



Requirements for Residential Swimming Pools, Spas, and Hot Tubs

A building Permit is required for the installation or placement of all swimming pools, spas, and hot tubs. Not only are zoning rules applicable, but many life safety issues need to be addressed.

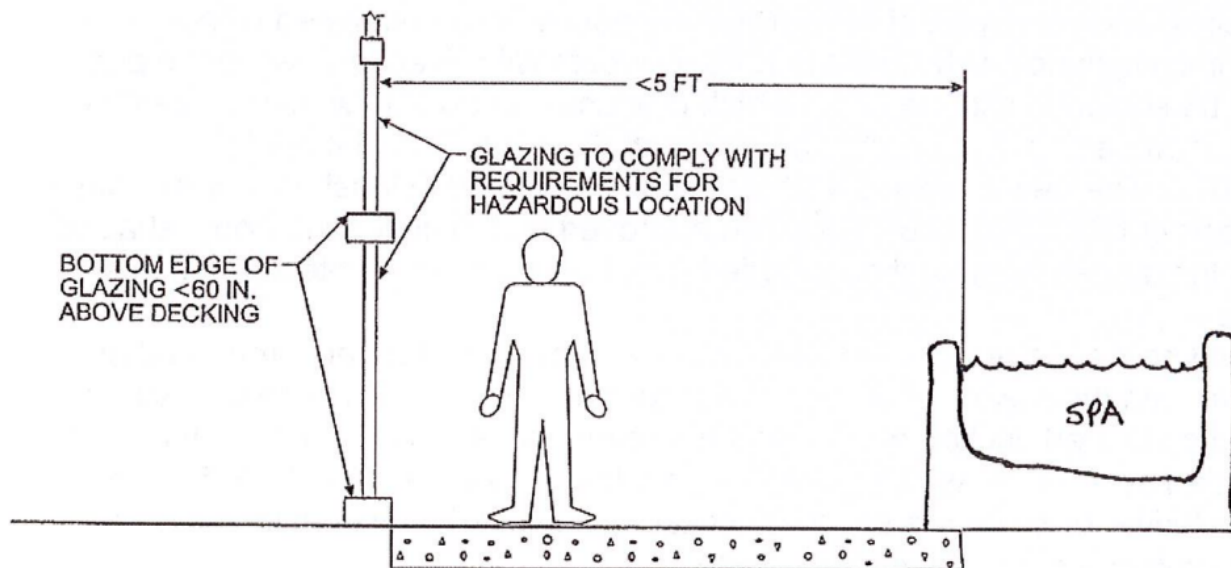
Outdoor Swimming Pools, Spas, and Hot Tubs

- Provide a dimensioned site plan showing where the pool, spa, or hot tub is to be located in relation to the house and the property lines. Setbacks from property lines are required to comply with the zoning ordinance. Pools, spas, and hot tubs are accessory structures per BMC 17-32-010 (B). Principal structure setbacks apply if the pool, spa, or hot tub is placed less than 7-½ feet away from the home.
- Suction outlets in the pool, spa, or hot tub shall be designed and installed in accordance with ANSI/APSP-7 for entrapment avoidance.
- An outdoor swimming pool, including an inground, above ground, or on-ground pool, hot tub, or spa shall be completely surrounded by a barrier which shall comply with the following:
 - The top of the barrier shall be at least 48 inches above *grade* measured on the side of the barrier which faces away from the swimming pool.
 - Openings in the barrier shall not allow a passage of a 4 inch diameter sphere.
 - Solid barriers, such as a masonry or stone wall, shall not contain indentations or protrusions except for normal construction tolerances and tooled masonry joints.
 - Barriers shall be designed to minimize the possibility of a person climbing them; many restrictions apply. See ISPSC Section 305.
 - Access gates shall comply with the barrier requirements 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 from the bottom of the gate, 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 larger than ½ inch within 18 inches of the release mechanism per ISPSC 305.3.3.
 - Where a wall of a dwelling serves as part of the barrier, the pool shall be equipped with a powered safety cover in compliance with ASTM F 1346; or 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/ or its screen, if present, are opened. The alarm shall be listed and labeled in accordance with UL 2017. The deactivation switch(es) shall be located at least 54 inches above the threshold of the door; or other means of protection approved by the governing body, shall be acceptable as long as the degree of protection afforded is not less than the protection afforded items described above.
 - 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: 1) The ladder steps shall be capable of being secured, locked or removed to prevent access; or 2) The ladder or steps shall be surrounded by a barrier which meets the requirements of section AG105.2, Items 1 through 9. When the ladder or steps are secured, locked or removed, any opening created shall not allow the passage of a 4 inch diameter sphere.
 - Barriers shall be located to prohibit permanent structures, equipment or similar objects from being used to curb them.
 - Spas or hot tubs with a safety cover which complies with ASTM F 1346 shall be exempt from the barrier requirement.

