



**Muscatine County
Building Department
Residential Swimming Pool Guidelines**

RESIDENTIAL SWIMMING POOLS

Building Permit Required:

- A building permit is required for all in-ground and on-ground swimming pools, spas and hot tubs. With the exception of pre-fabricated that are less than 24" deep.
- Permit fees are \$120.00 for swimming pools, in or on ground style.
- Any new decks or other accessory structures will also require permitting & an associated fee dependent on the project scope.

Permit Application:

- Submit a set of pool construction drawings and/or manufacturer's specifications.
- Provide a detailed drawing of the intended pool barrier or select a type specified in the handout. If using a powered safety cover, please submit documentation designating compliance with ASTM F 1346.
- Submit a site plan showing the intended location of the pool and barrier as applicable.

Inspections Required

- Footings: when applicable, before concrete is poured.
- Electrical Rough-in: for groundwork, and bonding of rebar grid and other metal parts before covering.
- Final: the pool barrier or cover shall be completed prior to filling the pool with water.

Barrier Requirements:

Any swimming pool or spa (located indoors or out) shall be surrounded by a barrier that complies with the sections below.

1. The top of the barrier shall be not less than 48" above grade when measured on the exterior side of the barrier (opposite side the pool is located).
2. The vertical clearance between grade and the bottom of the barrier shall not exceed 2" for grade surfaces that aren't solid, such as grass or gravel.
3. The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the required barrier shall not exceed 4".
4. Where the top of the pool structure is above grade, the barrier shall be installed on grade or shall be mounted on top of the pool structure. Where the barrier is mounted on the top of the pool, the vertical clearance between the top of the pool and the bottom of the barrier shall not exceed 4".
5. Openings in the barrier shall not allow passage of a 4" diameter sphere.
6. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds and footholds, except for normal construction tolerances and masonry joints.

7. Mesh fences, other than chain link fences shall be installed in accordance with the manufacturer's instructions and shall comply with the following:

- The bottom of the mesh fence shall be not more than 1" above the deck or installed surface or grade.
- 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" from grade or decking.
- The fence shall be designed and constructed so that it doesn't allow passage of a 4" 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" from grade or decking.
- An attachment device shall attach each barrier section at a height not lower than 45" above grade.
- Where a hinged gate is used with a mesh fence, the gate shall comply with all requirements for gates.
- Patio deck sleeves such as vertical post receptacles that are placed inside the patio surface shall be of a nonconductive material.
- Mesh fences shall not be installed on top of on-ground residential pools.

Exceptions:

Spas and hot tubs with a lockable safety cover that complies with ASTM F 1346. Swimming pools with a powered safety cover that complies with ASTM F 1346.

Barrier height and clearances. Barrier heights shall be in accordance with all of the following:

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", the horizontal members shall be located on the pool side of the fence. Spacing between vertical members shall not exceed 1-3/4".

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" or more, spacing between vertical members shall not exceed 4". Where there are decorative cutouts within vertical members, the interior width of the cutouts shall not exceed 1-3/4".

Chain link dimensions:

The maximum opening of a chain link fence shall be not more than 1-3/4". 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".

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". The angle of diagonal members shall be not greater than 45 degrees from vertical.

Clear zone:

There shall be a clear zone of not less than 36" 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.

Poolside barrier setbacks:

The pool side of the required barrier shall be not less than 20" from the water's edge.

Gates:

Access gates shall comply with sections listed below and shall be equipped to accommodate a locking device. Pedestrian access gates shall open outward away from the pool, shall be self-closing and shall have a self-latching device.

Utility or service gates:

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

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 ½" within 18" of the latch release mechanism. The self-latching device shall comply with the requirements for latches.

Latches:

Where the release mechanism of the self-latching device is located less than 54" from grade, the release mechanism shall be located on the pool or spa side of the gate not less than 3" below the top of the gate, and the gate and barrier shall not have openings greater than ½" within 18" of the release mechanism.

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" above the indoor finished floor and doors shall have an alarm that produces an audible warning when the window or door is opened. The alarm shall be listed and labeled as a water hazard entrance alarm in accordance with UL 2017. The operable parts of the alarm deactivation switches shall be located 54" or more above the finished floor.

2. A safety cover that is listed and labeled in accordance with ASTM F 1346 is installed for the pool.

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.

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” above grade for the entire perimeter of the pool, the wall complies with the requirements for barriers 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” above grade for the entire perimeter of the pool, and the pool/barrier comply with the requirements for barriers.
3. Ladders or steps used as means of access to the pool are capable of being secured, locked or removed to prevent access.
4. Openings created by the securing, locking or removal of ladders and steps do not allow the passage of a 4” 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.

Natural barriers:

In the case where the pool 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”, a barrier is not required between the shoreline and the pool.

Natural topography:

A natural barrier or topography that prevents direct access to the pool area, if approved by Muscatine County, shall be acceptable provided that the degree of protection is not less than the protection afforded by a barrier.