

## APPENDIX G

# SWIMMING POOLS, SPAS AND HOT TUBS

### SECTION AG101 GENERAL

**AG101.1 General.** The provisions of this appendix shall control the design and construction of swimming pools, spas and hot tubs installed in or on the *lot* of a one- or two-family dwelling.

**AG101.2 Pools in flood hazard areas.** Pools that are located in flood hazard areas established by Table R301.2(1), including above-ground pools, on-ground pools and in-ground pools that involve placement of fill, shall comply with Sections AG101.2.1 or AG101.2.2.

**Exception:** Pools located in riverine flood hazard areas which are outside of designated floodways.

**AG101.2.1 Pools located in designated floodways.** Where pools are located in designated floodways, documentation shall be submitted to the *building official*, which demonstrates that the construction of the pool will not increase the design flood elevation at any point within the *jurisdiction*.

**AG101.2.2 Pools located where floodways have not been designated.** Where pools are located where design flood elevations are specified but floodways have not been designated, the applicant shall provide a floodway analysis that demonstrates that the proposed pool will not increase the design flood elevation more than 1 foot (305 mm) at any point within the *jurisdiction*.

### SECTION AG102 DEFINITIONS

**AG102.1 General.** For the purposes of these requirements, the terms used shall be defined as follows and as set forth in Chapter 2.

**ABOVE-GROUND/ON-GROUND POOL.** See "Swimming pool."

**BARRIER.** A fence, wall, building wall or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

**HOT TUB.** See "Swimming pool."

**IN-GROUND POOL.** See "Swimming pool."

**RESIDENTIAL.** That which is situated on the premises of a detached one- or two-family dwelling or a one-family *townhouse* not more than three stories in height.

**SPA, NONPORTABLE.** See "Swimming pool."

**SPA, PORTABLE.** A nonpermanent structure intended for recreational bathing, in which all controls, water-heating and water-circulating *equipment* are an integral part of the product.

**SWIMMING POOL.** Any structure intended for swimming or recreational bathing that contains water over 24 inches (610 mm) deep. This includes in-ground, above-ground and on-ground swimming pools, hot tubs and spas.

**SWIMMING POOL, INDOOR.** A swimming pool which is totally contained within a structure and surrounded on all four sides by the walls of the enclosing structure.

**SWIMMING POOL, OUTDOOR.** Any swimming pool which is not an indoor pool.

### SECTION AG103 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 AG108.

**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 AG108.

**AG103.3 Pools in flood hazard areas.** In flood hazard areas established by Table R301.2(1), pools in coastal high hazard areas shall be designed and constructed in conformance with ASCE 24.

### SECTION AG104 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 AG108.

**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 AG108.

### SECTION AG105 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 subject to this code.

**AG105.2 Outdoor swimming pool.** 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 (1219 mm) 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 (51 mm) 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 (102 mm).
2. Openings in the barrier shall not allow passage of a 4-inch-diameter (102 mm) 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 (1143 mm), the horizontal members shall be located on the swimming pool side of the fence. Spacing between vertical members shall not exceed 1<sup>3</sup>/<sub>4</sub> inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1<sup>3</sup>/<sub>4</sub> inches (44 mm) 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 (1143 mm) or more, spacing between vertical members shall not exceed 4 inches (102 mm). Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1<sup>3</sup>/<sub>4</sub> inches (44 mm) in width.
  6. Maximum mesh size for chain link fences shall be a 2<sup>1</sup>/<sub>4</sub>-inch (57 mm) square unless the fence has slats fastened at the top or the bottom which reduce the openings to not more than 1<sup>3</sup>/<sub>4</sub> inches (44 mm).
  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<sup>3</sup>/<sub>4</sub> inches (44 mm).
  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 have a self-latching device. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) 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 (76 mm) below the top of the gate; and

8.2. The gate and barrier shall have no opening larger than 1/2 inch (12.7 mm) within 18 inches (457 mm) of the release mechanism.

9. Deleted.
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. Deleted.
  - 10.2. 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.** Walls surrounding an indoor swimming pool shall comply with Section AG105.2, Items 1 through 7.

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

**AG105.5 Barrier exceptions.** Spas or hot tubs with a safety cover which complies with ASTM F 1346, as listed in Section AG107, shall be exempt from the provisions of this appendix.

