Vermont Accessible Environments 206 Pleasant Street Sheldon, VT 05483 www.accessiblevermont.com

Jutta R. Scott Head of Buildings Peacham Historical Association, PO Box 101 Peacham VT. 05862

August 19, 2015

Dear Jutta,

I appreciate your invitation to visit the Peacham Historical Association and assess its present level of accessibility. My special thanks to the Association trustees, and to the Preservation Trust of Vermont, for their financial support of this evaluation and the important commitment it represents: to an accessible, equitable and inclusive Vermont.

I was pleased to meet with you at the Historical House. We spoke at some length about the Association programming and events, and the need for appropriate access to the space and its exhibits.

I evaluated the building, parking, and approach referencing the ADA 2010 Standards for Accessible Design and the 2012 Vermont Access Rules.

Attached please find a report summarizing my visit. As we discussed, this report describes existing conditions and is intended for your use in planning future actions to improve accessibility at the Peacham Historical House.

I remain available to discuss this report and any questions or concerns that may arise from it. Further, as plans evolve for alterations or additions to this space I will be pleased to review your plans or drawings for compliance with current accessibility standards.

Sincerely,

Andrew Crane

Peacham Historical Association



156 Church Street, Peacham, Vermont

Accessibility Review July 8, 2015

Prepared in cooperation with the Trustees of the Peacham Historical Association and with support from the Preservation Trust of Vermont by

Vermont Accessible Environments Sheldon, VT 05483

Accessibility Review

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An Overview

The <u>Americans with Disabilities Act of 1990</u> (the ADA) is landmark civil rights legislation which capped more than 40 years of congressional efforts to include people with disabilities in the full enjoyment of our common experience in community.

The ADA prohibits discrimination in employment (Title I), ensures equal access to programs, activities, and services of state and local authorities (Title II), and ensures equal access to places of public accommodations (Title III). While the Peacham Historical Association is a private, non-profit entity, it welcomes the public in its educational programming and services, and as a place of public accommodation is governed by the 2010 Standards for Accessible Design.

It's important to note that an estimated 95,000 people in Vermont self-identify as disabled. Indeed, nearly 46% of Vermonters over age 65 experience disabling conditions. Nearly 14,000 Vermonters living independently (that is, not in nursing homes or extended care facilities) depend on mobility aids such as wheelchairs, walkers, scooters and crutches.

The ADA and Vermont statutes realistically mandate "readily achievable" and "reasonable" efforts to accommodate special needs occasioned by varied disabilities that occur among our diverse populations. Vermont's historic architecture is not exempt from the standards of access developed in support of the ADA.

Pre-existing buildings

Buildings constructed before the effective date of the 1990 Act need not be altered to meet accessibility standards. Rather, when altered, those alterations must meet the prevailing accessibility standards. However, all public entities or places of public accommodation have an ongoing obligation for "readily achievable barrier removal". That is, to identify and remove barriers to accessibility which can be "removed without much difficulty or expense". The Act includes a list of barriers, the removal of which is understood to be readily achievable. The list is not presumed to be exclusive. Many common barriers, it is felt, can be removed in the course of ordinary and routine maintenance.

Public entities have a responsibility to conduct periodic self-evaluations to insure that barriers are removed, and that inaccessibility does not creep back through inattention to detail as programs, furnishings, or technologies change over time.

Evolving standards.

The ADA standards of accessible design are under continuous review by the US Access Board, and represent minimum requirements. New standards of accessibility (28CFR35.104) were adopted in September, 2010 to supplant the earlier 1991 accessibility standards. These came fully into effect in March, 2012.

Buildings which had been altered to conform to the earlier, 1991 standard are not required to meet the newer, 2010 standard. However, when altered in the future, those alterations must meet or exceed the accessibility standard in effect at the time of the alterations.

Special standards for historic buildings

Historic buildings are not exempt from the requirement to make public buildings accessible. However, an alternate standard may apply when adherence to the 2010 Standard for Accessible Design would "threaten or destroy the historic significance" of a property. Nonetheless, accessibility must be provided to "the full and equal enjoyment of the goods, services, facilities, privileges, advantages or accommodations" "to the maximum extent feasible".

