properties. For this reason, a margin of safety should be considered in selecting a type and depth of material for a specific use. When loose-fill materials are used, it is recommended that there be a means of containment around the perimeter of the use zone. Also, depending on playground location, weather conditions and frequency of use, frequent maintenance may be necessary to insure adequate depth and to loosen the materials which may have become packed (see additional maintenance discussion in Appendix C).

Installers of playground equipment are encouraged to attach markers to the equipment support posts that indicate the correct level of loose-fill protective surfacing material under and around the equipment. Such markers will assist maintenance workers in determining when replenishment of the material is necessary.

4.6 Other Characteristics of Surfacing Materials

Selection of a surfacing material for a specific location may be governed by the environmental conditions at that location. Appendix C lists some characteristics of surfacing materials that may influence the choice for a particular playground.

5. USE ZONES FOR EQUIPMENT

The use zone is an area under and around the equipment where protective surfacing is required. Other than the equipment itself, the use zone should be free of obstacles that children could run into or fall on top of and thus be injured.

5.1 Recommendations for Use Zones for Different Types of Playground Equipment

5.1.1 Stationary Equipment (excluding slides)

The use zone should extend a minimum of 6 feet in all directions from the perimeter of the equipment.

The use zones of two stationary pieces of playground equipment that are positioned adjacent to one another may overlap if the adjacent designated play surfaces of each structure are no more than 30 inches above the protective surface (i.e., they may be located a minimum distance of 6 feet apart). If adjacent designated play surfaces on either structure exceed a height of 30 inches, the minimum distance between the structures should be 9 feet.

5.1.2 Slides

The use zone in front of the access and to the sides of a slide should extend a minimum of 6 feet from the perimeter of the equipment. Note: This does not apply to embankment slides. However, the following recommendation applies to all slides, including embankment slides.

The use zone in front of the exit of a slide should extend a minimum distance of H + 4 feet where H is the vertical distance from the protective surface at the exit to the highest point of the chute (see Figure 1). However, no matter what the value of H is, the use zone should never be less than 6 feet but does not need to be greater than 14 feet. The use zone should be measured from a point on the slide chute where the slope is less than 5° from the horizontal. If it cannot be determined where the slope is less than 5° from the horizontal, the use zone should be measured from the end of the chute.

The use zone in front of the exit of a slide should never overlap the use zone of any other equipment.

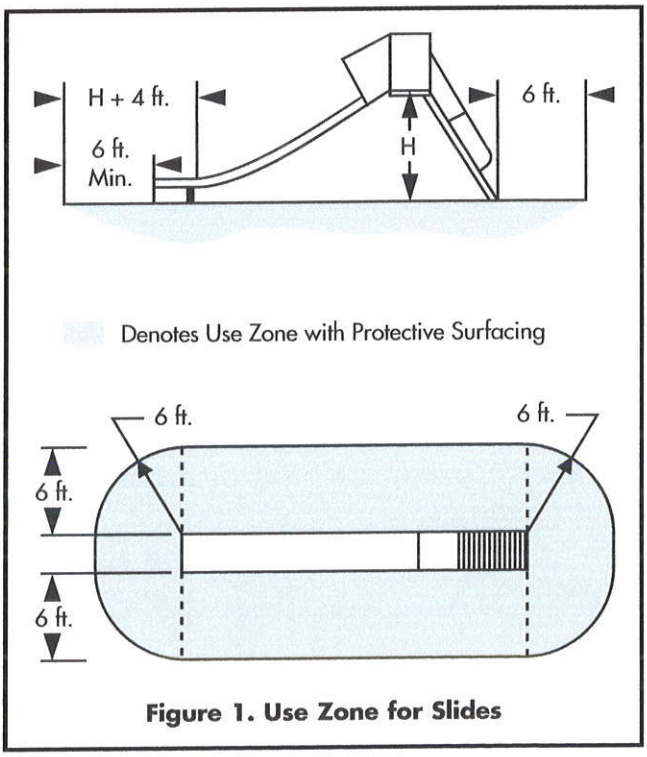

Figure 1. Use Zone for Slides

5.1.3 Single-Axis Swings

Because children may deliberately attempt to exit from a single-axis swing while it is in motion, the use zone in front of and behind the swing should be greater than to the sides of such a swing. It is recommended that the use zone extend to the front and rear of a single-axis swing a minimum distance of twice the height of the pivot point above the surfacing material measured from a point directly beneath the pivot on the supporting structure (see Figure 2). The use zone to the sides of a single-axis swing should follow the general recommendation and extend a minimum of 6 feet from the perimeter of the swing structure in accordance with the general recommendation for use zones. This 6 foot zone may overlap that of an adjacent swing structure.

The use zone to the front and rear of tot swings should extend a minimum distance of twice the height of the pivot point measured from a point directly beneath the pivot to the lowest point on the occupant seating surface when the swing is occupied.

The use zone to the front and rear of single-axis swings should never overlap the use zone of any other equipment.

