



## **HARFORD COUNTY GOVERNMENT DIVISION OF BUILDING SERVICES**

### **Residential Swimming Pool Guidelines**

**Based upon the 2018 International Building Code and International Residential Code  
Bill 19-032**

This document is a synopsis of code related provisions for the design, construction and installation of residential swimming pools in Harford County, MD. This document is not all inclusive and is only intended to be a technical resource for the installation and protection of a residential swimming pool in Harford County. It is highly recommended that individuals familiarize themselves with the provisions with the 2018 International Building Code, the 2018 International Residential Code and Bill 19-032 prior to planning the project.

Harford County has only adopted Sections 305 and 310 of the 2018 International Swimming Pool and Spa Code.

#### **ADDITIONAL RESOURCES**

Consumer Product Safety Commission – <https://www.cpsc.gov/> Search for Swimming Pools  
[www.poolsafety.gov](http://www.poolsafety.gov)

International Building Code and International Swimming Pool and Spa Code - Free Version -  
[https://codes.iccsafe.org/category/I-Codes?year\[\]=2018&page=1](https://codes.iccsafe.org/category/I-Codes?year[]=2018&page=1)

The Association of Pool and Spa Professionals - <http://apsp.org/>

#### **GENERAL REQUIREMENTS**

**Barrier Protection** (§82-2 B (66) Subsection 3109.1 (IBC) & §82-4 (12) R326.1 (IRC))

All swimming pools, spas and hot tubs shall be provided with barrier protection in accordance with Section 305 of the 2018 International Swimming Pool and Spa Code.

#### **Filling of Swimming Pools without Barrier**

No property owner or contractor shall fill a new swimming pool or spa with water until a permanent or temporary barrier has been approved by the Department. Temporary Barriers may remain in place for no more than 30 days unless approved by the Building Official.

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### **Building Permits**

All residential "Swimming Pools" installed in Harford County require the property owner to obtain a Building Permit from Harford County Government. As defined in Harford County Code, a "Swimming Pool" is "any structure intended for swimming, recreational bathing or wading that contain water over 24 inches deep. This included in-ground, above-ground and on-ground pools; hot tubs; spas and fixed in-place wading pools". *(Note: It is advised that property owners consult with the Harford County Department of Planning and Zoning prior to installing or erecting any pool not required to be permitted by the Harford County Building Code.)*

### **Electrical Permits**

The electrical distribution system supplying power to all newly installed/erected swimming pools either permanently installed or storable shall comply with Article 680 of the 2020 National Electric Code as adopted by Harford County. A Harford County Electrical Permit is required in order to install or modify the electrical distribution system.

A licensed Master Electrician is responsible for obtaining a permit for such work and oversee the installation.

Storable/Inflatable Pools (Temporary Pools) shall have a GFCI protected receptacle within the reach of the cord supplied with the listed pool pump without the addition of any extension cords.

### **Suction Entrapment Avoidance** (§82-2 B (67) Subsection 3109.2 (IBC) & §82-4 (13) R326.2 (IRC))

All swimming pools, spas and hot tubs shall be provided with Suction Entrapment Avoidance in accordance with Section 310 of the 2018 International Swimming Pool and Spa Code

### **DEFINED TERMS**

**Power Safety Cover** - A pool cover that is placed over the water area and is opened and closed with a motorized mechanism activated by a control switch.

**Public Swimming Pool** - A pool other than a residential pool that is intended to be used for swimming or bathing and is operated by an owner, lessee, operator, licensee or concessionaire, regardless of whether a fee is charged for use.

**Residential** - For the purposes of this code, residential applies to detached one- and two-family dwellings and townhomes not more than 3 stories in height.

**Residential Swimming Pool (Residential Pool)** - A pool intended for use which is accessory to a residential setting and available only to the household and its guests. All other pools shall be considered public pools for the purposes of this code.

**Safety Cover** - A structure, fabric or assembly, along with attendant appurtenances and anchoring mechanisms, that is temporarily placed or installed over an entire pool, spa or hot tub and secured in place after all bathers are absent from the water.

