



RESIDENTIAL SWIMMING POOLS

Applicable Codes: 2018 International Swimming Pool and Spa Code (ISPSC)
2017 National Electrical Code (NEC)
2018 National Standard Plumbing Code (NSPC)

This guide is for one and two family dwellings * this is not all inclusive and does not address all conditions

Definitions:

SWIMMING POOL: Any structure intended for swimming or recreational bathing that contains water over 24 inches deep. This includes in ground, above ground, and seasonal pools, hot tubs, and spas.

BARRIER: A fence, wall, pool-compliant ladder or combination thereof which completely surrounds the swimming pool and obstructs access to the swimming pool.

The following (applicable forms) must be submitted to obtain a construction permit:

 APPROVED ZONING REVIEW / Property survey showing pool proposed location, minimum distance from property lines

 CONSTRUCTION PERMIT APPLICATION FOLDER

 BUILDING SUBCODE

 ELECTRIC SUBCODE

 PLUMBING SUBCODE

 FIRE SUBCODE – for indoor pools with gas heaters

 PLANS and /or specification sheets – per sections 2 & 3

Required Inspections: Dependent on the type of pool installed – you may need the following:

Building: Footing, Steel, Pre-collar, Post-collar & Final / Barrier Inspection

Electric: Trench, Bonding, Bonding Grid & Final/ Solar cover

Plumbing: Bottom Drain Rough, Hydrostatic Test and Final

Pools with heaters: Gas Pipe Rough & Final

Section 1

All proposed above ground, in ground pools or seasonal pools require a Construction Permit issued by the Town Construction Official. Swimming pools are to comply with the 2018 ISPSC.

Section 2 – INGROUND POOLS

Provide two (2) copies of signed and sealed structural pool plans by a licensed New Jersey Design Professional. Temporary fencing is required during construction.

Plans must include:

- Accurate plans showing dimensions and construction of the pool. Vertical elevations and sections through the pool showing depth of water.
- Manufacturer's specifications on prefabricated pools including sub-soil material requirements.
- For concrete pools, structural steel design, rebar size and spacing.
- Electrical bonding of the steel.
- Type of finish material, PSI of concrete.
- Type of coping material.
- Egress from the pool both shallow and deep end (steps, swim outs).
- Rope and Float location where the point of first slope changes.
- Slide locations and attachment.
- Diving boards: (a) Length of board and projection into the pool. (b) Height above the water line and the water depth at the diving board end of the pool.
- Two copies of the manufacturers specifications and installation instructions for any diving boards, stairways, slides or ladders to be installed.
- Please see Plumbing and Electrical requirements for further details.

Section 3-ABOVE GROUND and SEASONAL POOLS

Plans must include:

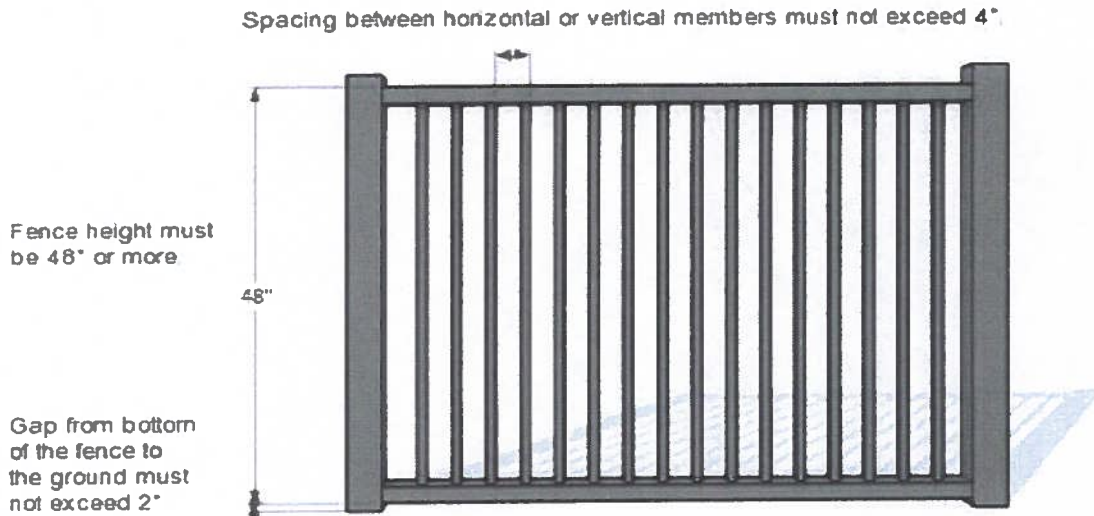
- Provide two (2) sets of manufacturers installation instructions for the pool, filtration system, ladder, slide and accessories.
- Please see Plumbing and Electrical requirements for further details.
- For newly constructed decks or staircases associated with the pool, a construction application must be presented separately with its own related documents.
- Please see POOL BARRIERS to see if the proposed pool meets the barrier requirements.

