PLAYGROUNDS AND PARKS

INTRODUCTION

Many Michigan communities maintain parks and playgrounds. Public Act 16 of 1997, ***The Playground Equipment Safety Act***, establishes the standards communities must meet if they provide playground equipment in their recreational facilities. The Act requires communities to adopt the standards for playground layout and maintenance as well as equipment selection that the U.S. Consumer Products Safety Commission recommends in its ***Public Playground Safety Handbook*** (2010). In addition, Public Act 16 incorporates the American Society for Testing and Materials (ASTM) standard for playgrounds for public use (F1487 *Standard Consumer Safety Performance Specification for Playground Equipment for Public Use*, F1292 *Standard Specification for Impact Attenuation of Surface Systems Under and Around Playground Equipment*, and other related standards). Failure to comply with Public Act 16 is a state civil infraction that might result in civil fines.

Parks and playground facilities enhance the community and provide the public with recreational opportunities. However, the use of playground equipment as well as the grounds themselves can lead to injuries. Therefore, management should manage this potential risk so that the public has a reasonable level of safety. Managers should also provide equal attention to the upkeep of play areas as well as to the proper assembly and maintenance of playground equipment.

Establishing routine regular inspections of the facilities and equipment throughout the year will help to prevent injuries and subsequent claims. In addition to reducing possible claims, year-round inspections and upkeep will reduce and control the amount of maintenance that the beginning of each season typically requires. Spring is an ideal time to conduct a walking survey of park and playground areas to obtain an overview of their general condition and any repairs that are necessary.

REGULAR INSPECTIONS

You should establish regular inspections to verify that play equipment is in proper condition and that the park and play areas receive necessary maintenance. High-use seasons may require more frequent inspections. Personnel who perform the inspections should receive training. Employees should document inspections using a checklist and appropriate corrective action should be taken and documented for any deficiencies. Proper documentation of inspections and appropriate corrective action could provide a strong legal defense in case of a lawsuit.

GENERAL ISSUES

In addition to maintaining park and playground areas in good condition, park management should consider establishing reasonable rules for park usage. Park management should post any rules in clearly visible locations around the perimeter of the park. Park Management should post rules that are specific to certain activities -- use of picnic areas, for example -- in areas where these activities take place. Rules should cover park hours, prohibited activities, and any other concerns. If police are to enforce these rules, the community should formalize the rules by legislative action.

FIELDS, TRAILS, WALKING TRACKS

These areas typically present numerous slip and/or trip exposures. Walking surfaces should be reasonably smooth. If wood chips or other materials are used as surfacing, employees should rake them and add more fill as necessary. Employees should routinely check for and correct potholes, erosion, rodent burrows, tree stumps and roots. They should remove debris such as broken glass, rocks as well as toxic plants and plants with thorns. If there are special hazards such as trenches, ponds, or streams, park management should post advisory and warning signs at appropriate intervals near each hazard.

PICNIC FACILITIES

Many parks and playgrounds offer picnic and/or barbecue areas. The location of barbecue grills and picnic tables requires careful consideration. Placing this equipment too close to paths of travel or play equipment can endanger young children. For the same reason, barbecue grills should not be too close to picnic tables. Employees should make certain that the area around each grill is clear of debris and material to reduce the fire hazard. Picnic tables and benches should be stable and have reasonably smooth surfaces. Park personnel should remove any benches and tables with splintered wood surfaces or sharp metal edges until park personnel can repair them or replace them with new equipment. Personnel should also examine equipment for loose fittings or hardware and replace or repair them as necessary. Signs should be in place that inform the public of any rules for the use of barbecue grills. These rules might include:

- Hours of use;
- A prohibition against children lighting the grill or cooking;
- A prohibition against the use of alcohol in the park;
- Months during which the public may use the grills.

PLAYGROUND ACTIVITIES

The U.S. Consumer Products Safety Commission (CPSC) has gathered statistics on the types and percentages of playground accidents. The CPSC estimates that there are over 200,000 annual emergency room visits due to the use of playground equipment. The most recent study of equipment-related incidents between 2001 and 2008 found that falls from equipment are the most common type of accident (44% of injuries). The next most common type of accident involves injury due to broken

equipment, tip over, design flaws, and improper assembly (23% of injuries). Other causes of injury involve entrapment or entanglement in equipment and colliding with other children or stationary equipment.

The CPSC's *Public Playground Safety Handbook* provides safety recommendations for specific types of equipment as well as use and fall zones and discusses various hazards that each type of equipment poses. Any apparatus your municipality purchases or acquires should meet these guidelines. In addition, the guide provides guidelines for installation and maintenance.

