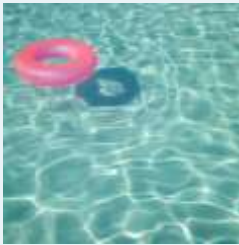




# RESIDENTIAL SWIMMING POOLS

REVISION DATE: JANUARY 2017

## *Swimming Pool Safety*



All swimming pools over 24 inches deep require a building permit. An accurate site plan must be submitted with the application for a building permit. Swimming pools may be constructed/erected in rear yards only. Any wall of a swimming pool shall not be located less than six feet (6') from any rear or side property line or less than 10' from any building.

In-ground, On-ground and Above-ground Swimming Pools must comply with Chapter 42 and Appendix G of the 2012 International Residential Code and with the following ANSI/NSPI (American National Standards Institute/National Spa and Pool Institute) standards:

- ANSI/NSPI-5: Residential In-Ground Swimming Pools, or
- ANSI/NSPI-4: Above-ground/On-ground Residential Swimming Pool:

All Swimming Pools must comply with the following:

- ANSI/NSPI-8: The Model Barrier Code for Residential Swimming Pools, Spas and Hot Tubs

## *Definitions:*

### *Private Swimming Pool*

Any structure that contains water over 24 inches in depth and which is used, or intended to be used, for swimming or recreational bathing in connection with an occupancy in Use Group R-3 and which is available only to the family and guests of the householder. This includes in-ground, above-ground, on-ground swimming, and storable pools.



### *Storable Swimming or Wading Pool*

Those that are constructed on or above the ground and are capable of holding water with a maximum depth of 48 inches made of molded polymeric walls or inflatable fabric walls regardless of dimension.

## *Barrier Requirements:*

### *A) Application*

The provisions of this section shall control the design of barriers for residential swimming pools, spas and hot tubs. These design controls are intended to provide protection against potential drownings and near-drownings by restricting access to swimming pools, spas and hot tubs.



### *B) Outdoor swimming pools:*

An outdoor swimming pool including an in-ground, above-ground, or on-ground pool, hot tub or spa, shall be surrounded by a barrier which shall comply with the following:

- 1) The top of the barrier shall be at least 48 inches above grade measured on the side of the barrier which faces away from the swimming pool. The maximum vertical clearance between grade and the bottom of the barrier shall be 2 inches measured on the side of the barrier which faces away from the swimming pool. Where the top of the pool structure is above grade, such as an above-ground pool, the barrier may be at ground level, such

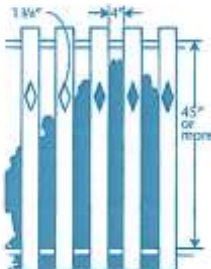


as the pool structure, or mounted on top of the pool structure. Where the barrier is mounted on top of the pool structure, the maximum vertical clearance between the top of the pool structure and the bottom of the barrier shall be 4 inches.

2) Openings in the barrier shall not allow the passage of a 4-inch-diameter sphere.

3) Solid barriers which do not have openings, such as a masonry or stone wall, shall not contain indentations or protrusions, except for normal construction tolerances and tooled masonry joints.

4) Where the barrier is composed of horizontal and vertical members, and the distance between the tops of the horizontal members is less than 45 inches, the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed  $1\frac{3}{4}$  inches in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed  $1\frac{3}{4}$  inches in width.



5) Where the barrier is composed of horizontal and vertical members, and the distance between the tops of the horizontal members is 45 inches or more, spacing between vertical members shall not exceed 4 inches. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed  $1\frac{3}{4}$  inches in width.

6) Maximum mesh size for chain link fences shall be a  $2\frac{1}{4}$ -inch square, unless the fence has slats fastened at the top or the bottom which reduce the openings to not more than  $1\frac{3}{4}$  inches.



7) Where the barrier is composed of diagonal members, such as a lattice fence, the maximum opening formed by the diagonal members shall not be more than  $1\frac{3}{4}$  inches.



8) Access gates shall comply with the requirements of Items 1 through 7, and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool, and shall be self-closing and have a self-latching device. Gates, other than pedestrian access gates, shall have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches from the bottom of the gate, the release mechanism and openings shall comply with the following:

8.1) The release mechanism shall be located on the pool side of the gate at least 3 inches below the top of the gate; and

8.2) The gate and barrier shall have no opening larger than  $\frac{1}{2}$  inch within 18 inches of the release mechanism.

9) Where a wall of a dwelling serves as part of the barrier, one of the following conditions shall be met:

9.1) The pool shall be equipped with a powered safety cover in compliance with ASTM F 1346;

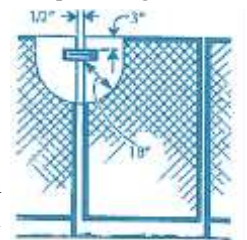
9.2) Doors with direct access to the pool through that wall shall be equipped with an alarm which produces an audible warning when the door and/or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. The deactivation switch(es) shall be located at least 54 inches above the threshold of the door; or

9.3) Other means of protection, such as self-closing doors with self-latching devices, which are approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded by Item 9.1 or 9.2 described herein.

