: At dune crossings, the clear width of beach access routes that are not removable shall be permitted to be reduced to 48 inches (1,220 millimeters) minimum.

6.7 Slope

6.7.1 Running Slope (Grade)

6.7.1.1 The grade of a beach access route shall be 1:20 (5 percent) or less for any distance.

6.7.1.2 A grade of up to 1:12 (8.33 percent) is permitted for up to 50 feet (15 meters) of a beach access route. Resting intervals complying with section 2.3 shall be provided at distances of no more than 50 feet (15 meters) apart, as shown in table 6.7.1.





Table 6.7.1 Beach Access Route Running Slope (Grade) and Segment Length Between Resting Intervals

Running Slope (Grade) of Segments on Beach Access Routes		Maximum Length of Segment
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)

6.7.1.3 A grade of up to 1:10 (10 percent) is permitted for up to 30 feet (9 meters) of a beach access route. Resting intervals complying with section 2.3 shall be provided at distances of no more than 30 feet (9 meters) apart, as shown in table 6.7.1.

Exception: Elevated dune crossings shall not be required to comply with the resting interval requirements in section 6.7.1.

6.7.2 Cross Slope. The cross slope of a beach access route shall be no more than 1:33 (3 percent). Where the surface is paved or is elevated above the natural ground, the cross slope shall not be steeper than 1:48 (2 percent).

6.8 Resting Intervals

6.8.1 Size. The resting interval length shall be a minimum of 60 inches (1,525 millimeters) long by 60 inches (1,525 millimeters) wide.

6.8.2 Grade and Cross Slope. The slope of a resting interval shall not be steeper than 1:33 (3 percent) in any direction. Where the surface is paved or is elevated above the natural ground, the surface shall not be steeper than 1:48 (2 percent) in any direction.

6.9 Tread Obstacles—Obstacles on beach access routes shall not exceed 1 inch (25 millimeters) in height measured vertically to the highest point. Where the surface is concrete, asphalt, or boards, obstacles shall not exceed one-half inch (13 millimeters) in height measured vertically to the highest point. Where possible, obstacles should be a distance of at least 48 inches (1,220 millimeters) apart.

6.10 Openings—Openings in the surface of beach access routes may be up to ½-inch (13 millimeters) wide. Elongated openings shall be placed so that the long dimension is perpendicular, or as close to perpendicular as possible, to the main direction of travel.

6.11 Protruding Objects—Constructed features, including signs, shall not extend into the space above a beach access route more than 4 inches (100 millimeters) if they are between 27 inches (685 millimeters) and 80 inches (2,030 millimeters) above the surface of the beach access route.

6.11.1 Natural Elements. Accessibility guidelines for protruding objects do not apply to natural elements such as tree branches and rock formations. However, safety regulations or Forest Service construction and maintenance standards may define clear space and limit the allowable extension of natural protruding objects over the beach access route surface.

6.12 Handrails and Edge Protection—Where elevated dune crossings or dune crossings steeper than 1:20 (5 percent) are part of beach access routes, handrails complying with ABAAS section 505 and edge protection complying with ABAAS section 405.9 shall be provided. Figure 40 illustrates some of the requirements. These are the same as for handrails and edge protection for ramps at administrative sites.

6.13 Outdoor Constructed Features—Where provided on circulation paths or beach access routes at beaches, outdoor constructed features, such as picnic tables, grills, or water hydrants,

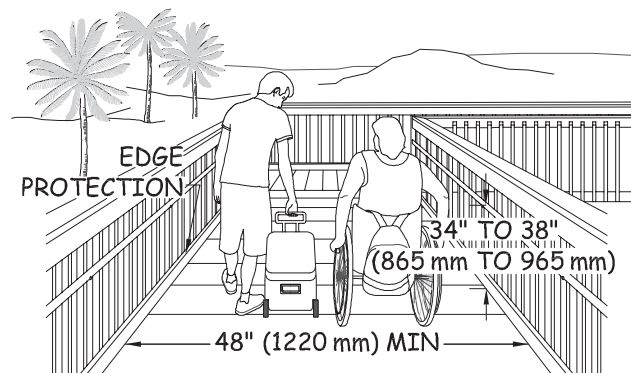


Figure 40—The requirements for width, handrail height, and edge protection location on an elevated beach access route.

shall comply with technical provisions for that constructed feature as detailed in the FSORAG.

6.14 Gates and Barriers

6.14.1 Clear Width. Gate openings and openings in barriers for pedestrian passage shall provide a clear width of 36 inches (915 millimeters), complying with the Outdoor Developed Areas Accessibility Guidelines (ODAAG), section 1017.3 Clear Tread Width.





6.14.2 Gate Hardware. Gate hardware must be operable with one hand without tight grasping, pinching, or twisting of the wrist, using a force of 5 pounds (22.2 Newtons) or less, and must be 34 inches (865 millimeters) minimum and 48 inches (1,220 millimeters) maximum above the floor or ground.

Web Links to References

Access Board Impracticability Notification Form:

<<http://www.access-board.gov/outdoor>>

Architectural Barriers Act Accessibility Standards:

<<http://www.access-board.gov/ada-aba/aba-standards-gsa.cfm>>

Forest Service Outdoor Recreation Accessibility Guidelines:

<<http://www.fs.fed.us/recreation/programs/accessibility/>>

Forest Service Trails Accessibility Guidelines:

<<http://www.fs.fed.us/recreation/programs/accessibility/>>

About the Author

Kathleen Snodgrass began working at MTDC as a multi-disciplinary project leader in 2001. She began her career with the Forest Service in 1984, working in facilities, landscape architecture, land line, and general engineering on the Nez Perce National Forest for about 10 years, and was the forest's facilities architect for about 7 years. Her publications include "A Guide to Maintaining the Historic Character of Your Forest Service Recreation Residence" and the "Accessibility Guidebook for Outdoor Recreation and Trails," which she co-authored with Janet Zeller and Ruth Doyle.

Library Card

Snodgrass, Kathleen. 2015. Forest Service Outdoor Recreation Accessibility Guidelines (FSORAG) Pocket Version. (1523–2811). Missoula, MT: U.S. Department of Agriculture Forest Service, Missoula Technology and Development Center. 40 p.

This handy, helpful format of FSORAG provides detailed guidance for users who plan, design, construct, or maintain developed outdoor recreation areas, while maintaining the natural setting.

Keywords: ABAAS, accessible, Architectural Barriers Act, beaches, camping, disabilities, exceptions, parking, picnics, recreation, routes, slopes, surfaces, toilets, wheelchairs

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