

**Office of Building Department**  
*Town of Southington, Connecticut*

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75 Main Street  
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**PERMITS NEEDED FOR SWIMMING POOL**

1. **\*Zoning Permit** - \$80.00 fee (Health Department if there is a septic system).
2. **Electrical Permit** - Fee determined by estimated cost of wiring.
- 3 **Pool Permit** - Fee determined by cost of pool and installation.

**\*Seven to ten days for zoning sign off**

**NO PART OF THE PROPOSED POOL, INCLUDING DECK, FILTERS OR ANY OTHER MECHANICALS SHALL BE CLOSER THAN TEN (10') FEET FROM THE PROPERTY LINE.**

**A FINAL INSPECTION MUST BE DONE AFTER POOL IS INSTALLED.**

**April 8, 2010**

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**Department of Public Safety  
Division of Fire, Emergency and Building Services  
Information from the Office of State Building Inspector**

*Thinking of installing a pool this year?  
Check out building code requirements with your municipal Building Official.*

Installation of a new swimming pool **REQUIRES** application for a permit to the local building official when the pool depth will be over 24 inches deep. This permit requirement includes in-ground swimming pools, above-ground swimming pools, on-ground swimming pools, hot tubs and spas.

**Outdoor private swimming pools MUST comply with the State Building Code barrier and entrapment protection minimum requirements.** The primary reason for compliance with these minimum code requirements is for preservation of individual's life safety. They provide an effective barrier around the pool area to reduce the potential for young children to gain uncontrolled access, and to provide a level of protection against possible entrapment at the pool suction inlets. In addition to the State Building Code swimming pool requirements Connecticut General Statute Section 29-265a has specific criteria for installation of a pool alarm prior to issuance of a building permit.

An inflatable swimming pool containing water over twenty-four inches deep is a relatively new product that has been made available to the Connecticut consumer. **The inflatable walls of an above grade inflatable swimming pool, (containing water over twenty-four inches deep), are not an effective pool barrier and require a pool barrier that is typically a fence enclosure.**

The 2005 State Building Code provides detailed provisions for barriers around swimming pools, along with entrapment protection for swimming pool and spa suction outlets. All newly installed swimming pools, hot tubs and spas must comply with the August 1, 2009 Amendments to the 2005 State Building Code.

These requirements address:

- minimum heights and maximum openings allowed in fences
- criteria for the fence gates and latches
- criteria for the means of direct entry into a pool area from the house
- criteria for the pool and spa suction outlet cover and grate
- minimum number and separation distance of suction outlets
- criteria for circulation systems equipped with atmospheric vacuum relief systems
- minimum and maximum depths for pool vacuum cleaner fittings
- criteria for power safety covers

Your local building official can provide you information and can answer your questions about the State Building Code and its relationship to swimming pools. If further clarification governing installation of swimming pools and the State Building Code is needed the Office of State Building Inspector can be contacted by telephone at (860)-685-8310.

## SWIMMING POOLS

**AG103.1 In-ground pools.** In-ground pools shall be designed and constructed in conformance with ANSI/NSPI-5 as listed in Section 107.

**AG103.2 Above-ground and on-ground pools.** Above-ground and on-ground pools shall be designed and constructed in conformance with ANSI-NSPI-4 as listed in Section 107.

## SPAS AND HOT TUBS

**AG104.1 Permanently installed spas and hot tubs.** Permanently installed spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-3 as listed in Section AG107.

**AG104.2 Portable spas and hot tubs.** Portable spas and hot tubs shall be designed and constructed in conformance with ANSI/NSPI-6 as listed in Section AG107.

## SWIMMING POOLS, SPAS AND HOT TUBS

### BARRIER REQUIREMENTS

**AG105.1 Application.** The provisions of this chapter 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.

**AG105.2 Outdoor swimming pool.** An outdoor swimming pool, including in-ground, above-ground or on-ground pools, hot tubs and spas shall be provided with 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 that 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 passage of a 4 inch diameter sphere.
3. Solid barriers that do not have openings, such as masonry or stone walls, 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 barrier. Spacing between vertical members shall not exceed 1  $\frac{3}{4}$  inches in width. Where there are decorative cutouts within vertical or horizontal members, spacing within the cutouts shall not exceed 1  $\frac{3}{4}$  inches in width.
5. Where the barrier is composed on 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 allow passage of a 4 inch diameter sphere. 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 2  $\frac{1}{4}$  inches square unless the fence is provided with 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 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 Section AG105.2, 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 be 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 surrounding openings shall comply with the following: The release mechanism shall be located on the pool side of the gate at least 3 inches below the top of the gate and the gate and barrier shall have no opening greater than  $\frac{1}{2}$  inch within 18 inches of the release mechanism.
9. Where a wall of a dwelling serves as part of the pool barrier, one of the following conditions shall be met:
  - 9.1. The pool shall be equipped with a power safety cover in compliance with ASTM F1346.91 or:
  - 9.2. All 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 its screen, if present, are opened. The alarm shall sound continuously for a minimum of 30 seconds within 7 seconds after the door and its screen, if present, are opened and be capable of being heard throughout the house during normal activities. The alarm shall automatically reset under all conditions. The alarm shall be equipped with a manual means, such as touch pad or switch, to temporarily deactivate the alarm for a single opening. Such deactivation shall last for not more than 15 seconds. The deactivate device(s) shall be located at least 54 inches above the threshold of the door; or
  - 9.3. All doors with direct access to the pool through that wall shall be equipped with a self-closing and self-latching device with the release mechanism located a minimum of 54 inches above the door threshold. Swinging doors shall open away from the pool area
10. Where an above-ground pool or on-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, then the ladder or steps shall be surrounded by a barrier which meets the requirements of section AG105.2, Items 1 through 9.

