

TO: James L. App, City Manager
FROM: Doug Monn, Interim Public Works Director
SUBJECT: City Park Merry-go-Round Update
DATE: January 3, 2006

NEEDS: For the City Council to consider options regarding the merry-go-round formerly located in the City Park.

- FACTS:**
1. At the July 19, 2005 City Council meeting, a determination was made to not return the City Park merry-go-round to the park playground as an active piece of playground equipment.
 2. As an alternative, Council determined that the status of the merry-go-round should be considered in conjunction with the future Park Master Plan, and that the plan should evaluate mounting the merry-go-round in the park as a static display.
 3. A request was made of the City Attorney to review and report on the potential liabilities associated with this approach.
 4. It is a fact that a non-moving merry-go round looks nearly identical to regulated playground equipment. Without a fence or an equally clear indicator that the structure is inaccessible to the public, nothing would differentiate a non-moving merry-go-round from other playground climbing equipment
 5. As a result, it is the opinion of the City Attorney that the merry-go-round will still present a significant liability to the City should it be installed in the park without clear visual and physical indicators that establish the structure is not intended for play or use, but a static historical display.

**ANALYSIS
AND**

CONCLUSION: As noted above, it would be possible to return the merry-go-round to the park so long as there are clear indicators it is non-accessible to the public. However, without some barrier, it is almost certain that the structure would be used as climbing equipment by children. Based on a review of the requirements for stationary play equipment, the City could be found in violation of playground regulations whether or not an injury occurred. If an injury did occur, the City could be liable under general tort for unsafe premises.

POLICY

REFERENCE: State Health and Safety Code Sections 115725 through 115750.
CPSC Handbook Section 12.1. Gov. Code § 835

FISCAL

IMPACT: The cost impacts associated with installing the merry-go-round within a clearly secured area cannot be determined until a design and/or materials to be used are established. This could be decided in conjunction with the park master plan should Council decide to do so and the related costs determined at that time. However, should the City reinstall

the merry-go-round without a secured barrier, the City would be exposed to significant financial loss should there be an accident resulting in personal injury.

OPTIONS:

- a. As part of the future City Park Master Plan, evaluate mounting the merry-go-round as a static display that it is not accessible to the public.
- b. Do not return the merry-go-round to the Park.
- c. Amend, modify, or reject the above options.

Attachments:

- 1) Legal Opinion from Iris Yang, City Attorney
- 2) CPSC Handbook Section 12.1

DATE September 7, 2005
TO Jim App
FROM Iris Yang; Celestial Cassman
RE Reinstallation of Merry-go-round as an Inoperable, Inaccessible Display
Without a Barrier Preventing Access

Background

As we previously advised, to avoid falling within the scope of playground equipment regulations, a structure must not be designated or intended for play by children. Although the City would not intend the inoperable merry-go-round to be "for play by children," it could easily be mistaken as such due to the placement of the structure in a park, its historic use as playground equipment, and its inevitable appearance as playground equipment. Thus, in our memorandum dated July 28, 2005 we recommended reinstallation of the merry-go-round only if the City provided clear visual and physical indicators that the structure is not intended for play or use, such as signs and/or fencing.

Question Presented

May the merry-go-round be reinstalled as an inoperable structure without a physical barrier such as a fence?

Brief Answer

No, not without significant potential liability. Based on the photographs we have seen of the merry-go-round (attached hereto) we are concerned that it closely resembles climbing equipment regulated under playground equipment laws. (In fact, the merry-go-round, while about 6 or more feet high, has fewer bars to hold on to than the climbing structures depicted in the Handbook.) Without a physical barrier preventing access to and climbing on the structure, we are concerned that the stationary merry-go-round looks too similar to regulated playground equipment to avoid the scope of playground equipment laws. Cautionary signage cannot be read by young children most at risk of injury from use of the structure in a manner contrary to the City's intent. See CPSC Handbook Section 12.1.1, attached hereto.