Section 4-POOL BARRIERS

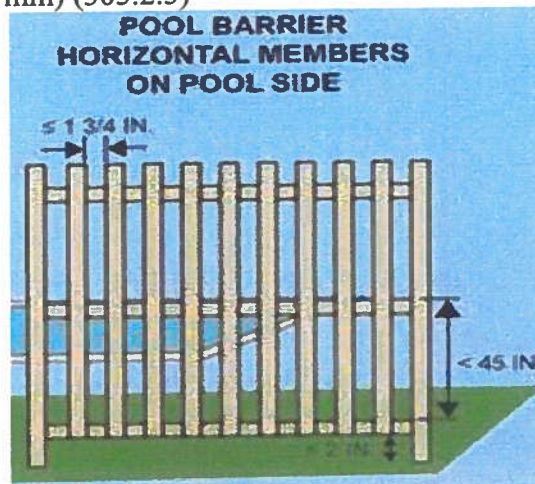
An outdoor swimming pool, including in ground, above ground or seasonal pool, hot tub or spa shall be surrounded by a barrier which shall comply with the following:

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 pool or spa. Such height shall exist around the entire perimeter of the barrier and measured 3 feet horizontally from the outside of the barrier. The maximum vertical clearance between grade surfaces such as grass or gravel and the bottom of the barrier shall be 2 inches (51 mm) (unless a mesh barrier) measured on the side of the barrier which faces away from the pool or spa. The vertical clearance between a surface below the barrier to a solid surface, such as concrete, and the bottom of the barrier shall not exceed 4 inches (102mm) (unless a mesh barrier) measured on the side of the barrier which faces away from the pool or spa. Where the top of the pool or spa structure is above

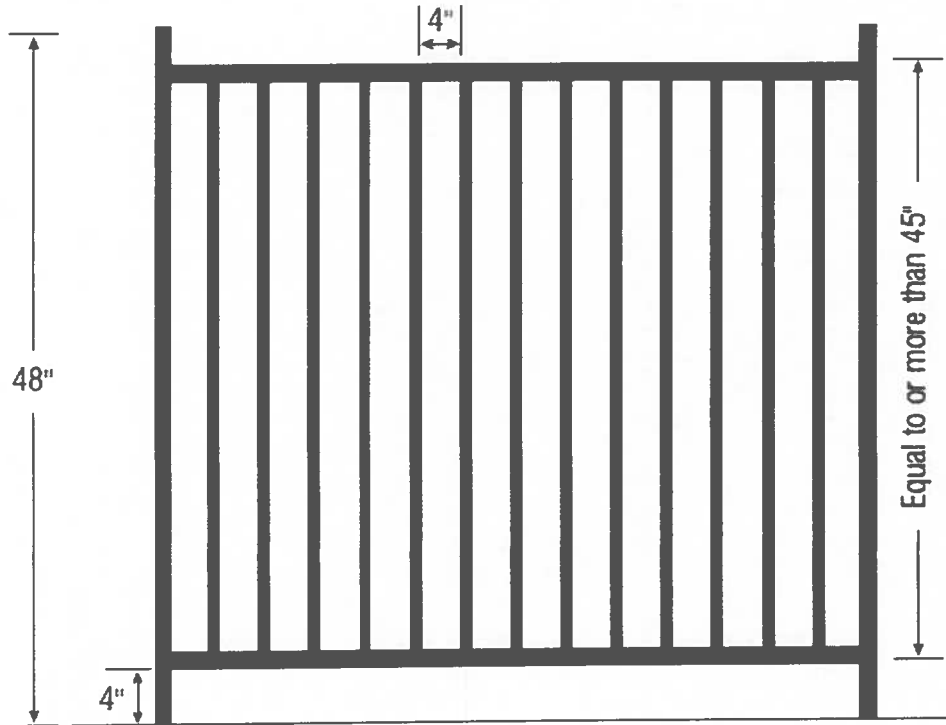
grade, the barrier shall be installed on grade or shall be mounted on the top of the pool or spa. Where the barrier is mounted on top of pool or spa, the vertical clearance between the top of the pool or spa structure and the bottom of the barrier shall not exceed 4-inches (102 mm) (unless a mesh barrier) (305.2.1)



2. Openings in the barrier shall not allow passage of a 4-inch (102 mm) diameter sphere (305.2.2)
3. Solid barriers that do not have openings shall not contain indentations or protrusions that form handholds or footholds, except for normal construction tolerances and tooled masonry joints (305.2.3)
4. Mesh fencing, other than chain link fences in accordance with 305.2.7, shall be installed with the manufacturer's instructions and shall comply with the following: the bottom of the mesh fence shall not be more than 1 inch (25 mm) above the deck, 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 inches from grade or decking. An attachment device shall attach each barrier section at a height not lower than 45 inches (1143mm) above grade. Mesh fences shall not be installed on top of onground residential pools (305.2.4)
5. 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 $\frac{3}{4}$ inches in width (44mm). Where there are decorative cutouts in vertical members, spacing within the cutouts shall not exceed 1 $\frac{3}{4}$ " in width (44 mm) (305.2.5)



6. Where the barrier is composed of horizontal and vertical members and the distance between the tops of the horizontal members is 45 inches or more (1143 mm), 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 1¾ inches (44 mm) (305.2.6)