Identifying those significant features or characteristics of an historic property that are unique or definitive of the period, is an important first step in planning for accessibility. Accessibility begins at the point of arrival, not at the front door: it's important to consider the entire visitor experience from their car through the whole building layout and amenities.

Meeting the obligation

Changes in displays, equipment, and even staffing can impact accessibility under the ADA. Places of public accommodations should periodically review their facilities, programs and services for accessibility.

A practical plan of action is required when barriers to accessibility are identified. An effective action plan will prioritize barrier removal based on your organization's functions, values, personnel, and budget capabilities among other things. The action plan will create a working outline of barrier removal that has realistic prospects of success: it should include a timeline, budget, designated leadership, and an appropriate metric for evaluating progress toward the goal. Usually, an action plan has a time-line no longer than 3 years, although that is entirely within the discretion of your leadership. A longer horizon may be indicated if new construction or relocation is demanded.

Rarely, barriers are found to be intractable: either because of the disproportionate cost of remediation, unique structural features, irreplaceable

historic significance, or –in some cases- an "undue financial or administrative burden". The Department of Justice sets a high bar for these claims, and requires thoughtful and detailed documentation. The action plan would demonstrate steps taken to mitigate the impact of such irremediable inaccessibility within a public facility.

Creating alternate access to an inaccessible display area may be warranted. The effort to create an "equivalent experience" may include photographs or storyboards, or other creative uses of technology such as video tours to convey information which can't be accessed directly.

The Historical House

The Historical House is a circa 1820 schoolhouse, with additions. The building has enjoyed a variety of uses over its history, and now serves as one of several sites owned and managed by the Peacham Historical Association. Other buildings include the neighboring blacksmith shop, and the newly built Lorna Field Quimby Archives and Research Center.

The mission of the Peacham Historical Association is to educate and communicate ideas: through displays of artifacts, public lectures or discussions, special events, demonstrations, and workshops. With conscious attention to the ADA standards of accessible design, the Association will also communicate ideas of inclusiveness and welcome to people who live with a wide range of disabling conditions.

Parking and the accessible route

Most patrons visiting the Historical House will arrive by car. Very limited parking is provided in a small gravel lot in front of the Association's Quimby Research Center, behind the Historic House. Patrons will walk down to the House on a grassy path or along the street.

At present, there is no designated accessible parking space.

When 4 spaces are provided, at least one space must be designated "accessible" [see notes, §208.1]. When only one accessible space is provided, it must be "van accessible". Accessible parking spaces are level, with a surface that is firm, stable, and slip resistant. A van accessible space is further characterized by an access aisle 96" wide (to allow for side-loading lift clearance).

"Firm, stable and slip resistant" does not require paved surfaces. Graveled surfaces, however, should be stabilized, packed or tamped to insure that wheeled mobility aids such as wheelchairs, scooters or rolling walkers, do not get bogged down in loose gravel. Such surfaces must be maintained level in

cross slope, and free of low spots where water accumulates. [28CFR part 36 36.211; §302.1]

Signage indicating the accessible space should be mounted at least 60" above the ground to be plainly visible. The familiar blue, universal symbol of accessibility is immediately recognized as welcome information. However, other colors may be used provided the standards for finish, contrast, character proportion and size are met [§703.7.2.1].

An access aisle needs to be contiguous with the accessible route to the building entrance. The access aisle, if paved, must be striped to deter parking in this pedestrian path of travel [§502.3.3].

The grassy lawn is a discouragement for those using mobility aids. Even if cropped close, grass is inhospitable to those using canes and crutches, and extremely troubling for those using wheeled aids. A firm and stable path, at least 36" wide would be an asset for these visitors. 60" is preferred, allowing two people to pass or walk abreast. When a walkway with a running slope 1:20 (5%) is longer than 200', a resting place is needed. An accessible bench (17"-19" high) could be a convenient and practical addition.

The main entrance to the Historic House requires a visitor to ascend three steps over irregular, rusticated granite blocks. A wooden handrail fashioned from 2x4s is a nod to visitor safety. Stairs are never part of an accessible route: however, where stairs are part of a path of emergency egress, they must have handrails on both sides of the steps. The grip surface of the handrail must be between 1 ¼"- 2" in diameter, mounted between 34"-38" above the steps, measured vertically at the nose of the step.