10) Where an above-ground pool structure is used as a barrier or where the barrier is mounted on top of the pool structure, and the means of access is a ladder or steps:

10.1) The ladder or steps shall be capable of being secured, locked or removed to prevent access; or

10.2) The ladder or steps shall be surrounded by a barrier which meets the requirements of Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4-inch diameter sphere.



**C) Indoor swimming pools:** Walls surrounding an indoor swimming pool shall comply with Item 9 above.

**D) Prohibited locations:** Barriers shall be located to prohibit permanent structures, equipment or similar objects from being used to climb them.

**E) Barrier exceptions:** Spas or hot tubs with a safety cover which complies with ASTM F 1346 shall be exempt from these provisions.

### PUMPS

A cord-connected pool filter pump shall incorporate an approved system of double insulation or its equivalent and shall be provided with means for grounding only the internal and non-accessible noncurrent-carrying metal parts of the appliance. The means for grounding shall be an equipment grounding conductor run with the power-supply conductors in a flexible cord that is properly terminated in a grounding-type attachment plug having a fixed grounding contact. Cord and plug connected pool filter pumps shall be provided with a ground fault circuit interrupter that is an integral part of the attachment plug or located in the power supply cord within 12-inches of the attachment plug.

### FLEXIBLE CORDS

Flexible cords used in conjunction with a pool shall be installed in accordance with the following:

- A) For other than underwater lighting fixtures, fixed or stationary equipment shall be permitted to be connected with a flexible cord to facilitate removal or disconnection for maintenance or repair. For other than storable pools, the flexible cord shall not exceed 3-feet in length. Cords that supply swimming pool equipment shall have a copper equipment grounding conductor not smaller than 12 AWG and shall terminate in a grounding-type attachment plug.
- B) Other than listed low-voltage lighting systems not requiring grounding, wet-niche lighting fixtures that are supplied by a flexible cord or cable shall have all exposed noncurrent-carrying metal parts grounded by an insulated copper equipment grounding conductor that is an integral part of the cord or cable. Such grounding conductor shall be connected to a grounding terminal in the supply junction box, transformer enclosure and shall be not smaller than the supply conductors and not smaller than 16 AWG.
- C) For other than underwater and storable pool lighting fixtures, the requirements of Item (a) shall apply to any cord equipped lighting fixture that is located within 16 feet radially from any point on the water surface.

### UNDERGROUND WIRING

Underground wiring shall not be installed under or within the area extending 5-feet horizontally from the inside walls of pools and outdoor hot tubs and spas.

Exception: Where the wiring is installed to supply pool, spa or hot tub equipment or where space limitations prevent wiring from being routed 5-feet or more horizontally from the inside walls. Where installed within 5-feet of the inside walls, the wiring method shall be rigid metal conduit, intermediate metal conduit or a nonmetallic raceway system. Metal conduit shall be corrosion resistant and suitable for the location. The minimal cover depth shall be 6-inches for rigid and intermediate metal conduits and 18-inches for nonmetallic conduits.



### ***GROUND-FAULT CIRCUIT-INTERRUPTERS REQUIRED***

All 15 and 20-ampere, single phase, 125-volt receptacles located within 20-feet of the inside walls of pools and outdoor spas and hot tubs shall be protected by a ground-fault circuit interrupter. Outlets supplying pool pump motors from branch circuits with short circuit and ground-fault protection rated at 15 or 20 amperes, 125-volts through 240-volts, single phase, whether by receptacle or direct connection, shall be provided with ground-fault circuit interrupter protection for personnel.