- All glazing within 60 inches of the water's edge of the pool, spa, or hot tub and less than 60 inches above any walking surface shall be safety glazing per IRC R308.4 item 9.

Per 2017 NEC 680.11, all underground wiring shall not be permitted under the pool unless necessary to supply permitted pool equipment. Cover (or burial) depths are to comply with NEC 300.5.

- For hard wired spas or hot tubs, there shall be a disconnecting means that is readily accessible and within sight of the spa or hot tub, and located at least 5 feet from the inside walls of the spa or hot tub. This shall be able to simultaneously disconnect all ungrounded conductors for the spa or hot tub or spa or hot tub equipment other than lighting per NEC 680.13 and 430.102.
- All receptacles within 20 feet of the inside walls (per 680.22 (A) (4)) of outdoor pools, spas, or hot tubs and the receptacles supplying pump motors shall be GFCI protected (per 680.21 (C))
- At least one 15 or 20 ampere receptacle on a general branch circuit shall be located not less than 6 feet and not more than 20 feet from the inside wall of the outdoor pool, spa, or hot tub. This receptacle shall be located not more than 6-½ feet above the floor, platform, or grade level serving the pool, spa, or hot tub. Other receptacles shall be no closer than 10 feet to the inside wall of the pool, spa, or hot tub per NEC 680.22 (A) (1). (All distances measured in the shortest path supply cord could follow without passing through walls, windows, or doors.)
- Cord and plug connections for luminaires with a cord length less than 16 feet to a GFCI protected receptacle per NEC 680.22 (B)(5).
- New light fixtures or ceiling fans over and within 5 feet measured horizontally from the inside walls of outdoor spas shall be not less than 12 feet above the maximum water level per NEC 680.22 (B)(1).
- Existing light fixtures over and within 5 feet measured horizontally from the inside walls of outdoor spas shall be not less than 5 feet above the maximum water level, shall be rigidly attached to the existing structure, and shall be GFCI protected. Lighting fixtures or ceiling fans more than 5 feet but less than 10 feet measured horizontally from the inside walls of outdoor spas shall be GFCI protected unless more than 5 feet above the maximum water level and rigidly attached to the structure per NEC 680.22 (B)(3).
- Switches shall not be closer than 5 feet from the inside wall of the pool, spa, or hot tub unless separated by a solid fence, wall or other permanent barrier per NEC 680.22 (C).
- Metal surfaces within 5 feet of the inside walls of the pool, spa, or hot tub or within 12 feet vertically of the maximum water level shall be bonded with #8 copper wire and shall comply with any other applicable provisions of NEC 680.28.



Requirements for Residential Pools, Spas, and Hot Tubs

A building permit is required for the installation or placement of all spas and hot tubs. Not only are zoning rules applicable, but many life safety issues need to be addressed.

Indoor Spas and Hot Tubs

- Provide a dimensioned floor plan showing the location of the spa or hot tub in the house. Include location of all windows, doors, electrical switches, receptacles, and luminaires.
- All glazing within 60 inches of the water's edge of the spa or hot tub and less than 60 inches above any walking surface shall be safety glazed per IRC 308.4 item 9.
- At least one receptacle shall be located not less than 6 feet measured horizontally and not more than 10 feet from the inside walls and all receptacles must be located not less than 6 feet of the spa or hot tub per NEC 680.43 (A) and 680.43 (A)(1). Receptacles located within 10 feet of the inside walls of indoor spas or hot tubs shall be GFCI protected per NEC 680.43 (A)(2).
- For hard wired spas or hot tubs, there shall be a disconnecting means that is readily accessible and within sight of the spa or hot tub, and located at least 5 feet from the inside walls of the spa or hot tub. This shall be able to simultaneously disconnect all ungrounded conductors for the spa or hot tub or spa or hot tub equipment other than lighting per NEC 680.13 and 430.102.
- New light fixtures over and within 5 feet of indoor spas and hot tubs:
 - Shall be not less than 12 feet above the maximum water level without GFCI protection;
 - Shall be not less than 7-½ feet above the maximum water level with GFCI protection;
 - May be less than 7-½ feet above the maximum water level if the fixture is recessed with a glass or plastic lens, not metallic trim, listed as suitable for use in damp locations, and is GFCI protected;
 - May be less than 7-½ feet above the maximum water level if the fixture is fully enclosed with a glass or plastic globe, nonmetallic body or a metallic body isolated from contact, listed as suitable for use in damp locations, and is GFCI protected.
- Switches shall be at least 5 feet from the inside wall of the spa or hot tub measured horizontally per NEC 680.43(C).
- Metal surfaces and metal raceways within 5 feet of the inside walls of the spa or hot tub or within 12 feet vertically from the maximum water level shall be bonded with #8 copper per NEC 680.43 (D)(3) and (D)(4).

Walls surrounding an indoor swimming pool shall comply with Section AG105.2, Item 9.