



Residential Swimming Pool, Hot Tub and Spa Guide

The Following is a prescriptive guide to residential swimming pool, hot tub and spa installation as per the Pa UCC and the 2015 International Swimming Pool and Spa code. The intent of this document is to highlight the requirements of the UCC and the 2015 IRC as they pertain to the construction and or installation of residential swimming pools, hot tubs and spas.

BUILDING PERMIT REQUIREMENTS A building permit is required for residential swimming pools that are less than 24” deep. pools as set forth in Section 403.26 of the PA Uniform Construction Code as adopted per Manheim Township Ordinance. Submit the following items for review and approval:

□ PLAN REQUIREMENTS – INGROUND POOLS

- **Two (2) copies of inground pool plans**, specifications providing pool dimensions, construction details, wall slopes, floor slopes, pool deck, steps, ladders and diving/sliding boards
- **Two (2) copies of manufacturer information sheets** for circulation and filtration systems, pool pumps/motors, pool heaters, water treatment systems, electrical lighting systems, pool cover systems, drainage systems, and suction entrapment equipment conforming to ANSI/APSP/ICC-7 2013
- **Two (2) copies of Energy compliance information** for heaters, pump motors and covers
- Heater controls including readily accessible on-off switch
- Heater and pump motor time switches or other controls that can automatically turn off and on equipment to a preset schedule. Built-in time switches are permitted
- Vapor-retardant cover specifications for heated pools
- **Two (2) copies of pool barrier/fence specifications** including barrier/fence type (height and opening limitations), gates with latching mechanism type, and door/window alarms on openings between the dwelling and the pool
- If detached accessory buildings or structures are a part of the pool installation, submit two (2) copies of plans and specifications for those structures. Plans should include information on bathrooms/showers, dressing rooms, pool related equipment, mechanical equipment and electrical equipment

- **Four (4) copies of a site plan** that identify the pool and pool deck (provide square footage of pool deck) with dimensions from the edge of water surface to all adjacent property lines. Include all existing and proposed buildings (residence, detached garages and accessory structures) with square footage of each structure, driveways, sidewalks and other impervious coverage with square footage of each. Refer to the attached Zoning Requirements and Sample Site Plan at the end of this guide for more and specific zoning regulations

□ **PLAN REQUIREMENTS – ABOVE GROUND OR ONGROUND POOLS**

- **Two (2) copies of above ground pool plans**, specifications providing pool dimensions, construction details, and ladder or stair specifications
- Ladder and stair specifications are to include the type of permanent or storable ladder/stair assembly to be installed
- **Two (2) copies of manufacturer information sheets** for circulation and filtration systems, pool pumps/motors, pool heaters, water treatment systems, electrical lighting systems, pool cover systems, drainage systems, and suction entrapment equipment conforming to ANSI/APSP/ICC-7 2013 (if applicable)
- **Two (2) copies of Energy compliance information** for heaters, pump motors and covers
- Heater controls including readily accessible on-off switch
- Heater and pump motor time switches or other controls that can automatically turn off and on equipment to a preset schedule. Built-in time switches are permitted
- Vapor-retardant cover specifications for heated pools
- **Two (2) copies of pool barrier/fence specifications** including barrier/fence type (height and opening limitations), gates with latching mechanism type, and door/window alarms on openings between the dwelling and the pool
- If proposed, **two (2) copies of an elevated wood deck** floor and framing plan for any wood deck more than 30” above the adjacent grade. Floor plans are to include proposed stair locations and specifications. Framing plans are to include footing, beam, joist layout and ledger connections if deck is secured to a structure. Details are to be provided for stairway construction, guardrail and handrail construction as well as barrier requirements if stairways provide access to the pool.
- If detached accessory buildings or structures are a part of the pool installation, submit two (2) copies of plans and specifications for those structures. Plans should include information on bathrooms/showers, dressing rooms, pool related equipment, mechanical equipment and electrical equipment.

□ **PERMIT CONSIDERATIONS AND REQUIREMENTS**

- Temporary fencing is to be installed when pool excavation begins in order to prevent unauthorized entry and potential accidents. Temporary fencing shall be a minimum of 36 inches in height with no openings greater than 4 inches with adequate supports every 4 feet or as necessary to support the fencing, Temporary fencing is to be maintained until the permanent pool barrier is installed.

- If the house is part of the pool barrier (wall or walls of house face pool area), all doors and operable windows with sill heights less than 48” above finished interior floor are to be equipped with listed and labeled audible alarms.
- Electrical work shall be installed per the IRC/NEC. All new electrical work associated with the pool and pool equipment is subject to field inspection and approval.

