



## **Residential Swimming Pool Fences and Safety Devices**

### **Required Inspections**

1. **Pins and Setbacks** - The property corner pins must be exposed to view and the locations for the fence corner posts marked. If the property corner pins cannot be found, it is the owner's responsibility to have a registered land surveyor or civil engineer establish these points.
2. **Electrical Bonding** - If applicable, the bonding connections and wire shall be visible to the inspector.
3. **Final Inspections** – Were applicable Pool, Electrical, Plumbing, Mechanical, and/or Fence finals  
**Please schedule once work has been completed to close permit.**

### **Definition and Scope**

A swimming pool is designed and manufactured to be connected to a circulation system and intended for swimming, recreational bathing or wading that are capable of containing water over 24 in. deep. This includes in-ground and aboveground pools; hot tubs; spas and fixed-in-place wading pools but excludes manmade lakes or ponds created through the collection of storm water or drainage runoff. A barrier shall surround outdoor pools and spas.

(IRC R326, Muni Code 150.07 (2), ISPSC 101.2, 305)

### **Exception**

A swimming pools with a power safety cover or spas with a safety cover complying with ASTM F 1346.

### **Indoor swimming pools**

Walls surrounding indoor swimming pools are not required to have alarms, power safety covers or self-closing doors with self-latching devices.

### **Barrier height and clearances- Outdoor Pools**

The top of the barrier shall be at least 48 in. above grade measured on the side of the barrier that faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier must be 2 in. for non-solid surfaces (grass/gravel) and 4 in. for solid surfaces (concrete/deck) measured on the side of the barrier that faces away from the swimming pool. Where the top of the pool structure is above grade, the barrier is authorized to be at ground level or mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier must be 4 in. (ISPSC 305.2.1)

- **Openings** - Openings in the barrier must not allow passage of a 4in.diameter sphere. (ISPSC 305.2.2)
- **Solid barrier surface** - Solid barriers, which do not have openings, must not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints. (ISPSC 305.2.3)
- **Closely spaced horizontal members** - Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is less than 45 in., the horizontal members must be located on the swimming pool side of the fence. Spacing between vertical members must not exceed 1.75 in. in width. Where there are decorative cutouts within vertical members, spacing within the cutouts must not exceed 1.75 in. in width. (ISPSC 305.2.5)
- **Mesh fences** (Other than chain-link fence) - Must be installed per manufacturer's instructions. The bottom must be no more than 1 in. above grade or surface and not allow mesh to be lifted more than 4 in. Opens through, under, and next to cannot allow a sphere 4 in. in dia. to pass. Must be attached at minimum of 45in. above grade. Mesh fences must not be installed on top of on ground residential pool. (ISPSC 305.2.4)

- **Widely spaced horizontal members** - Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 in. or more, spacing between vertical members must not exceed 4 in. Where there are decorative cutouts within vertical members, spacing within the cutouts must not exceed 1.75 in. in width. (ISPSC 305.2.6)
- **Chain link fence** - Maximum opening size for chain link fences is 1.75 in. square unless the fence is provided with slats fastened at the top or the bottom, which reduce the openings to no more than 1.75 in. (ISPSC 305.2.7)
- **Diagonal dimensions** - Maximum opening size for diagonal members 1.75 in. The angle of diagonal members must not be greater than 45degrees. (ISPSC 305.2.8)

### Clear zones and Barrier setbacks

It is required to be a clear zone of 36 in. on the exterior side of a barrier and any structure or equipment that could be used to climb the barrier. The waterside of the barrier shall not be less than 20 in. from water's edge. (ISPSC 305.2.9, 305.2.10)

### Gates

Access doors or gates shall comply with the requirements of a barrier and must be equipped to accommodate a locking device. Pedestrian access gates must open outward away from the pool and must be self-closing and have a self-latching device. Doors or Gates other than pedestrian access gates must have a self-latching device. (ISPSC 305.3)

- **Latches** - Where the release mechanism of the self-latching device is located less than 54 in. from the bottom of the gate, the release mechanism must be located on the pool side of the gate at least 3 in. below the top of the gate, and the door, gate and barrier must have no opening greater than ½ in. within 18 in. of the release mechanism.
- **Utility or service gates** - will not be considered pedestrian use but must remain locked.
- **Double gates** – one leaf must be secured in place and the adjacent leaf must be self-closing and latching.

### Dwelling wall as a barrier ISPSC 305.4 (3)

Where a wall of a dwelling serves as part of the barrier, one of the following must apply:

1. Window with a sill height less than 48in. and doors with direct access to the pool through that wall must be equipped with an alarm which produces an audible warning when the door and its screen are opened. The alarm must be listed and labeled "water hazard entrance alarm" in accordance with UL 2017. The deactivation switch must be located at least 54 in. above the finished floor.
2. The pool may be equipped with a power safety cover which must comply with ASTM F 1346.
3. Other means of protection, such as self-closing doors with self-latching devices, which are approved by the administrative authority, may be accepted so long as the degree of protection afforded is not less than the protection afforded by item 1 or 2.

### Pool structure as a barrier ISPSC 305.5

Where an aboveground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, may serve as a barrier where all the following conditions are present.

- Top of the pool wall is 48 in. above grade along the perimeter and manufacturer approves this use.
- Barrier mounted on top of pool wall is 48in. above grade along the entire perimeter and installed per manufactures guidelines.
- Ladders or steps are capable of being secured, locked, or removed to prevent access.
- Opening left from removing or securing ladders does not allow 4 in. sphere to a pass.

### Entrapment avoidance

Suction outlets must be designed in accordance with ANSI/APSP-7. (ISPSC 310)

## Facts & Figures on Child Drowning's (U.S. Consumer Product Safety Commission)

### LOCATION OF DEATHS

**75%** of deaths of children younger than 14 years old occurred at a residence— **53%** of those victims were younger than 5 years old.



**58%**  
in-ground pools



**17%**  
above-ground pools



**9%**  
portable pools

### INJURIES

**4,900** Average number of emergency department pool and spa drowning-related injuries treated annually from 2011–2013



\*The U.S. Consumer Product Safety Commission estimates injuries based on the National Electronic Injury Surveillance System. The full report is here: <http://www.poolsafely.gov/wp-content/uploads/2014/05/Pool-or-Spa-Submersion-Estimated-Injuries-and-Reported-Fatalities-2014-Report.pdf>

- Drowning is the #1 leading cause of unintentional death for children ages 1-4 according to the Centers for Disease Control and Prevention.
- 390 Annual average number of drowning deaths in pools and spas of children ages 0-14 (2012-2013) CPSC.
- African American children between ages 5 and 19 are 5.5 times more likely to drown in a pool than white children of the same age.
- 76% of deaths involved children younger than age 5
- 67% of deaths involved children between ages 1 and 3

## PREVENTION: Simple Steps Save Lives

- Stay within **arm's reach** at **ALL** times in and around the pool
- Assign an adult **water watcher**
- **Fence** your pool: Use a 4-foot or taller fence with self-closing or self-latching gates.
- Install pool and gate **alarms**
- Learn how to **Swim**
- Learn **CPR**
- Take the **Pool Safely Pledge:**  
<http://www.poolsafely.gov/pledge>