An interesting iron handrail on the steps leading up to Church Street hints at a unique, historically appropriate design option, rather than a common, institutional iron pipe handrail.



A short wooden ramp is intended to provide an accessible route to the Historical House, via a door to the back room. The ramp is compliant neither with current nor previous standards of accessible design. An accessible ramp design

would have a running slope between 1:20 and 1:12, with a cross slope nearly level (1:48 is allowed) [§405ff].

In this instance, a difference of 24" between the interior floor level and the grade would indicate a ramp 24' long. The grade of the front yard slopes toward the Historical House, and further raising the grade will reduce the length of the ramp necessary to achieve a compliant slope. Care must be taken when modifying the grade that the foundation drainage is not compromised.

Native stone, shrubs and gardens can integrate the ramp extension naturally into the landscape, minimizing the aesthetic impact of this change.



Landings at top and bottom must be level: the bottom landing must be at least as wide as the ramp. At the top, maneuvering space is required at the doorway, so the landing must be at least 60" deep, perpendicular to the door, and allow at least 18" clear space on the latch side of the door to provide a visitor sufficient room to maneuver past the out-swinging door.

The surface of the ramp must be slip resistant.

Handrails must be provided on both sides of the ramp, between 34''-38'' high [§505.4, ff]; and a curb rail (allowing less than 4'' between the ramp surface and the bottom of the rail) or other suitable edge protection must be provided. The grip surface of the handrails must be $1 \frac{1}{4}''-2''$ in diameter, if circular; or with a perimeter between $4-6 \frac{1}{4}''$ if a different grip profile is created [§§405; 505.7.2] The design of these details is not specified, and sensitivity to the aesthetic of this early 19^{th} century building will guide your decisions.

The Accessible Entrance

The entrance features an original in-swinging wooden door. A minimum clearance of 32" is required by ADA standards for accessible design [§404.2.3]. Vermont Access Rules, however, require entrance doors to be 36" clear opening. "Clear opening" is the measure of the narrowest clearance between the face of the door, open 90°, and the door jamb on the latch side. It may be argued that this door is a significant, original feature of the Historic House; however, widening a doorway is generally considered "readily achievable", and its original character is easily maintained.



A threshold may not be higher than $\frac{3}{4}$ " in existing construction. A tapered transition strip will reduce the trip hazard at this threshold. The upper ramp landing must be at the same level as the interior floor.

Door hardware includes an inaccessible thumb-latch door handle. A thumb-latch requires a complex movement, including "a tight grasping, pinching or twisting of the wrist" [§309]. The screen door, on the other hand, has an accessible D-type pull handle, and can easily be opened with one hand. During normal days of operation, the screen door may be the only door concerning us, as the inner door likely remains open for ventilation and daylight.

Primary function spaces

The large main room is the principal display area, which is set ad hoc for various and changing displays. Historical House visitors may move freely through: accessible paths of travel are free of obstructions and are at least 36" wide. Displays or other furnishings may from time to time encroach on the paths of travel, and vigilance is warranted to maintain safety.

Hanging displays and artifacts should be styled to reflect awareness of the limited reach range of visitors using wheelchairs or walkers [§308.1, ff]. A maximum reach of 48" is presumed for a seated user: eye height for such a visitor is presumed 43". Text on informational materials should allow for this: a maximum height of 60" would serve both seated and ambulatory visitors. Font size on print materials should not be less than 18pts.

The kitchen in the ell addition to the house does not function as part of the public space, and need not be accessible. Other space in this ell is committed to a modest store counter display.

A back room, built apparently as a porch and enclosed in the distant past, contains a large variety of tools and other artifacts common to the period of this building. A low, 3" step down makes this room inaccessible. Where a change in elevation is only 3", a short ramp with a slope of 1:8 is allowed. In this case, a wedge 24" deep would be allowed. (A visible transition strip must alert users to this change of elevation.) Once in the Tool Room, however, the clear space for maneuvering will require at least a 60" turning circle, or space for a T turn among the various artifacts displayed, as well as a 36" travel path.