INSPECTION REQUIREMENTS

- Pools shall not be used until a Township Code Official approves the Final Electrical and Final Pool Inspections. The township will issue a Certificate of Use and Occupancy upon approval of all required inspections.
- **IN-GROUND SHOTCRETE POOL INSPECTIONS:**
 1. Pool reinforcing and pool plumbing prior to placement of Shotcrete
(All rebar and wire mesh must be properly supported)
 2. Bonding of all metal parts within 5 feet of the inside walls of the pool including rebar, light fixtures, ladders, handrails, pump motors, filters, heaters and metal fencing
 3. Underground conduit and wiring prior to backfill
 4. Underground gas piping pressure testing if applicable
 5. Final electrical – ground fault protected receptacle(s), pool pump motor, filter, heaters, light fixture(s), landscape lighting and bonding of metal fencing and equipment, energy requirements
 6. Final Pool – fencing / barriers, access gate hardware operation, door & window alarms, and pool cover
- **IN-GROUND METAL LINER PANEL POOL INSPECTIONS:**
 1. Pool footings and pool plumbing prior to placement of concrete
(All rebar, wire mesh and steps must be properly supported)
 2. Bonding of all metal parts within 5 feet of the inside walls of the pool including rebar, light fixtures, ladders, handrails, pump motors, filters, heaters and metal fencing
 3. Underground conduit and wiring prior to backfill
 4. Underground gas piping pressure testing, if applicable
 5. Final electrical – ground fault protected receptacle(s), pool pump motor, filter, heaters, light fixture(s), landscape lighting and bonding of metal fencing and equipment, energy requirements
 6. Final Pool – fencing / barriers, access gate hardware operation, door & window alarms, and pool cover
- **ABOVE-GROUND POOL INSPECTIONS:**
 1. Bonding of all metal parts within 5 feet of the inside walls of the pool including rebar, light fixtures, ladders, handrails, pump motors, filters, heaters and metal fencing
 2. Underground conduit and wiring prior to backfill
 3. Underground gas piping testing if applicable
 4. Elevated wood deck post footings, if applicable (Prior to pouring concrete)

5. Framing of pool deck posts, beams, joists and applicable structural connections
6. Final electrical – ground fault protected receptacle(s), pool pump motor, filter, heaters, light fixture(s), landscape lighting and bonding of metal fencing and equipment, energy requirements
7. Final Pool – installation performed in accordance with the pool manufacturer’s installation instructions, fencing / barriers, access gate hardware operation, listed step assemblies (removable or fold-up locking type), and deck guardrails / stairways / handrails if applicable

2015 ISpsc CODE REFERENCES

The following code sections are applicable for Inground and above ground pool installations. This list, although not all inclusive, provides guidance on some important code provisions.

- **302.1 Electrical.** Electrical requirements for aquatic facilities shall be in accordance with NFPA 70 or the International Residential Code.
- **303.1.1 Heaters.** The electric power to heaters shall be controlled by a readily accessible on-off switch that is an integral part of the heater, mounted on the exterior of the heater or external to and within 3 feet (914 mm) of the heater. Operation of such switch shall not change the setting of the heater thermostat. Such switches shall be in addition to a circuit breaker for the power to the heater. Gas-fired heaters shall not be equipped with continuously burning ignition pilots.
- **303.1.2 Time switches.** Time switches or other control methods that can automatically turn off and on heaters and pump motors according to a preset schedule shall be installed for heaters and pump motors.
Heaters and pump motors that have built-in time switches shall be in compliance with this section.
- **303.1.3 Covers.** Outdoor heated pools and outdoor permanent spas shall be provided with a vaporretardant cover or other approved vapor-retardant means.
- **305.1 Barrier Requirements - General.** The provisions of this section shall apply to the design of barriers for pools and spas. These design controls are intended to provide protection against the potential drowning and near drowning by restricting access to such pools or spas. These requirements provide an integrated level of protection against potential drowning through the use of physical barriers and warning devices.
Exceptions:
 1. **Spas and hot tubs with a lockable safety cover that complies with ASTM F1346.**
 2. **Swimming pools with a powered safety cover that complies with ASTM F1346.**
- **305.2.9 Clear zone.** There shall be a clear zone of not less than 36 inches (914 mm) 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.
- **305.2.10 Poolside barrier setbacks – Inground pools.** The pool or spa side of the required barrier shall be not less than 20 inches (508 mm) from the water’s edge.
- **305.3.1 Utility or service gates.** Gates not intended for pedestrian use, such as utility or service gates, shall remain locked when not in use.

- **305.4 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 inches (1219 mm) above the indoor finished floor **and doors** shall have an alarm that produces an audible warning when the window, door or their screens are opened.
 2. A safety cover that is listed and labeled in accordance with ASTM F1346 is installed.
 3. An approved means of protection, such as self-closing doors with self-latching devices, is provided.
- **307.2 Glazing in hazardous locations.** Hazardous locations for glazing are defined in the International Residential Code Section R308.4.5 specifically covers walls, enclosures or fences that are 60 inches or less from the water's edge. Where the bottom edge of the glazing is 60 inches or less above the walking surfaces, the glazing must be safety glazing.
- **310.1 Suction Entrapment Avoidance - General.** Suction entrapment avoidance for pools and spas shall be provided in accordance with APSP 7.
- **702.1 Ladders and stairs – Above Ground Pools.** Pools shall have a means of entry and exit consisting of not less than one ladder or a ladder and staircase combination.
- **703.4 Extension over pool – Above Ground Pools.** Where a deck extends inside the top rail of the pool, it shall extend not more than 3 inches (76 mm) beyond the inside of the top rail of the pool.