

§ 144-50. Swimming pools.

A private family swimming pool shall be permitted as an accessory use as long as it is located entirely within the rear yard and no part of the pool or deck is closer to the lot line than ten (10) *or (20)* feet. No pool can be located closer than ten (10) feet from a sanitary leach field, sand filter or tile field.

An inspection & approval by Commonwealth Electrical Inspection Services (316-7091) is required as well as a final inspection by the Building Inspector (652-2188 ext. 6) when all is completed & before pool is used.



May 14, 2009

Town of Elma
Building Inspector
1600 Bowen Rd.
East Aurora, NY 14052

To Whom It May Concern:

NYSEG would like to bring to your attention our concern involving electrical wires and clearance to swimming pools. The National Electric Safety Code (NESC) Article 234 (attached) does not permit swimming pools or platforms to be placed closer than 10 feet to overhead triplexed electrical secondary or service wires or communication wires, unless the wires meet a minimum height of 22'6" measured from the waters edge. The NESC further limits the placement of swimming pools or platforms closer than 25' to overhead open wire (not triplexed) electrical secondary or service wires or high voltage wires, unless they meet minimum height of 23' or greater measured from the waters edge. Similarly, underground electrical wires should not be located under the pool or within the area extending five (5) feet horizontally from the inside wall of the pool.

These NESC clearances are similar to, but slightly more restrictive than the National Electric Code (NEC) clearances, and NYSEG follows the NESC clearances.

It is our request that you continue to advise your potential customers before they purchase a pool, to obtain a building permit for the swimming pool. They should be aware and avoid any possible conflicts between swimming pool installations and overhead or underground electrical lines. If there is any question, they should be advised to contact NYSEG well in advance of pool purchase or construction.

We appreciate your cooperation in this safety matter.

Sincerely,

Joseph L. Komoroske
Supervisor Field Planning

Enc.
JLK/kmd

xc: J. Fiske – RG&E
J. Clark – RG&E
R. Buchanan

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TOWN OF ELMA

MAY 20 2009

BUILDING INSPECTOR'S OFFICE

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Table 234-3
Clearance of Wires, Conductors, and Cables Passing Over or Near Swimming Pools ①
 (Voltages are phase to ground for effectively grounded circuits and those other circuits where all ground faults are cleared by promptly de-energizing the faulted section, both initially and following subsequent breaker operations. See the definitions section for voltages of other systems. Clearances are with no wind displacement. See Rules 234E1, 234E2, and 234H4.)

	Insulated communication conductors and cables: messengers; surge-protection wires; grounded guys; neutral conductors meeting Rule 230E1; supply cables meeting Rule 230C1 (ft)	Unguarded rigid live parts, 0 to 750 V; noninsulated communication conductors; supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 (ft)	Supply cables over 750 V meeting Rules 230C2 or 230C3; open supply conductors, 0 to 750 V (ft)	Open supply conductors, over 750 V to 22 kV (ft)
A. Clearance in any direction from the water level, edge of pool, base of diving platform, or anchored raft	22.0	22.5	23.0	25.0
B. Clearance in any direction to the diving platform or tower	14.0	14.5	15.0	17.0
V. Vertical clearance over adjacent land	Clearance shall be as required by Rule 232.			

NOTE: A, B, and V are shown in Fig 234-2.

① The clearance values shown in this table are computed by adding the applicable Mechanical and Electrical (M&E) value of Table A-1 to the applicable Reference Component of Table A-2b of Appendix A.

EXCEPTION 1: This rule does not apply to a pool fully enclosed by a solid or screened permanent structure.

EXCEPTION 2: This rule does not apply to communication conductors and cables, effectively grounded surge-protection wires, neutral conductors meeting Rule 230E1, guys and messengers, supply cables meeting Rule 230C1, and supply cables of 0 to 750 V meeting Rules 230C2 or 230C3 when these facilities are 10 ft (3.0 m) or more horizontally from the edge of the pool, diving platform, or diving tower.

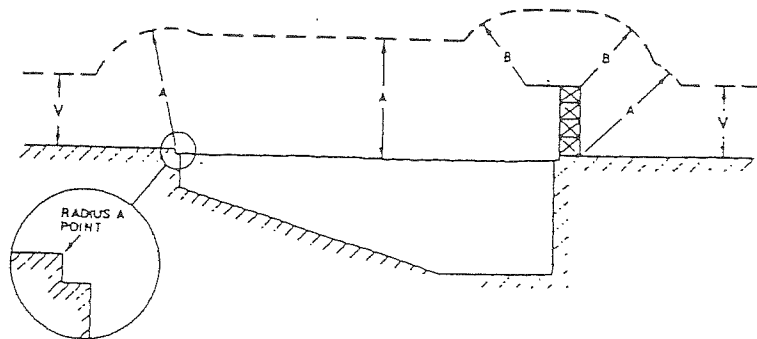


Fig 234-2
Swimming Pool Clearances

COMMONWEALTH ELECTRICAL INSP.
1355 PITTSFORD-MENDON ROAD, PO BOX

Original

SPRING 2011 RULI

See web site below a

ELECTRICAL CODE RULES BASED ON 2008 N.F.P.A -70
THE RESIDENTIAL CODE OF New York STATE 2010
ALL IN-GROUND POOLS AND ABOVE GROUND POOLS CAPABLE OF HOLDING 42" OR
MORE OF WATER ARE CONSIDERED PERMANETLY INSTALLED POOLS