EQUIPMENT SELECTION AND INSTALLATION

Install new apparatus according to the manufacturer's specifications and the requirements of Public Act 16. Keep manufacturer's specifications on file. The manufacturer has already determined foundation, anchoring, angles of support, and clearance requirements for the equipment. Deviations from the assembly and installation instructions may violate the design specifications of the equipment and release the manufacturer from product liability.

LAYOUT OF PLAYGROUNDS

When designing a playground, you should consider children's safety as they travel to and from the playground. Experts recommend that playgrounds be enclosed to keep children from inadvertently running into the street. The enclosure does not eliminate the need for adult supervision. Park management should post signs informing the public of the need to watch their children as they play on the equipment.

The playground should have distinct areas for specific activities. Play equipment should be grouped together and away from open spaces used for running or games. Sand boxes and equipment for other quiet activities should have their own space. In addition, experts recommend separation of play areas for older and younger children. In particular, pre-school children should have their own equipment in an area that is separate from equipment for older children.

LAYOUT OF PLAYGROUND EQUIPMENT

Position each piece of equipment so that it has the appropriate amount of "use space". This space has two zones:

Fall Impact: This is the area beneath and around the apparatus where children falling from it are likely to land.

Non-Encroachment: This is the recovery space outside the impact zone for children to jump or dash off the equipment. This area should be free of obstruction so that children do not trip or run into anything before regaining control.

Follow specific guidelines for climbing apparatus, swings, slides and merry-go-rounds as offered in the CPSC's *Public Playground Safety Handbook:*

Climbing Equipment: Spacing in between bars should not be too wide or long for children's arms or legs. Hand rungs should fit children's hands. (Preferably they should be cylindrical and approximately 1-5/8" in diameter.) There should be an easy way for children to get up and down from the top. Bright, contrasting colors on rungs or steps help children perceive distances more easily.

Swings: Locate swings away from other equipment. There should be 2 to 6 swings in a series. The normal minimum clearance of 18" (non-encroachment zone) may need to be greater for swings that move in all directions, such as tire swings. Choose seats made of lightweight materials, with a smooth finish and rounded edges. Wood and metal seats are not recommended.

Slides: Slides can range from 4' to 16' in height. They may be straight, spiral, wavy, or tubular. To reduce excessive speed, limit the average incline to 30 degrees or less. Most manufacturers design slides with a 26-degree incline. Slides that are over 4' high should have sides at least 2-1/2" high and a top barrier at least 38" high.

Horizontal platforms should be sufficiently wide to help children make the transition from climbing to sitting. For slides attached to a composite structure, the length should be at least 3 feet; for freestanding slides, the recommended length is 22" minimum. Steps should be 7"-11" apart and be at least 15" wide with a permanent slip-resistant finish. Slides should have continuous handrails on both sides of the ladder. The exit region should be parallel to the ground and a minimum length of 11". For slides of 4 feet or less, the height of the exit region should be no more than 11" from the protective surface. Slides higher than four feet, should have exit regions that are at least 7" but no more than 15" above the protective surface. Position slides in shaded areas to prevent burns and glare and point slide exits away from congested areas of the playground. Metal slides can be especially hazardous for burn risks. Composite non-metal slides are preferred.

Merry-go-Rounds: According to the CPSC, this is the most common type of rotating equipment found on public playgrounds. The platform on which children stand should be approximately round and have handgrips to prevent falls. It should not have any sharp edges. No equipment should protrude beyond the edge of the base. The platform should never rotate at a speed higher than 13 feet per second.

Seesaws: The CPSC does not recommend the typical fulcrum seesaw for preschool children because they are not adept at coordinating their actions. Seesaws equipped with a spring centering device are acceptable. The device keeps the seesaw from hitting the ground abruptly if one child gets off it. Seesaws should have handholds at each seating area. These handholds should not turn or move when gripped. The fulcrum on seesaws should not present a pinch or crush hazard. To prevent the crushing of limbs between the seat and the ground, the CPSC recommends embedding a partial car tire or using other cushioning material underneath each seat of a fulcrum seesaw.