Discussion

The nonmoving merry-go round looks nearly identical to regulated playground equipment. Specifically, without a fence or equally clear indicator that the structure is inaccessible to the public, nothing more than the City's true intentions differentiates the nonmoving merry-go-round from climbing equipment known as a "simple arch climber" or "geodesic dome climber." See CPSC Handbook Section 12.1 and Figure 14. Without some barrier, it is almost certain that the structure would be used as climbing equipment by children. Based on a brief review of the requirements for this type of stationary play equipment, the merry-

go-round does not comply.¹ The City could be found in violation of playground regulations whether or not an injury occurred. If an injury did occur, the City could be liable under general tort for unsafe premises. Gov. Code § 835. Falls from equipment constitute three-fourths (3/4) of playground injuries. ASTM Handbook, Introduction.

Conclusion

Based on the foregoing, we recommend against reinstallation of the merry-go-round without a physical barrier preventing public access.

¹ As we explained in our June 15, 2005 memorandum, reinstallation of the structure as play equipment may violate applicable safety standards regardless of whether or not the equipment was physically modified to comply with modern regulations. The law requires that playground equipment be assembled and installed in compliance "with the written instructions of the manufacturer." 22 Cal. Code Regs. § 65730. Given the age of the structure, the City likely does not have written installation instructions from the original manufacturer. Even if the City does have written installation instructions from the manufacturer, those instructions would not comply with current safety standards, as evidenced by the structure's noncompliant design. The original instructions, if any, would not delineate how to modify the equipment to meet modern standards. Therefore, any modified installation would occur in absence of manufacturer instructions and in violation of this legal requirement.

The space between the stepped platforms should follow the recommendations for entrapment in enclosed openings in Section 9.6. If the space exceeds 9 inches and the height of the lower platform above the protective surfacing exceeds 30 inches for preschool equipment or 48 inches for school-age equipment, infill should be used to reduce the space to less than 3.5 inches.

