



TOM BURSEY DESIGNS PLLC.

THOMAS BURSEY, AIA, LEED AP

October 12, 2023

Stuart Lindberg
Committee Member
P.O, Box 453
Cavendish Fire District 2
Cavendish, Vermont 05142
802 503 7350

Re: Preliminary ADA evaluation, as well as a renovation options to provide accessibility to the volunteer fire department and to reconfigure the entrance, and upstairs access.

Dear Stu,

At your organization's request, it was my pleasure to visit the Cavendish Volunteer Fire Department Building on September 8, 2023, and evaluate it for ADA compliance. As probably anticipated, there is room for improvement in the overall condition of this facility with respect to the Americans with Disabilities Act (2010 ADA). The most significant discrepancies identified here include site parking, building entry / access, internal stairs and vertical circulation, the kitchen and service counter, door hardware and signage.

To facilitate this evaluation, I took a sufficient number of measurements and photographs to document existing conditions of the fire department building. I have included those Photos and the ADA checklist I used with this report, as separate attachments.

I also offer suggestions as to how the Fire Department Building could be remodeled and/or expanded to make it a more ADA compliant building.

I conducted a full accessibility survey in compliance with the 2010 ADA Standards for Accessible Design (2010 ADA Standards), and the 2012 Vermont Access Ruled (Vt State adoption of, and amendments to the 2010 ADA). To help accomplish this, I utilized a tool called the [ADA Checklist for Existing Facilities](#), produced by the Institute for Human Centered Design. (See Attachment).

There are four (4) Categories or Priorities included in the ADA. These categories are separated into different groups of elements as follows:

- Priority 1 - Accessible exterior approach and entrance
- Priority 2 - Access to interior goods and services
- Priority 3 - Access to toilet rooms
- Priority 4 - Access to other items such as water fountains, and public telephones.



SCOPE: It should also be noted that the 2010 ADA is generally applicable to “All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings” (201.1). There are a few exceptions some of which are listed here:

Exceptions to Scope (Selected for their possible applicability):

Elevators: ... *In private buildings or facilities that are less than three stories or that have less than 3000 square feet (279 m2) per story, an accessible route shall not be required to connect stories.* (206.2.3.1)

12.1 Variance, Exemption or Abatement: *The (Vermont) Access Board may grant a variance, exemption, or abatement for compliance with these rules if the Board determines that compliance is not required by federal law for new construction or alteration and compliance with the rules:*

- (a) would be prohibitively costly in relation to the normal cost of the total project * or*
- (b) would threaten or destroy the historic significance of an historic building or historic project; or*
- (c) would be technically infeasible, or structurally impracticable; or*
- (d) would be impractical because of the terrain or unusual characteristics of the building site; or ...*

[\(2012 Vt Access rules 12.1\)](#)

*. See page 8 – 2010 ADA Standards for Accessibility Guide for additional information regarding “Disproportionality.”

Bringing into compliance after complaint:

§2906. ... *b) Any person may file a complaint with the commissioner of public safety alleging that a public building or unit is out of compliance with the provisions of this chapter. The commissioner shall investigate the complaint, and if substantiated, shall order that the public building or unit be brought into compliance with the provisions of this chapter within a reasonable period of time.* ([2012 Vt Access rules §2906 P.13](#))

§36.403 Alterations: Path of travel.

(g) Duty to provide accessible features in the event of disproportionality.

(A) When the cost of alterations necessary to make the path of travel to the altered area fully accessible is disproportionate to the cost of the overall alteration, the path of travel shall be made accessible to the extent that it can be made accessible without incurring disproportionate costs.

(B) In choosing which accessible elements to provide, priority should be given to those elements that will provide the greatest access, in the following order—

- (1) An accessible entrance.*
- (2) An accessible route to the altered area.*
- (3) At least one accessible restroom for each sex or a single unisex restroom.*
- (4) Accessible telephones.*
- (5) Accessible drinking fountains; and*



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(6) When possible, additional accessible elements such as parking, storage, and alarms.

The Americans with Disabilities Act (ADA) is a civil rights law and not a building code, older facilities are often required to be accessible to ensure that all people have an equal opportunity to participate. So, in most cases it is best to bring a building into compliance whenever possible, or 'readily achievable' (meaning '*easily accomplishable and able to be carried out without much difficulty or expense.*'). But certainly, areas being altered must be brought up to full standard compliance (with some exceptions).

This Americans with Disabilities Act (ADA) building assessment is to help ensure project readiness and competitiveness and towards satisfying the requirement in Act 172 (and Municipal Energy Resilience Program), *municipalities will be required to attest that the facility receiving an implementation grant is ADA compliant or that the municipality will use up to 20% of the grant amount received towards ADA improvements in the facility.*

Please review this material with your membership and let me know if any of the suggestions seems viable to implement. The Opinion of Probable Cost list is based on if you were to bid out all the work to others; but if you have volunteer carpenters and painters in your group you can self-perform portions of the work and significantly reduce the cost of implementation.

Please let me know if you have any questions or would like to discuss.

Respectfully,
Thomas Bursey, AIA

Tom Bursey Designs, PLLC

50 Lakeside Ave.
Burlington VT 05401
(802) 777- 4261

Attachments:

- + Drawing package – ADA assessment
- + Photographs:
- + ADA Checklist: CVFD -checklist-fillable-form-2023



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October 12, 2023

ADA Assessment for Cavendish Volunteer Fire Department (CVFD)

Site Visit: September 22, 2023

Sunny ~80 deg. No wind.

This structure is a two-story building with basement. It is desired that the second story become a public meeting space. The most significant discrepancies identified here include site parking marking, building access, door hardware, second floor access, kitchen accessibility and signage.

Requirements for fire stations as public buildings are scoped under Title 2 of the Act, (2010 ADA Standards) and public facilities are subject to higher accessibility standards than commercial and residential developments. (ADA is clear that spaces are not exempt based on a policy that excludes persons with disabilities from certain work, and a fire facility is considered a public building in its entirety).

DOJ does recognize certain spaces used by first responders are “non-transitory residential.” They have published guidance that supports an “adaptable” approach to kitchens and bathrooms in the crew only area. This building intends to use kitchen and bathrooms for public events so this exception does not apply.