PLAYGROUND SURFACING

Proper playground surfacing materials can reduce the likelihood of serious injuries due to falls from playground equipment. The potential for injury is greater when no surfacing material cushions the fall in the use and/or fall zone of the equipment. During inspections, park personnel should use CPSC safety guidelines to determine the use and/or fall zones and how large an area of cushioning material they should provide to protect children at play on or near the equipment. Hard-packed soil, grass, concrete, and asphalt DO NOT provide cushioning properties. The following materials, at a minimum depth of 6 to 9 inches depending on the height of the equipment and the surface materials selected, provide effective, resilient surfacing:

- Rubber mats (tested to ASTM F1292)
- Pea gravel
- Sand
- Shredded rubber mulch
- Engineered wood chips
- Wood mulch (not CCA-treated)

Park personnel should rake or level playground-surfacing materials to maintain the proper cushioning depth of the materials. They should remove glass, rocks, and other foreign objects as they rake.

SUMMARY

A sound approach to constructing, maintaining, and operating your public parks and playgrounds benefits your community and every member of the Pool. If you have any questions or if we can assist in any other areas of risk management, please contact Loss Control Services.

MOST COMMON PLAYGROUND HAZARDS

- Hard surfaces
- Entrapment of the head and neck
- Entanglement of clothing or other articles
- Sharp points, corners, and edges
- Protrusions and projections
- Improper layout
- Exposed concrete footings
- Poor or no maintenance
- Pinch points, crush points and shearing points or exposed moving parts

A copy of the safety guidelines referenced in this bulletin can be found online at:
https://cpsc.gov/s3fs-public/325.pdf

Contact MML Risk Management Services Staff
or your Loss Control Consultant for more information.

Important Phone Numbers

MML Risk Management Services	734.662.3246 or 800.653.2483
Loss Control Services	800.482.0626

Note:
This document is not intended to be legal advice.
It only identifies some of the issues surrounding this topic.
Public agencies are encouraged to review their procedures with an expert or a competent attorney who is knowledgeable about the subject.

GENERAL MAINTENANCE CHECKLIST FOR PLAYGROUNDS

This checklist is based on the CPSC's *Public Playground Safety Handbook*. Using it will help ensure that your playgrounds meet the minimum guidelines for public playground safety that the CPSC has established. You are encouraged to obtain a copy of the Handbook by writing to U.S. Consumer Products Safety Commission, Washington, D.C. 20207 or online at https://www.cpsc.gov/safety-education/safety-guides/playgrounds/public-playground-safety-handbook.

General Maintenance	**Yes**	**No**	**Comments**
▪ Playground free of miscellaneous debris or litter?			
▪ All trash barrels in place?			
▪ All trash barrels empty when park opens?			
▪ Are staff ensuring that trash barrels being emptied frequently?			
Damage	**Yes**	**No**	**Comments**
Are the following free of broken or missing pieces and in good general repair? Check for signs of vandalism or wear: broken or missing handrails or guardrails, rungs on ladders, frayed or cracked swing seats, damage to fences, signs and benches.			
Swings			
See-saws			
Merry-go-rounds			
Slides			
Climbers			
Sliding poles			
Spring rockers			
Other:			
Surfacing	**Yes**	**No**	
Are all surfacing materials:			
▪ Sufficiently deep to protect children when they fall?			
▪ In good condition?			
▪ Free of foreign objects?			
▪ Loose, particularly in heavy traffic areas?			

General Hazards	Yes	No	
Check all equipment and other playground features for any hazards. Are all playground features and equipment:			
▪ Free of sharp points, corners and edges?			
▪ Free of projections?			
▪ Furnished with protective caps or plugs as necessary?			
▪ Free of entanglement hazards such as open “S” hooks or joints?			
▪ Free of pinch, crush, and shearing points?			
▪ Free of trip hazards? These include exposed footings on anchoring devices as well as rocks, roots, or other obstacles.			
Deterioration of Equipment	**Yes**	**No**	
Are all equipment and other playground features:			
▪ Stable and anchored firmly?			
▪ Free of rust, rot, cracks and splinters?			
▪ Free of corrosion, especially where structures come in contact with the ground?			
Security of Hardware	**Yes**	**No**	
Are all moving parts, such as swing bearing hangars, properly maintained and free of signs of wear?			
Are all connecting, covering or fastening hardware secure and in good condition?			
▪ ‘S” hooks, especially on swings?			
▪ Connection points on flexible climbing equipment?			
▪ Other?			
Equipment Use Zones	**Yes**	**No**	
Are all areas where people use equipment free of obstacles? This includes:			
▪ Baseball diamonds			
▪ Volleyball courts			
▪ Basketball courts			
▪ Open playing areas			
Drainage Systems	**Yes**	**No**	
Is the entire play area free of drainage problems? Watch for pooling of water, especially in heavy use areas such as those under swings or at the end of slides.			