

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

DATE: December 21, 2004

TO: City Departments and City Facility Managers

FROM: Patti Boekamp, Engineering and Capital Projects Director
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SUBJECT: Accessible Standards on Cross Slope, Running Slope, and Pedestrian Ramp Design 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 including the public right-of-way. These recommendations should be incorporated in all City contracts for new construction, alteration, and addition projects as appropriate.

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 to address certain issues pertaining to accessible routes of travel. 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 to implement.

Please note this memorandum does not address curb ramps. Refer to Access Law Memorandum 2004-03 for City policy on curb ramp design and construction. Curb ramps and pedestrian ramps are often used interchangeably to refer to the ramps found at street corners. The precise name for this type of ramp, however, is a curb ramp. Pedestrian ramps are those which are paved walkways with a running slope steeper than 5.0% and integrated with landings and handrails.

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

I. Walks and Sidewalks at Accessible Routes

1. Cross Slope

¹ The California Building Code (CBC) and Americans with Disabilities Act (ADA)/Americans with Disabilities Act Accessibility Guidelines (ADAAG), respectively.

² Access Law Technical Group - 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.

A. Existing Requirements:

Cross Slope is the slope that is perpendicular to the direction of travel – 2001 CBC 1102B and ADAAG 3.5.

Surface cross slopes shall not exceed $\frac{1}{4}$ inch per foot except when the enforcing agency finds that due to local conditions it creates an unreasonable hardship³, the cross slope shall be increased to a maximum of one-half inch per foot (4.0%) for distances not to exceed 20 feet – 2001 CBC 1133B.7.1.3 Exception.

B. Recommendation:

In order to accommodate construction tolerances and variations in field conditions, the cross slope at paved walking surfaces that are part of an accessible route⁴ should have a maximum cross slope of 1.5% (1:66) gradient. This includes stabilized decomposed granite paved walking surfaces and sidewalks along the public right-of-way.

2. Running Slope

A. Existing Requirements:

1. Running Slope is the slope that is parallel to the direction of travel – 2001 CBC 219 and ADAAG 3.5.

2. Slope in the direction of travel shall not exceed 1:20 gradient (5.0%) – 2001 CBC 1133B.7.3 and ADAAG 4.3.7.

3. Any part of an accessible route with a slope greater than 1:20 gradient (5.0%) shall be considered a ramp and shall comply with ADAAG 4.8 – ADAAG 4.8.1.

4. Continuous common surface along the accessible route shall not be interrupted. All walks with continuous gradient shall have level areas at least 5 feet in length at intervals of at least every 400 feet – 2001 CBC 1133B.7.6.

³ Unreasonable Hardship is defined in the CBC as follows: Unreasonable hardship exists when the enforcing agency finds that compliance with the building standard would make the specific work of the project affected by the building standard unfeasible, based on an overall evaluation of the following factors: a. The cost of providing access; b. The cost of all construction contemplated; c. The impact of proposed improvements on financial feasibility of the project; d. The nature of the accessibility which would be gained or lost; e. The nature of the use of the facility under construction and its availability to persons with disabilities. The details of any finding of unreasonable hardship shall be recorded and entered in the files of the enforcing agency. 24 California Code of Regulations Section 222. Situations involving an application for unreasonable hardship should first be discussed with a team member of the Technical Group. Final determinations of unreasonable hardship are made by the building official.

⁴ Accessible Route is defined in the ADAAG as a continuous unobstructed path connecting all accessible elements and spaces of a building or facility. Exterior accessible routes may include parking access aisles, curb ramps, crosswalks at vehicular ways, walks, ramps, and lifts.

5. If an accessible route has less than 60 inches clear width, then passing spaces at least 60 inches by 60 inches shall be located at reasonable intervals not to exceed 200 feet. A T-intersection of two corridors or walks is an acceptable passing place – ADAAG 4.3.4.
6. The grade of the pedestrian access route within a sidewalk shall not exceed the grade established for the adjacent roadway - Draft ADAAG for Public Rights-of-Way Section 1103.5

EXCEPTION: The running slope of a pedestrian access route shall be permitted to be steeper than the grade of the adjacent roadway, provided that the pedestrian access route is less than 1:20, or complies with Draft ADAAG for Public Rights-of-Way Section 405.

B. Recommendation:

In order to accommodate construction tolerances and variations in field conditions, the running slope at paved walking surfaces that are part of an accessible route should not exceed 4.5% (1:22) gradient.

II. Pedestrian Ramp

1. Existing Requirements:

- A.
 1. Any path of travel shall be considered a ramp if its slope is greater than a 1 foot rise in 20 feet of horizontal run (1:20 gradient, or 5.0%). The least possible slope shall be used for any ramp – 2001 CBC 11335.5.1.
 2. The maximum slope of a ramp that serves any exit way, provides access for persons with physical disabilities or is in the path of travel shall be 1 foot rise in 12 feet of horizontal run (8.33% gradient) – 2001 CBC 1133B.5.3.
 3. The cross slope of ramp surfaces shall be no greater than 1 unit vertical in 50 units horizontal (2.0% slope) – 2001 CBC 1133B.5.3.1.
- B.
 1. Any part of an accessible route with a slope greater than 1:20 (5.0%) shall be considered a ramp and shall comply with 4.8 – ADAAG 4.8.1.
 2. The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12 (8.33%). The maximum rise for any run shall be 30 inches. Curb ramps and ramps to be constructed on existing sites or in existing buildings or facilities may have slopes and rises as allowed in 4.1.6(3)(a) if space limitations prohibit the use of a 1:12 (8.33%) slope or less – ADAAG 4.8.2.

3. The cross slope of ramp surfaces shall be no greater than 1:50 (2.0%). Ramp surfaces shall comply with 4.5 – ADAAG 4.8.6.

C. Recommendation:

1. ***The least possible slope should be used for a pedestrian ramp without exceeding the maximum running slope of 6.67% (1:15) gradient.***
2. ***If site conditions restrict the use of 6.67% (1:15) gradient or less, then the running slope of the pedestrian ramp(s) should not exceed 8.33% (1:12) gradient.***

These recommendations are specific to cross slope, running slope, and pedestrian ramp only. The overall design of the project are still required to comply with the CBC, the ADA/ADAAG, the City of San Diego Standard Drawings, and other governing laws, regulations and policies adopted at the time of the submittal of the project for a building or engineering permit review. In cases where certain accessibility design regulations and policies may have conflicts of standards, the stricter standard shall apply to the project.

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