This report only looks at the ADA, and does not consider other code requirements (For instance fire stations are considered as “essential facilities,” by the IBC, so fire stations are subject to the strictest structural requirements).





Priorities identified in the ADA are as follows:

Priority 1 - Accessible exterior approach and entrance

Priority 2 - Access to interior goods and services

Priority 3 - Access to toilet rooms

Priority 4 - Access to other items such as water fountains, and public telephones.

Priority 1 - Accessible exterior approach and entrance

Exterior entrance on the street side looks ok except for the concrete pilaster / bollard next to the door. The pull side required 18" Minimum maneuvering clearance. This seems like a classic case of "structurally impracticability", and should be Ok provided other recommendations are followed.

Both of the truck bays seem to be often accessed through the overhead bay doors.

Image 4806 (interior door image below) The main bay L1 exterior man door inside step down, is non-compliant.



Again, It is our opinion that this can likely remain as is if the other recommendations are followed.



Site parking marking: The parking lot has no designated ADA parking spot, striping or signage.

Recommend providing a single Van Accessible Parking spot near to where the proposed ramp will be. Add required line striping to discourage parking in this area. (Only one ADA Spot is required because there are less than 25 spaces provided).

Recommend adding line striping for ADA Parking, for a van parking space, (at least 16' wide, which includes either a 5' or an 8' wide access aisle). This space should be signed with the International Symbol of Accessibility (wheelchair) and the words 'Van Accessible'. Should be located as the closest parking space to the closest accessible route leading to the accessible entrance.

Parking: 502.2 Vehicle Spaces. Van parking spaces shall be 132 inches wide minimum, shall be marked to define the width, and shall have an adjacent access aisle, 60 inches wide minimum.

Exterior Accessible Route:

The route from the parking to the entrance shall be stable, firm and slip resistant [302.1].

This building has four levels of first floor. L1 (0") the two bay garage floor, L1- the lower bay floor (~ -11"), the office booth in the turret L1+ (~ +21"), the rest of the building (including bathrooms and office, etc.) L1++ (~ +28").

The access to the L1 portion with the bathrooms, is currently inaccessible. A ramp should be added to allow access into this portion of the building (or an alternative is to provide an elevator or lift that connects all inaccessible levels).

See building diagrams for recommended location of ramp and elevator / lift.



Note: Van parking spaces can be 96" (8 ft.) wide Min. if the access aisle is 96" (8 ft.) wide Min.



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Deck and side entrance, convert to an ADA ramp, see requirements in diagram.

Locate accessible van parking adjacent to new ramp

Parking Signs shall comply with ADA signage requirements.

From the Vermont Access Rules:

Parking Spaces: Any parking facility on the premise of a public building shall contain at least one (1) parking space per 2010 standards. (Sec. 2. 20 V.S.A. § 2904) (For additional parking space requirements refer to Table 208.2.)

[Microsoft Word - 2012-13 Amended-Access Rules \(vermont.gov\)](#)

PARKING SIGNS ADA 502.6

- Parking space identification signs must include the International Symbol of Accessibility: a profile view of a wheelchair with an occupant. See 703.7.2.1.
- Signs identifying van parking spaces must contain the designation "van accessible."
- The required "van accessible" designation is intended to be informative, not restrictive, in identifying those spaces that are better suited for van use.
- Enforcement of motor vehicle laws, including parking privileges, is a local matter.
- Signs must be 60" Min. above the finish floor or ground surface measured to the bottom of the sign.

RAMPS ADA 405

SLOPE

- Ramp runs must have a running slope not steeper than 1:12.

CROSS SLOPE

- Cross slope of ramp runs must not be steeper than 1:48.

CLEAR WIDTH

- The clear width of a ramp run and, where handrails are provided, the clear width between handrails must be 36" Min.

RISE

- The rise for any ramp run must be 30" Max.

LANDINGS

- Ramps must have landings at the top and the bottom of each ramp run.
- Changes in level are not permitted.
- Landing clear width: at least as wide as the widest ramp run leading to the landing.
- Landing clear length: 60" Min.
- Ramps that change direction between runs at landings must have a clear landing of 60" Min. x 60" Min.
- Where doorways are located adjacent to a ramp landing, maneuvering clearances are permitted to overlap the required landing area.
- Landings subject to wet conditions must be designed to prevent the accumulation of water.

HANDRAILS

- Ramp runs with a rise greater than 6" must have handrails.
- See Handrails section for requirements.

FLOOR OR GROUND SURFACES

- Floor or ground surfaces of ramp runs must be stable, firm and slip resistant.
- Changes in level other than the running slope and cross slope are not permitted on ramp runs.

EDGE PROTECTION

- Edge protection must be provided on each side of ramp runs and at each side of ramp landings.
- The floor or ground surface of the ramp run or landing must extend 12" Min. beyond the inside face of a handrail.
- The extended surface prevents wheelchair casters and crutch tips from slipping off the ramp surface.
- A curb or barrier must be provided that prevents the passage of a 4" diameter sphere, where any portion of the sphere is within 4" of the finish floor or ground surface.

MAX. RAMP SLOPE & RISE FOR EXISTING SITES, BUILDINGS & FACILITIES (ADA Table 405.2)

Slope ¹	Max. Rise
Steeper than 1:10 but not steeper than 1:8	3"
Steeper than 1:12 but not steeper than 1:10	6"

¹A slope steeper than 1:8 is prohibited.



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Priority 2 - Access to interior goods and services

Second floor access. Recommend adding Elevator or Lift to access second floor.

From the Vermont Access Rules:

-delete & replace- §36.404. (page 25)

Elevator, Alterations to Existing Buildings: In public buildings, (except shopping centers, shopping malls, health care provider, or a terminal, depot or other public transportation terminal) an accessible route by elevator or platform lift

is not required for:

(a) Unless required by federal law, multifamily dwelling units in buildings which consist of three stories or less (§ 2903(b).

(b) A two-story retail establishment with a total of 15,000 square feet or less.

(c) A three-story retail establishment less than 3,000 square feet per story.

(d) A story/floor less than 3,000 square feet in area, unless a healthcare provider as required by federal law.

(e) A mezzanine in a one-story building.

