

**CITY OF SAN DIEGO
M E M O R A N D U M**

DATE: October 14, 2004

TO: City Departments and City Facility Managers

FROM: Patti Boekamp, Engineering and Capital Projects Acting Director
Gary Halbert, Development Services Acting Director
Linda Woodbury, Disability Services Coordinator

SUBJECT: Forward and Side Reach Range Limits Standards for City Owned and Leased Facilities

This memorandum sets forth the City's recommendations to be used in the new construction, alteration, and/or addition of City owned or leased facilities and public way. These recommendations should be incorporated in all City contracts for new construction, alteration, and addition projects.

As part of the City's ongoing efforts to ensure compliance with the State and Federal accessibility laws¹, the City's Access Law Technical Group² is releasing this memorandum of recommendations on forward and side reach range limits standards that shall be applied to all building elements such as coat hooks, lockers, controls, operating mechanisms, and other operable parts designed for use by the public and staff in all City owned and leased facilities. When a recommendation is specified, it is to be followed in new construction, alterations, and additions to all City-owned and leased facilities unless, the Deputy Director and the Access Law Technical Group officially determine that to follow such a recommendation is impracticable either structurally or economically.

A reference to a specific code section is a reminder of current legal requirements, whereas a recommendation sets forth a goal which exceeds minimum legal requirements. The recommendations set forth here are in bold italics.

I. Forward Reach Range Limits

A. Existing Requirements:

If the clear floor space allows only forward approach to an object, the maximum height forward reach allowed shall be 48 inches. The minimum low forward reach height shall be 15 inches. If the high forward reach is over an obstruction and the depth of the obstruction is less than 20 inches, then the maximum high forward reach allowed shall be 48 inches. If the high forward reach is over an obstruction and the

¹ The California Building Code Title 24 Disabled Access Regulations (CBC Title 24) and the Americans with Disabilities Act (ADA)/Americans with Disabilities Act Accessibility Guidelines (ADAAG), respectively.

² Access Law Technical Group is a technical group of City staff formed to develop accessibility standards for construction (which may exceed minimum requirements), develop policies on accessible design, and provide resolution on unclear areas of accessibility requirements.

depth of the obstruction is 20 to 25 inches, then the maximum high forward reach allowed shall be 44 inches. CBC 1118B.5

If the clear floor space only allows forward approach to an object, the maximum high forward reach allowed shall be 48 inches. The minimum low forward reach is 15 inches. ADAAG 4.2.5

The maximum level forward reach over an obstruction with knee space below is 25 inches. When the obstruction is less than 20 inches deep, the maximum high forward reach is 48 inches. When the obstruction projects 20 to 25 inches, the maximum high forward reach is 44 inches. ADAAG 4.2.5

B. Recommendation:

1. *Where a forward reach is unobstructed:*

- a. *High Forward Reach: The preferred height is 44 inches above finish floor or ground, and 48 inches is the maximum. See Figure 308.2.1 below and draft 2004 ADAAG 308.2.*
- b. *Low Forward Reach: The preferred height is 18 inches above finish floor or ground, and 15 inches is the minimum. See Figure 308.2.1 below and draft 2004 ADAAG 308.2.*

Where such building elements are designed for use primarily by children, refer to ADAAG's Children's Reach Range Table.

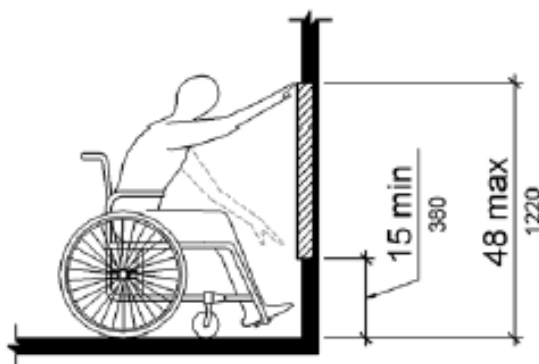
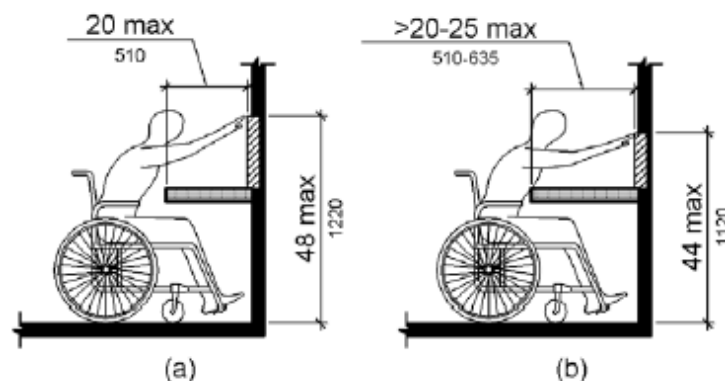


Figure 308.2.1
Unobstructed Forward Reach

2. ***Where a high forward reach is over an obstruction, the clear floor space should extend beneath the element for a distance not less than the required reach depth over the obstruction.***
 - a. ***Where the reach depth is 20 inches maximum: The preferred height is 44 inches above finish floor or ground, and 48 inches is the maximum. See Figure 308.2.2 below and draft 2004 ADAAG 308.2.***
 - b. ***Where the reach depth exceeds 20 inches: The preferred height is 42 inches, and 44 inches is the maximum above finish floor or ground; and, the reach depth should be 25 inches maximum. See Figure 308.2.2 below and draft 2004 ADAAG 308.2.***

Where such building elements are designed for use primarily by children, refer to ADAAG's Children's Reach Range Table.