In the event that this Tool Room display is not made accessible, a representative display of tools from the back room may be created elsewhere in the Historical House. A policy may be introduced instructing volunteers and staff to bring other artifacts out as warranted, and if the needs of other visitors aren't unduly neglected, to enhance the experience of a visitor with disabilities with a particular interest in the Tool Room display.

The Accessible Restroom

A single, inaccessible restroom was carved out of the kitchen ell at some time past. It is too small to be made accessible without significantly impacting the very limited display spaces elsewhere in this ell. The most appropriate solution is to limit the use of this convenience to employees and volunteers, and direct others to use the accessible restroom in the new Research Center building next door.

A restroom for the exclusive use of employees need not be accessible, unless or until an employee with special needs requests this accommodation. Specifications for an accessible restroom are included in the notes following.

Policies and procedures

When special events are held in the Historical House, it's the responsibility of the host and sponsors of the event to provide reasonable accommodations for patrons self-identifying as disabled. This may include assistance for patrons with low vision, hearing impairments, limited mobility, food allergies, environmental sensitivities, or other unseen disabilities.

Effective communication may require large print, an ASL interpreter, assistive hearing devices or other alternate means of conveying information. Written notes are appropriate only for brief exchanges with people with hearing loss; not for conveying the content of an event or program

Event advertising should invite patrons to identify their special needs within a reasonable time, as special materials may take several days to source. Some accommodations –reasonable or otherwise- simply may not be available. No cost may be assessed for providing requested "reasonable accommodations".

Summary

Generally stated, the object of the Americans with Disabilities Act is to allow unassisted, independent use of public facilities. Constrained by limits of terrain, historic building materials and practices, and limited space in primary function areas, independent access may present challenges. However, a willing and attentive Historical House staff can mitigate the impact on visitors with special needs.

Many barriers noted here may be mitigated or removed at modest cost. "Readily Achievable" issues to be addressed include:

Accessible parking. Designate a signed, "Reserved" parking space and access aisle, at the Quimby building, where a visitor can safely disembark. Striping is only required if paved.

Accessible Route: The accessible route to the accessible entrance should include a surface that is firm, stable, and slip resistant. Where the slope of the route is steeper than 1:20, handrails should be provided as for a ramp. An accessible bench is needed when the route is longer than 200': an accessible bench has a firm, stable, and slip resistant approach, at least 30"x48" clear space adjacent to it.

Accessible entrance: the existing ramp must be replaced. Grading will minimize the length of the necessary ramp, or minimize the slope: either one of which is desirable. Level ramp landings must accommodate the maneuvering necessary at an out-swinging door. Detailed ramp specifications are included in the following notes. The accessible entrance must be unlocked whenever the Historical House is open for visitors.

Paths of travel: Aisle spaces must be at least 36" wide; doorways must be at least 32" clear opening; changes of elevation (as a threshold) are not allowed unless wedged with a transition strip with a maximum slope of 1:2.

Restroom: Public Restrooms are not required. If restrooms are public, they must be accessible. As a matter of convenience and kindness, it may be wise to offer information directing visitors to the nearest accessible restroom.

Additional impediments may reveal themselves through the experience of individual patrons who live with disabling conditions, and the Association staff and volunteers should be prepared to make reasonable accommodations if requested, ad hoc.

The 2010 Standard of Accessible Design only establishes minimum accessibility, and does not presume to codify the extent to which the spectrum of disabilities limits civic participation or human potential.

We appreciate the opportunity to share these thoughts with you. The information, materials and/or technical assistance provided are intended solely for informal guidance, and are neither a determination of your legal rights or your responsibilities under the ADA, nor binding on any agency with enforcement responsibility under the Act.

We look forward to working with you in your efforts to make the Peacham Historical Association properties fully accessible. As part of this evaluation, I will be pleased to review ramp plans as they develop, or consult with your contractor about any accessibility questions or concerns.

NOTES

References are to the ADA Standards for Accessible Design, available online at www.ada.gov

Parking, §208, §502

Spaces

208.1 General. Where parking *spaces* are provided, parking *spaces* shall be provided in accordance with 208.2

208.2.4 Van Parking Spaces. For every six or fraction of six parking *spaces* required by 208.2 to comply with 502, at least one shall be a van parking *space* complying with 502.

