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Guidance for Safe Playgrounds

Play is critical for children—not just for their physical well-being but for their physical, mental, intellectual, and social development. That’s why our communities continue to support children’s playgrounds.

Over the past 20 years, significant improvements have been made in manufacturing and installing playground equipment. There is an increased understanding of the risks posed by equipment that is poorly designed, constructed, or installed. This has prompted changes to basic safety standards that render many older playgrounds obsolete and essentially unsafe. There is also an increased focus on usability by all children. As a result, handicap accessibility requirements now apply.

Whether you already have a playground or are thinking of installing new play equipment, this article will help you by outlining some considerations to enhance safety for all users while also reducing the potential for adverse liability claims against your municipality. The [Public Playground Safety Handbook](#) ^[1], published by the Consumer Product Safety Commission (CPSC), is an excellent resource to help you understand many of the current requirements.

Inspection and Maintenance of an Existing Playground

Grounds and Surfacing

Children at play will fall sooner or later, and **landing on a surface with some “give” helps protect children from many injuries.** Hard surfaces such as pavement, dirt, and grass are not appropriate protective surface materials. The **best protective surface material is engineered wood fiber** as it both provides excellent protection and meets requirements for handicap accessibility. Engineered wood fiber is similar to wood chips, but has been impact-tested for playground use and meets those standards.

- A typical depth of surfacing material is nine to 12 inches, but the depth that is appropriate for a particular play area really depends on the fall height of the play equipment there.
- Surface material must extend at least six feet beyond the perimeter of all play equipment. Some equipment, such as slides and swings, will require a larger perimeter.

It is important to **regularly monitor and maintain** an adequate depth of surfacing material. One tip is to mark ideal surfacing depths on equipment posts. This is a convenient visual indicator of desired surfacing depth and can be used to trigger raking, redistribution, or replacement of material. As with any facility that is subject to regular use, proper maintenance is key to managing safety.

Completely **cover in-ground hazards** such as exposed concrete footings and other solid anchors with an appropriate depth of surface material. Ideally, concrete should be cut off or terminated below grade. For existing structures, it is important to inspect equipment and other footings as they are subject to frost heaves that push the once-submerged concrete above grade. Protruding concrete is a hazard that requires immediate attention.

Clear movable hazards from play surfaces and paths. Remove roots, stumps, rocks, trash, fallen branches, toys, etc.

Remove standing water. If the problem persists, drainage should be installed.

Don't forget to look up. **Remove dead or overhanging branches** to prevent them from falling on people and equipment.

Equipment

Routine inspections and proper maintenance of play equipment will prolong the life of the equipment. They are also critical in identifying loose pieces, screws, bolts and other objects that might cause injury.

- Ensure that all fasteners (screws, bolts, nuts, etc.) are tight. Replace missing fasteners immediately.
- Keep playgrounds free of any protruding objects that can entangle clothing and scrape or puncture

a child's skin.

- Replace broken, missing, or worn out components immediately. Be aware that moving parts tend to wear out faster. Pay close attention to chain links, hinges, fasteners, and seats on swings. It may be necessary to remove the component until a replacement part is obtained and properly installed.
- Inspect S-hooks on swings and close gaps greater than the thickness of a dime.

Remove all homemade or self-fabricated equipment. Only use playground equipment that is purchased from playground equipment manufacturers to improve safety and minimize liability. **Play equipment designed for home use should not be allowed** on public playgrounds.

Ropes should be fixed at both ends. No rope should have enough slack to be looped back on itself and create a loop with a perimeter of more than five inches. More slack than this poses an entrapment and strangulation hazard.

Some **older equipment** was **made of pressure treated wood** and contains harmful chemicals such as chromated copper arsenate (CCA). To minimize the risk of CCA exposure, apply an oil- or water-based stain to all wooden surfaces every year. If this is not feasible, we recommend removing the equipment, particularly since applying a coating does not eliminate the splinter hazard.