**Spa** - A product intended for the immersion of persons in temperature-controlled water circulated in a closed system, and not intended to be drained and filled with each use. A spa usually includes a filter, an electric, solar or gas heater, a pump or pumps and a control, and can also include other equipment such as lights, blowers and water-sanitizing equipment.

**Swimming Pool** - Any structure intended for swimming recreational bathing or wading that contains water over 24" deep. This includes in-ground, above-ground and on-ground pools; hot tubs; spas and fixed-in-place wading pools

### **SECTION 305 OF THE 2018 INTERNATIONAL SWIMMING POOL AND SPA CODE SWIMMING POOL ENCLOSURES AND SAFETY DEVICES**

**305.1 General.** The provisions of this section shall apply to the design of barriers for restricting entry into areas having pools and spas. Where spas or hot tubs are equipped with a lockable safety cover complying with ASTM F1346 and swimming pools are equipped with a powered safety cover that complies with ASTM F1346, the areas where those spas, hot tubs or pools are located shall not be required to comply with Section 305.2 through 305.7.

**305.2 Outdoor swimming pools and spas.** Outdoor pools and spas and indoor swimming pools shall be surrounded by a barrier that complies with Sections 305.2.1 through 305.7.

**305.2.1 Barrier Height and Clearances.** Barrier heights and clearances shall be in accordance with all of the following:

1. The top of the barrier shall be not less than 48 inches (1219 mm) above grade where measured on the side of the barrier that faces away from the pool or spa. Such height shall exist around the entire perimeter of the barrier and for a distance of 3 feet (914 mm) measured horizontally from the outside of the required barrier.
2. The vertical clearance between grade and the bottom of the barrier shall not exceed 2 inches (51 mm) for grade surfaces that are not solid, such as grass or gravel, measured on the side of the barrier that faces away from the pool or spa.
3. The vertical clearance between the bottom of the barrier and a solid surface below the barrier, such as concrete, shall not exceed 4 inches (102 mm) measured on the side of the required barrier that faces away from the pool or spa.
4. Where the top of the pool or spa structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool or spa structure. Where the barrier is mounted on the top of the pool or spa, the vertical clearance between the top of the pool or spa and the bottom of the barrier shall not exceed 4 inches (102 mm).

**305.2.2 Openings.** Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) sphere.

**305.3 Solid Barrier Surfaces.** Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and tooled masonry joints.

**305.2.4 Mesh Fence as a Barrier.** Mesh fences, other than chain link fences in accordance with section 305.2.7, shall be installed in accordance with the manufacturer's instructions and shall comply with the following:

1. The bottom of the mesh fence shall be not more than 1 inch (25 mm) above the deck or installed surface or grade.

2. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not permit the fence to be lifted more than 4 inches (102 mm) from grade or decking.
3. The fence shall be designed and constructed so that it does not allow passage of a 4-inch (102 mm) sphere under any mesh panel. The maximum vertical clearance from the bottom of the mesh fence and the solid surface shall not be more than 4 inches (102 mm) from grade or decking.
4. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143 mm) above grade. Common attachment devices include, but are not limited to, devices that provide security equal to or greater than that of a hook-and-eye type latch incorporating a spring-actuated retaining lever such as a safety gate hook.
5. Where a hinged gate is used with a mesh fence, the gate shall comply with section 305.3.
6. Patio deck sleeves such as vertical post receptacles that are placed inside the patio surface shall be of a nonconductive material.
7. Mesh fences shall not be installed on top of on-ground residential pools.

**305.2.5 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 inches (1143 mm), the horizontal members shall be located on the pool or spa side of the fence. Spacing between vertical members shall not exceed 1 3/4 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1 3/4 inches (44 mm) in width.

**305.2.6 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 inches (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed 1 3/4 inches (44 mm).