208.3.1 General. Parking *spaces* complying with 502 that serve a particular *building* or *facility* shall be located on the shortest *accessible* route from parking to an *entrance* complying with 206.4.

Spaces 502.1 General. Car and van parking *spaces* shall comply with 502. Where parking *spaces* are marked with lines, width measurements of parking *spaces* and access aisles shall be made from the centerline of the markings.

502.2 Vehicle Spaces. Car parking *spaces* shall be 96 inches (2440 mm) wide minimum and van parking *spaces* shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

Advisory 502.3 Access Aisle. Accessible routes must connect parking spaces to accessible entrances.

502.3.4 Location. Access aisles shall not overlap the *vehicular way*. Access aisles shall be permitted to be placed on either side of the parking *space* except for angled van parking *spaces* which shall have access aisles located on the passenger side of the parking *spaces*.

502.6 Identification. Parking *space* identification signs shall include the International Symbol of *Accessibility* complying with 703.7.2.1. Signs identifying van parking *spaces* shall contain the designation "van accessible." Signs shall be 60 inches minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes. Parking *spaces* and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent *accessible routes*.

Surfaces, §302

302.1 General. Floor and ground surfaces shall be stable, firm, and slip resistant and shall comply with 302

signs § 703.7.2.1

703.7.2.1 International Symbol of Accessibility. The International Symbol of *Accessibility* shall comply with Figure 703.7.2.1



Handrails, §505

505.4 Height. Top of gripping surfaces of handrails shall be 34 inches minimum and 38 inches maximum vertically above walking surfaces, stair nosings, and *ramp* surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and *ramp* surfaces.

505.7 Cross Section. Handrail gripping surfaces shall have a cross section complying with 505.7.1 or 505.7.2.**505.7.1 Circular Cross Section.** Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1½ inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections. Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (100 mm) minimum and 6½ inches (160 mm) maximum, and a cross-section dimension of 2½ inches

405 Ramps

- **405.1 General.** *Ramps* on *accessible* routes shall comply with 405.
- **405.2 Slope.** Ramp runs shall have a running slope not steeper than 1:12.
- **405.3 Cross Slope.** *Cross slope* of *ramp* runs shall not be steeper than 1:48.
- **405.4 Floor or Ground Surfaces.** Floor or ground surfaces of *ramp* runs shall comply with 302. Changes in level other than the *running slope* and *cross slope* are not permitted on *ramp* runs.
- **405.5 Clear Width.** The clear width of a *ramp* run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.
- **405.6 Rise.** The rise for any *ramp* run shall be 30 inches (760 mm) maximum.
- **405.7 Landings.** *Ramps* shall have landings at the top and the bottom of each *ramp* run. Landings shall comply with 405.7.
- **405.8 Handrails.** *Ramp* runs with a rise greater than 6 inches (150 mm) shall have handrails complying with 505
- **405.9 Edge Protection.** Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of *ramp* runs and at each side of *ramp* landings.
- **405.9.1 Extended Floor or Ground Surface.** The floor or ground surface of the *ramp* run or landing shall extend 12 inches minimum beyond the inside face of a handrail complying with 505
- **405.9.2 Curb or Barrier.** A curb or barrier shall be provided that prevents the passage of a 4 inch diameter sphere, where any portion of the sphere is within 4 inches of the finish floor or ground surface

Doors: openings, hardware, and forces §404 ff

- **404.2.3 Clear Width.** Door openings shall provide a clear width of 32 inches minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches deep shall provide a clear opening of 36 inches minimum. There shall be no projections into the required clear opening width lower than 34 inches above the finish floor or ground. Projections into the clear opening width between 34 inches and 80 inches above the finish floor or ground shall not exceed 4 inches
- **404.2.8 Closing Speed.** Door and gate closing speed shall comply with 404.2.8.
- **404.2.8.1 Door Closers and Gate Closers.** Door closers and gate closers shall be adjusted so that from an open position of 90 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.
- **404.2.8.2 Spring Hinges.** Door and gate spring hinges shall be adjusted so that from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.
- **404.2.9 Door and Gate Opening Force.** The force for pushing or pulling open a door or gate other than fire doors shall be as follows:
- 1. Interior hinged doors and gates: 5 pounds maximum.
- 2. Sliding or folding doors: 5 pounds maximum