**Figure 308.2.2
Obstructed High Forward Reach**

II. Side Reach Range Limits:

A. Existing Requirements:

If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall be 54 inches and the low side reach shall be no less than 9 inches above the floor. If the side reach is over an obstruction, the maximum high reach shall be 46 inches. CBC 1118B.6

If the clear floor space allows parallel approach by a person in a wheelchair, the maximum high side reach allowed shall be 54 inches and the low side reach shall be no less than 9 inches above the floor. ADAAG 4.2.6

If the depth of the obstruction is 24 inches and the maximum height of the obstruction is 34 inches, the maximum high side reach over the obstruction is 46 inches. ADAAG 4.2.6

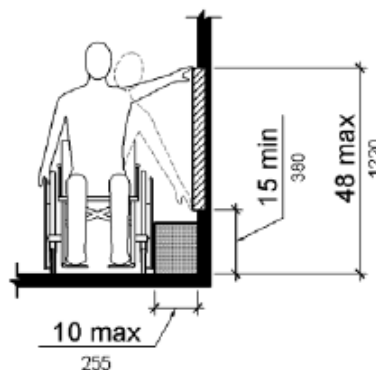
B. Recommendation:

1. *Where a side reach is unobstructed:*

- a. *High Side Reach: The preferred height is 44 inches above finish floor or ground where 48 inches is the maximum. See Figure 308.3.1 below and draft 2004 ADAAG 308.3.1.*
- b. *Low Side Reach: The preferred height is 18 inches above finish floor or ground where 15 inches is the minimum. See Figure 308.3.1 below and draft 2004 ADAAG 308.3.1.*

EXCEPTIONS: 1. An obstruction shall be permitted between the clear floor or ground space and the element where the depth of the obstruction is 10 inches maximum; 2. Operable parts of fuel dispensers shall be permitted to be 54 inches maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs - Draft 2004 ADAAG 308.3.1.

Where such building elements are designed for use primarily by children, refer to ADAAG's Children's Reach Range Table.



**Figure 308.3.1
Unobstructed Side Reach**

2. **Where a high side reach is over an obstruction, the height of the obstruction should be 34 inches maximum and the depth of the obstruction should be 24 inches maximum.**
- a. **High Side Reach: The preferred height is 44 inches above finish floor or ground where 48 inches is the maximum for a reach depth of 10 inches maximum. See Figure 308.3.2 below and draft 2004 ADAAG 308.3.2.**
- b. **Where the reach depth exceeds 10 inches: The preferred high side reach height is 42 inches above finish floor or ground where 46 inches is the maximum for a reach depth of 24 inches maximum. See Figure 308.3.2 below and draft 2004 ADAAG 308.3.2.**

EXCEPTIONS: 1. The top of washing machines and clothes dryers shall be permitted to be 36 inches maximum above the finish floor; 2. Operable parts of fuel dispensers shall be permitted to be 54 inches maximum measured from the surface of the vehicular way where fuel dispensers are installed on existing curbs - Draft 2004 ADAAG 308.3.2.

Where such building elements are designed for use primarily by children, refer to ADAAG's Children's Reach Range Table.

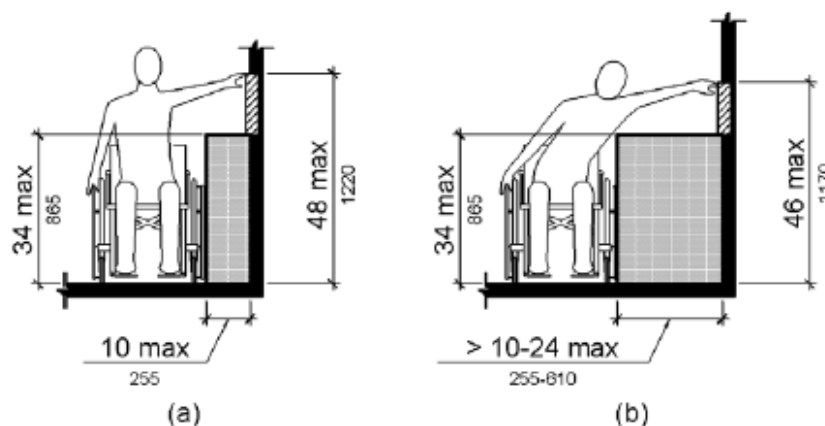


Figure 308.3.2
Obstructed High Side Reach

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These recommendations are specific to forward and side reach range limit standards only. The overall design is required to comply with the access laws and other governing laws, regulations and City policies adopted at the time of the submittal for a building permit review.

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