**AG105.3 Indoor swimming pool.** All walls surrounding an indoor swimming pool shall comply with Section AG105.2, Item 9.

**AG105.4 Prohibited locations.** Barriers shall be located so as to prohibit permanent structures, equipment or similar objects from being used to climb the barriers.

**AG105.5 Barrier exceptions.** Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section 107, shall be exempt from the provisions of this appendix.

**AG 105.6 Temporary enclosure.** A temporary enclosure shall be installed prior to the commencement of the installation of any in-ground swimming pool unless the permanent barrier specified in Section 105.2 is in place prior to the commencement of the installation. The temporary enclosure shall be a minimum of 4 feet in height, shall have no openings that will allow passage of a 4-inch sphere and shall be equipped with a positive latching device of any openings.

**AG 105.7 Pool alarm.** No building permit shall be issued for the construction or substantial alteration of a swimming pool at a residence occupied by, or being built for, one or more families unless a pool alarm is installed with the swimming pool. As used in this section, "pool alarm" means a device which emits a sound of at least 50 decibels when a person or an object weighting 15 pounds or more enters the water in a swimming pool.

**Exception:** Hot tubs and portable spas shall be exempt from this requirement.

## **ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS**

**AG106.1 General.** Suction outlets shall be designed to produce circulation throughout the pool or spa. Single outlet systems, such as automatic vacuum cleaner systems, or other such multiple suction outlets whether isolated by valves or otherwise shall be protected against user entrapment.

**AG106.2 Suction fittings.** All pool and spa suction outlets shall be provided with a cover that conforms with ASME/ANSI A112.19.8M-2007 or an approved channel drain system.

**Exception:** Surface skimmer.

**AG106.2.1 Fitting maintenance.** Any pool, spa or hot tub with a broken, loose or missing suction outlet cover shall be immediately placed out of service until repairs are completed and approved.

**AG106.3 Atmospheric vacuum relief system required.** All pool and spa single or multiple outlet circulation systems other than pools equipped only with surface skimmers shall be equipped with atmospheric vacuum relief. Such vacuum relief systems shall include at least one approved or engineered method of the type specified herein, as follows:

1. Safety vacuum release system conforming to ASMEA112.19.17, or
2. An approved gravity drainage system operating through a surge tank.

**AG106.4 Dual drain separation.** Single or multiple pump circulation systems shall be provided with a minimum of two (2) suction outlets of the approved type. A minimum horizontal or vertical distance of three (3) feet shall separate such outlets. The separation distance shall be measured from near point of opening to near point of opening. These suction outlets shall be piped so that water is drawn through them simultaneously, distributed as evenly as possible, through a vacuum relief protected line to the pump or pumps.

**AG106.5 Pool cleaner fittings.** Where provided, vacuum or pressure cleaner fitting(s) shall be located in an accessible position(s) at least (6) inches and not greater than twelve (12) inches below the minimum operational water level or an attachment to the skimmer(s).

## WIRING OF SWIMMING POOLS

There have been several problems concerning interpretations of Article 680 of the National Electric Code. Basically, the philosophy behind Section 680 of the National Electric Code is to create an environment whereby anyone in the pool area will be safe from electrical currents whether originating in the pool or from external sources. Some important points are:

1. No direct burial cable shall be used to wire swimming pools.
2. Approved rigid metal or rigid nonmetallic conduit shall be used.
3. Grounding and Bonding - Probably the greatest problem that confronts the swimming pool industry is the misunderstanding concerning grounding and bonding. Therefore, a #8 solid equipment bonding conductor shall be installed around the pool and that it be bonded to the steel, including metal parts such as reinforcing steel metal parts of ladders, diving boards and their supports and other metal parts within 5 feet of the inside walls of the swimming pool. The #8 wire may be terminated at the pump motor.
4. It is only necessary to carry a #12 equipment grounding conductor from the pool junction box to the service equipment.
5. The 2005 NEC code still prohibits any convenience outlet within 10 feet of the inside walls of the swimming pool.
6. All electrical equipment used with swimming pools must be on circuits protected by ground fault circuit interrupters.

**504.3 Swimming pools.** Swimming pools shall be provided with energy-conserving measures in accordance with Sections 504.3.1 through 504.3.3.

**504.3.1 On-off switch.** All pool heaters shall be equipped with an ON-OFF switch mounted for easy access to allow shutting off the operation of the heater without adjusting the thermostat setting and to allow restarting without relighting the pilot light.

**504.3.2 Pool covers.** Heated swimming pools shall be equipped with a pool cover.

**Exception:** Outdoor pools deriving more than 20 percent of the energy for heating from renewable sources (computed over an operating season) are exempt from this requirement.

**504.3.3 Time clocks.** Time clocks shall be installed so that the pump can be set to run in the off-peak electric demand period and can be set for the minimum time necessary to maintain the water in a clear and sanitary condition in keeping with applicable health standards.

**Section 20-330 - Chapter 393.** All plumbing and heating work has to be done by licensed contractors along with all necessary inspections.