(f) Story/floor used for storage that is accessed only on an infrequent basis, or is not occupiable. [See Annex III]

In alterations/renovations of an existing building requiring vertical access, a LULA or platform lift may be used in lieu of an elevator only by obtaining a variance, or when cost of elevator is disproportionate (exceeds 20%) to the overall alteration/renovation cost. There is no requirement for vertical access when LULA or platform lift clearly exceeds 20% of alteration/renovation cost.

-add- section 35.151(a)(1)(2) New Construction and Alterations: An owner of any public building shall maintain in operable working condition any features and equipment required by these rules, or previous editions of these rules, except for isolated or temporary.

delete & replace- 206.7.5 Existing Exterior Site Constraints: Platform lifts may be used only by obtaining a variance per chapter 12, where existing exterior site constraints make use of a ramp or elevator infeasible, or where elevator cost are disproportionate to project costs.

[Microsoft Word - 2012-13 Amended-Access Rules \(vermont.gov\)](https://www.vermont.gov/info/00000166)

Note the 3,000-sf exception in (d) above is 1,000 sf for new construction, which may apply to altered or renovated buildings.



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Currently the second floor is under 2,000 (around 1,860 sf. Comprised of ~1,300 sf front meeting room + ~560sf kitchen, hallway and back room). Which means it is not currently required to provide vertical access. We recommend for the use intended (community meeting space), that the Fire Department approach the Vermont Access Board, provide this information and inform them you intend to install a Lula or platform lift as a part of the intended energy upgrade grant.

We suggest upgrading the main stair and including a platform lift similar to the one in the photo here, which could ideally access every level.



Fire escape & area of refuge provision.
Since this building does not have a fire suppression system (sprinkler), an area of refuge would be required if the building were new, or undergoes significant renovation. It is our recommendation to provide an Area of Refuge when major renovations are undertaken.

<https://www.access-board.gov/ada/guides/chapter-4-accessible-means-of-egress/#areas-of-refuge-ibc-10076-2003-10032135-2000>

Areas of refuge, which are required in buildings that are not equipped with sprinkler systems, provide fire and smoke protected areas where those unable to use stairs can register a call for help and await evacuation assistance. These areas must provide direct access to exit stairways and can be located adjacent to stairway enclosures or on stair landings outside the minimum exit width.



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Door Hardware

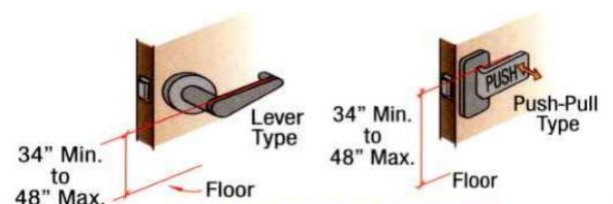
Door hardware. The door hardware on most of the doors is non-compliant.

309.4 & 404.2.7": *Operable parts (including handles, pulls, latches, locks, and other operable parts on doors and gates) 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 (22.2 N) maximum.*



Example of ADA compliant lever.

Recommend replacing door hardware with ADA compliant hardware when major renovations are undertaken. Knobs that require a full hand grip and turning, including round door knobs, do not comply because they require twisting of the wrist. The force to open complies.



DOOR & GATES HARDWARE

- Operation: Handles, pulls, latches, locks and other operable parts on doors and gates must be operable with one hand and must not require tight grasping, pinching or twisting of the wrist.
- Operation force: 5 lbs. Max.
- Operable parts hardware height: 34" Min. to 48" Max. above the finish floor/ground.
- Where sliding doors are in the fully open position, operating hardware must be exposed and usable from both sides.

OPENING FORCE

- Interior hinged doors & gates: 5 lbs. Max.
- Sliding or folding doors: 5 lbs. Max.
- Fire doors: see appropriate administrative authority.
- Max. force pertains to the continuous application of force necessary to fully open a door, not the initial force needed to overcome the inertia of the door.

CLOSING SPEED

- Door closers and gate closers must be adjusted so that from an open position of 90°, the time required to move the door to a position of 12° from the latch is 5 seconds Min.
- Door and gate spring hinges must be adjusted so that from the open position of 70°, the door or gate must move to the closed position in 1.5 seconds Min.

DOORS & GATES IN SERIES

- The distance between 2 hinged or pivoted doors in series and gates in series must be 48" Min. plus the width of doors or gates swinging into the space.



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IMPORTANT NOTE: Door kick stop / hold open not allowed on Fire Door. This is a **life safety issue** and should be removed right away. If door is desired to be held open, a magnetic hold open, tied to the fire alarm, may be used.





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Stairs

Image 4763 Main stair L1+ to L2, Stair Handrails are inaccessible.

Image 4781 Steps to L1+ are not ADA compliant

Guards are required any time stairs or walking surface have a total rise of 30 inches or more above the lower ground surface, or if there are four or more risers.

ADA Requires any stairs to comply with requirements (including handrails) if they are a part of the means of egress.

Image 4807: Steps to L1+ Office area are not ADA compliant. No turning radius when in L1 + Front office area.

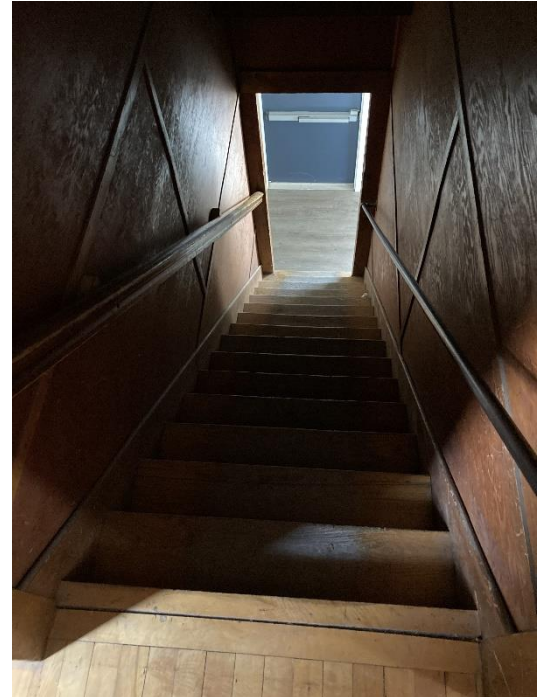




Image 4789 Steps down to lower bay L1 are less than 30" and do not require a guard.