**305.2.7 Chain Link Dimensions.** The maximum opening formed by a chain link fence shall be not more than 1 3/4 inches (44 mm). Where the fence is provided with slats fastened at the top and bottom which reduce the openings, such openings shall be not more than 1 3/4 inches (44 mm).

**305.2.8 Diagonal Members.** Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be not more than 1 3/4 inches (44 mm). The angle of diagonal members shall be not greater than 45 degrees (0.79 rad) from vertical.

**305.2.9 Clear Zone.** There shall be a clear zone of not less than 36 inches (914 mm) between the exterior of the barrier and any permanent structures or equipment such as pumps, filters and heaters that can be used to climb the barrier.

**305.10.2 Poolside Barrier Setbacks.** The pool or spa side of the required barrier shall be not less than 20 inches (508 mm) from the water's edge.

**305.3 Gates.** Access gates shall comply with the requirements of subsections 305.3.1 through 305.3.3 and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool or spa, shall be self-closing and shall have a self-latching device.

**305.3.1 Utility or Service Gates.** Gates not intended for pedestrian use, such as utility or service gates, shall remain locked when not in use.

**305.3.2 Double or Multiple Gates.** Double gates or multiple gates shall have at least one leaf secured in place, and the adjacent leaf shall be secured with a self-latching device. The gate and barrier shall not have openings larger than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the latch release mechanism. The self-latching device shall comply with the requirements of subsection 3109.4.11.3.

**305.3.3 Latches.** Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3 inches (76 mm) below the top of the gate, and the gate and barrier shall not have openings greater than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

**305.4 Structure Wall as a Barrier.** Where a wall of a dwelling or structure serves as part of the barrier and where doors or windows provide direct access to the pool or spa through that wall, one of the following shall be required:

1. Operable windows having a sill height of less than 48 inches (1219 mm) above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window, door or their screens are opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017. In dwellings or structures not required to be Accessible Units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located 54 inches (1372 mm) or more above the finished floor. In dwellings or structures required to be Accessible Units, Type A units or Type B units, the operable parts of the alarm deactivation switches shall be located not greater than 54 inches (1372 mm) and not less than 48 inches (1219 mm) above the finished floor.
2. A safety cover that is listed and labeled in accordance with ASTM F 1346 is installed for the pools and spas.
3. An approved means of protection, such as self-closing doors with self-latching devices, is provided. Such means of protection shall provide a degree of protection that is not less than the protection afforded by item 1 or 2.

**305.5 On-ground Residential Pool Structure as a Barrier.** An on-ground residential pool wall structure or a barrier mounted on top of an on-ground residential pool wall structure shall serve as a barrier where all of the following conditions are present:

1. Where only the pool wall serves as the barrier, the bottom of the wall is on grade, the top of the wall is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, the wall complies with the requirements of subsection 305.2 and the pool manufacturer allows the wall to serve as a barrier.
2. Where a barrier is mounted on top of the pool wall, the top of the barrier is not less than 48 inches (1219 mm) above grade for the entire perimeter of the pool, and the wall and the barrier on top of the wall comply with the requirements of subsection 305.2.
3. Ladders or steps used as means of access to the pool are capable of being secured, locked or removed to prevent access except where the ladder or steps are surrounded by a barrier that meets the requirements of section 305.
4. Openings created by the securing, locking or removal of ladders and steps do not allow the passage of a 4- inch (102 mm) diameter sphere.

5. Barriers that are mounted on top of on-ground residential pool walls are installed in accordance with the pool manufacturer's instructions.

**305.6 Natural Barriers.** In the case where the pool or spa area abuts the edge of a lake or other natural body of water, public access is not permitted or allowed along the shoreline, and required barriers extend to and beyond the water's edge not less than 18 inches (457 mm), a barrier is not required between the natural body of water shoreline and the pool or spa.

**305.7 Natural Topography.** Natural topography that prevents direct access to the pool or spa area shall include, but not be limited to, mountains and natural rock formations. A natural barrier approved by the governing body shall be acceptable provided that the degree of protection is not less than the protection afforded by the requirements of subsections 305.2 through 305.5.