1. Wiring for pump motor shall not have less than # 12 AWG insulated copper grounding wire, and to be in conduit, except when entering building can change to NM cable 680.21(A) (1-4) If using 15 amp breaker 14 gauge wire for hot and neutral ground must be #12.
2. If the pump motor receptacle is located from 6' to 10' from outside pool wall. The receptacle must be single, twistlock, 15 or 20amp, GFCI protected with watertight inuse cover. 680.22(A)(1)(1-4)
3. Pump motor cord shall not exceed 3' and shall have a grounding wire of not smaller than # 12 AWG copper. 680.7
4. Circuit line for pump motor shall be a continuous circuit going directly to panel box and shall have no other receptacles. 430-22(A)
5. A receptacle used unattended in a wet location shall have a watertight inuse cover. 406.8 (B)(1)
6. All underground UF wire and PVC conduits must be 18" deep, unless circuit is protected by GFCI upstream then 12" deep. 300.5 Only electric specific to the pool is allowed less than 5" feet to the water's edge and must be 18" deep and be installed in a approved raceway. 680.10
7. At least one convenience receptacle must be located between 6 and 20 feet from the waters edge and must be GFCI protected. Existing outlets between 6 and 20 feet shall be GFCI protected. 680.22(A)(1-5) This can be wired with any approved wiring method.
9. All metal parts must be bonded together with a No. 8 or larger solid copper wire must be used. (Motor, ladders pool frame, diving board, lights, etc.) 680-22 / E4104.1
A minimum of 9 square inches of metal must be in water to bond water.
10. Perimeter equipotential bonding all pools with conductive shells shall have #8 CU 18 inches out 6 inches deep if no concrete with wire or mesh in it. 680.26 (B) (2)
11. When bonding pool frame or any metal parts to main bonding wires or wire mesh, you must use non-corrosion clamps. 680-22(A) (B) / E4104.1
12. For dry niche, wet niche, no niche lighting fixtures. 680-20, 680-25 (B) / E4106
13. For any lighting fixtures outside of pool. 680-6 (b) (1) (2) (3) / E4103.4.3

NOTE: A building permit is required in ALL localities, secure permits before starting.

Required pool alarms on all new pools see below link.

<http://www.dos.state.ny.us/code/part1228.htm>

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- and two-family dwelling.

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 capable of containing water over 24 inches (610 mm) deep. This includes in-ground, aboveground 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 walls of said 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.

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.

AG105.2 Outdoor swimming pool. An outdoor swimming pool, including an in-ground, aboveground or on-ground pool, hot tub or spa shall be provided with 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 aboveground 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 1.75 inches (44 mm) in width. Where there are decorative cutouts within vertical members, spacing within the cutouts shall not exceed 1.75 inches (44 mm) in width.

(c) **Pool alarms.** Except as otherwise provided in subdivision (e) of this section, each residential swimming pool installed, constructed or substantially modified after December 14, 2006 and each commercial swimming pool installed, constructed or substantially modified after December 14, 2006 shall be equipped with an approved pool alarm which:

(1) is capable of detecting a child entering the water and giving an audible alarm when it detects a child entering the water;

(2) is audible poolside and at another location on the premises where the swimming pool is located;

(3) is installed, used and maintained in accordance with the manufacturer's instructions;

(4) is classified by Underwriter's Laboratory, Inc. (or other approved independent testing laboratory) to reference standard ASTM F2208, entitled "Standard Specification for Pool Alarms," as adopted in 2002 and editorially corrected in June 2005, published by ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428; and

(5) is not an alarm device which is located on person(s) or which is dependent on device(s) located on person(s) for its proper operation.

(d) **Multiple pool alarms.** A pool alarm installed pursuant to subdivision (c) of this section must be capable of detecting entry into the water at any point on the surface of the swimming pool. If necessary to provide detection capability at every point on the surface of the swimming pool, more than one pool alarm shall be installed.

(e) **Hot tubs and spas.** A hot tub or spa that is a swimming pool (as defined in subdivision (b) of this section) shall be deemed to be in compliance with the requirements of this section if:

(1) such hot tub or spa is equipped with an approved pool alarm as described in subdivision (c) of this section; or

(2) all barrier requirements applicable to such hot tub or spa are complied with and, in addition, and with out regard to the manner in which compliance with the applicable barrier requirements is achieved, all doors with direct access to the hot tub or spa through that wall are equipped with an alarm which:

(i) produces an audible warning when the door is opened;

(ii) sounds continuously for a minimum of 30 seconds immediately after the door is opened;

(iii) in the case of an alarm associated with a hot tub or spa that is a residential swimming pool (as defined in subdivision (b) of this section), is capable of being heard throughout the residence during normal household activities;

(iv) in the case of an alarm associated with a hot tub or spa that is a commercial swimming pool (as defined in subdivision (b) of this section), is capable of being heard in areas where responsible adults are likely to located;

(v) automatically resets under all conditions;

(vi) is equipped with a manual means to temporarily deactivate the alarm for a single opening, such deactivation to last no more than 15 seconds; and

(vii) has a deactivation switch which is located at least 54 inches above the threshold of the door.