Image 4879: Basement stairs are not accessible handrails and 42" guard are required.



Recommend adding hand rails to all stairs.

STAIRWAYS ADA 210; 504; 505; 302

STAIRS & STAIRWAYS

- Interior and exterior stairs that are part of a means of egress must be accessible.
- Although these requirements do not mandate handrails on stairs that are not part of a means of egress, State or local building codes may require handrails or guards.

RISERS & TREADS

- All steps on a flight of stairs must have uniform riser heights and uniform tread depths.
- Risers Height: 4" Min. and 7" Max.
- Treads Depth: 11" Min.
- Open risers are not permitted.

TREAD SURFACE

- Must be stable, firm and slip resistant.
- Changes in level are not permitted.
- Consider providing visual contrast on tread nosings, or at the leading edges of treads without nosings, so that stair treads are more visible for people with low vision.
- Stair treads and landings subject to wet conditions must be designed to prevent the accumulation of water.

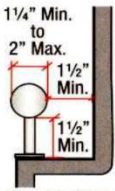
NOSINGS

- Radius of curvature at leading edge of tread: 1/2" Max.
- Nosings that project beyond risers must have the underside of the leading edge curved or beveled.
- Risers must be permitted to slope under the tread at an angle of 30° Max. from vertical.
- The permitted projection of the nosing must extend 1 1/2" Max. over the tread below.

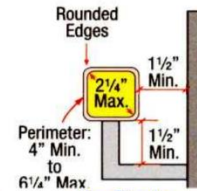
HANDRAILS

- Handrails must be provided on both sides of stairs.
- Handrails must be continuous within the full length of each stair flight.
- Inside handrails on switchback or dogleg stairs and ramps must be continuous between flights or runs.
- Handrail Height: 34" Min. and 38" Max.
- Handrails must comply with the requirements in the Handrails section of this Quick-Card.

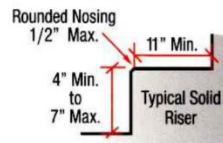
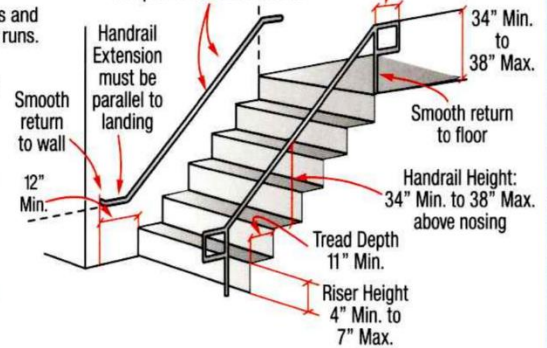
Handrails and surfaces adjacent to handrails must be free of sharp or abrasive elements



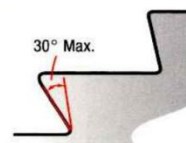
Circular Cross Section



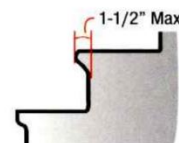
Non-Circular Cross Section



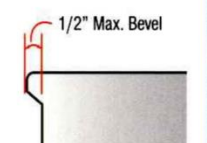
Radius of Tread Edge (typical for all profiles)



Angled Riser



Curved Nosing



Beveled Nosing



HANDRAILS ADA 505

- Handrail Location: both sides of stairs and ramps.
- Handrail Continuity: full length of each stair flight or ramp run.
- Inside handrails on switchback or dogleg stairs and ramps must be continuous between flights or runs.
- Handrail Height: 34" Min. and 38" Max. measured from walking surfaces, stair nosings or ramp surface to top of gripping surface.
- Handrails must be at a consistent height above walking surfaces, stair nosings and ramp surfaces.
- Handrail clearance between handrail gripping surfaces and adjacent surfaces: 1 1/2" Min.
- Handrail gripping surfaces with circular cross section outside diameter: 1 1/4" Min. and 2" Max.
- Handrail gripping surfaces with a non-circular cross section must have a perimeter dimension of 4" Min. and 6 1/4" Max. and a cross-section dimension of 2 1/4" Max.
- Handrail gripping surfaces and any surfaces adjacent to them must be free of sharp or abrasive elements and must have rounded edges.
- Handrails must not rotate within their fittings.
- Handrails must extend horizontally above the landing for 12" Min.

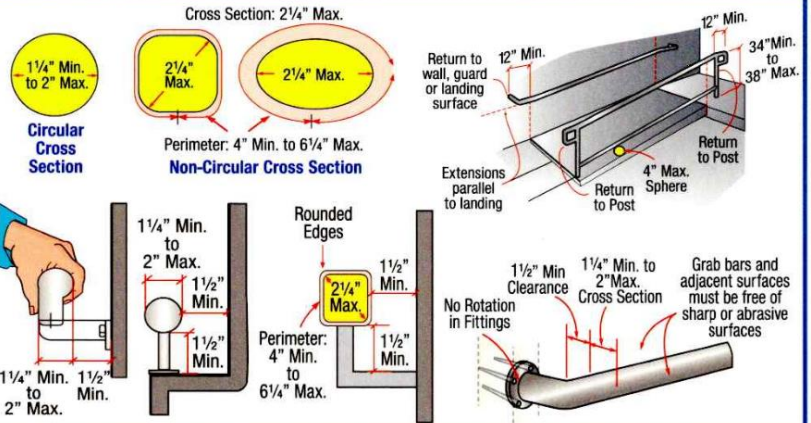
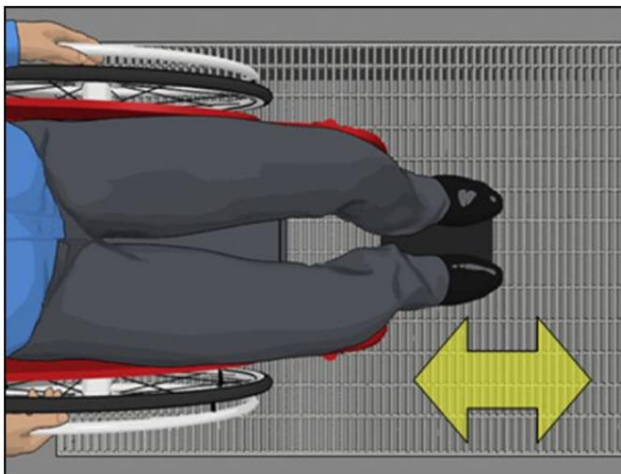


Image 4799 Floor grate in lower bay L1- is non-compliant.