Some high-risk playground equipment is *not recommended* for use on public playgrounds and should be removed from the play area. They include:

- trampolines
- swinging gates
- giant strides
- heavy metal swings (e.g., animal swings), because the heavy rigid metal framework presents a risk of impact injury
- multiple occupancy swings (other than tire swings), which have greater mass than single-user swings and present a risk of impact injury
- rope swings

- free-swinging ropes – they may fray or otherwise form a loop and are a strangulation hazard
- swinging dual exercise rings or trapeze bars (rings and trapeze bars on long chains) – they are generally considered to be athletic equipment and are not recommended for public playgrounds.

Planning a New Playground

Building a new playground can be a daunting task. It will be a considerable investment in time and money, and may even memorialize a generous community member. You'll want to get it right. The considerations below can help ensure that the playground you design and build will not lead to unforeseen or regrettable consequences.

- When selecting a location for a new playground, consider the following:
 - **What are the travel patterns** of children to and from the playground? Are there hazards in the way?
 - **Are there nearby hazards** such as parking lots, roads with traffic, bodies of water, drop-offs, or cliffs? Do you need to include fencing in the project?
 - **Is there shade** available, or do you need to provide shade?
 - **What is the slope** of the land? Will loose-fill materials wash away in heavy rains? Is the proposed area located in (or does it contain) a depression that will require drainage?
 - Make sure that the equipment you buy meets the Standard Consumer Safety Performance Specification for Playground Equipment for Public Use (ASTM F1487).
 - All play equipment should be purchased from and installed by a qualified vendor. PACIF has had claims involving new playground equipment that had been installed by the municipality on its own. In one case, a sharp play surface was installed backwards, so it faced toward the equipment users. This incorrect installation resulted in a fairly serious leg laceration to a child.
 - New public playgrounds must be readily accessible and usable by individuals with disabilities. Consult with your vendor or refer to [Accessible Play Areas Guidelines](#) [2], published by the U.S. Access Board, for more information.

- In the scope of your project, include installation of suitable protective surfacing. Some vendors will not install protective surfacing; however, some landscapers are knowledgeable in playground surfacing and may be able to help.
- Avoid using volunteers to install play equipment unless a qualified vendor is on-site and closely oversees the installation process.
- Avoid taking donations of used play equipment. Most used play equipment does not meet the current safety standard. Even if it does, improper installation may lead to increased liability exposure, which could negate any manufacturer's product liability coverage that might otherwise apply.
- Be sure to post signage to display the age appropriateness of equipment, hours of operation, and other rules and guidelines.

Can doing all this prevent all injuries? Probably not. It's a simple fact that children are risk-takers, and risk-taking will lead to injuries. Still, **while taking risk is part of child development, hazards are not**. Research has shown that if greater care is taken in the design, repair, and maintenance of playgrounds, a substantial number of playground accidents can be prevented, and the severity of injuries can be reduced. Having the right equipment, conducting regular inspections, and adhering to a good maintenance program are the best ways to accomplish those objectives.

If you would like a comprehensive safety inspection of your playground or have specific questions regarding municipal playgrounds, contact PACIF Loss Control at 800-649-7915 or losscontrol@vlct.org [3].

Jim Carrien, CPSI, *VLCT Loss Control Consultant*

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VLCT News, April 2018

Documents:

 [The Public Playground Safety Handbook, published by the U.S. Consumer Product Safety Commission \(CPSC\)](#) [4]

 [Summary of Accessibility Guidelines for Play Areas, developed by the U.S. Access Board](#) [5]

Resource Category:

- Guidance
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Links

[1] <https://www.cpsc.gov/s3fs-public/325.pdf>

[2] <https://www.access-board.gov/attachments/article/1369/play-guide.pdf>

[3] <mailto:losscontrol@vlct.org>

[4] https://www.vlct.org/sites/default/files/documents/Resource/PACIF_Recr_playgnd-CPSCGd.pdf

[5] https://www.vlct.org/sites/default/files/documents/Resource/PACIF_Recr_playgnd-ADAGd.pdf