### SECTION AG106 ENTRAPMENT PROTECTION FOR SWIMMING POOL AND SPA SUCTION OUTLETS

**AG106.1 General.** Suction outlets shall be designed and installed in accordance with ANSI/APSP-7.

### SECTION AG107 ABBREVIATIONS

**AG107.1 General.**

ANSI—American National Standards Institute  
11 West 42nd Street  
New York, NY 10036

APSP—Association of Pool and Spa Professionals  
NSPI—National Spa and Pool Institute  
2111 Eisenhower Avenue  
Alexandria, VA 22314

ASCE—American Society of Civil Engineers  
1801 Alexander Bell Drive  
Reston, VA 98411-0700

ASTM—ASTM International  
100 Barr Harbor Drive,  
West Conshohocken, PA 19428

UL—Underwriters Laboratories, Inc.  
333 Pfingsten Road  
Northbrook, IL 60062-2096

# **INSPECTION REQUIREMENTS FOR POOLS**

## **INGROUND POOLS**

1. Footing – **AFTER** concrete collar is poured as per manufacturer specifications.
2. Pool Steel – **PRIOR** to placement of concrete or gunite.
3. Electrical - **BONDING.**
4. Electrical - **PIPE** and **TRENCH.**
5. Plumbing - **PIPE, TRENCH** and **AIR TEST.** (Pool Heater if applicable)
6. Final Electric
7. Final Plumbing (If applicable)
8. Final Fire (If Applicable, pool heater located inside a structure)
9. Final Building – *All permanent fencing and/or barriers need to be installed in order to have final inspection.*

## **ABOVE GROUND POOLS**

1. Electrical **ROUGH, BONDING, or TRENCH.** (*Do not energize or seal any equipment until inspection passes*)
2. Plumbing - **PIPE, TRENCH** and **AIR TEST.** (Pool Heater if applicable)
3. Final Electrical
4. Final Plumbing (If applicable)
5. Final Fire (If Applicable, pool heater located inside a structure)
6. Final Building – *All permanent fencing and/or barriers need to be installed in order to have final inspection.*

**(Other inspections may be required depending on the scope of the project. Consult the Subcode Official if you have any questions.)**

**Inspection Requests:** For Inspections call Terry between the hours of 8:30am to 4:30pm, Monday thru Friday.

**You must have the following information in order to request an inspection. (PERMIT #, BLOCK/LOT, NAME & ADDRESS AND TYPE OF INSPECTION) Provide any other information that may be needed.**

**ONLY CALL FOR INSPECTIONS WHEN THE WORK IS READY. DO NOT ANTICIPATE!!**  
N.J.A.C. 5:23-2.18 ( c ) 1.

**If your inspection is not approved, do not call for re-inspection until the problems are repaired and the work is ready for re-inspection.**

**If your inspection is not approved a second time for the same violation you will receive a penalty notice. Your next re-inspection will be 3 business days after your next request.**

## Pool Demolition /Fill In

The demolition or fill in of any pool (both concrete & vinyl lined) requires a Construction Permit issued by this Department prior to starting the work.

1. It is required that all concrete be broken up into pieces no larger than 8" inches to minimize air voids if it is intended to be mixed in with the clean fill.
2. All steel reinforcement must be removed.
3. All vinyl liner material must be removed.
4. Large pieces of concrete and steel must be removed from the site and are not permitted for backfill.
5. Any in-ground piping for the filtration system or used for filling the pool must be removed. Any in-ground wiring or electrical conduits for lighting, filtration, etc. must be removed. Any in-ground gas piping for pool heater must be removed.
6. Only clean fill can be used and a minimum of 6" inches of topsoil must cover the surface to be brought back to grade. Compaction of 95% of fill material is recommended to minimize settling.

### Required Inspections

1. Backfill – Prior to filling excavation to check for removal of materials per above. All clean fill material must be on site for inspection.
2. Final - Work completed, job site free of debris, graded and seeded.

### Required Applications & Information

1. Completed Permit Application Packet, Forms F100, F110 & F170
2. 3 Copies of Property Survey indicating pool location
3. Statement of notification of the NJ DEP, Division of Solid & Hazardous Waste and Somerset County Solid Waste coordinator.

Agency contact information:

NJ Department of Environmental Protection  
Division of Solid & Hazardous Waste  
PO Box 414  
Trenton, NJ 08625-414

Somerset County Department of Health  
CEHA Operations  
20 Grove Street  
Somerville, NJ 08876-1262  
908-231-7155

**EFFECTIVE Jan 1, 2006 all contractors performing residential home improvements are required to be registered with the State as a Home Improvement Contractor. A copy of this registration shall be submitted with each Construction Permit Application. Please see the NJ Div. of Consumer Affairs web site for further information.**  
<http://www.state.nj.us/lps/ca/contractor.htm>