Openings in floor or ground surfaces must not allow passage of a sphere more than 1/2" diameter except as allowed. Elongated openings: perpendicular to the dominant direction of travel.

This seems like a lower priority. Accommodations shall be provided if required.



Elongated openings, like those of most grates, must be oriented so that the long dimension is perpendicular to the dominant travel direction. In locations where there is no dominant flow pattern, openings must be limited to 1/2" in both dimensions. Where an accessible route is available to bypass openings completely, they can be oriented in any direction.





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Kitchen

Kitchen cabinet hardware is inaccessible.

Countertop and reach range are inaccessible

Image 4745 / 4746 Kitchen sink is inaccessible.

Image 4743 /44; 4748: Kitchen pass through is inaccessible.



804.1 General. Kitchens and kitchenettes shall comply with 804. <https://www.ada.gov/law-and-regs/design-standards/2010-stds/#804-kitchens-and-kitchenettes#section123>

This is a pass-through kitchen.

*The **counter surface height** shall be 34 inches maximum above the finish floor or ground.*

Recommend lowering a portion of the service counter to a maximum height of 34".

The accessible portion of the counter top shall extend the same depth as the counter top.

Recommend lowering a portion of the pass through to be ADA compliant (36" max.).



Interior signs:

Recommend installing signs (See Checklist), that comply with the ADA [Chapter 7: Signs \(access-board.gov\)](#).

DIRECTIONAL & INFORMATIONAL SIGNS <small>ADA 216.3; 703.5</small>		VISUAL CHARACTER HEIGHT <small>(ADA Table 703.5.5)</small>																			
<p>LOCATION</p> <ul style="list-style-type: none"> Signs that provide direction to or information about interior spaces and facilities of the site must comply with Visual Characters requirements. See Fig. & Table. Information about interior spaces and facilities includes rules of conduct, occupant load and similar signs. Signs providing direction to rooms or spaces include those that identify egress routes. 	<p>VISUAL CHARACTERS</p> <ul style="list-style-type: none"> Characters and their background must have non-glare finish. Characters must contrast with their background: either light characters on dark background or dark characters on light background. Uppercase, lowercase or a combination of both. Conventional in form. No italic, oblique, script, highly decorative or of other unusual forms. Proportions: Characters must be selected from fonts where the width of the uppercase letter "O" is 55% Min. and 110% Max. of the height of the uppercase letter "I". Stroke Thickness of the uppercase letter "I": 10% Min. and 30% Max. of the height of the character. Character Height: See Visual Character Height Table. Visual characters must be 40" Min. above the finish floor/ground. Viewing distance must be measured as the horizontal distance between the character and an obstruction preventing further approach towards the sign. Character height must be based on the uppercase letter "I". For character spacing and line spacing see ADA 703.5. 	<table border="1"> <thead> <tr> <th>Height to Finish Floor/Ground from Baseline of Character</th> <th>Horizontal Viewing Distance</th> <th>Minimum Character Height</th> </tr> </thead> <tbody> <tr> <td rowspan="2">40" to less than or equal to 70"</td> <td>less than 72'</td> <td>5/8"</td> </tr> <tr> <td>72' and greater</td> <td>5/8" plus 1/8" per foot of viewing distance above 72"</td> </tr> <tr> <td rowspan="2">Greater than 70" to less than or equal to 120"</td> <td>less than 180'</td> <td>2"</td> </tr> <tr> <td>180' and greater</td> <td>2" plus 1/8" per foot of viewing distance above 180'</td> </tr> <tr> <td rowspan="2">Greater than 120"</td> <td>less than 21 ft.</td> <td>3"</td> </tr> <tr> <td>21 ft. and greater</td> <td>3" plus 1/8" per foot of viewing distance above 21 ft.</td> </tr> </tbody> </table>		Height to Finish Floor/Ground from Baseline of Character	Horizontal Viewing Distance	Minimum Character Height	40" to less than or equal to 70"	less than 72'	5/8"	72' and greater	5/8" plus 1/8" per foot of viewing distance above 72"	Greater than 70" to less than or equal to 120"	less than 180'	2"	180' and greater	2" plus 1/8" per foot of viewing distance above 180'	Greater than 120"	less than 21 ft.	3"	21 ft. and greater	3" plus 1/8" per foot of viewing distance above 21 ft.
Height to Finish Floor/Ground from Baseline of Character	Horizontal Viewing Distance	Minimum Character Height																			
40" to less than or equal to 70"	less than 72'	5/8"																			
	72' and greater	5/8" plus 1/8" per foot of viewing distance above 72"																			
Greater than 70" to less than or equal to 120"	less than 180'	2"																			
	180' and greater	2" plus 1/8" per foot of viewing distance above 180'																			
Greater than 120"	less than 21 ft.	3"																			
	21 ft. and greater	3" plus 1/8" per foot of viewing distance above 21 ft.																			



Priority 3 - Access to toilet rooms: ([ADA Accessibility Standards \(access-board.gov\)](https://www.access-board.gov/)).

The bathrooms look to have nice finishes and a clean refreshed look. They appear have been recently upgraded to meet accessibility standards. Upon close inspections there are several things that miss the mark.

Shower insert is not wheelchair accessible (as roll-in or transfer)

The turning radius / width which was designed to be compliant is obstructed by the baseboard heater (~ 58" clear, when 60" is required).

The mirror is installed too high (ADA 40" max to reflective surface, currently 50"+ to reflective surface).



Restroom signage is installed on the doors, when technically they should be on the wall on the latch side of the door.





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Where toilet rooms are provided in multi-story facilities that are exempt from the requirement for vertical access between stories (Vermont Access Rules); a toilet room must be provided on a story that is connected to an accessible entrance by an accessible route.