12. MAJOR TYPES OF PLAYGROUND EQUIPMENT

12.1 Climbing Equipment

12.1.1 General

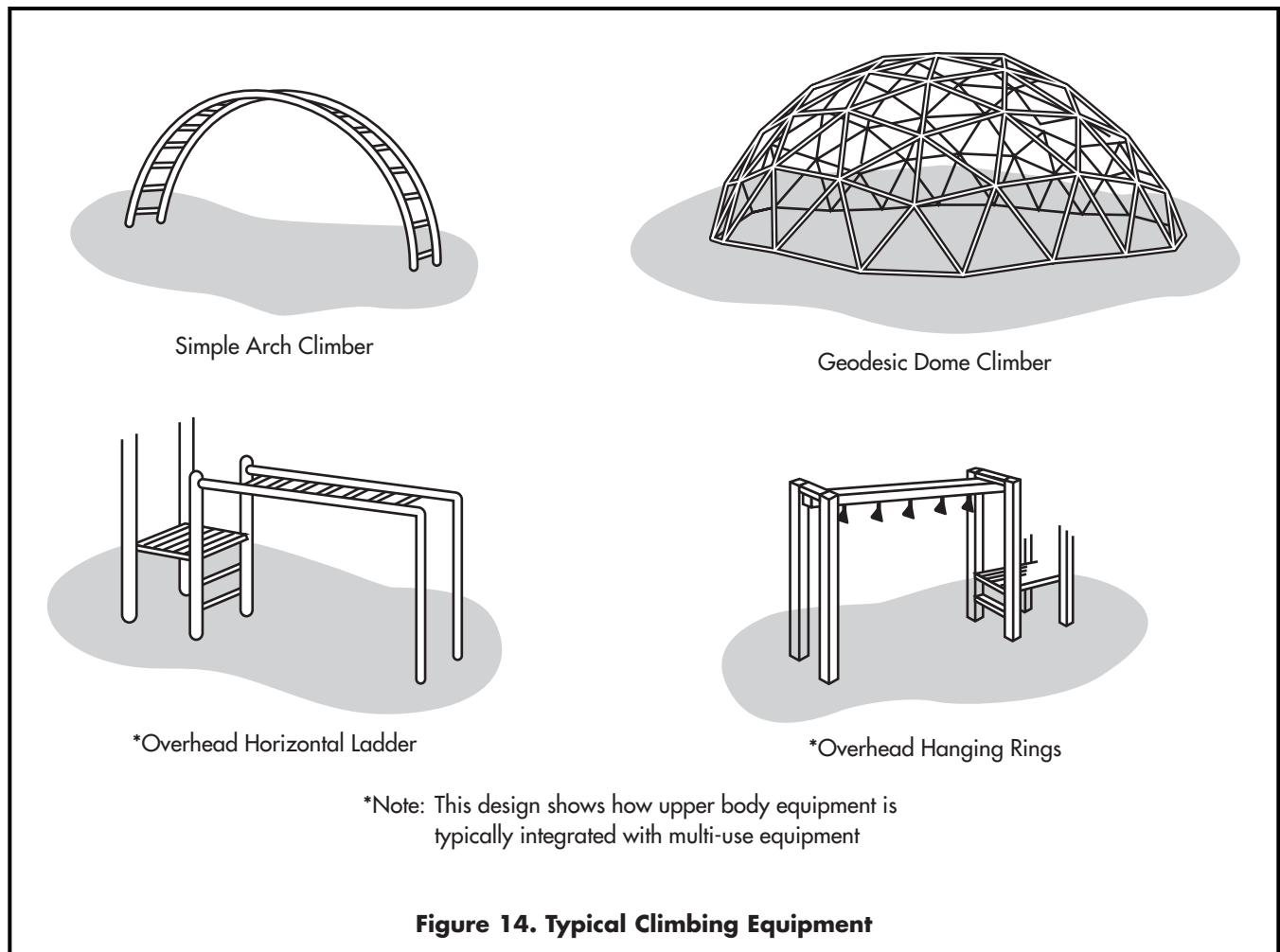
The term climbers refers to a wide variety of equipment, including arch climbers, sliding poles, chain or net climbers, upper body equipment (overhead horizontal ladders, overhead rings), dome climbers, parallel bars,

balance beams, cable walks, suspension bridges, and spiral climbers, as well as composite structures with linked platforms (see Figure 14 for examples). Climbing equipment is generally designed to present a greater degree of physical challenge than other equipment on public playgrounds.

Older children tend to use climbing equipment more frequently and proficiently than younger ones. Because very young children have not yet developed some of the physical skills necessary for certain climbing activities (including balance, coordination, and upper body strength), they may have difficulty using more challenging climbing components such as rung ladders, non-rigid climbers, arch climbers, and upper body devices.

12.1.2 Design Considerations

Since the more challenging modes of access discussed in Section 10 are also intended to be used as climbing



devices, the recommendations for the size of hand-gripping components and stepped platforms covered in that section are applicable to climbing equipment.

Climbers should not have climbing bars or other structural components in the interior of the structure onto which a child may fall from a height of greater than 18 inches.

Climbing equipment should allow children to descend as easily as they ascend. One way of implementing this recommendation is to provide an easier, alternate means of descent, such as another mode of egress, platform, or piece of equipment. For example, a stairway can be added to provide a less challenging mode of descent than a vertical rung ladder or flexible climbing device. The levels of challenge that characterize different types of access are discussed in Section 10.

Preschool-Age Children: Offering an easy way out is particularly important on climbing devices intended for preschoolers, since their ability to descend climbing components emerges later than their ability to climb up the same components.

12.1.3 Climbers With Non-Rigid Components

Net and chain climbers use a flexible grid of ropes or chains for climbing. Tire climbers are also described as flexible climbers. These may have the tires secured tread-to-tread in the form of a sloping grid or the tires may be suspended individually by chains or other means to provide access to an elevated platform. Since net, chain, and tire climbers have flexible components that do not provide a steady means of support, they require more advanced balance abilities than conventional ladders.

