### GENERAL REQUIREMENTS

1. An accessible route with running slope exceeding 5% requires an accessible ramp.  
   **Exception:** Curb ramps per accessibility correction list 3B  
   
   *CBC 11B-403.3*

2. Provide complete dimensions and coordinated detailing for each ramp.  

   *CBC 11B-405*

### WIDTH

3. Dimension minimum 48-inch clear width at each ramp run.  
   **Exception:** Ramp handrails may project into clear width maximum 3-1/2 inches on each side at handrail height  
   **Exception:** Minimum 36-inch clear width between handrails allowed at ramps serving residential occupancies with occupant load of 50 or less  
   **Exception:** Clear width of ramp runs on common-use circulation paths within employee work areas may be decreased if essential to function of work performed  
   
   *CBC 11B-405.5*

### SLOPES

4. Specify running slope for each ramp run.  

   *CBC 11B-405.2*

5. Specify and dimension the following to verify slope(s) indicated per item 4 does not exceed 8.3% for each ramp run:  
   - Elevation at each ramp landing  
   - Length of each ramp run between landings  

   *CBC 11B-405.2*

6. Specify maximum 2% cross slope for each ramp run and landing.  

   *CBC 11B-405.3*

### LANDING DIMENSIONS AND CONFIGURATION

7. Dimension the following level ramp landings per CBC Figure 11B-405.7:  
   - Top landing:  
     - Minimum 60-inch length  
     - Minimum 60-inch width  
   - Bottom landing:  
     - Minimum 72-inch length  
     - Minimum width equivalent to ramp run width  
   - Intermediate landing(s) required at changes in direction or where elevations specified per item 5 indicate vertical rise exceeds 30 inches:  
     - Minimum 72-inch length in the direction of downward travel from the upper ramp run at any change of direction  
     - Minimum 60-inch length for other intermediate landings  
     - Minimum 60-inch width at any change of direction  
     - Minimum width equivalent to ramp run width for other intermediate landings  
     - Intermediate landings placed at intervals such that no ramp run exceeds 30-inch vertical rise
8. Dimension ramp landings providing adequate strike edge clearance per CBC 11B-404.2.4 at any doors served by the landing.

9. Dimension ramp landings with any overlapping door/gate swings complying with the following:
   - Doors/gates in any position shall not reduce the minimum landing dimension to less than 42 inches
   - Doors/gates in fully open position shall not reduce the required landing width by more than 3 inches

SURFACE MATERIAL

10. Specify ramp run surfaces of stable, firm, and slip-resistant material with no changes in level other than running slope or cross slope.

11. Specify means of preventing accumulation of water on exterior ramps, landings, and approaches.

EDGE PROTECTION

12. At each side of ramp runs and landings not bounded by a wall, detail one of the following:
   - Minimum 4-inch-high continuous guide curb
     Exception: Minimum 2-inch-high continuous guide curb acceptable if ramp does not serve as means of egress
   - Minimum 2-inch-high continuous barrier preventing the passage of 4-inch-diameter sphere per CBC Figure 11B-405.9.2
     Exception: Edge protection not required on sides of ramp landings serving adjoining ramp run or stairway
     Exception: Edge protection not required on sides of ramps not required to have handrails and having flared sides with maximum 10% slope
     Exception: Edge protection not required on sides of ramp landings with adjacent vertical drop-off not exceeding 1/2 inch within 10 inches horizontally

FIGURE 11B-405.7
RAMP LANDINGS

CBC 11B-405.6 and CBC 11B-405.7

FIGURE 11B-405.9.2
CURB OR BARRIER EDGE PROTECTION

CBC 1010.10 and CBC 11B-405.9
13. At ramp runs or landings located more than 30 inches above adjacent floor or grade within 36 inches horizontally of open side, detail continuous guard minimum 42-inches above ramp surface with openings not allowing passage of 4-inch-diameter sphere. 
   **Exception:** Openings not allowing passage of 4 3/8-inch-diameter sphere allowed in portions of guard 36 inches to 42 inches high
   
   **CBC 1013.2, CBC 1013.3, and CBC 1013.4**

**HANDRAILS AND EXTENSIONS**

14. Provide handrail on each side of each ramp. 
   **Exception:** Handrails not required at ramps with less than 6-inch rise or 72-inch length serving door landings 
   **Exception:** Handrails not required on both sides of aisle ramps in assembly areas where handrail provided at either side or within aisle width 
   **Exception:** Handrails not required at ramps immediately adjacent to fixed seating in assembly areas 
   
   **CBC 11B-405.8 and CBC 11B-505.2**

15. Dimension top of handrail gripping surface at consistent height, minimum 34 inches and maximum 38 inches above ramp surface per CBC Figure 11B-505.4(b). 

   ![Figure 11B-505.4](image)

   **CBC 11B-505.4**

16. Provide continuous handrails the full length of each ramp run. 
   **Exception:** Handrails not required to be continuous in assembly areas adjacent to seating or within aisle width 
   
   **CBC 11B-505.3**

17. Provide continuous inner handrails between ramp runs at dogleg or switchback ramps. 

   **CBC 11B-505.3**

18. Detail extensions for each handrail complying with the following: 
   - Extending horizontally minimum 12 inches beyond the top and bottom of each ramp run per CBC Figure 11B-505.10.1 
   **Exception:** Extensions not required for continuous inner handrails at dogleg or switchback ramps 
   **Exception:** Extensions not required at discontinuous handrails serving assembly seating areas 
   - Extending in same direction as ramp run 
   **Exception:** In alterations where extension in direction of ramp run would create a hazard, extension may be turned 90 degrees from the ramp run 
   - Returning to a wall, guard, or landing surface, or otherwise continuous to handrail of adjacent ramp run 
   - Not protruding into required width of any adjacent route of travel 

   ![Figure 11B-505.10.1](image)

   **CBC 1003.3, CBC 11B-403.5, and CBC 11B-505.10**

19. Where handrail extensions protrude more than 4 inches into an adjacent route of travel, detail cane-detectable rail at maximum 27 inches above landing surface. 

   **CBC 11B-307.2**
20. Detail handrail gripping surfaces complying with the following:
   - If cross section is circular, minimum 1-1/4-inch and maximum 2-inch outside diameter per CBC Figure 11B-505.7.2(a)
   - If cross section is non-circular, minimum 4-inch and maximum 6-1/4-inch perimeter and maximum 2-1/4-inch cross-section dimension per CBC Figure 11B-505.7.2(b)
   - Continuous along length of handrail
   - Unobstructed on tops or sides
   - Not obstructed on bottoms more than 20% of handrail length
   - Any horizontal projections minimum 1-1/2 inches below handrail gripping surface per CBC Figure 11B-505.6
   - Rounded edges
   - No sharp or abrasive elements or adjacent surfaces
   - No handrail rotation within fittings

![Diagram of handrail cross-sections](image)

**FIGURE 11B-505.7.2**
HANDRAIL NON-CIRCULAR CROSS SECTION

**FIGURE 11B-505.6**
HORIZONTAL PROJECTIONS BELOW GRIPPING SURFACE

*CBC 11B-505.6, CBC 11B-505.7, CBC 11B-505.8, CBC 11B-505.9*

21. Detail minimum 1½-inch clearance between handrail gripping surface and adjacent surfaces per CBC Figure 11B-505.5.

![Diagram of handrail clearance](image)

**FIGURE 11B-505.5**
HANDRAIL CLEARANCE

*CBC 11B-505.5*

22. For handrails located in recesses, detail recess complying with the following:
   - Maximum 3-inches deep
   - Extending minimum 18 inches above top of handrail

*CBC 11B-505.5*