### ***LIGHTING FIXTURES***

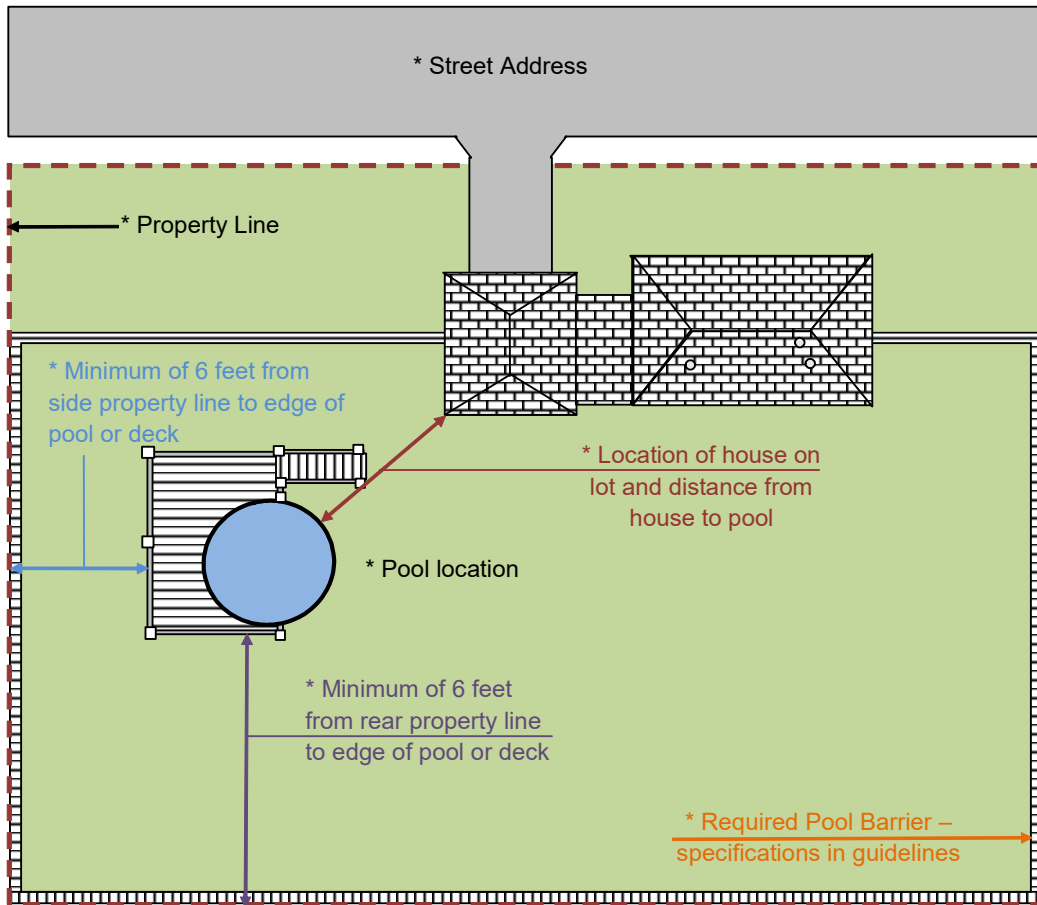
In outdoor pool areas, luminaires, lighting outlets, and ceiling suspended paddle fans shall not be installed over the pool or over the area extending 5-feet horizontally from the inside walls of a pool except where no part of the luminaire or ceiling suspended paddle fan is less than 12-feet above the maximum water level.

Lighting fixtures for swimming pools shall not have exposed metal parts and shall be listed for the purpose as an assembly. In addition, lighting fixtures for swimming pools shall comply with the following requirements:

- A) **Within the Low-Voltage Contact Limit:** A lighting fixture installed in or on the wall of a swimming pool shall be part of a cord and plug-connected lighting assembly. The assembly shall:
1. Have a fixture lamp that is suitable for the use at the supplied voltage;
  2. Have an impact-resistant polymeric lens, fixture body, and transformer enclosure;
  3. Have a transformer with a primary rating not over 150 volts; and
  4. Have no exposed metal parts.
- B) **Over the Low-Voltage Contact Limit but not over 150 Volts:** A lighting assembly without a transformer or power supply, and with the fixture lamp(s) operating at over the low-voltage contact limit, but not over 150-volts, shall be permitted to be cord and plug-connected where the assembly listed as an assembly for the purpose with all of the following:
1. It has an impact-resistant polymeric lens and fixture body.
  2. A ground-fault circuit interrupter with open neutral conductor protection is provided as an integral part of the assembly.
  3. The fixture lamp is permanently connected to the ground-fault circuit interrupter with open-neutral protection.
  4. It has no exposed metal parts.

*Site Plan Example:*

Measurements and items noted with an asterisk are required on actual site plan. Actual site plan need not be to scale or this detailed as long as all required measurements and items are included.



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*The Community Development Department is made up of five full-time employees including a Department Director, Administrative Assistant, Principal Planner, Building Inspector, and Code Compliance Official. Our office is located at 204 North Main Street. The goal of the department is to serve the citizens of Republic through pursuance, guidance, and assistance in the development of the City. This is accomplished through marketing and strategic planning accompanied by oversight and enforcement of the City's Building Codes, Zoning Codes and Subdivision Regulations.*



*Swimming Pool Safety*

Swimming pools should always be happy places. Unfortunately, each year thousands of American families confront swimming pool tragedies—drownings and near-drownings of young children.

These tragedies are preventable. This City of Republic handbook offers guidelines for pool barriers that can help prevent most submersion incidents involving young children.

This handbook is designed for use by owners, purchasers, and builders of residential pools, spas, and hot tubs.

**Community Development Department**