Flexible grid climbing devices which provide access to platforms should be securely anchored at both ends. When one end is connected to the ground, the anchoring devices should be installed below ground level, beneath the base of the protective surfacing material.

Connections between ropes, cables, or chains within the climbing grid or between tires should be securely fixed. Spacing between the horizontal and vertical components of a climbing grid should satisfy all entrapment criteria (see Section 9.6).

Flexible grid climbing devices are not recommended as the sole means of access to equipment intended for preschool-age children.

12.1.4 Arch Climbers

Arch climbers consist of metal or wood rungs attached to convex side supports. They may be free standing (see Figure 14) or be provided as a more challenging means of access to other equipment (see Figure 12). Because of this extra challenge, they should not be used as the sole means of access to other equipment. A less challenging option will ensure that children use the arch climber because they are willing to assume the challenge and not because they are forced to use it. Free standing arch climbers are not recommended for preschool-age children.

The rung diameter and spacing of rungs on arch climbers should follow the recommendations for rung ladders in Table 2.

12.1.5 Horizontal Ladders and Overhead Rings

Four-year-olds are generally the youngest children capable of using upper body devices such as these. The recommendations below are designed to accommodate children 4 through 12 years of age.

The space between adjacent rungs of overhead ladders should be greater than 9 inches to satisfy the entrapment recommendations (see Section 9.6). The center-to-center spacing of horizontal ladder rungs should be as follows:

- **Preschool-Age Children:** no more than 12 inches.
- **School-Age Children:** no more than 15 inches.

This recommendation does not apply to the spacing of overhead rings because, during use, the gripped ring swings through an arc and reduces the distance to the gripping surface of the next ring.

Horizontal ladders intended for preschool-age children should have rungs that are parallel to one another and evenly spaced.

The first handhold on either end of upper body equipment should not be placed directly above the platform or climbing rung used for mount or dismount. This

minimizes the risk of children impacting rigid access structures if they fall from the first handhold during mount or dismount.

The maximum height of upper body equipment measured from the center of the grasping device to the protective surfacing should be:

- **Preschool-Age Children:** 60 inches.
- **School-Age Children:** 84 inches.

If overhead swinging rings are suspended by chains, the maximum length of the chains should be 12 inches.

12.1.6 Sliding Poles

Vertical sliding poles are designed to be more challenging than some other types of climbing equipment. They are not recommended for preschool-age children who may lack the upper body strength and coordination to successfully slide down the pole. Furthermore, once younger children have grasped the pole, they would be forced to slide down it since there is no alternative option.

Sliding poles should be continuous with no protruding welds or seams along the sliding surface and the pole should not change direction along the sliding portion.

The horizontal distance between a sliding pole and the edge of the platform or other structure used for access to the sliding pole should be at least 18 inches. This minimum distance applies to all points down the sliding pole.

No point on the sliding pole at or above the level of the access structure, where a child is likely to reach for the pole, should be more than 20 inches away from the edge of the access structure.

The pole should extend at least 60 inches above the level of the platform or other structure used for access to the sliding pole.

The diameter of sliding poles should be no greater than 1.9 inches.

Sliding poles and their access structures should be located so that traffic from other events will not interfere with the users during descent.

12.1.7 Climbing Ropes

A climbing rope should be secured at both ends and not be capable of being looped back on itself creating a loop with an inside perimeter greater than 5 inches.

12.1.8 Balance Beams

To avoid injuries during falls, balance beams should be no higher than:

- **Preschool-Age Children:** 12 inches.
- **School-Age Children:** 16 inches.

12.1.9 Layout of Climbing Components

When climbing components are part of a composite structure, their level of challenge and mode of use should be compatible with the traffic flow from adjacent components.

Upper body devices should be placed so that the swinging movement generated by children on this equipment cannot interfere with the movement of children on adjacent structures, particularly other children descending on slides.