7. Maximum openings formed by a chain link fences shall be a 1¾ inches unless the fence is provided with slats fastened at the top and bottom which reduce the openings to no more than 1¾ inches (44mm) (305.2.7)
8. Where the barrier is composed of diagonal members, the maximum opening formed by the diagonal members shall be no more than 1¾ inches (44 mm). The angle of diagonal members shall not be greater than 45 degrees (0.79 rad) from vertical (305.2.8)
9. There shall be a clear zone of not less than 36 inches (914 mm) between the exterior of the barrier and any permanent structure or equipment such as pumps, filters, heaters, etc. that can be used to climb the barrier (305.2.9)
10. The pool or spa side of the required barrier shall not be less than 20 inches (508 mm) from the water's edge (305.2.10)
11. Access gates shall comply with the requirements of Sections 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 and shall be self-closing and have a self-latching device. Utility, service or other gates not intended for pedestrian use shall have a self-latching device and shall remain locked when not in use. Double or multiple gates shall have not fewer than one leaf secured in place and the adjacent leaf shall be secured with a self-latching device meeting latch and release requirements under 305.3.3. Where the release mechanism of the self-latching device is located less than 54 inches (1372 mm) from the bottom of the door or gate, the release mechanism shall be located on the pool side of the door or gate not less than 3 inches (76 mm) below the top of the door or gate, and the door or gate and barrier shall have no opening greater than ½ inch (12.7 mm) within 18 inches (457 mm) of the release mechanism. (305.3)
12. An on ground residential pool wall structure or a barrier mounted on top of the onground residential pool wall structure shall serve as a barrier when compliance only when all the provisions of 305.5 are met.

NOTE: Aboveground pools abutting a deck next to dwelling must provide a barrier with access gate and landing area on deck level (adjacent to pool) in order to meet barrier requirements for access from either the dwelling unit or rear yard OR meet all the requirements for structure wall as a barrier (305.4 as amended by Ch.6)

Exemptions: The following shall be exempt from the provisions of this section (305.1):

1. A spa or hot tub with a lockable safety cover that complies with ASTM F 1346.
2. Swimming pools with a power safety cover that complies with ASTM F 1346

Prohibited Locations

Barriers shall be located to prohibit permanent structures, equipment or similar objects from being used to climb them. This includes the structural angular buttresses used as part of the pool frame.

Barrier Exceptions

Spas or hot tubs with a safety cover which complies with ASTM F 1346 shall be exempt from these provisions.

Section 5 – STAIRCASES

1. If staircases are incorporated in the pool barrier all parts of the staircase must comply with the above information and at no time be climbable.
2. All stair cases must comply with the 2018 International Residential Code New Jersey Edition.

Section 6 – ELECTRICAL REQUIREMENTS

Applies to permanent inground, above ground pools and seasonal pools more than 42 inches in water depth.

- Direct burial cable is not permitted for pool pump wiring. Metal or PVC conduit system is required outside the dwelling unit. A wet location wire with insulated green ground is required. Interior may be any wiring method recognized in chapter 3 of the 2017 NEC.
- Minimum filter motor attachment cord size is #12 AWG (max 3 feet in length).
- Minimum wire size #12 AWG. A 20-amp locking type outlet is required for filter motor connection for above ground pools. This receptacle shall be located not closer than 6 feet from the pool wall. It shall be ground fault protected and shall employ an in-Use cover. This circuit shall be dedicated to the pool filter motor.
- A convenience outlet shall be located not less than 6 feet and not more than 20 feet from the inside wall of the pool. It shall be ground fault protected and shall be connected to a general purpose branch circuit in the dwelling. IN-Use cover is required.
- All metal parts within 5 feet of the pool shall be bonded together with a #8 solid copper wire and shall be bonded to the filter motor. i.e. fences, Bilco doors, etc.
- Burial depth is routinely 18 inches for conduit (6 inches for rigid galvanized metal conduit).
- A #8 solid copper wire is required to be installed between the pool chassis and a lug provided on the filter motor. A proper lug, nut, bolt and lock washer is required on the pool chassis (stainless or brass). An equipotential bonding grid must be formed around the pool with a minimum #8 solid copper wire and connected to the pool pump in at least 4 points equally spaced around a metal pool frame.
- The filter pump may be hard wired but a disconnecting means is required. A timer is required for the filter pump motor.
- Pool water must be bonded electrically (call for more information). A minimum 9 square inch in direct contact with the water.

- For pool spas and hot tubs, refer to the 2017 NEC Article 680. (Other codes may apply).

Seasonal / Storable Pools

Seasonal / Storable pools are those that can be readily disassembled and are limited to a maximum water depth of 42 inches.

A Seasonal / Storable pool, its associated equipment, and perimeter do not require equipotential bonding as specified for more permanent installations.

The filter pump must be double insulated and the power cord must have equipment grounding connector.

According to the product standard for storable pool pump / filter units, the cord must be at least 25 feet long, to discourage extension cord use.

Receptacles used for these purposes must be GFI protected, if one is not available one must be installed. The use of extension cords is not permitted.

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