These items are relatively minor in my opinion, if there is a situation where there needs to be accommodations made beyond what is provided, they shall be done at that time.

WATER CLOSETS & TOILET COMPARTMENTS ADA 604.2 - 604.7; 308; 309; 609

LOCATION

- The water closet must be positioned with a wall or partition to the rear and to one side.
- Water Closet Centerline: 16" Min. to 18" Max. from the side wall/partition.
- Arrangement: For left-hand or right hand approach.

CLEARANCE

- Clearance around water closet: 60" min. measured perpendicular from the side wall and 56" min. measured perpendicular from the rear wall.

OVERLAP

- The required clearance around the water closet is permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures and the turning space.
- No other fixtures or obstructions must be located within the required water closet clearance.

DOORS

- Doors must be located in the front partition or in the side wall or partition farthest from the water closet.
- Where located in the front partition, the door opening must be 4" Max. from the side wall/partition farthest from the water closet.
- Where located in the side wall or partition, the door opening must be 4" Max. from the front partition.
- The door must be self-closing.
- A door pull must be placed on both sides of the door near the latch.
- Toilet compartment doors must not swing into the minimum required compartment area.
- Handles, pulls, latches, locks and other operable parts on doors and gates must be 34" Min and 48" Max. above the finish floor or ground.

FLUSH CONTROLS

- Location: open side of the water closet.
- Installation Height: 44" max. above the finish floor.
- Flush controls must be hand operated or automatic.
- Hand operated flush controls must be operable with one hand and must not require tight grasping, pinching or twisting of the wrist. Operation Force: 5 lbs. max.

DISPENSERS

- Toilet paper dispensers: 7" min. and 9" max. in front of the water closet measured to the centerline of dispenser.
- Dispenser Height: 15" Min. and 48" Max. above finish floor.
- Dispenser must not be located behind grab bars.
- Dispensers must allow continuous paper flow.

GRAB BARS

- Grab bars must be provided on the side wall closest to the water closet and on the rear wall.
- Side Wall Grab Bar: 42" long Min., located 12" Max. from the rear wall and extending 54" Min. from the rear wall.
- Rear Wall Grab Bar: 36" long Min. and extend from the centerline of the water closet 12" Min. on one side and 24" Min. on the other side.

SEATS

- Seat installation height: 17" Min. and 19" Max., measured from floor surface to the top of seat.
- Seats must not be sprung to return to a lifted position.

The diagram illustrates the required dimensions for a water closet. Key features include:

- Clearance:** A 60" minimum clear area around the toilet. For wall-hung toilets, the clearance from the side wall is 16" to 18" max, and from the rear wall is 56" min. For floor-mounted toilets, the clearance from the side wall is 12" to 18" max, and from the rear wall is 59" min.
- Grab Bars:** A side grab bar is 42" long, extending 54" from the rear wall. A rear grab bar is 36" long, extending 12" from the centerline on one side and 24" on the other.
- Doors:** The door opening must be 4" max from the side wall/partition farthest from the toilet. The door must be self-closing and swing out.
- Flush Controls:** Located on the open side of the toilet, with a maximum height of 44" above the finish floor.
- Dispensers:** Located in front of the toilet, with a height of 15" to 48" above the finish floor.



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Diagrams showing ADA Lavatory requirements and restroom sign locations.
The pipes under the sink must be insulated.

LAVATORIES ADA 606; 305; 306; 309

- Clear Floor Space: 30" Min. x 48" Min.
- Toe Clearance: 9" Min. high, 6" Max. depth
- Horizontal Depth: 17" Min. to 25" Max.
- Lavatory Height: 34" Max. above finish floor/ground
- Faucets Operation: must be operable with one hand and must not require tight grasping, pinching or twisting of the wrist.
- Force to Operate Faucets: 5 lbs. max.
- Hand-operated metering faucets: must remain open for 10 secs. Min.
- Water supply and drain pipes under lavatories must be insulated or otherwise configured to protect against contact.
- There must be no sharp or abrasive surfaces under lavatories.



RESTROOM SIGN LOCATION
ADA 703.4.1; 703.4.2; 703.6

Located on latch side of the door

Finish Floor

48" Min. 60" Max.

Wall signage must be installed on the latch side of door

Lettering

- Upper case characters
- Raised 1/32"
- San Serif
- On contrasting background. Either light on dark or dark on light

6" Min. Pictogram Field

Height of Lettering 5/8" Min. to 2" Max.

Braille (Grade 2)

- Tactile characters on signs location: 48" Min. above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60" Max. above the finish floor or ground surface, measured from the baseline of the highest tactile character.
- Where a tactile sign is provided at a door, the sign must be located alongside the door at the latch side.
- Where there is no wall space at the latch side of a single door or at the right side of double doors, signs must be located on the nearest adjacent wall.
- Signs containing tactile characters must be located so that a clear floor space of 18" Min. x 18" Min., centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45° open position.
- Raised Characters: 1/32" Min. above background.
- Case: Uppercase
- Style: sans serif
- Pictogram Field Height: 6" Min.
- Pictograms and their field: non-glare finish.
- Pictograms must contrast with their field either light on dark or a dark on light.



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Diagrams showing ADA requirements for showers, and Accessories (note mirror height requirement).

SHOWERS ADA 608; 609; 610

SHOWER SPRAY UNIT

59" Min. Long Flexible Hose
48" Max.
Shower Floor

TRANSFER TYPE SHOWER COMPARTMENT

36"
Seat 17" Min. to 19" Max.
18"
33" Min. to 36" Max.
38" Min. to 48" Max.
36" Min.
36"
48" Min.

STANDARD ROLL-IN SHOWER COMPARTMENT

Centerline of hand-held sprayer mounting bracket
Back/Control Wall 60" Min. Face of finish
27" Max.
6" Max.
6" Max.
Side Wall
1/2" Max. threshold
Control Area
33" Min. to 36" Max.
48" Max.
Clear Floor Space
60" Min.
30" Min.
30" Min.

ALTERNATE ROLL-IN SHOWER COMPARTMENT

Side/Control Wall 27" Max.
60" Min. Face of finish
Control Area
6" Max.
Centerline of hand-held sprayer mounting bracket
48" Max.
33" Min. to 36" Max.
Folding Seat 17" Min. to 19" Max.
1/2" Max. threshold
Back Wall
36" Min. Opening
36" Min. face of finish
60" Min.