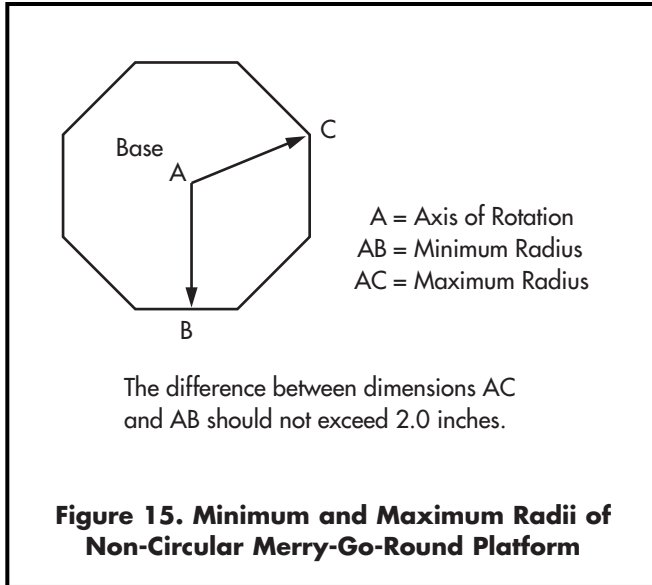
The design of adjacent play structures should not facilitate climbing to the top support bars of upper body equipment.

12.2 Merry-Go-Rounds

Merry-go-rounds are the most common type of rotating equipment found on public playgrounds. Children usually sit or stand on the platform while other children or adults push the merry-go-round to make it rotate. In addition, children often get on and off the merry-go-round while it is in motion.

Merry-go-rounds may present a physical hazard to preschool-age children who have little or no control over such products once they are in motion. Therefore, children in this age group should always be supervised when using merry-go-rounds. Following are recommendations for merry-go-rounds:

The rotating platform should be continuous and approximately circular. The difference between the minimum and maximum radii of a non-circular platform should not



exceed 2.0 inches (see Figure 15). No components of the apparatus, including handgrips, should extend beyond the perimeter of the platform. The underside of the perimeter of the platform should be no less than 9 inches above the level of the protective surfacing.

Children should be provided with a secure means of holding on. Where handgrips are provided, they should conform to the general recommendations for hand-gripping components in Section 10.2.1.

There should not be any accessible shearing or crushing mechanisms in the undercarriage of the equipment. The rotating platform of a merry-go-round should not have any sharp edges. The surface of the platform should be continuous with no openings between the axis and the periphery that permit a rod having a diameter of 5/16 inch to penetrate completely through the surface.

A means should be provided to limit the peripheral speed of rotation to a maximum of 13 ft/sec.

Merry-go-round platforms should not be provided with an oscillatory (up and down) motion.

12.3 Seesaws

The typical seesaw (also known as a "teeter totter") consists of a board or pole supported at the center by a fulcrum and having a seat at each end (see Figure 16). Seesaw use is quite complex because it requires two children to cooperate and combine their actions.

Younger children do not generally have the skills required to effectively use fulcrum seesaws. Therefore, seesaws are not recommended for preschool-age children unless they are equipped with a spring centering device to prevent abrupt contact with the ground should one child elect to dismount.

There is a trend to replace fulcrum seesaws on public playgrounds with spring-centered seesaws which have the advantage of not requiring two children to coordinate their actions in order to play safely (see discussion of Spring Rocking Equipment in Section 12.5).

The fulcrum of fulcrum seesaws should not present a pinch or crush hazard.

Partial car tires, or some other shock-absorbing material, should be embedded in the ground underneath the seats of fulcrum seesaws, or secured on the underside of the seats. This will help prevent limbs from being crushed between the seat and the ground, as well as cushion the impact. Fulcrum see-saws may also be equipped with a spring centering mechanism to minimize the risk of injury due to impact with the ground.

Handholds should be provided at each seating position for gripping with both hands and should not turn when grasped. Handholds should not protrude beyond the sides of the seat. Footrests should not be provided on fulcrum see-saws unless they are equipped with a spring centering mechanism to minimize the likelihood of impact with the ground.

Fulcrum seesaws should be constructed so that the maximum attainable angle between a line connecting the seats and the horizontal is 25°.