5.1.4 Multi-Axis Swings

The use zone should extend in any direction from a point directly beneath the pivot point for a minimum distance of 6 feet + the length of the suspending members (see Figure 3). This use zone should never overlap the use zone of any other equipment. In addition, the use zone should extend a minimum of 6 feet from the perimeter of the supporting structure. This 6 foot zone may overlap that of an adjacent swing structure or other playground equipment structure in accordance with the recommendations in Section 5.1.1.

5.1.5 Merry-Go-Rounds

The use zone should extend a minimum of 6 feet beyond the perimeter of the platform. This use zone should never overlap the use zone of any other equipment.

5.1.6 Spring Rockers

The use zone should extend a minimum of 6 feet from the "at rest" perimeter of the equipment.

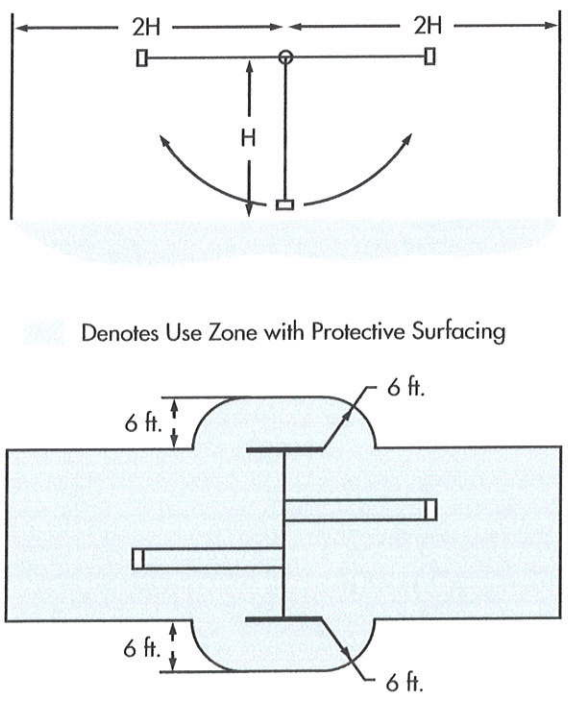

Figure 2. Use Zone for Single-Axis Swings

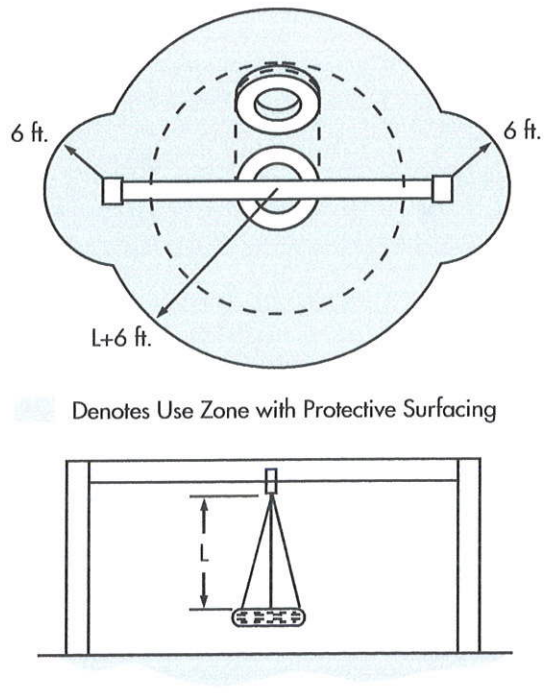

Figure 3. Use Zone for Multi-Axis Swings

Public Playground Safety Checklist

Here are 10 important tips for parents and community groups to keep in mind to help ensure playground safety.

1 Make sure ***surfaces*** around playground equipment have at least 12 inches of wood chips, mulch, sand, or pea gravel, or are mats made of safety-tested rubber or rubber-like materials.

2 Check that protective ***surfacing extends*** at least 6 feet in all directions from play equipment. For swings, be sure surfacing extends, in back and front, twice the height of the suspending bar.

3 Make sure play structures more than 30 inches high are ***spaced*** at least 9 feet apart.

4 Check for ***dangerous hardware,*** like open "S" hooks or protruding bolt ends.

5 Make sure ***spaces*** that could trap children, such as openings in guardrails or between ladder rungs, measure less than 3.5 inches or more than 9 inches.

6 Check for ***sharp points or edges*** in equipment.

7 Look out for ***tripping hazards,*** like exposed concrete footings, tree stumps, and rocks.

8 Make sure elevated surfaces, like platforms and ramps, have ***guardrails*** to prevent falls.

9 Check ***playgrounds regularly*** to see that equipment and surfacing are in good condition.

10 ***Carefully supervise children*** on playgrounds to make sure they're safe.

For additional copies, write: Playground Checklist, CPSC, Washington, DC 20207; call CPSC's toll-free hotline at 1-800-638-2772; or visit CPSC's web site at www.cpsc.gov.

009711