SIZE & CLEARANCES

- Clear inside dimensions: 36" x 36"
- Entry width: 36" Min. entry on the face of the shower compartment.
- Clear floor space adjacent to shower compartment: 36" Min. wide x 48" Min. long.

GRAB BARS

- Location: across the control wall and back wall to a point 18" from the control wall. Grab bar height: 33" Min. to 36" Max.

SEATS

- Type: folding or non-folding seat. See seat Fig.

CONTROLS

- Location: side wall opposite the seat, 15" Max. from the centerline of seat toward shower opening.
- Height: 38" Min. and 48" Max. above shower floor.

SHOWER SPRAY UNIT

- See requirements in standard roll-in shower compartment.

THRESHOLDS

- Height: 1/2" Max. and must be beveled, rounded or vertical.

Full Depth of Stall
14" Min. to 15" Max.
15" Min. to 16" Max.
1-1/2" Max.
22" Min. to 23" Max.
Seat Wall
2-1/2" Max.

Water Controls
Single Lever
48" Max.
Force to Operate: 5 pounds Max.
Shower Floor

SIZE & CLEARANCES

- Clear inside dimensions: 30" Min. wide x 60" Min. deep
- Entry width: 60" Min. wide entry on the face of the shower compartment.
- Clear floor space adjacent to shower compartment: 30" Min. wide x 60" Min. long.

GRAB BARS

- Location with seat: back wall and side wall opposite the seat.
- Grab bars must not be provided above the seat.
- Location without seat: on three walls.
- Grab bars installation: 6" Max. from adjacent walls.
- Grab bar height: 33" Min. to 36" Max.

SEATS

- Type: folding seat where required. See seat Fig.

CONTROLS

- Location with seat: back wall adjacent to the seat wall, 27" Max. from the seat wall.
- Location without seat: above the grab bar, but no higher than 48" above the shower floor.

SHOWER SPRAY UNIT

- Shower spray unit hose length: 59" Min.
- Function capability: fixed-position shower head & hand-held.
- Must have an on/off control with a non-positive shut-off.
- If an adjustable-height shower head on a vertical bar is used, the bar must not obstruct the use of grab bars.
- Shower spray units water temperature: 120°F Max.

THRESHOLDS

- Height: 1/2" Max.

SIZE & CLEARANCES

- Clear inside dimensions: 36" Min. wide x 60" Min. deep.
- Entry width: 36" Min. wide entry at one end of the long side of the compartment.
- Clear floor space adjacent to shower compartment: 30" Min. wide x 60" Min. long.

GRAB BARS

- Location: back & side wall farthest from the entry.
- Grab bars must not be provided above the seat.
- Installation: 6" Max. from adjacent walls.
- Grab bar height: 33" Min. to 36" Max.

SEATS

- Type: folding seat. See seat Fig.

CONTROLS

- Location with seat: side wall adjacent to the seat wall, 27" Max. from the side wall behind the seat; or back wall opposite the seat 15" Max., left or right, of the centerline of the seat.
- Location without seat: above the grab bar, but no higher than 48" above the shower floor, installed on the side wall farthest from the compartment entry.

SHOWER SPRAY UNIT

- See standard roll-in shower compartment.

THRESHOLDS

- Height: 1/2" Max.

ACCESSORIES ADA 603.3-603.4, 308; 606.1

MIRRORS

- Mirror above lavatories or countertops: 40" Max. above finish floor/ground.
- Mirrors not above lavatories or countertops: 35" Max. above finish floor/ground. Note: Both measured from floor to the bottom edge of the reflecting surface.
- Full-length mirror: 74" Min. measured from floor/ground to top edge of mirror.

COAT HOOKS, SHELVES, SOAP & TOWEL DISPENSERS

- Operable Parts Height: 48" Max. above finish floor.
- Soap and towel dispensers: 48" Max. if obstruction is 20" Max. or 44" Max. if obstruction is greater than 20".
- Shelves Height: 40" Min. and 48" Max. above the finish floor.



Priority 4 - Access to other items such as water fountains, and public telephones.

Water fountains are not required by ADA, but if provided, shall comply with requirements.

<https://www.access-board.gov/ada/guides/chapter-6-drinking-fountains/>

The plumbing code generally requires Hi/Low drinking fountains in NEW locations where there are more than 15 people. Recommend adding a Hi / Low drinking fountain when doing renovations. The Plumbing official is sometimes ok with existing buildings that provide free water (and drinking glasses) from not installing drinking fountains.

DRINKING FOUNTAINS ADA 602; 305; 306; 309	
<p>MINIMUM NUMBER</p> <ul style="list-style-type: none">• Min. of 2 drinking fountains must be provided.• 50% of the total number of drinking fountains provided must be wheelchair accessible, the other 50% must be for standing people. <p>CLEAR FLOOR SPACE</p> <ul style="list-style-type: none">• Clear Floor Space Size: 30" Min. x 48" Min.• Clear Floor Space must be positioned for a forward approach and centered on the unit.• Toe Clearance: 9" Min. high, 6" Max. depth• Horizontal Depth: 17" Min. to 25" Max.• Knee clearance: 11" deep Min at 9" above the finish floor or ground, and 8" deep Min. at 27" above the finish floor or ground.• Knee & toe clearances must be provided. See Fig. <p>OPERABLE PARTS</p> <ul style="list-style-type: none">• Operable parts: operable with one hand and must not require tight grasping, pinching or twisting of the wrist. Operable force: 5 lbs. Max.	<p>SPOUT</p> <ul style="list-style-type: none">• Spout outlet installation height: 36" Max. above the finish floor/ground.• Spout location: 15" Min. from the vertical support and 5" Max. from the front edge of the unit, including bumpers.• Spout outlets for standing persons: 38" Min. and 43" Max. above the finish floor or ground. <p>WATER FLOW</p> <ul style="list-style-type: none">• Flow of Water Height: 4" Min.• Location: 5" Max. from the front of unit.• Angle of the water stream: horizontal, relative to the front face of the unit.• Where spouts are located less than 3" of the front of the unit, the angle of the water stream must be 30° Max.• Where spouts are located between 3" Min. and 5" Max. from the front of the unit, the angle of the water stream must be 15° Max.