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

Operating Controls, §309

309 Operable Parts

- **309.1 General.** Operable parts shall comply with 309.
- **309.2 Clear Floor Space.** A clear floor or ground *space* complying with 305 shall be provided.
- **309.3 Height.** *Operable parts* shall be placed within one or more of the reach ranges specified in 308.
- **309.4 Operation.** Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate *operable* parts shall be 5 pounds.

603 Toilet and Bathing Rooms

- **603.1 General.** Toilet and bathing rooms shall comply with 603.
- **603.2 Clearances.** Clearances shall comply with 603.2.
- **603.2.1 Turning Space.** Turning *space* complying with 304 shall be provided within the room.
- **603.2.2 Overlap.** Required clear floor *spaces*, clearance at fixtures, and turning *space* shall be permitted to overlap.
- **603.2.3 Door Swing.** Doors shall not swing into the clear floor *space* or clearance required for any fixture. Doors shall be permitted to swing into the required turning *space*.
- **603.3 Mirrors.** Mirrors located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) maximum above the finish floor or ground. Mirrors not located above lavatories or countertops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) maximum above the finish floor or ground.
- **604.2 Location.** The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 16 inches minimum to 18 inches maximum from the side wall or partition.

Water closets shall be arranged for a left-hand or right-hand approach.

- **604.5 Grab Bars.** Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.
- **604.5.1 Side Wall.** The side wall grab bar shall be 42 inches long minimum, located 12 inches maximum from the rear wall and extending 54 inches minimum from the rear wall.
- **604.7 Dispensers.** Toilet paper dispensers shall comply with 309.4 and shall be 7 inches minimum and 9 inches maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 15 inches minimum and 48 inches maximum above the finish floor and shall not be located behind grab bars.

- **306 Knee and Toe Clearance306.1 General.** Where *space* beneath an *element* is included as part of clear floor or ground *space* or turning *space*, the *space* shall comply with 306. Additional *space* shall not be prohibited beneath an *element* but shall not be considered as part of the clear floor or ground *space* or turning *space*.
- **306.2 Toe Clearance.306.2.1 General.** *Space* under an *element* between the finish floor or ground and 9 inches above the finish floor or ground shall be considered toe clearance and shall comply with 306.2.
- **306.2.2 Maximum Depth.** Toe clearance shall extend 25 inches maximum under an *element*.
- **306.2.3 Minimum Required Depth.** Where toe clearance is required at an *element* as part of a clear floor *space*, the toe clearance shall extend 17 inches minimum under the *element*.
- **306.2.4 Additional Clearance.** *Space* extending greater than 6 inches beyond the available knee clearance at 9 inches above the finish floor or ground shall not be considered toe clearance.
- **306.2.5 Width.** Toe clearance shall be 30 inches wide minimum. wide minimum.
- **306.3 Knee Clearance.306.3.1 General.** *Space* under an *element* between 9 inches and 27 inches above the finish floor or ground shall be considered knee clearance and shall comply with 306.3.
- **306.3.2 Maximum Depth.** Knee clearance shall extend 25 inches maximum under an *element* at 9 inches above the finish floor or ground.
- **306.3.3 Minimum Required Depth.** Where knee clearance is required under an *element* as part of a clear floor *space*, the knee clearance shall be 11 inches deep minimum at 9 inches above the finish floor or ground, and 8 inches deep minimum at 27 inches above the finish floor or ground.

Reach ranges, §308.

- **308.2 Forward Reach.308.2.1 Unobstructed.** Where a forward reach is unobstructed, the high forward reach shall be 48 inches maximum and the low forward reach shall be 15 inches minimum above the finish floor or ground.
- **308.3 Side Reach.308.3.1 Unobstructed.** Where a clear floor or ground *space* allows a parallel approach to an *element* and the side reach is unobstructed, the high side reach shall be 48 inches maximum and the low side reach shall be 15 inches minimum above the finish floor or ground