Most diagrams from the Builders Book – ADA Accessibility Details based on the 2010 ADA.



Opinion of probable costs:

Addition of a marked (van) accessible parking spot, a new ramp and ADA entrance, reconfigured exit stair and lift, and renovated kitchen.	
Site work	
1. New ADA parking access (hard, level surface), aisle striping, and signage.	\$ 2,800
2. Sidewalk regrade / repair	
3. Add accessible ramp to new ADA entrance on SE Side.	\$ 8,500
Subtotal of site work	\$ 11,300
Interior renovation and additions	
1 Demolition and rebuilding of new ADA compliant interior exit stair.	\$ 14,500
2 Addition of a wheelchair lift (requires Vt. Access board approval)	\$ 22,500
3 New ADA door hardware (~10 doors)	\$ 4,600
4 Upgrade kitchen and pass-through (if used) to be ADA compliant	\$ 24,000
5 Match and patch all disturbed finishes. Add interior ADA signage	\$ 1,000
Subtotal of interior renovations	\$ 66,500
Subtotal All Renovations	\$ 77,800
15% estimating contingency on items above	\$ 11,670
Opinion of probable Construction Cost	\$ 89,470
Budget Estimate of A/E and Permitting cost	\$ 6,530
Total Budget Estimate to Implement	\$ 96,000

Conclusion:

It is recommended that the Fire Department evaluate the ‘readily achievable’ modifications (meaning *‘easily accomplishable and able to be carried out without much difficulty or expense’*).

All of this shall be made accessible to the extent that it can without incurring disproportionate costs (generally no more than 20% of an overall construction budget for a modification project).

I would be happy to answer any questions you may have.

All photographs taken are also being provided as a link to a file of .JPG files (262 Photos).

Additional Resources about the ADA

[About the ADA Guides \(access-board.gov\)](http://access-board.gov)

[ADA Accessibility Standards \(access-board.gov\)](http://access-board.gov)



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ADA Specifics:

STATUTE	ARTICLE	REQUIRED
2010 ADA	201.1 Scope.	All areas of newly designed and newly constructed buildings and facilities and altered portions of existing buildings and facilities shall comply with these requirements.
2010 ADA	203	General Exceptions: 203.9 Employee Work Areas. – See below.
2010 ADA	203.9	203.9 Employee Work Areas. Spaces and elements within employee work areas shall only be required to comply with 206.2.8, 207.1, and 215.3 and shall be designed and constructed so that individuals with disabilities can approach, enter, and exit the employee work area.
2010 ADA	206.2.1 Site Arrival Points.	Each site arrival point must be connected by an accessible route to the accessible building entrance or entrances served... In addition, the accessible routes must serve all of the accessible entrances on the site.
2010 ADA	206.2.1 Site Arrival Points Exception 2.	Access from site arrival points may include vehicular ways. Where a vehicular way, or a portion of a vehicular way, is provided for pedestrian travel, ...
2010 ADA	206.2.2 Within a Site	At least one accessible route shall connect accessible buildings, accessible facilities, accessible elements, and accessible spaces that are on the same site.
2010 ADA	206.2.4 Spaces and Elements.	At least one accessible route shall connect accessible building or facility entrances with all accessible spaces and elements within the building or facility which are otherwise connected by a circulation path unless exempted by 206.2.3 as amended by VT Access rules.
2010 ADA	206.4 Entrances.	Entrances shall be provided in accordance with 206.4. Entrance doors, doorways, and gates shall comply with 404 and shall be on an accessible route complying with 402.
2010 ADA	206.4.1 Public Entrances.	At least 60 percent of all public entrances shall comply with 404.
2010 ADA	206.5.2 Rooms and Spaces	Within a building or facility, at least one door, doorway, or gate serving each room or space complying with these requirements (Accessible and providing user passage) shall comply with 404.
2010 ADA	207 Accessible Means of Egress (IBC 1007)	Accessible spaces shall be provided with not less than one accessible means of egress. Where more than one means of egress is required from any accessible space, each accessible portion of the space shall be served by not less than two accessible means of egress.
2010 ADA	211.2 Drinking Fountains: Minimum Number	Where provided - No fewer than two drinking fountains shall be provided. One drinking fountain shall comply with 602.1 through 602.6 and one drinking fountain shall comply with 602.7.
2010 ADA	212.3 Sinks.	Where sinks are provided, at least 5 percent, but no fewer than one, of each type provided in each accessible room or space shall comply with 606 (Except Mop sinks).



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2010 ADA	213 Toilet Facilities and Bathing Facilities	213.1 General. Where toilet facilities and/or bathing facilities are provided, they shall comply with 213 (and 603).
2010 ADA	213.2.1 Unisex (Single-Use or Family) Toilet and Unisex Bathing Rooms.	Unisex toilet rooms shall contain not more than one lavatory, and (<i>not more than</i>) two water closets without urinals or one water closet and one urinal. Doors to unisex toilet rooms and unisex bathing rooms shall have privacy latches.
2010 ADA	213.3 Plumbing Fixtures and Accessories	213.3.1 Toilet Compartments. Where toilet compartments are provided, at least one toilet compartment shall comply with 604.8.1. In addition to the compartment required to comply with 604.8.1, at least one compartment shall comply with 604.8.2 where six or more toilet compartments are provided, or where the combination of urinals and water closets totals six or more fixtures. 213.3.2 Water Closets. Where water closets are provided, at least one shall comply with 604. 213.3.3 Urinals. Where more than one urinal is provided, at least one shall comply with 605. 213.3.4 Lavatories. Where lavatories are provided, at least one shall comply with 606 and shall not be located in a toilet compartment. 213.3.5 Mirrors. Where mirrors are provided, at least one shall comply with 603.3.
2010 ADA	Signs 216.1 General.	Signs shall be provided in accordance with 216 and shall comply with 703

NOTE: All new construction and alterations shall be in accordance with the “2010 ADA” as amended by the “2012 Vermont Access Rules”; as adopted by the Vermont Access Board per 2012 Vermont Fire & Building Safety Code.

---- END OF ADA STANDARDS REVIEW ----